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U.S. GOVERNMENT
INFORMATION
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Title 50—Wildlife and Fisheries

(This book contains part 17, § 17.95(f) to end of § 17.95)

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Subpart I—Interagency Cooperation (Continued)

Sec.

17.95 Critical habitat—fish and wildlife. (Continued)

AUTHORITY: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

SOURCE: 40 FR 44415, Sept. 26, 1975, unless otherwise noted.

Subpart I—Interagency Cooperation (Continued)

EDITORIAL NOTE: Paragraphs (a)–(e) of §17.95 appear in 50 Part 17, §§17.1 to 17.95(a), 50 Part 17, §17.95(b), and 50 Part 17, §17.95(c) to §17.95(e).

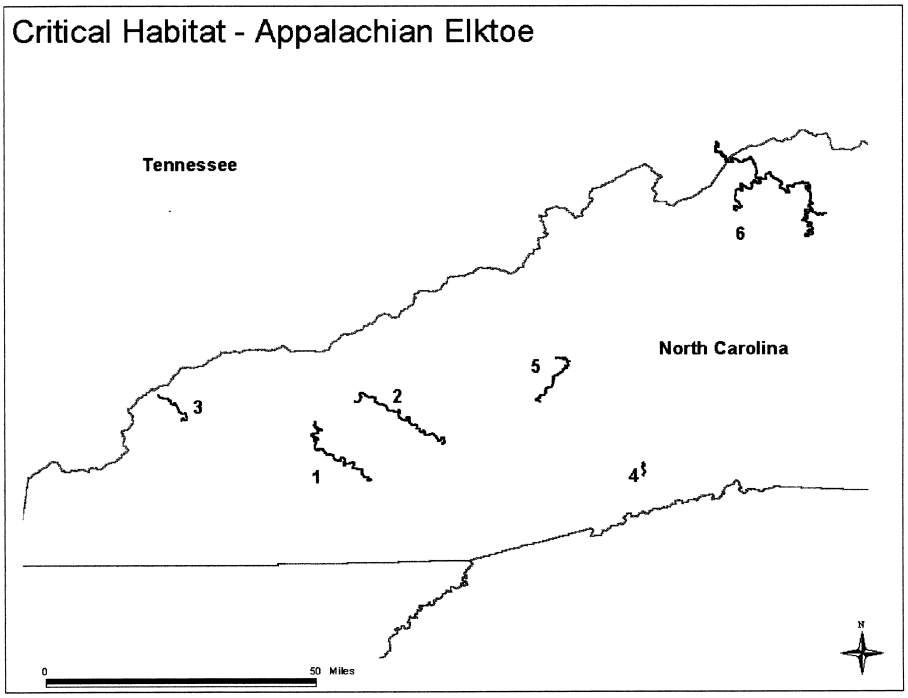
§17.95 Critical habitat—fish and wildlife. (Continued)

(f) *Clams and Snails.*

APPALACHIAN ELKTOE (*Alasmidonta raveneliana*)

(1) Critical habitat units are described below and depicted in the maps that follow, with the lateral extent of each designated unit bounded by the ordinary high-water line.

(i) Index map follows:



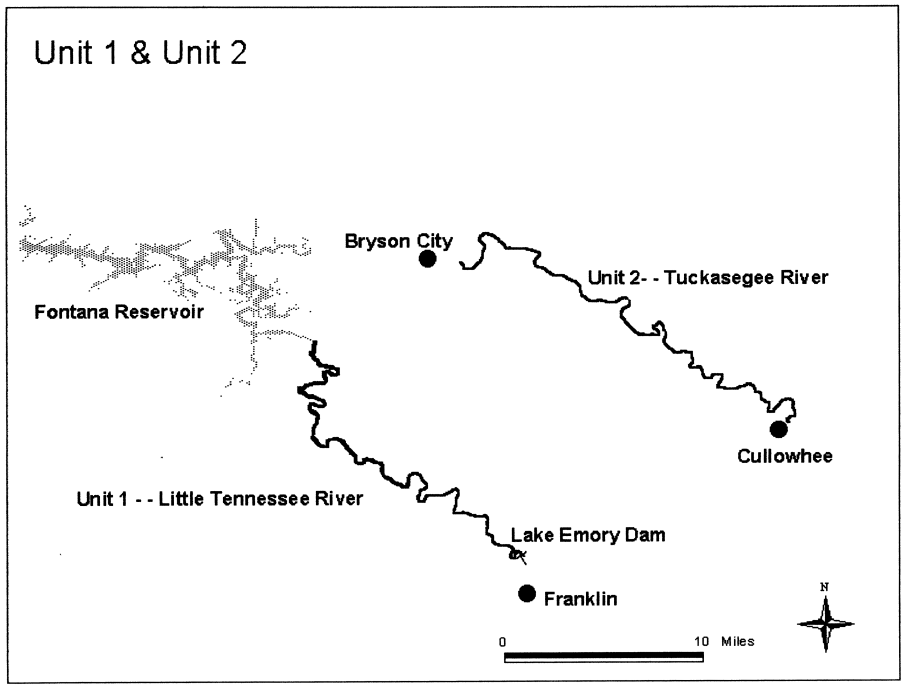
(2) Unit 1.

(i) Macon County and Swain County, NC—the main stem of the Little Tennessee River (Tennessee River system), from the Lake Emory Dam at Franklin, Macon County, NC, downstream to the backwaters of Fontana Reservoir in Swain County, NC.

(3) Unit 2.

(i) Jackson County and Swain County, NC—the main stem of the Tuckasegee River (Little Tennessee River system), from the N.C. State Route 1002 Bridge in Cullowhee, Jackson County, NC, downstream to the N.C. Highway 19 Bridge, north of Bryson City, Swain County, NC.

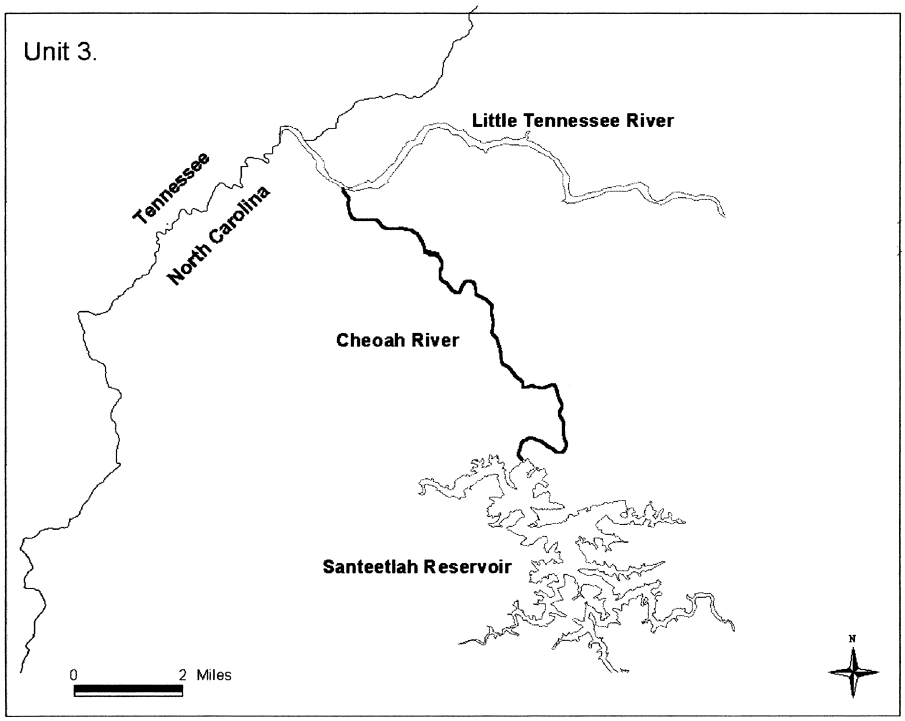
(ii) Map of Unit 1 and Unit 2 follows:



(4) Unit 3.

(i) Graham County, NC—the main stem of the Cheoah River (Little Tennessee River system), from the Santeetlah Dam, downstream to its confluence with the Little Tennessee River.

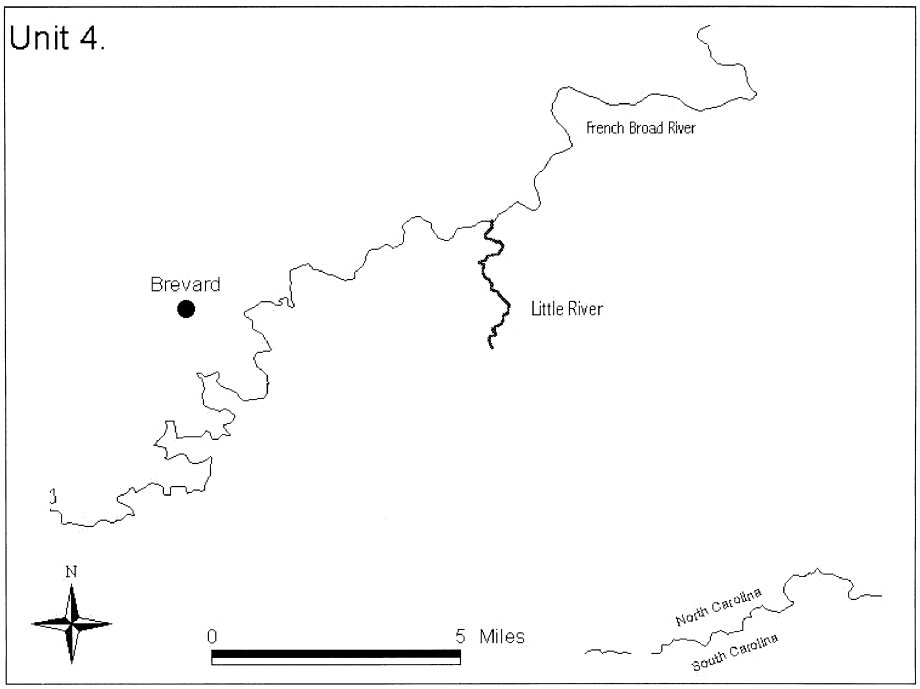
(ii) Map of Unit 3 follows:



(5) Unit 4.

(i) Transylvania County, NC—the main stem of the Little River (French Broad River system), from the Cascade Lake Power Plant, downstream to its confluence with the French Broad River.

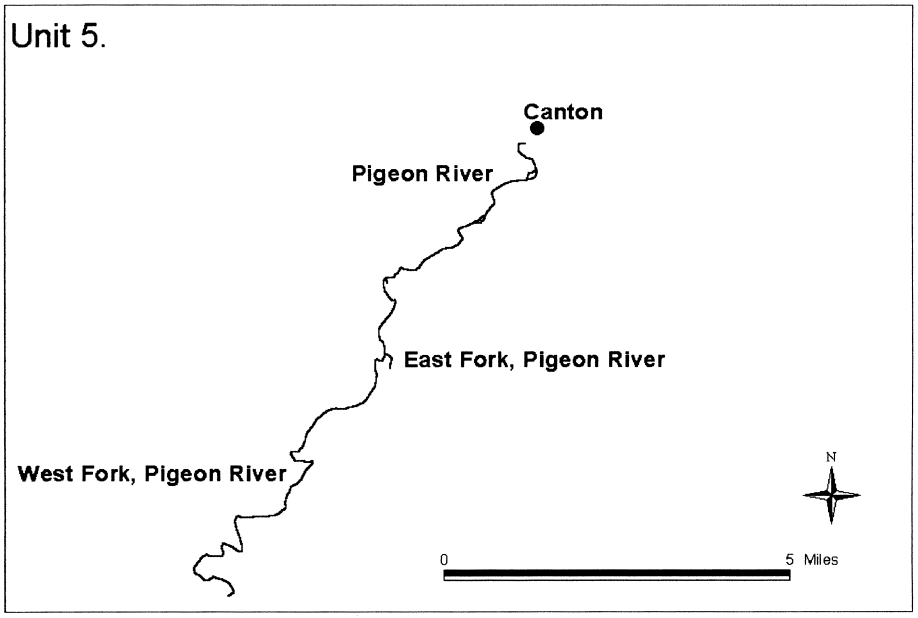
(ii) Map of Unit 4 follows:



(6) Unit 5.

(i) Haywood County, NC—the main stem of the West Fork Pigeon River (French Broad River system), from the confluence of the Little East Fork Pigeon River, downstream to the confluence of the East Fork Pigeon River, and the main stem of the Pigeon River, from the confluence of the West Fork Pigeon River and the East Fork Pigeon River, downstream to the N.C. Highway 215 Bridge crossing, south of Canton, NC.

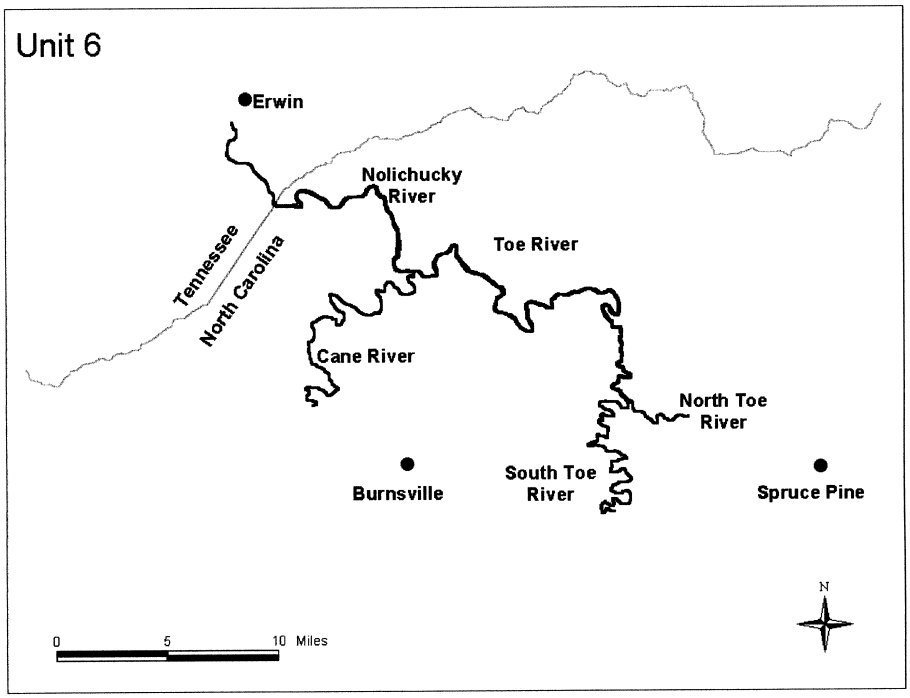
(ii) Map of Unit 5 follows:



(7) Unit 6.

(i) Yancey County and Mitchell County, NC, and Unicoi County, TN—the main stem of the North Toe River, Yancey and Mitchell Counties, NC, from the confluence of Big Crabtree Creek, downstream to the confluence of the South Toe River; the main stem of the South Toe River, Yancey County, NC, from the N.C. State Route 1152 Bridge, downstream to its confluence with the North Toe River; the main stem of the Toe River, Yancey and Mitchell Counties, NC, from the confluence of the North Toe River and the South Toe River, downstream to the confluence of the Cane River; the main stem of the Cane River, Yancey County, NC, from the N.C. State Route 1381 Bridge, downstream to its confluence with the Toe River; and the main stem of the Nolichucky River from the confluence of the Toe River and the Cane River in Yancey County and Mitchell County, NC, downstream to the U.S. Highway 23/19W Bridge southwest of Erwin, Unicoi County, TN.

(ii) Map of Unit 6 follows:



(8) Within these areas, the primary constituent elements include:

(i) Permanent, flowing, cool, clean water;

(ii) Geomorphically stable stream channels and banks;

(iii) Pool, riffle, and run sequences within the channel;

(iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment;

(v) Moderate to high stream gradient;

(vi) Periodic natural flooding; and

(vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

CAROLINA HEELSPLITTER (*Lasmigona decorata*)

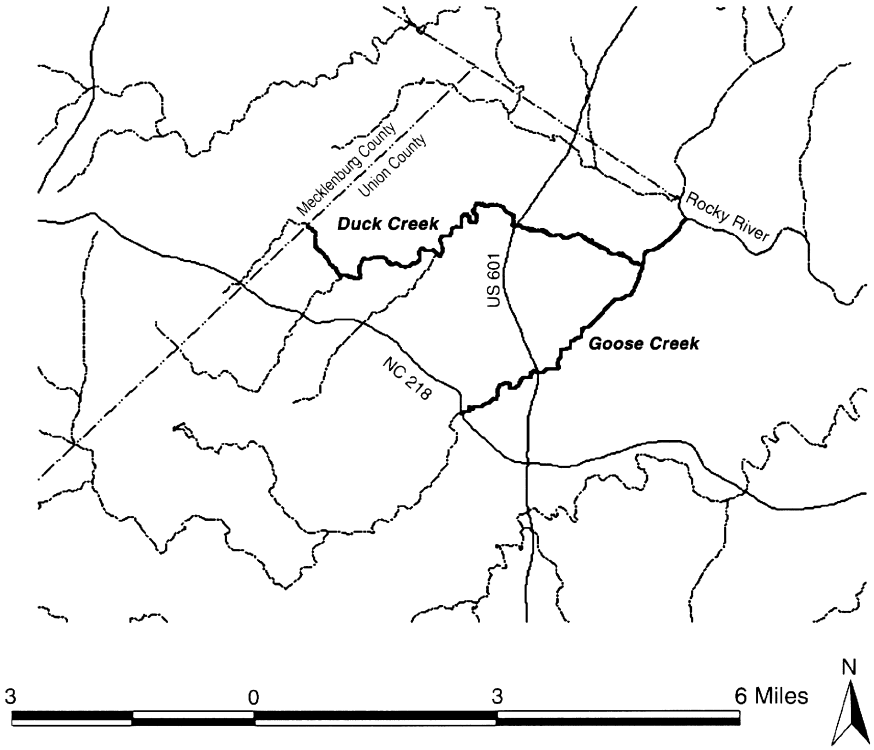
(1) Critical habitat units are described below and depicted in the maps that follow, with the lateral extent of each designated unit bounded by the ordinary high-water line.

(2) Unit 1.

(i) Union County, NC—main stem of Goose Creek (Pee Dee River system) from the N.C. Highway 218 Bridge, downstream to its confluence with the Rocky River, and the main stem of Duck Creek, from the Mecklenburg/Union County line, downstream to its confluence with Goose Creek.

(ii) Map of Unit 1 follows:

Unit 1. Goose Creek and Duck Creek (Pee Dee River System), Union County, North Carolina.

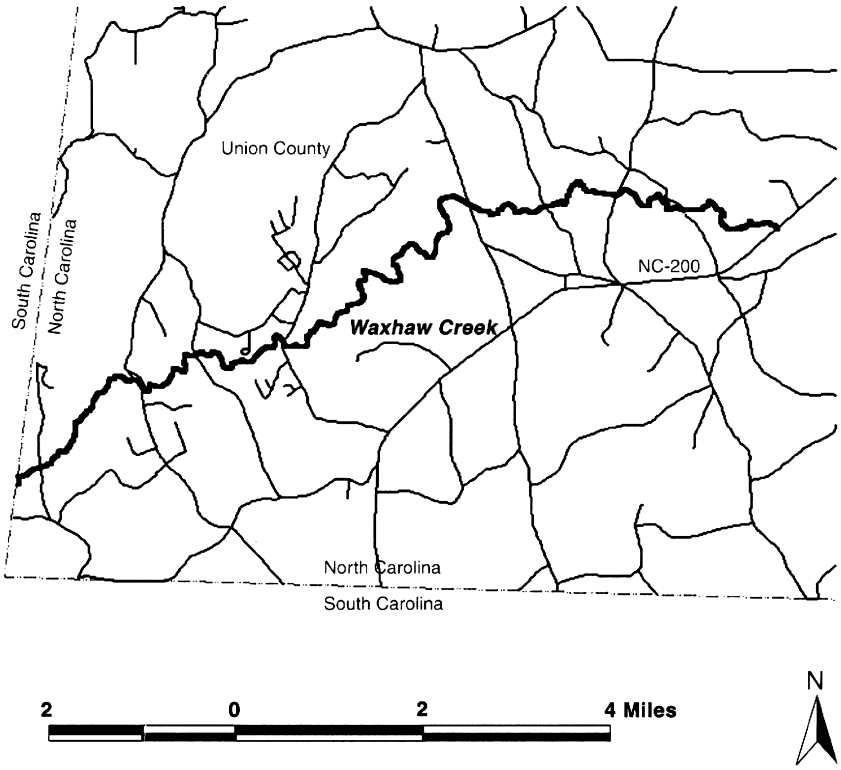


(3) Unit 2.

(i) Union County, NC—main stem of Waxhaw Creek (Catawba River system) from the N.C. Highway 200 Bridge, downstream to the North Carolina/South Carolina State line.

(ii) Map of Unit 2 follows:

Unit 2. Waxhaw Creek (Catawba River System), Union County, North Carolina.

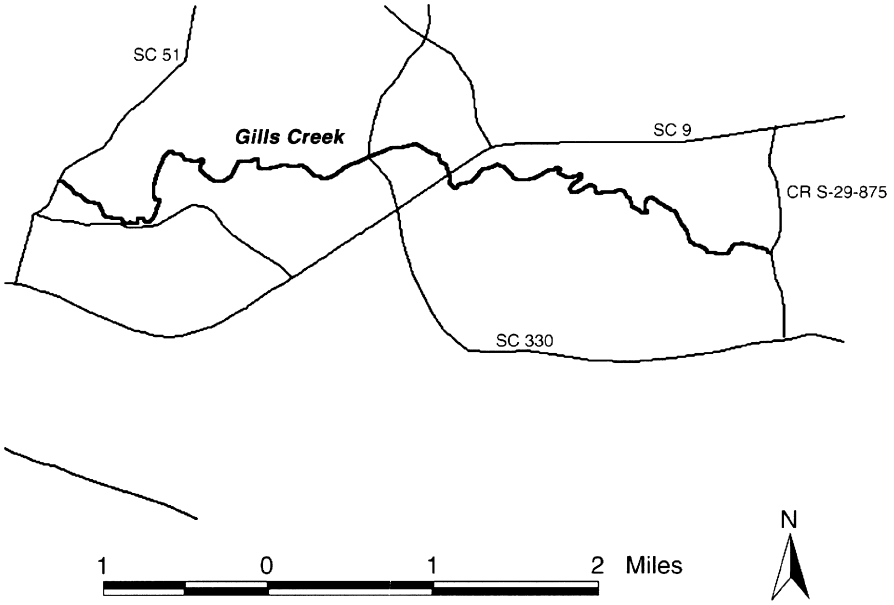


(4) Unit 3.

(i) Lancaster County, SC—main stem of Gills Creek (Catawba River system) from the County Route S–29–875, downstream to the S.C. Route 51 Bridge, east of the city of Lancaster.

(ii) Map of Unit 3 follows:

Unit 3. Gills Creek (Catawba River System), Lancaster County, South Carolina.

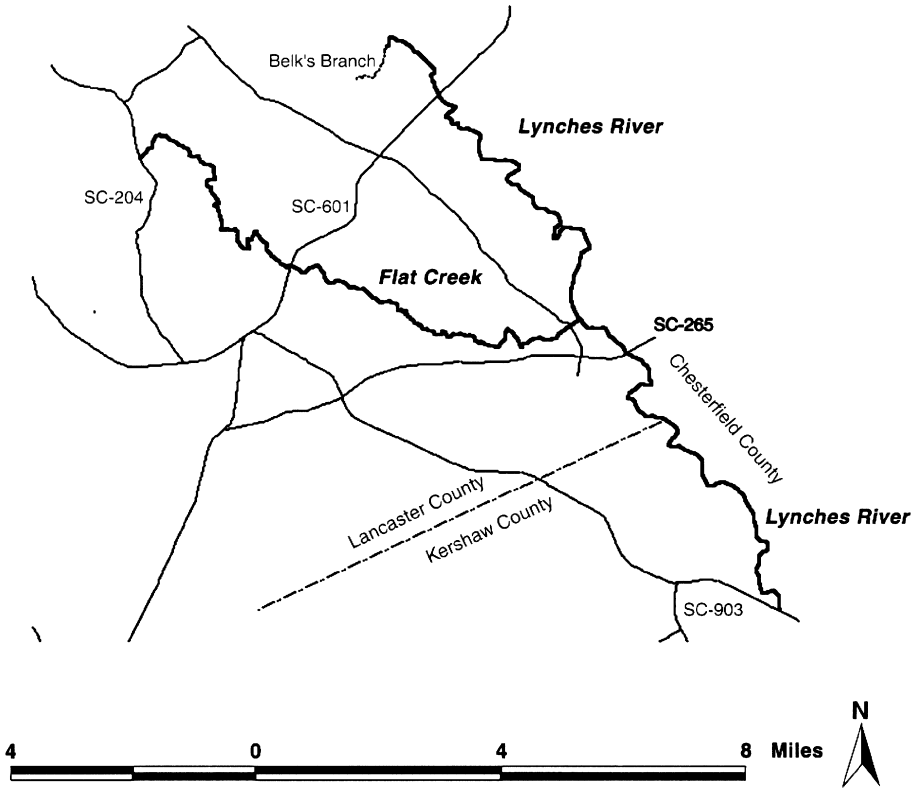


(5) Unit 4.

(i) Lancaster, Chesterfield, and Kershaw Counties, SC—main stem of Flat Creek (Pee Dee River system), Lancaster County, from the S.C. Route 204 Bridge, downstream to its confluence with Lynches River, and the main stem of the Lynches River, Lancaster and Chesterfield Counties, from the confluence of Belk Branch, Lancaster County, northeast (upstream) of the U.S. Highway 601 Bridge, downstream to the S.C. Highway 903 Bridge in Kershaw County.

(ii) Map of Unit 4 follows:

Unit 4. Flat Creek and Lynches River (Pee Dee River System), Lancaster and Kershaw Counties, South Carolina.

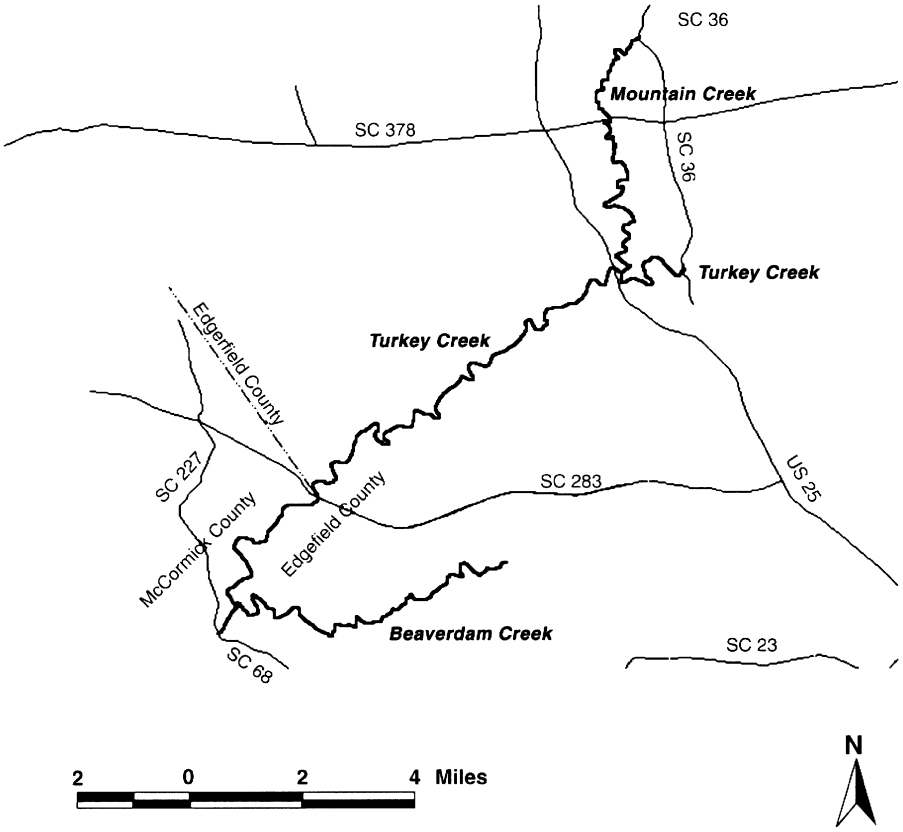


(6) Unit 5.

(i) Edgefield and McCormick Counties, SC—main stem of Mountain Creek (Savannah River system), Edgefield County, SC, from the S.C. Route 36 Bridge, downstream to its confluence with Turkey Creek; Beaverdam Creek, Edgefield County, from the S.C. Route 51 Bridge, downstream to its confluence with Turkey Creek; and Turkey Creek, from the S.C. Route 36 Bridge, Edgefield County, downstream to the S.C. Route 68 Bridge, Edgefield and McCormick Counties.

(ii) Map of Unit 5 follows:

Unit 5. Mountain and Beaverdam Creeks (Savannah River System), Edgefield County, South Carolina, and Turkey Creek (Savannah River System), Edgefield and McCormick Counties, South Carolina.

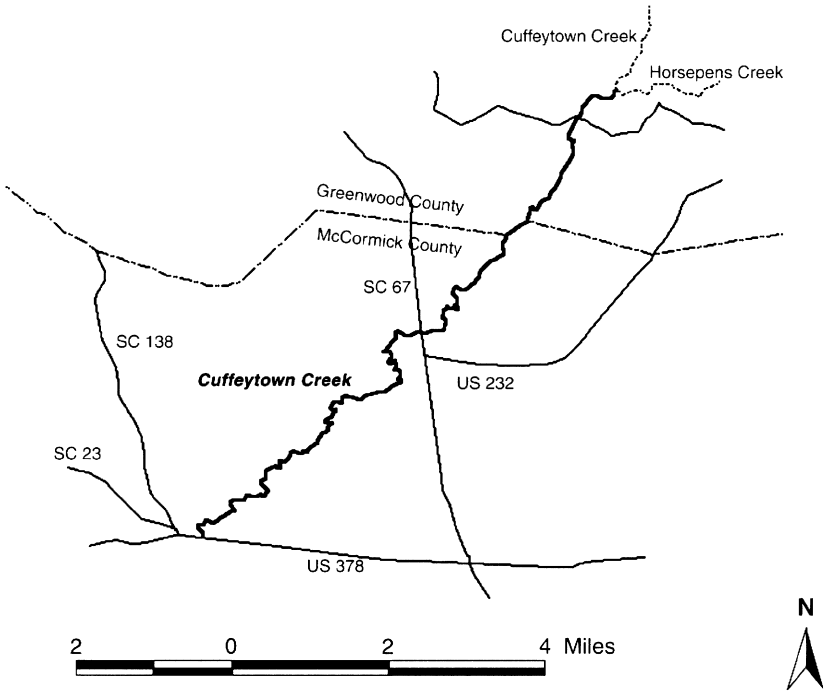


(7) Unit 6.

(i) Greenwood and McCormick Counties, SC—main stem of Cuffytown Creek (Savannah River system), from the confluence of Horsepen Creek, northeast (upstream) of the S.C. Route 62 Bridge in Greenwood County, downstream to the U.S. Highway 378 Bridge in McCormick County.

(ii) Map of Unit 6 follows:

Unit 6. Cuffeytown Creek (Savannah River System), Greenwood and McCormick Counties, South Carolina.



(8) Within these areas, the primary constituent elements include:

(i) Permanent, flowing, cool, clean water;

(ii) Geomorphically stable stream and river channels and banks;

(iii) Pool, riffle, and run sequences within the channel;

(iv) Stable substrates with no more than low amounts of fine sediment;

(v) Moderate stream gradient;

(vi) Periodic natural flooding; and

(vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

ELEVEN MOBILE RIVER BASIN MUSSEL SPECIES: SOUTHERN ACORNSHELL (*Epioblasma othcaloogensis*), OVATE CLUBSHELL (*Pleurobema perovatum*), SOUTHERN CLUBSHELL (*Pleurobema decisum*), UPLAND COMBSHELL (*Epioblasma metastriata*), TRIANGULAR KIDNEYSHELL (*Ptychobranchus greenii*), ALABAMA MOCCASINSHELL (*Medionidus acutissimus*), COOSA MOCCASINSHELL (*Medionidus parvulus*), ORANGE-NACRE MUCKET (*Lampsilis perovalis*), DARK PIGTOE (*Pleurobema furvum*), SOUTHERN PIGTOE (*Pleurobema georgianum*), AND FINE-LINED POCKETBOOK (*Lampsilis altilis*)

(1) The primary constituent elements essential for the conservation of the southern acornshell (*Epioblasma othcaloogensis*), ovate clubshell (*Pleurobema perovatum*), southern clubshell (*Pleurobema decisum*), upland combshell (*Epioblasma metastriata*); triangular kidneyshell (*Ptychobranchus greenii*),

Alabama moccasinshell (*Medionidus acutissimus*), Coosa moccasinshell (*Medionidus parvulus*), orange-nacre mucket (*Lampsilis perovalis*), dark pigtoe (*Pleurobema furvum*), southern pigtoe (*Pleurobema georgianum*), and fine-lined pocketbook (*Lampsilis altilis*) are those habitat components that support feeding, sheltering, reproduction, and physical features for maintaining the natural processes that support these habitat components. The primary constituent elements include:

(i) Geomorphically stable stream and river channels and banks;

(ii) A flow regime (*i.e.*, the magnitude, frequency, duration, and seasonality of discharge over time) necessary for normal behavior, growth, and survival of all life stages of mussels and their fish hosts in the river environment;

(iii) Water quality, including temperature, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;

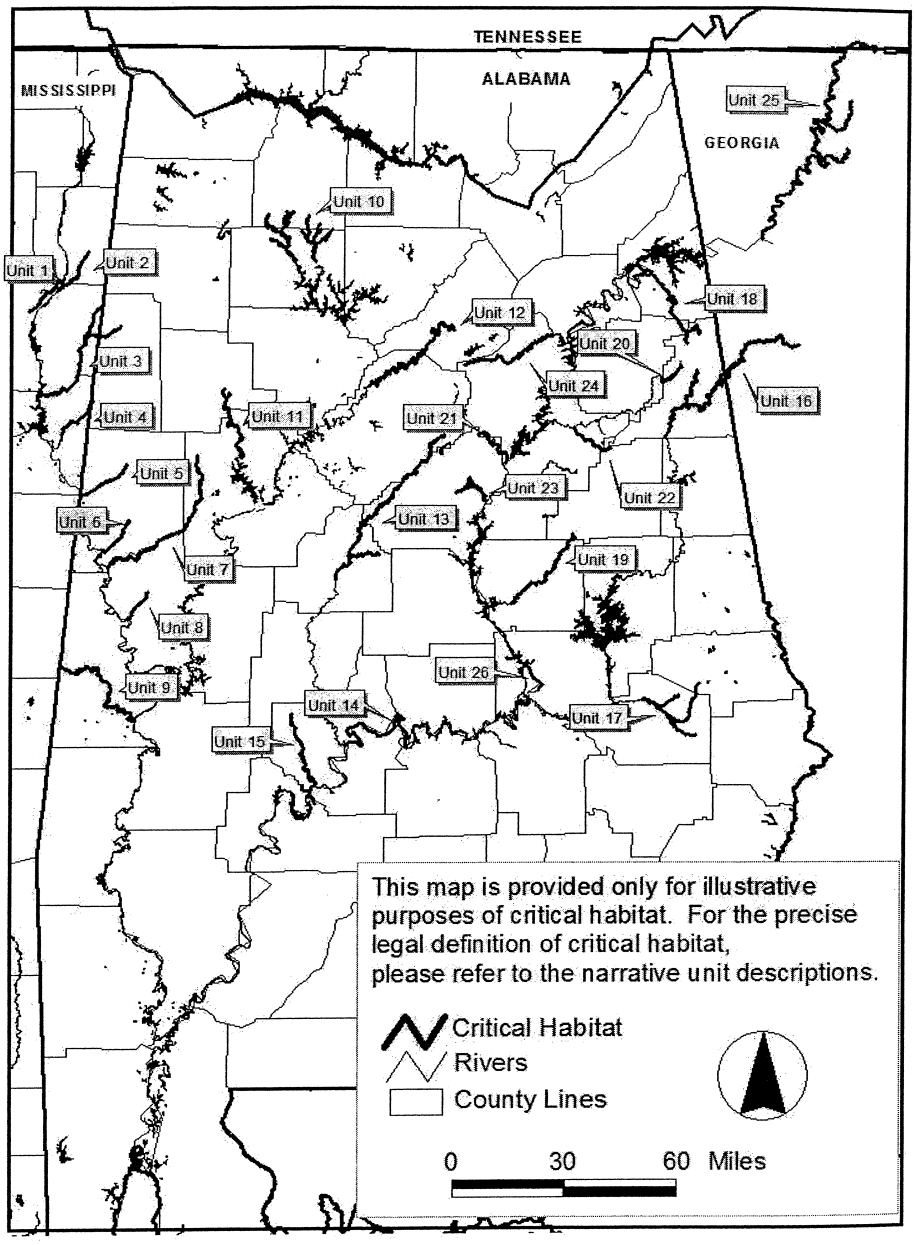
(iv) Sand, gravel, and/or cobble substrates with low to moderate amounts of fine sediment, low amounts of attached filamentous algae, and other physical and chemical characteristics necessary for normal behavior, growth, and viability of all life stages;

(v) Fish hosts, with adequate living, foraging, and spawning areas for them; and

(vi) Few or no competitive nonnative species present.

(2) Critical habitat unit descriptions and maps.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Georgia, and Tennessee for the 11 Mobile River Basin mussel species follows:



General locations of designated critical habitat in the Mobile River Basin

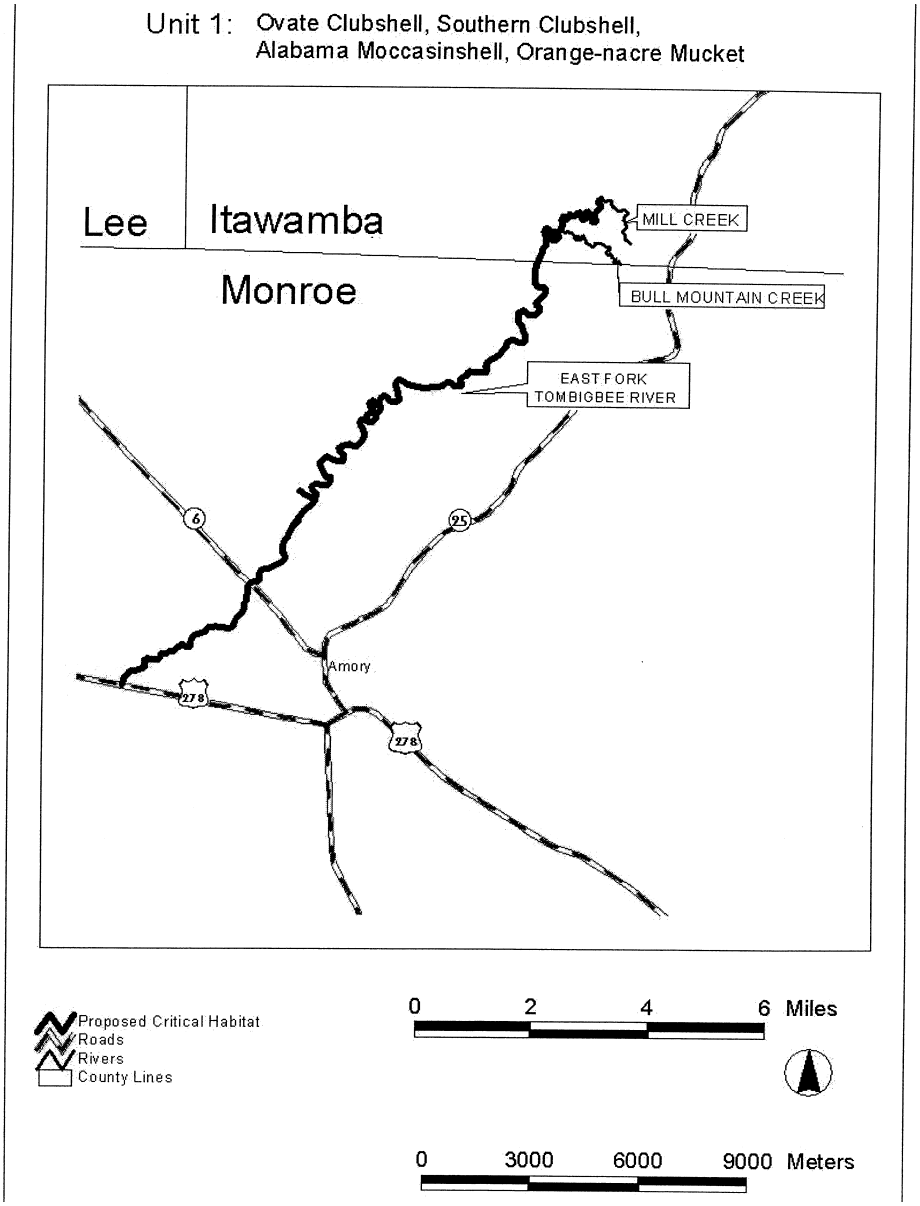
(ii) *Protected species and critical habitat units.* A table listing the protected species, their respective critical habitat units, and the States that contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below the table.

Species	Critical habitat units	States
Southern acornshell (*Epioblasma othcaloogensis*)	Units 13, 18, 19, 21, 24, 25, 26	AL, GA, TN
Ovate clubshell (*Pleurobema perovatum*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 21, 24, 25, 26.	AL, GA, MS, TN
Southern clubshell (*Pleurobema decisum*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 17, 18, 19, 21, 24, 25, 26.	AL, GA, MS, TN
Upland combshell (*Epioblasma metastriata*)	Units 12, 13, 18, 19, 21, 24, 25, 26	AL, GA, TN
Triangular kidneyshell (*Ptychobranchus greenii*)	Units 10, 11, 12, 13, 18, 19, 20, 21, 22, 23, 24, 25, 26.	AL, GA, TN
Alabama moccasinshell (*Medionidus acutissimus*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 25, 26.	AL, GA, MS, TN
Coosa moccasinshell (*Medionidus parvulus*)	Units 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN
Orange-nacre mucket (*Lampsilis perovalis*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.	AL, MS
Dark pigtoe (*Pleurobema furvum*)	Units 10, 11, 12	AL
Southern pigtoe (*Pleurobema georgianum*)	Units 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN
Fine-lined pocketbook (*Lampsilis altilis*)	Units 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN

(iii) Unit 1. East Fork Tombigbee River, Monroe, Itawamba County, Mississippi. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 1 includes the East Fork Tombigbee River main stem from Mississippi Highway 278 (T13S R7E S3), Monroe County, upstream to the confluence of Mill Creek (T11S R8E S24), Itawamba County, Mississippi.

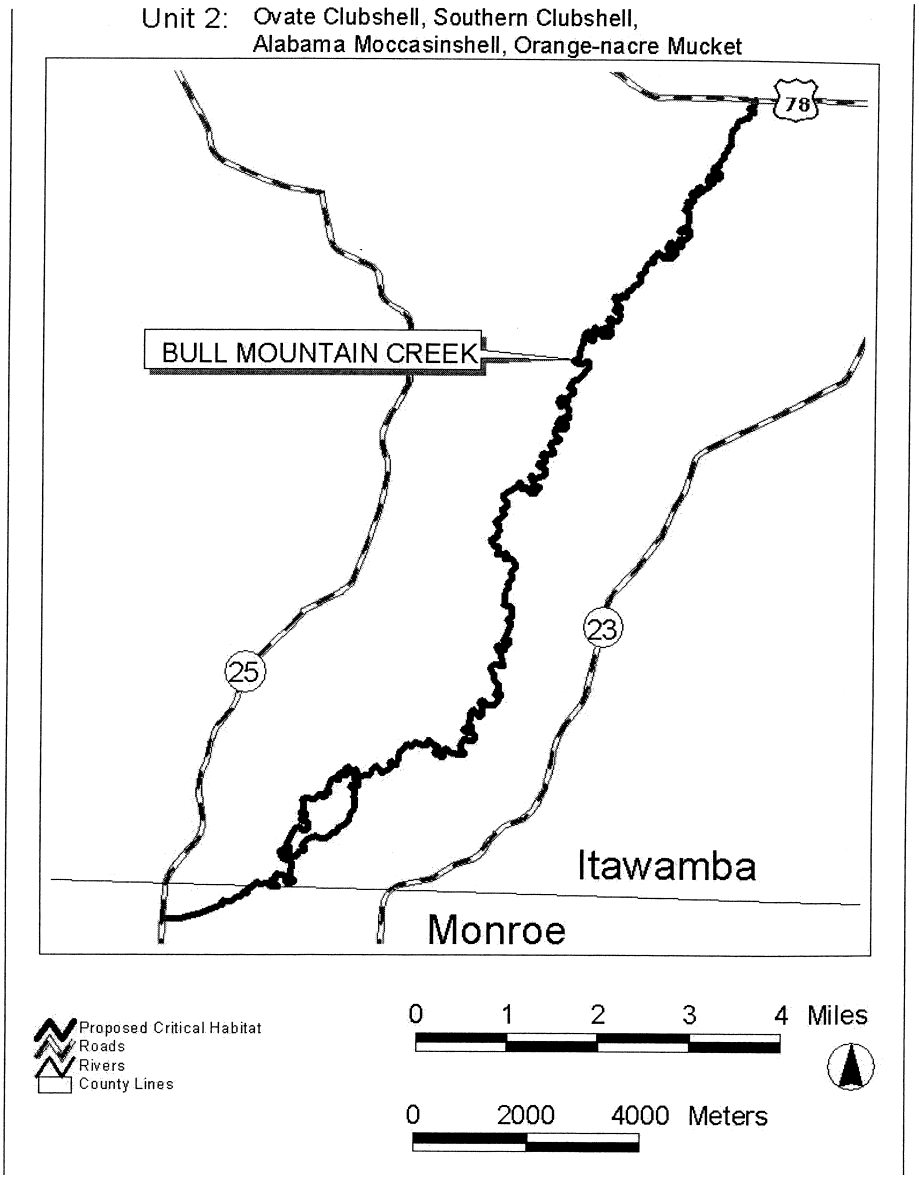
(B) Map of Unit 1 follows:



(iv) Unit 2. Bull Mountain Creek, Itawamba County, Mississippi. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 2 includes the main stem of Bull Mountain Creek from Mississippi Highway 25 (T11S R9E S30), upstream to U.S. Highway 78 (T10S R10E S6), Itawamba County, Mississippi.

(B) Map of Unit 2 follows:

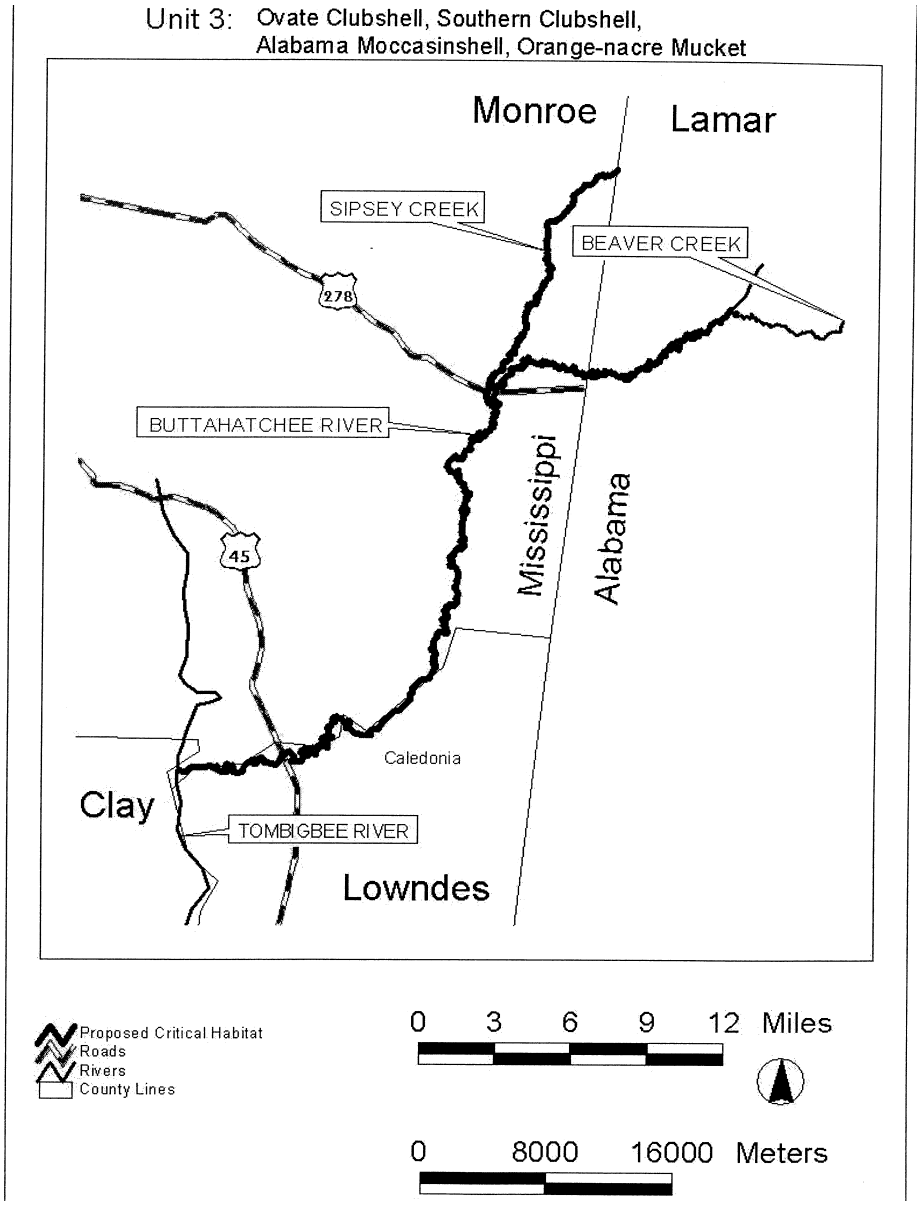


(v) Unit 3. Buttahatchee River and Sipsey Creek, Lowndes/Monroe County, Mississippi; Lamar County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 3 includes the Buttahatchee River main stem from its confluence with the impounded waters of Columbus Lake (Tombigbee River, T16S R19W S23), Lowndes/Monroe County, Mississippi, upstream to the confluence of Beaver Creek (T13S R15W S17), Lamar County, Alabama; and Sipsey Creek, from its confluence with the Buttahatchee

River (T14S R17W S2), upstream to the Mississippi/Alabama State Line (T12S R10E S21), Monroe County, Mississippi.

(B) Map of Unit 3 follows:

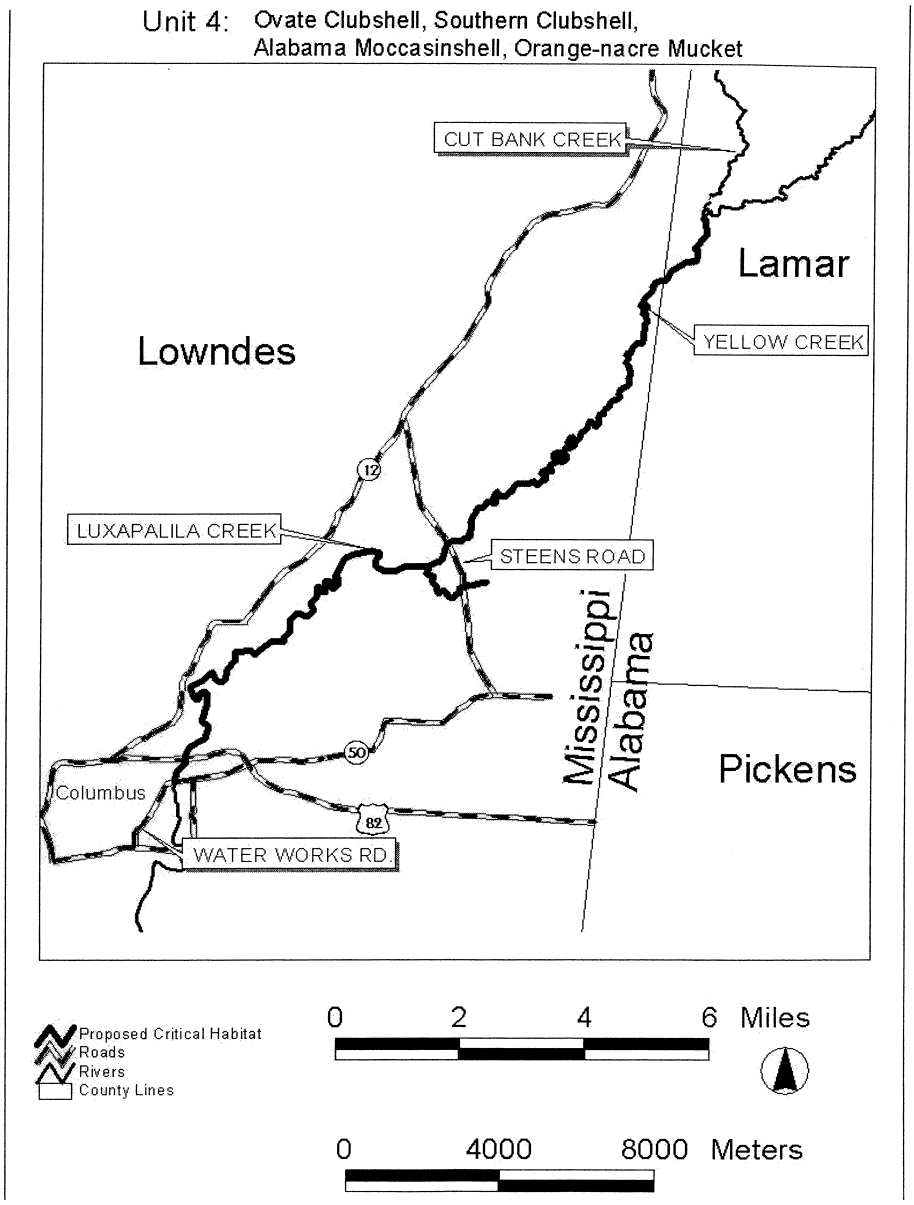


(vi) Unit 4. Luxapalila Creek and Yellow Creek, Lowndes County, Mississippi; Lamar County, Alabama. This is a critical habitat unit for the ovate clubshell, southern

clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 4 includes the Luxapalila Creek main stem from Waterworks Road (T18S R18W S11), Columbus, Mississippi, upstream to approximately 1.0 km (0.6 mi) above Steens Road (T17S R17W S27), Lowndes County, Mississippi; and the Yellow Creek main stem from its confluence with Luxapalila Creek (T17S R17W S21), Lowndes County, Mississippi, upstream to the confluence of Cut Bank Creek (T16S R16W S30), Lamar County, Alabama.

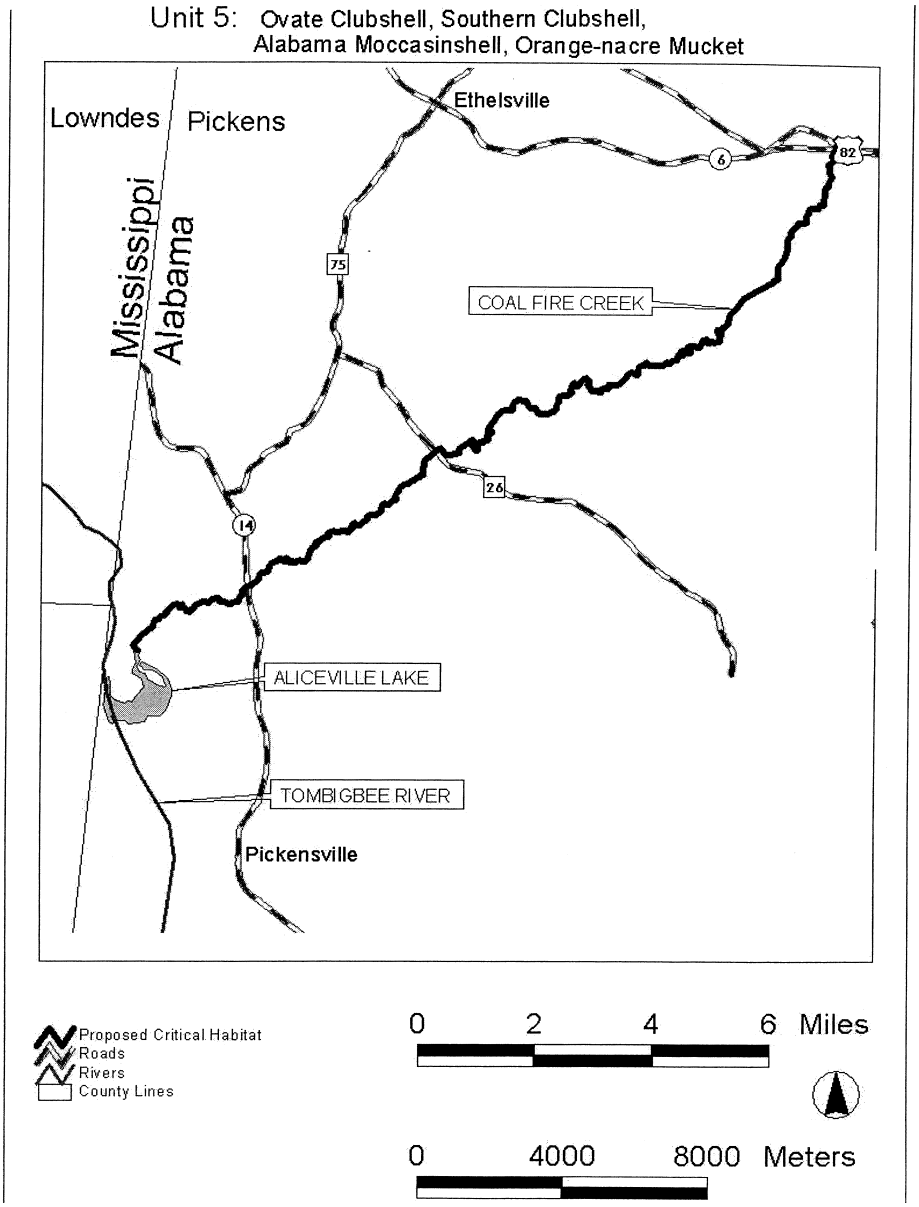
(B) Map of Unit 4 follows:



(vii) Unit 5. Coalfire Creek, Pickens County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 5 includes the Coalfire Creek main stem from its confluence with the impounded waters of Aliceville Lake (Tombigbee River, T20S R17W S26), upstream to U.S. Highway 82 (T19S R15W S15), Pickens County, Alabama.

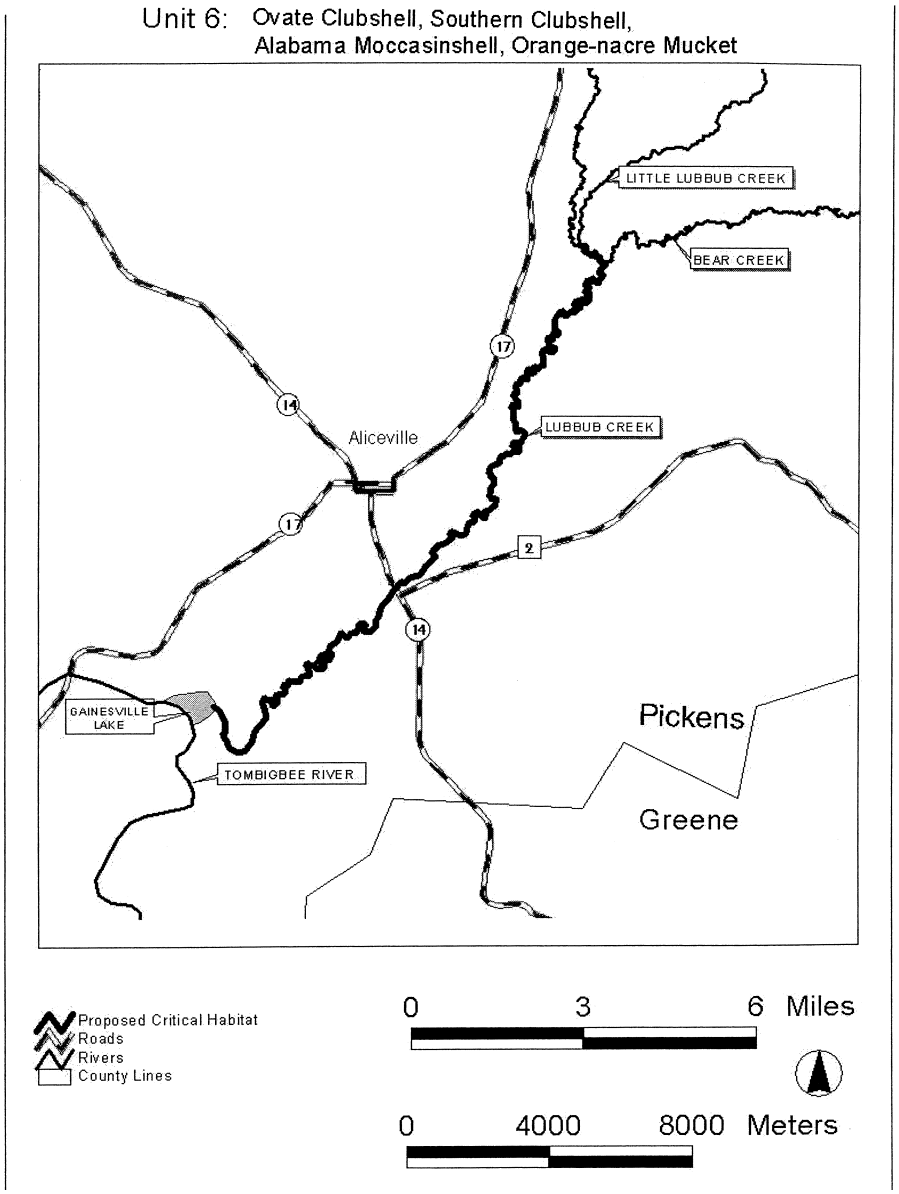
(B) Map of Unit 5 follows:



(viii) Unit 6. Lubbub Creek, Pickens County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 6 includes the main stem of Lubbub Creek from its confluence with the impounded waters of Gainesville Lake (Tombigbee River, T24N R2W S11), upstream to the confluence of Little Lubbub Creek (T21S R1W S34), Pickens County, Alabama.

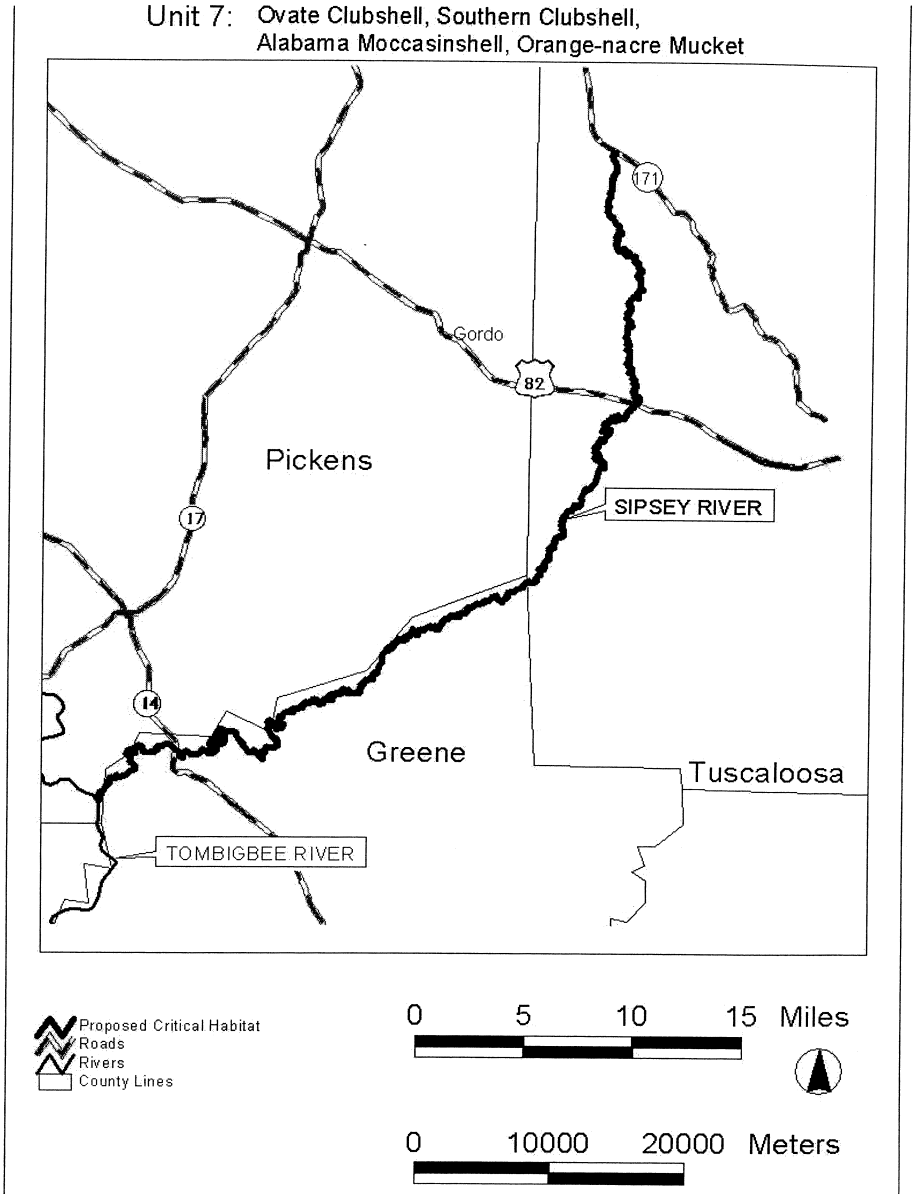
(B) Map of Unit 6 follows:



(ix) Unit 7. Sipsey River, Greene/Pickens, Tuscaloosa Counties, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 7 includes the Sipsey River main stem from its confluence with impounded waters of Gainesville Lake (Tombigbee River, T24N R1W S30), Greene/Pickens County, upstream to Alabama Highway 171 crossing (T18S R12W S34), Tuscaloosa County, Alabama.

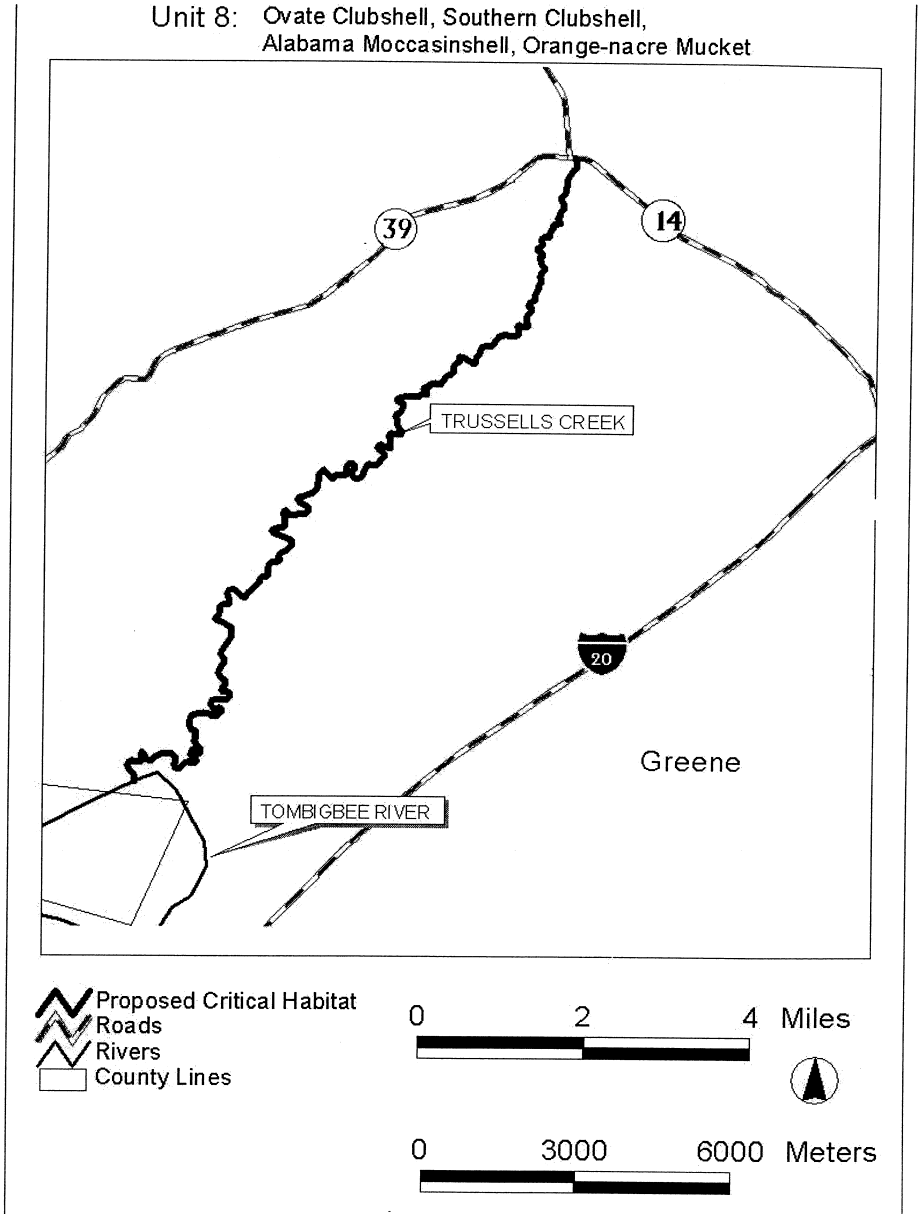
(B) Map of Unit 7 follows:



(x) Unit 8. Trussels Creek, Greene County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 8 includes the Trussels Creek main stem from its confluence with the impounded waters of Demopolis Lake (Tombigbee River, T21N R2W S15), upstream to Alabama Highway 14 (T22N R1E S4), Greene County, Alabama.

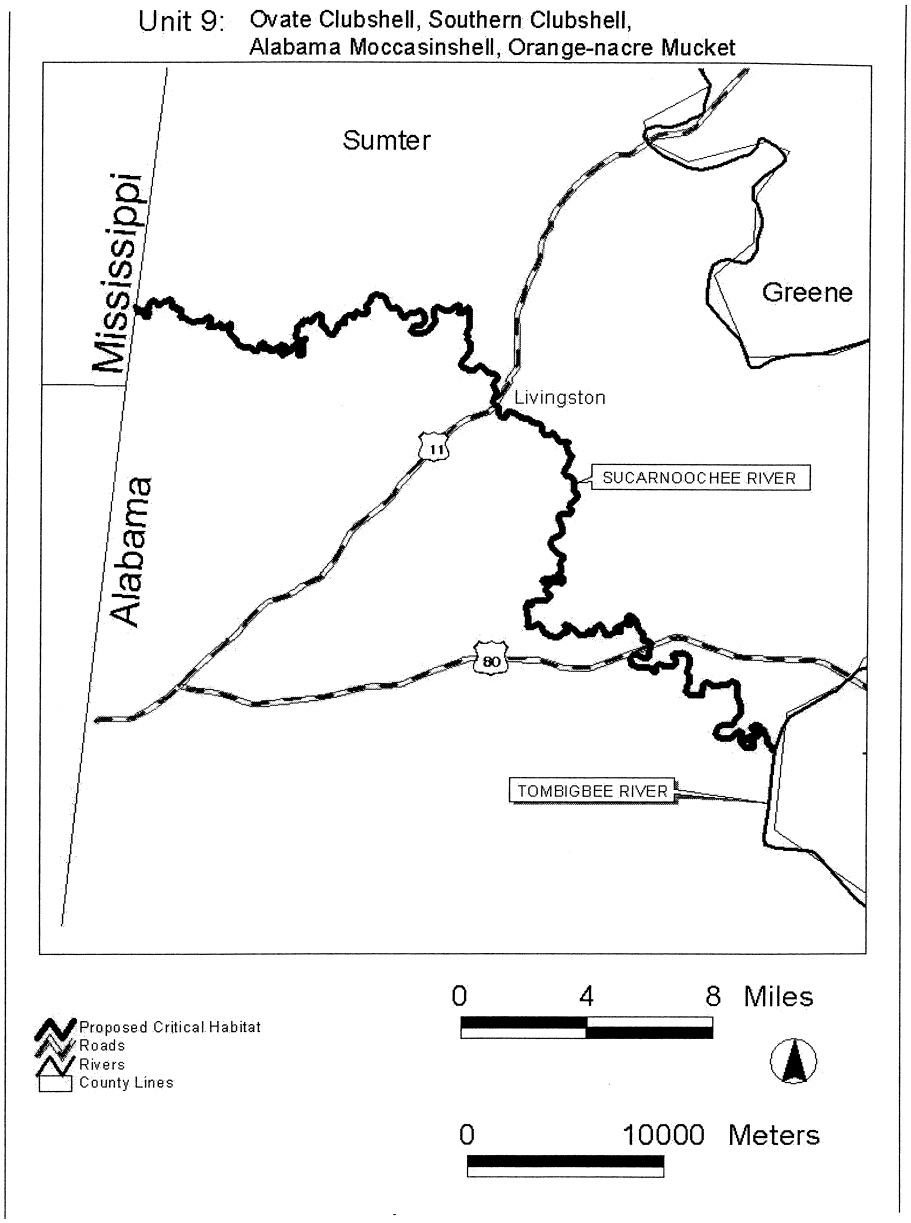
(B) Map of Unit 8 follows:



(xi) Unit 9. Sucarnoochee River, Sumter County, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 9 includes the Sucarnoochee River main stem from its confluence with the Tombigbee River (T17N R1W S26), upstream to the Mississippi/Alabama State Line (T19N R4W S15), Sumter County, Alabama.

(B) Map of Unit 9 follows:

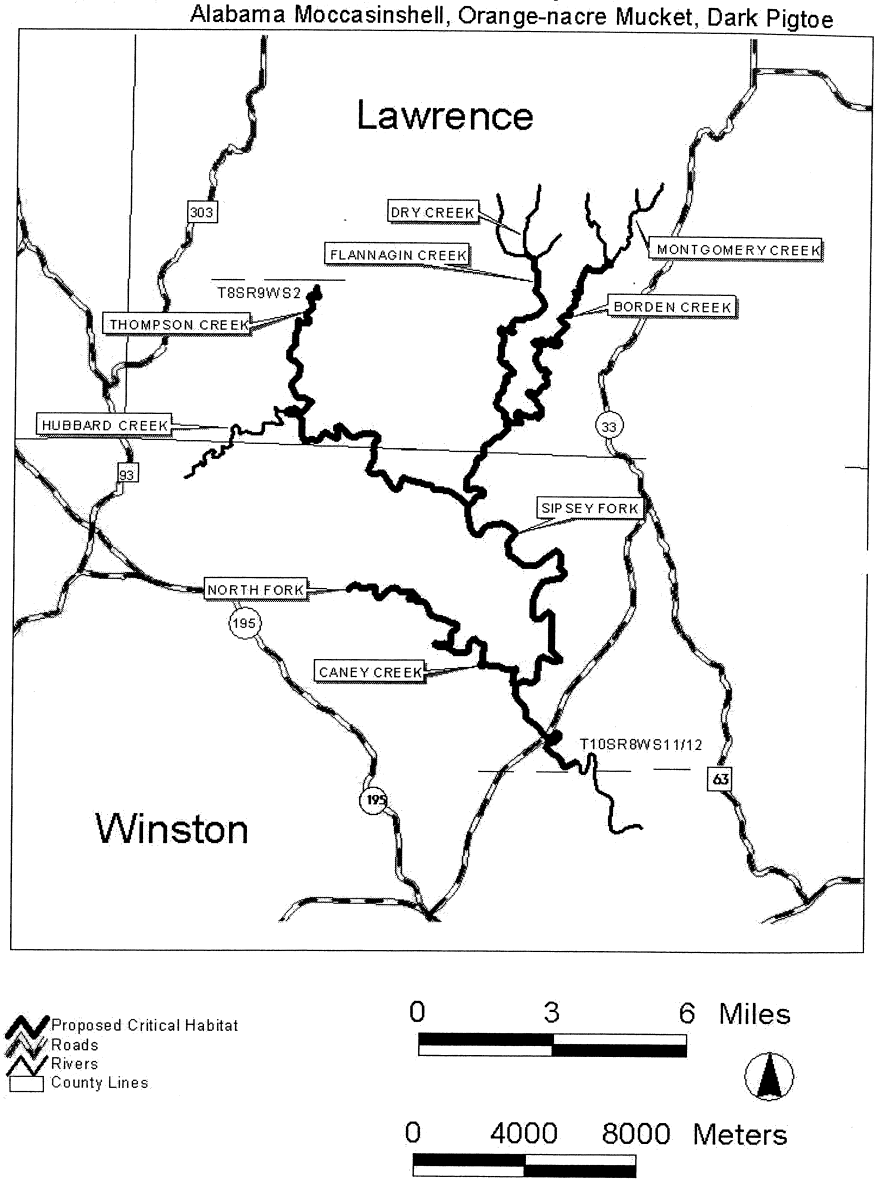


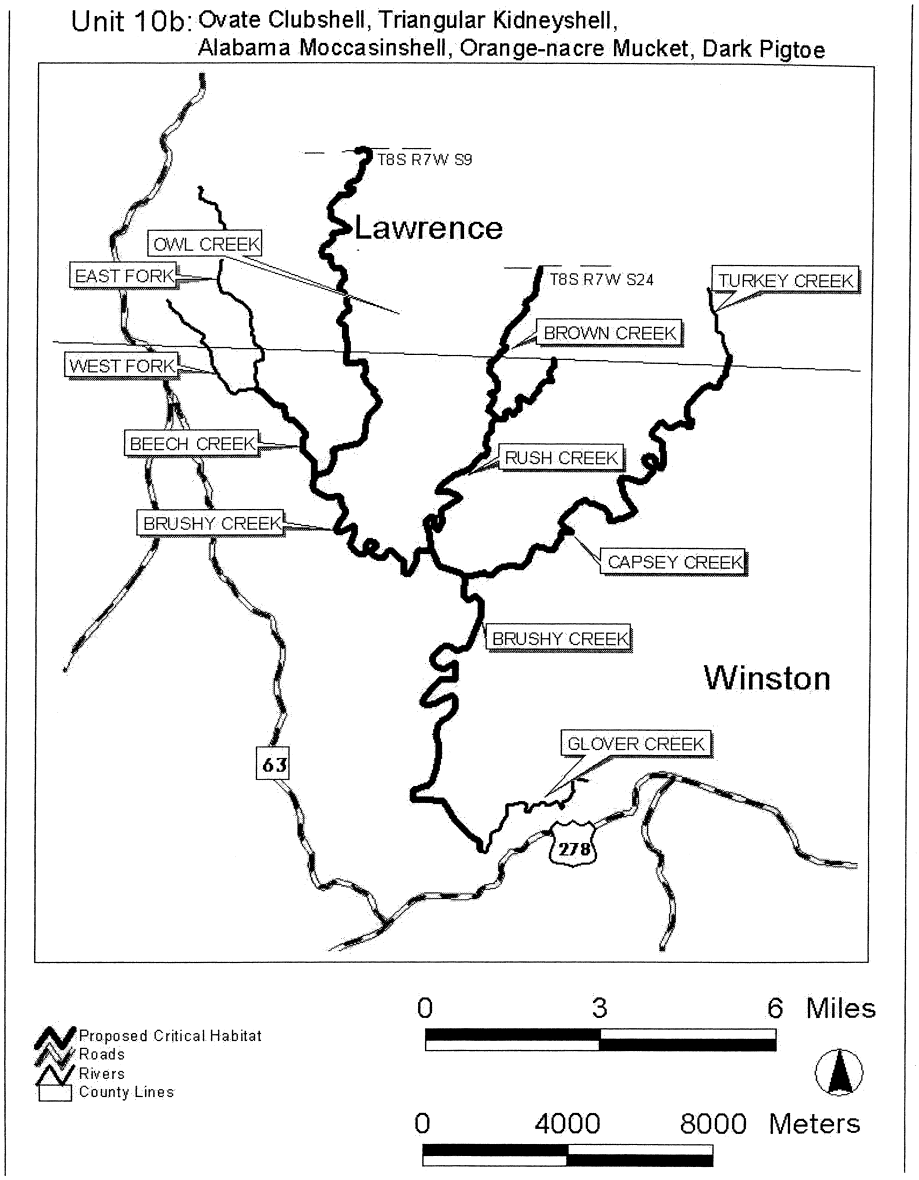
(xii) Unit 10. Sipsey Fork and tributaries, Winston, Lawrence Counties, Alabama. This is a critical habitat unit for the ovate clubshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and dark pigtoe.

(A) Unit 10 includes the Sipsey Fork main stem from the section 11/12 line (T10S R8W), Winston County, Alabama, upstream to the confluence of Hubbard Creek (T8S R9W S27), Lawrence County, Alabama; Thompson Creek, from its confluence with Hubbard

Creek (T8S R9W S27), upstream to section 2 line (T8S R9W) Lawrence County; Brushy Creek, from the confluence of Glover Creek (T10S R7W S11), Winston County, upstream to section 9 (T8S R7W), Lawrence County; Capsey Creek, from confluence with Brushy Creek (T9S R7W S23), Winston County, upstream to the confluence of Turkey Creek (T8S R6W S33), Lawrence County; Rush Creek, from confluence with Brushy Creek (T9S R7W S15), upstream to Winston/Lawrence County Line (T9S R7W S1), Winston County; Brown Creek, from confluence with Rush Creek (T9S R7W S2), Winston County, upstream to section 24 line (T8S R7W), Lawrence County; Beech Creek, from confluence with Brushy Creek (T9S R7W S8), to confluence of East and West Forks (T9S R7W S6), Winston County; Caney Creek and North Fork Caney Creek, from confluence with Sipsey Fork (T9S R8W S28), upstream to section 14 line (T9S R9W), Winston County; Borden Creek, from confluence with Sipsey Fork (T8S R8W S5), Winston County, upstream to the confluence of Montgomery Creek (T8S R8W S10), Lawrence County; and Flannagin Creek, from confluence with Borden Creek (T8S R8W S28), upstream to confluence of Dry Creek (T8S R8W S4), Lawrence County.

Unit 10a: Ovate Clubshell, Triangular Kidneyshell, Alabama Moccasinshell, Orange-nacre Mucket, Dark Pigtoe

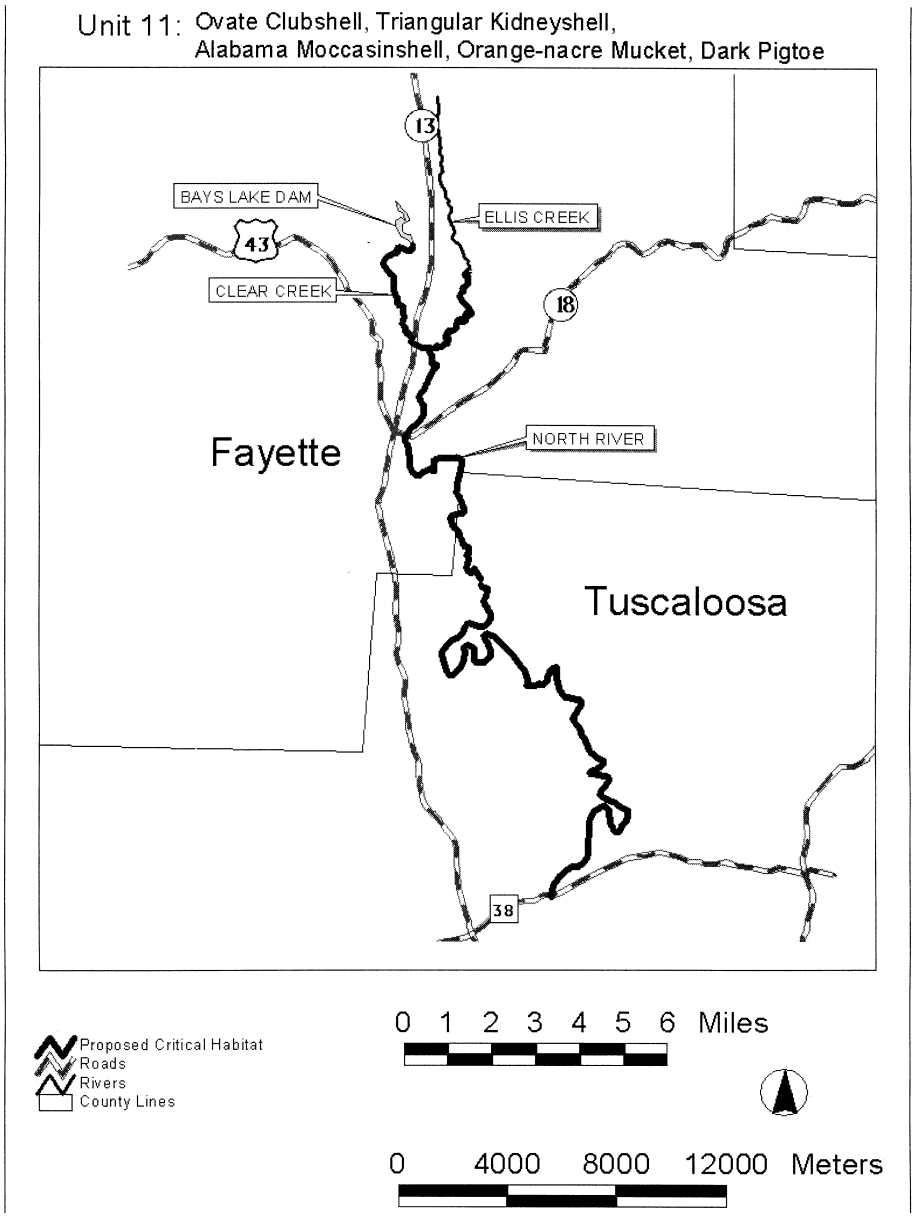




(xiii) Unit 11. North River and Clear Creek, Tuscaloosa, Fayette Counties, Alabama. This is a critical habitat unit for the ovate clubshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and dark pigtoe.

(A) Unit 11 includes the main stem of the North River from Tuscaloosa County Road 38 (T18S R10W S16), Tuscaloosa County, upstream to confluence of Ellis Creek (T16S R10W S6), Fayette County, Alabama; and Clear Creek from its confluence with North River (T16S R11W S13) to Bays Lake Dam (T16S R11W S2), Fayette County, Alabama.

(B) Map of Unit 11 follows:

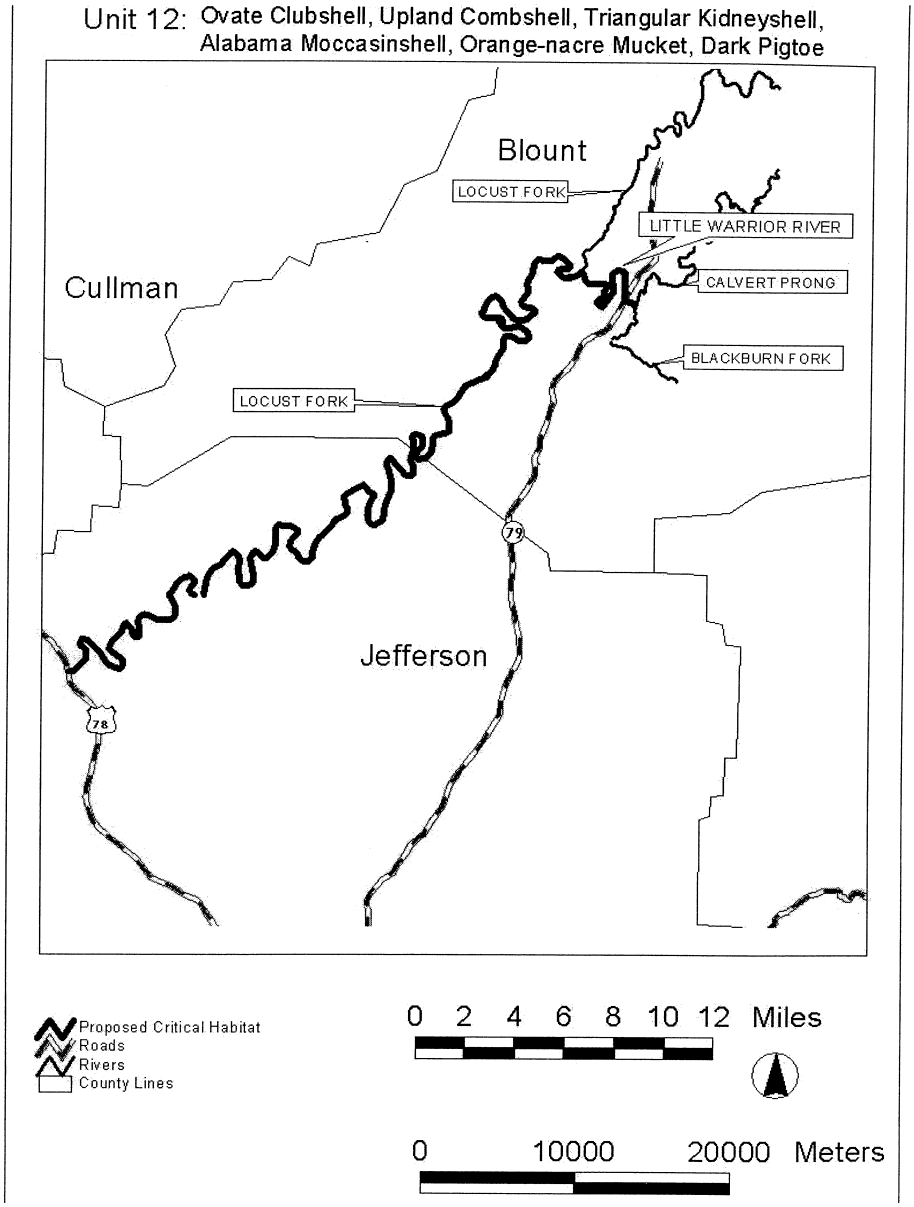


(xiv) Unit 12. Locust Fork and Little Warrior Rivers, Jefferson, Blount Counties, Alabama. This is a critical habitat unit for the ovate clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and dark pigtoe.

(A) Unit 12 includes the Locust Fork main stem from U.S. Highway 78 (T15S R4W S30), Jefferson County, upstream to the confluence of Little Warrior River (T13S R1W

S3), Blount County, Alabama; and Little Warrior River from its confluence with the Locust Fork (T13S R1W S3), upstream to the confluence of Calvert Prong and Blackburn Fork (T13S R1W S12), Blount County, Alabama.

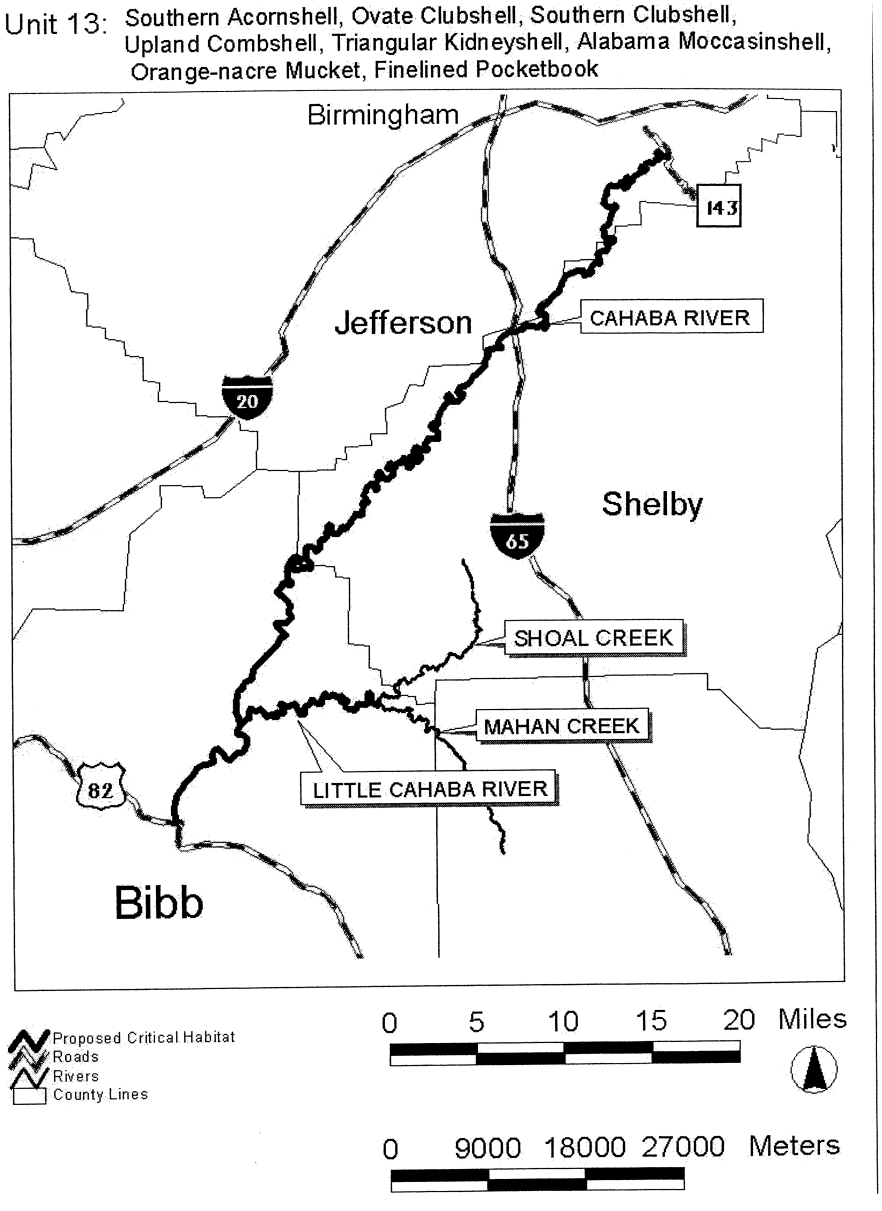
(B) Map of Unit 12 follows:



(xv) Unit 13. Cahaba River and Little Cahaba River, Jefferson, Shelby, Bibb Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, orange-nacre mucket, and fine-lined pocketbook.

(A) Unit 13 includes the Cahaba River from U.S. Highway 82 (T23N R9E S26), Centerville, Bibb County, upstream to Jefferson County Road 143 (T18S R1E S33), Jefferson County, Alabama; and the Little Cahaba River from its confluence with the Cahaba River (T24N R10E S21), upstream to the confluence of Mahan and Shoal Creeks (T24N R11E S14), Bibb County, Alabama.

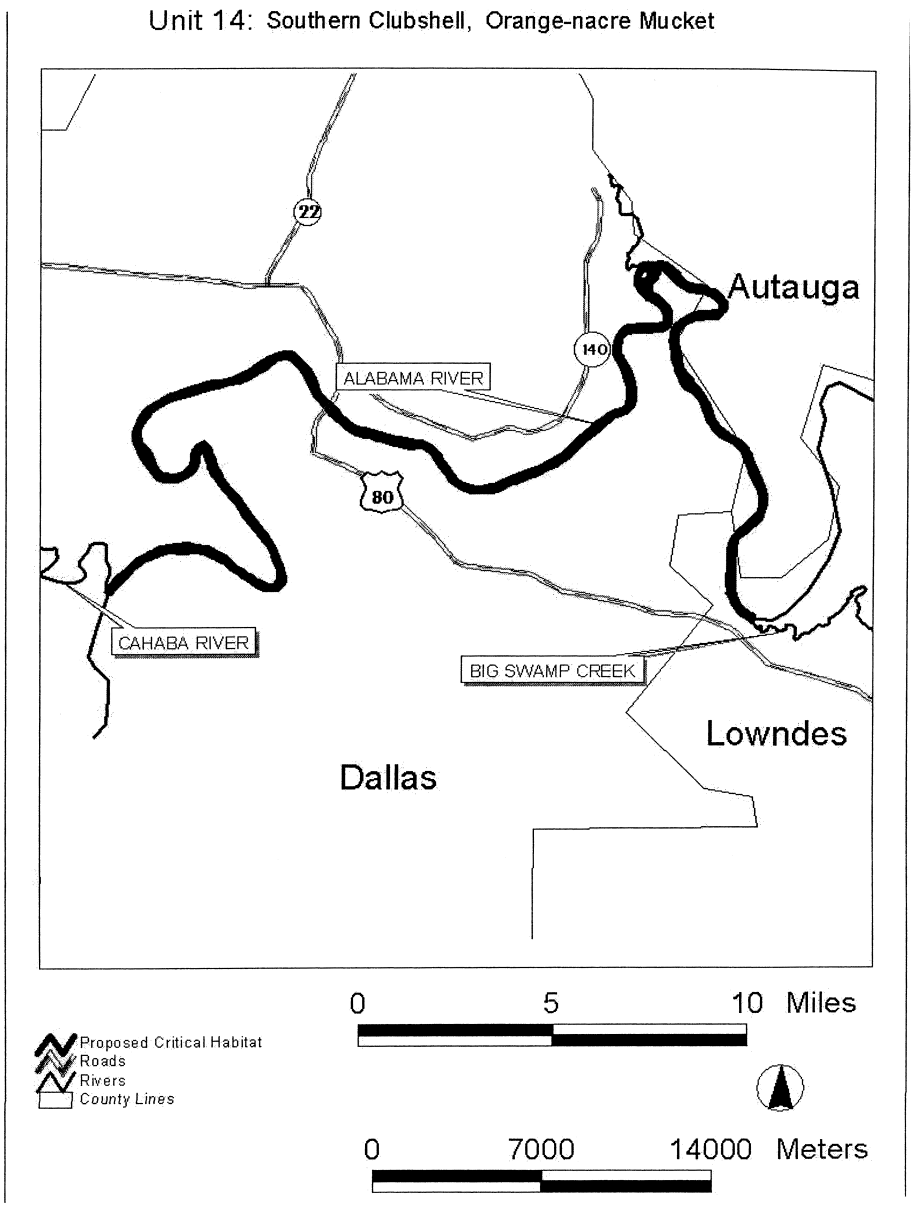
(B) Map of Unit 13 follows:



(xvi) Unit 14. Alabama River, Autauga, Lowndes, Dallas Counties, Alabama. This is a critical habitat unit for the southern clubshell and orange-nacre mucket.

(A) Unit 14 includes the Alabama River from the confluence of the Cahaba River (T16N R10E S32), Dallas County, upstream to the confluence of Big Swamp Creek (T15N R12E S1), Lowndes County, Alabama.

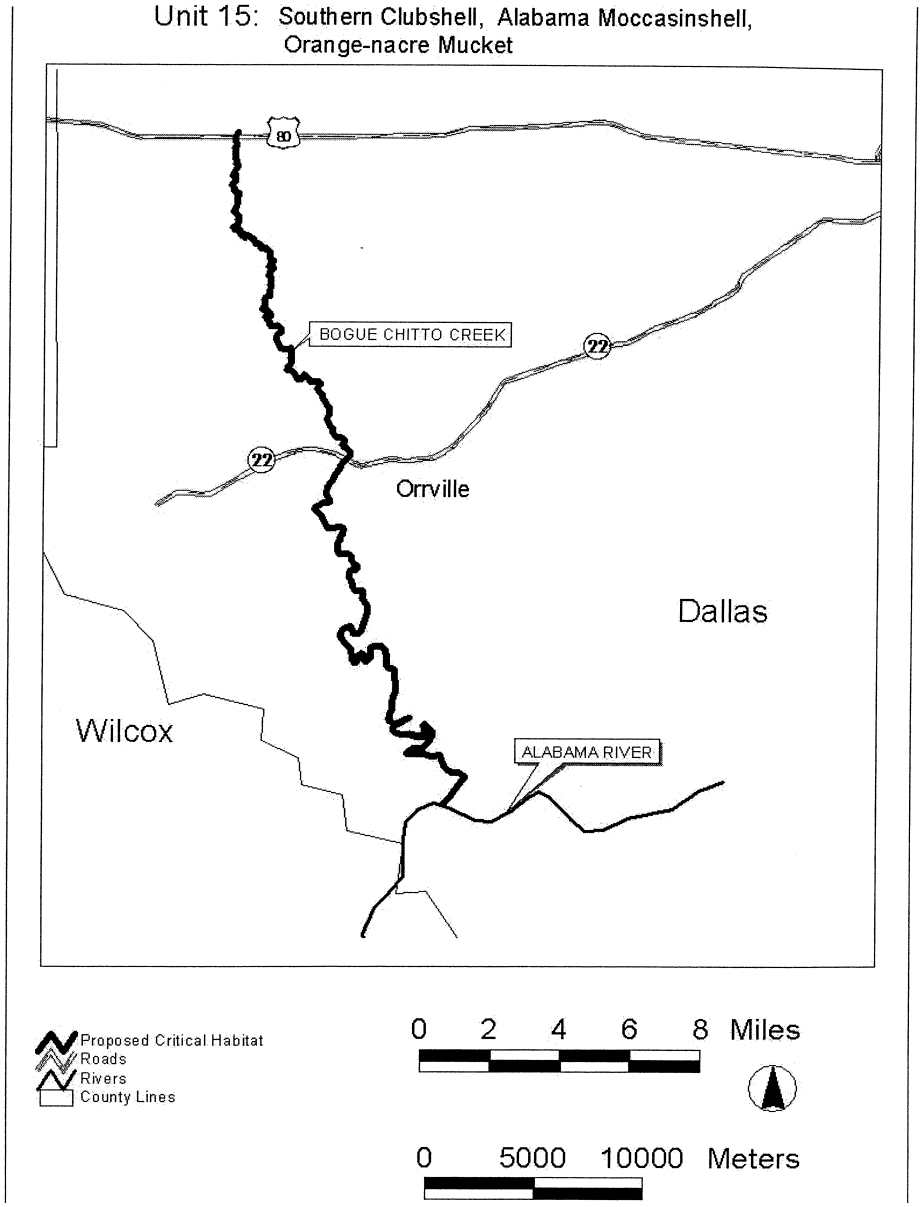
(B) Map of Unit 14 follows:



(xvii) Unit 15. Bogue Chitto Creek, Dallas County, Alabama. This is a critical habitat unit for the southern clubshell, Alabama moccasinshell, and orange-nacre mucket.

(A) Unit 15 includes the Bogue Chitto Creek main stem from its confluence with the Alabama River (T14N R8E S24), Dallas County, upstream to U.S. Highway 80 (T17N R7E S24), Dallas County, Alabama.

(B) Map of Unit 15 follows:

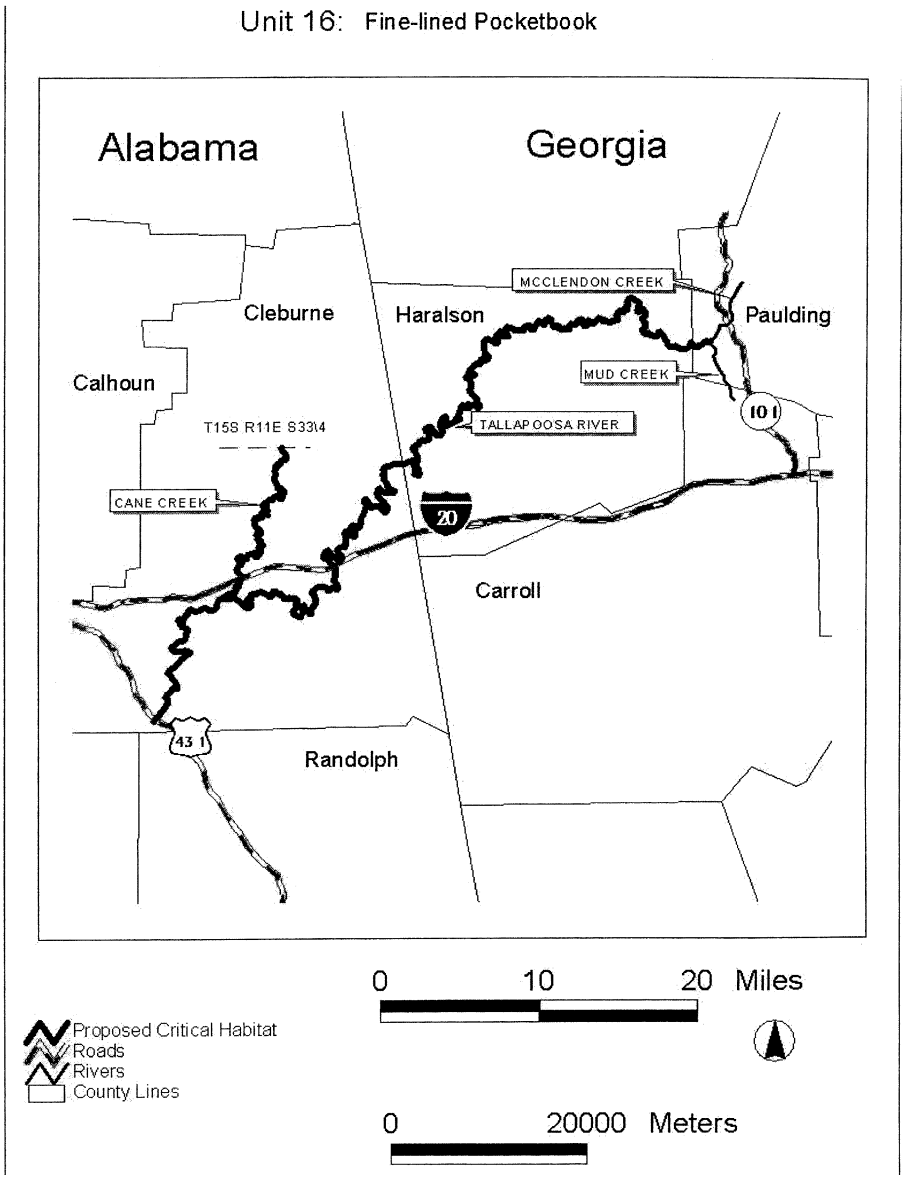


(xviii) Unit 16. Tallapoosa River, Cleburne County, Alabama, and Paulding, Haralson Counties, Georgia; Cane Creek, Cleburne County, Alabama. This is a critical habitat unit for the fine-lined pocketbook.

(A) Unit 16 includes the main stem Tallapoosa River from U.S. Highway 431 (T17S R10E S31), Cleburne County, Alabama, upstream to the confluence of McClendon and Mud Creeks (33°50′43″ N 85°00′45″ W), Paulding County, Georgia; and Cane Creek from its confluence with Tallapoosa River (T16S R10E S24), upstream to section 33/4

Line (T15S, R11E), Cleburne County, Alabama.

(B) Map of Unit 16 follows:

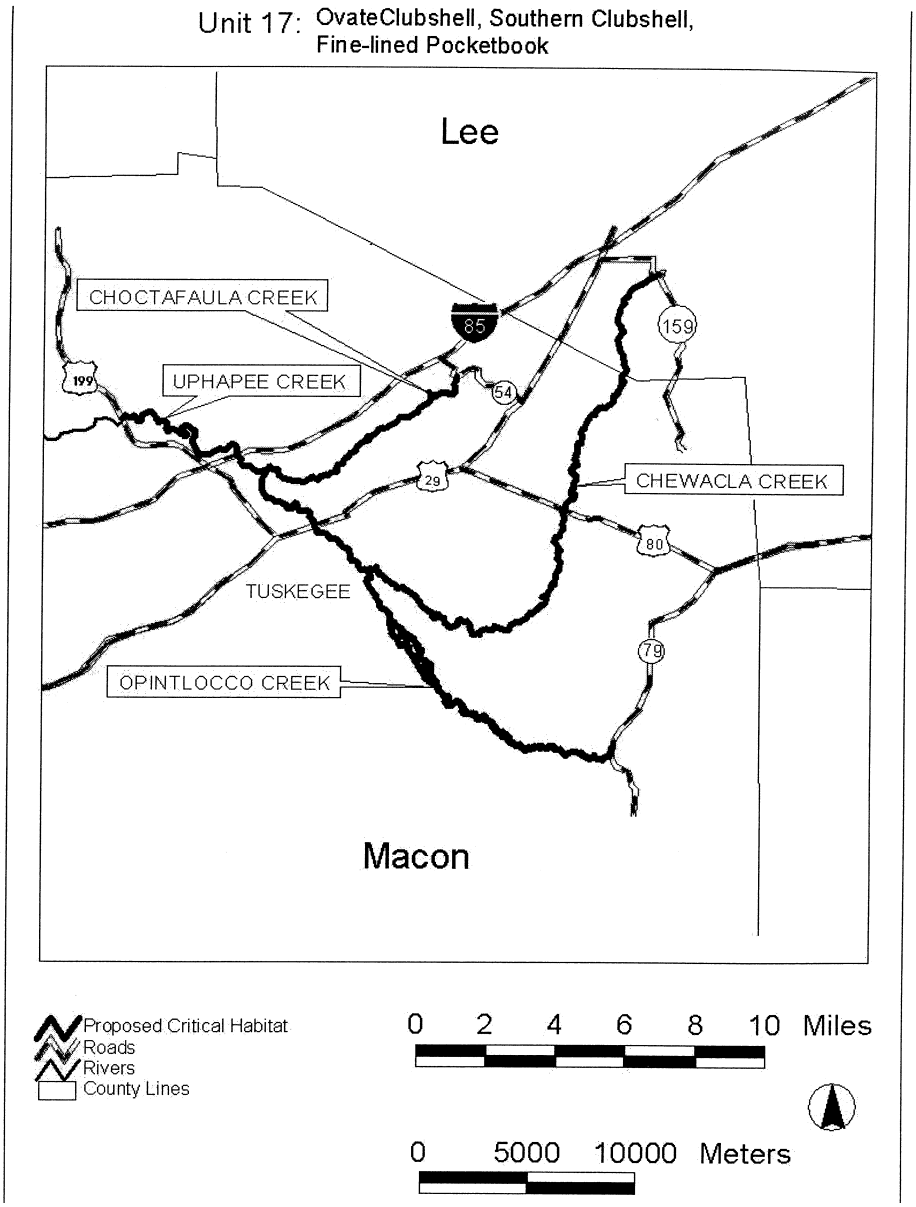


(xix) Unit 17. Uphapee, Choctafaula, and Chewacla Creeks, Macon, Lee Counties, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell, and fine-lined pocketbook.

(A) Unit 17 includes the mainstem of Uphapee Creek from Alabama Highway 199

(T17N R23E S3), upstream to the confluence of Opintlocco and Chewacla Creeks (T17N R24E S26), Macon County, Alabama; Choctafaula Creek, from confluence with Uphapee Creek (T17N R24E S8), upstream to Macon County Road 54 (T18N R 25E S31), Macon County, Alabama; Chewacla Creek, from confluence with Opintlocco Creek (T17N R24E S26), Macon County, Alabama, upstream to Lee County Road 159 (T18N R26E S18), Lee County, Alabama; Opintlocco Creek, from confluence with Chewacla Creek (T17N R24E S26), upstream to Macon County Road 79 (T16N R25E S25) Macon County, Alabama.

(B) Map of Unit 17 follows:

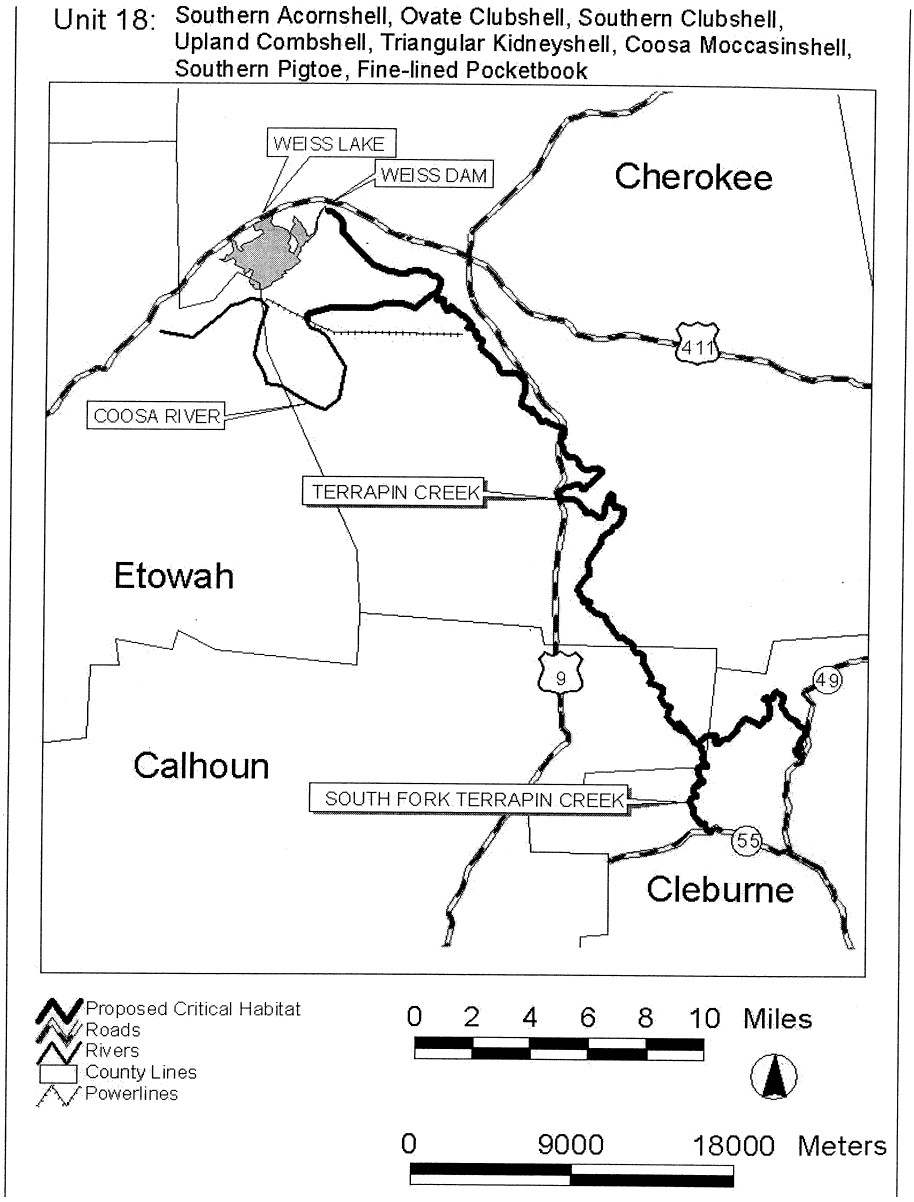


(xx) Unit 18. Coosa River (Old River Channel) and Terrapin Creek, Cherokee, Calhoun, Cleburne Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 18 includes the Coosa River main stem from the power line crossing southeast of Maple Grove, Alabama (T10S R8E S35), upstream to Weiss Dam (T10S R8E S13), Cherokee County, Alabama; Terrapin Creek, 53

km (33 mi) extending from its confluence with the Old Coosa River channel (T10S R9E S28), Cherokee County, upstream to Cleburne County Road 49 (T13S R11E S15), Cleburne County, Alabama; South Fork Terrapin Creek, 7 km (4 mi), from its confluence with Terrapin Creek (T13S R11E S18), upstream to Cleburne County Road 55 (T13S R11E S30), Cleburne County, Alabama.

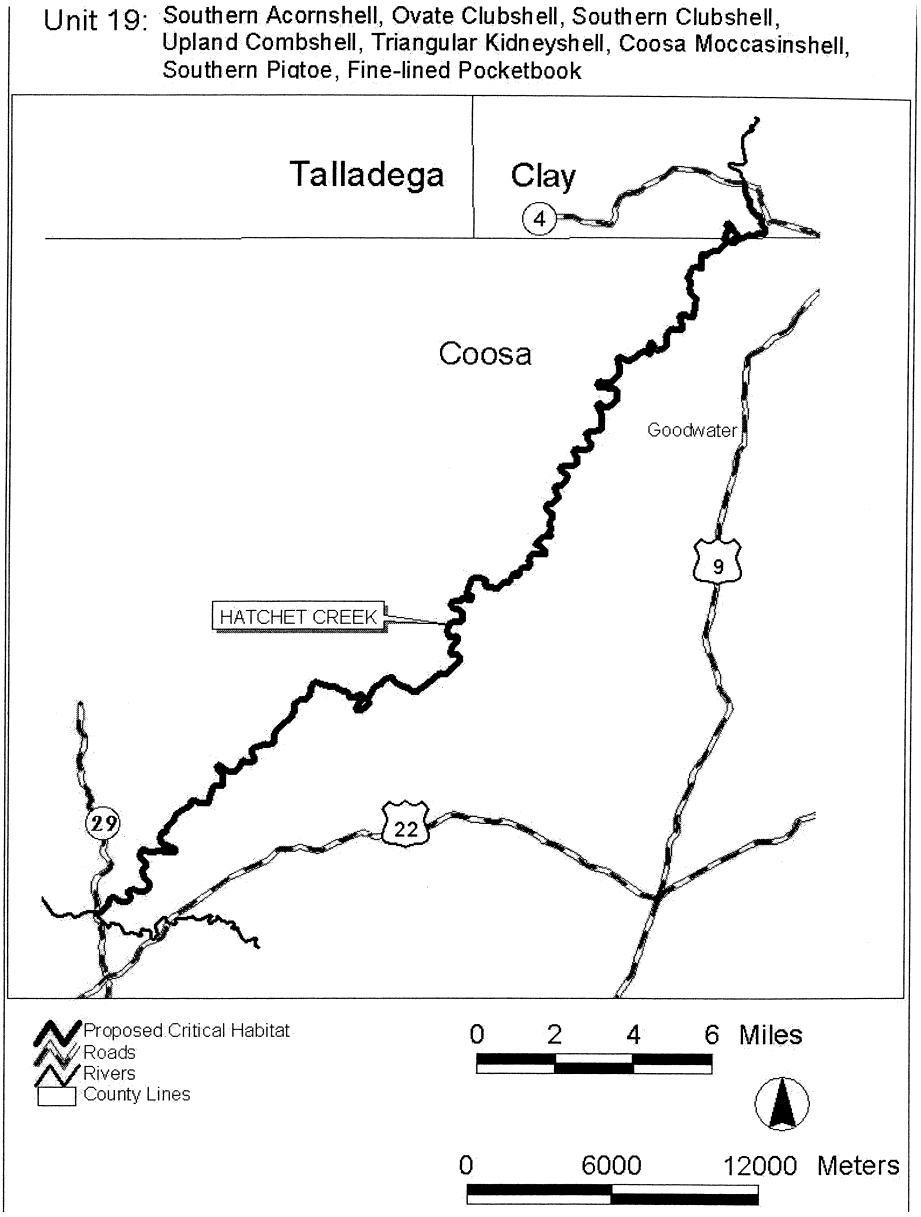
(B) Map of Unit 18 follows:



(xxi) Unit 19. Hatchet Creek, Coosa, Clay Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 19 includes the main stem of Hatchet Creek from the confluence of Swamp Creek at Coosa County Road 29 (T22N R17E S26), Coosa County, Alabama, upstream to Clay County Road 4 (T22S R6E S17) Clay County, Alabama.

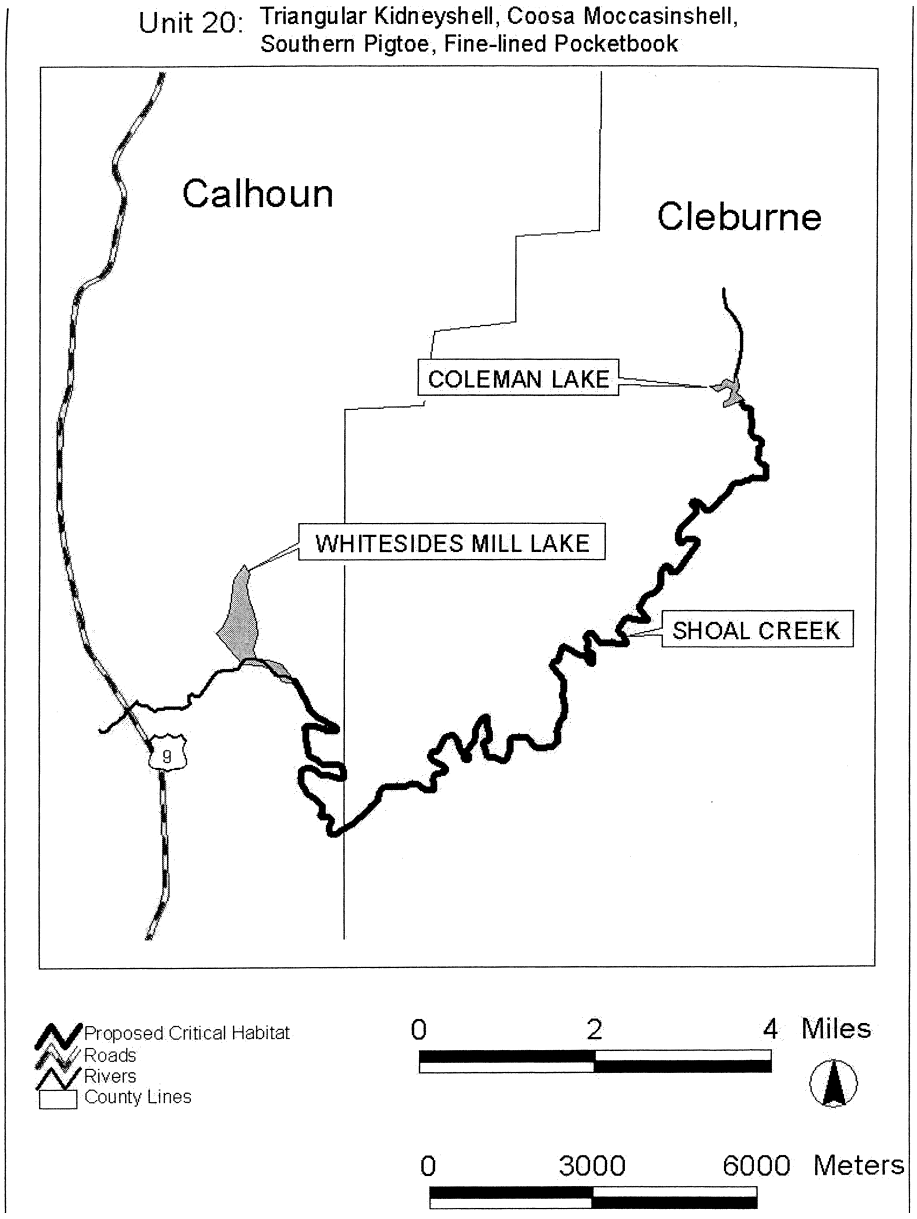
(B) Map of Unit 19 follows:



(xxii) Unit 20. Shoal Creek, Calhoun, Cleburne Counties, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 20 includes the main stem of Shoal Creek from the headwater of Whitesides Mill Lake (T15S R9E S12), Calhoun County, Alabama, upstream to the tailwater of Coleman Lake Dam (T14S R10E S26), Cleburne County, Alabama.

(B) Map of Unit 20 follows:

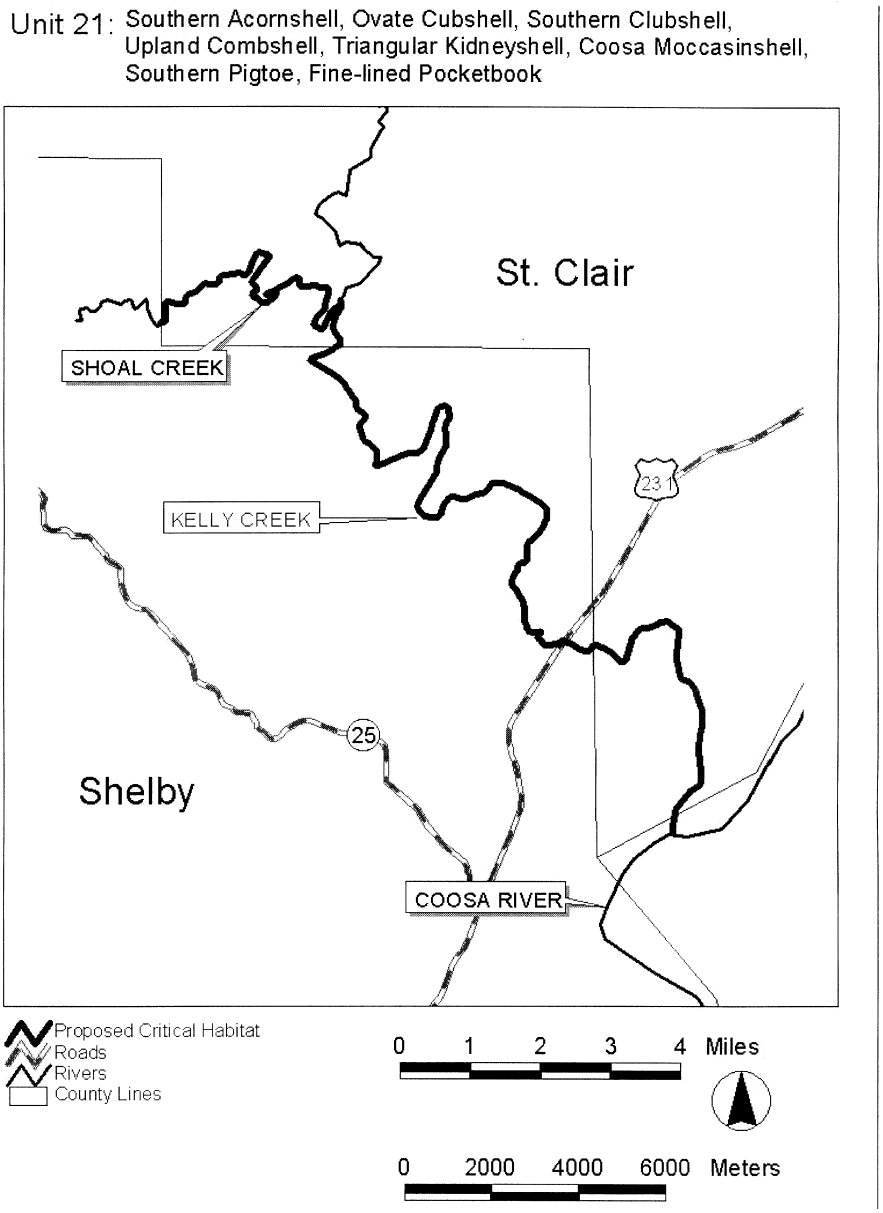


(xxiii) Unit 21. Kelly Creek and Shoal Creek, Shelby, St. Clair Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular

kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 21 includes the Kelly Creek main stem extending from the confluence with the Coosa River (T19S R3E S5), upstream to the confluence of Shoal Creek (T17S R2E S28), St. Clair County, Alabama; and the main stem of Shoal Creek from the confluence with Kelly Creek (T17S R2E S28), St. Clair County, Alabama, upstream to the St. Clair/Shelby County Line (T17S R2E S30), St. Clair County, Alabama.

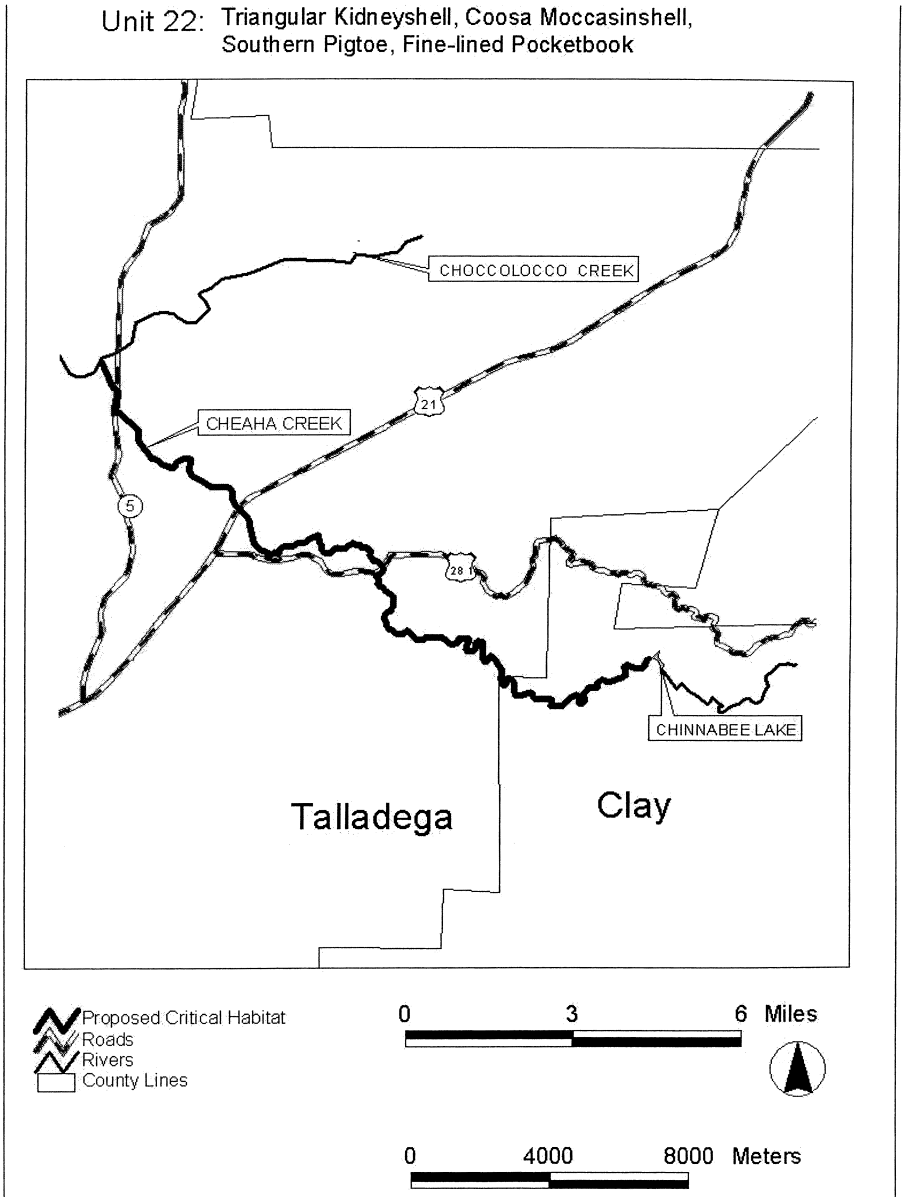
(B) Map of Unit 21 follows:



(xxiv) Unit 22. Cheaha Creek, Talladega, Clay Counties, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 22 includes the main stem of Cheaha Creek from its confluence with Choccolocco Creek (T17S R6E S19), Talladega County, Alabama, upstream to the tailwater of Chinnabee Lake Dam (T18S R7E S14), Clay County, Alabama.

(B) Map of Unit 22 follows:

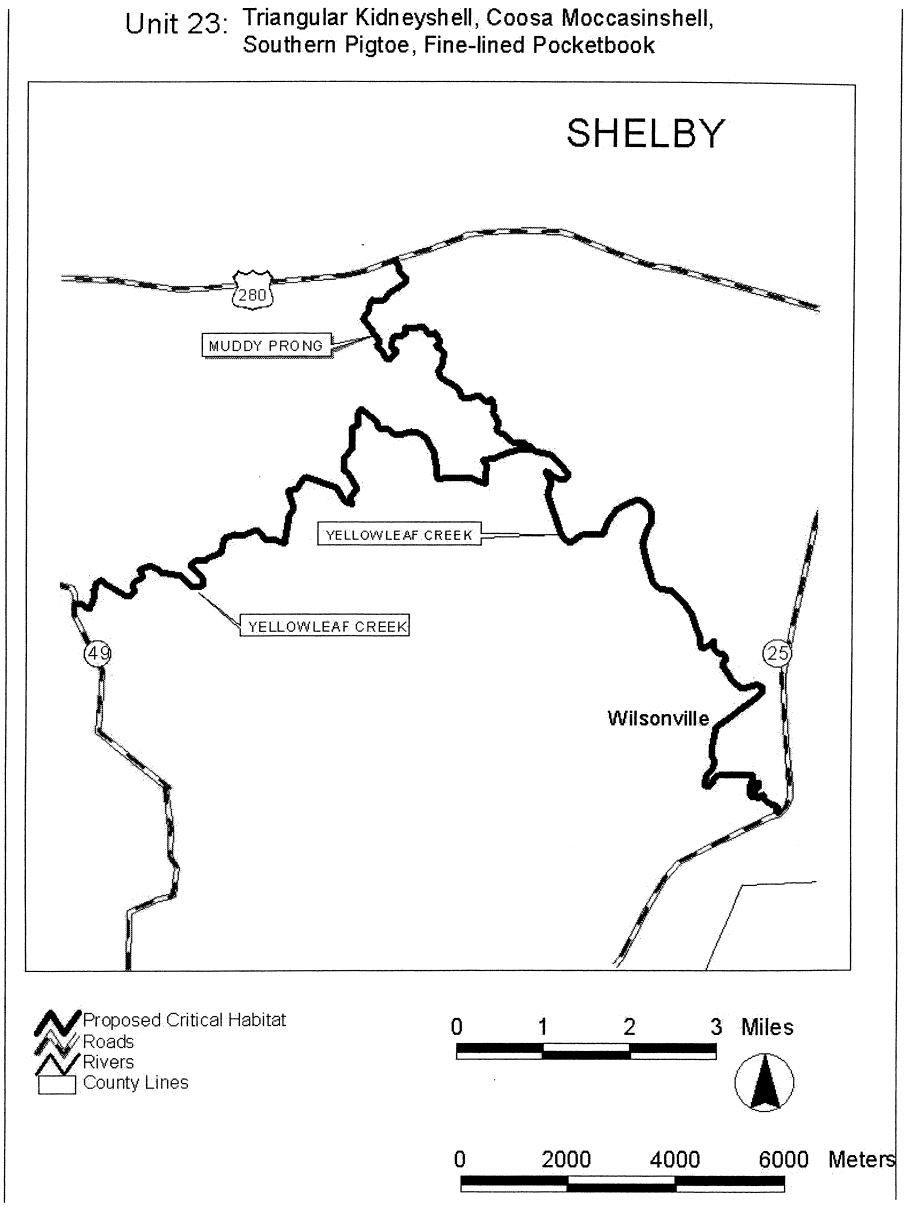


(xxv) Unit 23. Yellowleaf Creek and Mud Creek, Shelby County, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 23 includes the Yellowleaf Creek main stem from Alabama Highway 25 (T20S

R2E S29), upstream to Shelby County Road 49 (T20S R1W S13); and the Muddy Prong main stem extending from its confluence with Yellowleaf Creek (T20S R1E S1), upstream to U.S. Highway 280 (T19S R1E S28), Shelby County, Alabama.

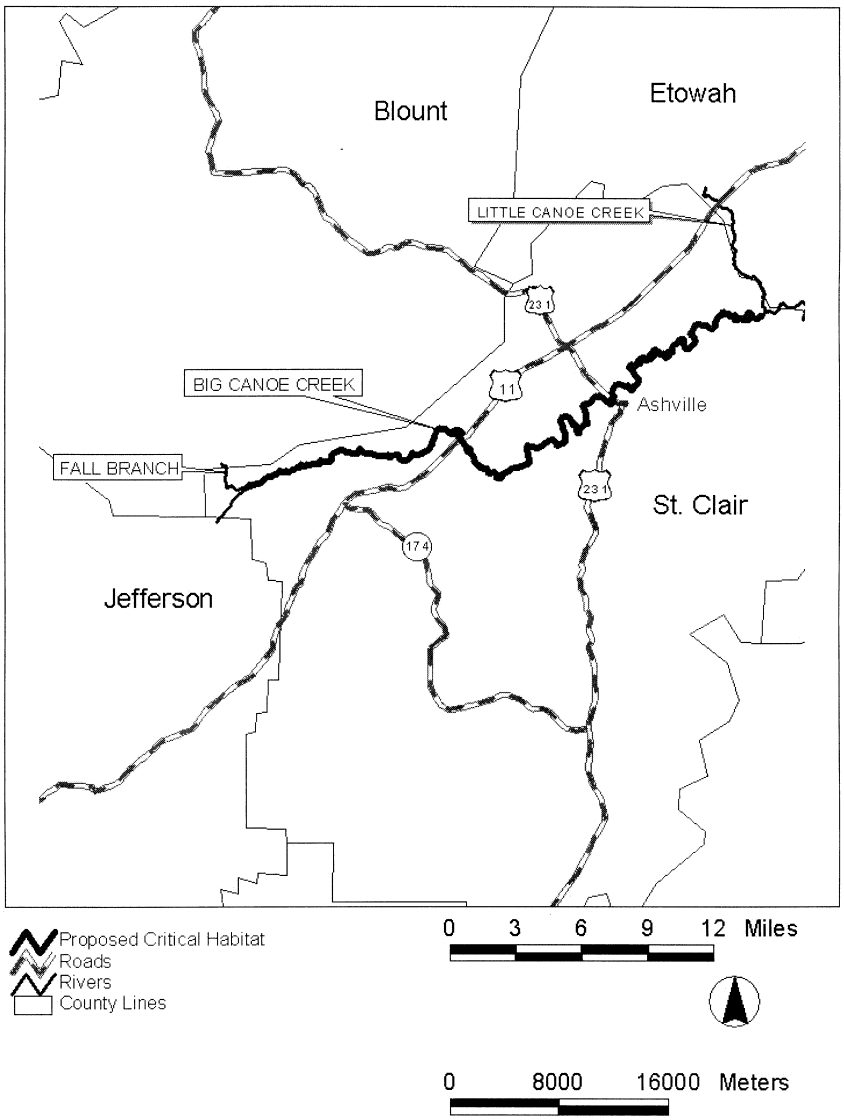
(B) Map of Unit 23 follows:



(xxvi) Unit 24. Big Canoe Creek, St. Clair County, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 24 includes the main stem of Big Canoe Creek from its confluence with Little Canoe Creek at the St. Clair/Etowah County line (T13S R5E S17), St. Clair County, upstream to the confluence of Fall Branch (T14S R1E S28) St. Clair County, Alabama.

(B) Map of Unit 24 follows:

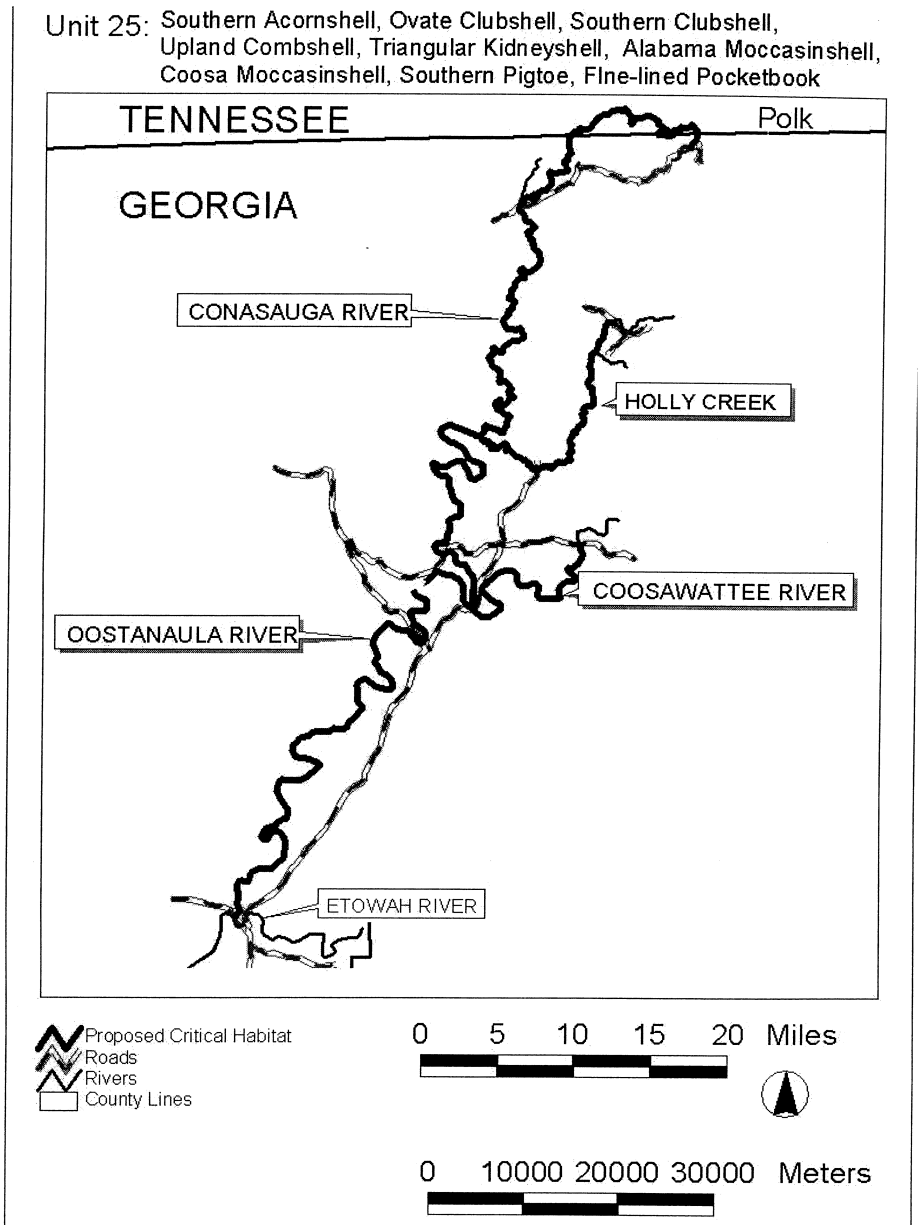


(xxvii) Unit 25. Oostanaula, Coosawattee, and Conasauga Rivers, and Holly Creek, Floyd, Gordon, Whitfield, Murray Counties, Georgia; Bradley, Polk Counties, Tennessee. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 25 includes the Oostanaula River main stem from its confluence with the

Etowah River, Floyd County, Georgia (34°15′13″ N, 85°10′35″ W), upstream to the confluence of the Conasauga and Coosawattee River, Gordon County, Georgia (34°32′32″ N, 84°54′12″ W); the Coosawattee River main stem from its confluence with the Conasauga River (34°32′32″ N, 84°54′12″ W), upstream to Georgia State Highway 136, Gordon County, Georgia (34°36′49″ N, 84°46′43″ W); the Conasauga River main stem from confluence with the Coosawattee River (34°32′32″ N, 84°54′13″ W), Gordon County, Georgia, upstream through Bradley and Polk Counties, Tennessee, to Murray County Road 2 (34°58′27″ N, 84°38′43″ W), Murray County, Georgia; and the mainstem of Holly Creek from its confluence with the Conasauga River (34°42′12″ N, 84°53′29″ W), upstream to its confluence with Rock Creek, Murray County, Georgia (34°46′59″ N, 84°45′25″ W).

(B) Map of Unit 25 follows:

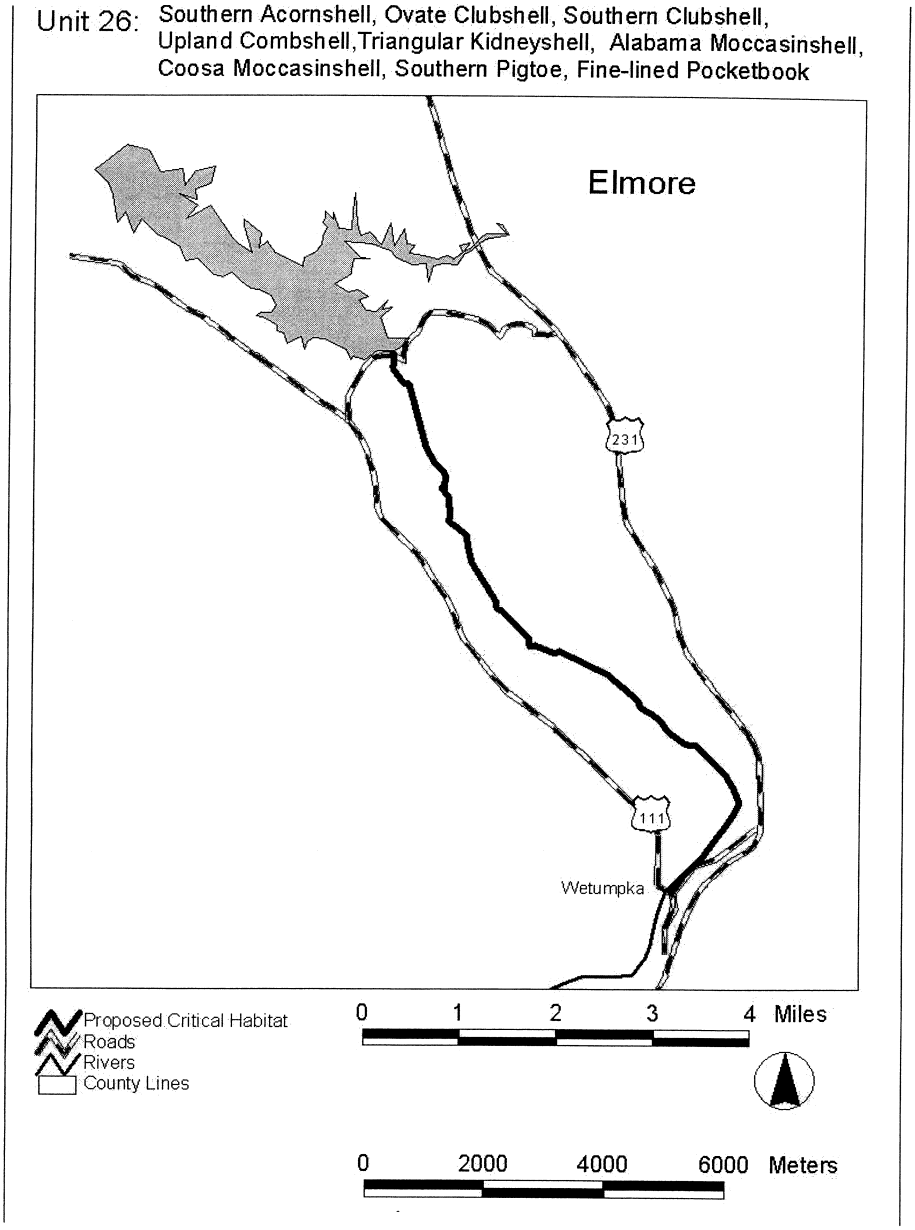


(xxviii) Unit 26. Lower Coosa River, Elmore County, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 26 includes the Coosa River main stem from Alabama State Highway 111 bridge (T18N R18/19E S24/19), upstream to

Jordan Dam (T19N R18E S22), Elmore County, Alabama.

(B) Map of Unit 26 follows:



FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS SPECIES: PURPLE BEAN (*Villosa perpurpurea*), CUMBERLANDIAN COMBSHELL (*Epioblasma brevidens*), CUMBERLAND ELKTOE (*Alasmidonta atropurpurea*), OYSTER MUSSEL (*Epioblasma capsaeformis*), AND ROUGH RABBITSFOOT (*Quadrula cylindrica strigillata*).

(1) The primary constituent elements essential for the conservation of the purple bean (*Villosa perpurpurea*), Cumberlandian combshell (*Epioblasma brevidens*), Cumberland elktoe (*Alasmidonta atropurpurea*), oyster mussel (*Epioblasma capsaeformis*), and rough rabbitsfoot (*Quadrula cylindrica strigillata*) are those habitat components that support feeding, sheltering, reproduction, and physical features for maintaining the natural processes that support these habitat components. The primary constituent elements include:

(i) Permanent, flowing stream reaches with a flow regime (i.e, the magnitude, frequency, duration, and seasonality of discharge over time) necessary for normal behavior, growth, and survival of all life stages of the five mussels and their host fish;

(ii) Geomorphically stable stream and river channels and banks;

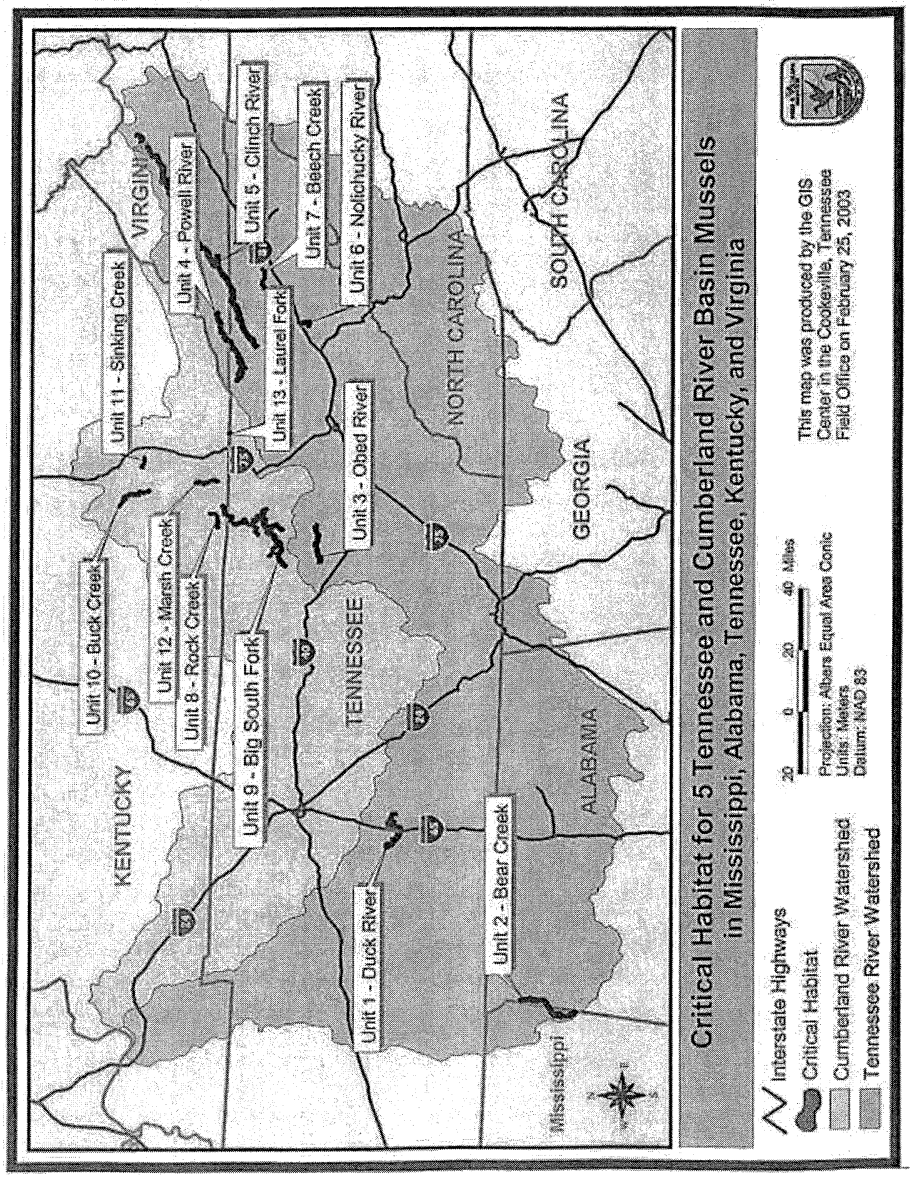
(iii) Stable substrates consisting of mud, sand, gravel, and/or cobble/boulder, with low amounts of fine sediments or attached filamentous algae;

(iv) Water quality (including temperature, turbidity, oxygen content, and other characteristics) necessary for the normal behavior, growth, and survival of all life stages of the five mussels and their host fish; and

(v) Fish hosts with adequate living, foraging, and spawning areas for them.

(2) Critical habitat unit descriptions and maps.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Tennessee, Kentucky, and Virginia for the five Tennessee and Cumberland River Basin mussels follows:


Critical Habitat for 5 Tennessee and Cumberland River Basin Mussels
in Mississippi, Alabama, Tennessee, Kentucky, and Virginia
Interstate Highways
Critical Habitat
Cumberland River Watershed
Tennessee River Watershed
20 0 20 40 Miles
Projection: Albers Equal Area Conic
Units: Meters
Datum: NAD 83
This map was produced by the GIS
Center in the Cookeville, Tennessee
Field Office on February 25, 2003
KENTUCKY
VIRGINIA
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ALABAMA
Mississippi
Unit 1 - Duck River
Unit 2 - Bear Creek
Unit 3 - Obed River
Unit 4 - Powell River
Unit 5 - Clinch River
Unit 6 - Nolichucky River
Unit 7 - Beech Creek
Unit 8 - Rock Creek
Unit 9 - Big South Fork
Unit 10 - Buck Creek
Unit 11 - Sinking Creek
Unit 12 - Marsh Creek
Unit 13 - Laurel Fork

(ii) Table of protected species and critical habitat units. A table listing the protected species, their respective critical habitat units, and the States that contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below the table.

TABLE OF FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS

Species	Critical habitat units	States
purple bean (*Villosa perpurpurea*).	Units 3, 4, 5, 7	TN, VA
Cumberlandian combshell (*Epioblasma brevidens*).	Units 1, 2, 4, 5, 6, 9, 10.	AL, KY, MS, TN, VA
Cumberland elktoe (*Alasmidonta atropurpurea*).	Units 8, 9, 11, 12, 13	KY, TN
oyster mussel (*Epioblasma capsaeformis*).	Units 1, 2, 4, 5, 6, 9,10.	AL, KY, MS, TN, VA

TABLE OF FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS—Continued

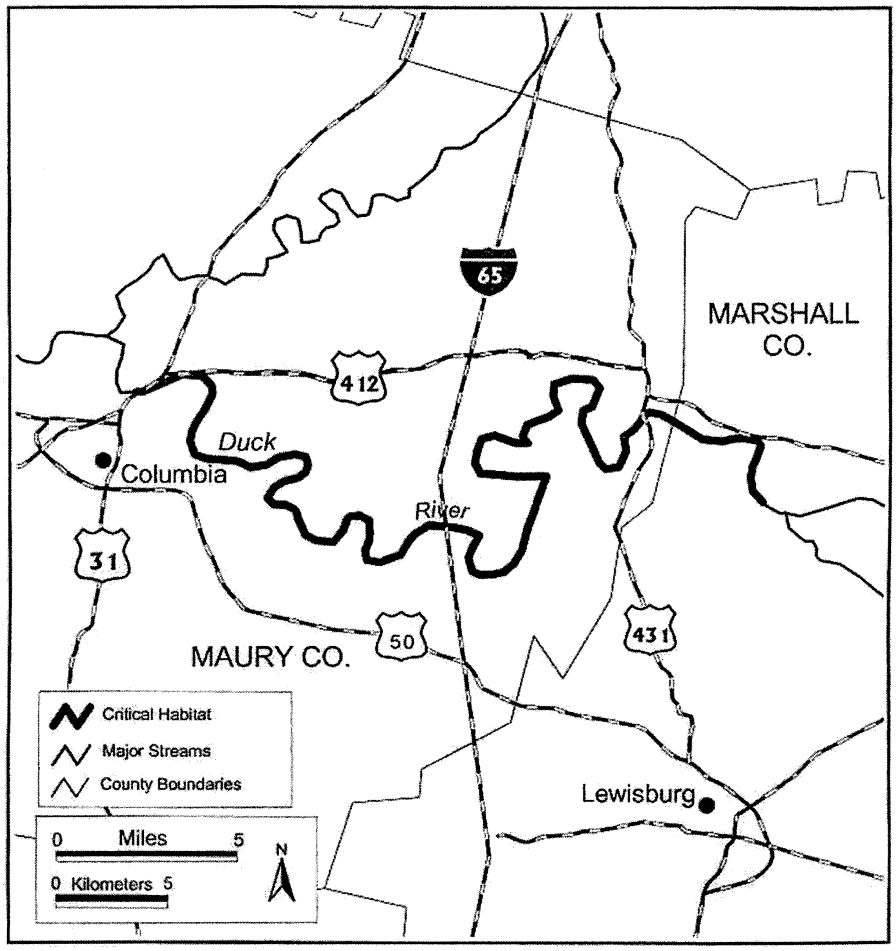
Species	Critical habitat units	States
rough rabbitsfoot (*Quadrula cylindrica strigillata*).	Units 4, 5	TN, VA

(iii) Unit 1. Duck River, Marshall and Maury Counties, Tennessee. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 1 includes the main stem of the Duck River from rkm 214 (rmi 133) (0.3 rkm (0.2 rmi) upstream of the First Street Bridge) (−87.03 longitude, 35.63 latitude) in the City of Columbia, Maury County, Tennessee, upstream to Lillard Mill Dam at rkm 288 (rmi 179) (−86.78 longitude, 35.58 latitude), Marshall County, Tennessee.

(B) Map of Unit 1 follows:

Unit 1 - Duck River: Critical Habitat for Oyster mussel and Cumberlandian combshell



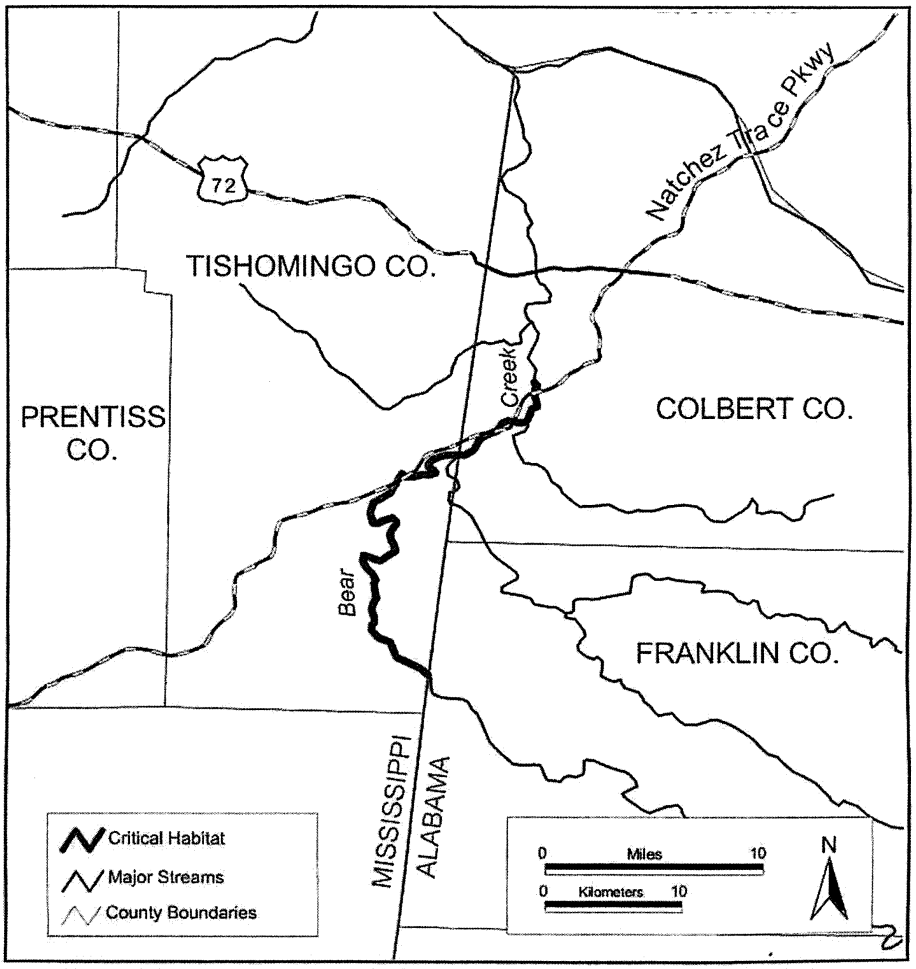
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(iv) Unit 2. Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 2 consists of the main stem of Bear Creek from the backwaters of Pickwick Lake at rkm 37 (rmi 23) (-88.09 longitude, 34.81 latitude), Colbert County, Alabama, upstream through Tishomingo County, Mississippi, ending at the Mississippi/Alabama State line.

(B) Map of Unit 2 follows:

Unit 2 - Bear Creek: Critical Habitat for Oyster mussel and Cumberlandian combshell



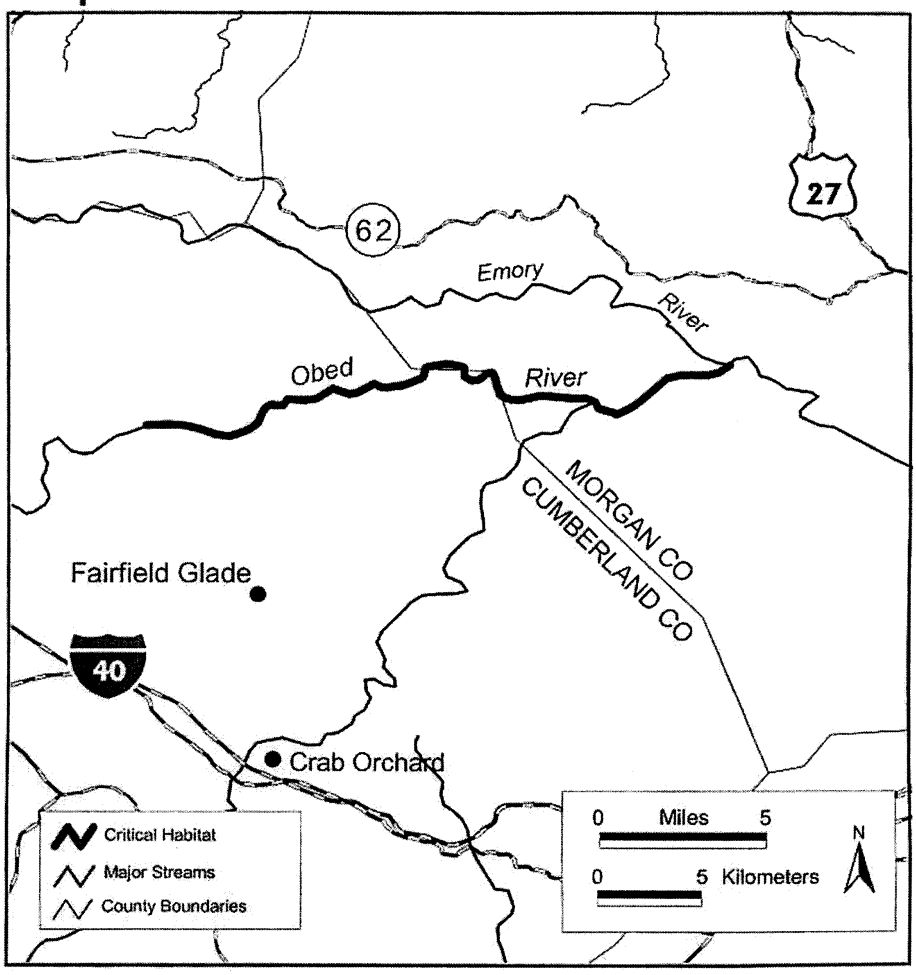
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(v) Unit 3. Obed River, Cumberland and Morgan Counties, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 3 includes the Obed River main stem from its confluence with the Emory River (-84.69 longitude, 36.09 latitude), Morgan County, Tennessee, upstream to Adams Bridge, Cumberland County, Tennessee (-84.95 longitude, 36.07 latitude).

(B) Map of Unit 3 follows:

Unit 3 - Obed River: Critical Habitat for Purple bean



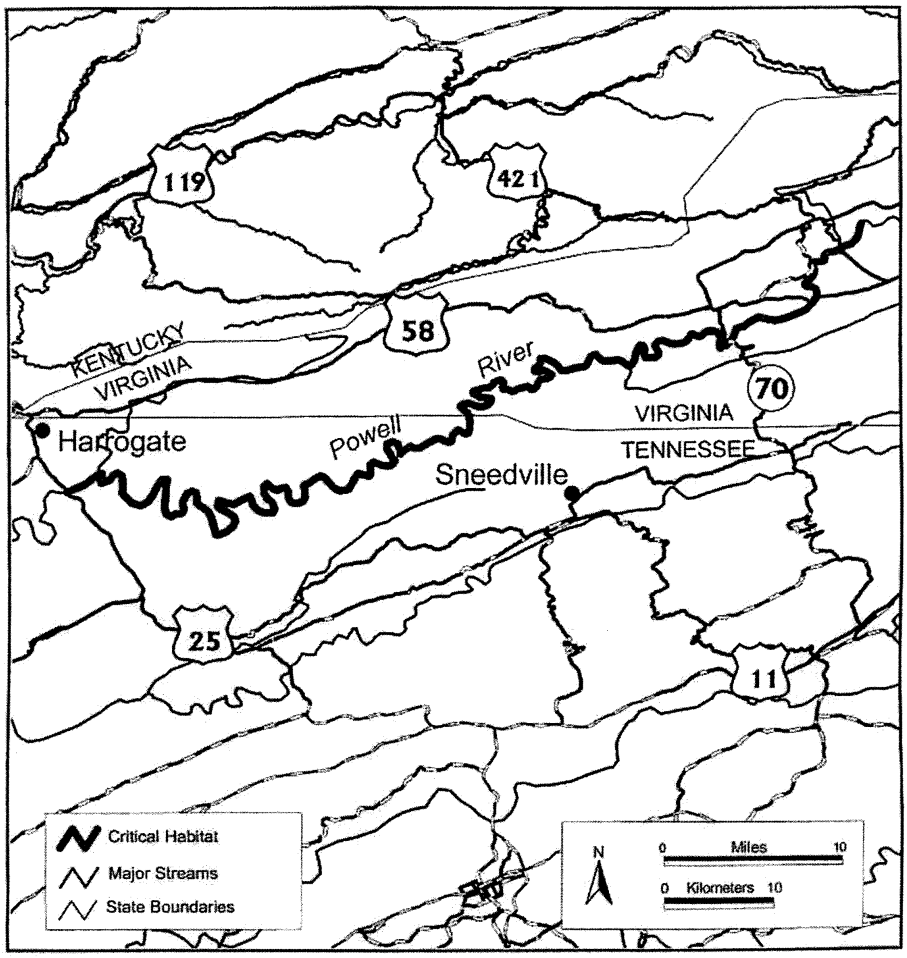
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(vi) Unit 4. Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 4 includes the main stem of the Powell River from the U.S. 25E bridge in Claiborne County, Tennessee (-83.63 longitude, 36.53 latitude), upstream to river mile 159 (upstream of Rock Island in the vicinity of Pughs) Lee County, Virginia.

(B) Map of Unit 4 follows:

Unit 4 - Powell River: Critical Habitat for Purple bean, Cumberlandian combshell, Oyster mussel, and Rough rabbitsfoot



This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

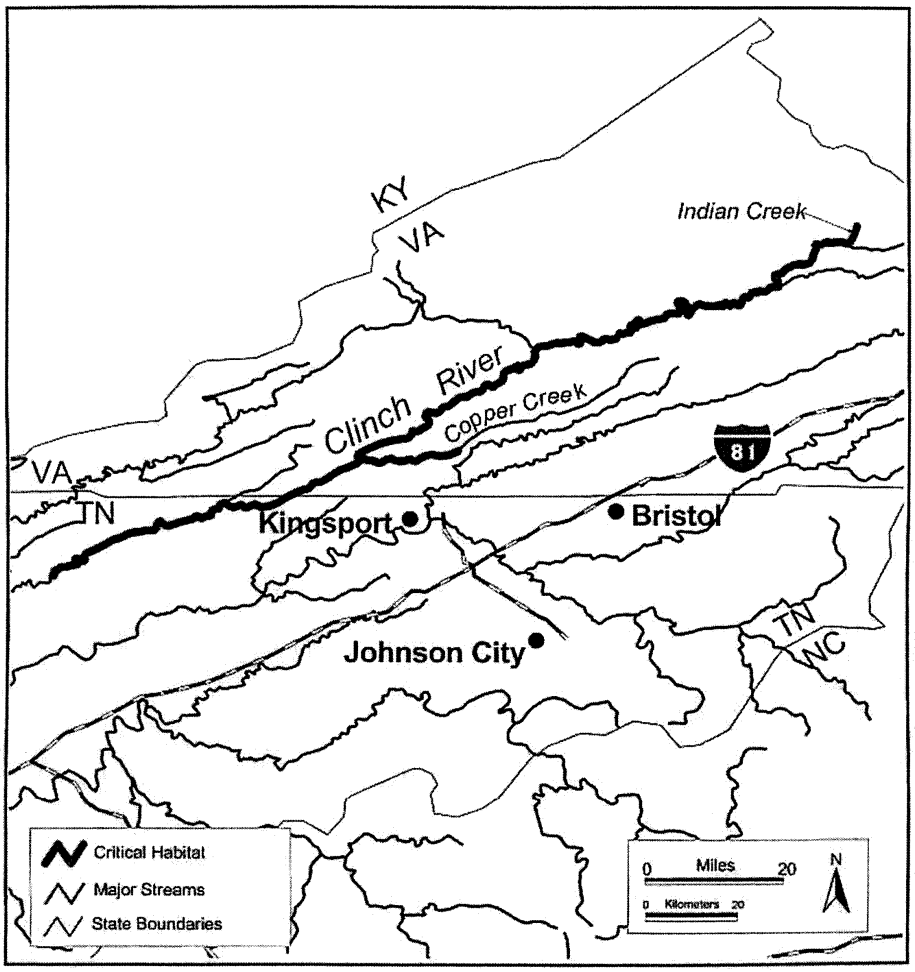
(vii) Unit 5. Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Copper Creek, Scott County, Virginia; and Indian Creek, Tazewell County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 5 includes the Clinch River main stem from rkm 255 (rmi 159) (−83.36 longitude, 36.43 latitude) immediately below Grissom Island, Hancock County, Tennessee, upstream to its confluence with Indian Creek

in Cedar Bluff, Tazewell County, Virginia (−81.80 longitude, 37.10 latitude); Copper Creek in Scott County, Virginia, from its confluence with the Clinch River (−82.74 longitude, 36.67 latitude) upstream to Virginia State Route 72 (−82.56 longitude, 36.68 latitude); and Indian Creek from its confluence with the Clinch River upstream to the fourth Norfolk Southern Railroad crossing at Van Dyke, Tazewell County, Virginia (−81.77 longitude, 37.14 latitude).

(B) Map of Unit 5 follows:

Unit 5 - Clinch River: Critical Habitat for Purple bean, Cumberlandian combshell, Oyster mussel, and Rough rabbitsfoot.



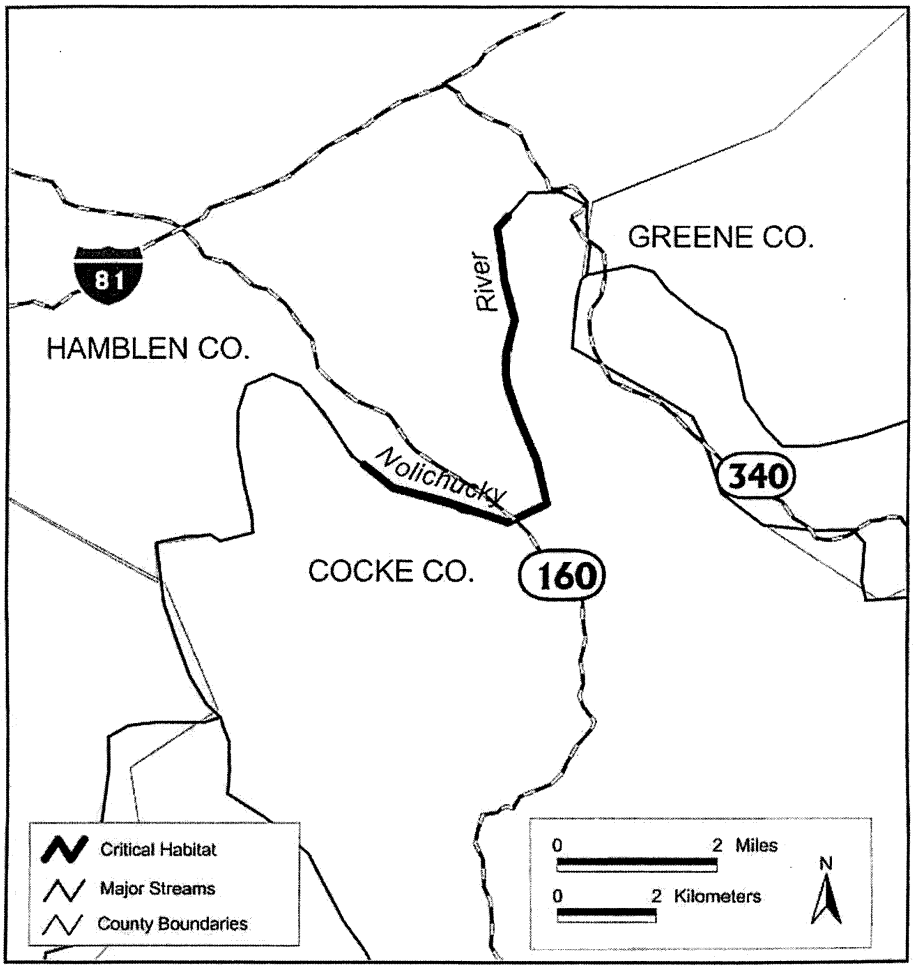
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(viii) Unit 6. Nolichucky River, Hamblen and Cocke Counties, Tennessee. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

(A) Unit 6 consists of the main stem of the Nolichucky River from rkm 14 (rmi 9) (−83.18 longitude, 36.18 latitude) (approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam) upstream to Susong Bridge (−83.20 longitude, 36.14 latitude) in Hamblen and Cocke Counties, Tennessee.

(B) Map of Unit 6 follows:

Unit 6 - Nolichucky River: Critical Habitat for Cumberlandian combshell and Oyster mussel



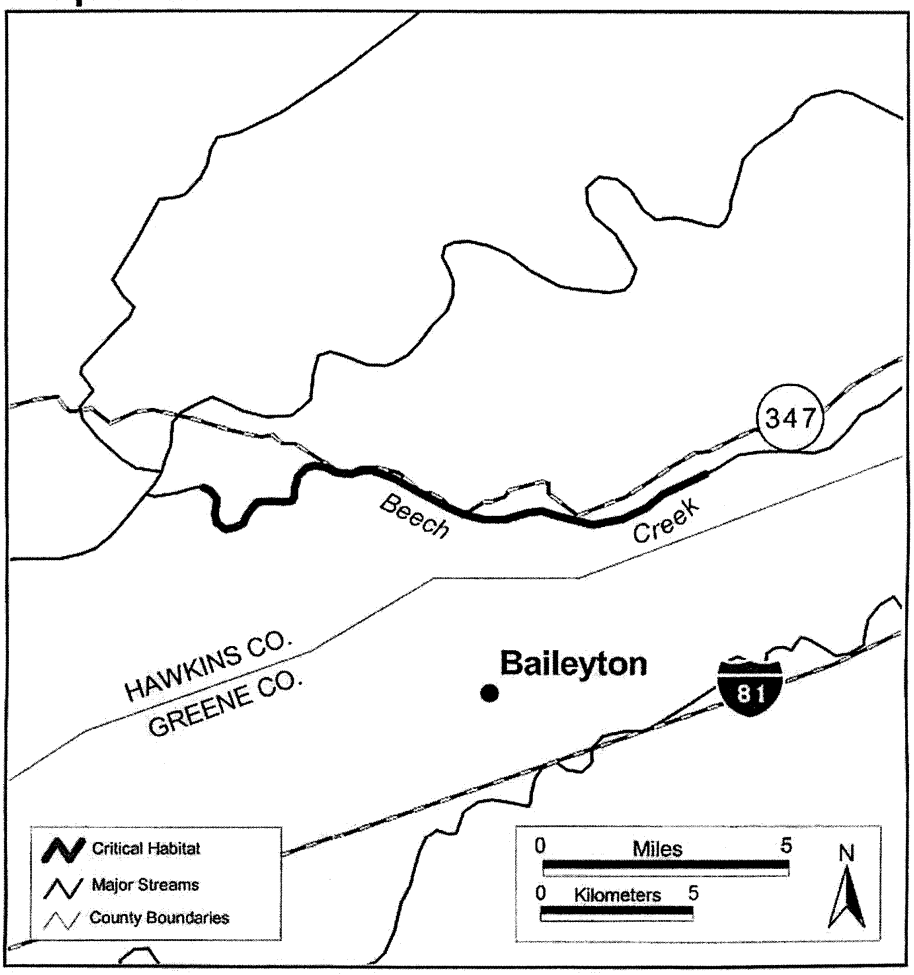
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(ix) Unit 7. Beech Creek, Hawkins County, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 7 includes the Beech Creek main stem from rkm 4 (rmi 2) (−82.92 longitude, 36.40 latitude) of Beech Creek (in the vicinity of Slide, Tennessee) upstream to the dismantled railroad bridge at rkm 27 (rmi 16) (−82.77 longitude, 36.40 latitude).

(B) Map of Unit 7 follows:

Unit 7 - Beech Creek: Critical Habitat for Purple bean



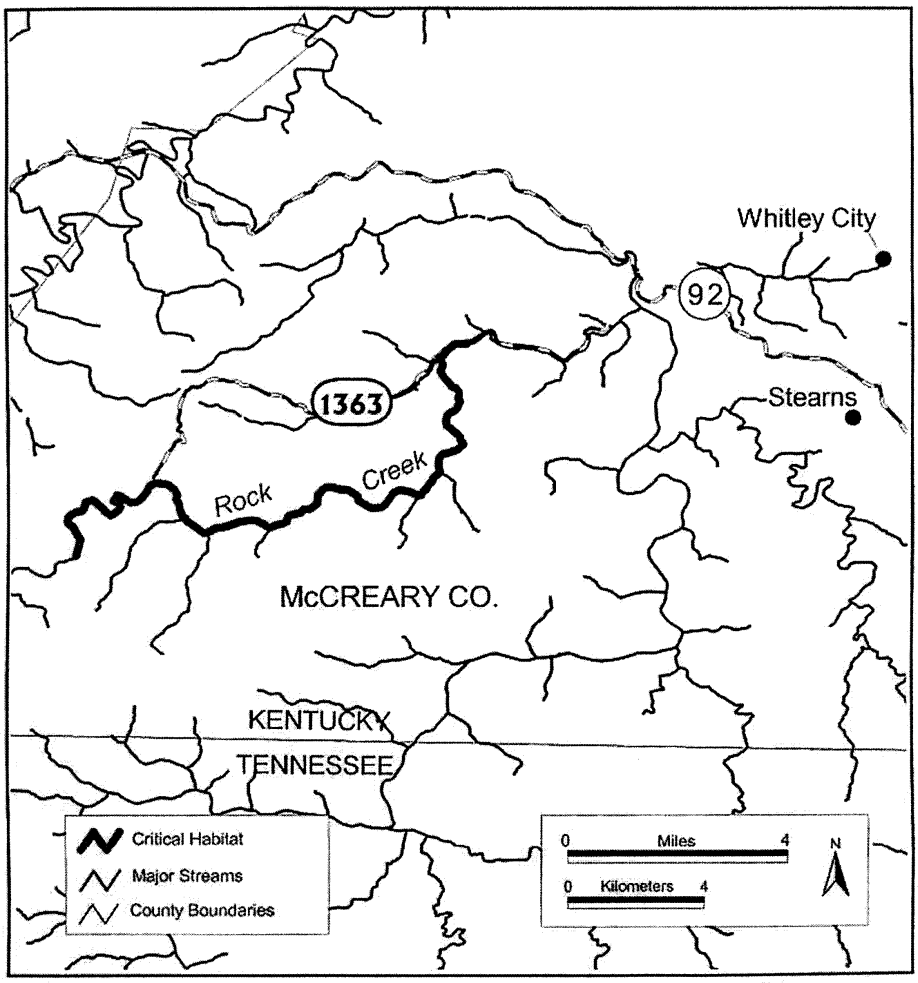
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(x) Unit 8. Rock Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 8 includes the main stem of Rock Creek from its confluence with White Oak Creek (−84.59 longitude, 36.71 latitude), upstream to the low-water crossing at rkm 25.6 (rmi 15.9) approximately 2.6 km (1.6 mi) southwest of Bell Farm (−84.69 longitude, 36.65 latitude), McCreary County, Kentucky.

(B) Map of Unit 8 follows:

Unit 8 - Rock Creek: Critical Habitat for Cumberland elktoe



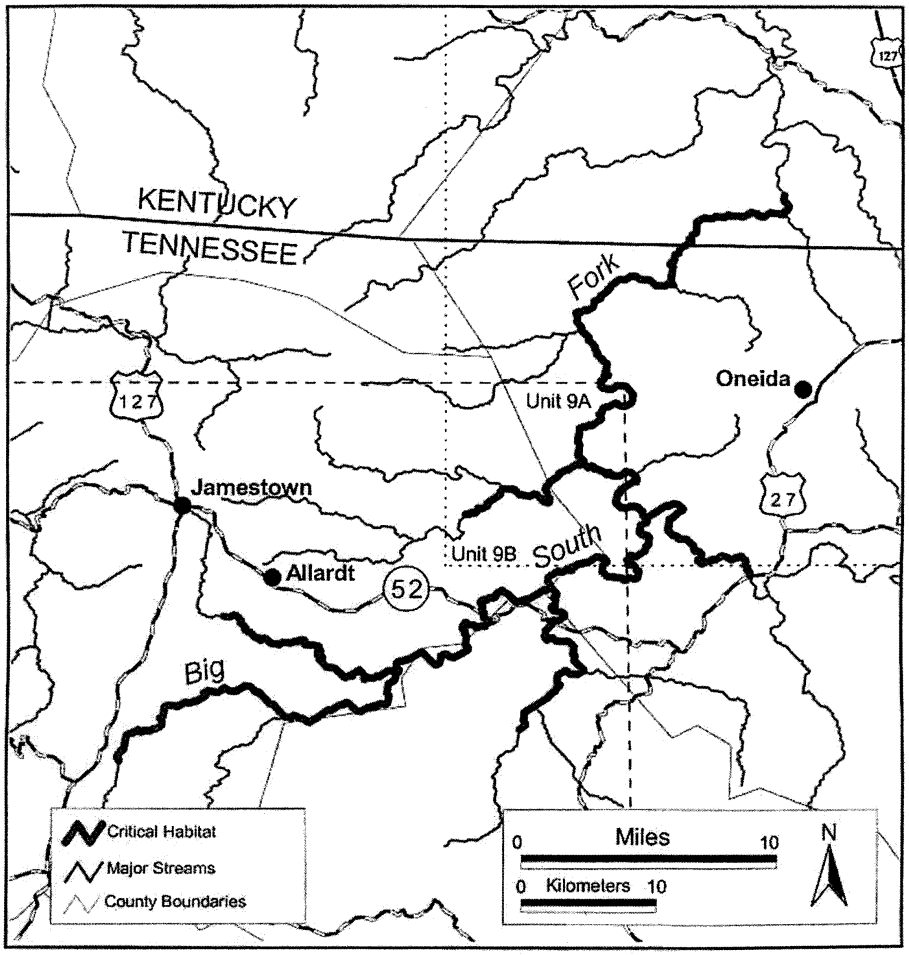
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xi) Unit 9. Big South Fork of the Cumberland River and its tributaries, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky. This is a critical habitat unit for the Cumberlandian combshell, Cumberland elktoe, and oyster mussel.

(A) Unit 9 consists of the Big South Fork of the Cumberland River main stem from its confluence with Laurel Crossing Branch (−84.54 longitude, 36.64 latitude), McCreary County, Kentucky, upstream to its confluence with the New River and Clear Fork, Scott County, Tennessee; North White Oak Creek from its confluence with the Big South Fork upstream to Panther Branch (−84.75 longitude, 36.42 latitude), Fentress County, Tennessee; New River from its confluence with Clear Fork upstream to U.S. Highway 27 (−84.55 longitude, 36.38 latitude), Scott County, Tennessee; Clear Fork from its confluence with the New River upstream to its confluence with North Prong Clear Fork, Morgan and Fentress Counties, Tennessee; White Oak Creek from its confluence with Clear Fork upstream to its confluence with Bone Camp Creek, Morgan County, Tennessee; Bone Camp Creek from its confluence with White Oak Creek upstream to Massengale Branch (−84.71 longitude, 36.28 latitude), Morgan County, Tennessee; Crooked Creek from its confluence with Clear Fork upstream to Buttermilk Branch (−84.92 longitude, 36.36 latitude), Fentress County, Tennessee; and North Prong Clear Fork from its confluence with Clear Fork upstream to Shoal Creek (−84.97 longitude, 36.26 latitude), Fentress County, Tennessee.

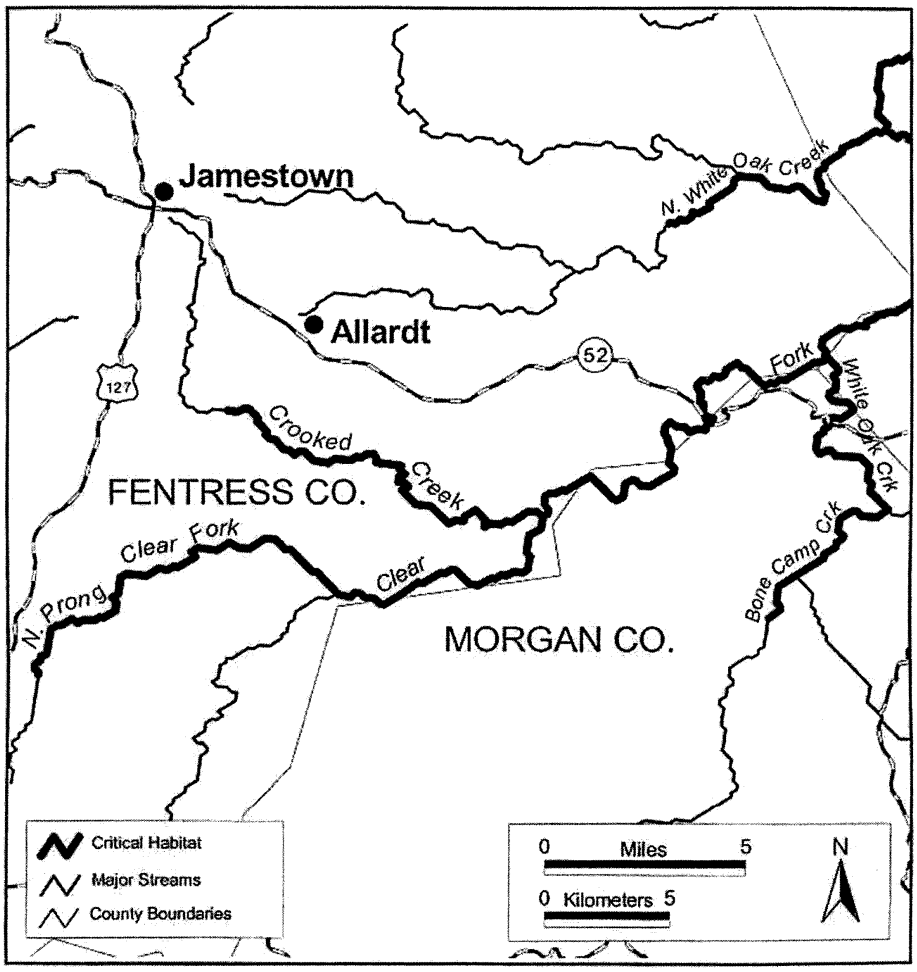
(B) Maps of Unit 9 follow:

Unit 9 - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



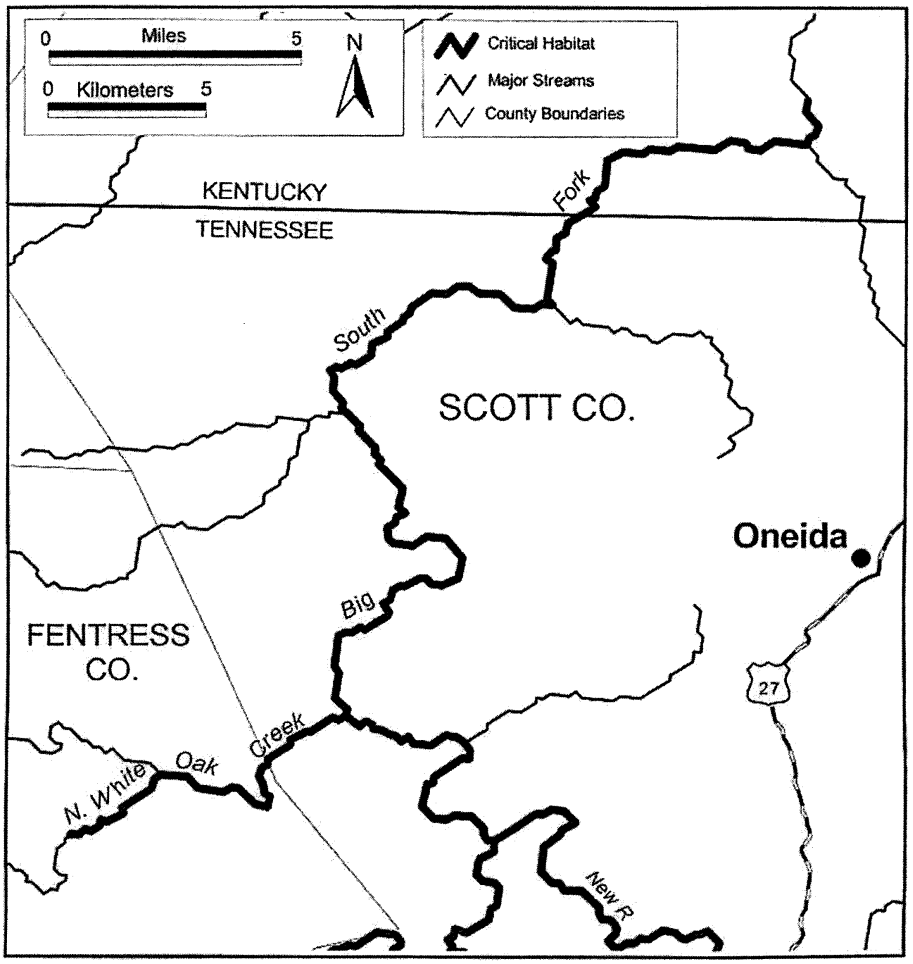
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

Unit 9A - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

Unit 9B - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



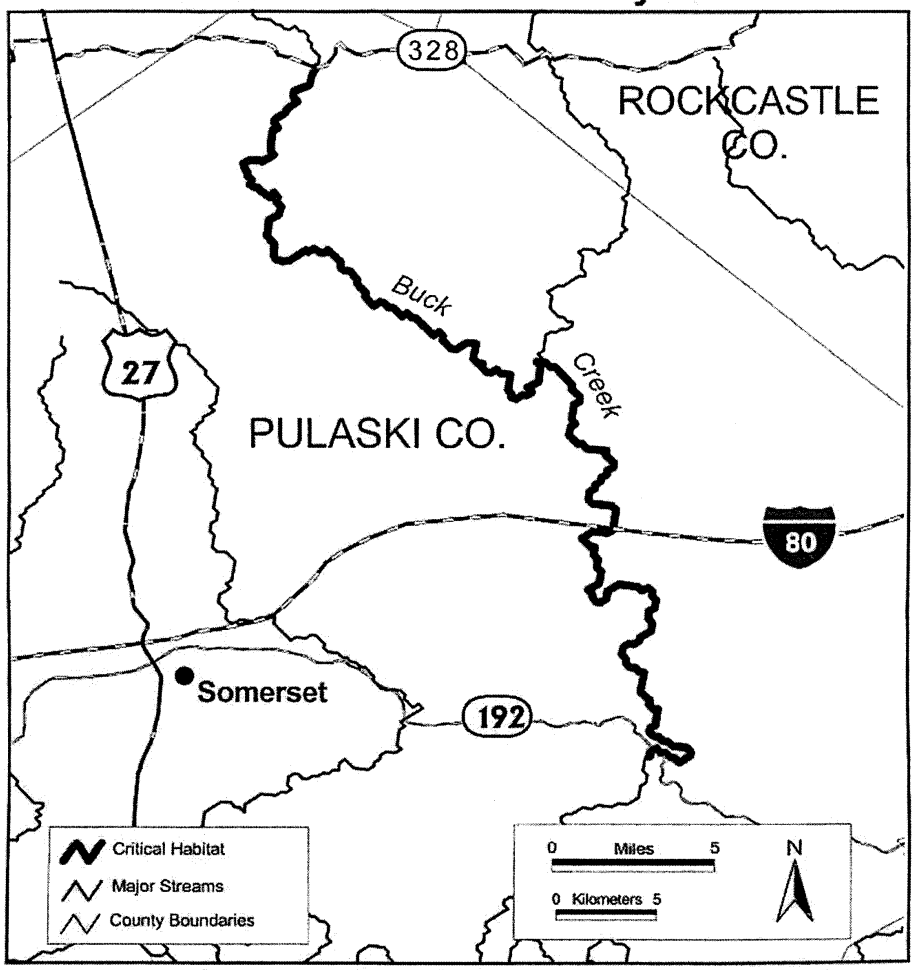
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xii) Unit 10. Buck Creek, Pulaski County, Kentucky. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

(A) Unit 10 includes the Buck Creek main stem from the State Road 192 Bridge (−84.43 longitude, 37.06 latitude) upstream to the State Road 328 Bridge (−84.56 longitude, 37.32 latitude) in Pulaski County, Kentucky.

(B) Map of Unit 10 follows:

Unit 10 - Buck Creek: Critical Habitat for Cumberlandian combshell and Oyster mussel



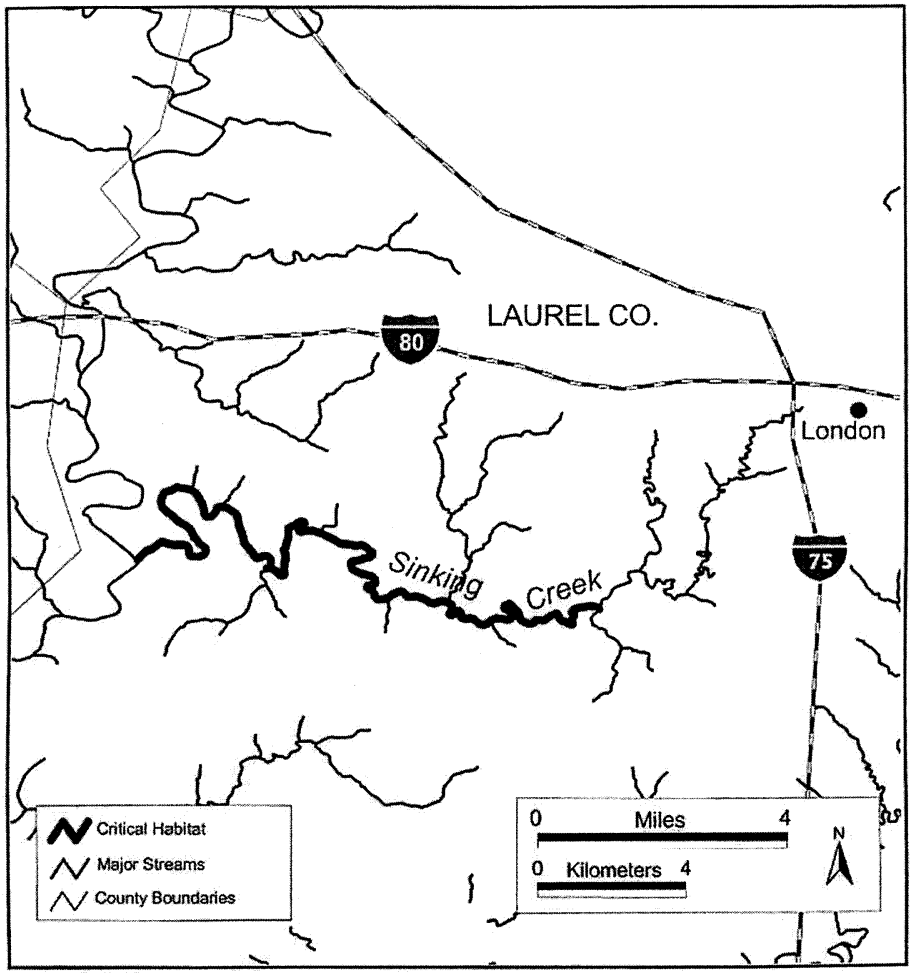
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xiii) Unit 11. Sinking Creek, Laurel County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 11 includes the main stem of Sinking Creek from its confluence with the Rockcastle River (−84.28 longitude, 37.10 latitude) upstream to its confluence with Laurel Branch (−84.17 longitude, 37.09 latitude) in Laurel County, Kentucky.

(B) Map of Unit 11 follows:

Unit 11 - Sinking Creek: Critical Habitat for Cumberland elktoe



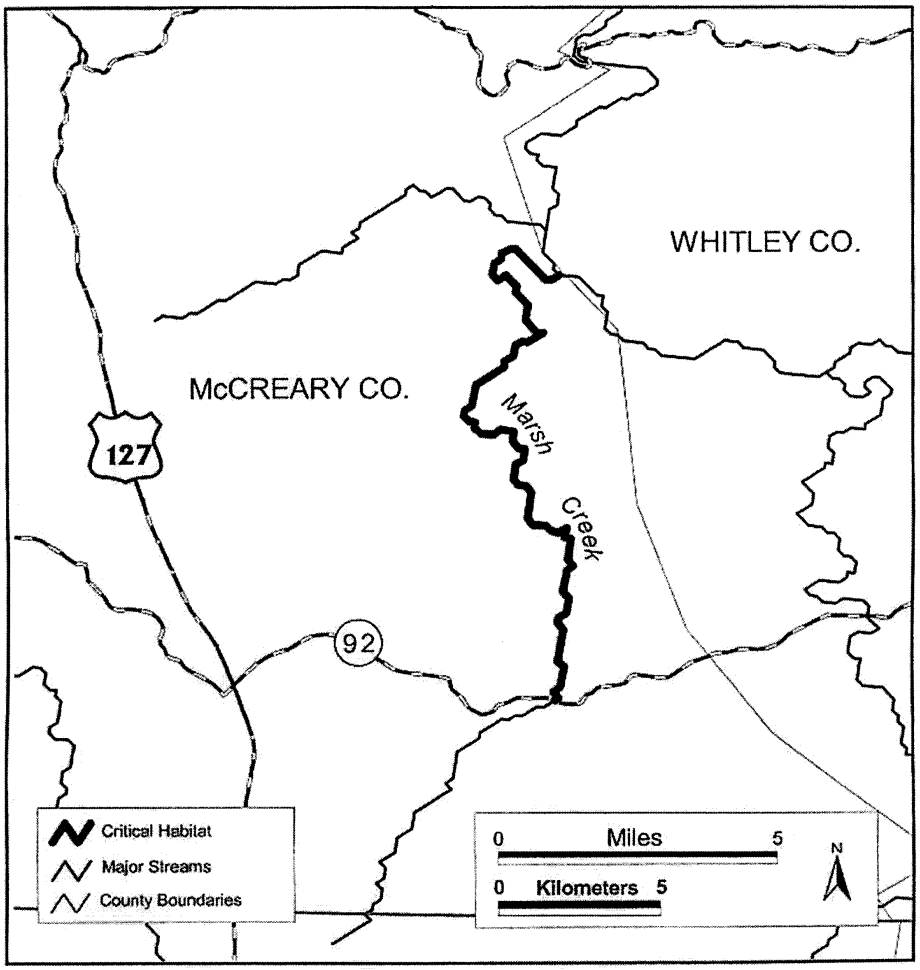
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xiv) Unit 12. Marsh Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 12 includes the Marsh Creek main stem from its confluence with the Cumberland River (−84.35 longitude, 36.78 latitude) upstream to State Road 92 Bridge (−84.35 longitude, 36.66 latitude) in McCreary County, Kentucky.

(B) Map of Unit 12 follows:

Unit 12 - Marsh Creek: Critical Habitat for Cumberland elktoe



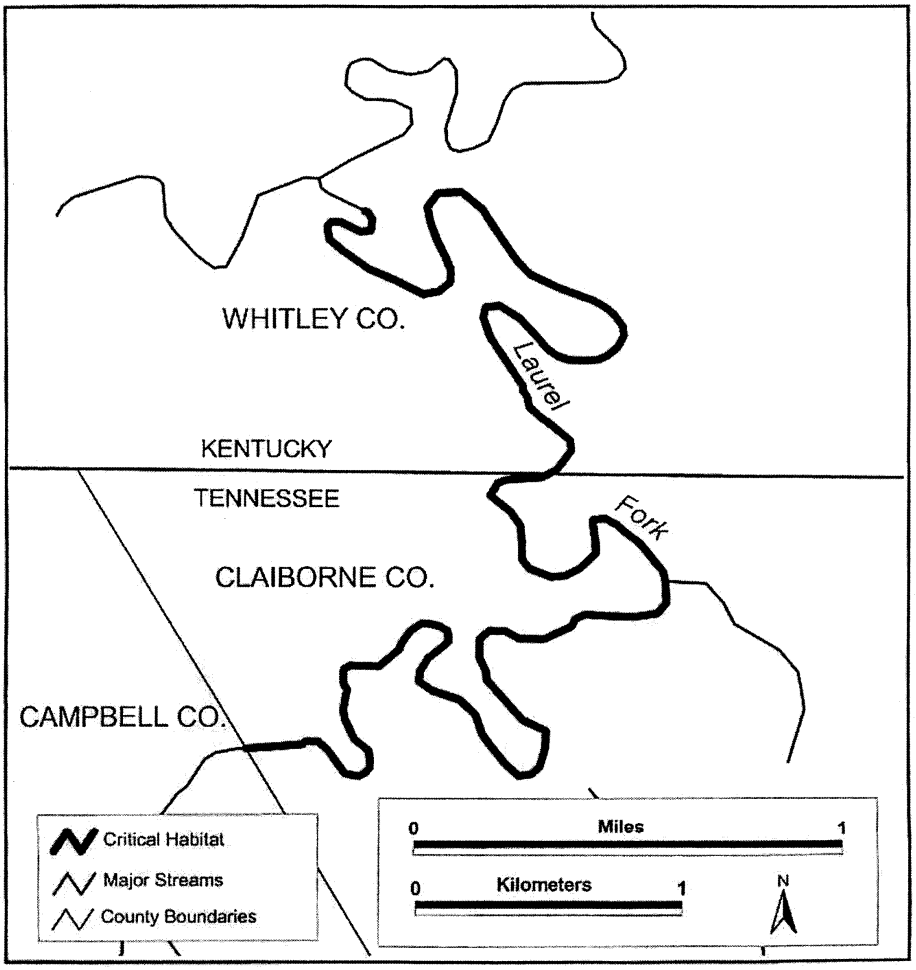
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xv) Unit 13. Laurel Fork, Claiborne County, Tennessee, and Whitley County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 13 includes the main stem of the Laurel Fork of the Cumberland River from the boundary between Claiborne and Campbell Counties (−84.00 longitude, 36.58 latitude) upstream to rkm 11 (rmi 6.85) in Whitley County, Kentucky. The upstream terminus is 3 rkm (2 rmi) upstream of the Kentucky/Tennessee State line (−84.00 longitude, 36.60 latitude).

(B) Map of Unit 13 follows:

Unit 13 - Laurel Fork: Critical Habitat for Cumberland elktoe



This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

SEVEN MUSSEL SPECIES (IN FOUR NORTHEAST GULF OF MEXICO DRAINAGES): PURPLE BANKCLIMBER (*Elliptoideus sloatianus*), GULF MOCCASINSHELL (*Medionidus penicillatus*), OCHLOCKONEE MOCCASINSHELL (*Medionidus simpsonianus*), OVAL PIGTOE (*Pleurobema pyriforme*), SHINYRAYED POCKETBOOK (*Lampsilis subangulata*), CHIPOLA SLABSHELL (*Elliptio chipolaensis*), AND FAT THREERIDGE (*Amblema neislerii*).

(1) Critical habitat units are depicted on the maps below for the following counties:

(i) *Alabama:* Houston and Russell;

(ii) *Florida:* Alachua, Bay, Bradford, Calhoun, Columbia, Franklin, Gadsden, Gulf, Jackson, Leon, Liberty, Union, Wakulla, and Washington; and

(iii) *Georgia:* Baker, Calhoun, Coweta, Crawford, Crisp, Decatur, Dooly, Dougherty, Early, Fayette, Grady, Lee, Macon, Marion, Meriwether, Miller, Mitchell, Peach, Pike, Schley, Spalding, Sumter, Talbot, Taylor, Terrell, Thomas, Upson, Webster, and Worth.

(2) The primary constituent elements of critical habitat for the purple bankclimber (*Elliptoideus sloatianus*), Gulf moccasinshell (*Medionidus penicillatus*), Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), shinyrayed pocketbook (*Lampsilis subangulata*), Chipola slabshell (*Elliptio chipolaensis*), and fat threeridge (*Amblema neislerii*) are:

(i) A geomorphically stable stream channel (a channel that maintains its lateral dimensions, longitudinal profile, and spatial pattern over time without a consistent aggrading or degrading bed elevation);

(ii) A predominantly sand, gravel, and/or cobble stream substrate with low to moderate amounts of silt and clay;

(iii) Permanently flowing water;

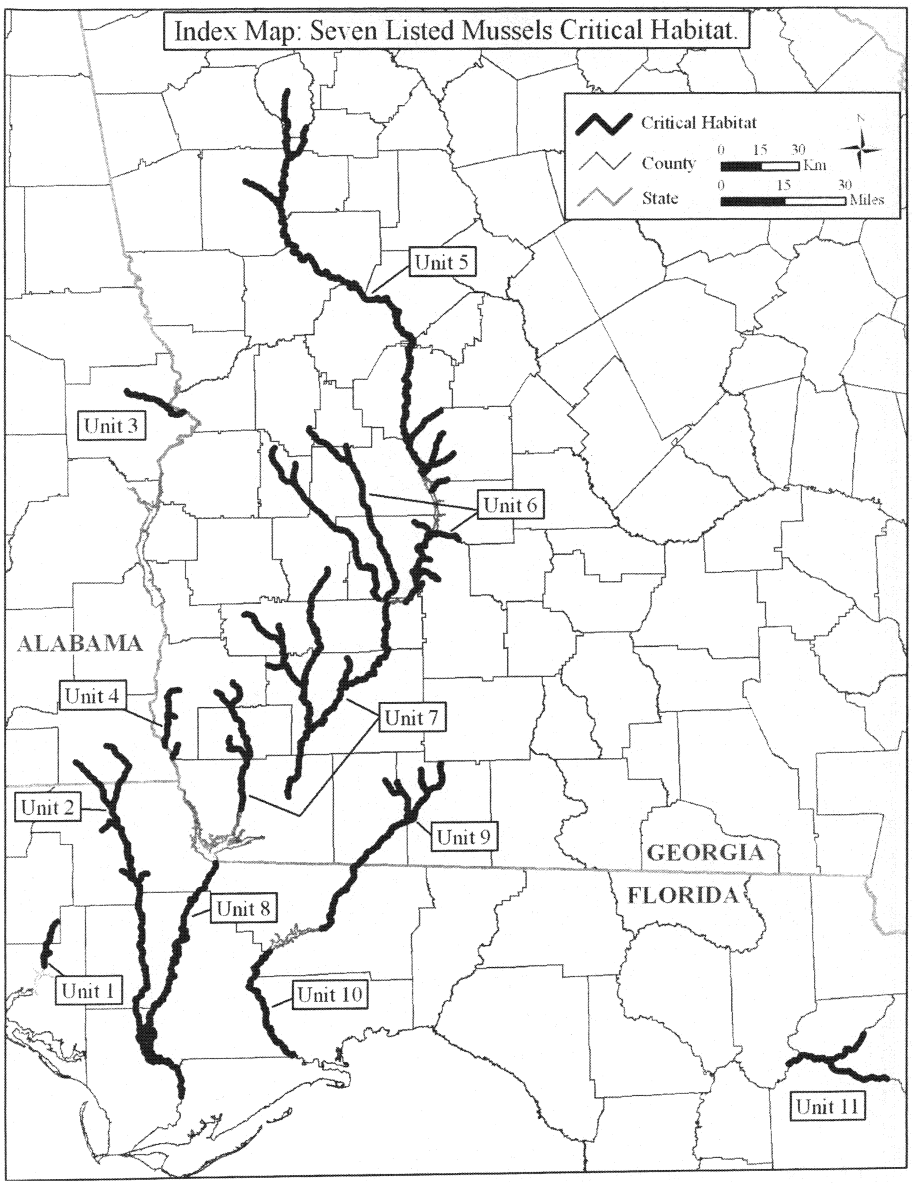
(iv) Water quality (including temperature, turbidity, dissolved oxygen, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387); and

(v) Fish hosts (such as largemouth bass, sailfin shiner, brown darter) that support the larval life stages of the seven mussels.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat unit maps. Data layers defining map units were created with USGS National Hydrography Dataset (NHD) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. The following data sources were referenced to identify upstream and downstream extents of critical habitat units: USGS 7.5' quadrangles; Georgia Department of Transportation county highway maps; U.S. Census Bureau 1:100,000 TIGER line road data; 1993 Georgia digital orthographic quarter quads (DOQQs); 2004 Florida DOQQs; and DeLorme Atlas and Gazetteers for Alabama, Florida, and Georgia. The projection used in mapping all units was Universal Transverse Mercator (UTM), NAD 83, Zone 16 North.

(5) Note: Index map of critical habitat units in the States of Alabama, Florida, and Georgia for the seven mussels follows:



(6) Table of listed species and critical habitat units. A table showing the listed species, their respective critical habitat units, and the States that contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below in paragraphs (7) through (17).

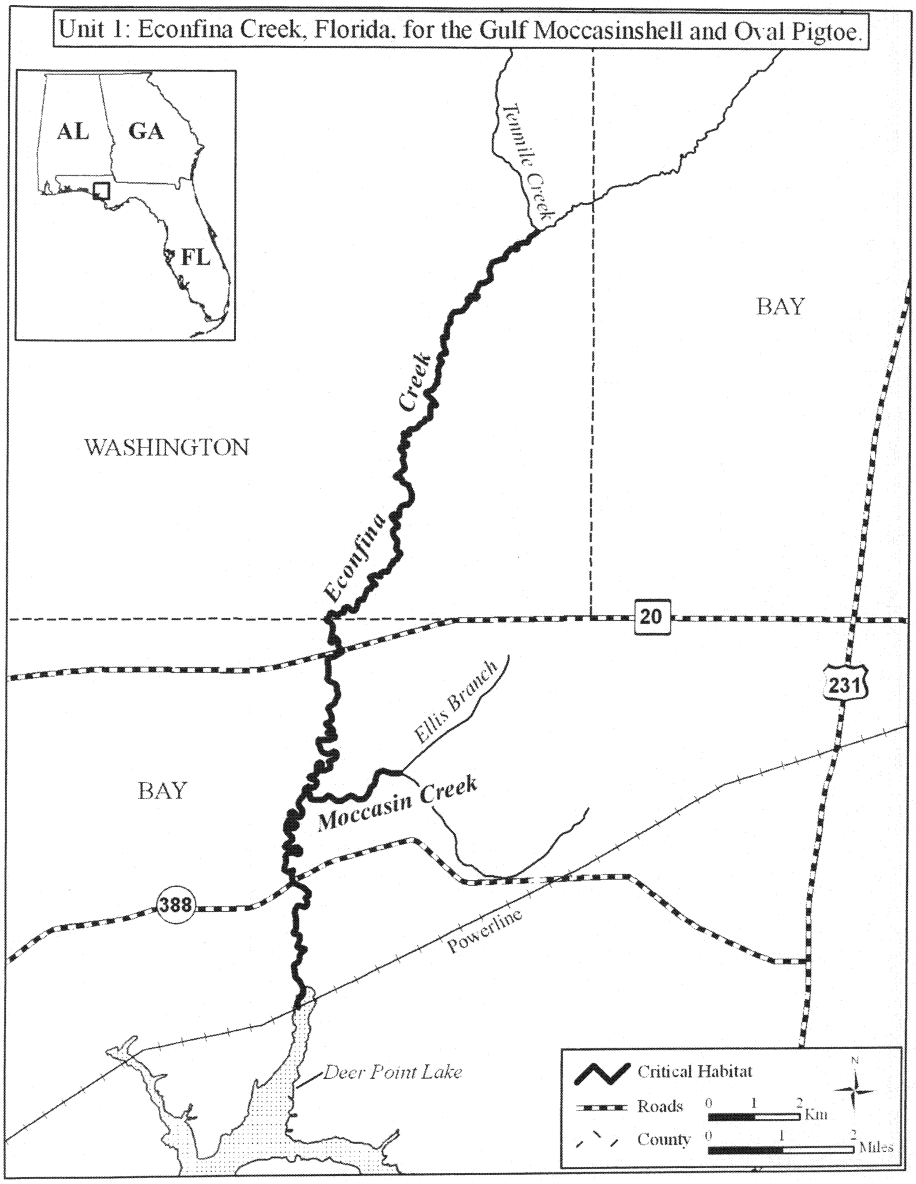
Species	Critical habitat units	States
Purple bankclimber (*Elliptoideus sloatianus*)	Units 5, 6, 7, 8, 9, 10	AL, FL, GA

Species	Critical habitat units	States
Gulf moccasinshell (*Medionidus penicillatus*)	Units 1, 2, 4, 5, 6, 7	AL, FL, GA
Ochlockonee moccasinshell (*Medionidus simpsonianus*)	Unit 9	FL, GA
Oval pigtoe (*Pleurobema pyriforme*)	Units 1, 2, 4, 5, 6, 7, 9, 11	AL, FL, GA
Shinyrayed pocketbook (*Lampsilis subangulata*)	Units 2, 3, 4, 5, 6, 7, 9	AL, FL, GA
Chipola slabshell (*Elliptio chipolaensis*)	Unit 2	AL, FL
Fat threeridge (mussel) (*Amblema neislerii*)	Units 2, 7, 8	AL, FL, GA

(7) Unit 1. Econfina and Moccasin creeks, Bay and Washington Counties, Florida. This is a critical habitat unit for the Gulf moccasinshell and oval pigtoe.

(i) *General Description:* Unit 1 includes the main stem of Econfina Creek and one of its tributaries, Moccasin Creek, encompassing a total stream length of 31.4 kilometers (km) (19.5 miles (mi)). The main stem of Econfina Creek extends from its confluence with Deer Point Lake at the powerline crossing located 3.8 km (2.3 mi) downstream of Bay County Highway 388 (−85.56 longitude, 30.36 latitude), Bay County, Florida, upstream 28.6 km (17.8 mi) to Tenmile Creek (−85.50 longitude, 30.51 latitude), Washington County, Florida; and Moccasin Creek from its confluence with Econfina Creek upstream 2.8 km (1.7 mi) to Ellis Branch (−85.53 longitude, 30.41 latitude), Bay County, Florida.

(ii) NOTE: Unit 1 map follows:

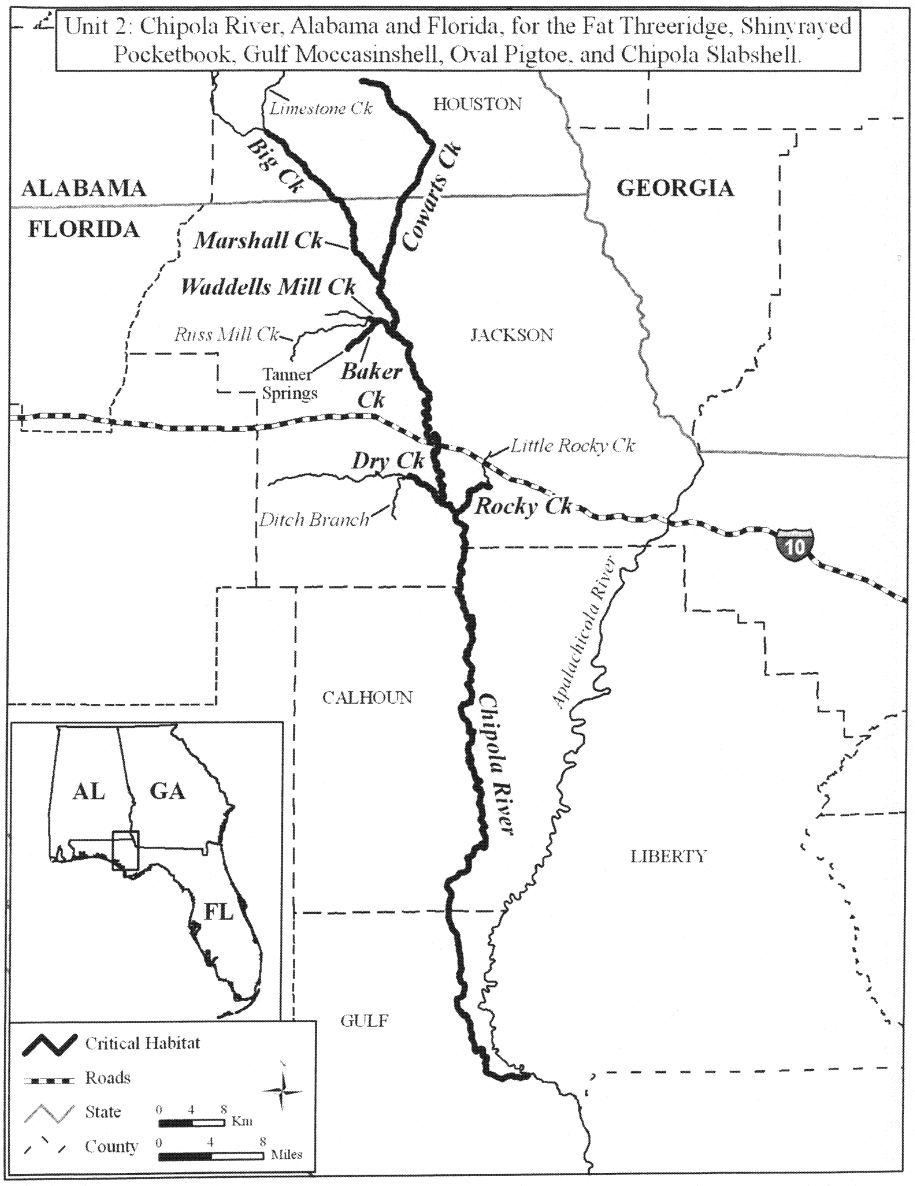


(8) Unit 2. Chipola River and Dry, Rocky, Waddells Mill, Baker, Marshall, Big, and Cowarts Creeks in Houston County, Alabama, and in Calhoun, Gulf, and Jackson counties, Florida. This is a critical habitat unit for the fat threeridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and Chipola slabshell.

(i) *General Description:* Unit 2 includes the main stem of the Chipola River and seven of its tributaries, encompassing a total stream length of 228.7 km (142.1 mi). The main stem

of the Chipola River extends from its confluence with the Apalachicola River (−85.09 longitude, 30.01 latitude) in Gulf County, Florida, upstream 144.9 river km (90.0 river mi), including the reach known as Dead Lake, to the confluence of Marshall and Cowarts creeks (−85.27 longitude, 30.91 latitude) in Jackson County, Florida; Dry Creek from the Chipola River upstream 7.6 river km (4.7 river mi) to Ditch Branch (−85.24 longitude, 30.69 latitude), Jackson County, Florida; Rocky Creek from the Chipola River upstream 7.1 river km (4.4 river mi) to Little Rocky Creek (−85.13 longitude, 30.68 latitude), Jackson County, Florida; Waddells Mill Creek from the Chipola River upstream 3.7 river km (2.3 river mi) to Russ Mill Creek (−85.29 longitude, 30.87 latitude), Jackson County, Florida; Baker Creek from Waddells Mill Creek upstream 5.3 river km (3.3 river mi) to Tanner Springs (−85.32 longitude, 30.83 latitude), Jackson County, Florida; Marshall Creek from the Chipola River upstream 13.7 river km (8.5 river mi) to the Alabama–Florida State line (−85.33 longitude, 31.00 latitude), Jackson County, Florida; Cowarts Creek from the Chipola River in Jackson County, Florida, upstream 33.5 river km (20.8 river mi) to the Edgar Smith Road bridge (−85.29 longitude, 31.13 latitude), Houston County, Alabama; and Big Creek from the Alabama–Florida State line upstream 13.0 river km (8.1 river mi) to Limestone Creek (−85.42 longitude, 31.08 latitude), Houston County, Alabama. The short segment of the Chipola River that flows underground within the boundaries of Florida Caverns State Park is not included within this unit.

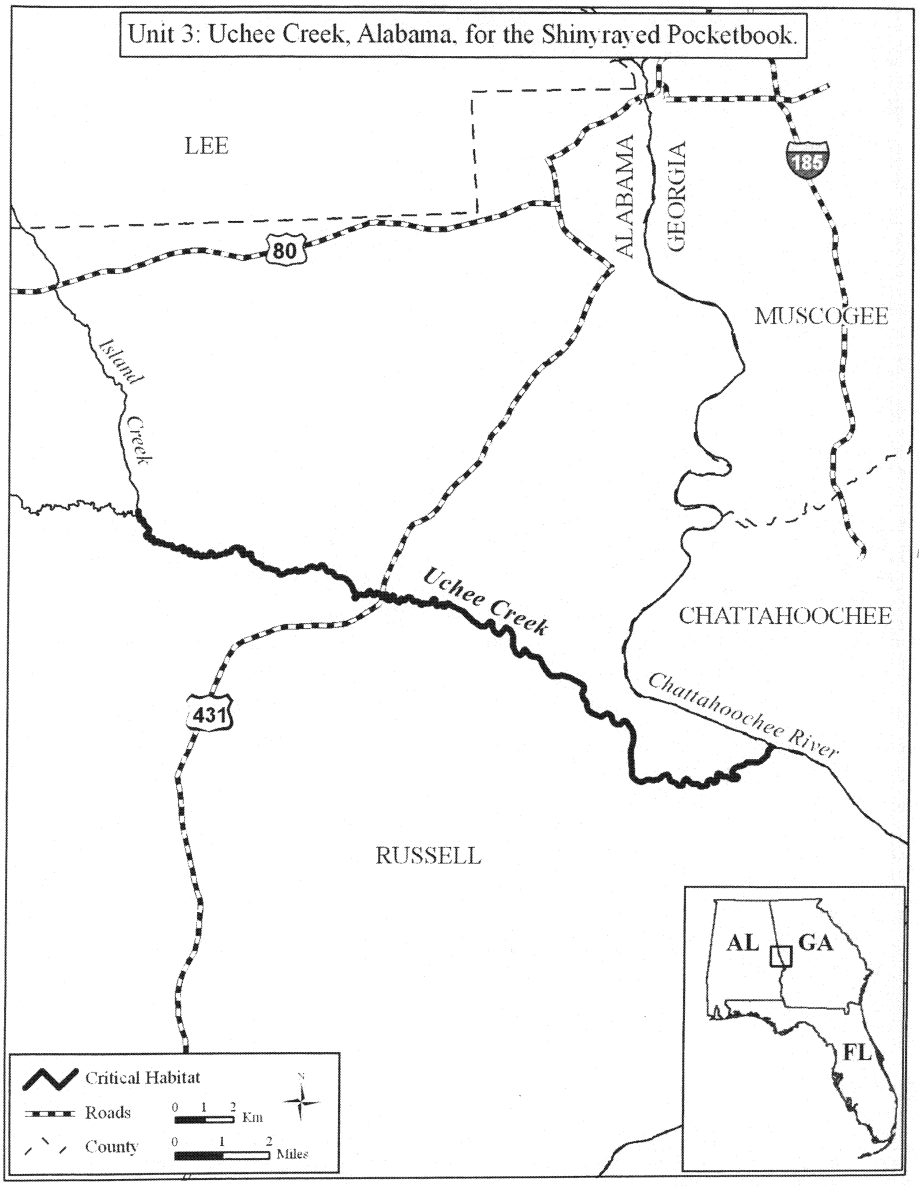
(ii) NOTE: Unit 2 map follows:



(9) Unit 3. Uchee Creek, Russell County, Alabama. This is a critical habitat unit for the shinyrayed pocketbook.

(i) *General Description:* Unit 3 includes the main stem of Uchee Creek from its confluence with the Chattahoochee River upstream 34.2 km (21.2 mi) to Island Creek (−85.18 longitude, 32.38 latitude), Russell County, Alabama, encompassing a total stream length of 34.2 km (21.2 mi).

(ii) NOTE: Unit 3 map follows:

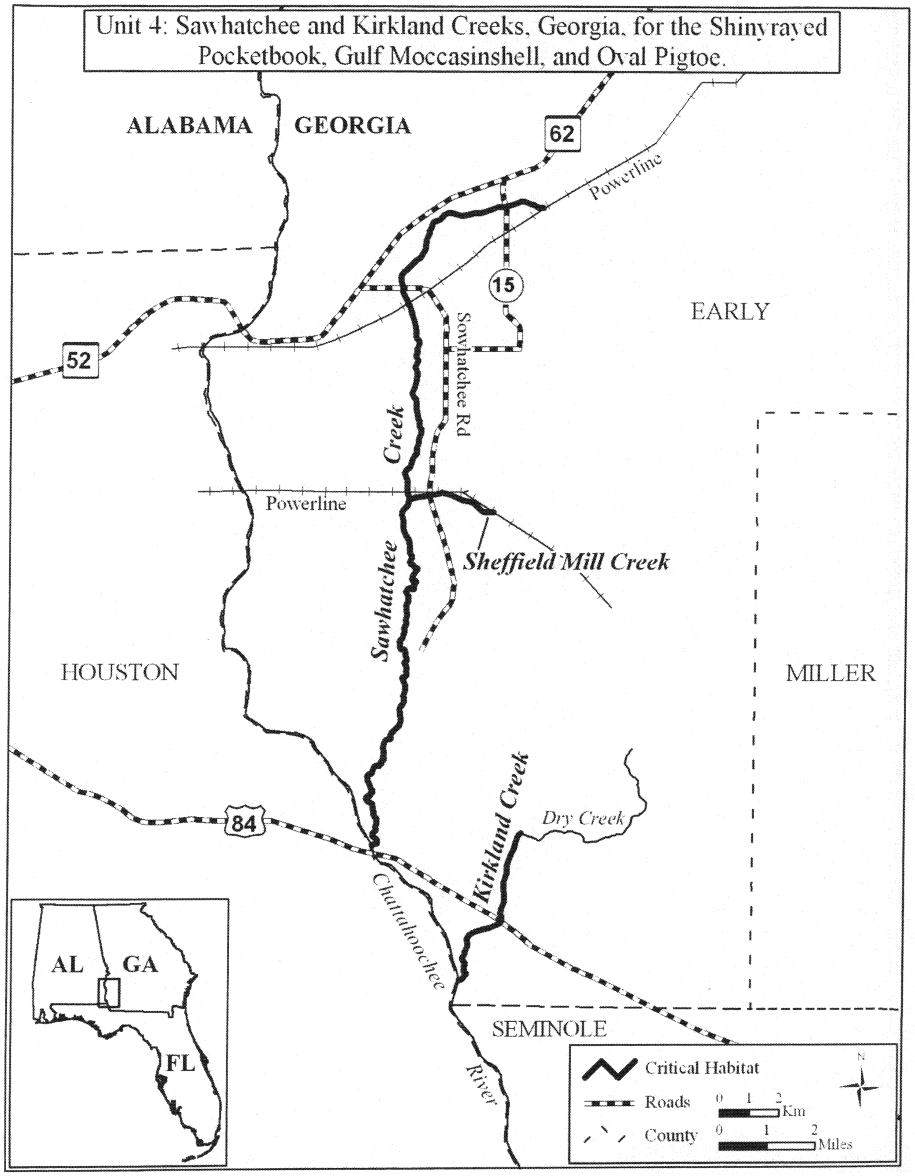


(10) Unit 4. Sawhatchee, Sheffield Mill, and Kirkland creeks, Early County, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Gulf moccasinshell, and oval pigtoe.

(i) *General Description:* Unit 4 includes the main stems of Sawhatchee and Kirkland creeks, and one tributary, encompassing a total stream length of 37.8 km (23.5 mi). Unit 4 includes Sawhatchee Creek from its confluence with the Chattahoochee River upstream 28.6 km (17.8 mi) to the powerline crossing located 1.4 km (0.87 mi) upstream of Early County Road 15 (−84.99 longitude, 31.32

latitude); Sheffield Mill Creek, the tributary, from its confluence with Sawhatchee Creek upstream 3.1 km (1.9 mi) to the powerline crossing located 2.3 km (1.4 mi) upstream of Sowhatchee Road (−85.01 longitude, 31.23 latitude); Kirkland Creek from its confluence with the Chattahoochee River upstream 6.1 km (3.8 mi) to Dry Creek (−85.00 longitude, 31.13 latitude).

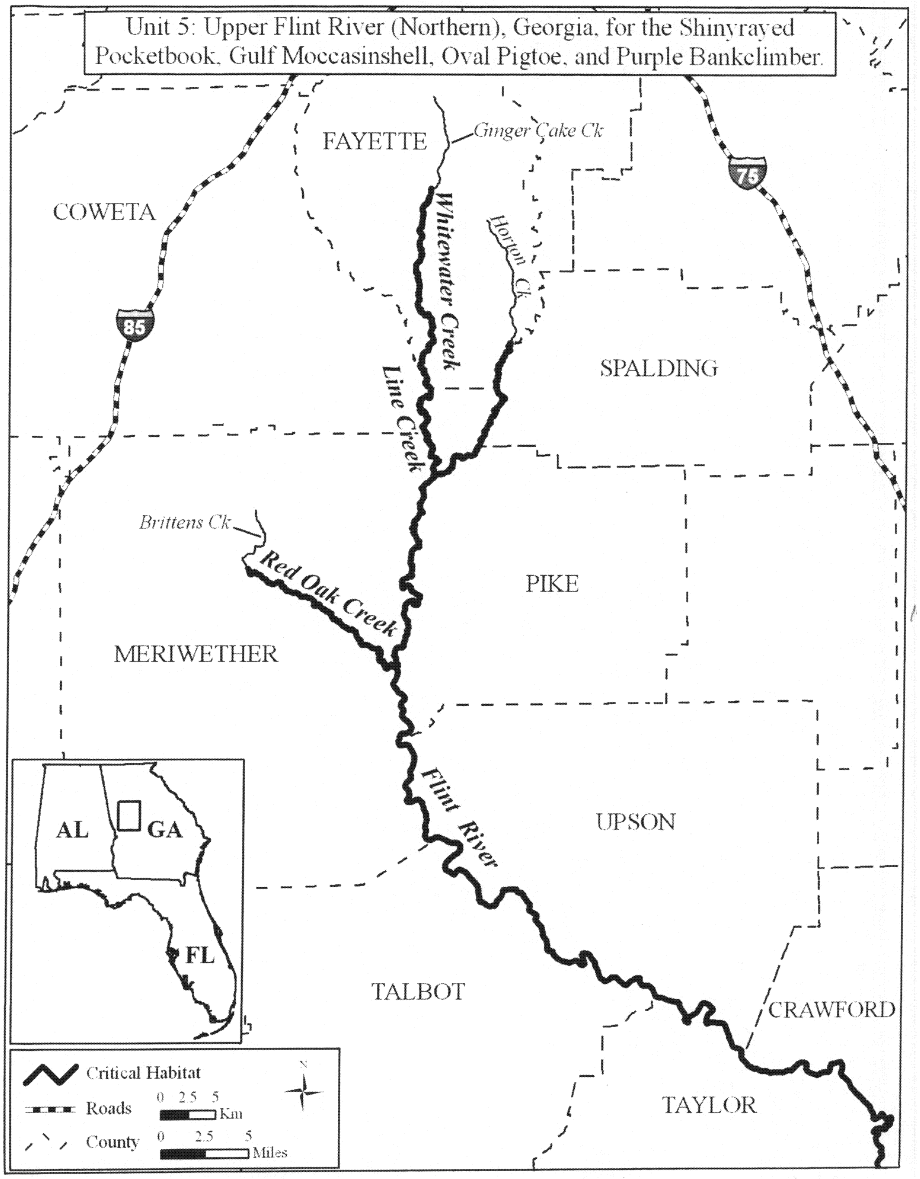
(ii) NOTE: Unit 4 map follows:

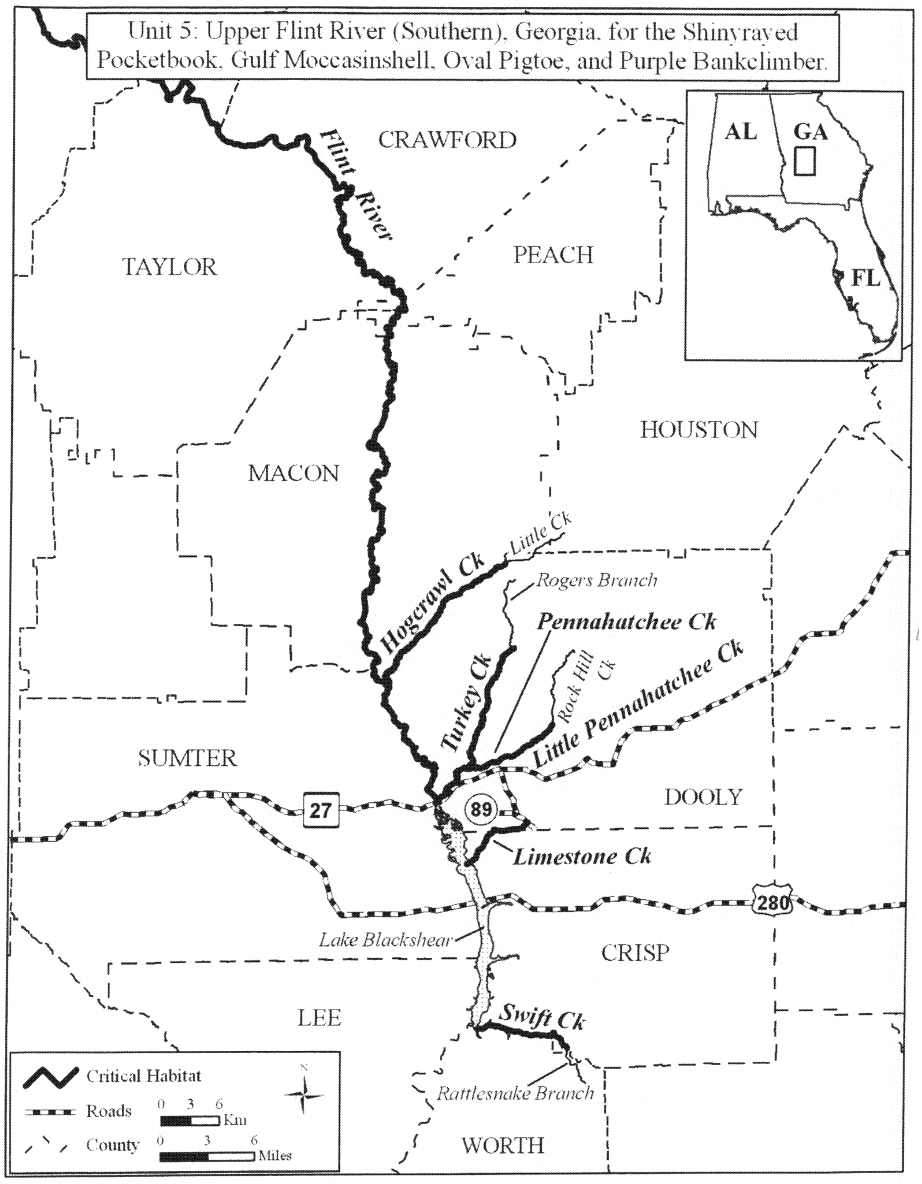


(11) Unit 5. Upper Flint River and Swift, Limestone, Turkey, Pennahatchee, Little Pennahatchee, Hogcrawl, Red Oak, Line, and Whitewater creeks in Coweta, Crawford, Crisp, Dooly, Fayette, Macon, Meriwether, Peach, Pike, Spalding, Sumter, Talbot, Taylor, Upson, and Worth counties, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 5 encompasses a total stream length of 380.4 km (236.4 mi) and includes the Flint River from the State Highway 27 bridge (Vienna Road) (−83.98 longitude, 32.06 latitude) in Dooly and Sumter counties, Georgia (the river is the county boundary), upstream 247.4 km (153.7 mi) through Macon, Peach, Taylor, Crawford, Talbot, Upson, Pike, Meriwether, and Coweta counties, to Horton Creek (−84.42 longitude, 33.29 latitude) in Fayette and Spalding counties, Georgia (the river is the county boundary); Swift Creek from Lake Blackshear upstream 11.3 km (7 mi) to Rattlesnake Branch (−83.84 longitude, 31.82 latitude), Crisp and Worth counties, Georgia (the creek is the county boundary); Limestone Creek from Lake Blackshear, Crisp County, Georgia, upstream 8.8 km (5.5 mi) to County Road 89 (−83.88 longitude, 32.04 latitude), Dooly County, Georgia; Turkey Creek from the Flint River upstream 21.7 km (13.5 mi) to Rogers Branch (−83.89 longitude, 32.20 latitude), in Dooly County, Georgia; Pennahatchee Creek from Turkey Creek upstream 4.8 km (3 mi) to Little Pennahatchee Creek (−83.89 longitude, 32.10 latitude), Dooly County, Georgia; Little Pennahatchee Creek from Pennahatchee Creek upstream 5.8 km (3.6 mi) to Rock Hill Creek (−83.85 longitude, 32.13 latitude), Dooly County, Georgia; Hogcrawl Creek from the Flint River upstream 21.6 km (13.4 mi) to Little Creek (−83.90 longitude, 32.28 latitude), Dooly and Macon counties, Georgia (the creek is the county boundary); Red Oak Creek from the Flint River upstream 21.7 km (13.5 mi) to Brittens Creek (−84.68 longitude, 33.11 latitude), Meriwether County, Georgia; Line Creek from the Flint River upstream 15.8 km (9.8 mi) to Whitewater Creek (−84.51 longitude, 33.28 latitude), Coweta and Fayette counties, Georgia (the creek is the county boundary); and Whitewater Creek from Line Creek upstream 21.5 km (13.4 mi) to Ginger Cake Creek (−84.49 longitude, 33.42 latitude), Fayette County, Georgia.

(ii) NOTE: Two maps of unit 5—northern part of unit 5 and—southern part of unit 5 follow:


Unit 5: Upper Flint River (Northern), Georgia, for the Shinyrayed Pocketbook, Gulf Moccasinshell, Oval Pigtoe, and Purple Bankclimber.
FAYETTE
Ginger Cake Ck
COWETA
Whitewater Creek
Horton Ck
75
85
SPALDING
Line Creek
Brittens Ck
Red Oak Creek
PIKE
MERIWETHER
Flint River
UPSON
AL
GA
FL
TALBOT
CRAWFORD
TAYLOR
Critical Habitat
Roads
County
0 2.5 5 Km
0 2.5 5 Miles
N

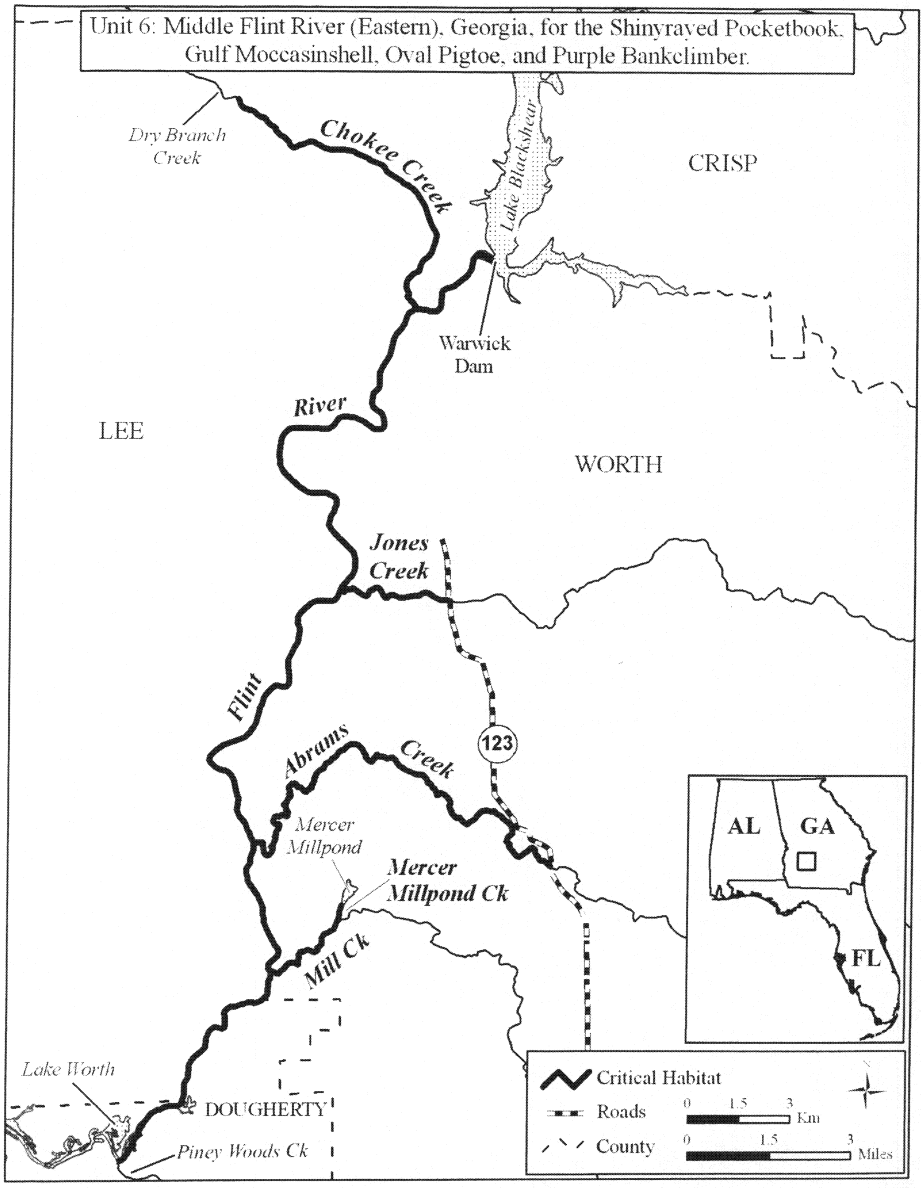


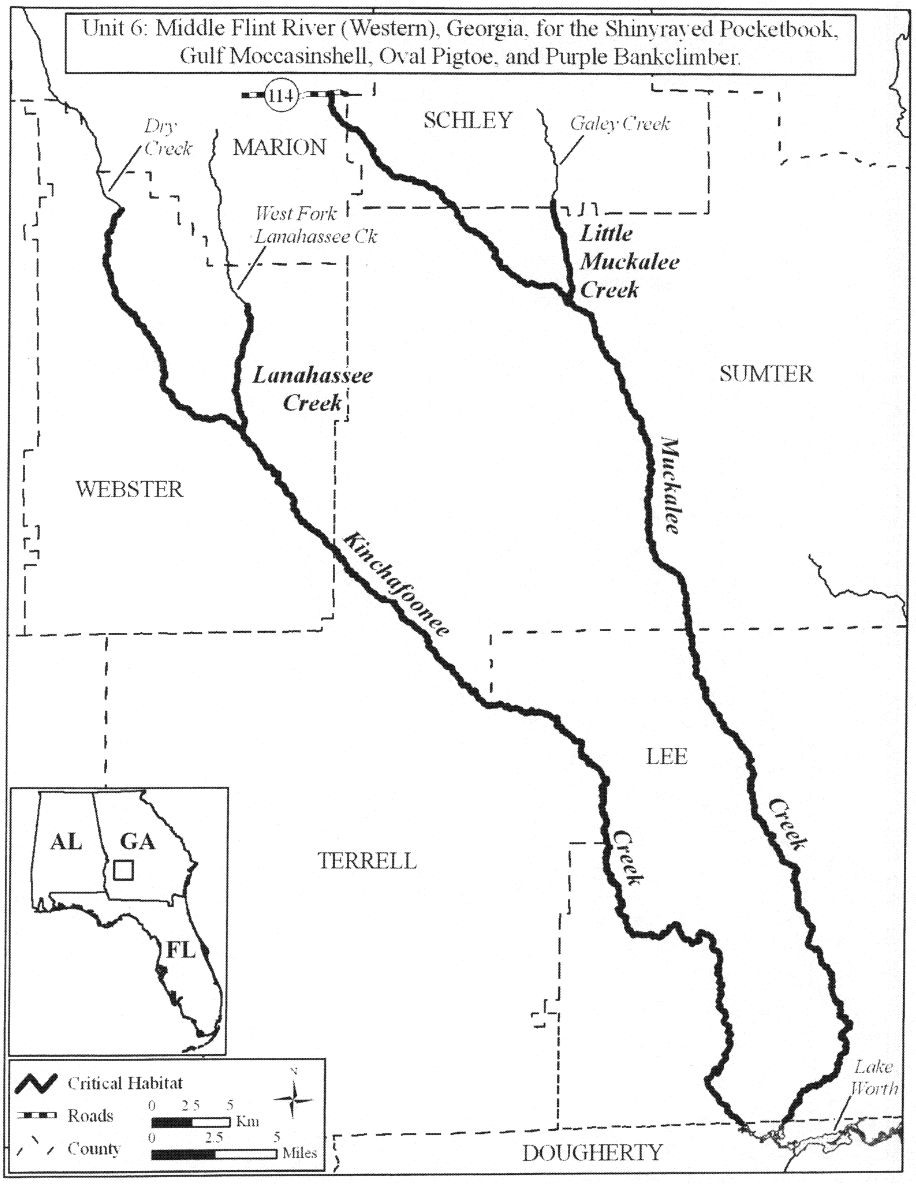
(12) Unit 6. Middle Flint River and Kinchafoonee, Lanahassee, Muckalee, Little Muckalee, Mill, Mercer Mill Pond, Abrams, Jones, and Chokee creeks in Dougherty, Lee, Marion, Schley, Sumter, Terrell, Webster, and Worth counties, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 6 encompasses a total stream length of 302.3 km (187.8 mi) and includes the Flint River from Piney

Woods Creek (−84.06 longitude, 31.61 latitude) in Dougherty County, Georgia (the upstream extent of Lake Worth), upstream 39.9 km (24.8 mi) to the Warwick Dam (−83.94 longitude, 31.85 latitude), Lee and Worth counties, Georgia; Kinchafoonee Creek from its confluence with Lake Worth at the Lee—Dougherty county line (−84.17 longitude, 31.62 latitude), upstream 107.6 km (66.8 mi) through Terrell and Sumter Counties, Georgia, to Dry Creek (−84.58 longitude, 32.17 latitude), Webster County, Georgia; Lanahassee Creek from Kinchafoonee Creek upstream 9.3 km (5.8 mi) to West Fork Lanahassee Creek (−84.50 longitude, 32.11 latitude), Webster County, Georgia; Muckalee Creek, from its confluence with Lake Worth at the Lee—Dougherty county line (−84.14 longitude, 31.62 latitude), upstream 104.5 km (64.9 mi) to County Road 114 (−84.44 longitude, 32.23 latitude), Marion County, Georgia; Little Muckalee Creek, from Muckalee Creek in Sumter County, Georgia, upstream 7.2 km (4.5 mi) to Galey Creek (−84.29 longitude, 32.17 latitude), Schley County, Georgia; Mill Creek from the Flint River upstream 3.2 km (2 mi) to Mercer Millpond Creek (−83.99 longitude, 31.67 latitude), Worth County, Georgia; Mercer Millpond Creek from Mill Creek upstream 0.45 km (0.28 mi) to Mercer Mill Pond (−83.99 longitude, 31.68 latitude), Worth County, Georgia; Abrams Creek from the Flint River upstream 15.9 km (9.9 mi) to County Road 123 (−83.93 longitude, 31.68 latitude), Worth County, Georgia; Jones Creek from the Flint River upstream 3.8 km (2.4 mi) to County Road 123 (−83.96 longitude, 31.76 latitude), Worth County, Georgia; and Chokee Creek, from the Flint River upstream 10.5 km (6.5 mi) to Dry Branch Creek (−84.02 longitude, 31.89 latitude), Lee County, Georgia.

(ii) NOTE: Two maps of unit 6—western part of unit 6 and—eastern part of unit 6 follow:


Unit 6: Middle Flint River (Eastern), Georgia, for the Shinyrayed Pocketbook, Gulf Moccasinshell, Oval Pigtoe, and Purple Bankclimber.
Dry Branch Creek
Chokee Creek
Lake Blackshear
CRISP
Warwick Dam
River
LEE
WORTH
Jones Creek
Flint
Abrams Creek
123
Mercer Millpond
Mercer Millpond Ck
Mill Ck
AL
GA
FL
Lake Worth
DOUGHERTY
Piney Woods Ck
Critical Habitat
Roads
County
0 1.5 3 Km
0 1.5 3 Miles

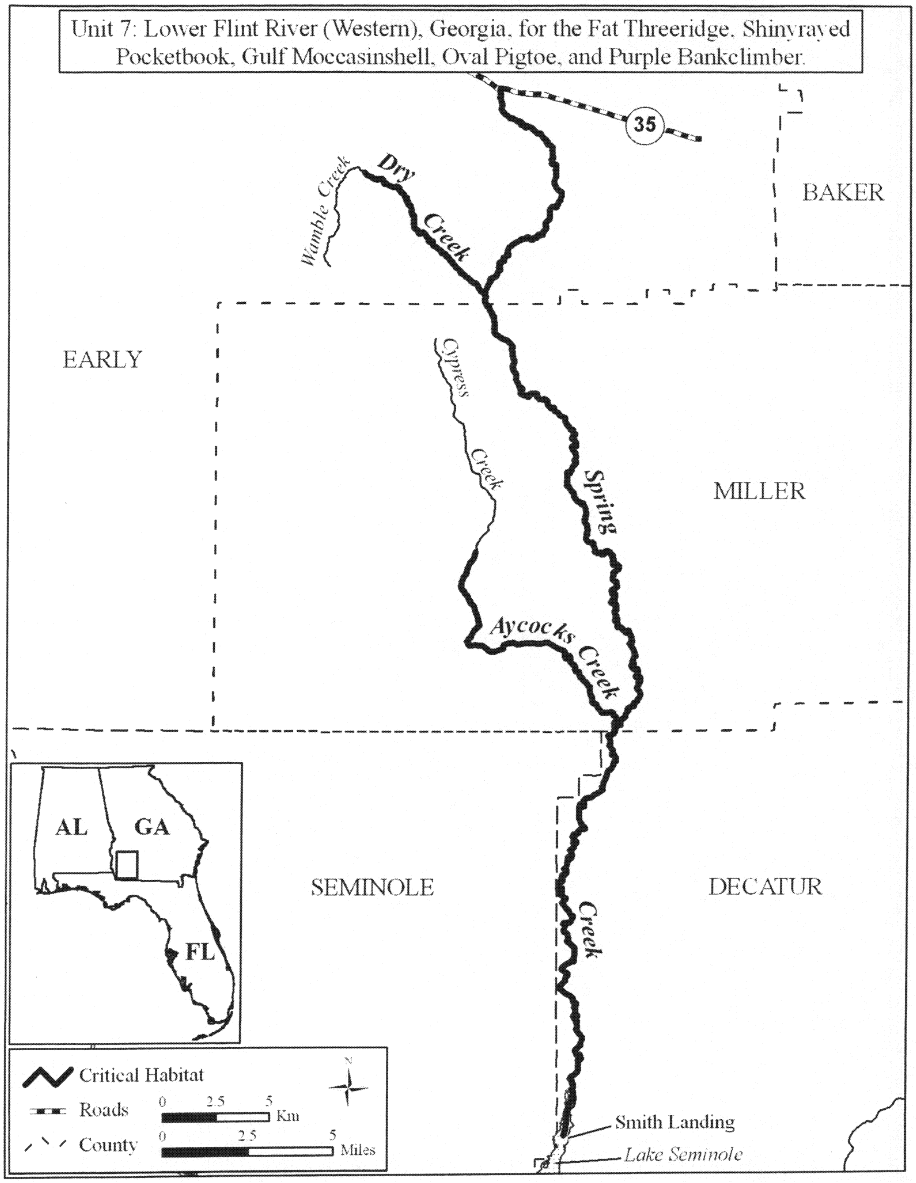


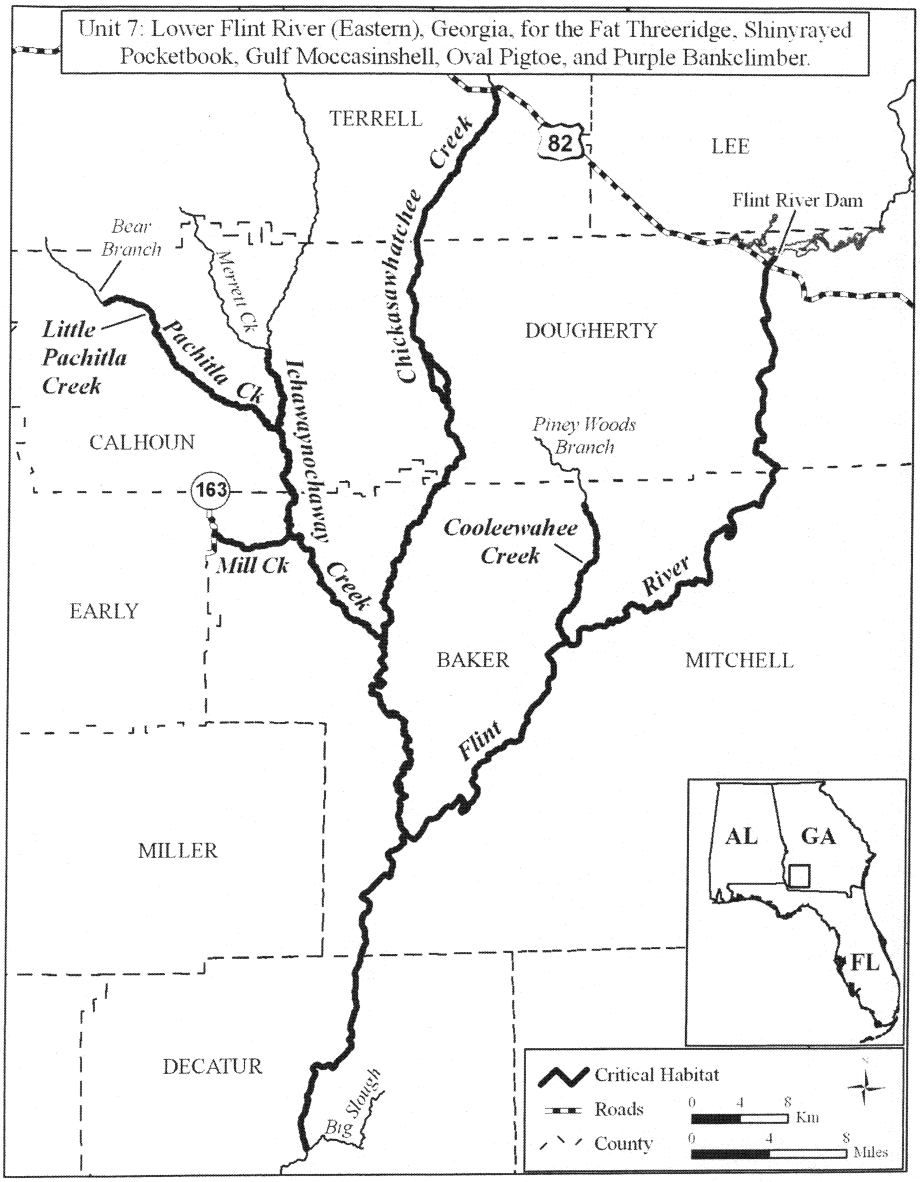
(13) Unit 7. Lower Flint River and Spring, Aycocks, Dry, Ichawaynochaway, Mill, Pachitla, Little Pachitla, Chickasawhatchee, and Cooleewahee creeks in Baker, Calhoun, Decatur, Dougherty, Early, Miller, Mitchell, and Terrell counties, Georgia. This is a critical habitat unit for the fat threeridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 7 encompasses a total stream length of 396.7 km (246.5 mi) and includes the Flint River from its confluence with Big Slough (−84.56 longitude,

30.93 latitude), Decatur County, Georgia, upstream 116.4 km (72.3 mi) through Baker and Mitchell Counties, Georgia, to the Flint River Dam (which impounds Lake Worth) (−84.14 longitude, 31.60 latitude), Dougherty County, Georgia; Spring Creek, from its confluence with Lake Seminole at Smith Landing (−84.75 longitude, 30.89 latitude), Decatur County, Georgia, upstream 74.2 km (46.1 mi) to County Road 35 (−84.78 longitude, 31.34 latitude), Early County, Georgia; Aycocks Creek from Spring Creek upstream 15.9 km (9.9 mi) to Cypress Creek (−84.79 longitude, 31.15 latitude), Miller County, Georgia; Dry Creek from Spring Creek upstream 9.9 km (6.1 mi) to Wamble Creek (−84.84 longitude, 31.31 latitude), Early County, Georgia; Ichawaynochaway Creek from the Flint River, Baker County, Georgia, upstream 68.6 km (42.6 mi) to Merrett Creek (−84.58 longitude, 31.54 latitude), Calhoun County, Georgia; Mill Creek from Ichawaynochaway Creek upstream 7.4 km (4.6 mi) to County Road 163 (−84.63 longitude, 31.40 latitude), Baker County, Georgia; Pachitla Creek, from Ichawaynochaway Creek upstream 18.9 km (11.8 mi) to Little Pachitla Creek (−84.68 longitude, 31.56 latitude), Calhoun County, Georgia; Little Pachitla Creek from Pachitla Creek upstream 5.8 km (3.6 mi) to Bear Branch (−84.72 longitude, 31.58 latitude), Calhoun County, Georgia; Chickasawhatchee Creek from Ichawaynochaway Creek, Baker County, Georgia, upstream 64.5 km (40.1 mi) to U.S. Highway 82 (−84.38 longitude, 31.74 latitude), Terrell County, Georgia; and Cooleewahee Creek from the Flint River upstream 15.1 km (9.4 mi) to Piney Woods Branch (−84.31 longitude, 31.42 latitude), Baker County, Georgia.

(ii) NOTE: Two maps of unit 7—western part of unit 7 and—eastern part of unit 7 follow:


Unit 7: Lower Flint River (Western), Georgia, for the Fat Threeridge, Shinyrayed Pocketbook, Gulf Moccasinshell, Oval Pigtoe, and Purple Bankclimber.
35
BAKER
EARLY
MILLER
SEMINOLE
DECATUR
Wimble Creek
Dry Creek
Cypress Creek
Spring Creek
Aycocks Creek
Creek
AL
GA
FL
Critical Habitat
Roads
County
0 2.5 5 Km
0 2.5 5 Miles
N
Smith Landing
Lake Seminole

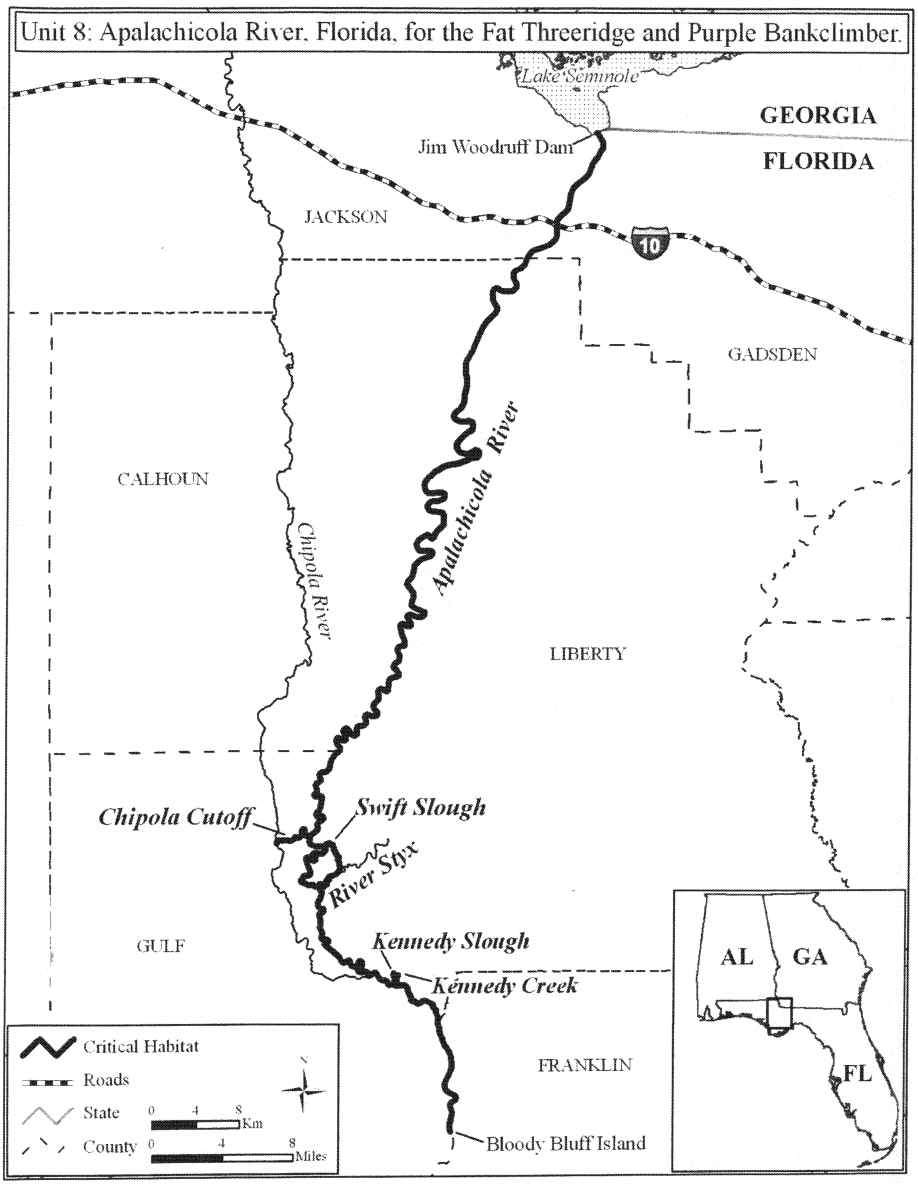


(14) Unit 8. Apalachicola River, Chipola Cutoff, Swift Slough, River Styx, Kennedy Slough, and Kennedy Creek in Calhoun, Franklin, Gadsden, Gulf, Jackson, and Liberty Counties, Florida. This is a critical habitat unit for the fat threeridge and purple bankclimber.

(i) *General Description:* Unit 8 includes the main stem of the Apalachicola River, two of its distributaries, Chipola Cutoff and Swift Slough, and three of its tributaries, River Styx, Kennedy Slough, and Kennedy Creek, encompassing a total length of 161.2 river km

(100.2 river mi). The main stem of the Apalachicola River extends from the downstream end of Bloody Bluff Island (river mile 15.3 on U.S. Army Corps of Engineers Navigation Charts) (−85.01 longitude, 29.88 latitude), Franklin County, Florida, through Calhoun and Liberty Counties, Florida, upstream to the Jim Woodruff Lock and Dam (which impounds Lake Seminole) (−84.86 longitude, 30.71 latitude), Gadsden and Jackson Counties, Florida; Chipola Cutoff from the Apalachicola River in Gulf County, Florida, downstream 4.5 river km (2.8 river mi) to its confluence with the Chipola River; Swift Slough from the Apalachicola River in Liberty County, Florida, downstream 3.6 river km (2.2 river mi) to its confluence with the River Styx (−85.12 longitude, 30.10 latitude); River Styx from the mouth of Swift Slough (−85.12 longitude, 30.10 latitude) in Liberty County, Florida, downstream 3.8 river km (2.4 river mi) to its confluence with the Apalachicola River; Kennedy Slough from −85.07 longitude, 30.01 latitude in Liberty County, Florida, downstream 0.9 river km (0.5 river mi) to its confluence with Kennedy Creek; and Kennedy Creek from Brushy Creek Feeder (−85.06 longitude, 30.01 latitude) in Liberty County, Florida, downstream 1.1 river km (0.7 river mi) to its confluence with the Apalachicola River.

(ii) NOTE: Unit 8 map follows:

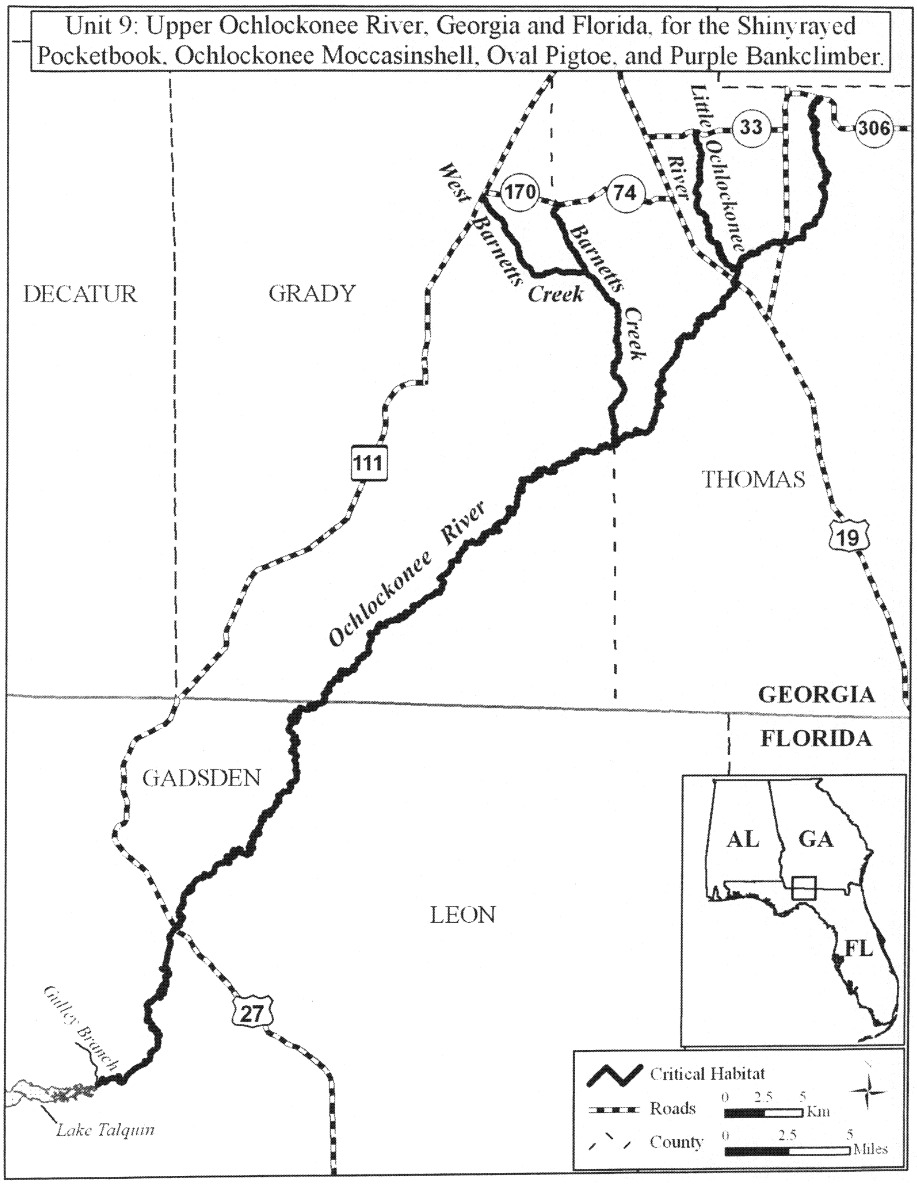


(15) Unit 9. Upper Ochlockonee River and Barnetts and West Barnetts creeks, and the Little Ochlockonee River in Gadsden and Leon counties, Florida, and in Grady and Thomas counties, Georgia. This is a critical habitat unit for the shinyrayed pocketbook, Ochlockonee moccasinshell, oval pigtoe, and purple bankclimber.

(i) *General Description:* Unit 9 includes the main stem of the Ochlockonee River upstream of Lake Talquin and three tributaries encompassing a total stream length of 177.3 km (110.2 mi). The main stem of the

Ochlockonee River extends from its confluence with Gulley Branch (the approximate upstream extent of Lake Talquin) (−84.44 longitude, 30.46 latitude), Gadsden and Leon counties, Florida, upstream 134.0 km (83.3 mi) to Bee Line Road/County Road 306 (−83.94 longitude, 31.03 latitude), Thomas County, Georgia; Barnetts Creek from the Ochlockonee River upstream 20 km (12.4 mi) to Grady County Road 170/Thomas County Road 74 (−84.12 longitude, 30.98 latitude), Grady and Thomas counties, Georgia; West Barnetts Creek from Barnetts Creek upstream 10 km (6.2 mi) to Georgia Highway 111 (−84.17 longitude, 30.98 latitude), Grady County, Georgia; and the Little Ochlockonee River from the Ochlockonee River upstream 13.3 km (8.3 mi) to Roup Road/County Road 33 (−84.02 longitude, 31.02 latitude), Thomas County, Georgia.

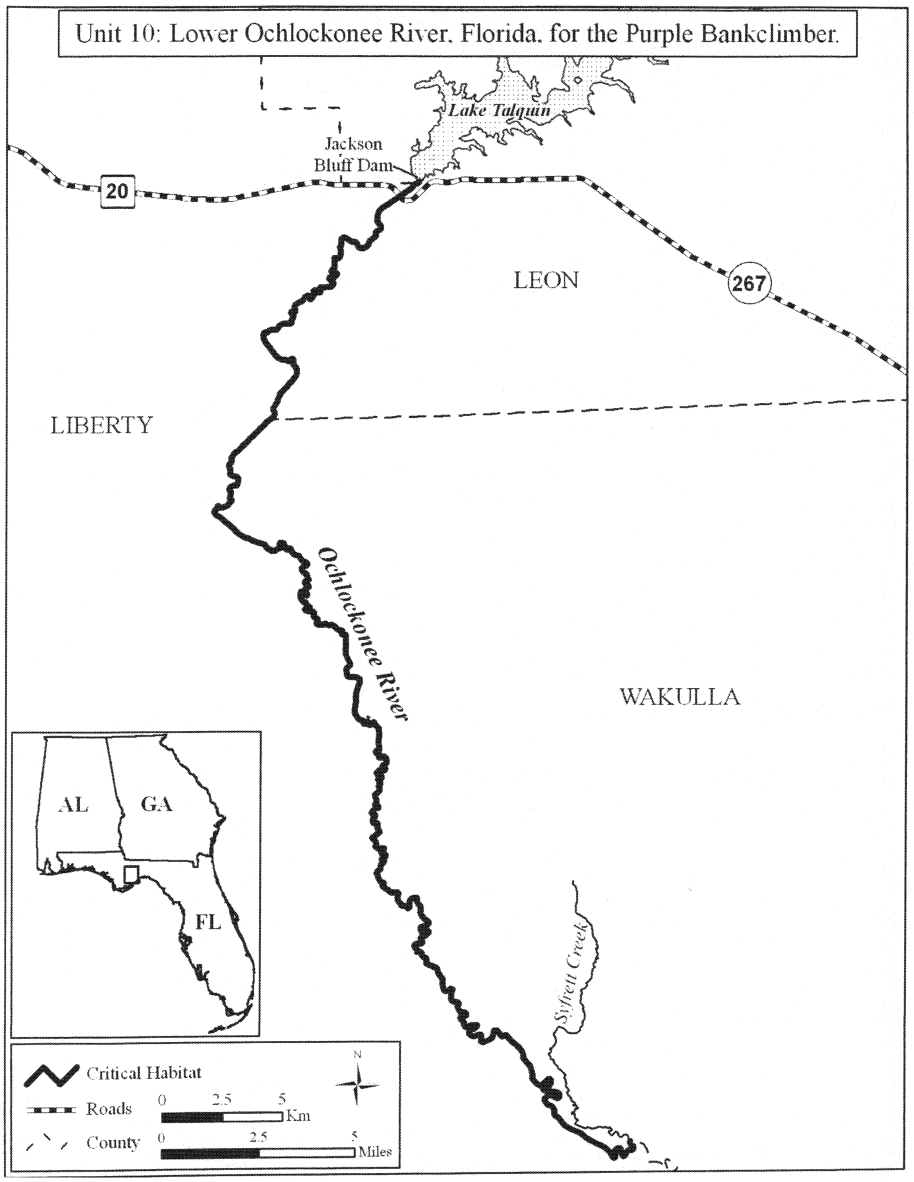
(ii) NOTE: Unit 9 map follows:



(16) Unit 10. Lower Ochlockonee River in Leon, Liberty, and Wakulla counties, Florida. This is a critical habitat unit for the purple bankclimber.

(i) *General Description:* Unit 10 encompasses a total stream length of 75.4 km (46.9 mi) and includes the main stem of the Ochlockonee River from its confluence with Syfrett Creek (−84.56 longitude, 30.02 latitude), Wakulla County, Florida, upstream 75.4 km (46.9 mi) to the Jackson Bluff Dam (which impounds Lake Talquin) (−84.65 longitude, 30.39 latitude), Leon and Liberty counties, Florida.

(ii) NOTE: Unit 10 map follows:

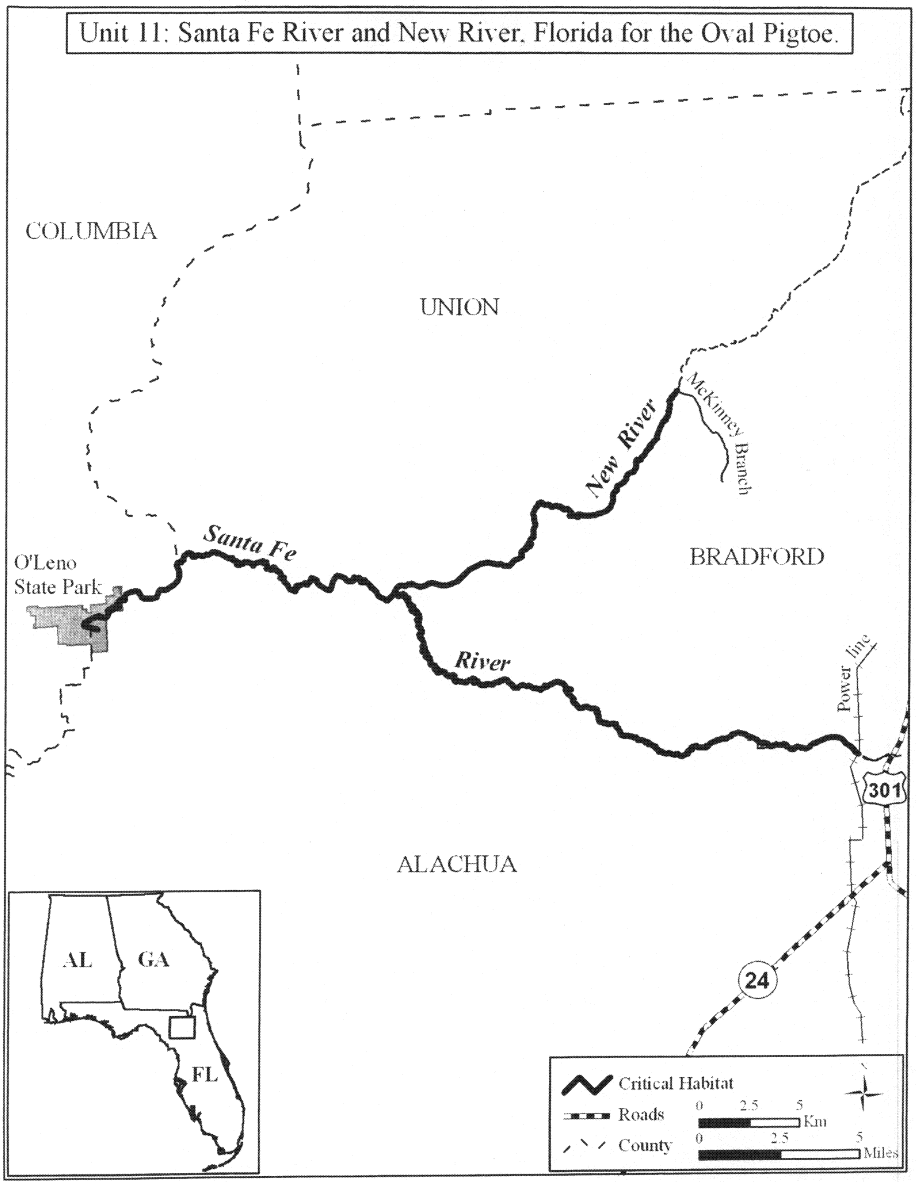


(17) Unit 11. Santa Fe River and New River in Alachua, Bradford, Columbia, and Union counties, Florida. This is a critical habitat unit for the oval pigtoe.

(i) *General Description:* Unit 11 includes the main stem of the Santa Fe River and its tributary the New River encompassing a total stream length of 83.1 km (51.6 mi). The main channel of the Santa Fe River extends from where the river goes underground in O'Leno State Park (−82.57 longitude, 29.91 latitude), Alachua and Columbia counties, Florida, upstream 60.2 km (37.4 mi) to the powerline crossing located 1.9 km (1.2 mi) downstream from the U.S. Highway 301 bridge (−82.18 longitude, 29.84 latitude) in

Alachua and Bradford counties, Florida; and the New River from its confluence with the Santa Fe River at the junction of Alachua, Bradford, and Union counties, Florida, upstream 22.9 km (14.2 mi) to McKinney Branch (−82.27 longitude, 30.01 latitude) in Bradford and Union counties, Florida.

(ii) NOTE: Unit 11 map follows:



EIGHT MUSSEL SPECIES IN FOUR NORTHEAST GULF OF MEXICO DRAINAGES: THE CHOCTAW BEAN (*Villosa choctawensis*), ROUND EBONYSHELL (*Fusconaia rotulata*), SOUTHERN KIDNEYSHELL (*Ptychobranchus jonesi*), ALABAMA PEARLSHELL (*Margaritifera marrianae*), FUZZY PIGTOE (*Pleurobema strodeanum*), NARROW PIGTOE (*Fusconaia escambia*), TAPERED PIGTOE (*Fusconaia burkei*), AND SOUTHERN SANDSHELL (*Hamiota australis*).

(1) Critical habitat units are depicted for the following counties:

(i) Alabama. Barbour, Bullock, Butler, Coffee, Conecuh, Covington, Crenshaw, Dale, Escambia, Geneva, Henry, Houston, Monroe, and Pike Counties.

(ii) Florida. Bay, Escambia, Holmes, Jackson, Okaloosa, Santa Rosa, Walton, and Washington Counties.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Alabama pearlshell, round ebonyshell, southern kidneyshell, Choctaw bean, tapered pigtoe, narrow pigtoe, southern sandshell, and fuzzy pigtoe consist of five components:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of sand or mixtures of sand with clay or gravel with low to moderate amounts of fine sediment and attached filamentous algae.

(iii) A hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found, and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability, and spawning habitat for native fishes.

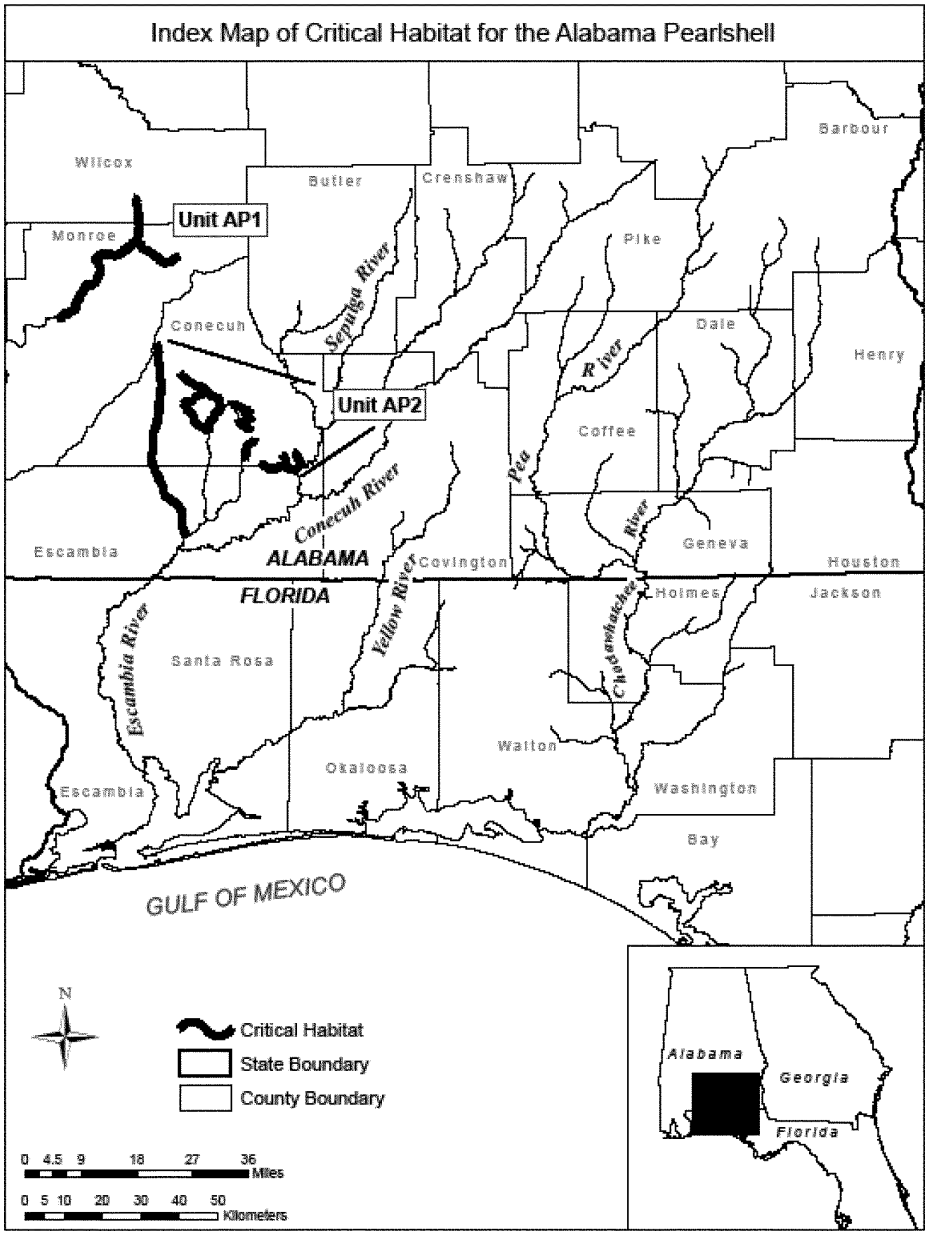
(iv) Water quality, including temperature (not greater than 32 °C), pH (between 6.0 to 8.5), oxygen content (not less than 5.0 milligrams per liter), hardness, turbidity, and other chemical characteristics necessary for normal behavior, growth, and viability of all life stages.

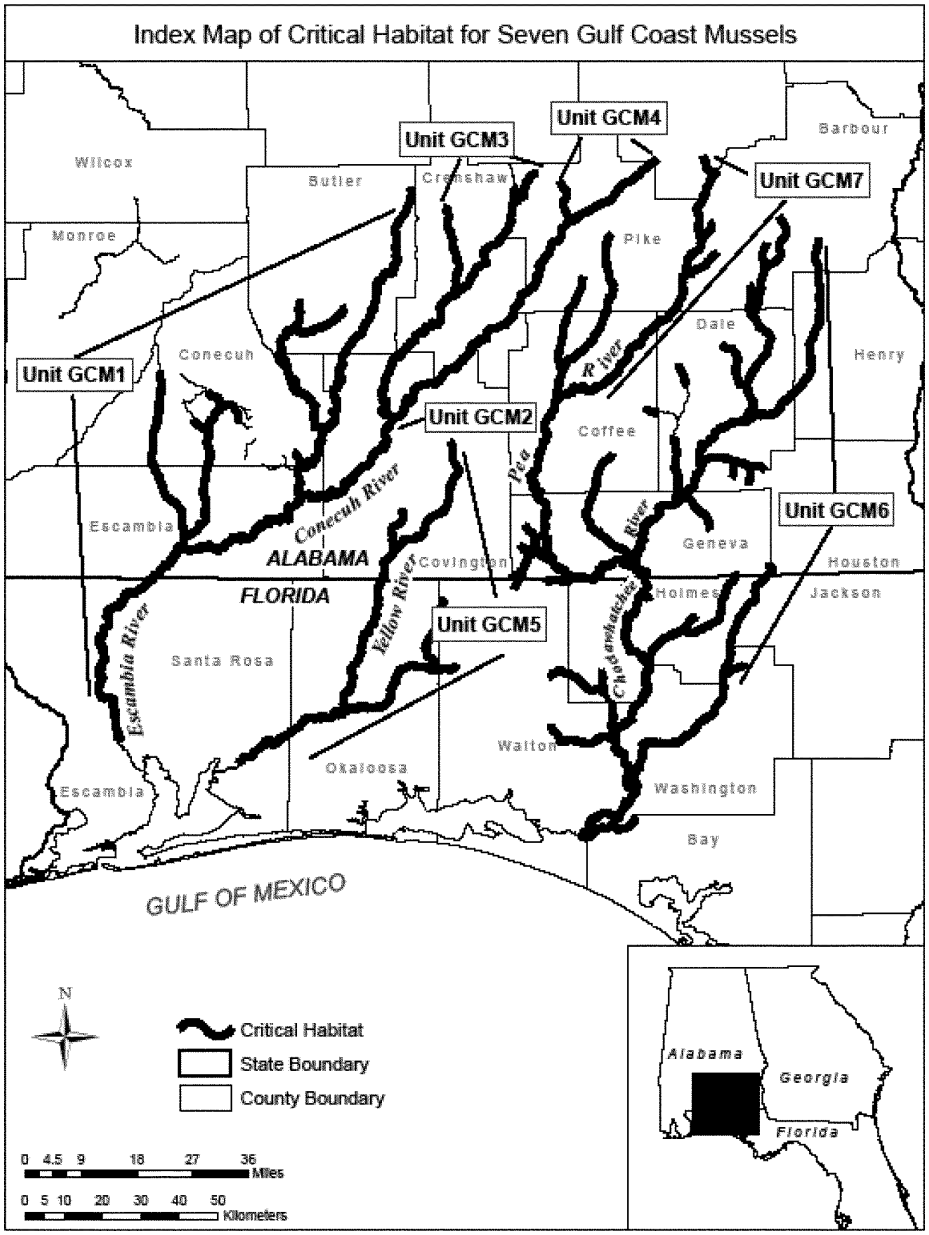
(v) The presence of fish hosts. Diverse assemblages of native fish species will serve as a potential indication of host fish presence until appropriate host fishes can be identified. For the fuzzy pigtoe and tapered pigtoe, the presence of blacktail shiner (*Cyprinella venusta*) will serve as a potential indication of fish host presence.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on November 9, 2012, with the exception of the impoundments created by Point A and Gantt Lake dams (impounded water, not the actual dam structures).

(4) *Critical habitat map units.* Data layers defining map units were created with USGS National Hydrography Dataset (NHD) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. ESRIs ArcGIS 9.3.1 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was Universal Transverse Mercator (UTM), NAD 83, Zone 16 North. The following data sources were referenced to identify features (like roads and streams) used to delineate the upstream and downstream extents of critical habitat units: NHD data, Washington County USFWS National Wetlands Inventory, 1999 Florida Department of Transportation Roads Characteristics Inventory (RCI) dataset, U.S. Census Bureau 2000 TIGER line waterbody data, ESRIs World Street Map Service, Florida Department of Transportation General Highway Maps, DeLorme Atlas and Gazetteers, and USGS 7.5 minute topographic maps. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/PanamaCity*, *http://www.regulations.gov* at Docket No. FWS–R4–ES–2011–0050, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Index maps follow (Map 1 for the Alabama pearlshell, and Map 2 for the round ebonyshell, southern kidneyshell, Choctaw bean, tapered pigtoe, narrow pigtoe, southern sandshell, and fuzzy pigtoe):


Index Map of Critical Habitat for the Alabama Pearlshell
Wilcox
Butler
Crenshaw
Barbour
Monroe
Unit AP1
Pike
Sepulga River
Conecuh
Dale
Henry
Pea River
Unit AP2
Coffee
Conecuh River
Escambia
ALABAMA
Covington
Geneva
Houston
FLORIDA
Yellow River
Holmes
Jackson
Escambia River
Santa Rosa
Chocktawhatchee
Walton
Okaloosa
Escambia
Washington
Bay
GULF OF MEXICO
N
Critical Habitat
State Boundary
County Boundary
0 4.5 9 18 27 36
Miles
0 5 10 20 30 40 50
Kilometers
Alabama
Georgia
Florida

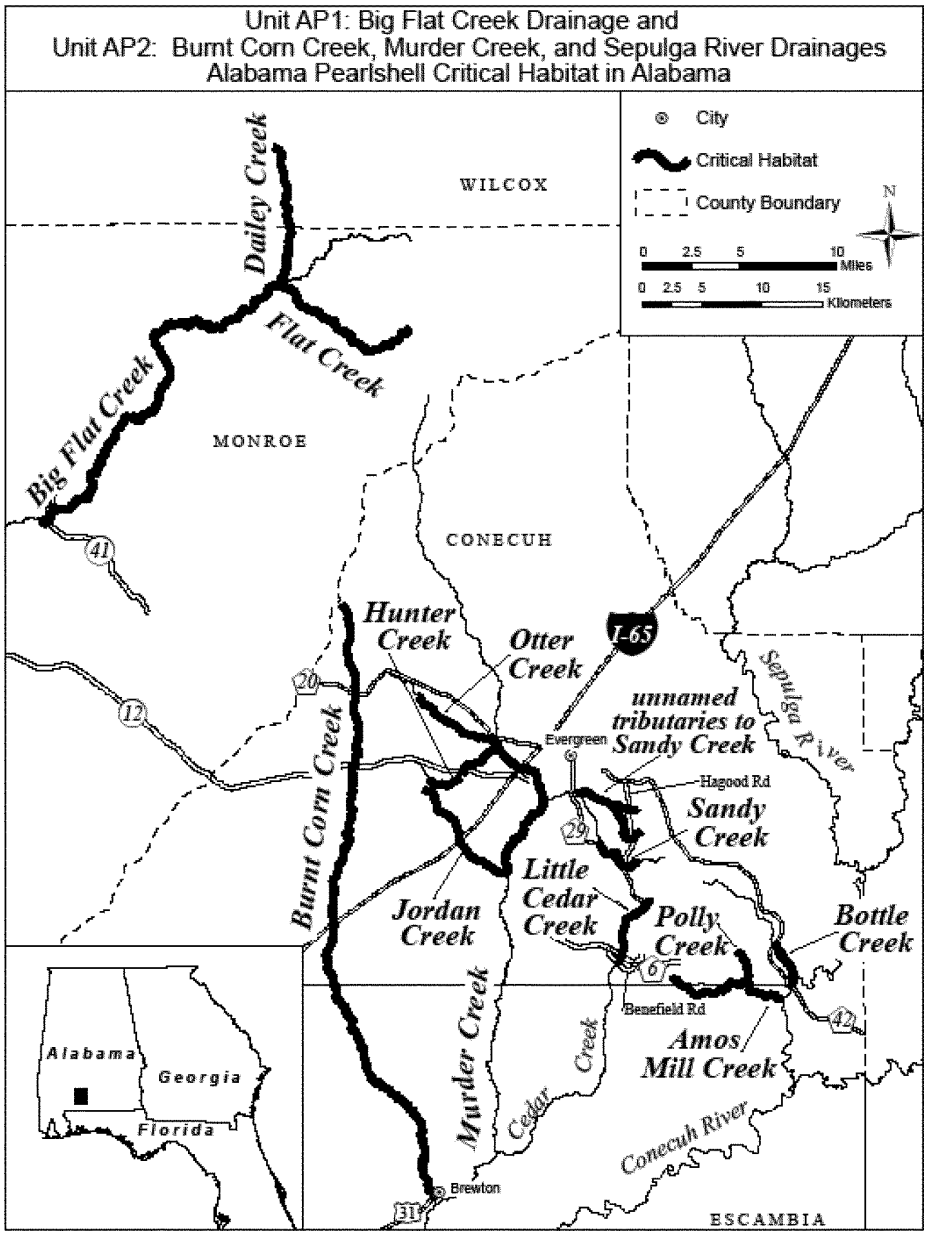


(6) Unit AP1: Big Flat Creek Drainage, Monroe and Wilcox Counties, AL. This unit is critical habitat for the Alabama pearlshell.

(i) The unit includes the mainstem of Big Flat Creek from State Route 41 upstream 56 kilometers (km) (35 miles (mi)), Monroe County, AL; Flat Creek from its confluence with Big Flat Creek upstream 20 km (12 mi),

Monroe County, AL; and Dailey Creek from its confluence Flat Creek upstream 17 km (11 mi), Monroe and Wilcox Counties, AL.

(ii) Map of Unit AP1, Big Flat Creek Drainage, and Unit AP2, Burnt Corn Creek, Murder Creek, and Sepulga River drainages, follows:



(7) Unit AP2: Burnt Corn Creek, Murder Creek, and Sepulga River. Drainages, Escambia and Conecuh Counties, AL. This unit is critical habitat for the Alabama pearlshell.

(i) The unit includes the mainstem of Burnt Corn Creek from its confluence with Murder Creek upstream 66 km (41 mi), Conecuh County, AL; the mainstem of Murder Creek from its confluence with Jordan Creek upstream 17 km (11 mi) to the confluence of Otter Creek, Conecuh County, AL; Jordan Creek from its confluence with Murder Creek upstream 12 km (7 mi), Conecuh County, AL; Otter Creek from its confluence with Murder Creek, upstream 9 km (5.5 mi), Conecuh County, AL; Hunter Creek from its confluence with Murder Creek upstream 4.4 km (2.7 mi) to the Navy Outlying Field (NOLF) Evergreen northern boundary, Conecuh County, AL; Hunter Creek from the NOLF Evergreen southern boundary upstream 3.0 km (1.9 mi), Conecuh County, AL; Sandy Creek from County Road 29 upstream 5 km (3.5 mi), Conecuh County, AL; two unnamed tributaries to Sandy Creek—one from its confluence with Sandy Creek upstream 8.5 km (5.0 mi) to just above Hagood Road, and the other from it confluence with the previous unnamed tributary upstream 2.5 km (1.5 mi) to just above Hagood Road; Little Cedar Creek from County Road 6 upstream 8 km (5 mi), Conecuh County, AL; Amos Mill Creek from its confluence with the Sepulga River upstream 12 km (8 mi), Escambia and Conecuh Counties, AL; Polly Creek from its confluence with Amos Mill Creek upstream 3 km (2 mi), Conecuh County, AL; and Bottle Creek from its confluence with the Sepulga River upstream 5.5 km (3.5 mi) to County Road 42, Conecuh County, AL.

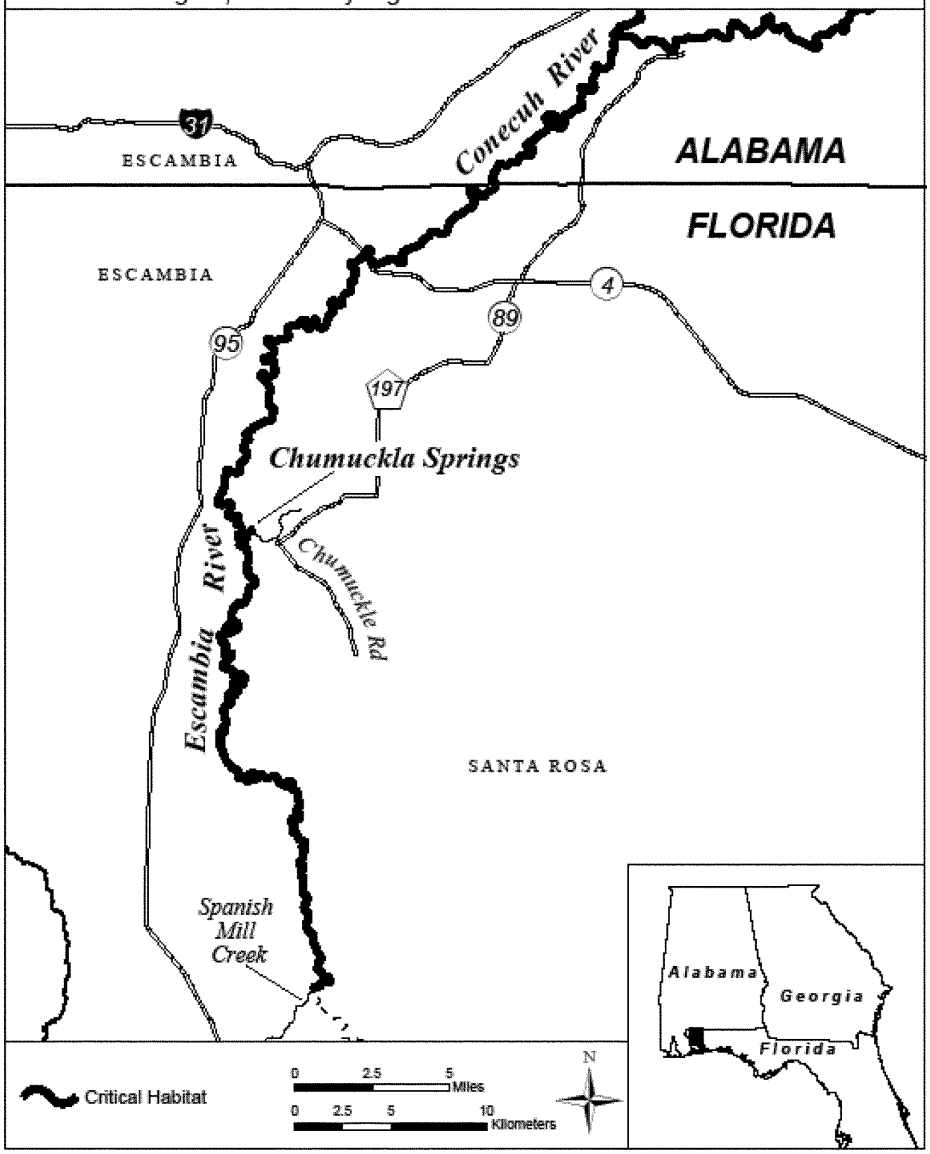
(ii) Map of Unit AP1, Big Flat Creek Drainage, and Unit AP2, Burnt Corn Creek, Murder Creek, and Sepulga River Drainages is provided at paragraph (6)(ii) of this entry.

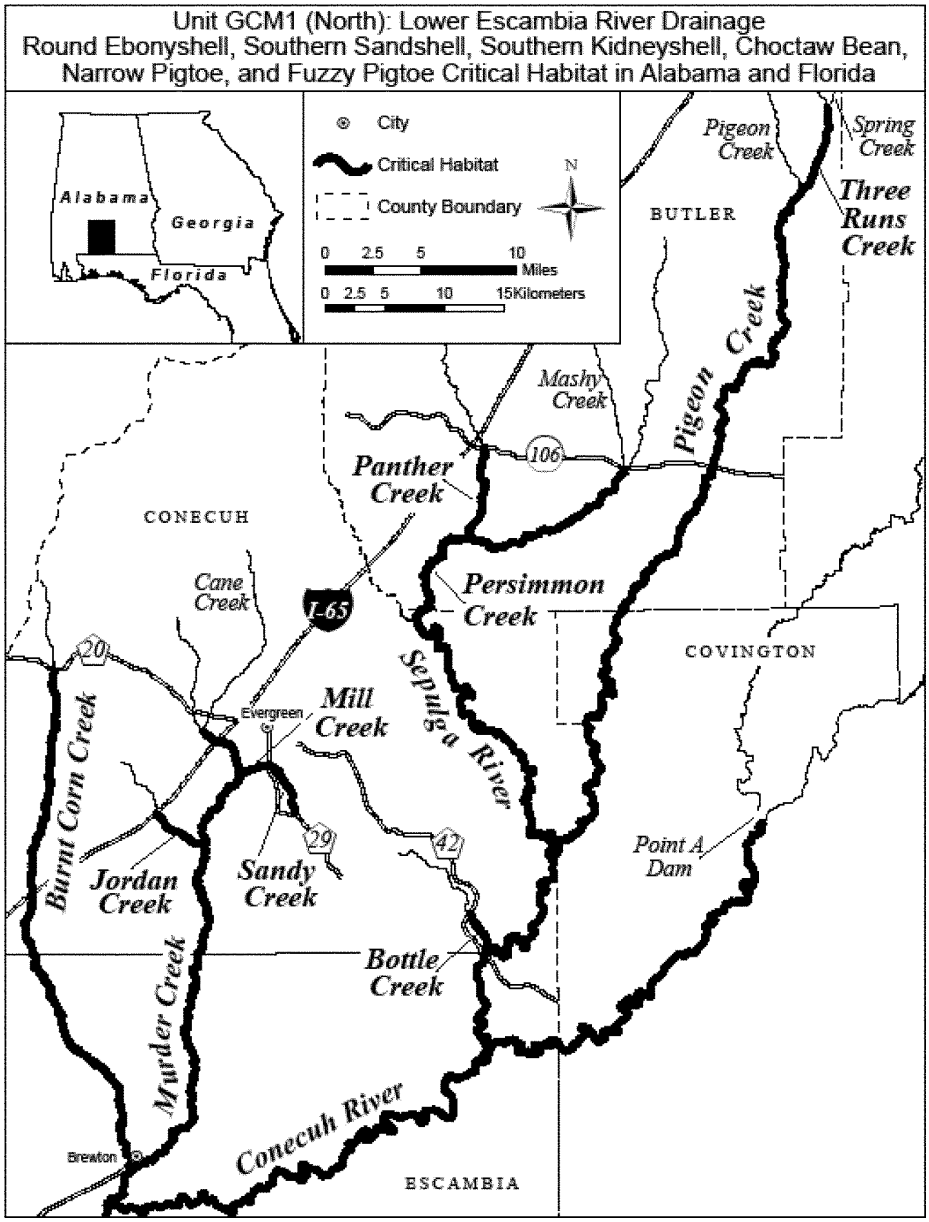
(8) Unit GCM1: Lower Escambia River Drainage in Escambia and Santa Rosa counties, FL, and Escambia, Covington, Conecuh, and Butler Counties, AL. This unit is critical habitat for the round ebonyshell, southern kidneyshell, Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Escambia-Conecuh River mainstem from the confluence of Spanish Mill Creek Escambia and Santa Rosa Counties, FL, upstream 204 km (127 mi) to the Point A Lake dam, Covington County, AL; Murder Creek from its confluence with the Conecuh River, Escambia County, AL, upstream 62 km (38 mi) to the confluence of Cane Creek, Conecuh County, AL; Burnt Corn Creek from its confluence with Murder Creek, Escambia County, AL, upstream 59 km (37 mi) to County Road 20, Conecuh County, AL; Jordan Creek from its confluence with Murder Creek, upstream 5.5 km (3.5 mi) to Interstate 65, Conecuh County, AL; Mill Creek from its confluence with Murder Creek upstream 2.5 km (1.5 mi) to the confluence of Sandy Creek, Conecuh County, AL; Sandy Creek from its confluence with Mill Creek upstream 5.5 km (3.5 mi) to County Road 29, Conecuh County, AL; Sepulga River from its confluence with the Conecuh River upstream 69 km (43 mi) to the confluence of Persimmon Creek, Conecuh County, AL; Bottle Creek from its confluence with the Sepulga River upstream 5.5 km (3.5 mi) to County Road 42, Conecuh County, AL; Persimmon Creek from its confluence with the Sepulga River, Conecuh County, upstream 36 km (22 mi) to the confluence of Mashy Creek, Butler County, AL; Panther Creek from its confluence with Persimmon Creek upstream 11 km (7 mi) to State Route 106, Butler County, AL; Pigeon Creek from its confluence with the Sepulga River, Conecuh and Covington Counties, upstream 89 km (55 mi) to the confluence of Three Run Creek, Butler County, AL; and Three Run Creek from its confluence with Pigeon Creek upstream 9 km (5.5 mi) to the confluence of Spring Creek, Butler County, AL.

(ii) Map of Unit GCM1, Lower Escambia River, follows (to preserve detail, the map is divided into south and north sections):

Unit GCM1 (South): Lower Escambia River Drainage
Round Ebonyshell, Southern Sandshell, Southern Kidneyshell, Choctaw Bean, Narrow Pigtoe, and Fuzzy Pigtoe Critical Habitat in Alabama and Florida

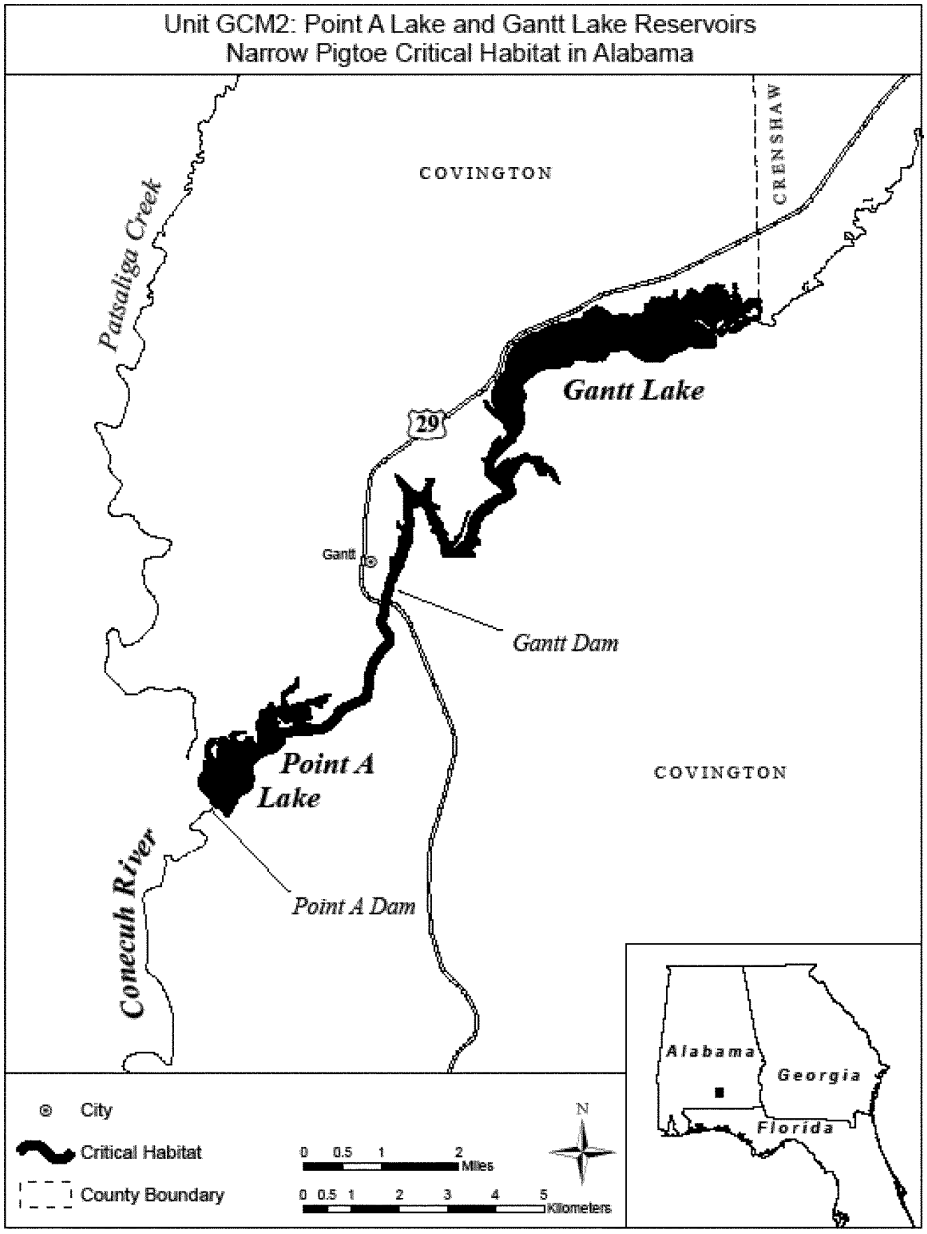




(9) Unit GCM2: Point A Lake and Gantt Lake Reservoirs in Covington County, AL. This unit is critical habitat for the narrow pigtoe.

(i) The unit extends from Point A Dam, Covington County, upstream 21 km (13 mi) to the Covington-Crenshaw County line, AL.

(ii) Map of Unit GCM2, Point A Lake and Gantt Lake Reservoirs, follows:

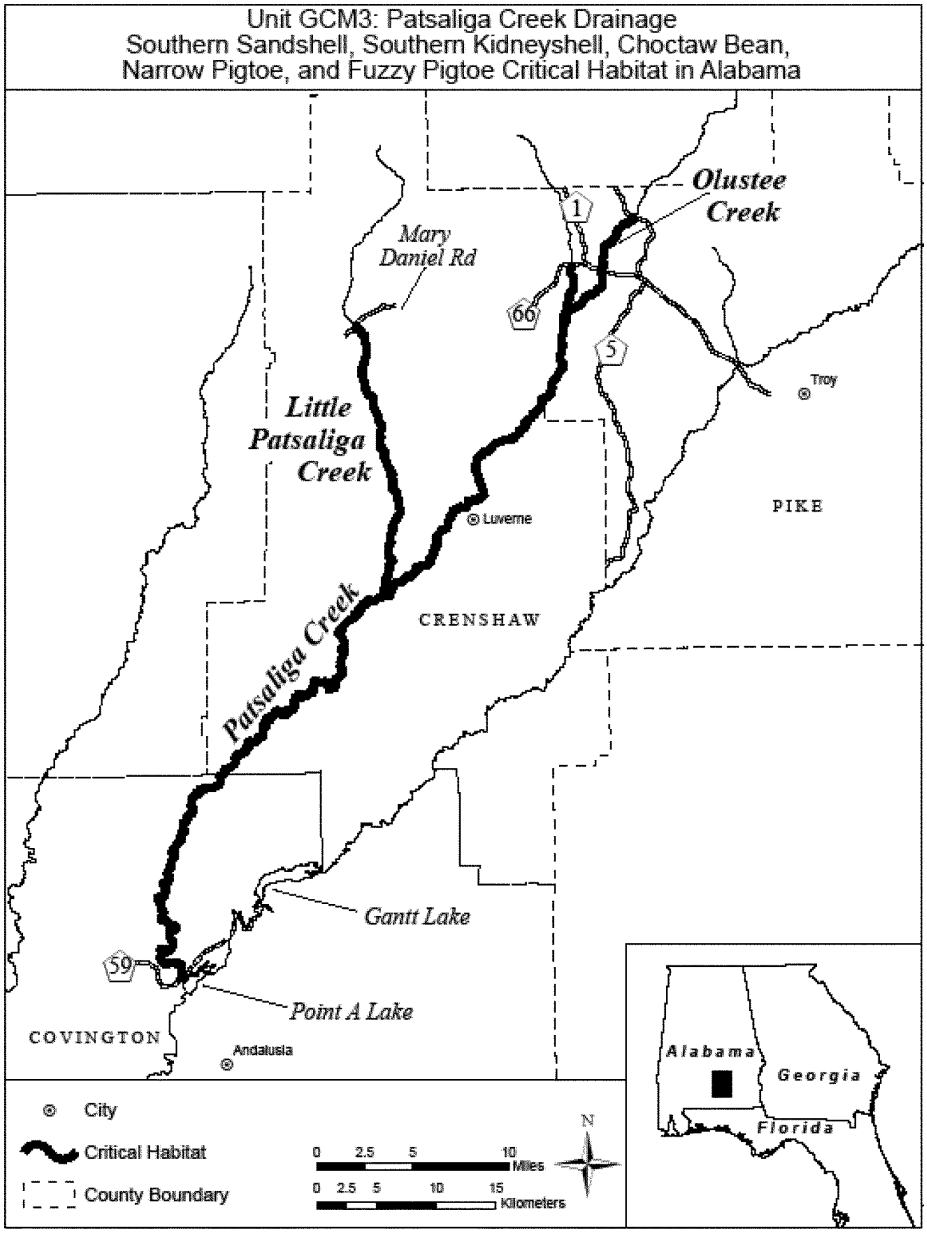


(10) Unit GCM3: Patsaliga Creek Drainage in Covington, Crenshaw, and Pike Counties, AL. The Patsaliga Creek drainage is within the Escambia River basin. This unit is critical habitat for the southern kidneyshell, Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes Patsaliga Creek from its confluence with Point A Lake at County Road 59, Covington County, AL, upstream 108 km (67 mi) to Crenshaw County Road 66-Pike

County Road 1, AL; Little Patsaliga Creek from its confluence with Patsaliga Creek upstream 28 km (17 mi) to Mary Daniel Road, Crenshaw County, AL; and Olustee Creek from its confluence with Patsaliga Creek upstream 12 km (8 mi) to County Road 5, Pike County, AL.

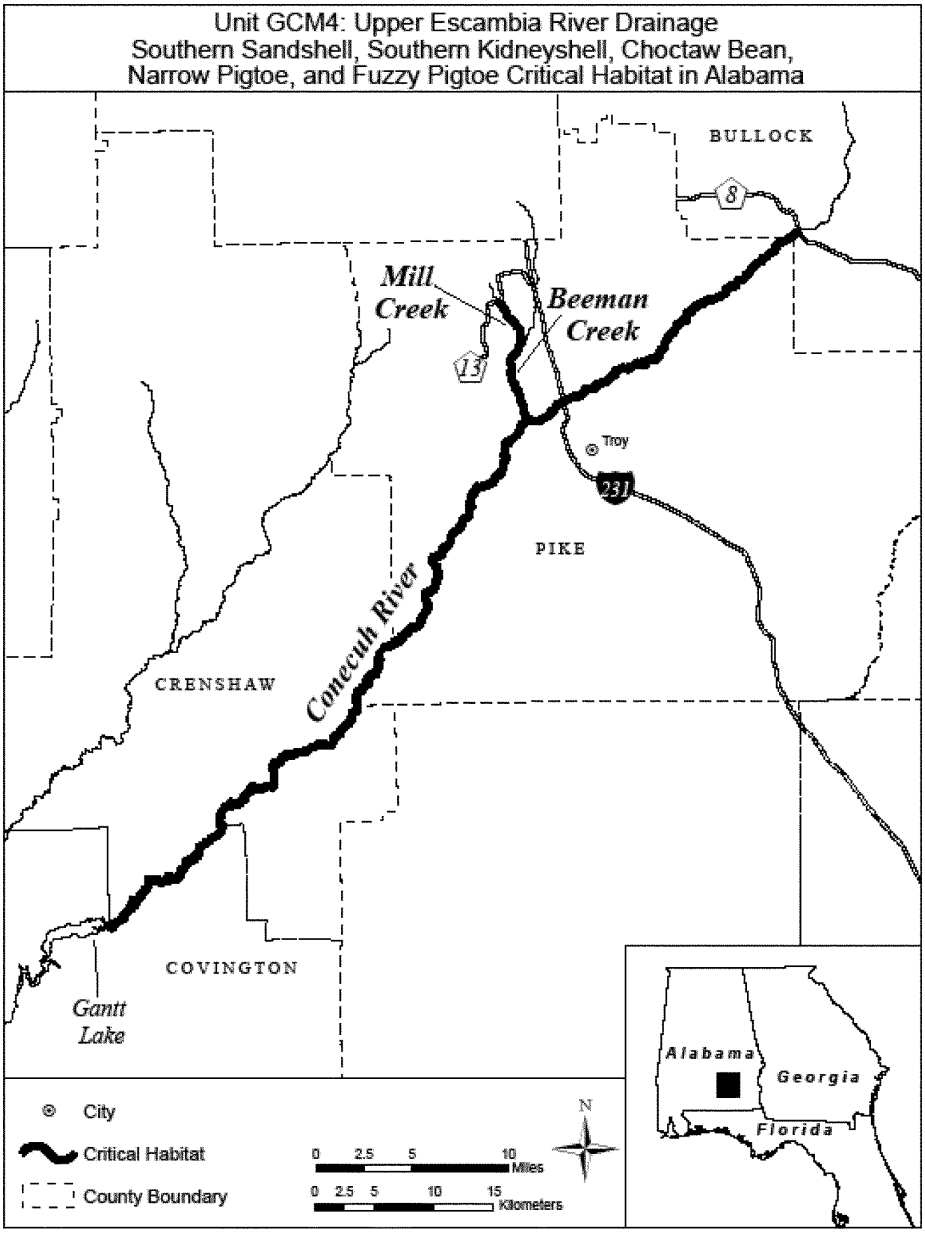
(ii) Map of Unit GCM3, Patsaliga Creek Drainage follows:



(11) Unit GCM4: Upper Escambia River Drainage in Covington, Crenshaw, Pike, and Bullock Counties, AL. This unit is critical habitat for the southern kidneyshell, Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Conecuh River from its confluence with Gantt Lake reservoir at the Covington-Crenshaw County line upstream 126 km (78 mi) to County Road 8, Bullock County, AL; Beeman Creek from its confluence with the Conecuh River upstream 6.5 km (4 mi) to the confluence of Mill Creek, Pike County, AL; and Mill Creek from its confluence with Beeman Creek, upstream 4.5 km (3 mi) to County Road 13, Pike County, AL.

(ii) Map of Unit GCM 4, Upper Escambia River Drainage, follows:

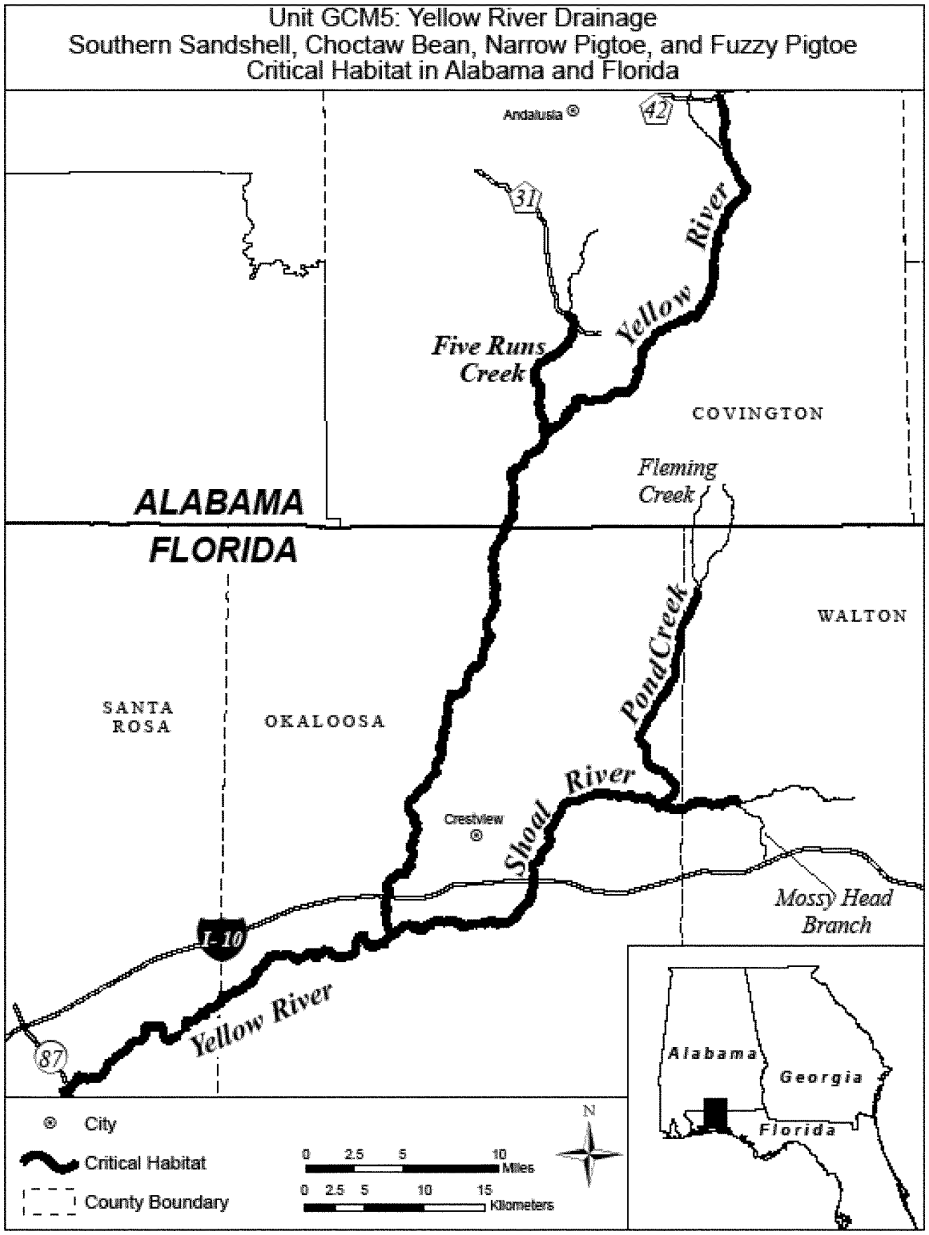


(12) Unit GCM5: Yellow River Drainage in Santa Rosa, Okaloosa, and Walton Counties, FL, and Covington County, AL. This unit is critical habitat for the Choctaw bean, narrow pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Yellow River mainstem from the confluence of Weaver River (a distributary located 0.9 km (0.6 mi), downstream of State Route 87), Santa Rosa County, FL, upstream 157 km (97 mi) to County Road 42, Covington County, AL; the

Shoal River mainstem from its confluence with the Yellow River upstream 51 km (32 mi) to the confluence of Mossy Head Branch, Walton County, FL; Pond Creek from its confluence with the Shoal River upstream 24 km (15 mi) to the confluence of Fleming Creek, Walton County, FL; and Five Runs Creek from its confluence with the Yellow River upstream 15 km (9.5 mi) to County Road 31, Covington County, AL.

(ii) Map of Unit GCM5, Yellow River Drainage, follows:

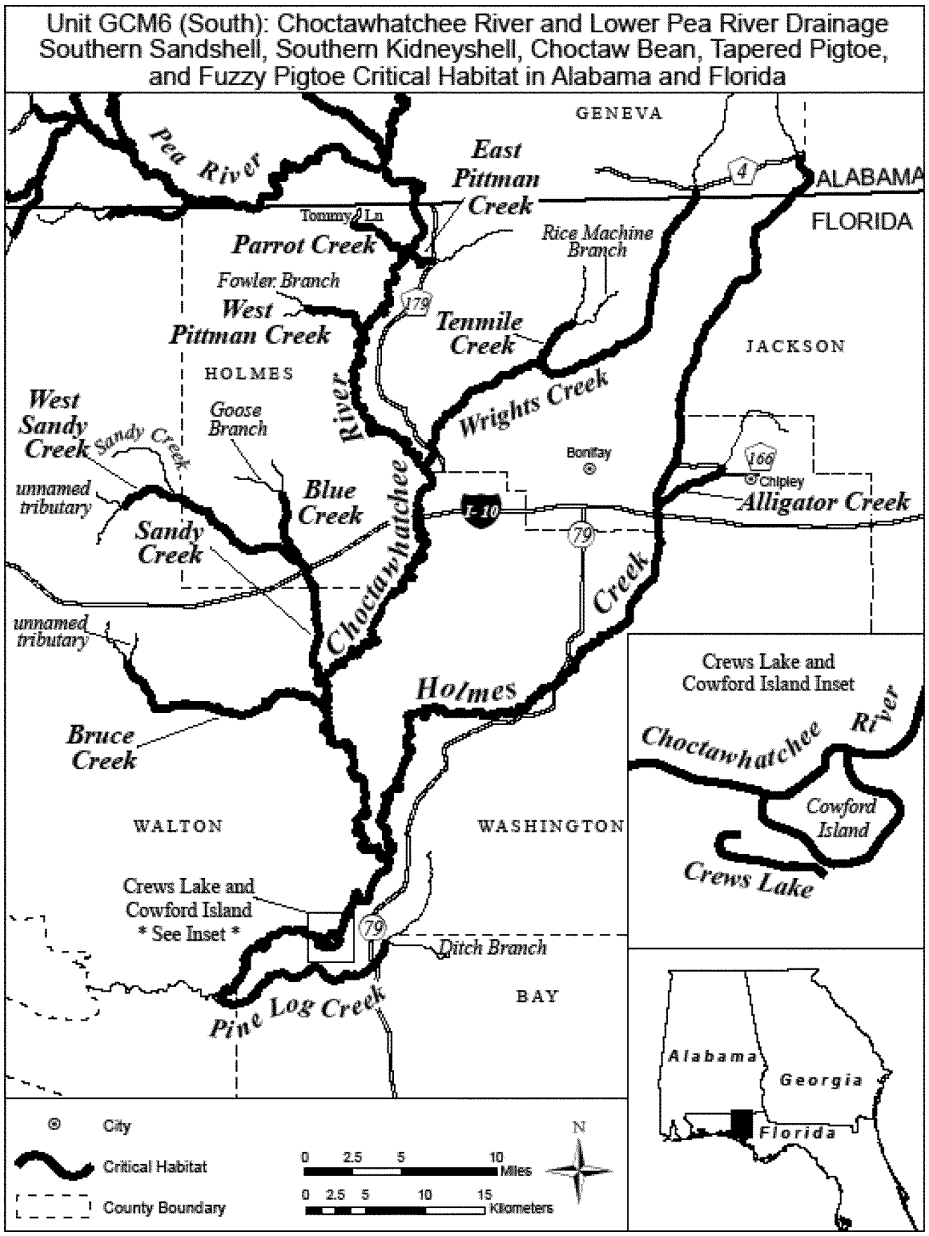


(13) Unit GCM6: Choctawhatchee River and Lower Pea River Drainages in Walton, Washington, Bay, Holmes, and Jackson Counties, FL, and Geneva, Coffee, Dale, Houston, Henry, Pike, and Barbour Counties, AL. This unit is critical habitat for the southern kidneyshell, Choctaw bean, tapered pigtoe, southern sandshell, and fuzzy pigtoe.

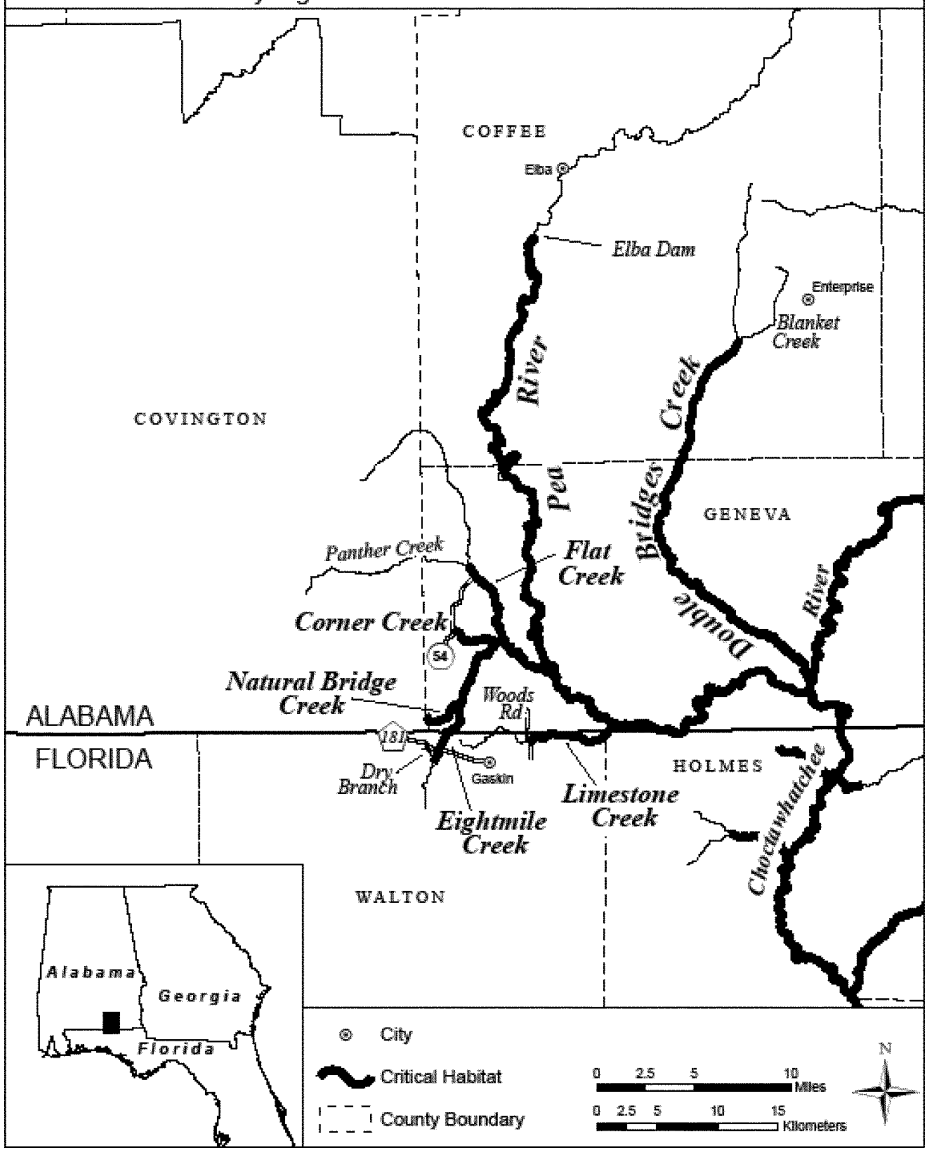
(i) The unit includes the Choctawhatchee River mainstem from the confluence of Pine

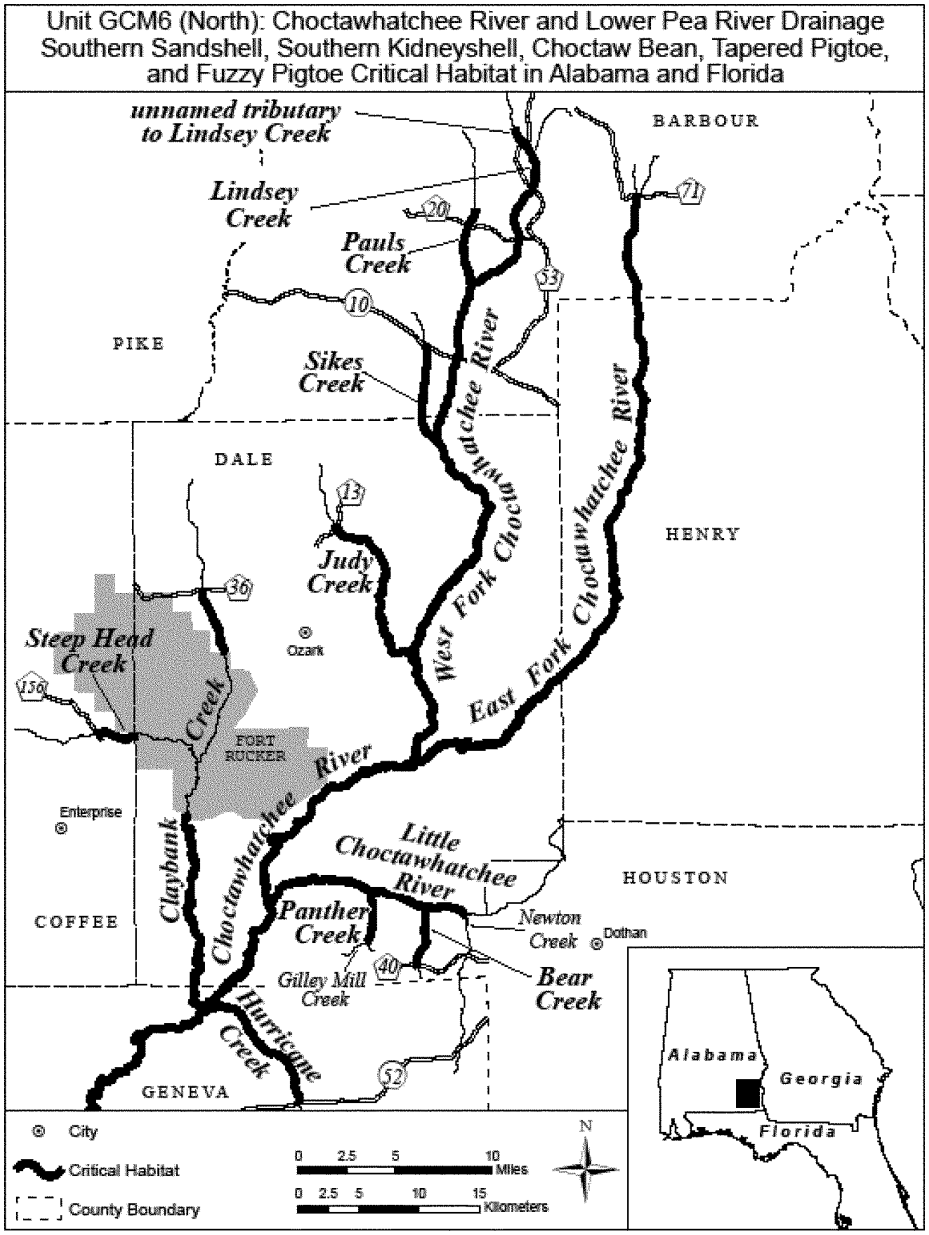
Log Creek, Walton County, FL, upstream 200 km (125 mi) to the point the river splits into the West Fork Choctawhatchee and East Fork Choctawhatchee rivers, Barbour County, AL; Pine Log Creek from its confluence with the Choctawhatchee River, Walton County, upstream 19 km (12 mi) to Ditch Branch, Washington and Bay Counties, FL; an unnamed channel forming Cowford Island from its downstream confluence with the Choctawhatchee River upstream 3 km (2 mi) to its upstream confluence with the river, Washington County, FL; Crews Lake from its western terminus 1.5 km (1 mi) to its eastern terminus, Washington County, FL (Crews Lake is a relic channel southwest of Cowford Island, and is disconnected from the Cowford Island channel, except during high flows); Holmes Creek from its confluence with the Choctawhatchee River, Washington County, FL, upstream 98 km (61 mi) to County Road 4, Geneva County, AL; Alligator Creek from its confluence with Holmes Creek upstream 6.5 km (4 mi) to County Road 166, Washington County, FL; Bruce Creek from its confluence with the Choctawhatchee River upstream 25 km (16 mi) to the confluence of an unnamed tributary, Walton County, FL; Sandy Creek from its confluence with the Choctawhatchee River, upstream 30 km (18 mi) to the confluence of West Sandy Creek, Holmes and Walton Counties, FL; Blue Creek from its confluence with Sandy Creek, upstream 7 km (4.5 mi) to the confluence of Goose Branch, Holmes County, FL; West Sandy Creek from its confluence with Sandy Creek, upstream 5.5 km (3.5 mi) to the confluence of an unnamed tributary, Walton County, FL; Wrights Creek from its confluence with the Choctawhatchee River, Holmes County, FL, upstream 43 km (27 mi) to County Road 4, Geneva County, AL; Tenmile Creek from its confluence with Wrights Creek upstream 6 km (3.5 mi) to the confluence of Rice Machine Branch, Holmes County, FL; West Pittman Creek from its confluence with the Choctawhatchee River, upstream 6.5 km (4 mi) to Fowler Branch, Holmes County, FL; East Pittman Creek from its confluence with the Choctawhatchee River upstream 4.5 km (3 mi) to County Road 179, Holmes County, FL; Parrot Creek from its confluence with the Choctawhatchee River upstream 6 km (4 mi) to Tommy Lane, Holmes County, FL; the Pea River from its confluence with the Choctawhatchee River, Geneva County, AL, upstream 91 km (57 mi) to the Elba Dam, Coffee County, AL; Limestone Creek from its confluence with the Pea River upstream 8.5 km (5 mi) to Woods Road, Walton County, FL; Flat Creek from the Pea River upstream 17 km (10 mi) to the confluence of Panther Creek, Geneva County, AL; Eightmile Creek from its confluence with Flat Creek, Geneva County, AL, upstream 15 km (9 mi) to the confluence of Dry Branch (first tributary upstream of County Road 181), Walton County, FL; Corner Creek from its confluence with Eightmile Creek, upstream 5 km (3 mi) to State Route 54, Geneva County, AL; Natural Bridge Creek from its confluence with Eightmile Creek, Geneva County, AL, upstream 4 km (2.5 mi) to the Covington-Geneva County line, AL; Double Bridges Creek from its confluence with the Choctawhatchee River, Geneva County, AL, upstream 46 km (29 mi) to the confluence of Blanket Creek, Coffee County, AL; Claybank Creek from its confluence with the Choctawhatchee River, Geneva County, AL, upstream 22 km (14 mi) to the Fort Rucker military reservation southern boundary, Dale County, AL; Claybank Creek from the Fort Rucker military reservation northern boundary, upstream 6 km (4 mi) to County Road 36, Dale County, AL; Steep Head Creek from the Fort Rucker military reservation western boundary, upstream 4 km (2.5 mi) to County Road 156, Coffee County, AL; Hurricane Creek from its confluence with the Choctawhatchee River upstream 14 km (8.5 mi) to State Route 52, Geneva County, AL; Little Choctawhatchee River from its confluence with the Choctawhatchee River, Dale and Houston Counties, upstream 20 km (13 mi) to the confluence of Newton Creek, Houston County, AL; Panther Creek from its confluence with Little Choctawhatchee River, upstream 4.5 km (2.5 mi) to the confluence of Gilley Mill Branch, Houston County, AL; Bear Creek from its confluence with the Little Choctawhatchee River, upstream 5.5 km (3.5 mi) to County Road 40 (Fortner Street), Houston County, AL; West Fork Choctawhatchee River from its confluence with the Choctawhatchee River, Dale County, AL, upstream 54 km (33 mi) to the fork of Pauls Creek and Lindsey Creek, Barbour County, AL; Judy Creek from its confluence with West Fork Choctawhatchee River upstream 17 km (11 mi) to County Road 13, Dale County, AL; Sikes Creek from its confluence with West Fork Choctawhatchee River Dale County, AL, upstream 8.5 km (5.5 mi) to State Route 10, Barbour County, AL; Pauls Creek from its confluence with West Fork Choctawhatchee River upstream 7 km (4.5 mi) to one mile upstream of County Road 20, Barbour County, AL; Lindsey Creek from its confluence with West Fork Choctawhatchee River upstream 14 km (8.5 mi) to the confluence of an unnamed tributary, Barbour County, AL; an unnamed tributary to Lindsey Creek from its confluence with Lindsey Creek upstream 2.5 km (1.5 mi) to 1.0 mile upstream of County Road 53, Barbour County, AL; and East Fork Choctawhatchee River from its confluence with the Choctawhatchee River, Dale County, AL, upstream 71 km (44 mi) to County Road 71, Barbour County, AL.

(ii) Map of Unit GCM6, Choctawhatchee River and Lower Pea River Drainages, follows (to preserve detail, the map is divided into south, central, and north sections):



Unit GCM6 (Central): Choctawhatchee River and Lower Pea River Drainage Southern Sandshell, Southern Kidneyshell, Choctaw Bean, Tapered Pigtoe, and Fuzzy Pigtoe Critical Habitat in Alabama and Florida



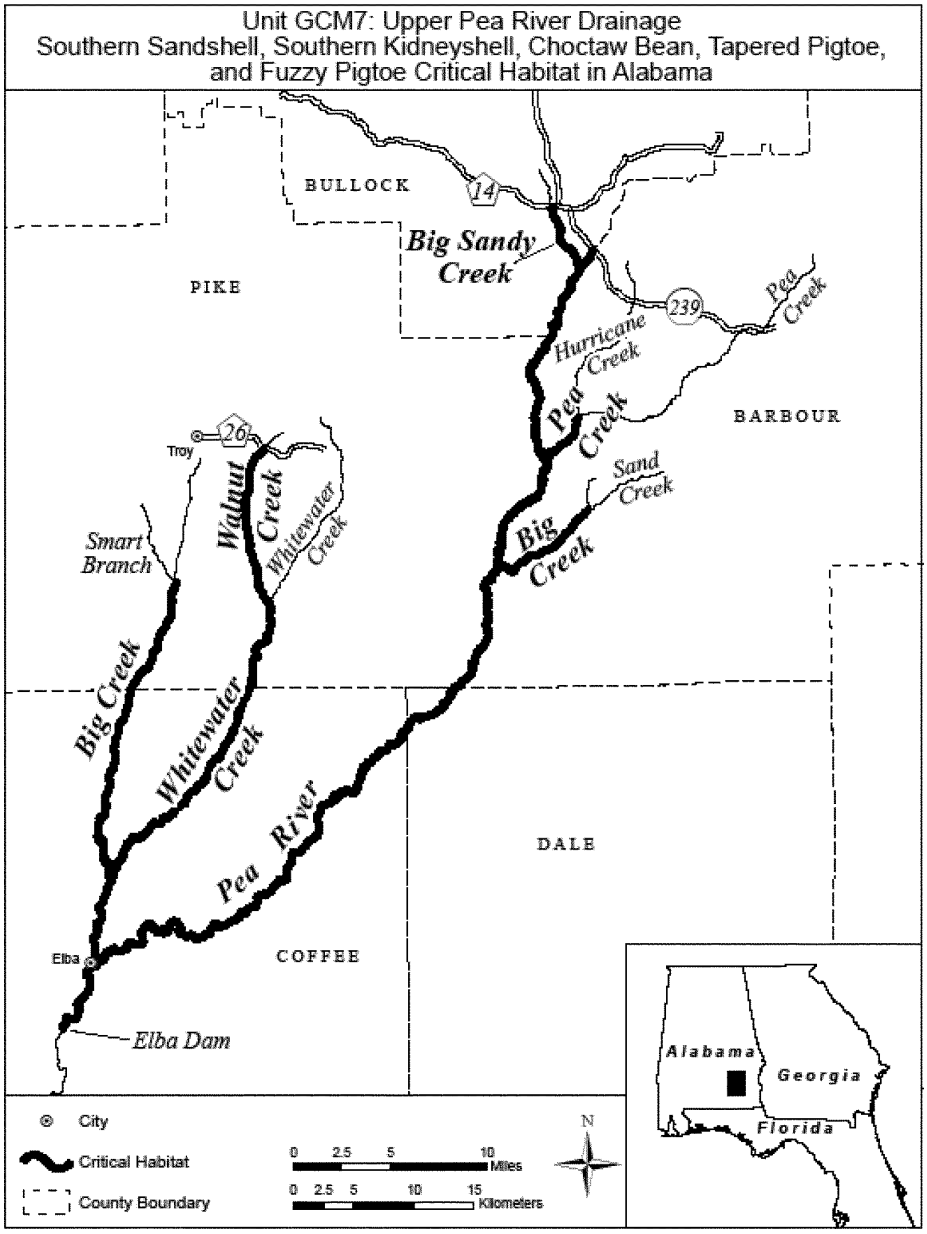


(14) Unit GCM7: Upper Pea River Drainage in Coffee, Dale, Pike, Barbour, and Bullock Counties, AL. The Pea River drainage is within the Choctawhatchee River Basin. This unit is critical habitat for the southern kidneyshell, Choctaw bean, tapered pigtoe, southern sandshell, and fuzzy pigtoe.

(i) The unit includes the Pea River mainstem from the Elba Dam, Coffee County, upstream 123 km (76 mi) to State Route

239, Bullock and Barbour Counties, AL; Whitewater Creek from its confluence with the Pea River, Coffee County, upstream 45 km (28 mi) to the confluence of Walnut Creek, Pike County, AL; Walnut Creek from its confluence with Whitewater Creek upstream 14 km (9 mi) to County Road 26, Pike County, AL; Big Creek (Coffee County) from its confluence with Whitewater Creek, Coffee County, upstream 30 km (18 mi) to the confluence of Smart Branch, Pike County, AL; Big Creek (Barbour County) from its confluence with the Pea River upstream 10 km (6 mi) to the confluence of Sand Creek, Barbour County, AL; Pea Creek from its confluence with the Pea River upstream 6 km (4 mi) to the confluence of Hurricane Creek, Barbour County, AL; and Big Sandy Creek from its confluence with the Pea River upstream 6.5 km (4 mi) to County Road 14, Bullock County, AL.

(ii) Map of Unit GCM7, Upper Pea River Drainage, follows:



GEORGIA PIGTOE (*Pleurobema hanleyianum*)

(1) Critical habitat units are depicted for Cherokee, Coosa, and Clay Counties, Alabama; Murray and Whitfield Counties, Georgia; and Bradley and Polk Counties, Tennessee, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the Georgia pigtoe are the habitat components that provide:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found. Unless other information becomes available, existing conditions at locations where the species occurs will be considered as minimal flow requirements for survival.

(iii) Water quality (including temperature, pH, hardness, turbidity, oxygen content, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387).

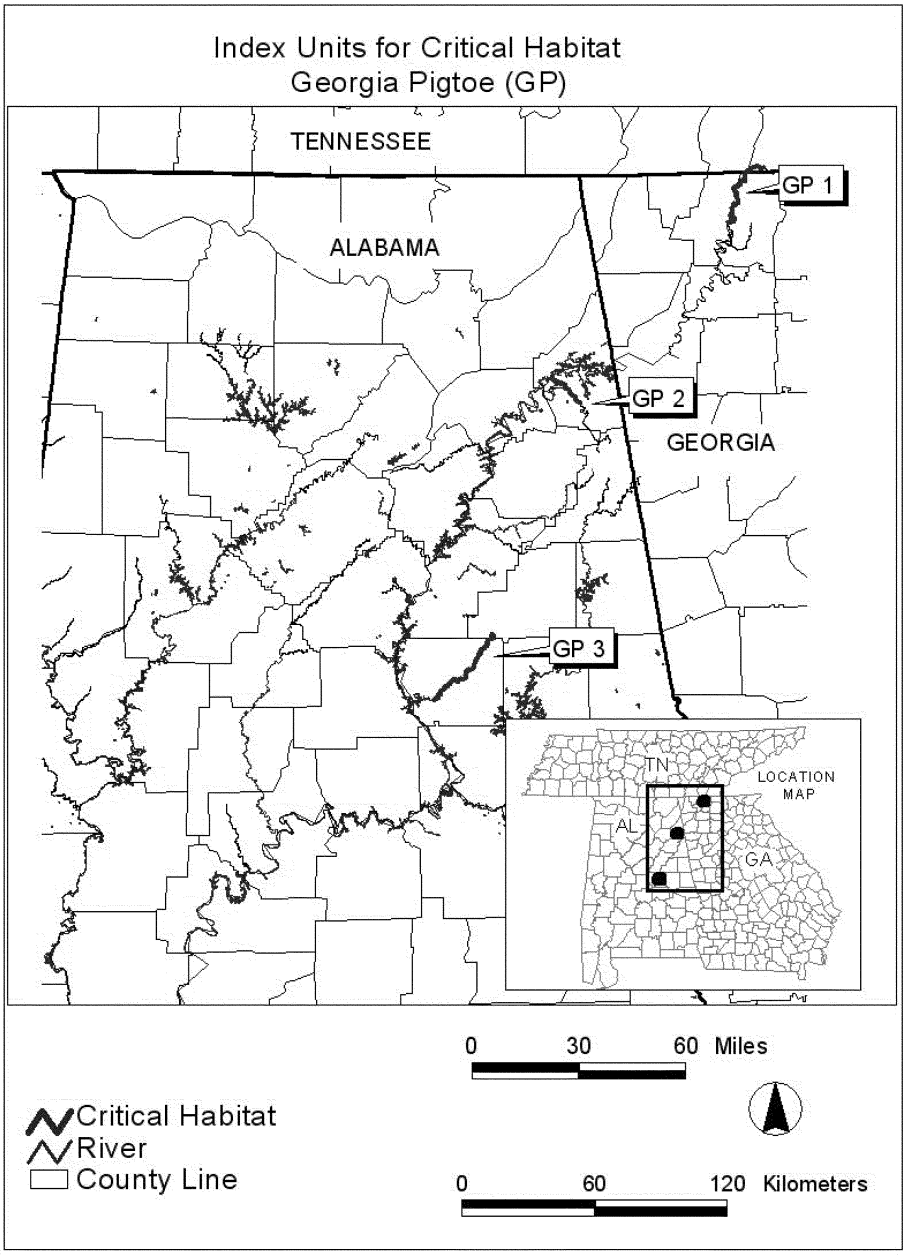
(iv) Sand, gravel, cobble, boulder, or bedrock substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(v) The presence of fish host(s) for the Georgia pigtoe (species currently unknown). Diverse assemblages of native fish will serve as a potential indication of presence of host fish.

(3) Critical habitat does not include manmade structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps.* Maps were developed from USGS 7.5′ quadrangles. Critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees and converted to Universal Transverse Mercator (UTM) zone 16, coordinates.

(5) NOTE: Index map of critical habitat units for the Georgia pigtoe follows:

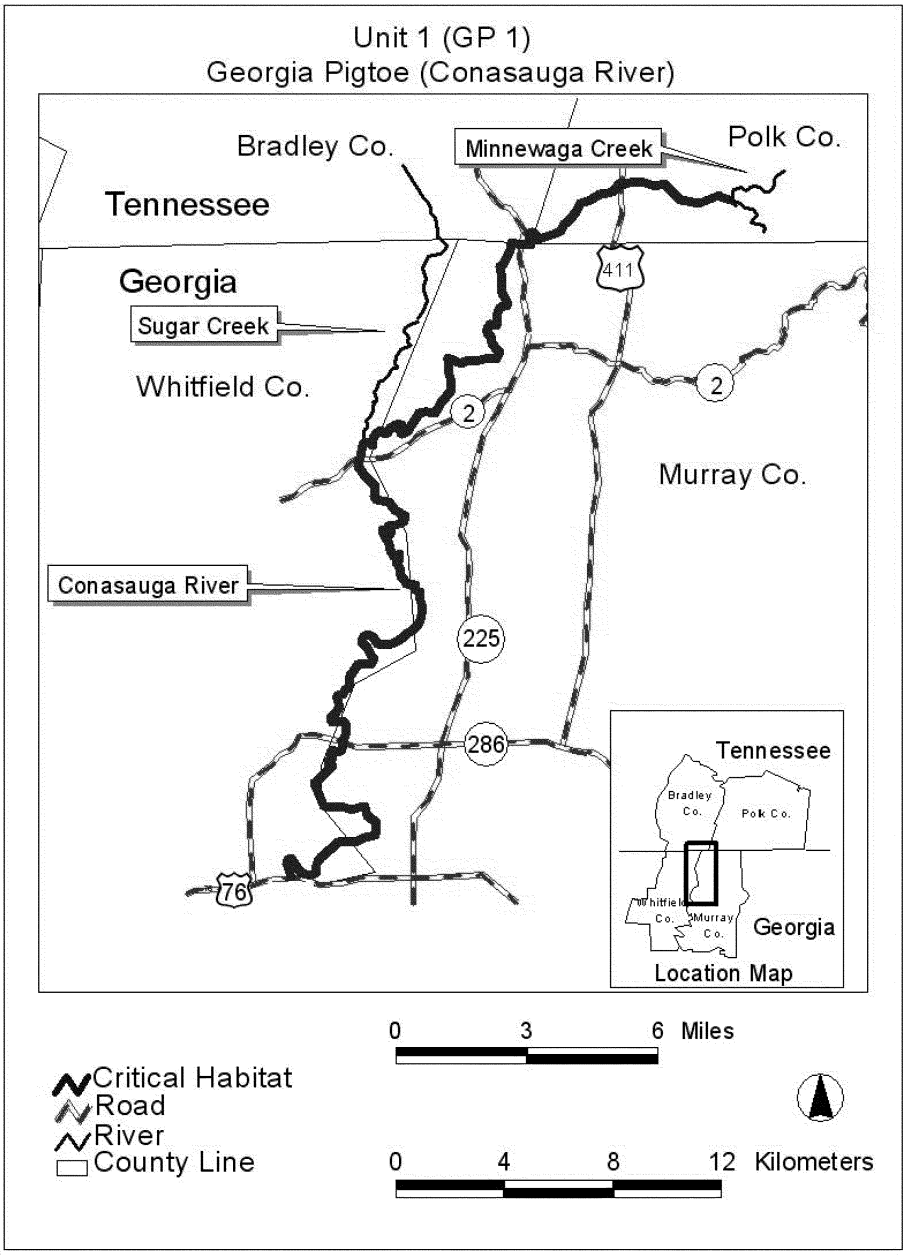


(6) Unit 1 for Georgia pigtoe (GP 1): Conasauga River, Bradley and Polk Counties, Tennessee; Murray and Whitfield Counties, Georgia.

(i) Unit GP 1 includes the channel of the Conasauga River from the confluence of Minnewaga Creek (710752.23E, 3875891.03N), Polk County, Tennessee, downstream to U.S.

Highway 76 (694611.06E, 3851057.36N), Murray/Whitfield County, Georgia.

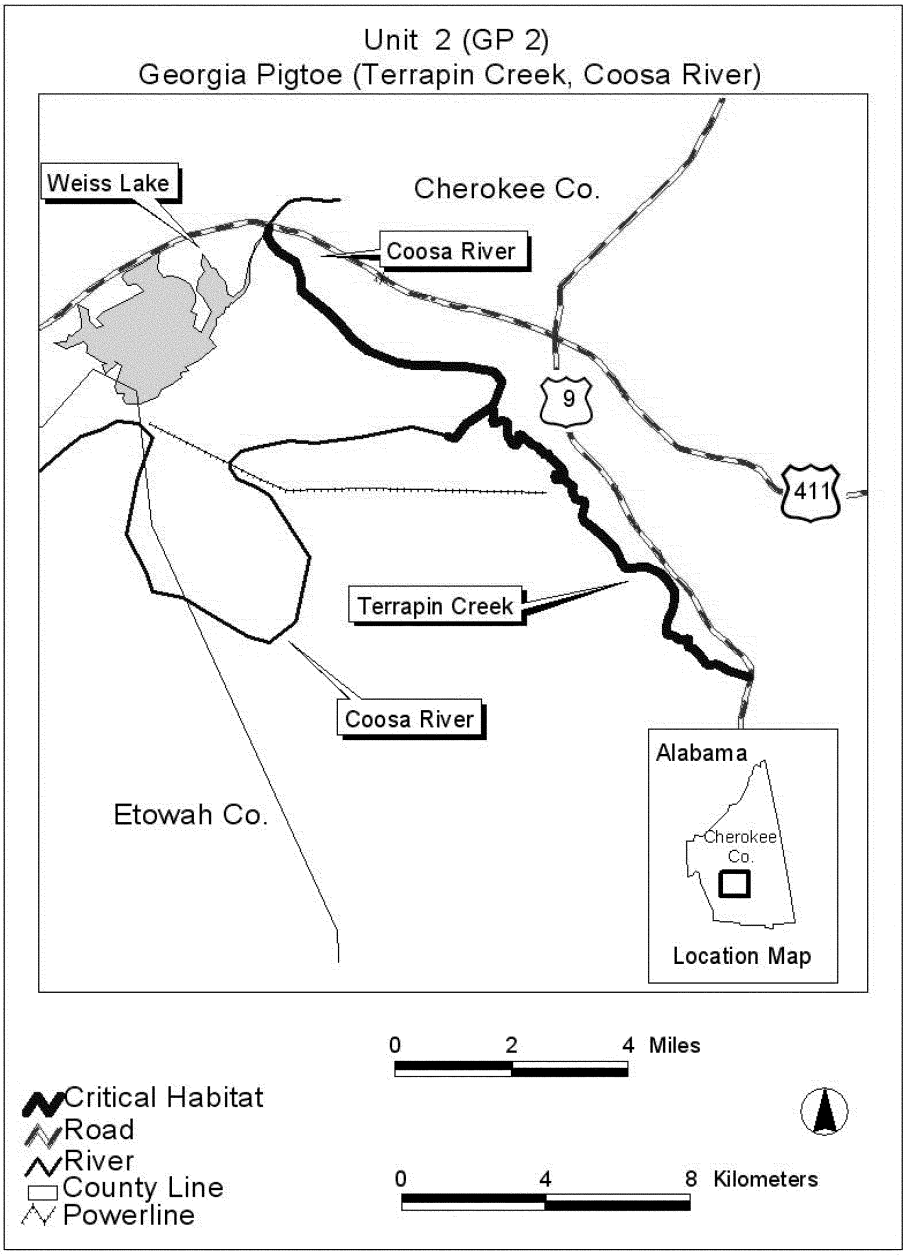
(ii) NOTE: Map of Unit 1 (GP 1) for Georgia pigtoe (Conasauga River) follows:



(7) Unit 2 for Georgia pigtoe (GP 2), Terrapin Creek and Coosa River, Cherokee County, Alabama.

(i) Unit GP 2 includes the channel of Terrapin Creek from Alabama Highway 9 (628065.76E, 3770007.078N), downstream to the confluence with the Coosa River (621001.27E, 3777441.03N), Cherokee County, Alabama; and the Coosa River channel from Weiss Dam (614866.54E, 3781969.16N), downstream to a point 1.6 km (1 mi) below the confluence of Terrapin Creek (619751.69E, 3776654.79N), Cherokee County, Alabama.

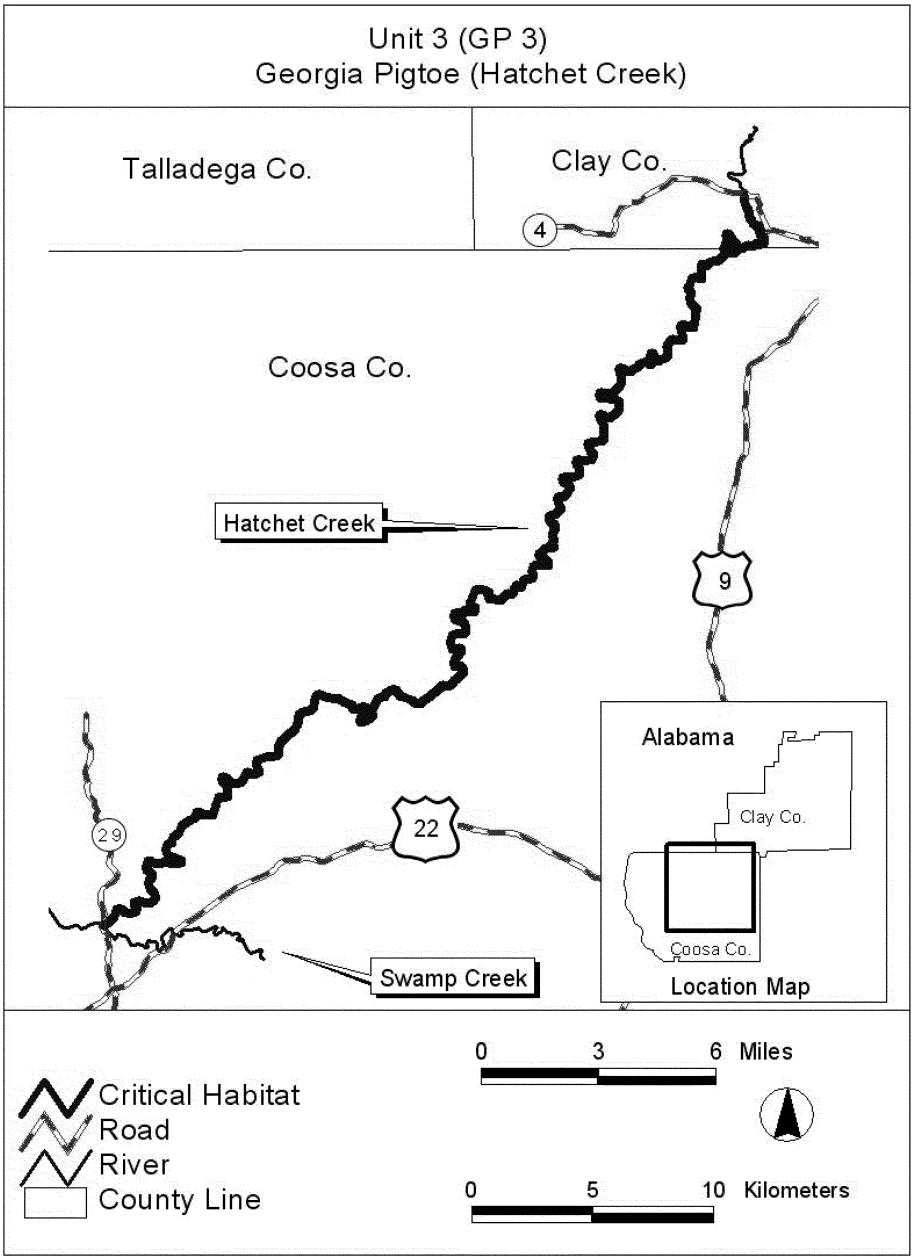
(ii) NOTE: Map of Unit 2 (GP 2) for Georgia pigtoe (Terrapin Creek, Coosa River) follows:



(8) Unit 3 for Georgia pigtoe (GP 3): Hatchet Creek, Coosa and Clay Counties, Alabama.

(i) Unit GP 3 includes the channel of Hatchet Creek from Clay County Road 4 (588215.16E, 3666038.46N), Clay County, downstream to the confluence of Swamp Creek at Coosa County Road 29 (561904.90E, 3636065.37N), Coosa County, Alabama.

(ii) NOTE: Map of Unit 3 (GP 3) for Georgia pigtoe (Hatchet Creek) follows:



ALTAMAHA SPINYMUSSEL (*Elliptio spinosa*).

(1) Critical habitat units are depicted for Appling, Ben Hill, Coffee, Jeff Davis, Long, Montgomery, Tattnall, Telfair, Toombs, Wayne, and Wheeler Counties, Georgia, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the Altamaha spinymussel are the habitat components that provide:

(i) Geomorphically stable river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) with stable sandbar, slough, and mid-channel-island habitats of coarse-to-fine sand substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for sand bar maintenance, food availability, and spawning habitat for native fishes.

(iii) Water quality necessary for normal behavior, growth, and viability of all life stages, including specifically temperature (less than 32.6 °C (90.68 °) with less than 2 °C (3.6 °F) daily fluctuation), pH (6.1 to 7.7), oxygen content (daily average DO concentration of 5.0 mg/l and a minimum of 4.0 mg/l), an ammonia level not exceeding 1.5 mg N/L, 0.22 mg N/L (normalized to pH 8 and 25 °C (77 °F)), and other chemical characteristics.

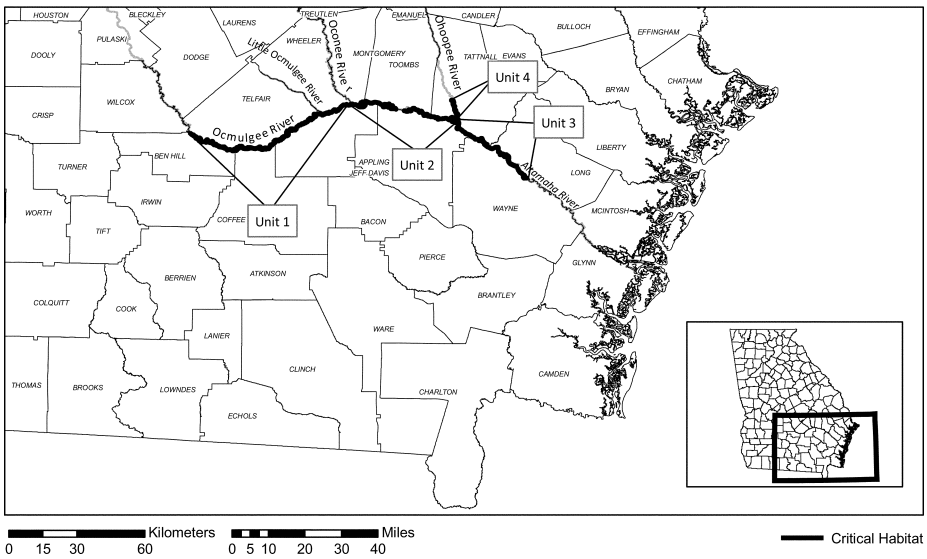
(iv) The presence of fish hosts (currently unknown) necessary for recruitment of the Altamaha spinymussel. The continued occurrence of diverse native fish assemblages currently occurring in the basin will serve as an indication of host fish presence until appropriate host fishes can be identified for the Altamaha spinymussel.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps.* Maps were developed from USGS 7.5 minute quadrangles, and critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees.

(5) NOTE: Index map of critical habitat units for the Altamaha spinymussel follows:

Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia



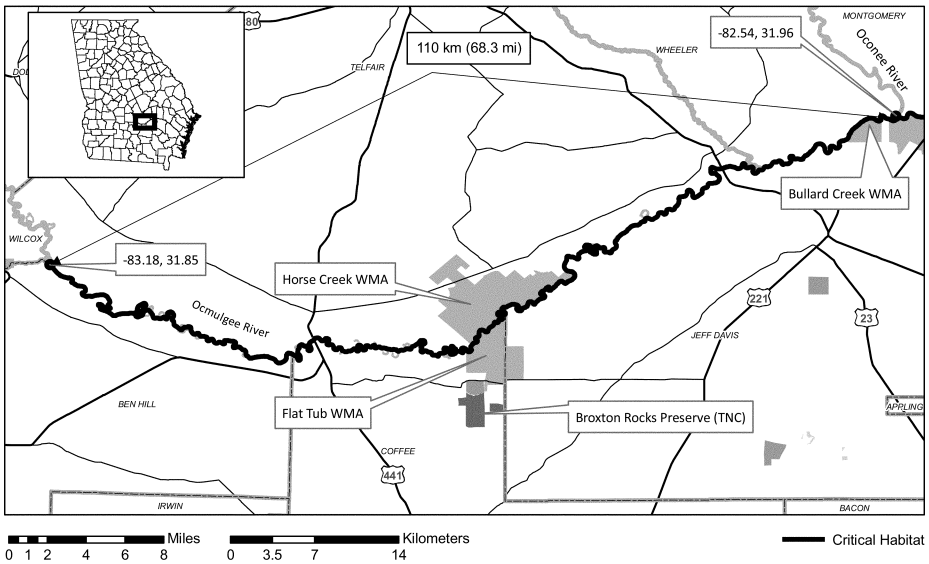
(6) *Unit 1:* Ocmulgee River, Ben Hill, Telfair, Coffee, and Jeff Davis Counties, Georgia.

(i) Unit 1 includes the channel of the Ocmulgee River from the confluence of House Creek with the Ocmulgee at Red Bluff

Landing (longitude −83.18, latitude 31.85), Ben Hill and Telfair Counties, Georgia, downstream to Altamaha River (longitude −82.54, latitude 31.96), at the confluence of the Oconee and Ocmulgee Rivers, Jeff Davis and Telfair Counties, Georgia.

(ii) NOTE: Map of Unit 1 (Ocmulgee River) follows:

Unit 1 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia

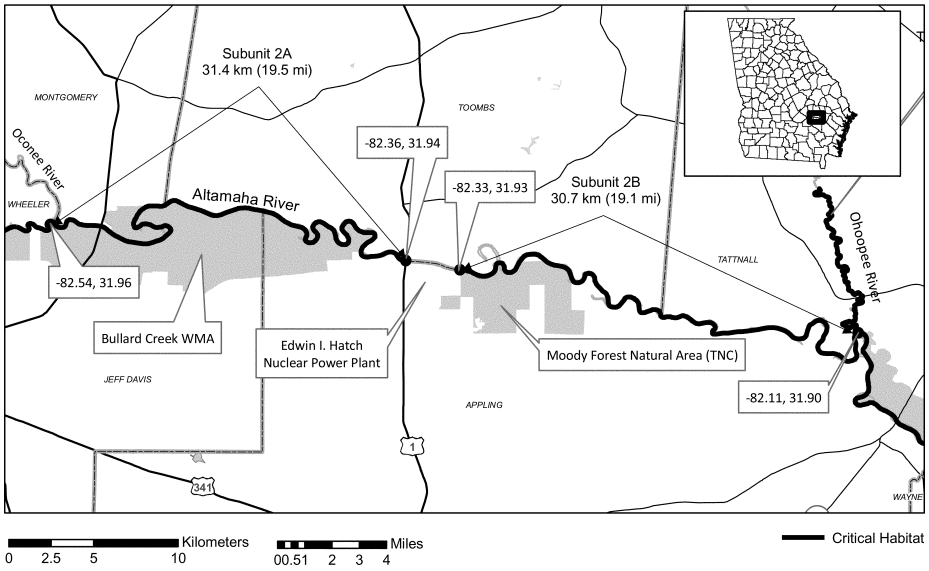


(7) *Unit 2:* Upper Altamaha River, Wheeler, Toombs, Montgomery, Jeff Davis, Appling, and Tattnall Counties, Georgia.

(i) Unit 2 includes the channel of the Altamaha River from the confluence of the Ocmulgee and Oconee Rivers (longitude −82.54, latitude 31.96), Wheeler and Jeff Davis Counties, Georgia, downstream to the US 1 crossing (longitude −82.36, latitude 31.94), and from the western edge of Moody Forest (longitude −82.33, latitude 31.93) downstream to the confluence of the Altamaha and Ohoopee Rivers (longitude −82.11, latitude 31.90), Appling and Tattnall Counties, Georgia.

(ii) NOTE: Map of Unit 2 (Upper Altamaha River) follows:

Unit 2 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia

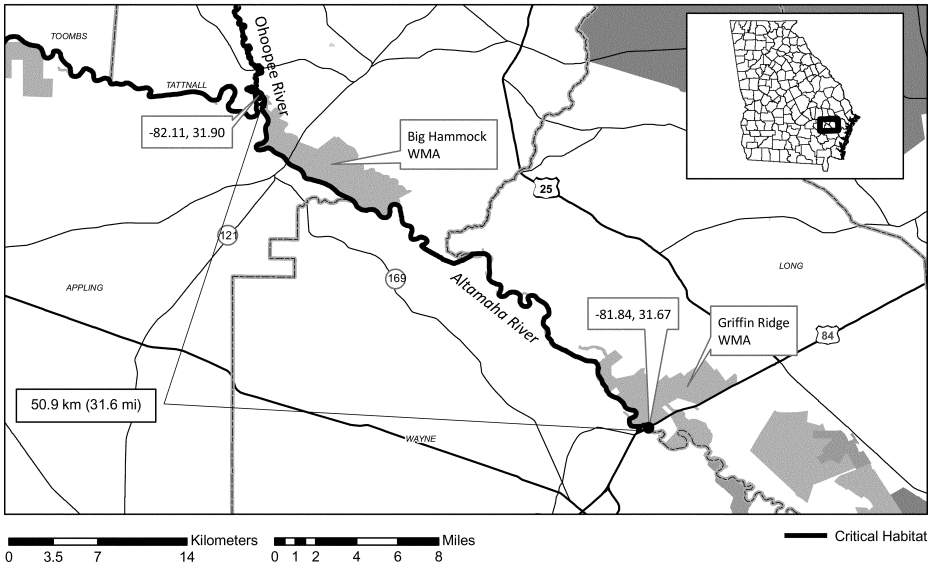


(8) *Unit 3:* Middle Altamaha River, Tattnall, Appling, Wayne, and Long Counties, Georgia.

(i) Unit 3 includes the channel of Altamaha River, extending from the confluence with the Ohoopee (longitude −82.11, latitude 31.90), Tattnall and Appling Counties, Georgia, downstream to U.S. Route 301 (longitude −81.84, latitude 31.67), Wayne and Long Counties, Georgia.

(ii) NOTE: Map of Unit 3 (Middle Altamaha River) follows:

Unit 3 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia

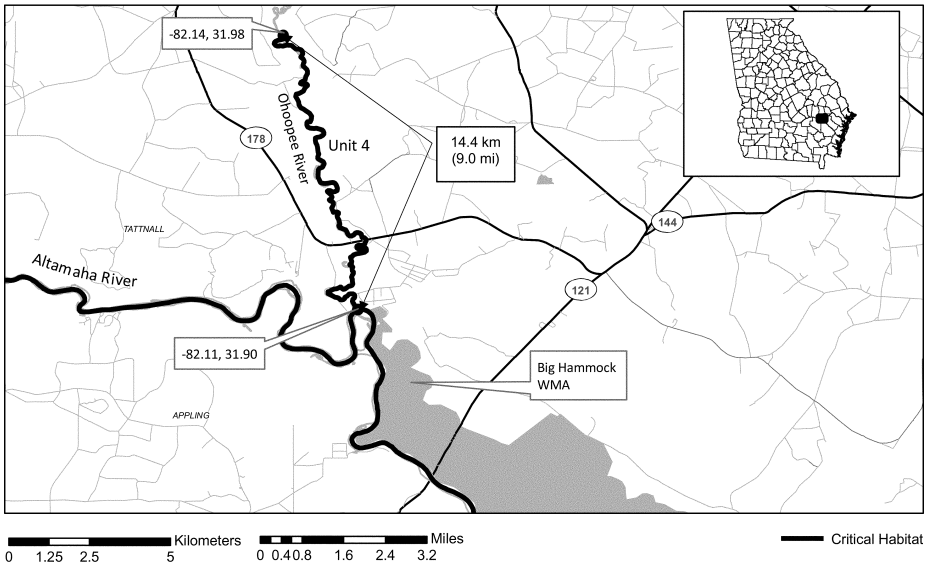


(9) *Unit 4:* Lower Ohoopee River, Tattnall County, Georgia.

(i) Unit 4 includes the channel of the Ohoopee River, starting 2.2 km (1.3 mi) upstream of Tattnall County Road 191 (longitude −82.14, latitude 31.98), Tattnall County, Georgia, downstream to the confluence of the Ohoopee River with the Altamaha River (longitude −82.11, latitude 31.90), Tattnall County, Georgia.

(ii) NOTE: Map of Unit 4 (Lower Ohoopee River) follows:

Unit 4 of Altamaha Spinymussel (*Elliptio spinosa*) Critical Habitat in Georgia



TUMBLING CREEK CAVESNAIL *(Antrobia culveri)*

(1) The critical habitat unit is depicted for Taney County, Missouri, on the map at paragraph (f)(5)(ii) of this section.

(2) Within this area, the primary constituent elements of the physical and biological features essential to the conservation of the Tumbling Creek cavesnail consist of five components:

(i) Geomorphically stable stream bottoms and banks (stable horizontal dimension and vertical profile) in order to:

(A) Maintain bottom features (riffles, runs, and pools) and transition zones between bottom features;

(B) Continue appropriate habitat to maintain essential riffles, runs, and pools; and

(C) Promote connectivity between Tumbling Creek and its tributaries and associated springs to maintain gene flow throughout the population.

(ii) Instream flow regime with an average daily discharge between 0.07 and 150 cubic feet per second (cfs), inclusive of both surface runoff and groundwater sources (springs and seepages).

(iii) Water quality with temperature 55–62 °F (12.78–16.67 °C), dissolved oxygen 4.5 milligrams or greater per liter, and turbidity of an average monthly reading of no more than 200 Nephelometric Turbidity Units (NTU; units used to measure sediment discharge) for a duration not to exceed 4 hours.

(iv) Bottom substrates consisting of fine gravel with coarse gravel or cobble, or bedrock with sand and gravel, with low amounts of fine sand and sediments within the interstitial spaces of the substrates.

(v) Energy input from guano that originates mainly from gray bats *(Myotis grisescens)* that roost in the cave; guano is essential in the development of biofilm (the organic coating and bacterial layer that covers rocks in the cave stream) that cavesnails use for food.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

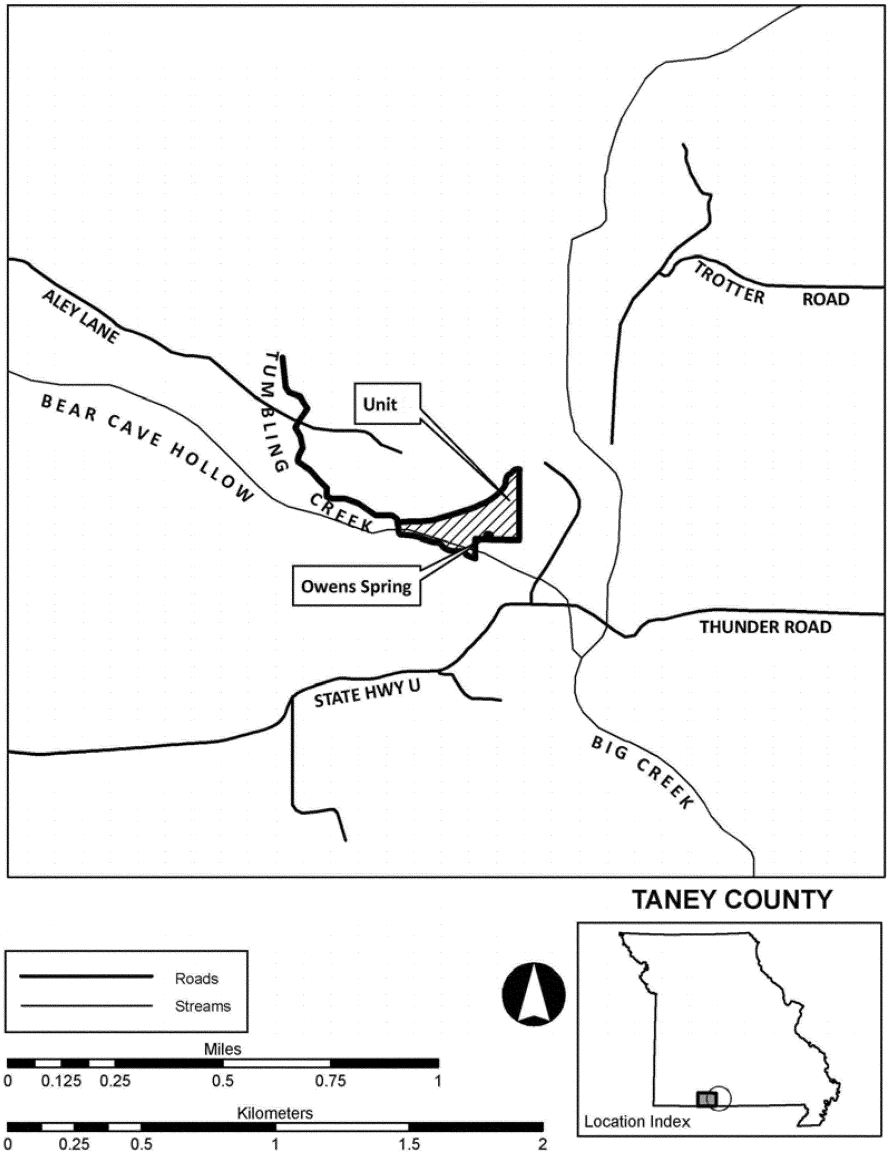
(4) *Critical habitat map unit.* Data layers defining the map unit were created using 7.5′ topographic quadrangle maps and ArcGIS (version 9.3.1) mapping software.

(5) Tumbling Creek Cavesnail Critical Habitat Unit.

(i) U.S. Geological Survey 7.5′ Topographic Protem Quad. Land bounded by the following UTM Zone 15N, North American Datum of 1983 (NAD83) coordinates (W, N): from the emergence of Tumbling Creek within Tumbling Creek Cave at Lat. 36°33′37.41″ N, Long. 92°48′27.23″ W to its confluence with Bear Cave Hollow and Owens Spring upstream of Big Creek at at Lat. 36°33′15.2″ N, Long. 92°47′51.74″ W.

(ii) NOTE: Map of Tumbling Creek Cavesnail Critical Habitat Unit follows:

Critical Habitat for
Tumbling Creek Cavesnail



ROUGH HORNSNAIL (*Pleurocera foremani*)

(1) Critical habitat units are depicted for Elmore and Shelby Counties, Alabama, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the rough hornsnail are the habitat components that provide:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found. Unless other information becomes available, existing conditions at locations where the species occurs will be considered as minimal flow requirements for survival.

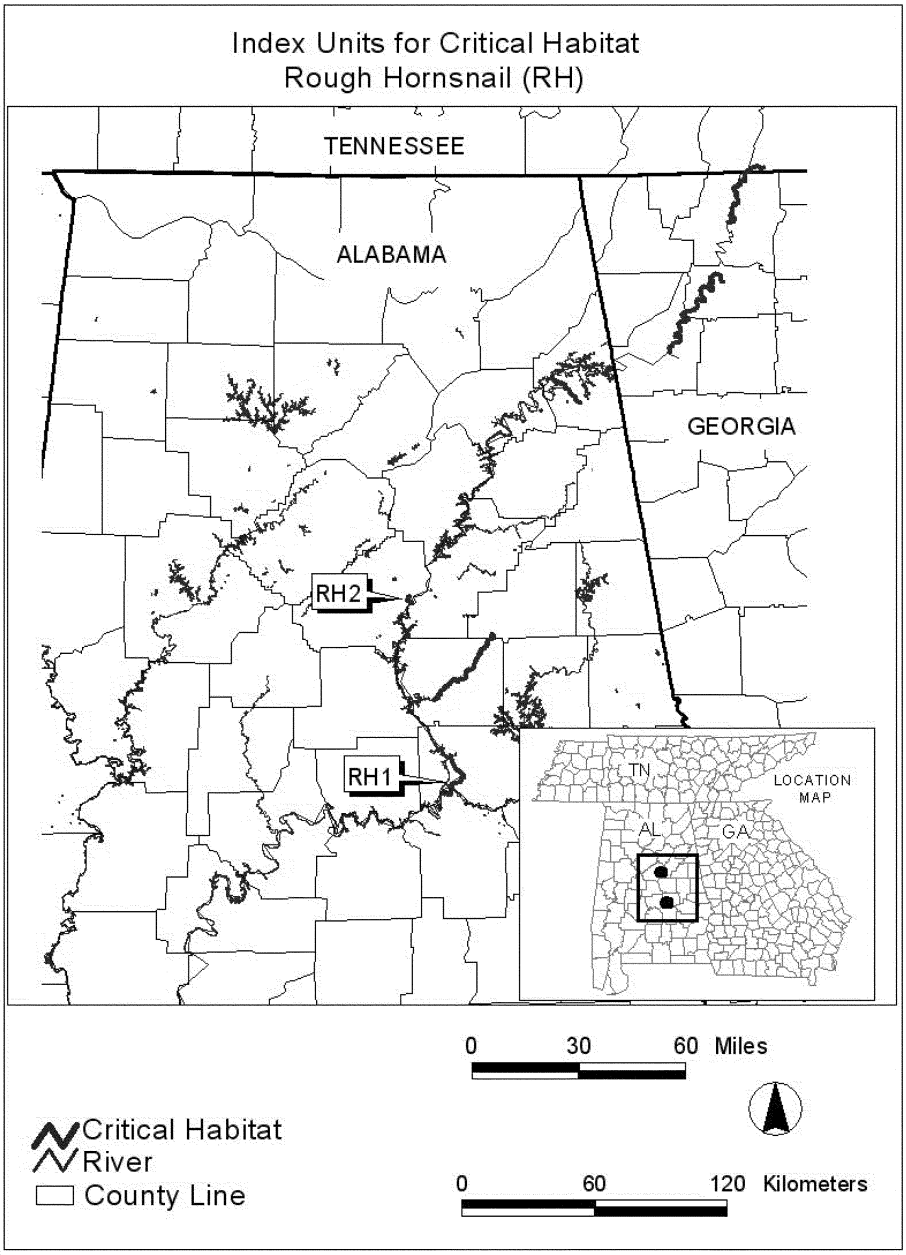
(iii) Water quality (including temperature, pH, hardness, turbidity, oxygen content, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387).

(iv) Sand, gravel, cobble, boulder, bedrock, or mud substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps.* Maps were developed from USGS 7.5′ quadrangles. Critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees and converted to Universal Transverse Mercator (UTM) zone 16, coordinates.

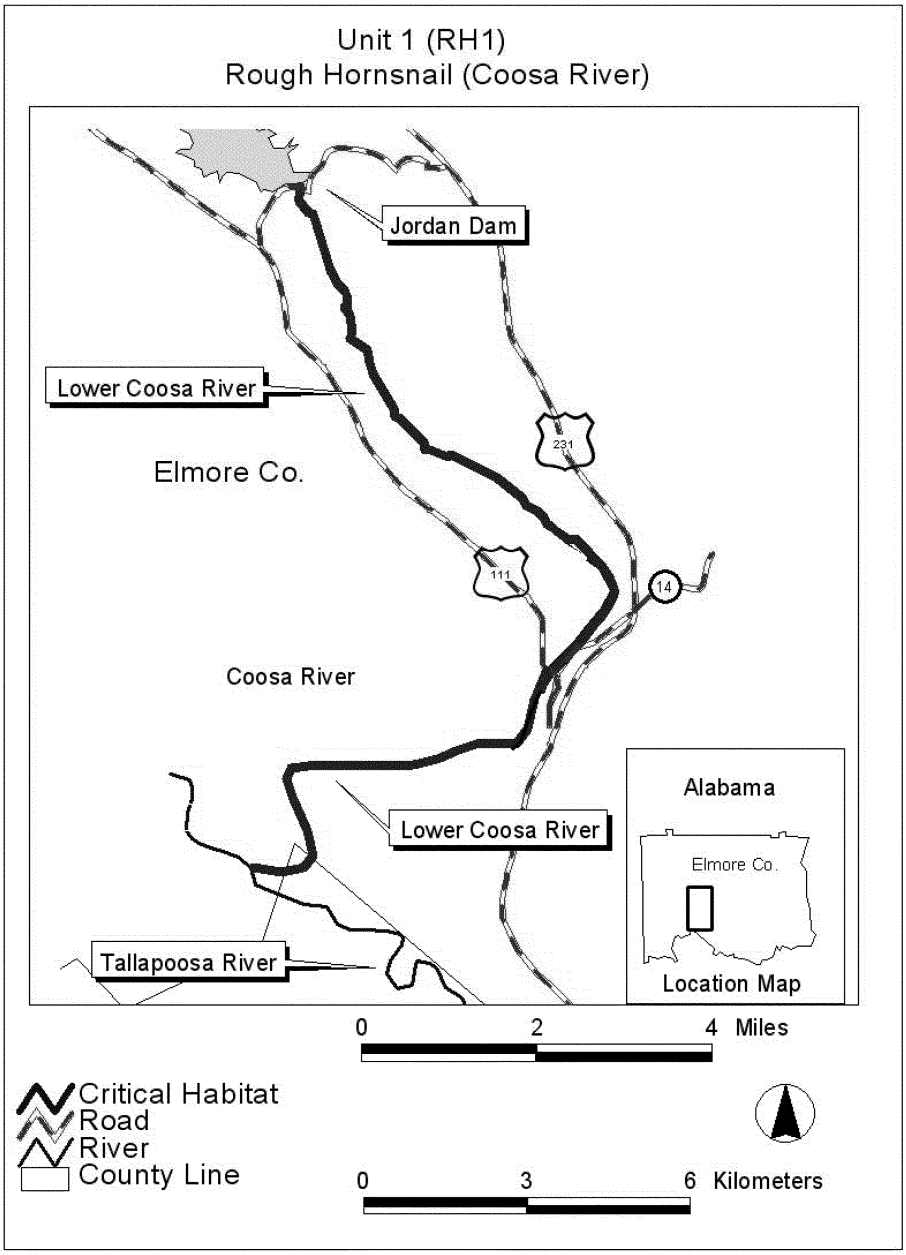
(5) NOTE: Index map of critical habitat units for the rough hornsnail follows:



(6) Unit 1 for rough hornsnail (RH 1): Lower Coosa River, Elmore County, Alabama.

(i) Unit RH 1 includes the Coosa River channel from Jordan Dam (569930.28E, 3609212.67N), downstream to the confluence of the Tallapoosa River (568995.14E, 3597805.93N), Elmore County, Alabama.

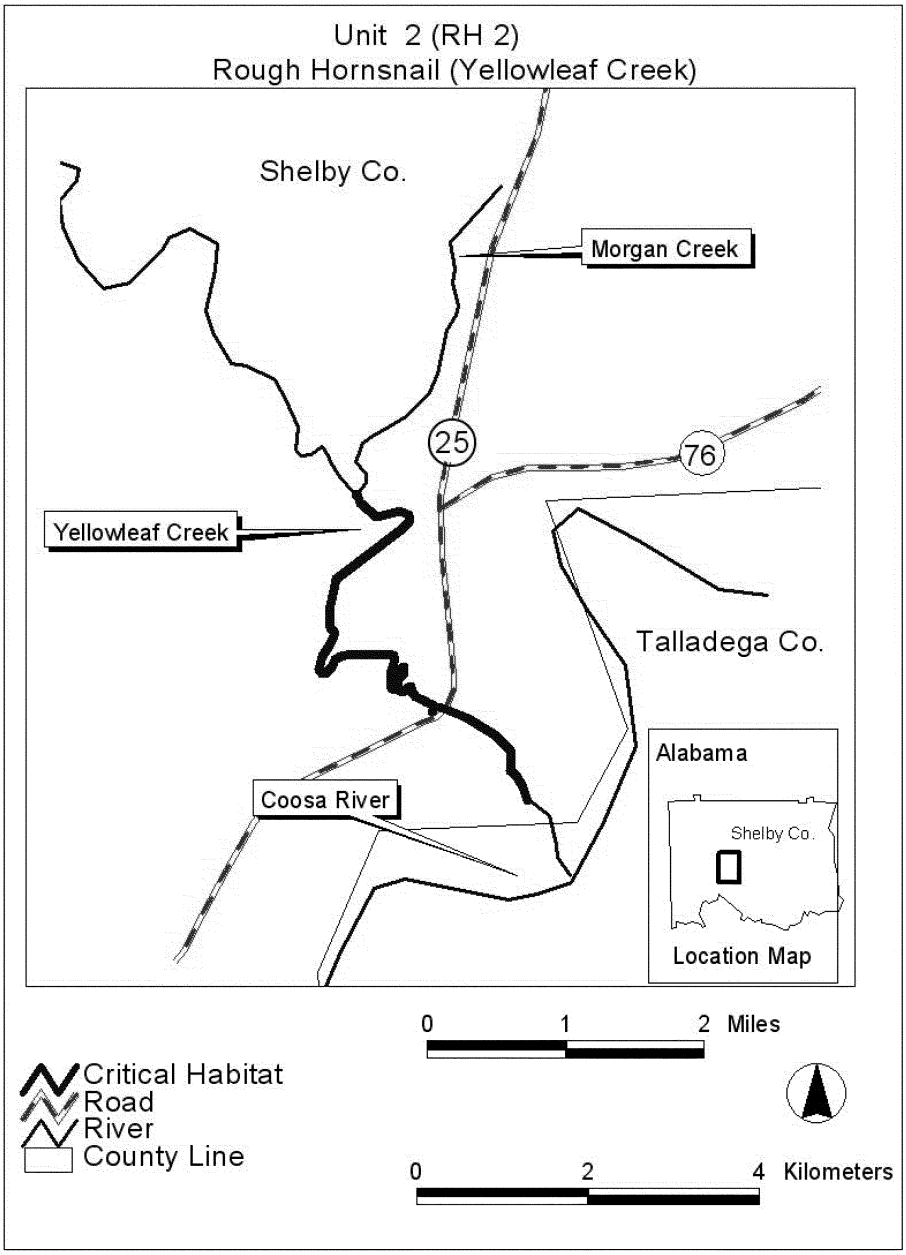
(ii) NOTE: Map of Unit 1 (RH 1) for rough hornsnail (Coosa River) follows:



(7) Unit 2 for rough hornsnail (RH 2): Yellowleaf Creek, Shelby County, Alabama.

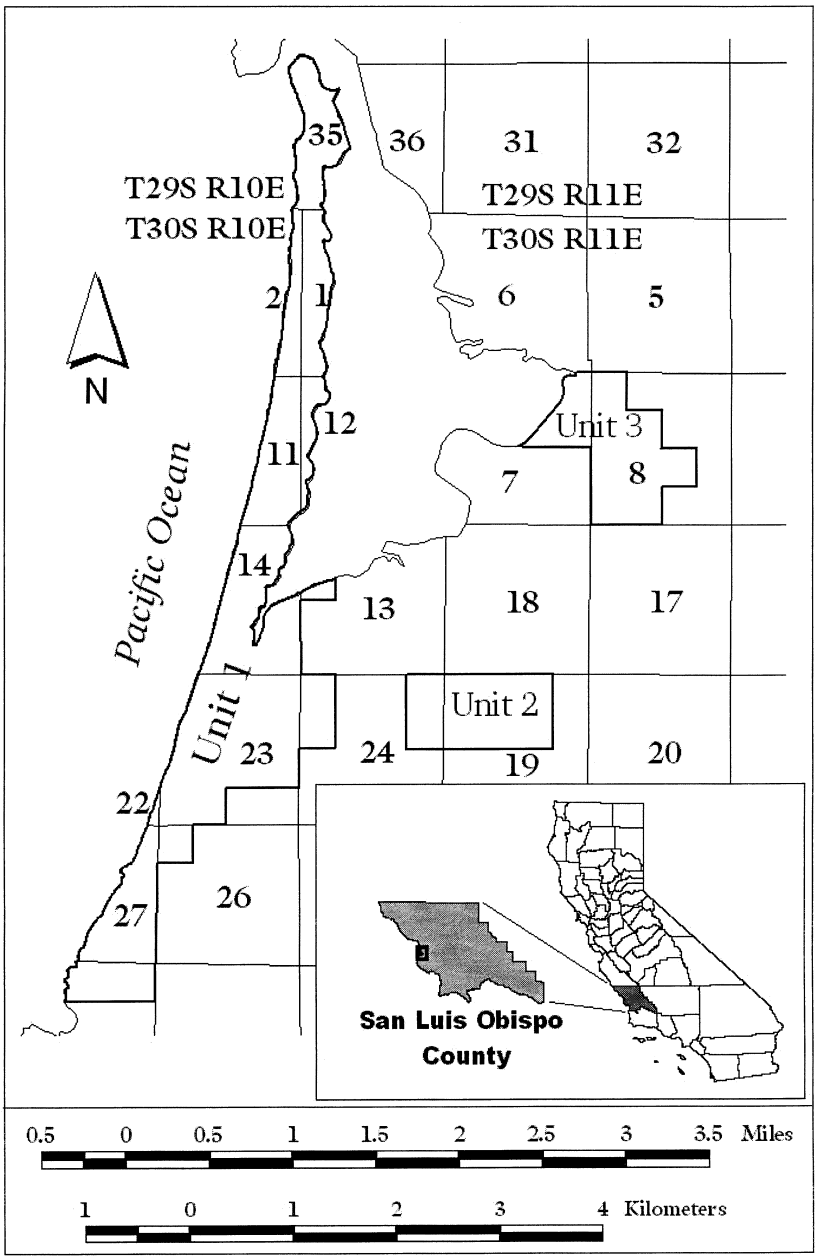
(i) Unit RH 2 includes the channel of Yellowleaf Creek from the confluence of Morgan Creek (550285.41E, 3682865.13N), downstream to 1.6 km (1 mi) below Alabama Highway 25 (552296.38E, 3679287.87N), Shelby County, Alabama.

(ii) NOTE: Map of Unit 2 (RH 2) for rough hornsnail (Yellowleaf Creek) follows:


Unit 2 (RH 2)
Rough Hornsnail (Yellowleaf Creek)
Shelby Co.
Morgan Creek
25
76
Yellowleaf Creek
Talladega Co.
Coosa River
Alabama
Shelby Co.
Location Map
0 1 2 Miles
Critical Habitat
Road
River
County Line
0 2 4 Kilometers

MORRO SHOULDERBAND SNAIL
(*Helminthoglypta walkeriana*)

1. Critical habitat units are depicted for San Luis Obispo County, California, on the map below.



Map Units 1 to 3: All located in San Luis Obispo County, California. Coastline boundaries are based upon the U.S. Geological Survey Morro Bay South 7.5 minute topographic quadrangle. Other boundaries are based upon the Public Land Survey System. Within the historical boundaries of the Canada De Los Osos Y Pecho Y Islay Mexican Land Grant,

boundaries are based upon section lines that are extensions to the Public Land Survey System developed by the California Department of Forestry and obtained by us from the State of California's Stephen P. Teale Data Center. Township and Range numbering is derived from the Mount Diablo Base and Meridian.

Map Unit 1: T. 29 S., R. 10 E., all of section 35 above mean sea level (MSL); T. 30 S., R. 10 E. All portions of sections 1, 2, 11, 12, 14, 22, and 27 above MSL, SW¼NW¼ section 13 above MSL, W½NW¼ section 24, all of section 23 above MSL except S½SE¼, NW¼NW¼ section 26, N½N½ section 34.

Map Unit 2: T. 30 S., R. 10 E., E½NE¼ section 24; T. 30 S., R, 11 E., E¾N½ section 19.

Map Unit 3: T. 30 S., R. 11 E., All of NE¼ section 7 above MSL; in section 8, NW¼NW¼, S½NW¼, SW¼, and NW¼SE¼.

2. Within these areas, the primary constituent elements include, but are not limited to, those habitat components that are essential for the primary biological needs of foraging, sheltering, reproduction, and dispersal. The primary constituent elements for the Morro shoulderband snail are the following: sand or sandy soils; a slope not greater than 10 percent; and the presence of, or the capacity to develop, coastal dune scrub vegetation.

3. Critical habitat does not include existing developed sites consisting of buildings, roads, aqueducts, railroads, airports, paved areas, and similar features and structures.

NEWCOMB'S SNAIL (*Erinna newcombi*)

(1) Critical Habitat Units are depicted for the County of Kauai, Hawaii, on the maps below.

(2) Within these areas, the primary constituent elements required by the Newcomb's snail are those habitat components that are essential for the biological needs of foraging, sheltering, reproduction, and dispersal. The primary constituent elements are: cool, clean, moderate-to fast-flowing water in streams, springs, and seeps; their adjacent riparian areas and hydrogeologic features that capture and direct water flow to these spring and stream systems; a perennial flow of water throughout even the most severe drought conditions; and stream channel morphology that provides protection from channel scour by having overhanging waterfalls, protected tributaries, or similar refugia.

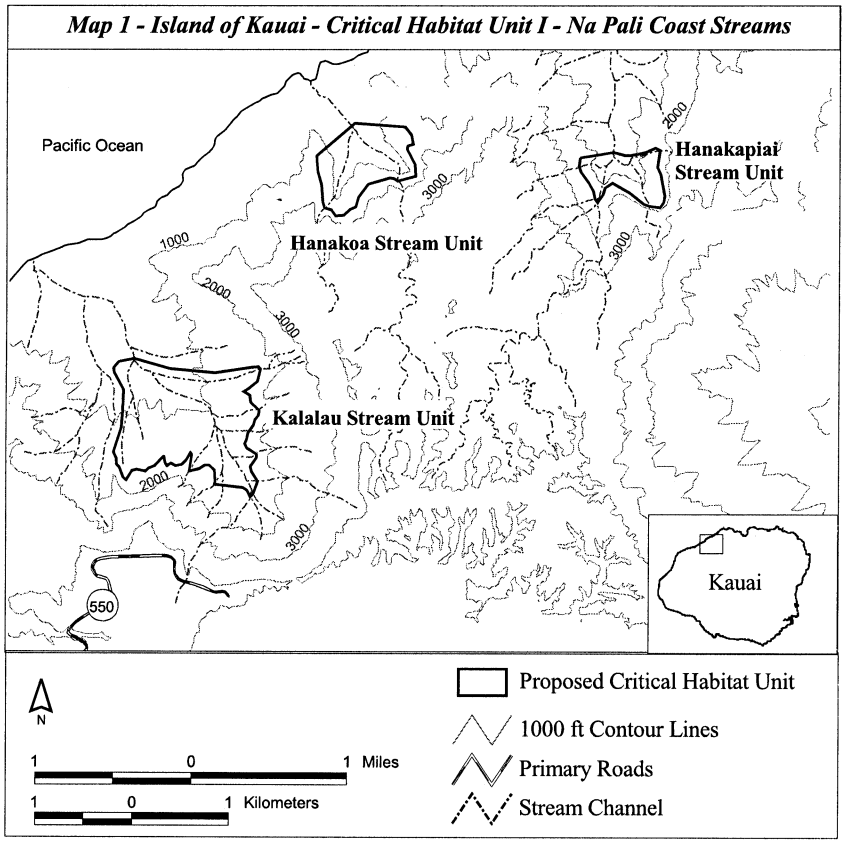
(3) Existing human-made features and structures within the boundaries of the mapped units, such as dams, ditches, tunnels, flumes, and other human-made features that do not contain the primary constituent elements, are not included as critical habitat.

(4) Critical Habitat Unit I—Na Pali Coast Streams—(i) Unit I(a): Kalalau Stream (149 ha; 368 ac). The Kalalau Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 63 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 435010, 2450871; 434991, 2450828; 435008, 2450782; 435112, 2450715; 435107, 2450681; 435044, 2450591; 435058, 2450537; 435120, 2450441; 435078, 2450308; 435048, 2450279; 435017, 2450341; 434968, 2450375; 434678, 2450406; 434682, 2450441; 434678, 2450551; 434618, 2450603; 434578, 2450602; 434518, 2450564; 434418, 2450540; 434444, 2450711; 434428, 2450733; 434388, 2450657; 434338, 2450612; 434278, 2450596; 434228, 2450621; 434188, 2450596; 434166, 2450621; 434159, 2450691; 434148, 2450691; 434058, 2450599; 433995, 2450571; 433968, 2450540; 433878, 2450559; 433825, 2450544; 433767, 2450451; 433738, 2450478; 433700, 2450581; 433670, 2450611; 433670, 2450671; 433633, 2450738; 433715, 2450996; 433732, 2451168; 433740, 2451380; 433642, 2451551; 433633, 2451598; 433688, 2451664; 433842, 2451694; 434206, 2451592; 434680, 2451547; 435053, 2451609; 435129, 2451611; 435147, 2451590; 435114, 2451460; 435048, 2451400; 434973, 2451360; 435041, 2451320; 435043, 2451250; 435134, 2451170; 435126, 2451120; 435089, 2451069; 435075, 2451013; 435018, 2450933; 435010, 2450871;

(ii) Unit I(b): Hanakoa Stream (63 ha; 156 ac). The Hanakoa Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 24 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 435729, 2453628; 435717, 2453789; 436111, 2454127; 436637, 2454087; 436700, 2454008; 436719, 2453907; 436658, 2453889; 436654, 2453857; 436735, 2453697; 436744, 2453577; 436558, 2453527; 436518, 2453555; 436478, 2453559; 436250, 2453496; 436152, 2453358; 436123, 2453263; 436068, 2453238; 435998, 2453171; 435918, 2453168; 435869, 2453229; 435799, 2453248; 435780, 2453320; 435770, 2453490; 435729, 2453628.

(iii) Unit I(c): Hanakapiai Stream (35 ha; 86 ac). The Hanakapiai Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 25 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 438438, 2453772; 438785, 2453827; 438899, 2453794; 438961, 2453796; 439113, 2453829; 439216, 2453871; 439257, 2453846; 439234, 2453666; 439263, 2453606; 439310, 2453377; 439299, 2453306; 439258, 2453253; 439158, 2453265; 439098, 2453290; 438949, 2453407; 438769, 2453508; 438692, 2453457; 438674, 2453387; 438618, 2453307; 438591, 2453347; 438578, 2453417; 438525, 2453507; 438443, 2453622; 438429, 2453677; 438438, 2453772.

(iv) Map 1—Unit I—Na Pali Coast Streams follows:

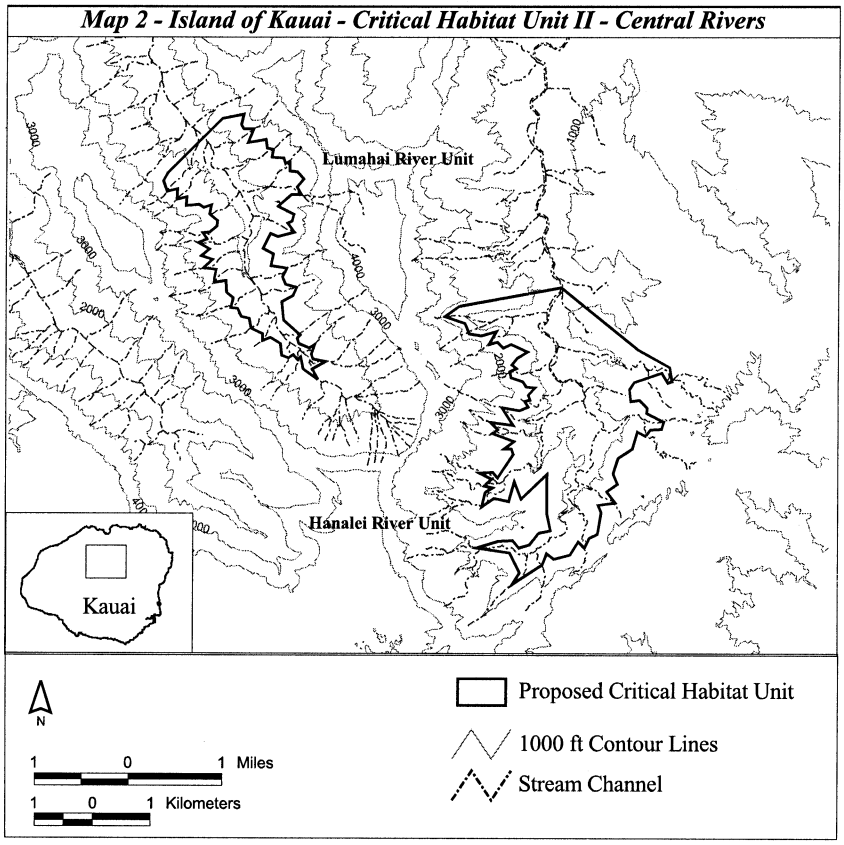


(5) Critical Habitat Unit II—Central Rivers—(i) Unit II(a): Lumahai River (492 ha; 1,216 ac). The Lumahai River Newcomb's snail critical habitat location consists of all flowing surface waters within 89 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 447598, 2445954; 447344, 2446136; 447298, 2446352; 447248, 2446290; 447178, 2446384; 447088, 2446327; 446972, 2446364; 446950, 2446572; 446787, 2446678; 446648, 2446627; 446648, 2446739; 446445, 2446836; 446409, 2447000; 446278, 2447034; 446208, 2447169; 446097, 2447178; 446141, 2447349; 446024, 2447449; 446014, 2447649; 445808, 2447618; 445809, 2447680; 445839, 2447840; 445616, 2447859; 445773, 2448009; 445589, 2448069; 445728, 2448189; 445531, 2448299; 445685, 2448359; 445605, 2448469; 445728, 2448478; 445854, 2448578; 445858, 2448680; 445728, 2448778; 445759, 2448939; 445618, 2448896; 445548, 2448954; 445318, 2448932; 445338, 2449080; 445164, 2449034; 445171, 2449211; 444998, 2449168; 444932, 2449348; 445008, 2449493; 445936, 2450417; 446309, 2450498; 446262, 2450317; 446309, 2450238; 446476, 2450245; 446385, 2450007; 446688, 2450060; 446714, 2449913; 446811, 2449890; 446799, 2449758; 446998, 2449747; 447028, 2449643; 447101, 2449690; 447098, 2449525; 447228, 2449509; 447343, 2449387; 447229, 2449247; 447298, 2449117; 447128, 2449116; 446901, 2448918; 447174, 2448778; 447144, 2448668; 447066, 2448628; 447190, 2448478; 446898, 2448400; 446778, 2448451; 446649, 2448198; 446831, 2448108; 446782, 2447899; 447064, 2447862; 446986, 2447707; 447038, 2447583; 447225, 2447529; 447162, 2447395; 446973, 2447289; 447008, 2446969; 447288, 2446719; 447234, 2446659; 447268, 2446571; 447448, 2446499; 447548, 2446559; 447484, 2446393; 447518, 2446304; 447739, 2446259; 447507, 2446131; 447598, 2445954;

(ii) Unit II(b): Hanalei River (876 ha; 2,165 ac). The Hanalei River Newcomb's snail critical habitat location consists of all flowing surface waters within 91 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 450038, 2447210; 451786, 2447529; 453099, 2446469; 453648, 2446167; 453691, 2445925; 453614, 2445904; 453508, 2446074; 453044, 2445908; 452961, 2445785; 452974, 2445578;

453125, 2445605; 453267, 2445468; 453258, 2445377; 453550, 2445238; 453508, 2445111; 453318, 2445096; 453238, 2444991; 453098, 2445064; 453010, 2444769; 452768, 2444606; 452680, 2444349; 452760, 2444169; 452581, 2444039; 452723, 2443844; 452429, 2443810; 452486, 2443680; 452419, 2443309; 452280, 2443240; 452198, 2443073; 452088, 2443185; 451948, 2442960; 451678, 2442885; 451549, 2442979; 451471, 2442787; 450955, 2442448; 451082, 2442651; 450916, 2442988; 450337, 2443081; 450718, 2443188; 450968, 2443197; 451068, 2443077; 451255, 2443133; 451414, 2443330; 451612, 2443370; 451552, 2443666; 451549, 2444330; 451107, 2443911; 450988, 2444210; 450894, 2443874; 450638, 2443920; 450431, 2443773; 450492, 2444026; 450614, 2444100; 450468, 2444134; 450592, 2444250; 450389, 2444360; 450621, 2444363; 450698, 2444275; 450967, 2444669; 450939, 2444770; 450803, 2444769; 450978, 2444899; 450611, 2445032; 450698, 2445101; 450573, 2445219; 450969, 2445168; 450768, 2445479; 451068, 2445422; 451226, 2445489; 451158, 2445584; 451251, 2445606; 451216, 2445692; 451335, 2445819; 451188, 2445824; 451124, 2445925; 450928, 2445983; 450904, 2446088; 451017, 2446148; 450940, 2446208; 451031, 2446325; 451208, 2446428; 450928, 2446552; 450788, 2446490; 450688, 2446603; 450538, 2446560; 450668, 2446774; 450418, 2446700; 450199, 2446739; 450133, 2446913; 449784, 2447034; 450038, 2447210.

(iii) Map 2—Unit II—Central Rivers—follows:



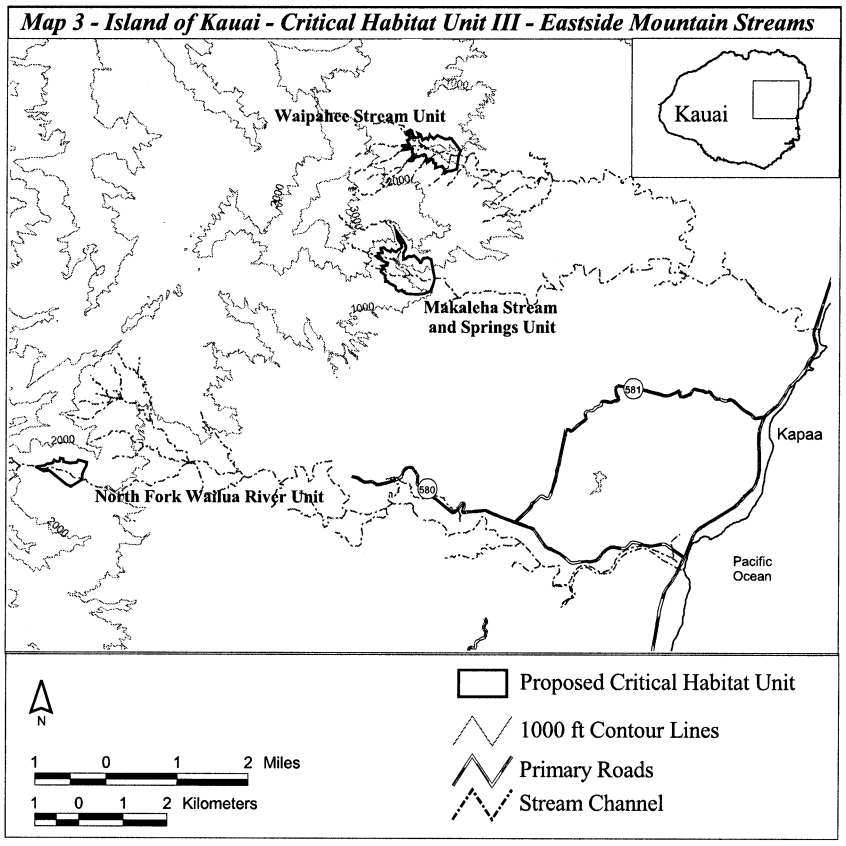
(6) Critical Habitat Unit III—Eastside Mountain Streams—(i) Unit III(a): Waipahee Stream (66 ha; 163 ac). The Waipahee Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 78 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 458921, 2447414; 458943, 2447424; 458998, 2447420; 459102, 2447444; 459044, 2447534; 459104, 2447563; 459108, 2447613; 459085, 2447643; 459100, 2447671; 459118, 2447693; 459108, 2447714; 459078,

2447703; 459048, 2447661; 459028, 2447663; 459017, 2447694; 459045, 2447696; 459054, 2447727; 459118, 2447770; 459164, 2447749; 459191, 2447646; 459231, 2447596; 459309, 2447603; 459321, 2447623; 459306, 2447685; 459351, 2447663; 459398, 2447531; 459478, 2447584; 459518, 2447553; 459568, 2447656; 459586, 2447613; 459648, 2447556; 459738, 2447649; 459918, 2447569; 459998, 2447569; 460018, 2447584; 460048, 2447572; 460055, 2447576; 460261, 2447303; 460229, 2447182; 460178, 2446882; 460172, 2446875; 460058, 2446836; 459978, 2446834; 459906, 2446782; 459887, 2446803; 459902, 2446878; 459848, 2446946; 459818, 2446933; 459778, 2446940; 459694, 2446904; 459702, 2447004; 459648, 2447020; 459638, 2447098; 459608, 2447104; 459508, 2447031; 459502, 2447068; 459448, 2447061; 459500, 2447134; 459467, 2447203; 459445, 2447214; 459408, 2447183; 459388, 2447194; 459318, 2447163; 459268, 2447169; 459248, 2447139; 459218, 2447136; 459182, 2447074; 459148, 2447057; 459078, 2447076; 459083, 2447094; 459148, 2447124; 459185, 2447224; 459166, 2447274; 459178, 2447334; 459118, 2447345; 458948, 2447313; 459001, 2447384; 458928, 2447407.

(ii) Unit III(b): Makaleha Stream (95 ha; 235 ac). The Makaleha Stream Newcomb's snail critical habitat location consists of all flowing surface waters within 68 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 459368, 2444730; 459372, 2444732; 459414, 2444830; 459438, 2444851; 459498, 2444854; 459528, 2444873; 459588, 2444828; 459601, 2444832; 459689, 2444388; 459662, 2444260; 459604, 2444112; 459455, 2444044; 459279, 2444030; 459064, 2444037; 459008, 2444069; 459002, 2444101; 458968, 2444099; 458944, 2444123; 458878, 2444096; 458808, 2444142; 458803, 2444197; 458748, 2444245; 458658, 2444279; 458633, 2444322; 458576, 2444325; 458582, 2444377; 458552, 2444407; 458568, 2444467; 458478, 2444527; 458474, 2444587; 458537, 2444607; 458492, 2444667; 458608, 2444684; 458633, 2444746; 458545, 2444763; 458495, 2444803; 458485, 2444833; 458418, 2444844; 458347, 2444897; 458418, 2444925; 458411, 2444963; 458504, 2444960; 458503, 2444991; 458458, 2445046; 458458, 2445076; 458528, 2445084; 458582, 2445036; 458678, 2444990; 458718, 2445049; 458798, 2444992; 458818, 2444992; 458868, 2445050; 458908, 2445056; 458933, 2445106; 458927, 2445176; 458854, 2445276; 458808, 2445463; 458960, 2445258; 459033, 2445116; 459033, 2445066; 458978, 2444969; 458983, 2444831; 459038, 2444842; 459088, 2444900; 459158, 2444877; 459218, 2444913; 459331, 2444816; 459368, 2444730.

(iii) Unit III(c): North Fork Wailua River (36 ha; 90 ac). The North Fork Wailua River Newcomb's snail critical habitat location consists of all flowing surface waters within 23 boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 450656, 2440137; 450861, 2440154; 450920, 2440206; 450968, 2440196; 451045, 2440217; 451079, 2440286; 451145, 2440241; 451197, 2440262; 451211, 2440324; 451291, 2440314; 451291, 2440244; 451426, 2440217; 451589, 2440237; 451616, 2440286; 451811, 2440230; 451801, 2440139; 451748, 2440049; 451717, 2439976; 451701, 2439841; 451455, 2439688; 451343, 2439745; 450968, 2440043; 450840, 2440040.

(iv) Map 3—Unit III—Eastside Mountain Streams follows:



PECOS ASSIMINEA (*Assiminea Pecos*)

(1) Critical habitat units are depicted for Chaves County, New Mexico, and Pecos and Reeves Counties, Texas, on the maps below.

(2) The primary constituent element of critical habitat for the Pecos assiminea is moist or saturated soil at stream or spring run margins:

(i) That consists of wet mud or occurs beneath mats of vegetation;

(ii) That is within 1 inch (2 to 3 centimeters) of flowing water;

(iii) That has native wetland plant species, such as salt grass or sedges, that provide leaf litter, shade, cover, and appropriate microhabitat;

(iv) That contains wetland vegetation adjacent to spring complexes that supports the algae, detritus, and bacteria needed for foraging; and

(v) That has adjacent spring complexes with:

(A) Permanent, flowing, fresh to moderately saline water with no or no more than low levels of pollutants; and

(B) Stable water levels with natural diurnal and seasonal variations.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit 1: Sago/Bitter Creek Complex, Chaves County, New Mexico.

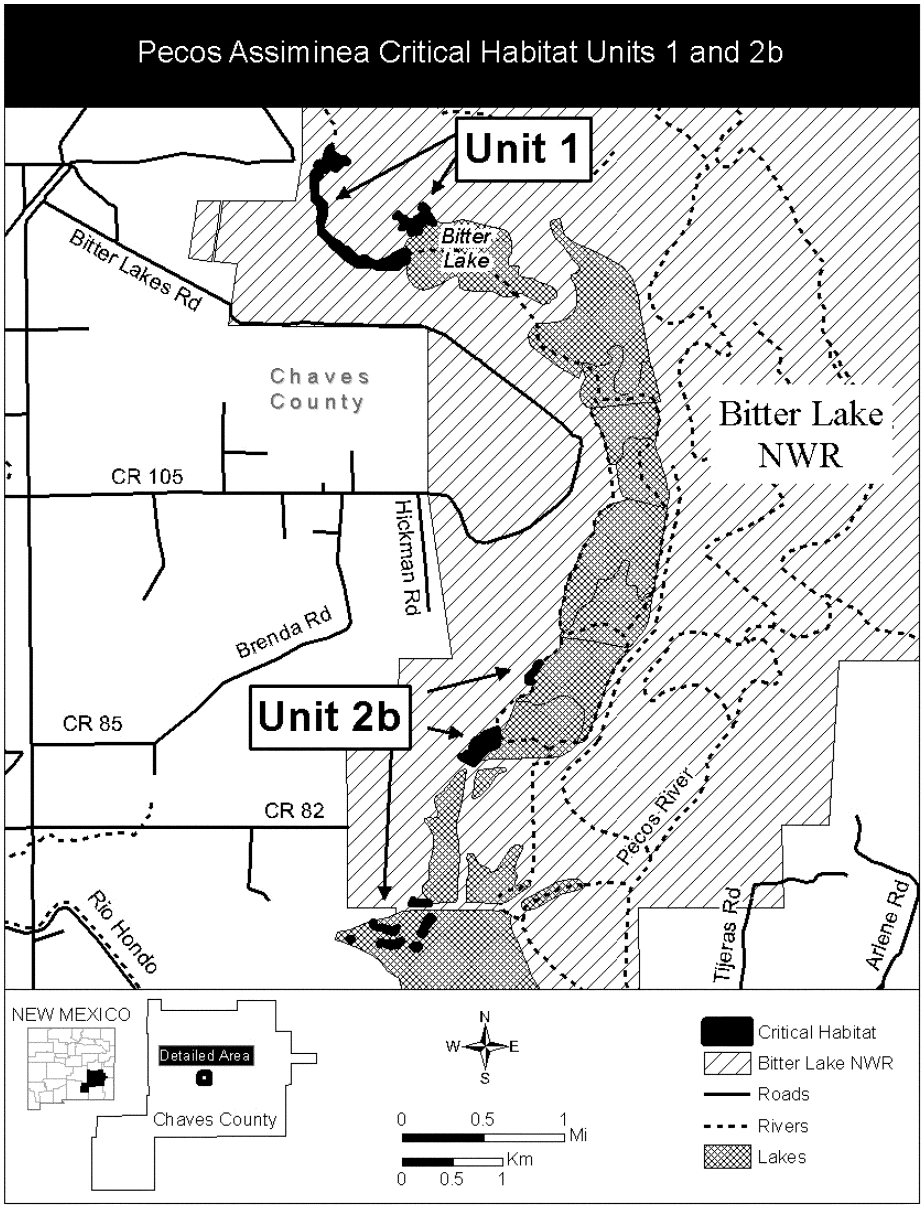
(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N):

(A) 553337, 3705095; 553357, 3705102; 553360, 3705067; 553371, 3705041; 553420, 3705010; 553433, 3704982; 553482, 3704987; 553499, 3704955; 553437,

3704946; 553424, 3704909; 553401, 3704883; 553340, 3704906; 553319, 3704879; 553266, 3704869; 553274, 3704816; 553240, 3704797; 553240, 3704623; 553306, 3704532; 553300, 3704419; 553280, 3704354; 553287, 3704287; 553338, 3704221; 553438, 3704145; 553459, 3704108; 553499, 3704091; 553533, 3704059; 553559, 3704024; 553588, 3704004; 553650, 3704024; 553655, 3704014; 553654, 3703981; 553699, 3703983; 553745, 3703960; 553775, 3703978; 553799, 3703979; 553828, 3704003; 553859, 3704016; 553871, 3704037; 553907, 3704053; 553938, 3704074; 553964, 3704078; 553983, 3704080; 553993, 3703978; 553939, 3703960; 553917, 3703914; 553903, 3703927; 553758, 3703909; 553710, 3703936; 553656, 3703932; 553567, 3703940; 553484, 3704010; 553426, 3704085; 553396, 3704109; 553357, 3704150; 553270, 3704273; 553271, 3704299; 553270, 3704344; 553255, 3704398; 553274, 3704444; 553254, 3704540; 553218, 3704577; 553197, 3704824; 553205, 3704843; 553246, 3704885; 553233, 3704911; 553238, 3704941; 553265, 3704950; 553294, 3704941; 553312, 3705045; 553337, 3705095.

(B) 553906, 3704450; 553915, 3704455; 553920, 3704452; 553917, 3704438; 553926, 3704432; 553935, 3704420; 553957, 3704404; 553965, 3704405; 553974, 3704406; 553985, 3704388; 553993, 3704387; 554019, 3704376; 554037, 3704362; 554045, 3704389; 554060, 3704406; 554083, 3704416; 554085, 3704429; 554110, 3704452; 554132, 3704457; 554121, 3704474; 554106, 3704494; 554102, 3704531; 554119, 3704531; 554135, 3704523; 554144, 3704510; 554157, 3704481; 554154, 3704460; 554174, 3704431; 554192, 3704393; 554210, 3704366; 554216, 3704346; 554190, 3704357; 554174, 3704365; 554166, 3704375; 554159, 3704395; 554146, 3704394; 554126, 3704391; 554117, 3704384; 554123, 3704364; 554119, 3704346; 554105, 3704337; 554091, 3704312; 554097, 3704289; 554094, 3704269; 554084, 3704261; 554059, 3704273; 554052, 3704260; 554034, 3704259; 554022, 3704248; 554005, 3704272; 554024, 3704293; 554040, 3704300; 554041, 3704321; 554016, 3704332; 554006, 3704317; 553974, 3704323; 553963, 3704324; 553963, 3704316; 553966, 3704314; 553961, 3704302; 553949, 3704302; 553936, 3704302; 553934, 3704311; 553946, 3704321; 553952, 3704323; 553946, 3704332; 553946, 3704353; 553958, 3704373; 553964, 3704381; 553958, 3704392; 553946, 3704391; 553938, 3704396; 553934, 3704394; 553930, 3704397; 553930, 3704409; 553924, 3704409; 553906, 3704413; 553902, 3704424; 553894, 3704419; 553885, 3704419; 553898, 3704448; 553906, 3704450.

(ii) NOTE: Map of Pecos Assiminea Critical Habitat Units 1 and 2b follows:



(6) Unit 2b: Assiminea Impoundment Complex, Chaves County, New Mexico.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): (A) 554768, 3699378; 554765, 3699345; 554761, 3699217; 554681, 3699179; 554608, 3699086; 554569, 3699029; 554501, 3699079; 554455, 3699103; 554488, 3699119; 554497, 3699142; 554543, 3699151; 554539, 3699185; 554571, 3699264; 554587, 3699280; 554622, 3699291; 554639, 3699320; 554667, 3699343; 554699, 3699341; 554719, 3699367; 554748, 3699380; 554768, 3699378.

(B) 554053, 3697672; 554064, 3697692; 554077, 3697704; 554085, 3697691; 554078, 3697672; 554215,

3697667; 554216, 3697653; 554045, 3697649; 554053, 3697672.

(C) 554223, 3697539; 554247, 3697505; 554195, 3697448; 554171, 3697394; 554179, 3697365; 554152, 3697343; 554132, 3697360; 554123, 3697373; 554155, 3697405; 554167, 3697472; 554223, 3697539.

(D) 554070, 3697244; 554099, 3697254; 554134, 3697240; 554127, 3697220; 554096, 3697208; 554071, 3697229; 554070, 3697244.

553784, 3697256; 553807, 3697291; 553829, 3697279; 553849, 3697268; 553881, 3697270; 553911, 3697274; 553931, 3697267; 553979, 3697295; 553989, 3697296; 553980, 3697274; 553965, 3697264; 553963, 3697246; 553939, 3697239; 553914, 3697242; 553901, 3697230; 553881, 3697235; 553872, 3697251; 553848, 3697246; 553833, 3697254; 553829, 3697262; 553821, 3697262; 553799, 3697250; 553784, 3697256.

(E) 553928, 3697415; 553935, 3697425; 553952, 3697426; 553941, 3697416; 553940, 3697405; 553942, 3697385; 553927, 3697367; 553852, 3697391; 553833, 3697408; 553822, 3697403; 553766, 3697414; 553739, 3697424; 553735, 3697478; 553747, 3697483; 553764, 3697425; 553795, 3697420; 553820, 3697429; 553849, 3697415; 553880, 3697408; 553905, 3697395; 553921, 3697407; 553928, 3697415.

(F) 553538, 3697315; 553550, 3697308; 553572, 3697322; 553580, 3697314; 553556, 3697287; 553538, 3697302; 553538, 3697315.

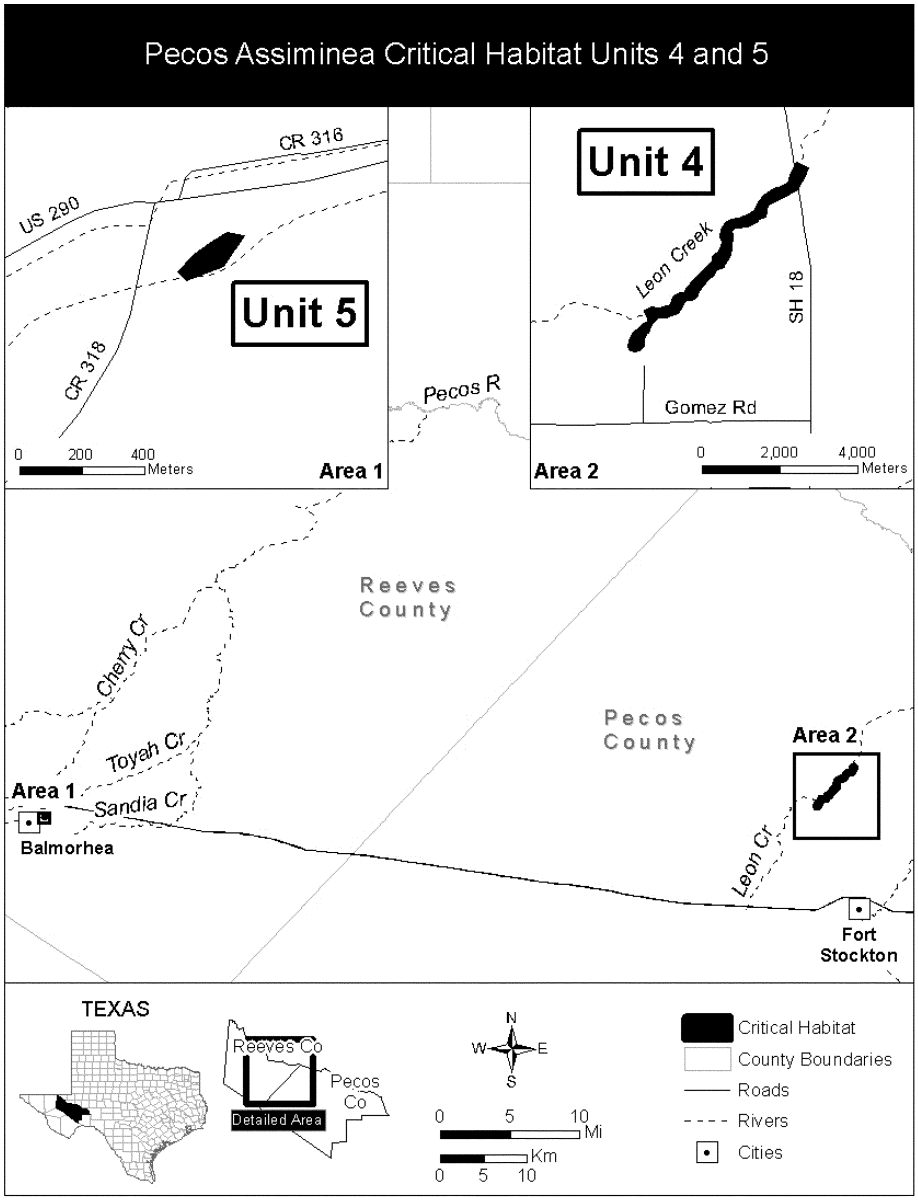
(G) 555054, 3699844; 555015, 3699840; 555015, 3699840; 555006, 3699890; 555065, 3699975; 555086, 3700030; 555115, 3700032; 555114, 3700030; 555076, 3699953; 555038, 3699915; 555039, 3699861; 555054, 3699844.

(ii) NOTE: Map of Unit 2b for Pecos assiminea is provided at paragraph (5)(ii) of this entry.

(7) Unit 4: Diamond Y Springs Complex, Pecos County, Texas.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): 700260, 3434916; 700413, 3434953; 700640, 3435053; 700734, 3435148; 700861, 3435401; 700950, 3435543; 701171, 3435706; 701340, 3435785; 701466, 3435869; 701519, 3436053; 701645, 3436390; 701919, 3436264; 701835, 3435969; 701714, 3435753; 701698, 3435711; 701356, 3435479; 701145, 3435353; 701045, 3435258; 701024, 3435174; 701029, 3435095; 700998, 3434990; 700861, 3434921; 700813, 3434832; 700629, 3434721; 700555, 3434727; 700445, 3434700; 700371, 3434700; 700303, 3434658; 700255, 3434600; 700281, 3434521; 700281, 3434390; 700281, 3434300; 700276, 3434147; 700250, 3433984; 700203, 3433889; 700113, 3433726; 700124, 3433684; 700055, 3433652; 699981, 3433626; 699923, 3433563; 699902, 3433489; 699755, 3433326; 699665, 3433189; 699581, 3433047; 699550, 3432931; 699486, 3432852; 699407, 3432826; 699318, 3432820; 699249, 3432747; 699202, 3432594; 699128, 3432494; 698991, 3432415; 698849, 3432378; 698681, 3432352; 698607, 3432262; 698533, 3432136; 698491, 3431973; 698428, 3431931; 698396, 3431794; 698386, 3431620; 698296, 3431515; 698175, 3431473; 698070, 3431509; 698038, 3431594; 698054, 3431794; 698149, 3431983; 698260, 3432110; 698323, 3432189; 698449, 3432283; 698449, 3432362; 698391, 3432436; 698370, 3432552; 698539, 3432647; 698665, 3432605; 698727, 3432620; 698791, 3432636; 698955, 3432705; 698981, 3432826; 699018, 3432931; 699134, 3433015; 699234, 3433021; 699286, 3433094; 699302, 3433157; 699313, 3433168; 699460, 3433384; 699650, 3433610; 699792, 3433784; 699834, 3433837; 699850, 3433947; 699893, 3434001; 699929, 3434047; 699974, 3434107; 700013, 3434158; 700055, 3434326; 700013, 3434463; 700013, 3434648; 700108, 3434827; 700260, 3434916.

(ii) NOTE: Map of Pecos Assiminea Critical Habitat Units 4 and 5 follows:



(8) Unit 5: East Sandia Spring, Reeves County, Texas.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): 621217, 3429265; 621262, 3429320; 621304, 3429356; 621352, 3429393; 621397, 3429383; 621397, 3429384; 621398, 3429384; 621342, 3429283; 621240, 3429237; 621217, 3429265.

(ii) Map of Unit 5 for Pecos assiminea is provided at paragraph (7)(ii) of this entry.

INTERRUPTED ROCKSNAIL (*Leptoxis foremani*)

(1) Critical habitat units are depicted for Cherokee and Elmore Counties, Alabama, and Gordon and Floyd Counties, Georgia, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for the interrupted rocksnail are the habitat components that provide:

(i) Geomorphically stable stream and river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) A hydrologic flow regime (the magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found. Unless other information becomes available, existing conditions at locations where the species occurs will be considered as minimal flow requirements for survival.

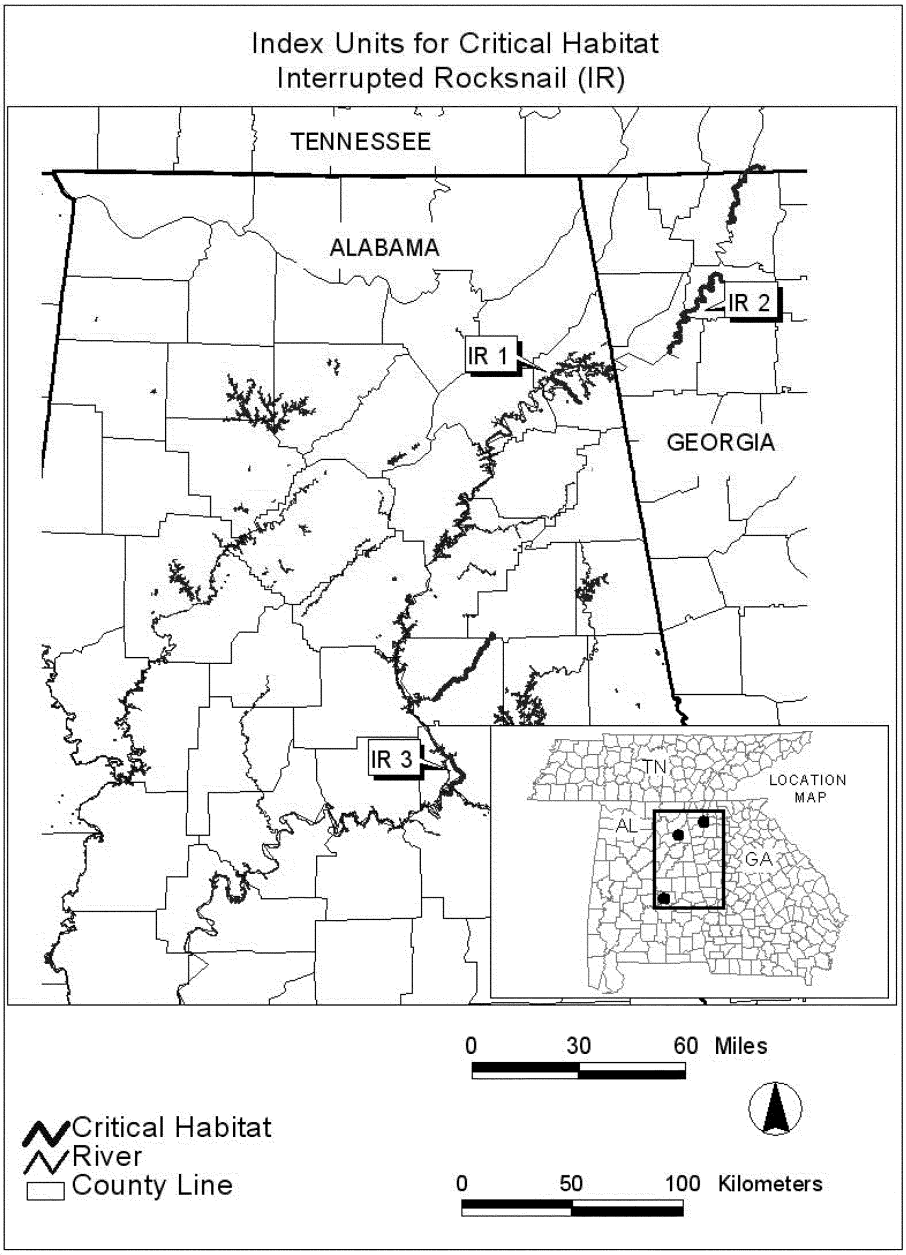
(iii) Water quality (including temperature, pH, hardness, turbidity, oxygen content, and chemical constituents) that meets or exceeds the current aquatic life criteria established under the Clean Water Act (33 U.S.C. 1251–1387).

(iv) Sand, gravel, cobble, boulder, or bedrock substrates with low to moderate amounts of fine sediment and attached filamentous algae.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, bridges, aqueducts, airports, and roads, and the land on which such structures are located.

(4) *Critical habitat unit maps*. Maps were developed from USGS 7.5′ quadrangles. Critical habitat unit upstream and downstream limits were then identified by longitude and latitude using decimal degrees and converted to Universal Transverse Mercator (UTM) zone 16, coordinates.

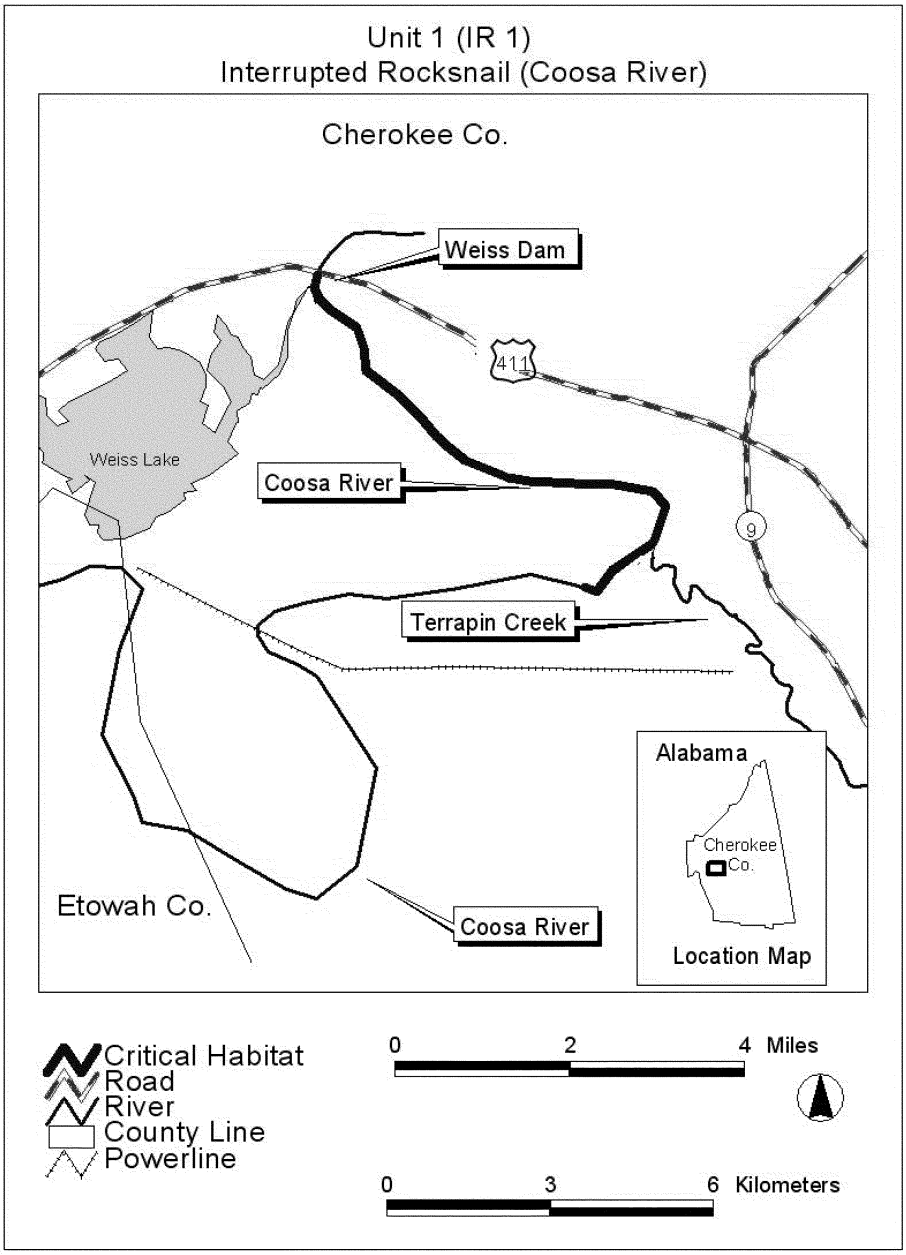
(5) NOTE: Index map of critical habitat units for the interrupted rocksnail follows:



(6) Unit 1 for interrupted rocksnail (IR 1): Coosa River, Cherokee County, Alabama.

(i) Unit IR 1 includes the Coosa River channel from Weiss Dam (614866.53E, 3781969.15N), downstream to a point 1.6 km (1 mi) below the confluence of Terrapin Creek (619751.694E, 3776654.79N), Cherokee County, Alabama.

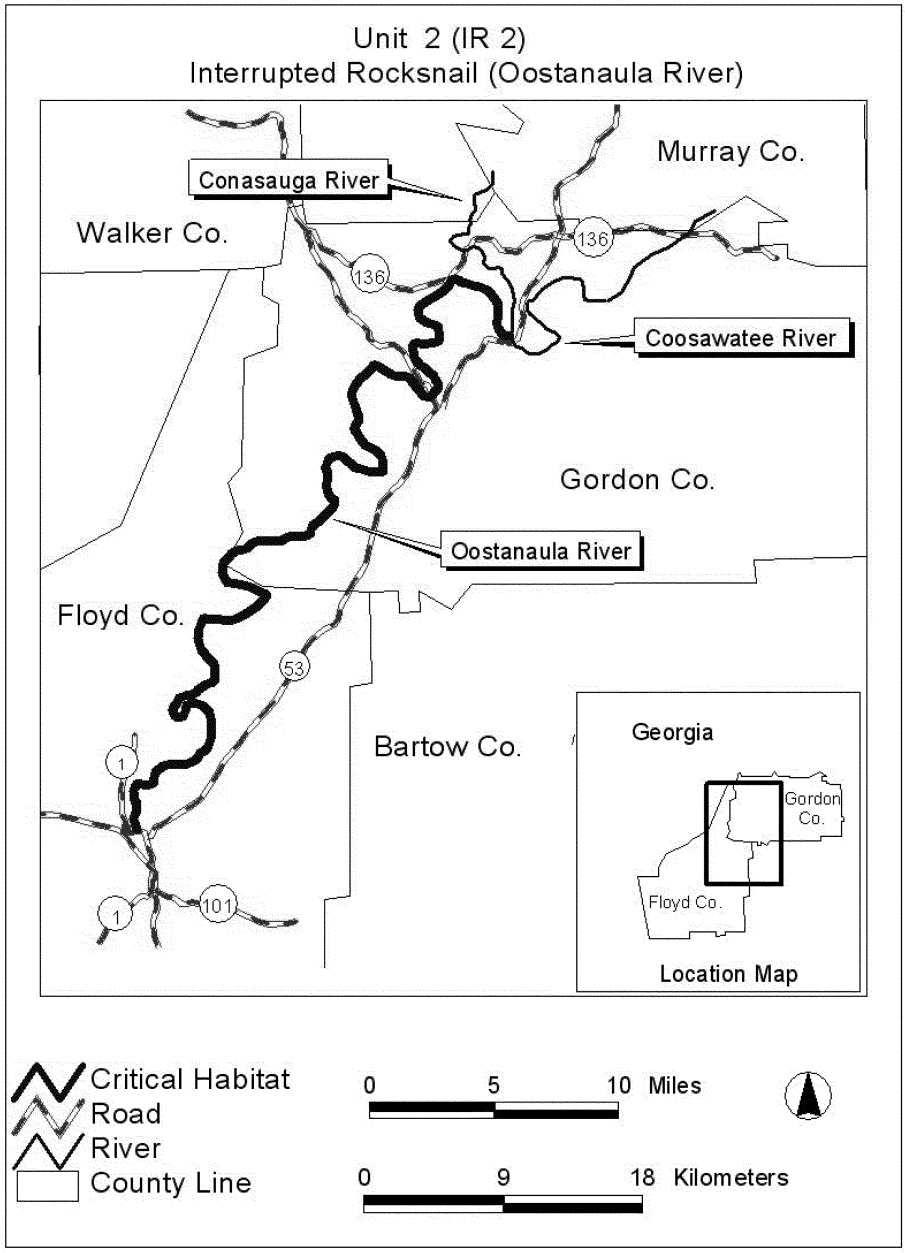
(ii) NOTE: Map of Unit 1 (IR 1) for interrupted rocksnail (Coosa River) follows:



(7) Unit 2 for interrupted rocksnail (IR 2): Oostanaula River, Gordon and Floyd Counties, Georgia.

(i) Unit IR 2 includes the primary channel of the Oostanaula River from the confluence of the Conasauga and Coosawattee Rivers (692275.90E, 3824562.96N), Gordon County, downstream to Georgia Highway 1 Loop (668358.62E, 3792574.63N), Floyd County, Georgia.

(ii) NOTE: Map of Unit 2 (IR 2) for interrupted rocksnail (Oostanaula River) follows:

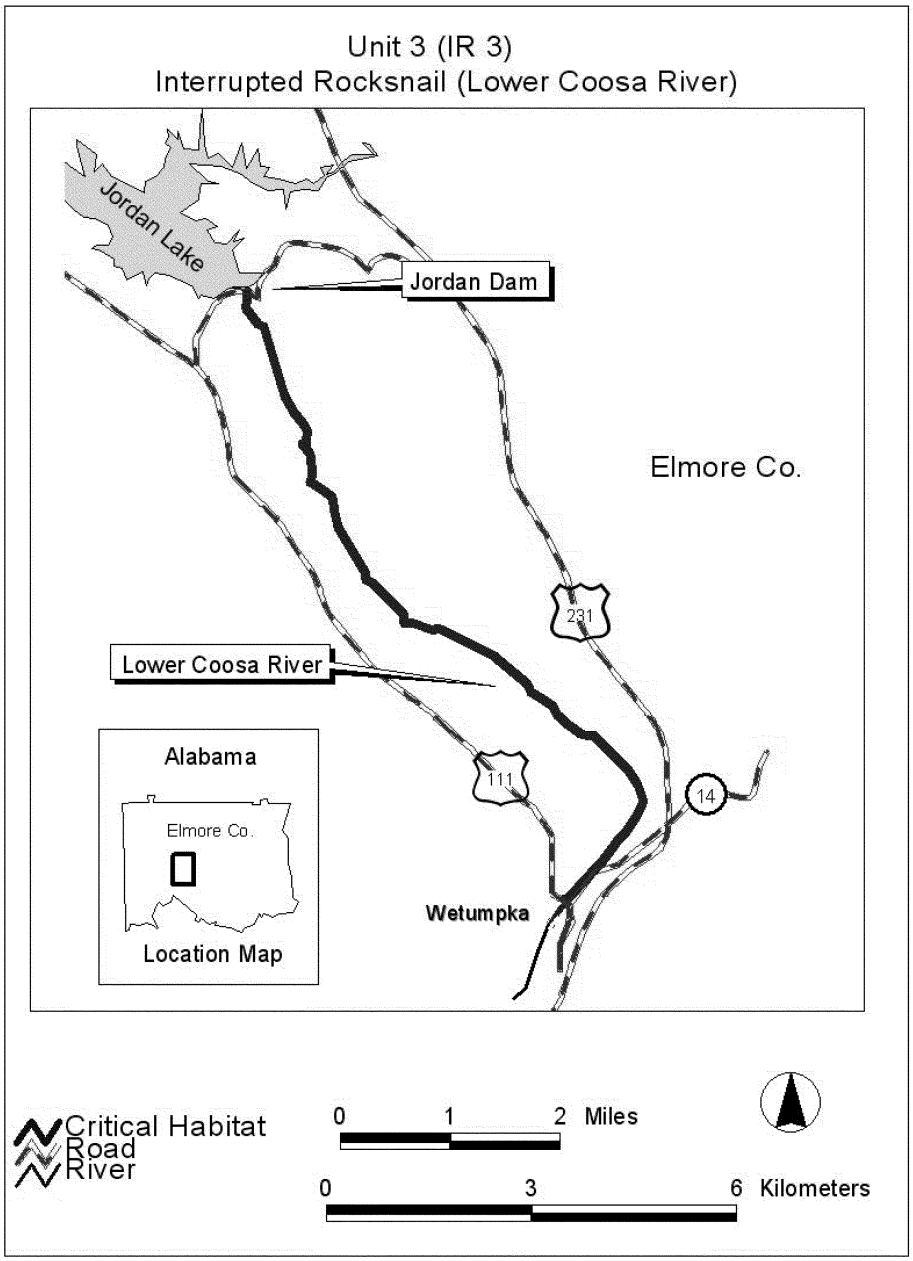


(8) Unit 3 for interrupted rocksnail (IR 3): Lower Coosa River, Elmore County, Alabama.

(i) Unit IR 3 includes the Coosa River channel from Jordan Dam (569930.28E,

3609212.67N), downstream to Alabama Highway 111 Bridge (574324.83E, 3600042.81N), Elmore County, Alabama.

(ii) NOTE: Map of Unit 3 (IR 3) for interrupted rocksnail (Lower Coosa River) follows:



CHUPADERA SPRINGSNAIL (*Pyrgulopsis chupaderae*)

(1) Critical habitat units are depicted for Socorro County, New Mexico, on the map below.

(2) Within these areas, the primary constituent elements of the physical and biological features essential to the conservation of the Chupadera springsnail consist of springheads, springbrooks, seeps, ponds, and seasonally wetted meadows containing:

(i) Unpolluted spring water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Periphyton (an assemblage of algae, bacteria, and microbes) and decaying organic material for food;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for egg laying, maturing, feeding, and escape from predators; and

(iv) Nonnative species either absent or present at low population levels.

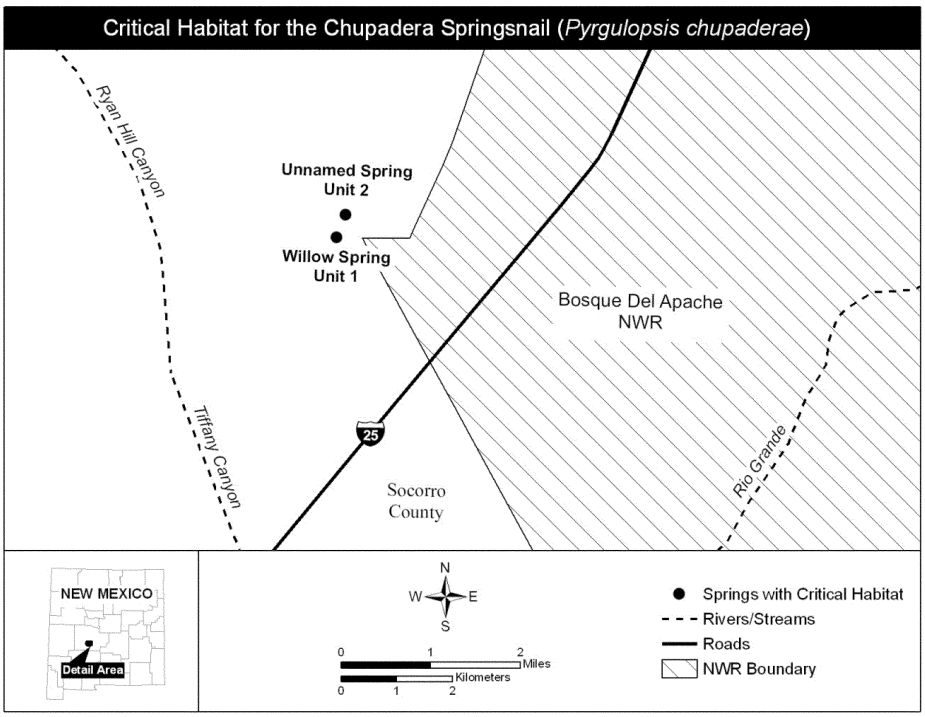
(3) Critical habitat does not include man-made structures (such as buildings, roads, and other paved areas, and the land on which they are located) existing on the effective date of this rule.

(4) Critical habitat map units were plotted on 2007 USGS Digital Ortho Quarter UTM coordinates in ArcMap (Environmental Systems Research Institute, Inc.), a computer GIS program

(5) Unit 1: Willow Spring, Socorro County, New Mexico.

(i) The critical habitat area includes the springhead, springbrook, small seeps and ponds, seasonally wetted meadow, and all of the associated spring features. This area is approximately 0.5 ha (1.4 ac) around the following coordinates: Easting 316889, northing 3743013 (Universal Transverse Mercator Zone 13 using North American Datum of 1983).

(ii) Map of Units 1 and 2 follows:



(6) Unit 2: Unnamed Spring, Socorro County, New Mexico.

(i) The critical habitat area includes the springhead, springbrook, small seeps and ponds, seasonally wetted meadow, and all of the associated spring features. This area is approximately 0.2 ha (0.5 ac) around the following coordinates: Easting 317048, northing

3743418 (Universal Transverse Mercator Zone 13 using North American Datum of 1983).

(ii) Map of Unit 2 is provided at paragraph (5)(ii) of this entry.

KOSTER'S SPRINGSNAIL (*Juturnia Kosteri*) AND ROSWELL SPRINGSNAIL (*Pyrgulopsis Roswellensis*)

(1) Critical habitat units are depicted for Chaves County, New Mexico, on the map below.

(2) The primary constituent element of critical habitat for the Koster's springsnail and Roswell springsnail is springs and spring-fed wetland systems that:

(i) Have permanent, flowing water with no or no more than low levels of pollutants;

(ii) Have slow to moderate water velocities;

(iii) Have substrates ranging from deep organic silts to limestone cobble and gypsum;

(iv) Have stable water levels with natural diurnal (daily) and seasonal variations;

(v) Consist of fresh to moderately saline water;

(vi) Vary in temperature between 50–68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; and

(vii) Provide abundant food, consisting of:

(A) Algae, bacteria, and decaying organic material; and

(B) Submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

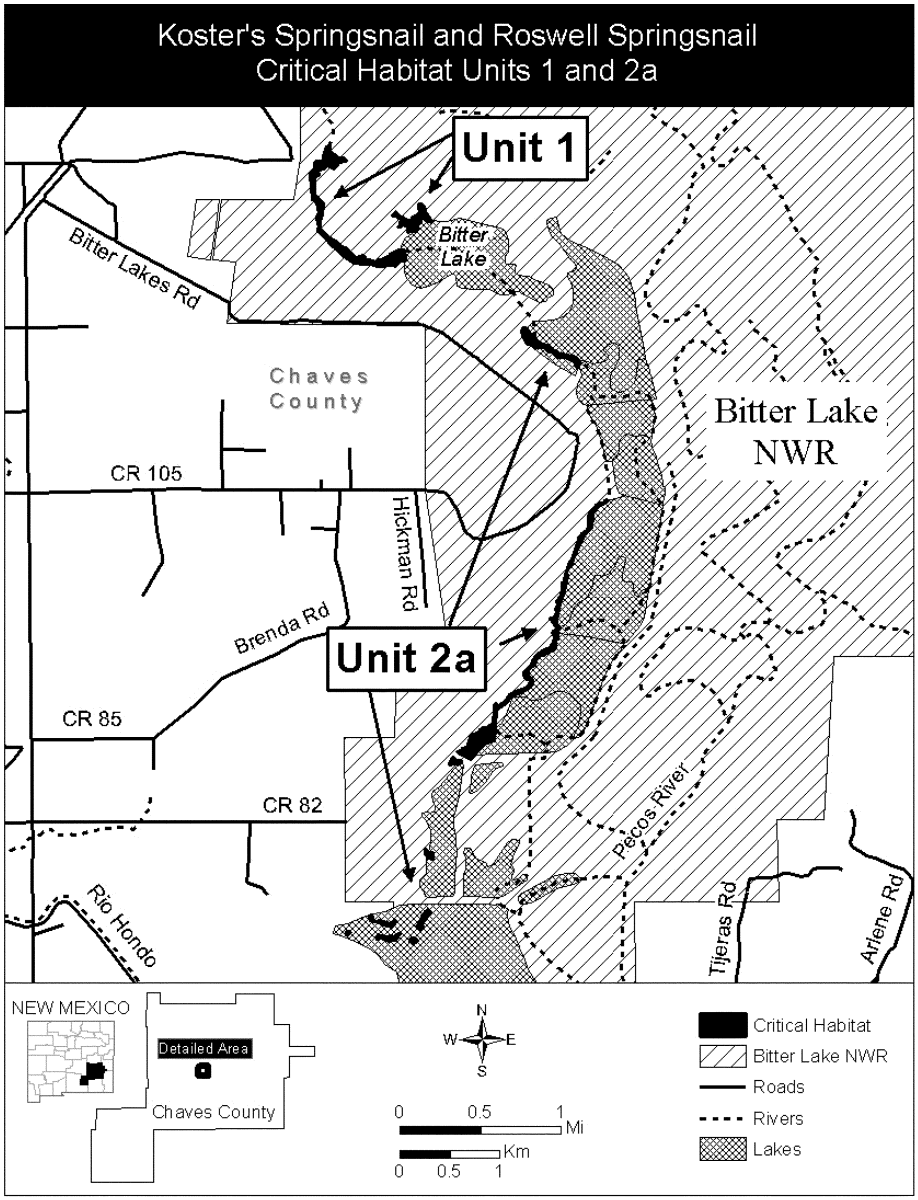
(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit 1: Sago/Bitter Creek Complex, Chaves County, New Mexico.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): (A) 553337, 3705095; 553357, 3705102; 553360, 3705067; 553371, 3705041; 553420, 3705010; 553433, 3704982; 553482, 3704987; 553499, 3704955; 553437, 3704946; 553424, 3704909; 553401, 3704883; 553340, 3704906; 553319, 3704879; 553266, 3704869; 553274, 3704816; 553240, 3704797; 553240, 3704623; 553306, 3704532; 553300, 3704419; 553280, 3704354; 553287, 3704287; 553338, 3704221; 553438, 3704145; 553459, 3704108; 553499, 3704091; 553533, 3704059; 553559, 3704024; 553588, 3704004; 553650, 3704024; 553655, 3704014; 553654, 3703981; 553699, 3703983; 553745, 3703960; 553775, 3703978; 553799, 3703979; 553828, 3704003; 553859, 3704016; 553871, 3704037; 553907, 3704053; 553938, 3704074; 553964, 3704078; 553983, 3704080; 553993, 3703978; 553939, 3703960; 553917, 3703914; 553903, 3703927; 553758, 3703909; 553710, 3703936; 553656, 3703932; 553567, 3703940; 553484, 3704010; 553426, 3704085; 553396, 3704109; 553357, 3704150; 553270, 3704273; 553271, 3704299; 553270, 3704344; 553255, 3704398; 553274, 3704444; 553254, 3704540; 553218, 3704577; 553197, 3704824; 553205, 3704843; 553246, 3704885; 553233, 3704911; 553238, 3704941; 553265, 3704950; 553294, 3704941; 553312, 3705045; 553337, 3705095.

(B) 553906, 3704450; 553915, 3704455; 553920, 3704452; 553917, 3704438; 553926, 3704432; 553935, 3704420; 553957, 3704404; 553965, 3704405; 553974, 3704406; 553985, 3704388; 553993, 3704387; 554019, 3704376; 554037, 3704362; 554045, 3704389; 554060, 3704406; 554083, 3704416; 554085, 3704429; 554110, 3704452; 554132, 3704457; 554121, 3704474; 554106, 3704494; 554102, 3704531; 554119, 3704531; 554135, 3704523; 554144, 3704510; 554157, 3704481; 554154, 3704460; 554174, 3704431; 554192, 3704393; 554210, 3704366; 554216, 3704346; 554190, 3704357; 554174, 3704365; 554166, 3704375; 554159, 3704395; 554146, 3704394; 554126, 3704391; 554117, 3704384; 554123, 3704364; 554119, 3704346; 554105, 3704337; 554091, 3704312; 554097, 3704289; 554094, 3704269; 554084, 3704261; 554059, 3704273; 554052, 3704260; 554034, 3704259; 554022, 3704248; 554005, 3704272; 554024, 3704293; 554040, 3704300; 554041, 3704321; 554016, 3704332; 554006, 3704317; 553974, 3704323; 553963, 3704324; 553963, 3704316; 553966, 3704314; 553961, 3704302; 553949, 3704302; 553936, 3704302; 553934, 3704311; 553946, 3704321; 553952, 3704323; 553946, 3704332; 553946, 3704353; 553958, 3704373; 553964, 3704381; 553958, 3704392; 553946, 3704391; 553938, 3704396; 553934, 3704394; 553930, 3704397; 553930, 3704409; 553924, 3704409; 553906, 3704413; 553902, 3704424; 553894, 3704419; 553885, 3704419; 553898, 3704448; 553906, 3704450.

(ii) NOTE: Map of Koster's Springsnail and Roswell Springsnail Critical Habitat Units 1 and 2a follows:



(6) Unit 2a: Springsnail/Amphipod Impoundment Complex, Chaves County, New Mexico.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): (A) 554982, 3703317; 555004, 3703315; 555011, 3703299; 555053, 3703215; 555079, 3703205; 555094, 3703168; 555171, 3703138; 555222, 3703093; 555259, 3703078; 555289, 3703055; 555338, 3703047; 555420, 3703024; 555458, 3702955; 555442, 3702940; 555422, 3702925; 555406, 3702974; 555330, 3703017; 555277, 3703025; 555229, 3703068; 555188, 3703090; 555151, 3703125; 555131, 3703116; 555075, 3703115; 555042, 3703144; 555014,

3703147; 554978, 3703231; 554964, 3703290; 554982, 3703317.

(B) 555695, 3701598; 555603, 3701536; 555568, 3701479; 555565, 3701460; 555559, 3701324; 555532, 3701296; 555502, 3701277; 555355, 3700892; 555356, 3700852; 555342, 3700778; 555333, 3700694; 555294, 3700533; 555271, 3700409; 555281, 3700322; 555273, 3700266; 555257, 3700265; 555238, 3700281; 555247, 3700304; 555268, 3700316; 555269, 3700343; 555221, 3700433; 555257, 3700433; 555263, 3700446; 555269, 3700498; 555260, 3700534; 555284, 3700550; 555285, 3700567; 555274, 3700604; 555288, 3700636; 555312, 3700666; 555322, 3700725; 555325, 3700767; 555345, 3700858; 555350, 3700891; 555355, 3700901; 555365, 3700958; 555379, 3700992; 555392, 3701014; 555436, 3701152; 555450, 3701200; 555450, 3701241; 555472, 3701247; 555480, 3701271; 555504, 3701300; 555520, 3701303; 555534, 3701340; 555529, 3701451; 555549, 3701492; 555589, 3701560; 555621, 3701579; 555656, 3701579; 555669, 3701602; 555686, 3701610; 555695, 3701598.

(C) 554768, 3699378; 554765, 3699345; 554761, 3699217; 554681, 3699179; 554608, 3699086; 554569, 3699029; 554501, 3699079; 554455, 3699103; 554488, 3699119; 554497, 3699142; 554543, 3699151; 554539, 3699185; 554571, 3699264; 554587, 3699280; 554622, 3699291; 554639, 3699320; 554667, 3699343; 554699, 3699341; 554719, 3699367; 554748, 3699380; 554768, 3699378.

(D) 554487, 3699017; 554487, 3698993; 554435, 3698991; 554392, 3698980; 554398, 3699012; 554405, 3699026; 554410, 3699056; 554427, 3699057; 554423, 3699035; 554458, 3699018; 554487, 3699017.

(E) 554195, 3698145; 554220, 3698101; 554258, 3698101; 554256, 3698043; 554224, 3698055; 554210, 3698079; 554193, 3698085; 554191, 3698097; 554195, 3698145.

(F) 554223, 3697539; 554247, 3697505; 554195, 3697448; 554171, 3697394; 554179, 3697365; 554152, 3697343; 554132, 3697360; 554123, 3697373; 554155, 3697405; 554167, 3697472; 554223, 3697539.

(G) 554070, 3697244; 554099, 3697254; 554134, 3697240; 554127, 3697220; 554096, 3697208; 554071, 3697229; 554070, 3697244.

(H) 553784, 3697256; 553807, 3697291; 553829, 3697279; 553849, 3697268; 553881, 3697270; 553911, 3697274; 553931, 3697267; 553979, 3697295; 553989, 3697296; 553980, 3697274; 553965, 3697264; 553963, 3697246; 553939, 3697239; 553914, 3697242; 553901, 3697230; 553881, 3697235; 553872, 3697251; 553848, 3697246; 553833, 3697254; 553829, 3697262; 553821, 3697262; 553799, 3697250; 553784, 3697256.

(I) 553928, 3697415; 553935, 3697425; 553952, 3697426; 553941, 3697416; 553940, 3697405; 553942, 3697385; 553927, 3697367; 553852, 3697391; 553833, 3697408; 553822, 3697403; 553766, 3697414; 553739, 3697424; 553735, 3697478; 553747, 3697483; 553764, 3697425; 553795, 3697420; 553820, 3697429; 553849, 3697415; 553880, 3697408; 553905, 3697395; 553921, 3697407; 553928, 3697415.

(J) 553538, 3697315; 553550, 3697308; 553572, 3697322; 553580, 3697314; 553556, 3697287; 553538, 3697302; 553538, 3697315.

(K) 555054, 3699844; 555015, 3699840; 555015, 3699840; 555006, 3699890; 555065, 3699975; 555086, 3700030; 555115, 3700032; 555114, 3700030; 555076, 3699953; 555038, 3699915; 555039, 3699861; 555054, 3699844.

(ii) Map of Unit 2a for Koster's springsnail and Roswell springsnail is provided at paragraph (5)(ii) of this entry.

SAN BERNARDINO SPRINGSNAIL (*Pyrgulopsis bernardina*)

(1) Critical habitat units are depicted for Cochise County, Arizona, on the map in paragraph (5) of this entry.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the San Bernardino springsnail consist of four components:

(i) Adequately clean spring water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Periphyton (attached algae), bacteria, and decaying organic material for food;

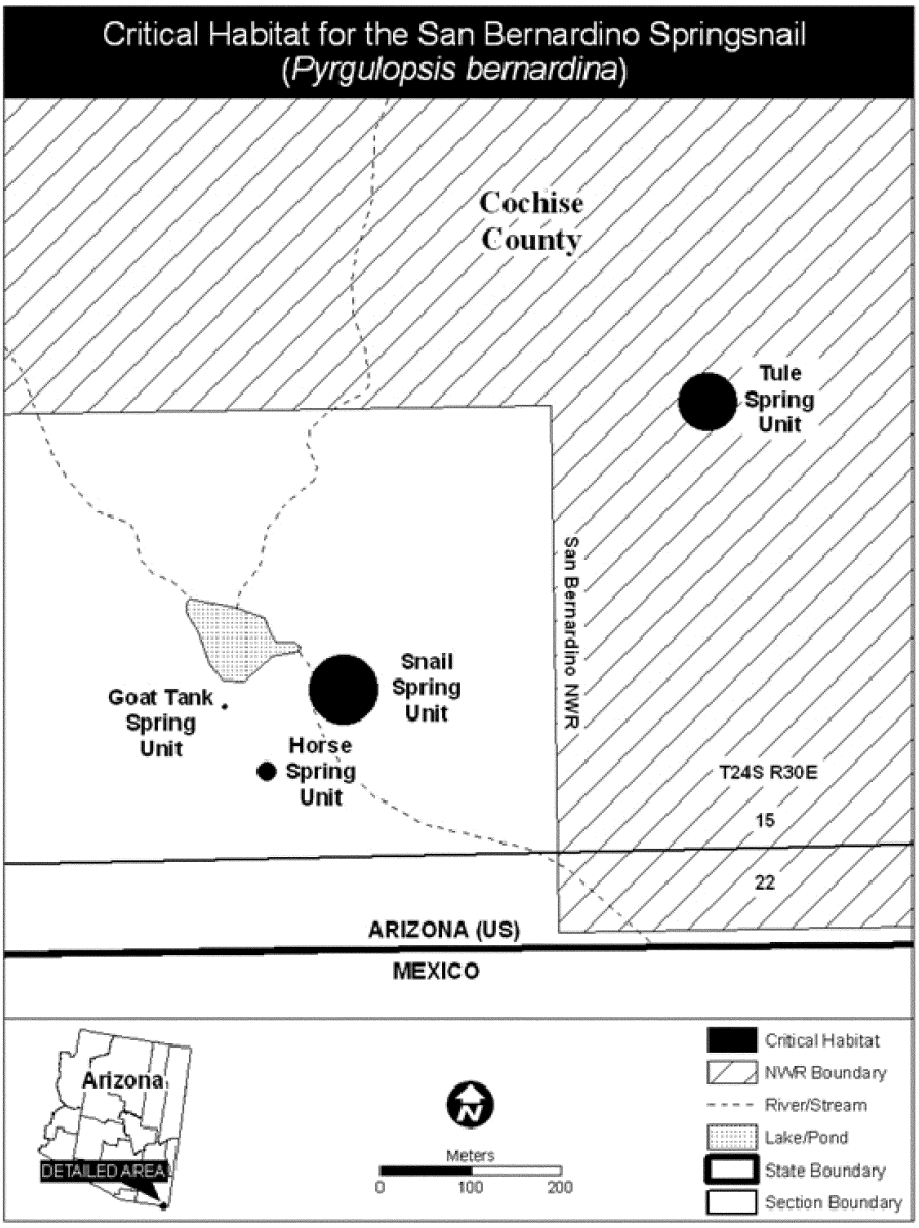
(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for egg laying, maturing, feeding, and escape from predators; and

(iv) Either an absence of nonnative predators (crayfish) and competitors (snails) or their presence at low population levels.

(3) Critical habitat does not include man-made structures other than the road culvert and concrete spring-boxes, which are included to protect the water flowing within them.

(4) *Critical habitat map units.* Data layers defining map units were plotted on 2007 USGS Digital Ortho Quarter Quad maps using Universal Transverse Mercator (UTM) coordinates in ArcMap. Because of the small size of the springs, spring runs and ditches, for mapping purposes we created a circle that encompasses them.

(5) NOTE: Index map of critical habitat for the San Bernardino springsnail follows:



(6) Snail Spring Unit contains approximately 0.457 ha (1.129 ac) in Cochise County, Arizona. This critical habitat unit is a spring approximately 5 m (16 ft) in diameter and has a spring run that goes south from the spring approximately 23.5 m (77 ft) to a man-made ditch, which runs 10.2 m (33.5 ft) to a dirt road. It passes under the road in a 3.5 m (11.5 ft) culvert, then flows approximately 17 m (56 ft) below the road. The culvert beneath the road is included in critical habitat, but not the road itself. We include a 1-m (3.3-ft)

upland area on each side of the spring, spring run, and ditch. The critical habitat unit is the spring, spring run, ditch, and buffer within the 76-m (249-ft) diameter circle centered on UTM coordinate 663858, 3468182 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

(7) Goat Tank Spring Unit contains approximately 0.002 ha (0.005 ac) in Cochise County, Arizona. The unit is a spring contained entirely within a square concrete box approximately 0.61 by 0.91 m (2 by 3 ft) and spring seepage emanating from the base of a cottonwood tree about 2 m (7 ft) from the spring-box. This unit includes a 1-m (3.3-ft) upland area on each side of the spring box and spring. The critical habitat is the spring-box, spring seepage, and buffer within the 5-m (16.4-ft) diameter circle centered on UTM coordinate 663725, 3468162 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

(8) Horse Spring Unit contains approximately 0.032 ha (0.078 ac) in Cochise County, Arizona. The unit is a spring and springrun approximately 0.5 m (1.6 ft) wide and 15.5 m (50.9 ft) in length. We include a 1-m (3.3-ft) upland area on each side of the springhead and spring-run. The designated critical habitat unit is the spring-box, spring seepage, and buffer within the 20-m (66-ft) diameter circle centered on UTM coordinate 663772, 3468091 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

(9) Tule Spring Unit contains approximately 0.324 ha (0.801 ac) in Cochise County, Arizona. The unit is a spring, which forms a pond approximately 23 m (75 ft) north-south and 13 m (43 ft) east-west, and it has a spring run that is approximately 22 m (71 ft) in length. The spring run emerges from the southeastern side of the spring pond, runs northeast for approximately 12.5 m (41 ft) to a manmade ditch, which runs southeast 9.2 m (30 ft). This unit includes a 1-m (3.3-ft) upland area on each side of the spring, spring run, and ditch. The designated critical habitat unit is the spring, spring-run, ditch, and buffer within the 64-m (210-ft) diameter circle centered on UTM coordinate 664259, 3468499 in Zone 12 with the units in meters using North American Datum of 1983 (NAD 83).

THREE FORKS SPRINGSNAIL (*Pyrgulopsis trivialis*)

(1) Critical habitat units are depicted for Apache County, Arizona, on the map at paragraph (5) of this entry.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the San Bernardino springsnail consist of four components:

(i) Adequately clean spring water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Periphyton (attached algae), bacteria, and decaying organic material for food;

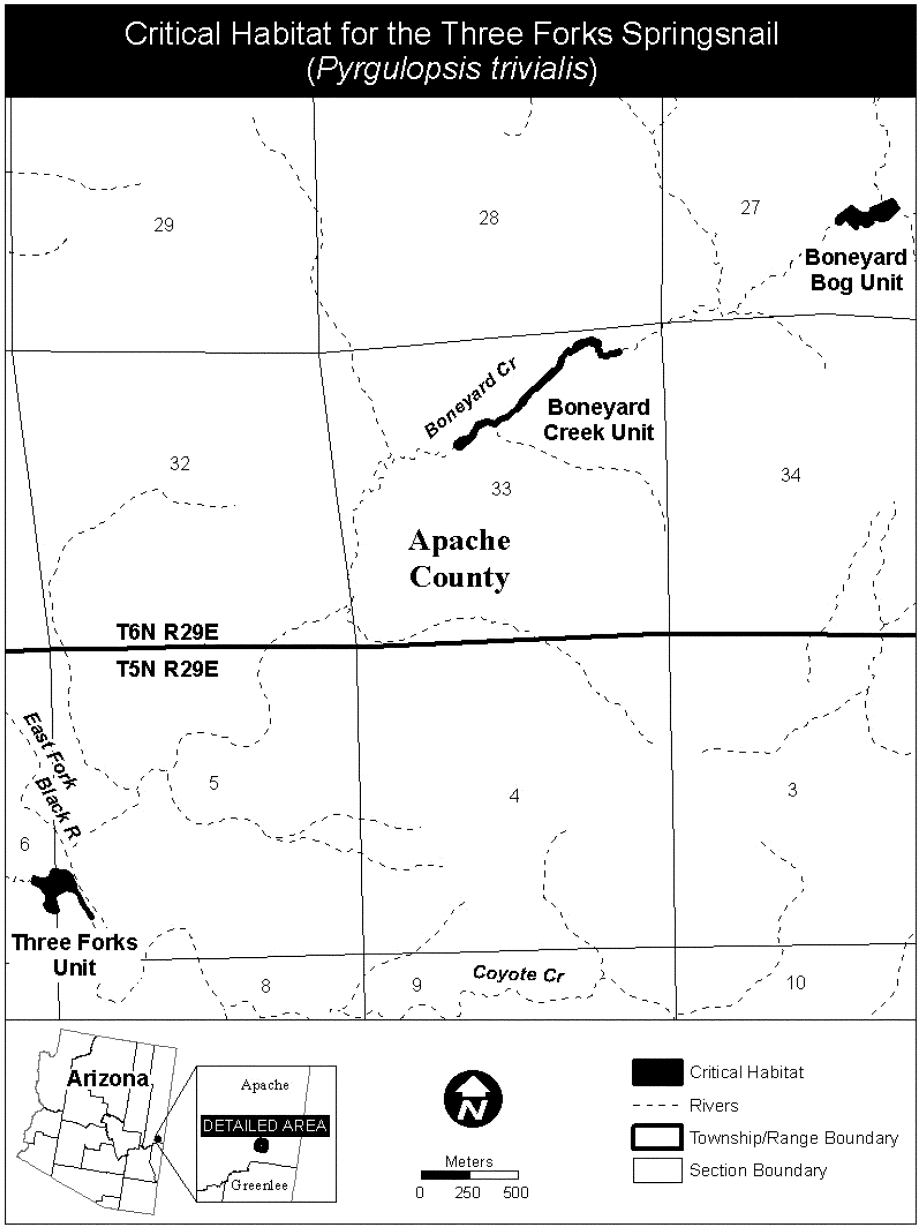
(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for egglaying, maturing, feeding, and escape from predators; and

(iv) Either an absence of nonnative predators (crayfish) and competitors (snails) or their presence at low population levels.

(3) Critical habitat does not include manmade structures other than concrete springboxes, which are included to protect the flowing water within them.

(4) Critical habitat map units were plotted on 2007 USGS Digital Ortho Quarter Quad maps using Universal Transverse Mercator (UTM) coordinates in ArcMap.

(5) NOTE: Index map of critical habitat for the Three Forks springsnail follows:



(6) Three Forks Springs Unit (2.5 ha; 6.1 ac). The Three Forks Spring Unit consists of all areas within boundary points with the following coordinates in UTM Zone 12 with the units in meters using North American Datum of 1983 (NAD 83): 655708, 3747262; 655714, 3747269; 655746, 3747258; 655777, 3747256; 655802, 3747270; 655808, 3747288; 655815, 3747304; 655877, 3747299; 655898, 3747291; 655911, 3747271; 655922, 3747253; 655932, 3747227; 655932, 3747209; 655939, 3747196; 655948, 3747186; 655958, 3747165; 655969, 3747142; 655979, 3747116; 655998, 3747094;

656013, 3747078; 656022, 3747061; 656023, 3747050; 656013, 3747052; 656001, 3747065; 655991, 3747086; 655973, 3747112; 655963, 3747133; 655951, 3747166; 655931, 3747191; 655906, 3747198; 655886, 3747201; 655869, 3747198; 655836, 3747179; 655826, 3747158; 655830, 3747123; 655841, 3747098; 655838, 3747083; 655818, 3747085; 655785, 3747097; 655771, 3747122; 655782, 3747144; 655784, 3747170; 655752, 3747216; 655715, 3747232; 655707, 3747242; Thence returning to 655708, 3747262.

(7) Boneyard Bog Springs Unit (2.1 ha; 5.3 ac). The Boneyard Bog Springs Unit consists of all areas within boundary points with the following coordinates in UTM Zone 12 with the units in meters using North American Datum of 1983 (NAD 83): 659968, 3750753; 659990, 3750731; 660021, 3750713; 660060, 3750717; 660070, 3750742; 660176, 3750787; 660190, 3750781; 660199, 3750758; 660208, 3750744; 660159, 3750685; 660125, 3750680; 660088, 3750684; 660081, 3750690; 660072, 3750691; 660072, 3750676; 660076, 3750675; 660076, 3750664; 660069, 3750664; 660067, 3750663; 660060, 3750654; 660052, 3750648; 660034, 3750649; 660029, 3750654; 660027, 3750663; 660008, 3750659; 659997, 3750649; 659997, 3750639; 659988, 3750639; 659982, 3750641; 659958, 3750660; 659954, 3750671; 659945, 3750675; 659942, 3750688; 659933, 3750685; 659904, 3750662; 659889, 3750669; 659885, 3750687; 659902, 3750702; 659919, 3750712; Thence returning to 659968, 3750753.

(8) Boneyard Creek Springs Unit (2.3 ha; 5.8 ac). The Boneyard Creek Springs Unit consists of all areas within boundary points with the following coordinates in UTM Zone 12 with the units in meters using North American Datum of 1983 (NAD 83): 658758, 3750008; 658765, 3749996; 658763, 3749984; 658732, 3749975; 658714, 3749981; 658698, 3749968; 658661, 3749971; 658655, 3749981; 658655, 3749998; 658642, 3750000; 658638, 3750024; 658623, 3750034; 658606, 3750036; 658580, 3750029; 658568, 3750020; 658553, 3750013; 658537, 3750005; 658519, 3749993; 658507, 3749985; 658492, 3749992; 658479, 3749976; 658469, 3749960; 658467, 3749945; 658460, 3749935; 658452, 3749913; 658405, 3749863; 658371, 3749841; 658343, 3749805; 658312, 3749789; 658273, 3749741; 658272, 3749733; 658268, 3749725; 658261, 3749722; 658254, 3749720; 658242, 3749699; 658211, 3749682; 658184, 3749655; 658140, 3749634; 658119, 3749610; 658074, 3749624; 658024, 3749603; 657999, 3749549; 657932, 3749492; 657916, 3749492; 657904, 3749509; 657912, 3749527; 657933, 3749545; 657982, 3749559; 658020, 3749623; 658072, 3749642; 658111, 3749632; 658129, 3749649; 658174, 3749667; 658201, 3749691; 658223, 3749705; 658246, 3749743; 658311, 3749811; 658336, 3749826; 658403, 3749893; 658410, 3749904; 658420, 3749908; 658434, 3749917; 658447, 3749962; 658473, 3749991; 658493, 3750013; 658509, 3750003; 658523, 3750019; 658528, 3750030; 658538, 3750043; 658564, 3750055; 658584, 3750053; 658598, 3750061; 658616, 3750068; 658657, 3750052; 658658, 3750032; 658656, 3750020; 658667, 3750002; 658666, 3749982; 658692, 3749984; 658712, 3749994; 658730, 3749994; Thence returning to 658758, 3750008.

PHANTOM SPRINGSNAIL *(Pyrgulopsis texana)* AND PHANTOM TRYONIA *(Tryonia cheatumi)*

(1) Critical habitat units are depicted for Jeff Davis County and Reeves County, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Phantom springsnail and Phantom tryonia are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, egg laying, maturing, feeding, and escape from predators;

(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

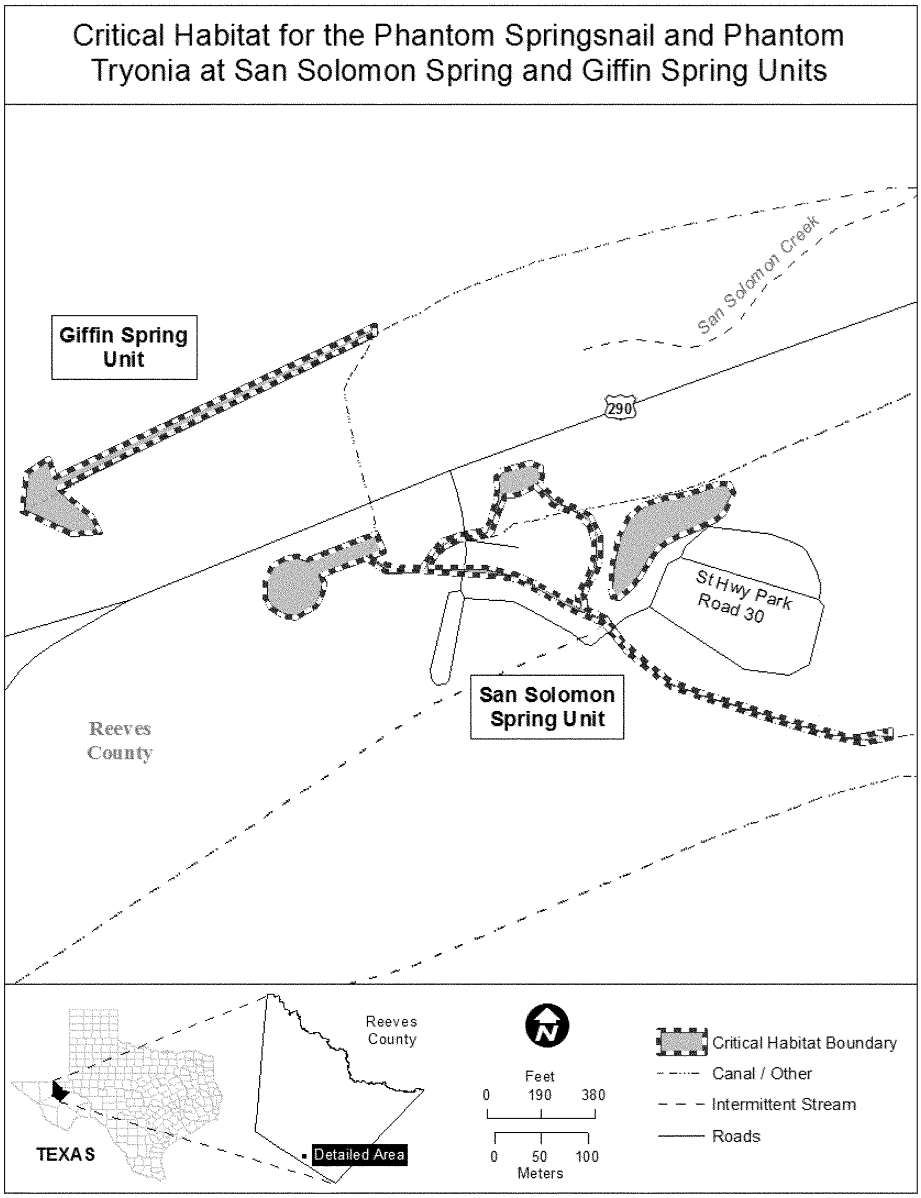
(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, well pads, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 8, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the

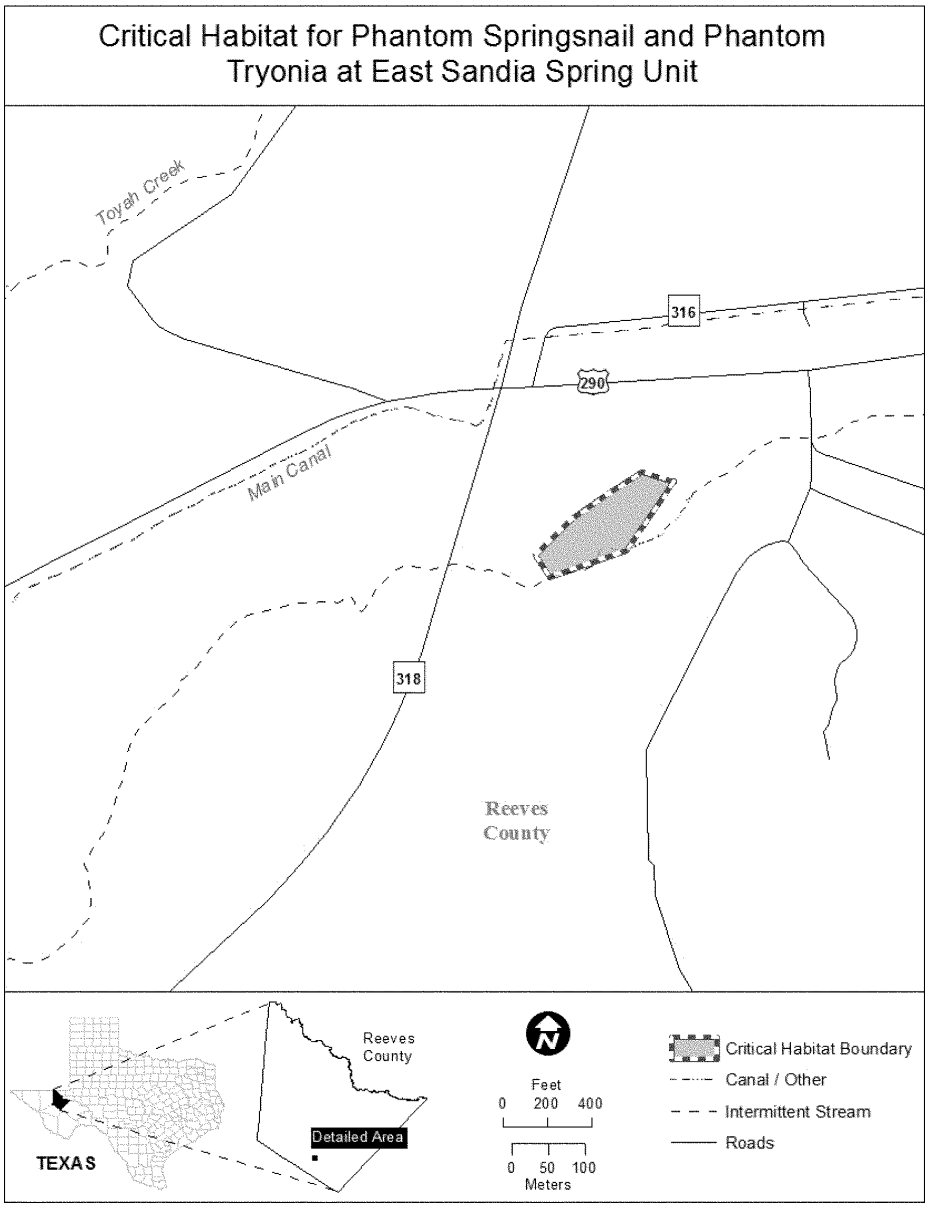
field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) San Solomon Spring Unit, Reeves County, Texas. Map of San Solomon Spring Unit follows:

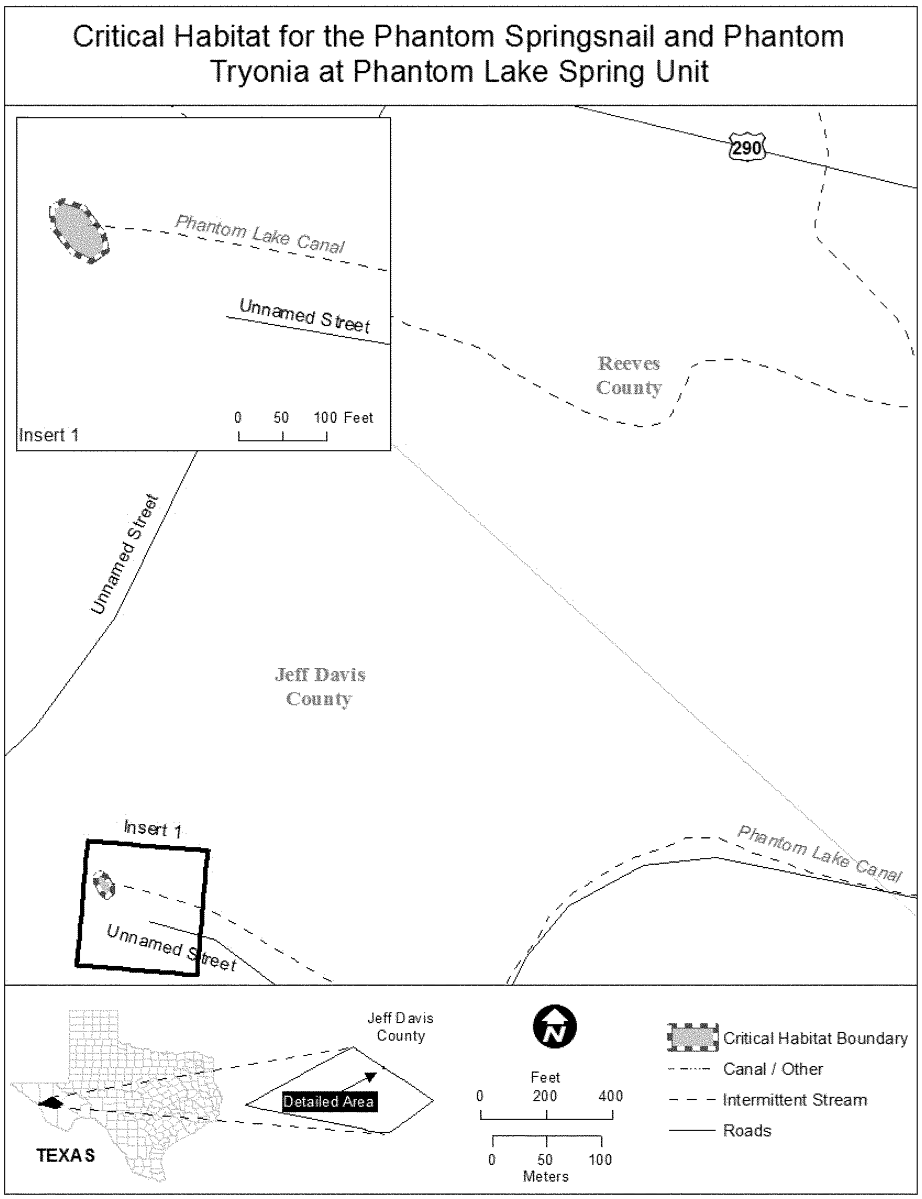


(6) Giffin Spring Unit, Reeves County, Texas. Map of Giffin Spring Unit is provided at paragraph (5) of this entry.

(7) East Sandia Spring Unit, Reeves County, Texas. Map of East Sandia Spring Unit follows:



(8) Phantom Lake Spring Unit, Jeff Davis County, Texas. Map of Phantom Lake Spring Unit follows:



DIAMOND TRYONIA (*Pseudotryonia adamantina*) AND GONZALES TRYONIA (*Tryonia circumstriata*)

(1) A critical habitat unit is depicted for Pecos County, Texas, on the map below.

(2) Within this area, the primary constituent elements of the physical or biological features essential to the conservation of Diamond tryonia and Gonzales tryonia are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, egg laying, maturing, feeding, and escape from predators;

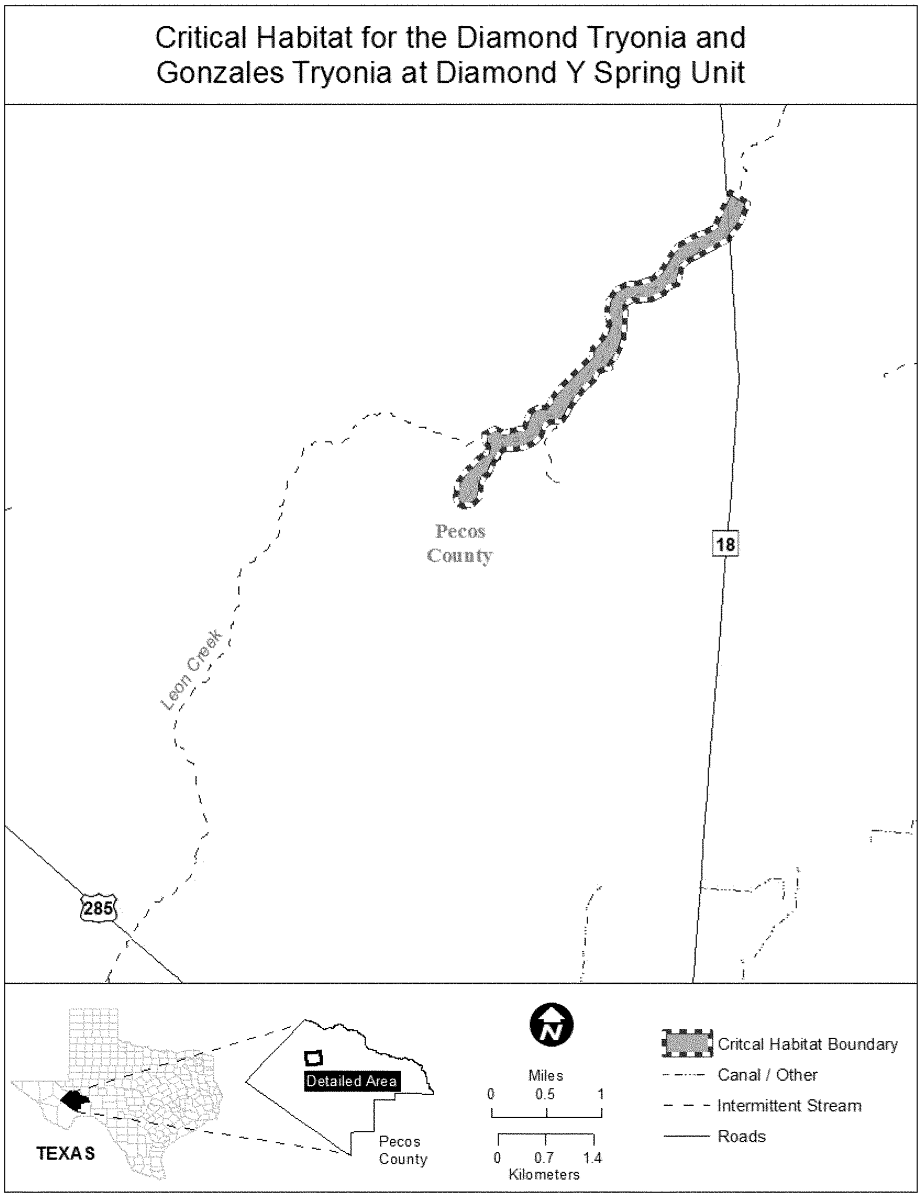
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include manmade structures (such as buildings, roads, oil and gas well pads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 8, 2013.

(4) *Critical habitat map unit*. Data layers defining the map unit were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Diamond Y Spring Unit, Pecos County, Texas. Map of Diamond Y Spring Unit follows:



(g) *Arachnids.*

COKENDOLPHER CAVE HARVESTMAN (*Texella cokendolpheri*)

(1) Critical habitat for the Cokendolpher Cave harvestman in Bexar County, Texas, occurs in Unit 20 as described in this entry and depicted on Map 1 (index map) and Map 2 in this entry.

(2) The primary constituent elements of critical habitat for the Cokendolpher Cave harvestman are:

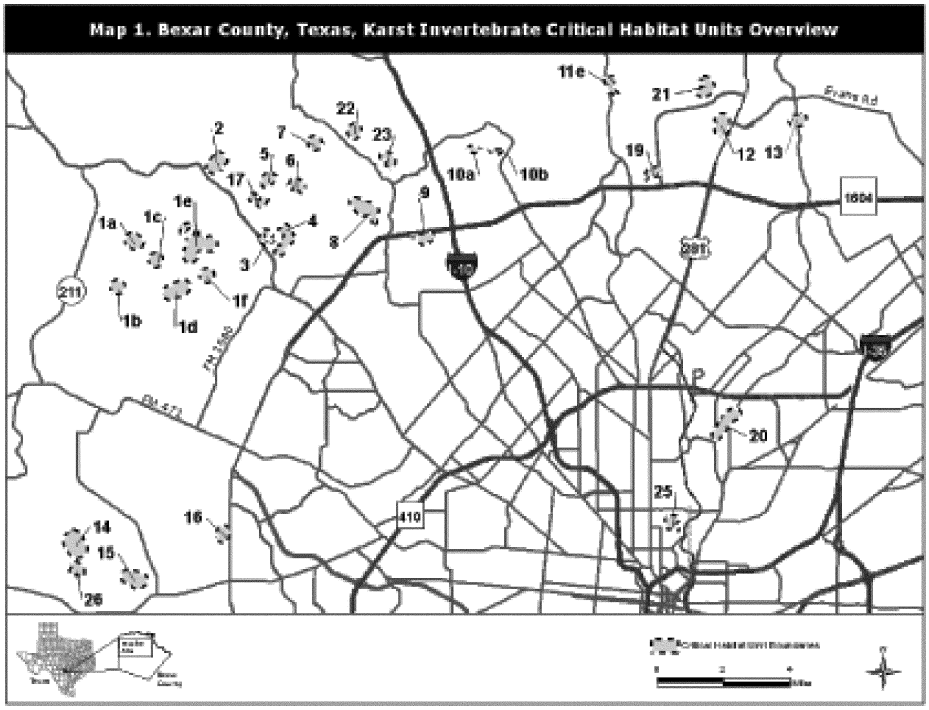
(i) Karst-forming rock containing subterranean spaces (caves and connected mesocaverns) with stable temperatures, high humidities (near saturation), and suitable substrates (for example, spaces between and underneath rocks for foraging and sheltering) that are free of contaminants; and

(ii) Surface and subsurface sources (such as plants and their roots, fruits, and leaves, and animal (e.g., cave cricket) eggs, feces, and carcasses) that provide nutrient input into the karst ecosystem.

(3) Developed lands that do not contain the subsurface primary constituent elements (see paragraph (2)(i) of this entry) and that existed on the effective date of this rule are not considered to be critical habitat.

(4) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

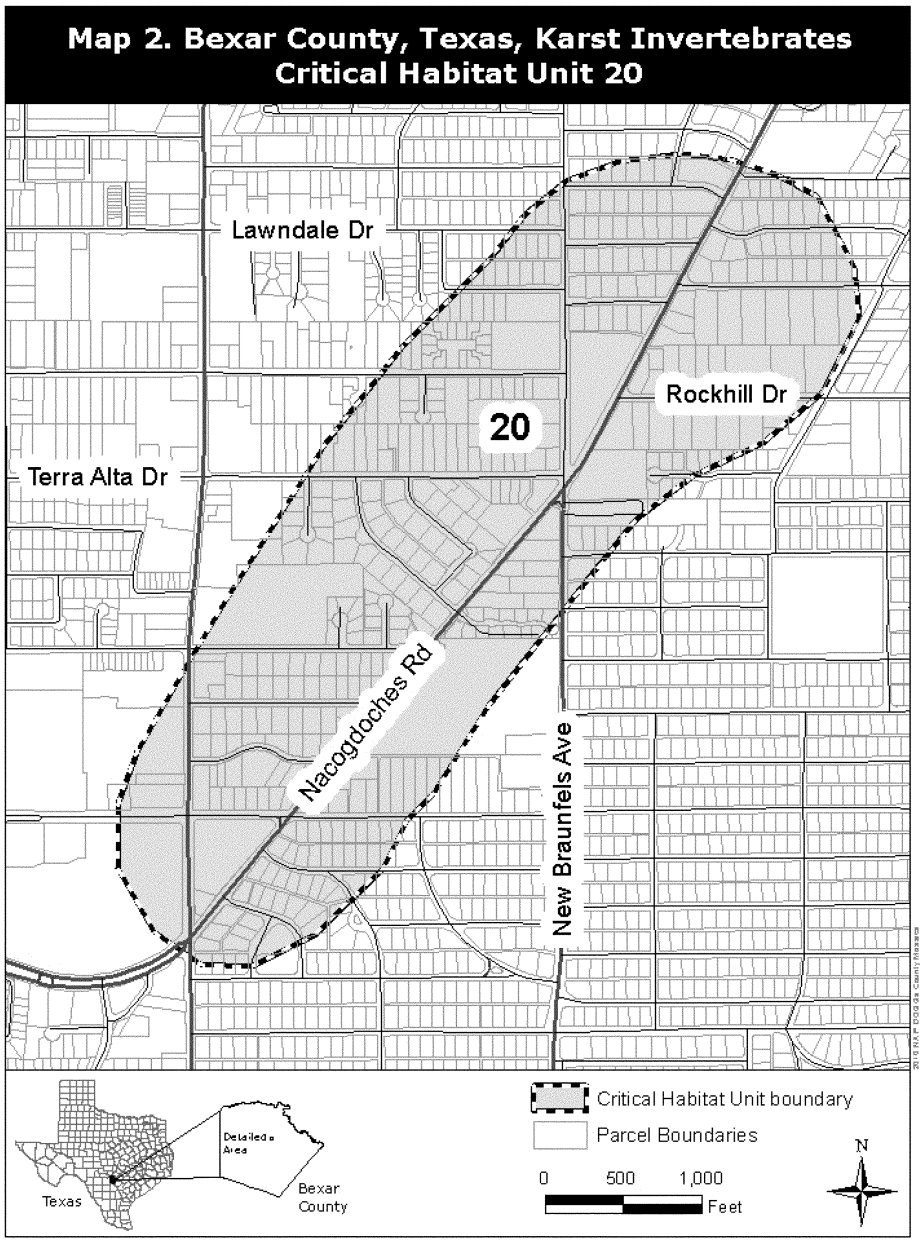
(5) Index map of Bexar County invertebrates critical habitat units, Bexar County, Texas, follows:



(6) Unit 20: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 552126, 3264361; 552287, 3264522; 552357, 3264610; 552436, 3264673; 552536, 3264710; 552654, 3264726; 552756, 3264714; 552840, 3264685; 552920, 3264644; 552991, 3264506; 553001, 3264408; 552930, 3264263; 552813, 3264165; 552683, 3264104; 552571, 3264018; 552485, 3263914; 552285, 3263659; 552175, 3263484; 552124, 3263435; 552081, 3263341; 551949, 3263214; 551826, 3263155; 551728, 3263159; 551639, 3263221; 551567, 3263343; 551569, 3263474; 551606, 3263569; 551704, 3263739; 551777, 3263863; 551969, 3264165; 552126, 3264361.

(ii) NOTE: Map 2 of Unit 20 follows:



BRAKEN BAT CAVE MESHWEAVER (*Cicurina venii*)

(1) Critical habitat for the Braken Bat Cave meshweaver in Bexar County, Texas, occurs in Unit 15, as described in this entry and depicted on Map 2 in this entry. Unit 15 is also depicted on Map 1 (index map) provided at paragraph (5) of the entry for the

Cokendolpher Cave harvestman in this paragraph (g).

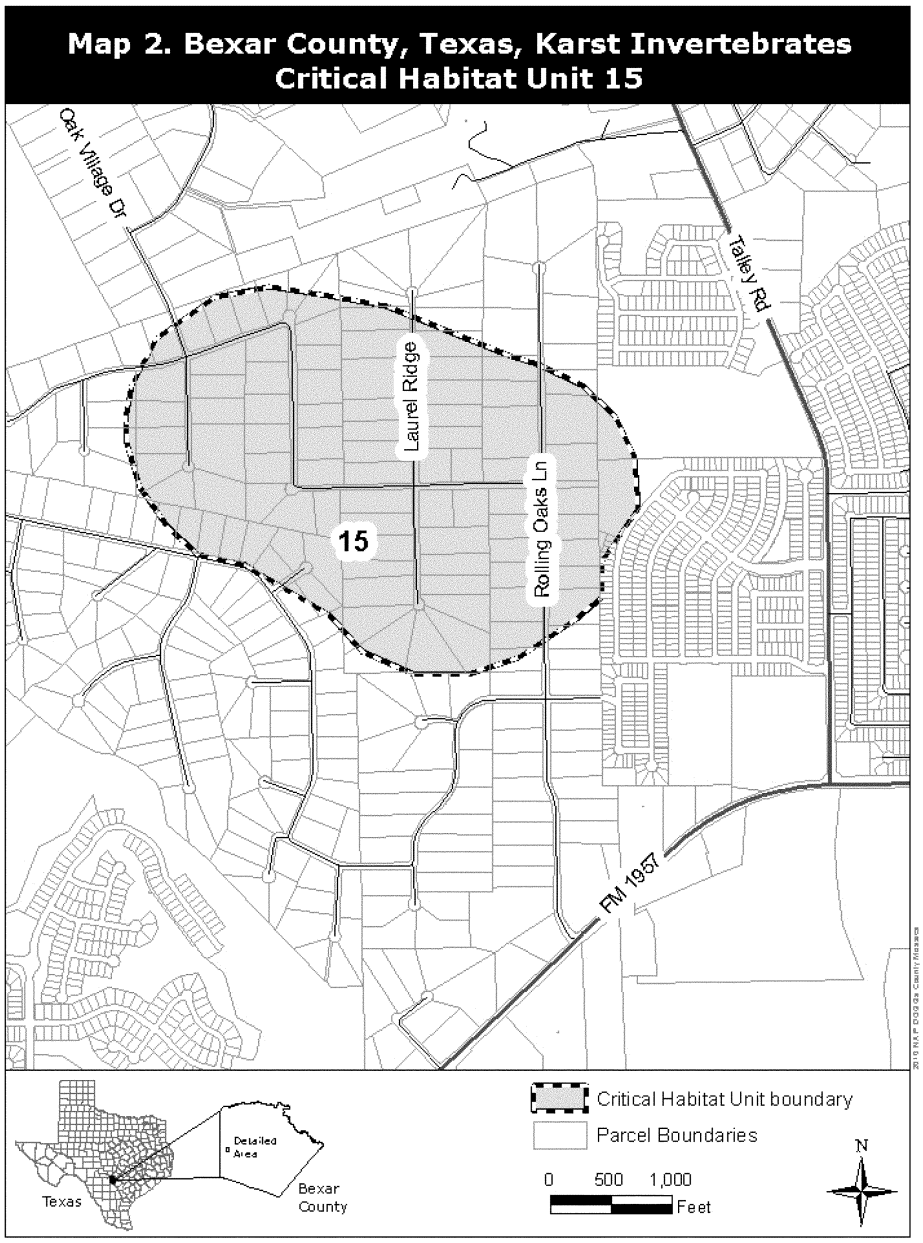
(2) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Braken Bat Cave meshweaver are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 15: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522689, 3256455; 522687, 3256517; 522703, 3256601; 522765, 3256718; 522911, 3256823; 523046, 3256851; 523177, 3256830; 523344, 3256801; 523479, 3256747; 523658, 3256674; 523725, 3256656; 523834, 3256603; 523918, 3256523; 523969, 3256419; 523978, 3256293; 523885, 3256159; 523885, 3256069; 523822, 3256015; 523674, 3255915; 523547, 3255873; 523414, 3255874; 523281, 3255933; 523201, 3256024; 523017, 3256131; 522987, 3256149; 522940, 3256160; 522894, 3256168; 522869, 3256174; 522790, 3256246; 522722, 3256345; 522689, 3256455.

(ii) NOTE: Map 2 of Unit 15 follows:



GOVERNMENT CANYON BAT CAVE MESHWEAVER (*Cicurina vespera*)

(1) Critical habitat for the Government Canyon Bat Cave meshweaver in Bexar County, Texas, occurs in Unit 1b, as described in this entry and depicted on Map 2 in this entry. Unit 1b is also depicted on Map 1 (index map) provided at paragraph (5) of the

entry for the Cokendolpher Cave harvestman in this paragraph (g).

(2) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Government Canyon Bat Cave meshweaver are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 1b: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522172, 3270656; 522202, 3270794; 522259, 3270889; 522375, 3270977; 522521, 3271014; 522677, 3270988; 522793, 3270905; 522880, 3270758; 522894, 3270605; 522843, 3270457; 522724, 3270335; 522571, 3270287; 522401, 3270312; 522280, 3270382; 522186, 3270538; 522172, 3270656.

(ii) NOTE: Map 2 of Units 1a, 1b, 1c, 1d, 1e, and 1f follows:

MADLA CAVE MESHWEAVER (*Cicurina madla*)

(1) Critical habitat for the Madla Cave meshweaver in Bexar County, Texas, occurs in Units 1a, 1c, 1d, 1e, 2, 3, 5, 6, 8, 9, 17, and 22, as described in this entry and depicted on Maps 3, 4, 5, 6, 7, and 8 in this entry. Units 1a, 1c, 1d, and 1e are depicted on Map 2, which is provided at paragraph (4)(ii) of the entry for

the Government Canyon Bat Cave meshweaver in this paragraph (g). Units 1a, 1c, 1d, 1e, 2, 3, 5, 6, 8, 9, 17, and 22 are also depicted on Map 1 (index map) provided at paragraph (5) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(2) Eight caves and their associated karst management areas established under the La Cantera Habitat Conservation Plan section 10(a)(1)(B) permit are adjacent to or within the boundaries of Units 1e, 3, 6, 8, and 17, but are not designated as critical habitat. These caves are Canyon Ranch Pit, Fat Man's Nightmare Cave, Scenic Overlook Cave and the surrounding approximately 75 ac (30 ha) adjacent to Unit 1e; Helotes Blowhole and Helotes Hilltop Caves and the surrounding approximately 25 ac (10 ha) adjacent to Unit 3; John Wagner Cave No. 3 and the surrounding approximately 4 ac (1.6 ha) adjacent to Unit 6; Hills and Dales Pit and the surrounding approximately 70 ac (28 ha) adjacent to Unit 8; and Madla's Cave and the surrounding approximately 5 ac (2 ha) within Unit 17.

(3) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Madla Cave meshweaver are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(4) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(5) Unit 1a: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522870, 3272900; 522872, 3273024; 522919, 3273156; 523000, 3273241; 523124, 3273312; 523284, 3273323; 523438, 3273258; 523618, 3273132; 523729, 3273041; 523797, 3272836; 523784, 3272720; 523724, 3272603; 523633, 3272522; 523515, 3272464; 523406, 3272460; 523276, 3272492; 523041, 3272654; 522939, 3272737; 522870, 3272900.

(ii) NOTE: Unit 1a is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(6) Unit 1c: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 524033, 3271973; 524063, 3272110; 524119, 3272206; 524235, 3272294; 524382, 3272331; 524537, 3272305; 524654, 3272222; 524740, 3272075; 524754, 3271922; 524703, 3271773; 524585, 3271652; 524431, 3271604; 524262, 3271629; 524140, 3271699; 524047, 3271855; 524033, 3271973.

(ii) NOTE: Unit 1c is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(7) Unit 1d: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 524739, 3270323; 524739, 3270454; 524798, 3270590; 524917, 3270699; 525091, 3270744; 525462, 3270937; 525613, 3271016; 525757, 3271026; 525893, 3270977; 526000, 3270883; 526059, 3270741; 526062, 3270603; 525980, 3270370; 525836, 3270243; 525700, 3270206; 525289, 3270072; 525153, 3270020; 525016, 3270023; 524883, 3270092; 524788, 3270191; 524739, 3270323.

(ii) NOTE: Unit 1d is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(8) Unit 1e: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 526403, 3273634; 526465, 3273472; 526487, 3273282; 526506, 3273157; 526879, 3273092; 527025, 3273129; 527180, 3273102; 527297, 3273019; 527383, 3272873; 527398, 3272719; 527346, 3272571; 527228, 3272449; 527075, 3272402; 526905, 3272426; 526783, 3272497; 526472, 3272434; 526435, 3272318; 526460, 3272223; 526443, 3272077; 526356, 3271945; 526158, 3271842; 525997, 3271842; 525854, 3271930; 525762, 3272044; 525703, 3272205; 525729, 3272352; 525802, 3272494; 525890, 3272776; 525876, 3272894; 525858, 3272918; 525912, 3272925; 525904, 3272945; 525903, 3272947; 525903, 3272949; 525902, 3272950; 525902, 3272952; 525901, 3272954; 525901, 3272956; 525900, 3272957; 525900, 3272959; 525899, 3272961; 525899, 3272963; 525898, 3272965; 525898, 3272966; 525898, 3272968; 525898, 3272970; 525897, 3272972; 525897, 3272974; 525897, 3272975; 525897, 3272977; 525897, 3272979; 525897, 3272981; 525897, 3272983; 525897, 3272985; 525897, 3272986; 525897, 3272988; 525897, 3272990; 525897, 3272992; 525897, 3272994; 525897, 3272996; 525897, 3272997; 525898, 3272999; 525898, 3273001; 525898, 3273003; 525899, 3273005; 525899, 3273007; 525899, 3273008; 525900, 3273010; 525900, 3273012; 525901, 3273014; 525901, 3273015; 525902, 3273017; 525902, 3273019; 525903, 3273021; 525904, 3273022; 525904, 3273024; 525905, 3273026; 525906, 3273027; 525906, 3273029; 525907, 3273031; 525908, 3273032; 525909, 3273034; 525910, 3273036; 525911, 3273037; 525912, 3273039; 525913, 3273040; 525914, 3273042; 525915, 3273044; 525916, 3273045; 525917, 3273047; 525918, 3273048; 525919, 3273049; 525920, 3273051; 525921, 3273052; 525923, 3273054; 525924, 3273055; 525925, 3273056; 525926, 3273058; 525928, 3273059; 525929, 3273060; 525930, 3273062; 525932, 3273063; 525933, 3273064; 525934, 3273065; 525936, 3273066; 525937, 3273068; 525939, 3273069; 525940, 3273070; 525942, 3273071; 525943, 3273072; 525945, 3273073; 525946, 3273074; 525948, 3273075; 525949, 3273076; 525951, 3273077; 525953, 3273078; 525954, 3273078; 525956, 3273079; 525958, 3273080; 526305, 3273293; 526303, 3273302; 526276, 3273412; 526276, 3273412; 526254, 3273499; 526202, 3273564; 526023, 3273523; 525917, 3273448; 525824, 3273382; 525786, 3273440; 525587, 3273259; 525586, 3273260; 525572, 3273363; 525594, 3273505; 525693, 3273659; 525876, 3273765; 526048, 3273798; 526253, 3273754; 526403, 3273634.

(ii) NOTE: Unit 1e is depicted on Map 2, provided at paragraph (4)(ii) of the entry for the

Government Canyon Bat Cave meshweaver in this paragraph (g).

(9) Unit 2: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 527508, 3276359; 527444, 3276287; 527343, 3276226; 527229, 3276204; 527117, 3276216; 527116, 3276253; 527085, 3276279; 527003, 3276270; 526933, 3276334; 526905, 3276386; 526783, 3276386; 526851, 3276555; 526850, 3276556; 526864, 3276662; 526908, 3276736; 526960, 3276801; 527010, 3276865; 527213, 3277098; 527281, 3277166; 527392, 3277230; 527536, 3277252; 527711, 3277190; 527805, 3277102; 527857, 3277003; 527869, 3276903; 527861, 3276787; 527803, 3276674; 527699, 3276578; 527644, 3276515; 527643, 3276397; 527630, 3276386; 527530, 3276384; 527508, 3276359.

(ii) NOTE: Map 3 of Unit 2 follows:

(10) Unit 3: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529906, 3272892; 529975, 3272934; 529993, 3272946; 529996, 3272945; 529998, 3272943; 530001, 3272942; 530004, 3272940; 530006, 3272938; 530007, 3272938; 530020, 3272926; 530026, 3272920; 530030, 3272917; 530032, 3272915;

530043, 3272905; 530045, 3272903; 530045, 3272902; 530046, 3272901; 530047, 3272900; 530049, 3272897; 530050, 3272895; 530050, 3272895; 530120, 3272932; 530134, 3272895; 530165, 3272898; 530159, 3272895; 530124, 3272875; 530112, 3272843; 530083, 3272805; 530081, 3272805; 530049, 3272774; 530020, 3272734; 529995, 3272714; 529909, 3272671; 529790, 3272649; 529688, 3272658; 529646, 3272723; 529589, 3272792; 529584, 3272798; 529600, 3272911; 529558, 3272947; 529514, 3272978; 529473, 3272968; 529445, 3273019; 529423, 3273086; 529449, 3273173; 529482, 3273196; 529507, 3273216; 529496, 3273253; 529504, 3273344; 529564, 3273416; 529676, 3273477; 529771, 3273499; 529870, 3273496; 529918, 3273447; 529970, 3273351; 530058, 3273320; 530110, 3273233; 530105, 3273183; 530099, 3273138; 530128, 3273120; 530096, 3273123; 530057, 3273126; 530055, 3273143; 530048, 3273180; 530057, 3273190; 530057, 3273190; 530049, 3273191; 530038, 3273192; 530002, 3273195; 529946, 3273200; 529916, 3273202; 529898, 3273204; 529897, 3273204; 529680, 3273221; 529753, 3273117; 529764, 3273100; 529836, 3272993; 529845, 3272981; 529906, 3272892.

(ii) NOTE: Map 4 of Units 3 and 4 follows:

(11) Unit 5: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529536, 3275753; 529533, 3275931; 529585, 3276056; 529741, 3276191; 529927, 3276249; 530112, 3276208; 530275, 3276093; 530350, 3275987; 530318, 3275927; 530238, 3275838; 530169, 3275776; 530109, 3275735; 529970, 3275629;

529950, 3275603; 529936, 3275565; 529781, 3275523; 529719, 3275529; 529621, 3275548; 529566, 3275611; 529536, 3275753.

(ii) NOTE: Map 5 of Units 5, 6, and 17 follows:

(12) Unit 6: Bexar County, Texas.

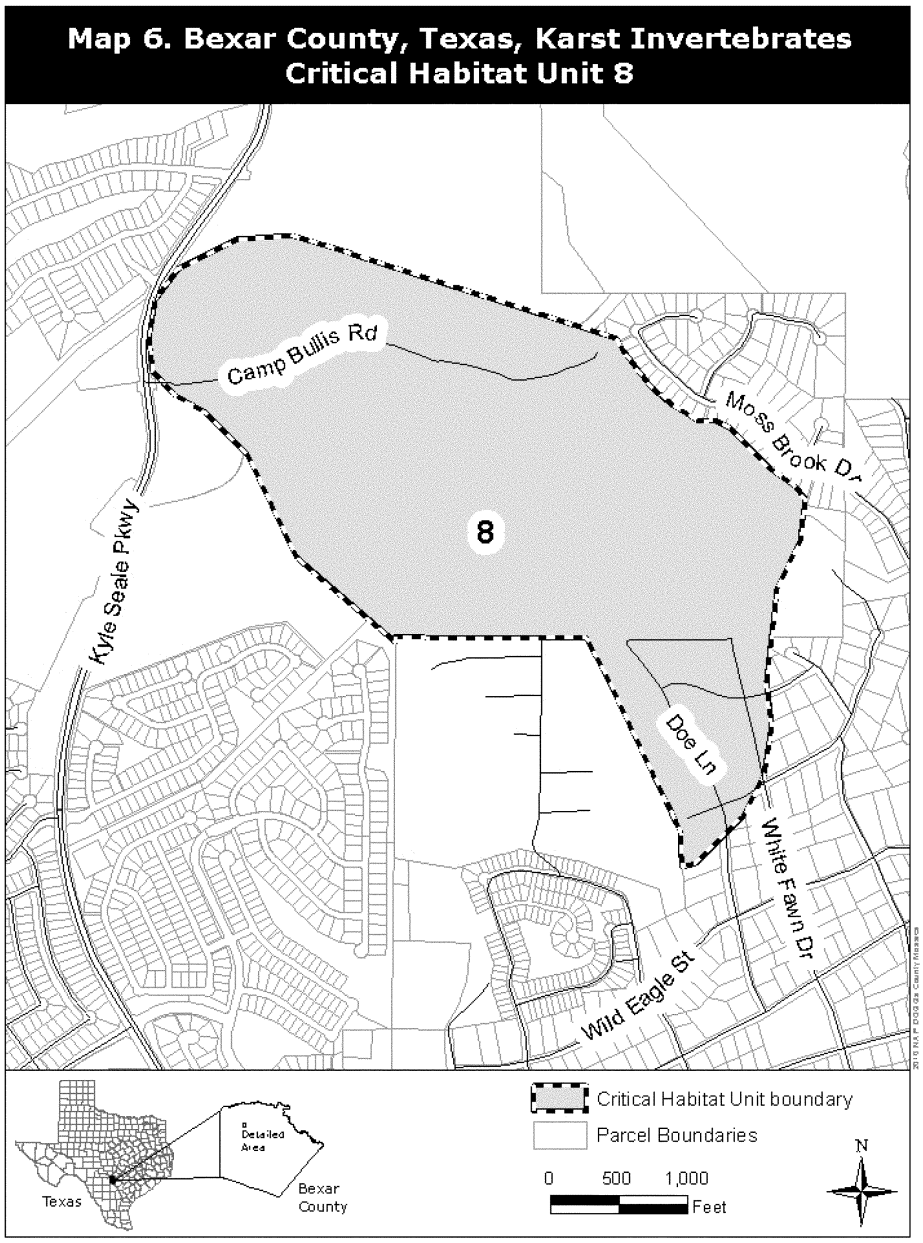
(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 531676, 3275515; 531639, 3275342; 531576, 3275302; 531483, 3275283; 531331, 3275337; 531242, 3275350; 531189, 3275346; 531193, 3275501; 531094, 3275501; 531094, 3275378; 531072, 3275398; 530953, 3275478; 530909, 3275521; 530851, 3275661; 530871, 3275702; 530981, 3275903; 531119, 3275970; 531335, 3275950; 531512, 3275851; 531615, 3275701; 531676, 3275515.

(ii) NOTE: Unit 6 is depicted on Map 5, provided at paragraph (10)(ii) of this entry.

(13) Unit 8: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 535007, 3274657; 535063, 3274624; 535096, 3274626; 535133, 3274610; 535173, 3274570; 535222, 3274516; 535282, 3274478; 535302, 3274450; 535290, 3274359; 535238, 3274250; 535215, 3274045; 535226, 3273947; 535209, 3273836; 535160, 3273741; 535056, 3273640; 535027, 3273631; 535026, 3273654; 535022, 3273714; 535018, 3273721; 535013, 3273730; 534992, 3273775; 534988, 3273784; 534962, 3273838; 534962, 3273838; 534936, 3273892; 534909, 3273947; 534909, 3273947; 534883, 3274002; 534856, 3274057; 534856, 3274057; 534813, 3274142; 534708, 3274141; 534625, 3274140; 534519, 3274140; 534389, 3274145; 534389, 3274132; 534168, 3274322; 534058, 3274551; 533966, 3274645; 533893, 3274683; 533848, 3274736; 533839, 3274809; 533853, 3274895; 533905, 3274965; 534037, 3275030; 534156, 3275037; 534290, 3274997; 534292, 3274995; 534881, 3274809; 534894, 3274782; 534931, 3274737; 534962, 3274695; 535007, 3274657.

(ii) NOTE: Map 6 of Unit 8 follows:

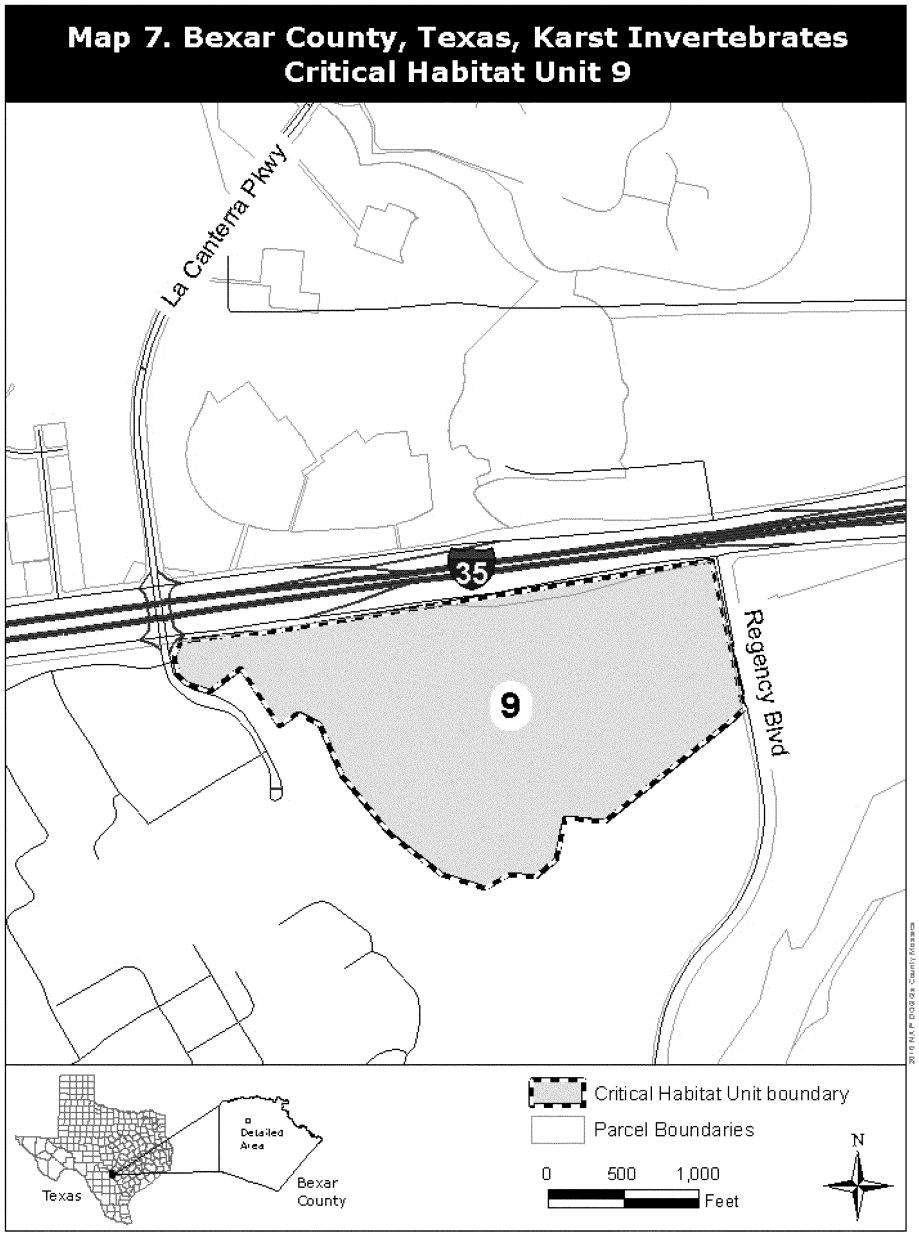


(14) Unit 9: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 536971, 3273194; 537058, 3273204; 537958, 3273349; 538025, 3273049; 538011, 3273033; 537743, 3272819; 537663, 3272828; 537645, 3272742; 537602, 3272707; 537551, 3272712; 537500, 3272684; 537412, 3272713; 537309, 3272793; 537213, 3272912; 537167, 3273017; 537121, 3273038; 537084, 3273013; 537008, 3273129; 536943, 3273082;

536897, 3273099; 536879, 3273117; 536871, 3273154; 536887, 3273183; 536971, 3273194.

(ii) NOTE: Map 7 of Unit 9 follows:



(15) Unit 17: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 528980, 3275191; 529043, 3275247; 529120, 3275242; 529245, 3275219; 529327, 3275184; 529348, 3275167; 529492, 3275167; 529613, 3275113; 529800, 3275081; 529870, 3274953; 529819, 3274777; 529698, 3274627; 529486, 3274528; 529360, 3274615; 529335, 3274712; 529174, 3274840; 528968, 3274859; 528957, 3275049; 528980, 3275191.

(ii) Not including land within and bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529490, 3275008; 529490, 3275006; 529490, 3275005; 529490, 3275003; 529490, 3275002; 529489, 3275001; 529489, 3274999; 529489, 3274998; 529489, 3274997; 529489, 3274995; 529489, 3274994; 529488, 3274993; 529488, 3274992; 529489, 3274991; 529489, 3274986; 529489, 3274983; 529489, 3274982; 529482, 3274919; 529329, 3274930; 529337, 3274993; 529337, 3274993; 529337, 3274994; 529336, 3274995; 529337, 3274997; 529337, 3274998; 529336, 3274999; 529336, 3275001; 529336, 3275002; 529336, 3275003; 529336, 3275005; 529336, 3275006; 529336, 3275008; 529336, 3275009; 529336, 3275010; 529336, 3275012; 529336, 3275013; 529336, 3275014; 529336, 3275016; 529337, 3275017; 529337, 3275018; 529337, 3275020; 529337, 3275021; 529337, 3275022; 529338, 3275023; 529338, 3275025; 529338, 3275026; 529339, 3275027; 529339, 3275029; 529339, 3275030; 529340, 3275031; 529340, 3275033; 529341, 3275034; 529341, 3275035; 529342, 3275036; 529342, 3275038; 529343, 3275039; 529343, 3275040; 529344, 3275041; 529344, 3275042; 529345, 3275044; 529346, 3275045; 529346, 3275046; 529347, 3275047; 529348, 3275048; 529348, 3275049; 529349, 3275050; 529350, 3275052; 529351, 3275053; 529351, 3275054; 529352, 3275055; 529353, 3275056; 529354, 3275057; 529355, 3275058; 529356, 3275059; 529357, 3275060; 529358, 3275061; 529359, 3275062; 529359, 3275063; 529360, 3275064; 529361, 3275065; 529362, 3275066; 529363, 3275066; 529364, 3275067; 529366, 3275068; 529367, 3275069; 529368, 3275070; 529369, 3275070; 529370, 3275071; 529371, 3275072; 529372, 3275073; 529373, 3275073; 529374, 3275074; 529376, 3275075; 529377, 3275075; 529378, 3275076; 529379, 3275077; 529380, 3275077; 529382, 3275078; 529383, 3275078; 529384, 3275079; 529385, 3275079; 529387, 3275080; 529388, 3275080; 529389, 3275081; 529390, 3275081; 529392, 3275081; 529393, 3275082; 529394, 3275082; 529396, 3275082; 529397, 3275083; 529398, 3275083; 529399, 3275083; 529401, 3275083; 529402, 3275084; 529403, 3275084; 529405, 3275084; 529406, 3275084; 529407, 3275084; 529409, 3275084; 529410, 3275084; 529412, 3275084; 529413, 3275084; 529414, 3275084; 529416, 3275084; 529417, 3275084; 529418, 3275084; 529420, 3275084; 529421, 3275084; 529422, 3275084; 529424, 3275084; 529425, 3275083; 529426, 3275083; 529428, 3275083; 529429, 3275083; 529430, 3275082; 529431, 3275082; 529433, 3275082; 529434, 3275081; 529435, 3275081; 529437, 3275081; 529438, 3275080; 529439, 3275080; 529440, 3275079; 529442, 3275079; 529443, 3275078; 529444, 3275078; 529445, 3275077; 529447, 3275077; 529448, 3275076; 529449, 3275075; 529450, 3275075; 529451, 3275074; 529452, 3275073; 529454, 3275073; 529455, 3275072; 529456, 3275071; 529457, 3275070; 529458, 3275070; 529459, 3275069; 529460, 3275068; 529461, 3275067; 529462, 3275066; 529463, 3275066; 529464, 3275065; 529465, 3275064; 529466, 3275063; 529467, 3275062; 529468, 3275061; 529469, 3275060; 529470, 3275059; 529471, 3275058; 529472, 3275057; 529473, 3275056; 529473, 3275055; 529474, 3275054; 529475, 3275053; 529476, 3275052; 529477, 3275050; 529477, 3275049; 529478, 3275048; 529479, 3275047; 529479, 3275046; 529480, 3275045; 529481, 3275044; 529481, 3275042; 529482, 3275041; 529482, 3275040; 529483, 3275039; 529484, 3275038; 529484, 3275036; 529485, 3275035; 529485, 3275034; 529486, 3275033; 529486, 3275031; 529486, 3275030; 529487, 3275029; 529487, 3275027; 529487, 3275026; 529488, 3275025; 529488, 3275023; 529488, 3275022; 529489, 3275021; 529489, 3275020; 529489, 3275018; 529489, 3275017; 529489, 3275016; 529489, 3275014; 529490, 3275013; 529490, 3275012; 529490, 3275010; 529490, 3275009; 529490, 3275008.

(iii) NOTE: Unit 17 is depicted on Map 5, provided at paragraph (11)(ii) of this entry.

(16) Unit 22: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 533735, 3278278; 533765, 3278416; 533821, 3278511; 533938, 3278599; 534084, 3278636; 534240, 3278610; 534356, 3278527; 534443, 3278380; 534457, 3278227; 534406, 3278079; 534287, 3277957; 534134, 3277909; 533964, 3277934; 533843, 3278004; 533749, 3278160; 533735, 3278278.

(ii) NOTE: Map 8 of Unit 22 follows:

ROBBER BARON CAVE MESHWEAVER (*Cicurina baronia*)

(1) Critical habitat for the Robber Baron Cave meshweaver in Bexar County, Texas, occurs in Units 20 and 25. Unit 20 is described as set forth, and depicted on Map 2 provided at paragraph (6)(ii) of the entry for the Cokendolpher Cave harvestman in this paragraph (g). Unit 25 is described in this entry

and depicted on Map 3 in this entry. Units 20 and 25 are also depicted on Map 1 (index map) provided in paragraph (5) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(2) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the Robber Baron Cave meshweaver are identical to those set forth in paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 20: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 552126, 3264361; 552287, 3264522; 552357, 3264610; 552436, 3264673; 552536, 3264710; 552654, 3264726; 552756, 3264714; 552840, 3264685; 552920, 3264644; 552991, 3264506; 553001, 3264408; 552930, 3264263; 552813, 3264165; 552683, 3264104; 552571, 3264018; 552485, 3263914; 552285, 3263659; 552175, 3263484; 552124, 3263435; 552081, 3263341; 551949, 3263214; 551826, 3263155; 551728, 3263159; 551639, 3263221; 551567, 3263343; 551569, 3263474; 551606, 3263569; 551704, 3263739; 551777, 3263863; 551969, 3264165; 552126, 3264361.

(ii) NOTE: Map 2 of Unit 20 is provided at paragraph (6)(ii) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(5) Unit 25: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 549856, 3258720; 549779, 3258722; 549776, 3258797; 549750, 3258818; 549485, 3258818; 549451, 3258796; 549450, 3258759; 549391, 3258759; 549302, 3258907; 549288, 3259025; 549281, 3259323; 549294, 3259345; 549486, 3259471; 549700, 3259499; 549933, 3259412; 549943, 3259217; 549819, 3259100; 549840, 3259045; 549869, 3259019; 549861, 3258961; 549846, 3258934; 549846, 3258909; 549891, 3258888; 549961, 3258869; 549968, 3258839; 549972, 3258752; 549856, 3258720.

(ii) NOTE: Map 3 of Unit 25 follows:

GOVERNMENT CANYON BAT CAVE SPIDER (*Neoleptoneta microps*)

(1) Critical habitat for the Government Canyon Bat Cave spider in Bexar County, Texas, occurs in Unit 1b, as described at paragraph (4)(i) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g). Unit 1b is also depicted on

Map 1 (index map) provided at paragraph (5) of the entry for the Cokendolpher Cave harvestman in this paragraph (g), and on Map 2 (Unit 1b) provided at paragraph (4)(ii) of the entry for the Government Canyon Bat Cave meshweaver in this paragraph (g).

(2) The primary constituent elements of, and statements regarding developed lands in, critical habitat for the Government Canyon Bat Cave spider are identical to those set forth at paragraphs (2) and (3) of the entry for the Cokendolpher Cave harvestman in this paragraph (g).

(3) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(4) Unit 1b: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522172, 3270656; 522202, 3270794; 522259, 3270889; 522375, 3270977; 522521, 3271014; 522677, 3270988; 522793, 3270905; 522880, 3270758; 522894, 3270605; 522843, 3270457; 522724, 3270335; 522571, 3270287; 522401, 3270312; 522280, 3270382; 522186, 3270538; 522172, 3270656.

(ii) NOTE: Map 2 of Unit 1b is provided at paragraph (4)(ii) in the entry for the Government Canyon Cave meshweaver in this paragraph (g).

KAUAI CAVE WOLF SPIDER (*Adelocosa anops*).

(1) Critical habitat units are depicted for the island of Kauai, Hawaii, on the maps below.

(2) The primary constituent elements for the Kauai cave wolf spider are:

(i) The presence of subterranean spaces from 5 mm to 25 cm (0.2 in to 10 in) at their narrowest point (collectively termed ''mesocaverns'') and/or cave passages greater than 25 cm (>10 in);

(ii) Dark and/or stagnant air zones that maintain relative humidity at saturation levels (≥100 percent); and

(iii) The presence in these types of mesocaverns or caves of roots from living, nontoxic plants such as, but not limited to, ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*).

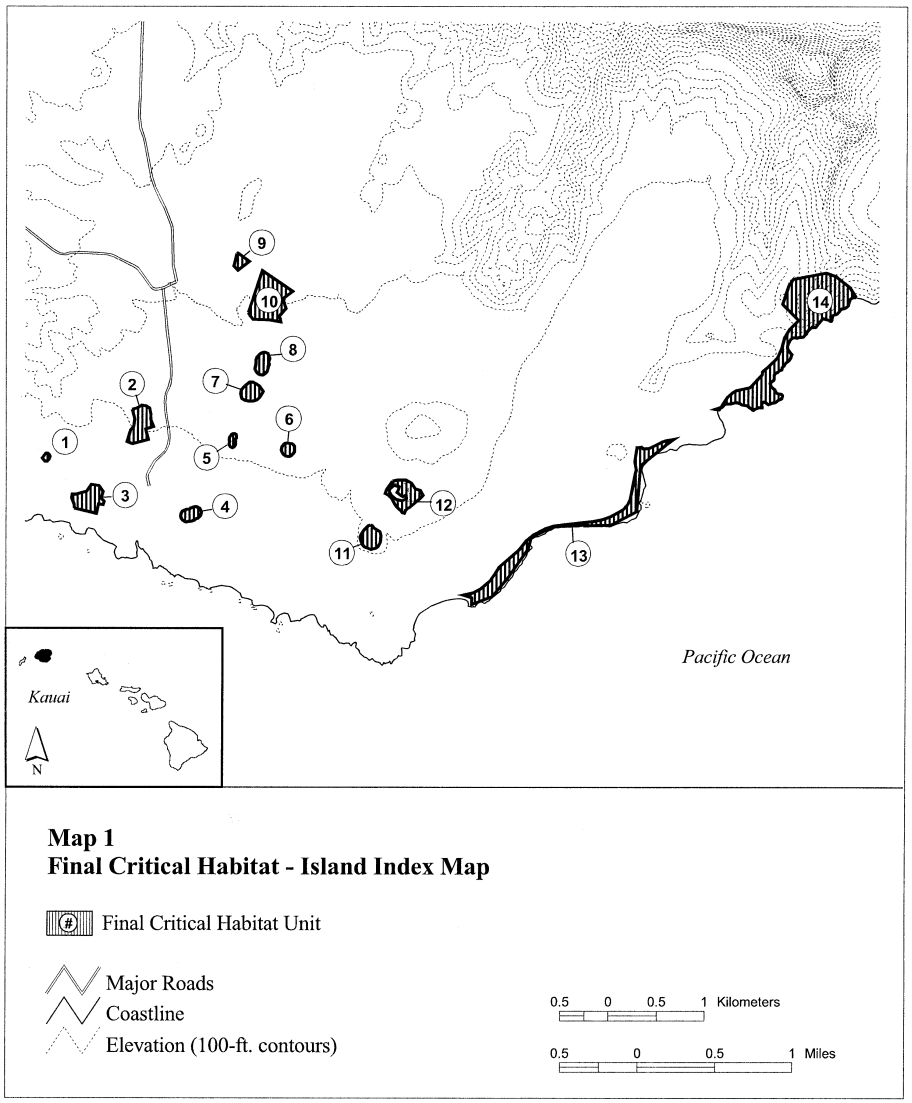
(3) All critical habitat areas contain one or more of the primary constituent elements for the Kauai cave wolf spider.

(4)(i) Existing human-constructed features and structures within the boundaries of mapped units that involved trenching, filling, or excavation resulting in below-surface modification or alteration would not contain either of the primary constituent elements and are excluded from critical habitat designation. Such features and structures include but are not limited to: Homes and buildings for which the underlying bedrock has been altered for their construction or through incorporation of or connection to buried structural foundations, septic tanks, city sewage and drainage systems, or water or underground electrical supply corridors; paved roads; and areas previously or currently used as a quarry.

(ii) Areas that have been modified on the surface but without trenching, filling, or excavation resulting in below-surface modification or alteration are included in the critical habitat designation, even if they are adjacent to areas that have undergone below-surface modification.

(5) Critical habitat units are described below. Coordinates in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following map shows the general locations of the 14 critical habitat units designated on the island of Kauai.

(i) NOTE: Map 1—Index map follows:



(6) Unit 1—(<1 ha (1 ac)):

(i) Unit 1 consists of the following 10 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 450554, 2420457; 450546, 2420468; 450576, 2420510; 450586, 2420518; 450607, 2420516; 450624, 2420502; 450625, 2420480; 450618, 2420452; 450600, 2420437; 450574, 2420434; return to starting point.

(ii) NOTE: Unit 1 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(7) Unit 2—(7 ha (16 ac)):

(i) Unit 2 consists of the following 16 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 451483, 2420974; 451539, 2420991; 451583, 2421015; 451622, 2421014; 451667, 2420984; 451677, 2420926; 451680, 2420869; 451705, 2420799; 451622, 2420769; 451650, 2420664; 451488,

2420620; 451468, 2420624; 451433, 2420642; 451470, 2420758; 451501, 2420801; 451510, 2420870; return to starting point.

(ii) NOTE: Unit 2 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(8) Unit 3—(6 ha (16 ac)):

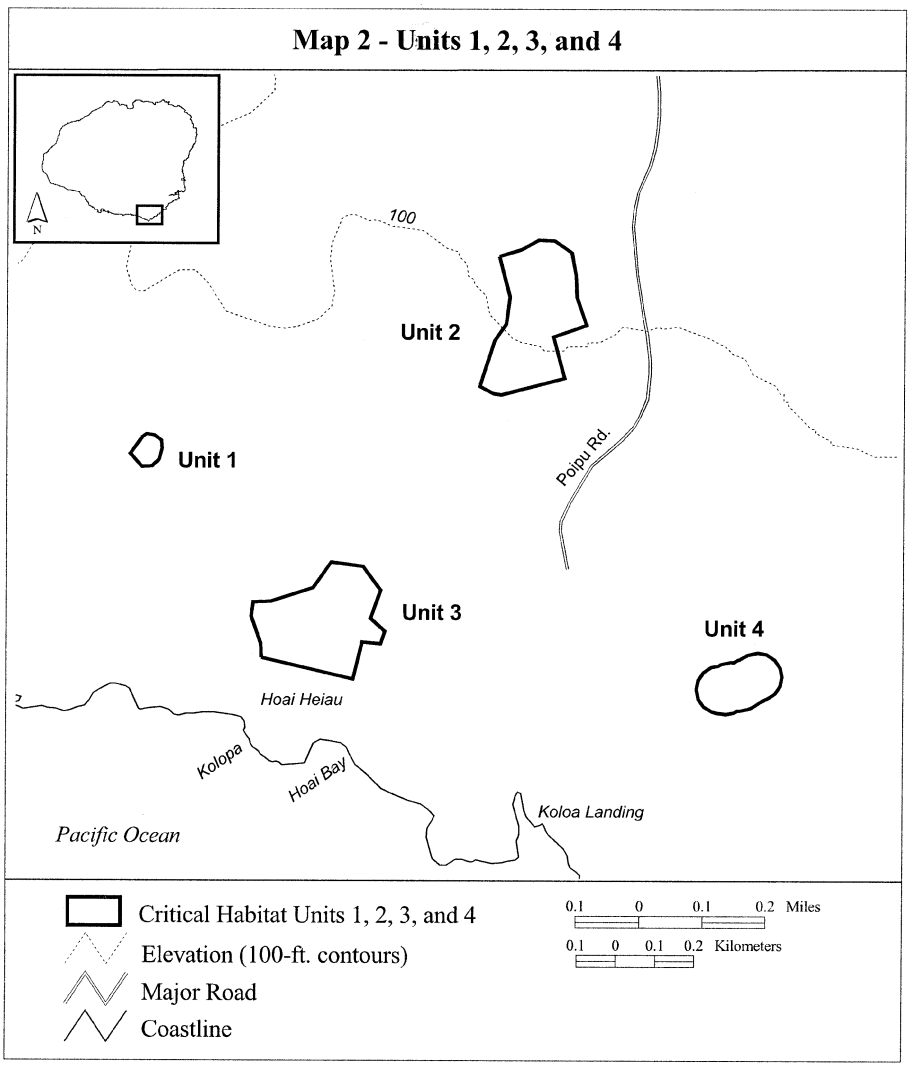
(i) Unit 3 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 450881, 2419947; 450879, 2419981; 450855, 2420053; 450859, 2420089; 450903, 2420089; 451012, 2420125; 451058, 2420191; 451138, 2420180; 451184, 2420119; 451159, 2420048; 451194, 2420014; 451183, 2419982; 451136, 2419987; 451114, 2419892; return to starting point.

(ii) NOTE: Unit 3 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(9) Unit 4—(2 ha (6 ac)):

(i) Unit 4 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452087, 2419809; 452063, 2419804; 452053, 2419805; 452040, 2419807; 452027, 2419811; 452007, 2419824; 451994, 2419844; 451989, 2419867; 451994, 2419890; 452007, 2419910; 452027, 2419923; 452045, 2419927; 452053, 2419932; 452076, 2419936; 452082, 2419936; 452084, 2419936; 452090, 2419939; 452095, 2419942; 452096, 2419943; 452118, 2419954; 452145, 2419960; 452168, 2419955; 452188, 2419942; 452201, 2419922; 452206, 2419899; 452201, 2419876; 452188, 2419856; 452172, 2419844; 452153, 2419835; 452132, 2419822; 452123, 2419817; 452099, 2419812; 452093, 2419812; return to starting point.

(ii) NOTE: Unit 4 is depicted on Map 2—Units 1, 2, 3, and 4—which follows:



(10) Unit 5—(1 ha (2 ac)):

(i) Unit 5 consists of the following 35 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452493, 2420608; 452493, 2420613; 452493, 2420616; 452496, 2420639; 452492, 2420652; 452491, 2420660; 452492, 2420669; 452497, 2420683; 452498, 2420686; 452502, 2420694; 452516, 2420711; 452518, 2420713; 452528, 2420720; 452540, 2420722; 452552, 2420720; 452561, 2420713; 452568, 2420704; 452570, 2420692; 452568, 2420680; 452564, 2420673; 452553, 2420660; 452556, 2420649; 452557, 2420641; 452557, 2420637; 452554, 2420613; 452555, 2420611; 452555, 2420607; 452553, 2420595; 452546, 2420585; 452536, 2420579; 452525, 2420576; 452513, 2420579; 452503, 2420585; 452496, 2420595; 452494, 2420602; return to starting point.

(ii) Unit 5 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(11) Unit 6—(2 ha (4 ac)):

(i) Unit 6 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453052, 2420607; 453065,

2420616; 453078, 2420622; 453101, 2420626; 453126, 2420621; 453139, 2420616; 453154, 2420606; 453164, 2420591; 453167, 2420579; 453169, 2420551; 453165, 2420533; 453156, 2420517; 453141, 2420500; 453127, 2420490; 453109, 2420486; 453078, 2420490; 453053, 2420505; 453042, 2420522; 453034, 2420543; 453032, 2420559; 453036, 2420585; return to starting point.

(ii) Unit 6 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(12) Unit 7—(3 ha (9 ac)):

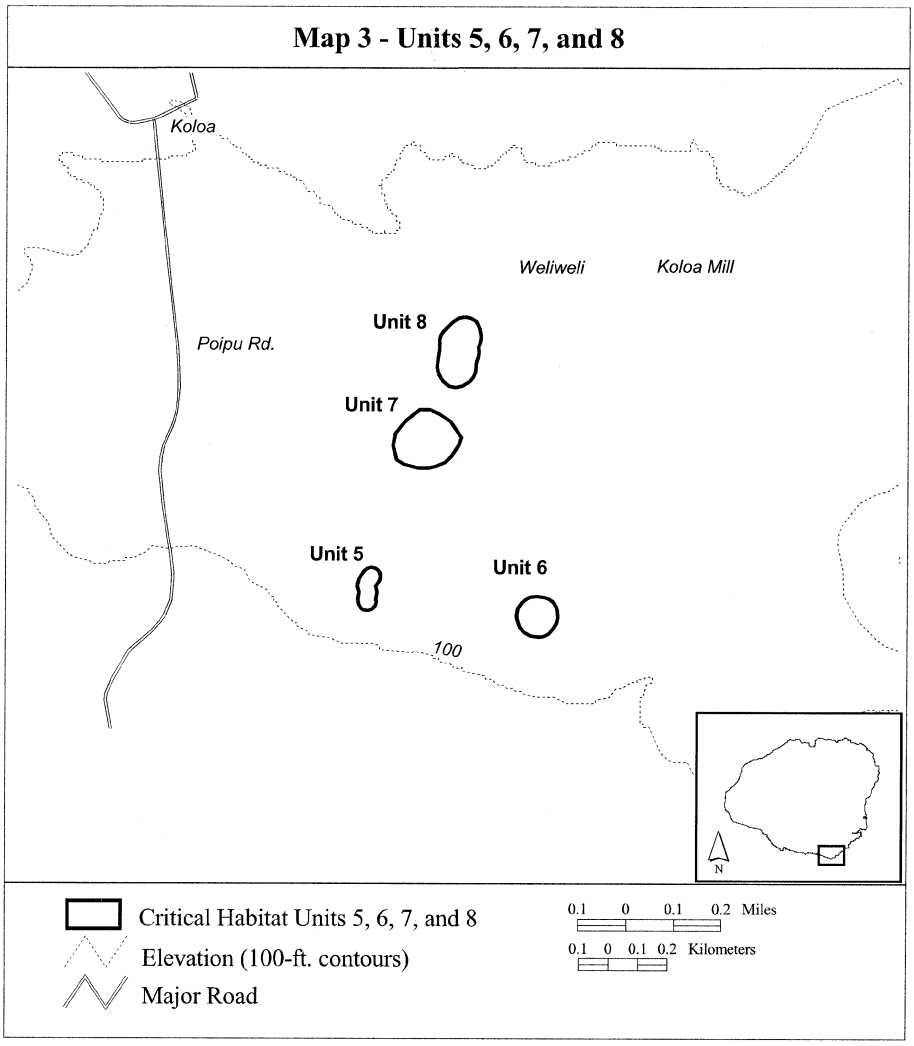
(i) Unit 7 consists of the following 7 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452623, 2421100; 452812, 2421077; 452831, 2421041; 452816, 2421016; 452786, 2420896; 452590, 2420946; 452608, 2421015; return to starting point.

(ii) Unit 7 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(13) Unit 8—(2 ha (7 ac)):

(i) Unit 8 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452763, 2421383; 452759, 2421402; 452760, 2421421; 452767, 2421462; 452766, 2421477; 452768, 2421497; 452771, 2421510; 452780, 2421523; 452812, 2421556; 452824, 2421564; 452831, 2421567; 452848, 2421571; 452857, 2421571; 452875, 2421567; 452890, 2421557; 452899, 2421542; 452904, 2421531; 452907, 2421514; 452908, 2421497; 452904, 2421480; 452899, 2421471; 452902, 2421454; 452900, 2421439; 452894, 2421422; 452891, 2421412; 452891, 2421402; 452888, 2421385; 452880, 2421368; 452871, 2421355; 452844, 2421338; 452822, 2421335; 452799, 2421339; 452778, 2421357; return to starting point.

(ii) Unit 8 is depicted on Map 3—Units 5, 6, 7, and 8—which follows:



(14) Unit 9—(1 ha (4 ac)):

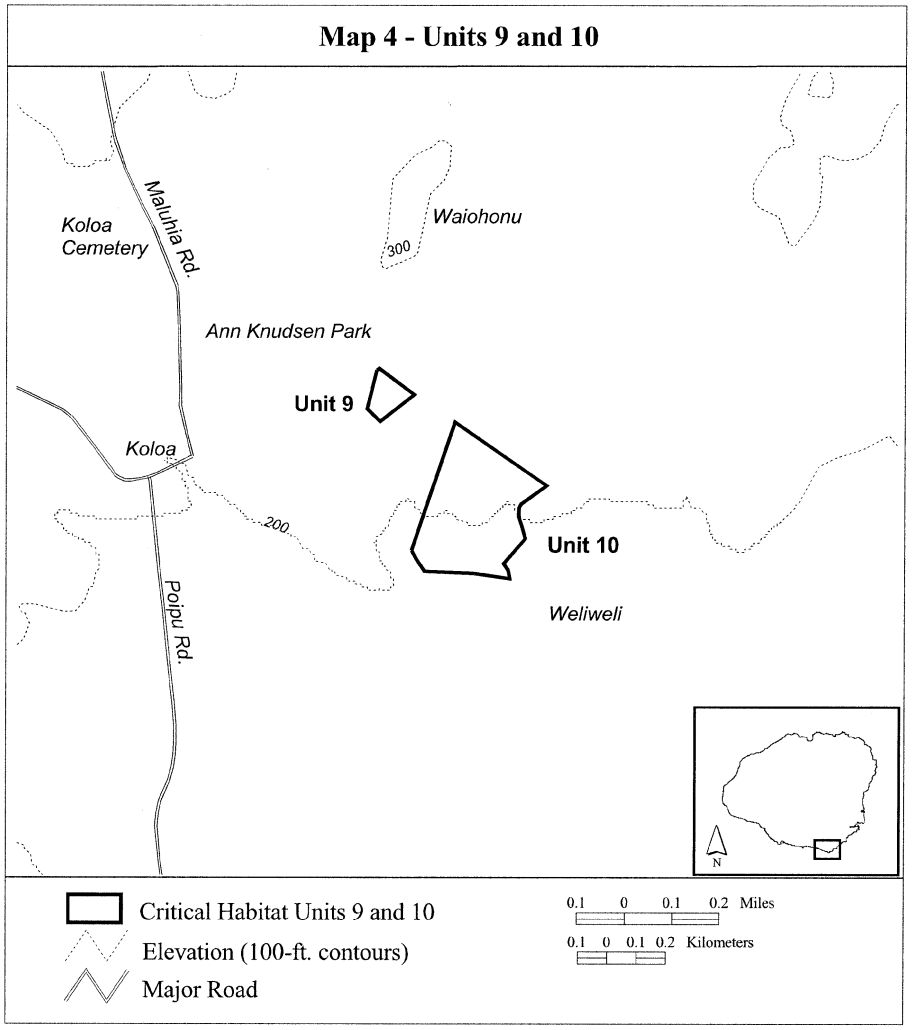
(i) Unit 9 consists of the following 5 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452568, 2422604; 452577, 2422610; 452696, 2422521; 452580, 2422429; 452537, 2422471; return to starting point.

(ii) NOTE: Unit 9 is depicted on Map 4—Units 9 and 10—below.

(15) Unit 10—(14 ha (35 ac)):

(i) Unit 10 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452688, 2421988; 452834, 2422427; 453145, 2422210; 453061, 2422147; 453053, 2422133; 453053, 2422102; 453061, 2422078; 453074, 2422029; 453002, 2421944; 453015, 2421922; 453022, 2421892; 452896, 2421910; 452733, 2421917; 452705, 2421959; return to starting point.

(ii) NOTE: Unit 10 is depicted on Map 4—Units 9 and 10—which follows:



(16) Unit 11—(4 ha (10 ac)):

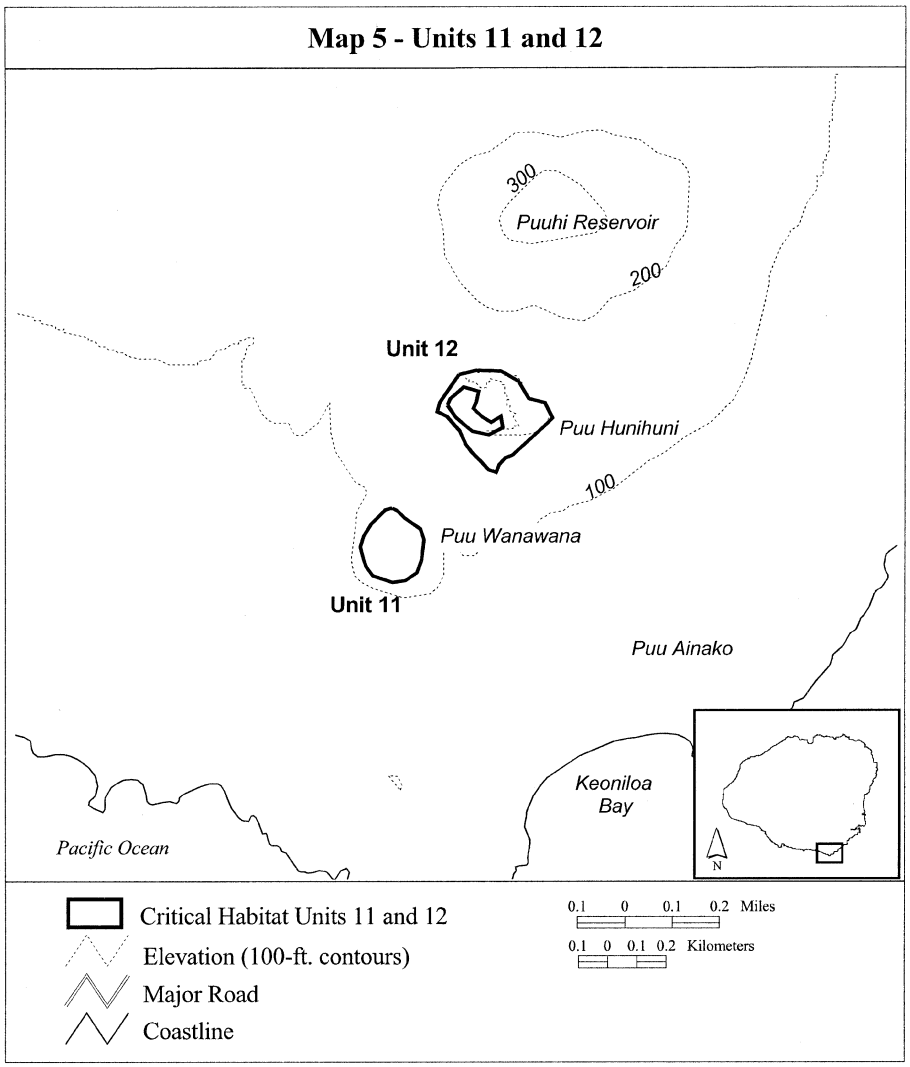
(i) Unit 11 consists of the following 17 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453958, 2419773; 453976, 2419766; 453999, 2419741; 454054, 2419702; 454068, 2419667; 454060, 2419596; 454042, 2419553; 454005, 2419528; 453962, 2419521; 453894, 2419545; 453872, 2419573; 453862, 2419600; 453852, 2419642; 453862, 2419676; 453887, 2419718; 453912, 2419742; 453936, 2419768; return to starting point.

(ii) NOTE: Unit 11 is depicted on Map 5—Units 11 and 12—below.

(17) Unit 12 (6 ha (16 ac)):

(i) Unit 12 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 454185, 2420229; 454242, 2420243; 454326, 2420241; 454387, 2420207; 454420, 2420147; 454475, 2420133; 454502, 2420080; 454474, 2420055; 454366, 2419954; 454341, 2419944; 454321, 2419921; 454311, 2419895; 454286, 2419903; 454264, 2419927; 454229, 2419962; 454208, 2419993; 454186, 2420038; 454169, 2420058; 454145, 2420086; 454112, 2420103; 454120, 2420133; return to starting point.

(ii) NOTE: Unit 12 is depicted on Map 5—Units 11 and 12—which follows:

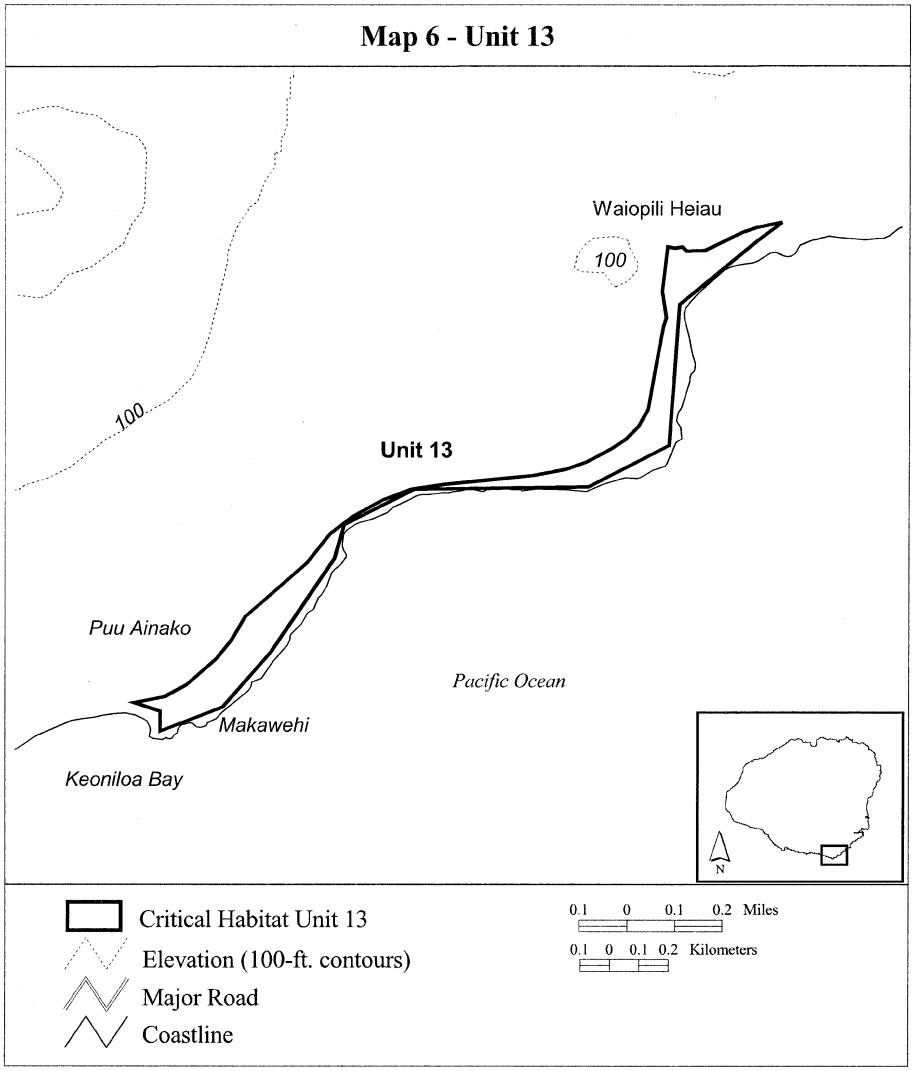


(18) Unit 13—(21 ha (52 ac)):

(i) Unit 13 consists of the following 43 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 457108, 2420666; 457027, 2420606; 456763, 2420391; 456727, 2419912; 456456, 2419772; 455868, 2419764; 455633, 2419645; 455601, 2419531; 455389, 2419219; 455225, 2419029; 455014, 2418947; 455014, 2419015; 454926, 2419043; 455027, 2419064; 455102, 2419103; 455202, 2419192; 455255, 2419258; 455300, 2419334; 455508, 2419515; 455586, 2419614; 455664, 2419674; 455767, 2419730; 455859, 2419764; 455969, 2419780; 456212, 2419805; 456272, 2419811; 456376, 2419831; 456451, 2419859; 456531, 2419900; 456583, 2419935; 456627, 2419981; 456656,

2420036; 456682, 2420173; 456709, 2420316; 456718, 2420343; 456704, 2420433; 456723, 2420583; 456747, 2420580; 456771, 2420584; 456786, 2420569; 456848, 2420572; 456979, 2420634; 457022, 2420649; return to starting point.

(ii) NOTE: Unit 13 is depicted on Map 6—Unit 13—which follows:

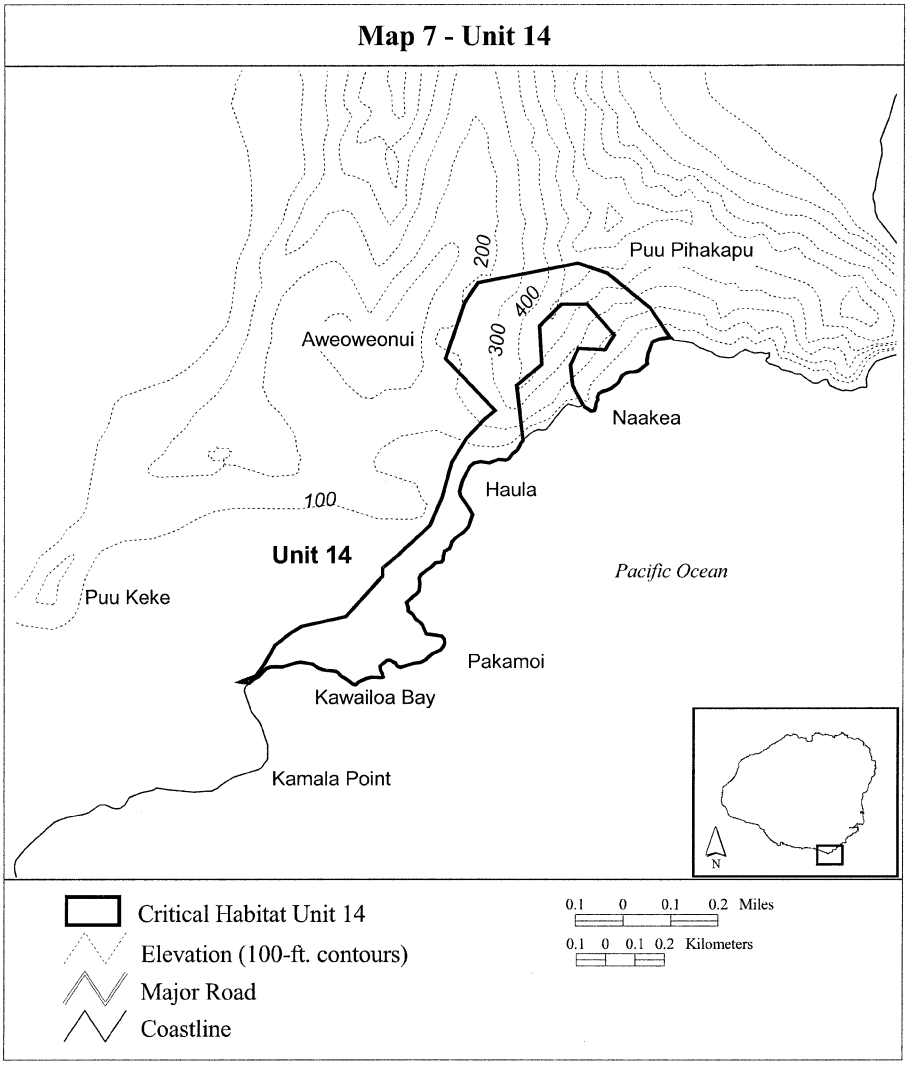


(19) Unit 14—(39 ha (96 ac)):

(i) Unit 14 consists of the following 47 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Coastline. 457575, 2420977; 457548, 2420981; 457598, 2421002; 457624, 2421039; 457624, 2421039; 457624, 2421039; 457664, 2421105; 457715, 2421146; 457755, 2421170; 457901, 2421204; 458025, 2421342; 458025, 2421367; 458078, 2421412; 458078, 2421413; 458078, 2421413; 458184, 2421510; 458226, 2421607; 458226, 2421607; 458226, 2421607; 458259,

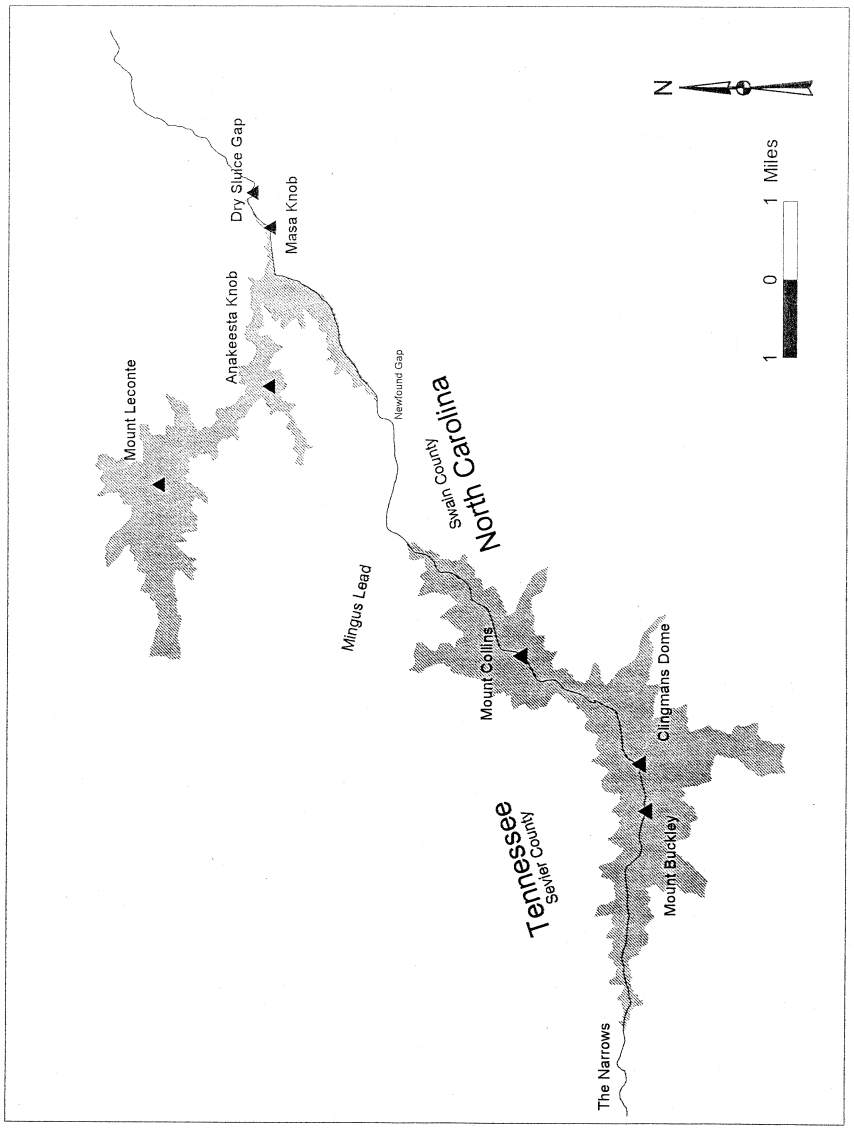
2421727; 458308, 2421809; 458371, 2421876; 458405, 2421905; 458237, 2422080; 458301, 2422271; 458346, 2422339; 458686, 2422403; 458785, 2422371; 458932, 2422252; 458997, 2422153; Coastline. 458706, 2421920; 458670, 2421988; 458662, 2422059; 458688, 2422116; 458778, 2422112; 458809, 2422160; 458719, 2422266; 458630, 2422266; 458556, 2422191; 458563, 2422061; 458479, 2421989; 458500, 2421803.

(ii) NOTE: Unit 14 is depicted on Map 7—Unit 14—which follows:



SPRUCE-FIR MOSS SPIDER (*Microhexura montivaga*)

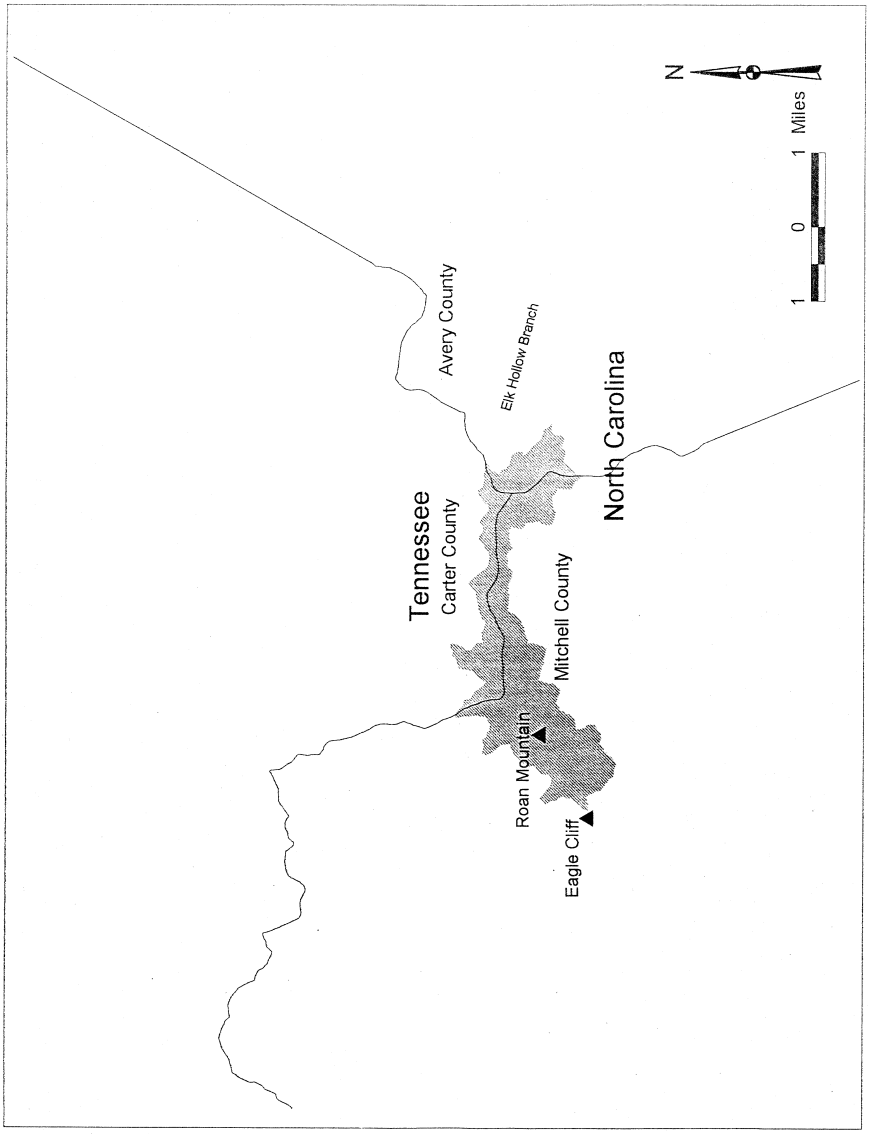
1. Critical habitat units and their ownership are described below and depicted in the following maps.



Unit 1: Swain County, North Carolina, and Sevier County, Tennessee—all portions of the GSMNP bounded to the north and to the south of the North Carolina/Tennessee State line (State line) by the 1,646-m (5,400-ft) contour, from the intersection of the 1,646-m (5,400-ft) contour with the State line, south of Mingus Lead, Tennessee, southwest and then west to the intersection of the 1,646-m (5,400-ft) contour with the State line, east of The Narrows and west of Jenkins Knob, North Carolina, and Tennessee.

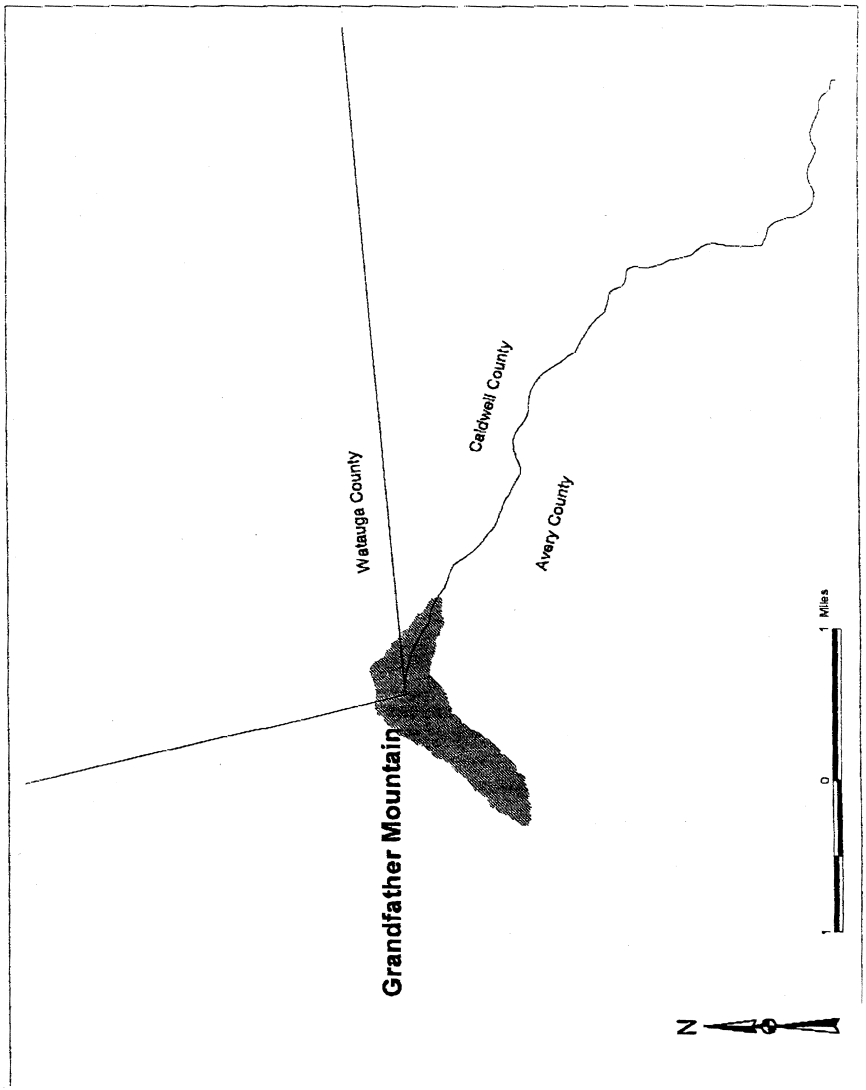
Unit 2: Sevier County, Tennessee—all portions of the GSMNP at and above the 1,646-m (5,400-ft) contour, bounded on the southwest side by the North Carolina/Tennessee State line from the intersection of the State line with the 1,646-m (5,400-ft) contour near Dry Sluice Gap, southeast to the intersection of the State line with the 1,646-m (5,400-

ft) contour at the head of Minnie Ball Branch, North Carolina, northwest of Newfound Gap, North Carolina, and Tennessee.



Unit 3: Avery and Mitchell Counties, North Carolina, and Carter County, Tennessee—all portions of the Pisgah National Forest in North Carolina and the Cherokee National Forest in Tennessee, bounded to the north and to the south of the North Carolina/Tennessee State line by the 1,646-m (5,400-ft) contour, from the intersection of the 1,646-m (5,400-ft) contour with the State line north of Elk Hollow Branch, Avery County, North

Carolina, and southwest of Yellow Mountain, Carter County, Tennessee, west to the 1,646-m (5,400-ft) contour at Eagle Cliff, Mitchell County, North Carolina.



Unit 4: Avery, Caldwell, and Watauga Counties, North Carolina—all areas of Grandfather Mountain at and above the 1,646-m (5,400-ft) contour.

2. Within these areas, the primary constituent elements include:

(i) Fraser fir or fir-dominated spruce-fir forests at and above 1,646 m (5,400 ft) in elevation; and

(ii) Moderately thick and humid, but not wet, moss (species in the genus *Dicranodontium*, and possibly *Polytrichum*) and/or liverwort mats on rock surfaces that are adequately sheltered from the sun and rain (by overhang and aspect) and include a thin layer of humid soil and/or humus between the moss and rock surface.

3. Existing human structures and other features not containing all of the primary constituent elements are not considered critical habitat.

(h) *Crustaceans.*

DIMINUTIVE AMPHIPOD (*Gammarus hyalleloides*)

(1) Critical habitat units are depicted for Jeff Davis County and Reeves County, Texas, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of diminutive amphipod are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, maturing, feeding, and escape from predators;

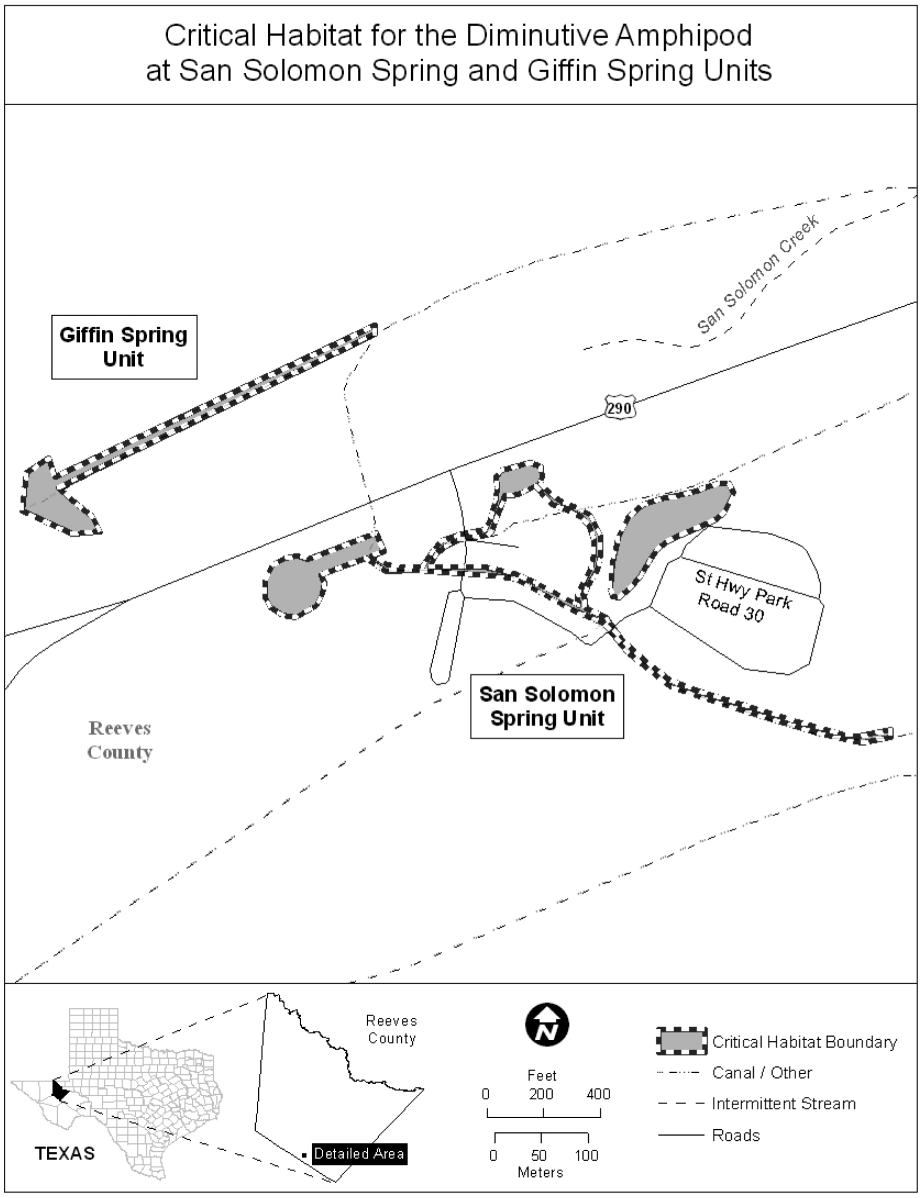
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, well pads, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on August 8, 2013.

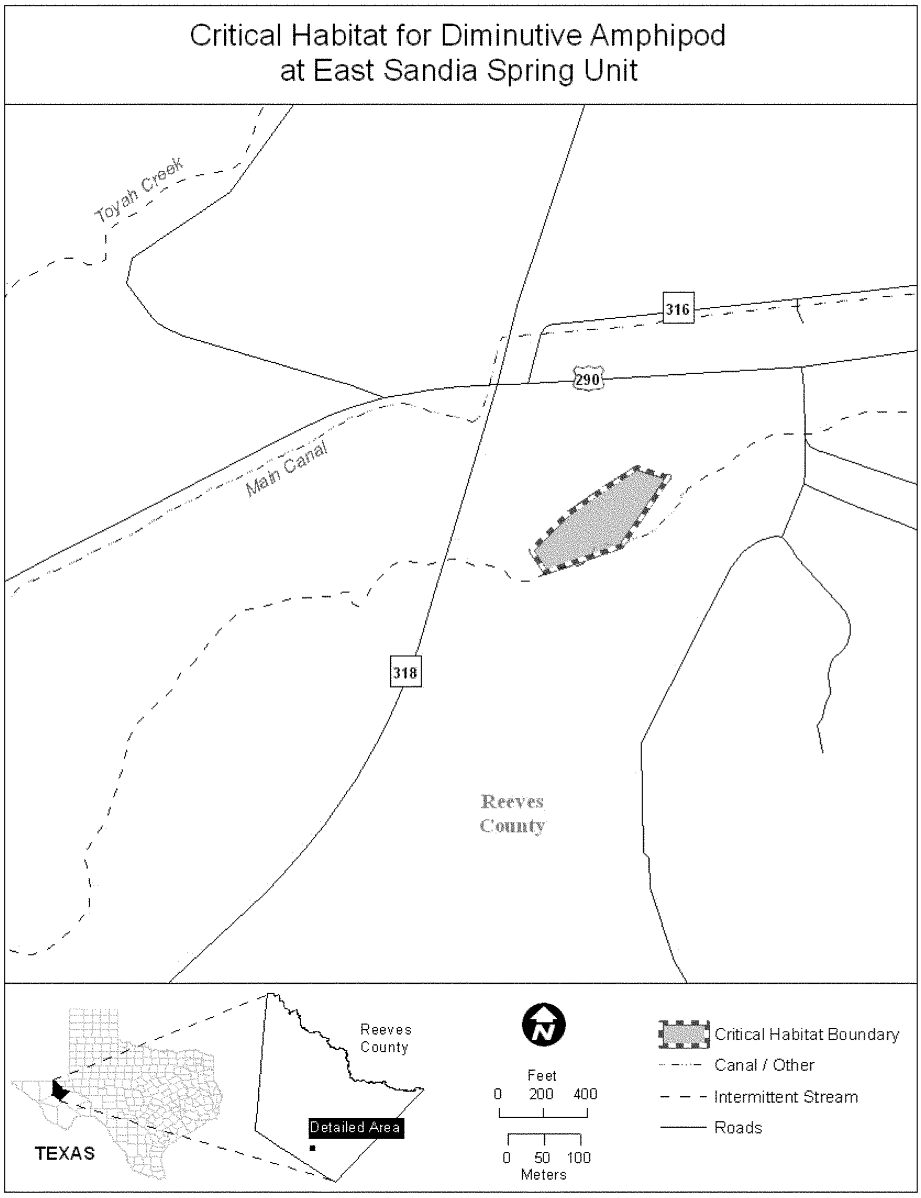
(4) *Critical habitat map units.* Data layers defining map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) San Solomon Spring Unit, Reeves County, Texas. Map of San Solomon Spring Unit follows:

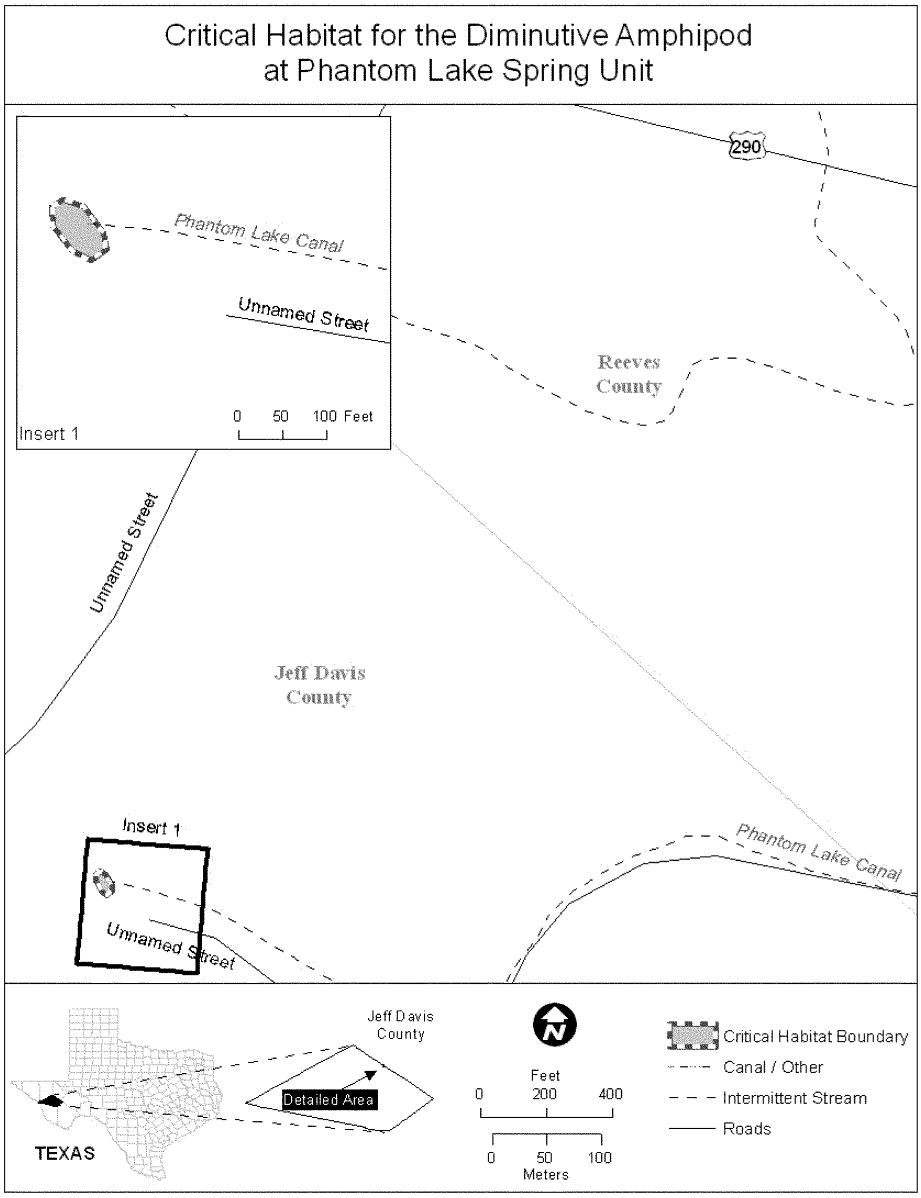


(6) Giffin Spring Unit, Reeves County, Texas. Map of Giffin Spring Unit is provided at paragraph (5) of this entry.

(7) East Sandia Spring Unit, Reeves County, Texas. Map of East Sandia Spring Unit follows:



(8) Phantom Lake Spring Unit, Jeff Davis County, Texas. Map of Phantom Lake Spring Unit follows:



KAUAI CAVE AMPHIPOD (*Spelaeorchestia koloana*)

(1) Critical habitat units are depicted for the island of Kauai, Hawaii, on the maps below.

(2) The primary constituent elements for the Kauai cave amphipod are:

(i) The presence of subterranean spaces from 5 mm to 25 cm (0.2 in to 10 in) at their narrowest point (collectively termed ''mesocaverns'') and/or cave passages greater than 25 cm (>10 in);

(ii) Dark and/or stagnant air zones that maintain relative humidity at saturation levels (≥100 percent); and

(iii) The presence in these types of mesocaverns or caves of roots from living, nontoxic plants such as, but not limited to, ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*).

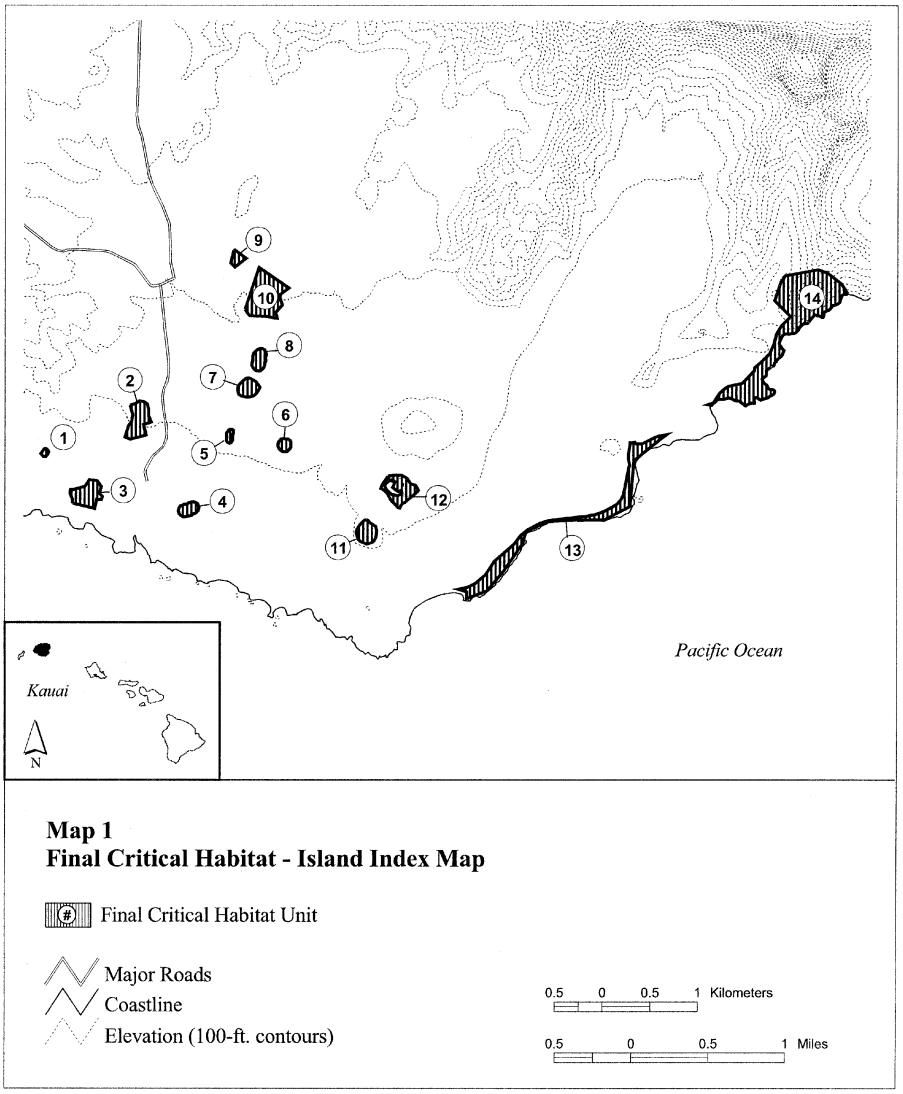
(3) All critical habitat areas contain one or more of the primary constituent elements for the Kauai cave amphipod.

(4)(i) Existing human-constructed features and structures within the boundaries of mapped units that involved trenching, filling, or excavation resulting in below-surface modification or alteration would not contain either of the primary constituent elements and are excluded from critical habitat designation. Such features and structures include but are not limited to: Homes and buildings for which the underlying bedrock has been altered for their construction or through incorporation of or connection to buried structural foundations, septic tanks, city sewage and drainage systems, or water or underground electrical supply corridors; paved roads; and areas previously or currently used as a quarry.

(ii) Areas that have been modified on the surface but without trenching, filling, or excavation resulting in below-surface modification or alteration are included in the critical habitat designation, even if they are adjacent to areas that have undergone below-surface modification.

(5) Critical habitat units are described below. Coordinates in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following map shows the general locations of the 14 critical habitat units designated on the island of Kauai.

(i) NOTE: Map 1—Index map follows:



(6) Unit 1—(<1 ha (1 ac)):

(i) Unit 1 consists of the following 10 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 450554, 2420457; 450546, 2420468; 450576, 2420510; 450586, 2420518; 450607, 2420516; 450624, 2420502; 450625, 2420480; 450618, 2420452; 450600, 2420437; 450574, 2420434; return to starting point.

(ii) NOTE: Unit 1 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(7) Unit 2—(7 ha (16 ac)):

(i) Unit 2 consists of the following 16 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (NAD83): Start at 451483, 2420974; 451539, 2420991; 451583, 2421015; 451622, 2421014; 451667, 2420984; 451677, 2420926; 451680, 2420869; 451705, 2420799; 451622, 2420769; 451650, 2420664; 451488,

2420620; 451468, 2420624; 451433, 2420642; 451470, 2420758; 451501, 2420801; 451510, 2420870; return to starting point.

(ii) NOTE: Unit 2 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(8) Unit 3—(6 ha (16 ac)):

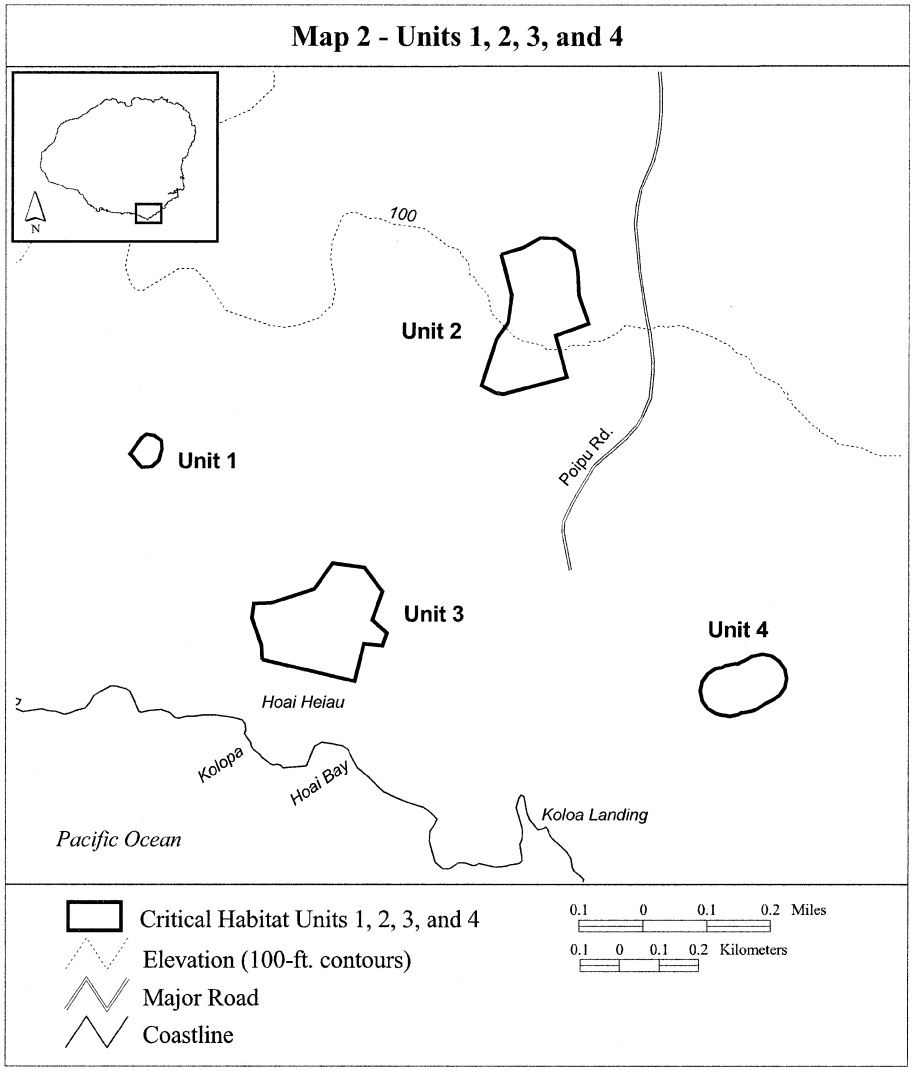
(i) Unit 3 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 450881, 2419947; 450879, 2419981; 450855, 2420053; 450859, 2420089; 450903, 2420089; 451012, 2420125; 451058, 2420191; 451138, 2420180; 451184, 2420119; 451159, 2420048; 451194, 2420014; 451183, 2419982; 451136, 2419987; 451114, 2419892; return to starting point.

(ii) NOTE: Unit 3 is depicted on Map 2—Units 1, 2, 3, and 4—below.

(9) Unit 4—(2 ha (6 ac)):

(i) Unit 4 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452087, 2419809; 452063, 2419804; 452053, 2419805; 452040, 2419807; 452027, 2419811; 452007, 2419824; 451994, 2419844; 451989, 2419867; 451994, 2419890; 452007, 2419910; 452027, 2419923; 452045, 2419927; 452053, 2419932; 452076, 2419936; 452082, 2419936; 452084, 2419936; 452090, 2419939; 452095, 2419942; 452096, 2419943; 452118, 2419954; 452145, 2419960; 452168, 2419955; 452188, 2419942; 452201, 2419922; 452206, 2419899; 452201, 2419876; 452188, 2419856; 452172, 2419844; 452153, 2419835; 452132, 2419822; 452123, 2419817; 452099, 2419812; 452093, 2419812; return to starting point.

(ii) NOTE: Unit 4 is depicted on Map 2—Units 1, 2, 3, and 4—which follows:



(10) Unit 5—(1 ha (2 ac)):

(i) Unit 5 consists of the following 35 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452493, 2420608; 452493, 2420613; 452493, 2420616; 452496, 2420639; 452492, 2420652; 452491, 2420660; 452492, 2420669; 452497, 2420683; 452498, 2420686; 452502, 2420694; 452516, 2420711; 452518, 2420713; 452528, 2420720; 452540, 2420722; 452552, 2420720; 452561, 2420713; 452568, 2420704; 452570, 2420692; 452568, 2420680; 452564, 2420673; 452553, 2420660; 452556, 2420649; 452557, 2420641; 452557, 2420637; 452554, 2420613; 452555, 2420611; 452555, 2420607; 452553, 2420595; 452546, 2420585; 452536, 2420579; 452525, 2420576; 452513, 2420579; 452503, 2420585; 452496, 2420595; 452494, 2420602; return to starting point.

(ii) Unit 5 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(11) Unit 6—(2 ha (4 ac)):

(i) Unit 6 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453052, 2420607; 453065, 2420616; 453078, 2420622; 453101, 2420626; 453126, 2420621; 453139, 2420616; 453154, 2420606; 453164, 2420591; 453167, 2420579; 453169, 2420551; 453165, 2420533; 453156, 2420517; 453141, 2420500; 453127, 2420490; 453109, 2420486; 453078, 2420490; 453053, 2420505; 453042, 2420522; 453034, 2420543; 453032, 2420559; 453036, 2420585; return to starting point.

(ii) Unit 6 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(12) Unit 7—(3 ha (9 ac)):

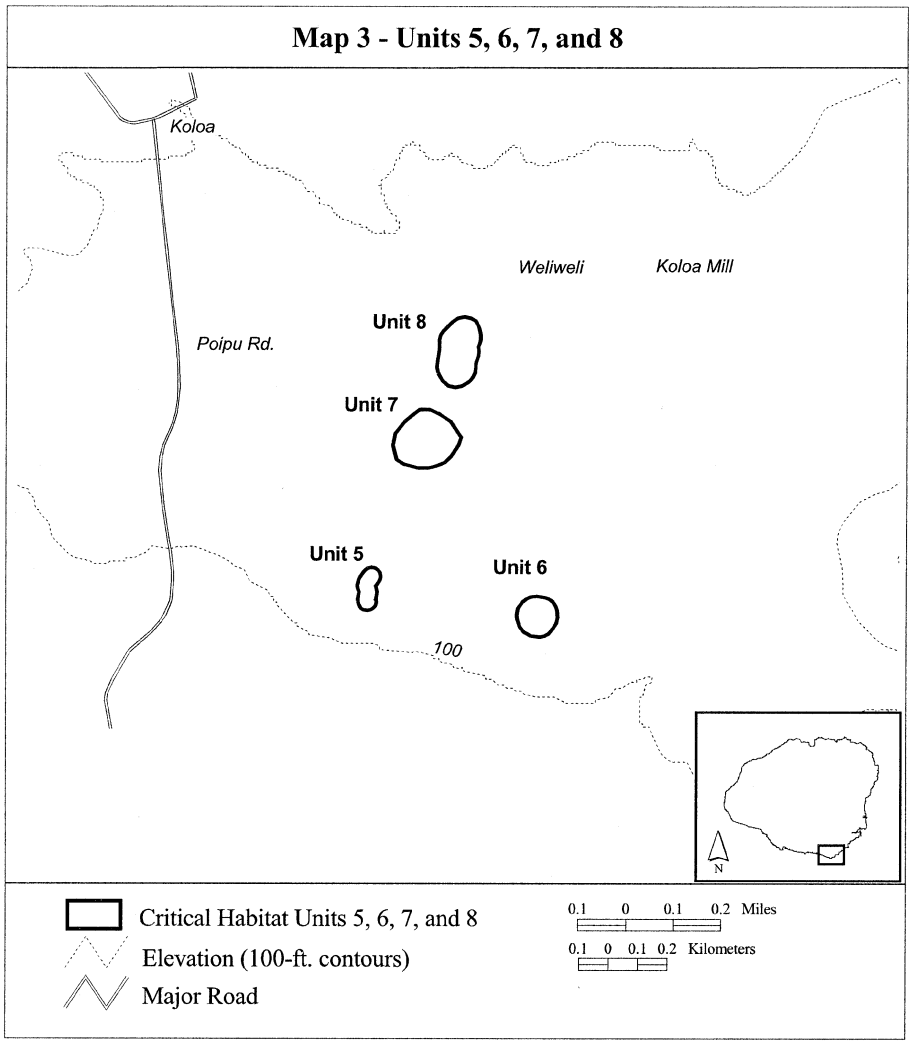
(i) Unit 7 consists of the following 7 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452623, 2421100; 452812, 2421077; 452831, 2421041; 452816, 2421016; 452786, 2420896; 452590, 2420946; 452608, 2421015; return to starting point.

(ii) Unit 7 is depicted on Map 3—Units 5, 6, 7, and 8—below.

(13) Unit 8—(2 ha (7 ac)):

(i) Unit 8 consists of the following 33 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452763, 2421383; 452759, 2421402; 452760, 2421421; 452767, 2421462; 452766, 2421477; 452768, 2421497; 452771, 2421510; 452780, 2421523; 452812, 2421556; 452824, 2421564; 452831, 2421567; 452848, 2421571; 452857, 2421571; 452875, 2421567; 452890, 2421557; 452899, 2421542; 452904, 2421531; 452907, 2421514; 452908, 2421497; 452904, 2421480; 452899, 2421471; 452902, 2421454; 452900, 2421439; 452894, 2421422; 452891, 2421412; 452891, 2421402; 452888, 2421385; 452880, 2421368; 452871, 2421355; 452844, 2421338; 452822, 2421335; 452799, 2421339; 452778, 2421357; return to starting point.

(ii) Unit 8 is depicted on Map 3—Units 5, 6, 7, and 8—which follows:



(14) Unit 9—(1 ha (4 ac)):

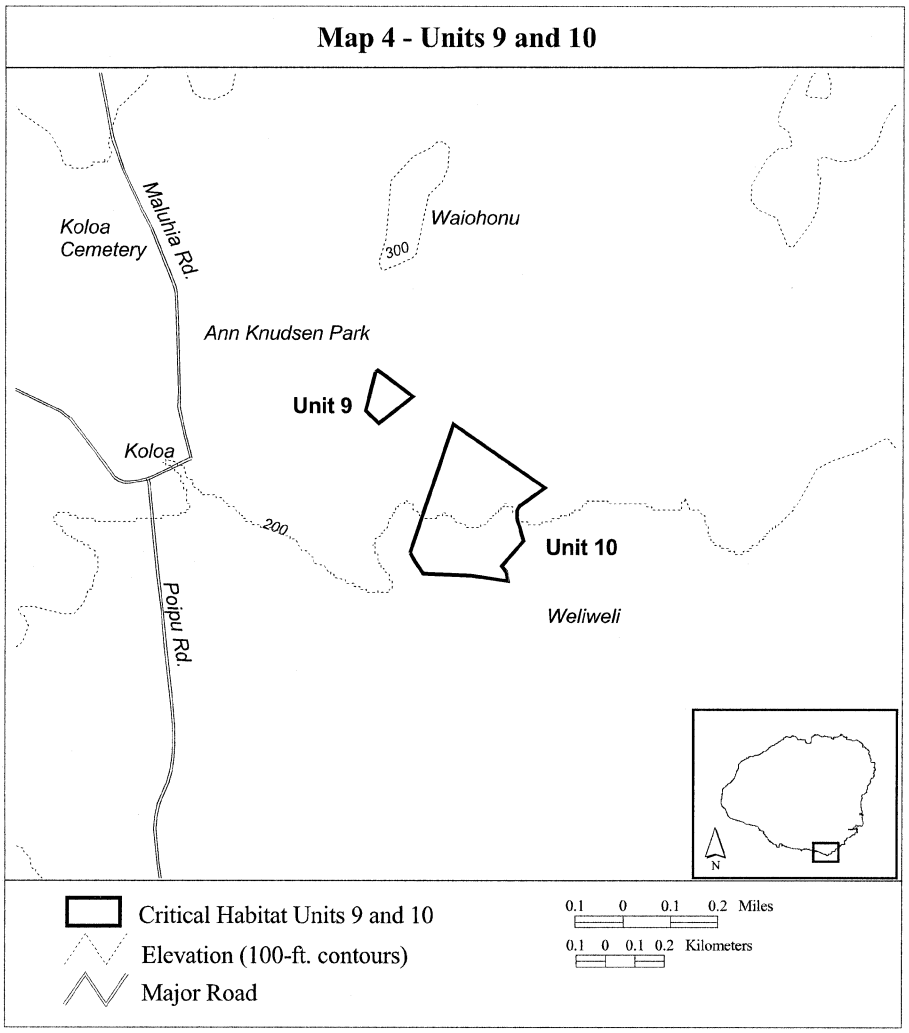
(i) Unit 9 consists of the following 5 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452568, 2422604; 452577, 2422610; 452696, 2422521; 452580, 2422429; 452537, 2422471; return to starting point.

(ii) NOTE: Unit 9 is depicted on Map 4—Units 9 and 10—below.

(15) Unit 10—(14 ha (35 ac)):

(i) Unit 10 consists of the following 14 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 452688, 2421988; 452834, 2422427; 453145, 2422210; 453061, 2422147; 453053, 2422133; 453053, 2422102; 453061, 2422078; 453074, 2422029; 453002, 2421944; 453015, 2421922; 453022, 2421892; 452896, 2421910; 452733, 2421917; 452705, 2421959; return to starting point.

(ii) NOTE: Unit 10 is depicted on Map 4—Units 9 and 10—which follows:



(16) Unit 11—(4 ha (10 ac)):

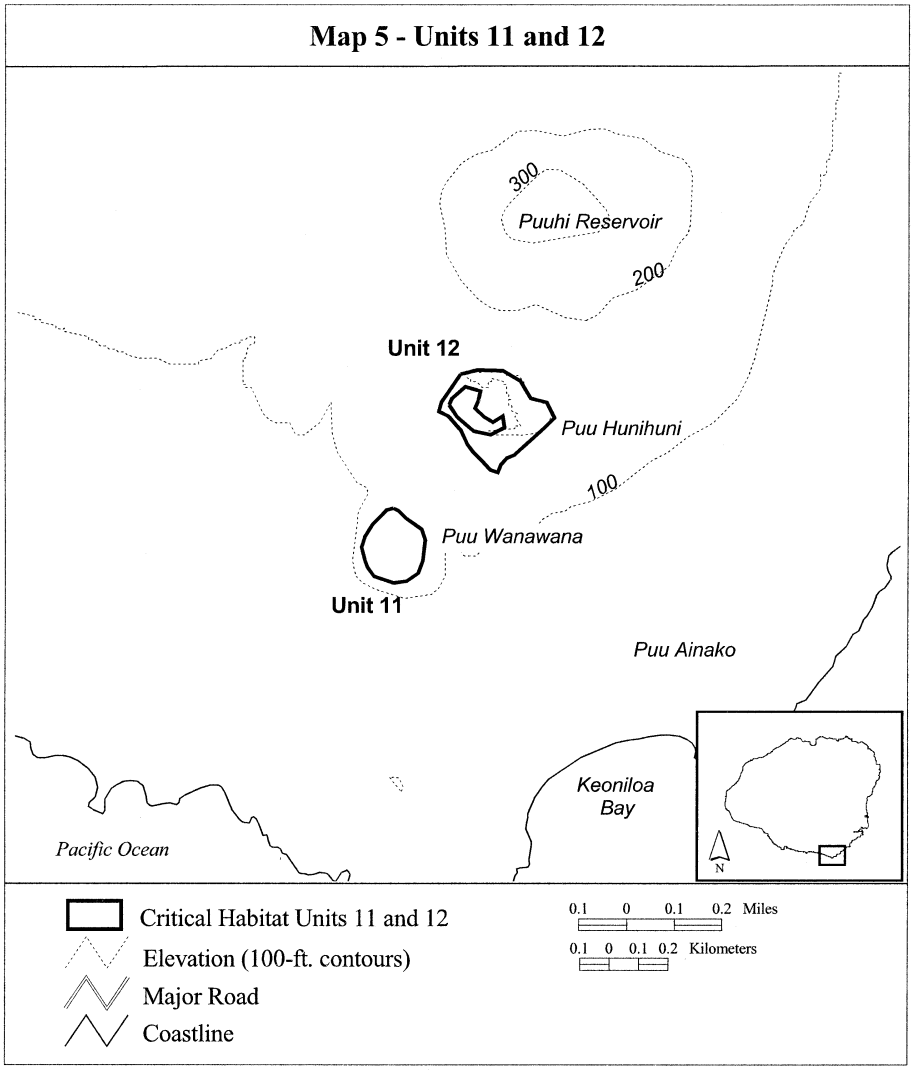
(i) Unit 11 consists of the following 17 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 453958, 2419773; 453976, 2419766; 453999, 2419741; 454054, 2419702; 454068, 2419667; 454060, 2419596; 454042, 2419553; 454005, 2419528; 453962, 2419521; 453894, 2419545; 453872, 2419573; 453862, 2419600; 453852, 2419642; 453862, 2419676; 453887, 2419718; 453912, 2419742; 453936, 2419768; return to starting point.

(ii) NOTE: Unit 11 is depicted on Map 5—Units 11 and 12—below.

(17) Unit 12 (6 ha (16 ac)):

(i) Unit 12 consists of the following 21 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 454185, 2420229; 454242, 2420243; 454326, 2420241; 454387, 2420207; 454420, 2420147; 454475, 2420133; 454502, 2420080; 454474, 2420055; 454366, 2419954; 454341, 2419944; 454321, 2419921; 454311, 2419895; 454286, 2419903; 454264, 2419927; 454229, 2419962; 454208, 2419993; 454186, 2420038; 454169, 2420058; 454145, 2420086; 454112, 2420103; 454120, 2420133; return to starting point.

(ii) NOTE: Unit 12 is depicted on Map 5—Units 11 and 12—which follows:

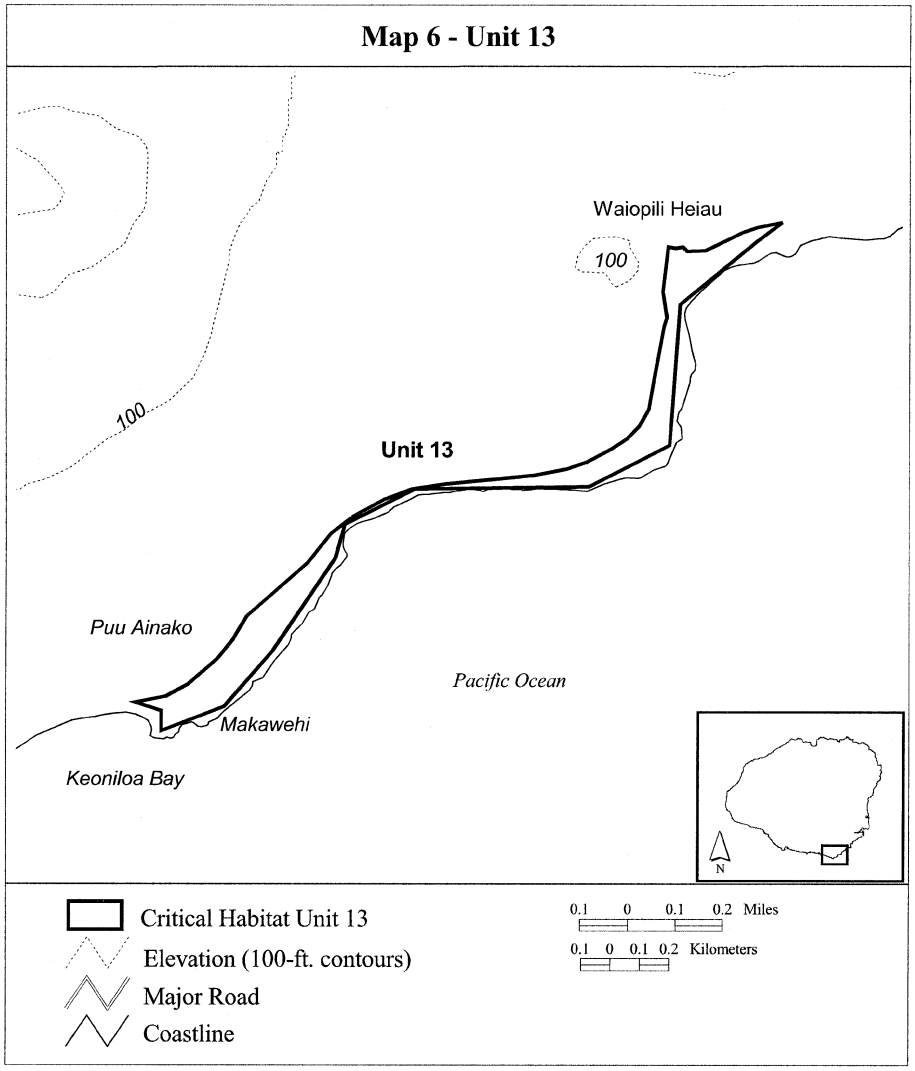


(18) Unit 13—(21 ha (52 ac)):

(i) Unit 13 consists of the following 43 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Start at 457108, 2420666; 457027, 2420606; 456763, 2420391; 456727, 2419912; 456456, 2419772; 455868, 2419764; 455633, 2419645; 455601, 2419531; 455389, 2419219; 455225, 2419029; 455014, 2418947; 455014, 2419015; 454926, 2419043; 455027, 2419064; 455102, 2419103; 455202, 2419192; 455255, 2419258; 455300, 2419334; 455508, 2419515; 455586, 2419614; 455664, 2419674; 455767, 2419730; 455859, 2419764; 455969, 2419780; 456212, 2419805; 456272, 2419811; 456376, 2419831; 456451, 2419859; 456531, 2419900; 456583, 2419935; 456627, 2419981; 456656,

2420036; 456682, 2420173; 456709, 2420316; 456718, 2420343; 456704, 2420433; 456723, 2420583; 456747, 2420580; 456771, 2420584; 456786, 2420569; 456848, 2420572; 456979, 2420634; 457022, 2420649; return to starting point.

(ii) NOTE: Unit 13 is depicted on Map 6—Unit 13—which follows:

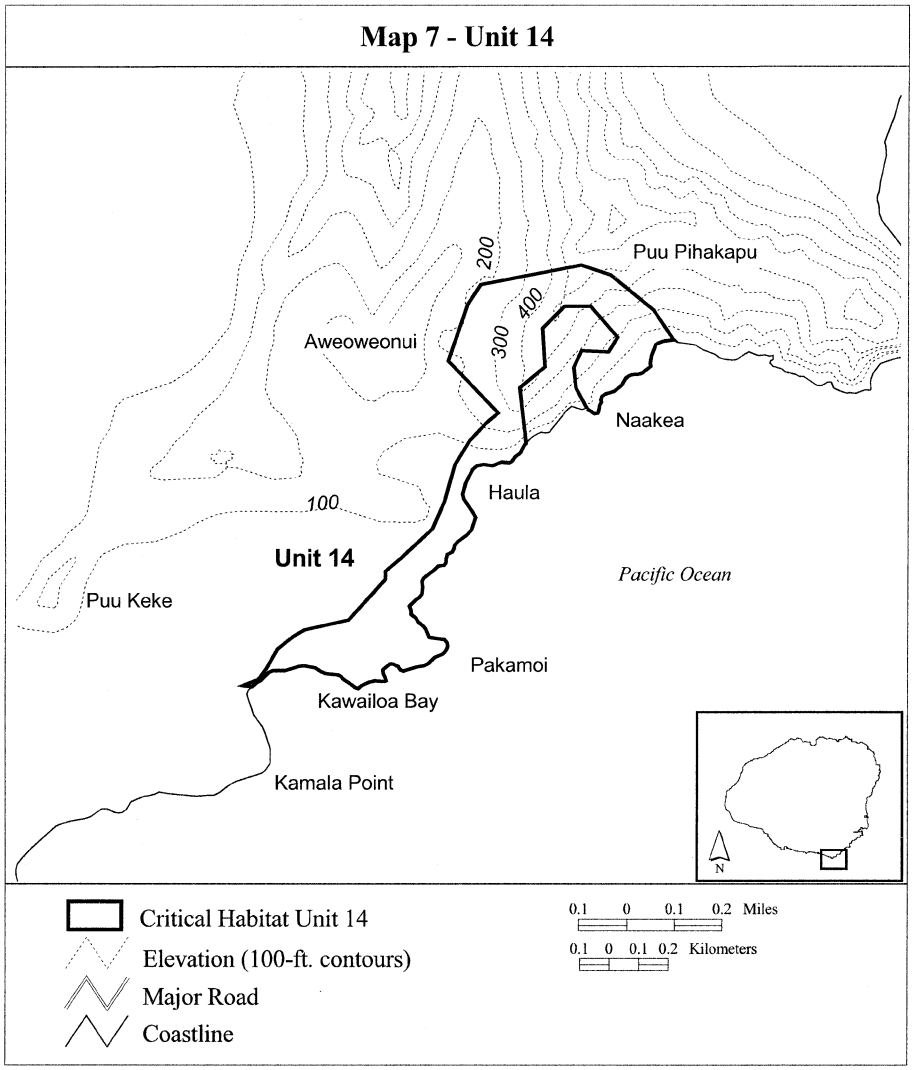


(19) Unit 14—(39 ha (96 ac)):

(i) Unit 14 consists of the following 47 boundary points with the following coordinates in UTM Zone 4, with the units in meters using North American Datum of 1983 (NAD83): Coastline. 457575, 2420977; 457548, 2420981; 457598, 2421002; 457624, 2421039; 457624, 2421039; 457624, 2421039; 457664, 2421105; 457715, 2421146; 457755, 2421170; 457901, 2421204; 458025, 2421342; 458025, 2421367; 458078, 2421412; 458078, 2421413; 458078, 2421413; 458184, 2421510; 458226, 2421607; 458226, 2421607; 458226, 2421607; 458259,

2421727; 458308, 2421809; 458371, 2421876; 458405, 2421905; 458237, 2422080; 458301, 2422271; 458346, 2422339; 458686, 2422403; 458785, 2422371; 458932, 2422252; 458997, 2422153; Coastline. 458706, 2421920; 458670, 2421988; 458662, 2422059; 458688, 2422116; 458778, 2422112; 458809, 2422160; 458719, 2422266; 458630, 2422266; 458556, 2422191; 458563, 2422061; 458479, 2421989; 458500, 2421803.

(ii) NOTE: Unit 14 is depicted on Map 7—Unit 14—which follows:



NOEL'S AMPHIPOD (*Gammarus desperatus*)

(1) Critical habitat units are depicted for Chaves County, New Mexico, on the maps below.

(2) The primary constituent element of critical habitat for Noel's amphipod is springs and spring-fed wetland systems that:

(i) Have permanent, flowing water with no or no more than low levels of pollutants;

(ii) Have slow to moderate water velocities;

(iii) Have substrates including limestone cobble and aquatic vegetation;

(iv) Have stable water levels with natural diurnal (daily) and seasonal variations;

(v) Consist of fresh to moderately saline water;

(vi) Have minimal sedimentation;

(vii) Vary in temperature between 50–68 °F (10–20 °C) with natural seasonal and diurnal variations slightly above and below that range; and

(viii) Provide abundant food, consisting of:

(A) Submergent vegetation and decaying organic matter;

(B) A surface film of algae, diatoms, bacteria, and fungi; and

(C) Microbial foods, such as algae and bacteria, associated with aquatic plants, algae, bacteria, and decaying organic material.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

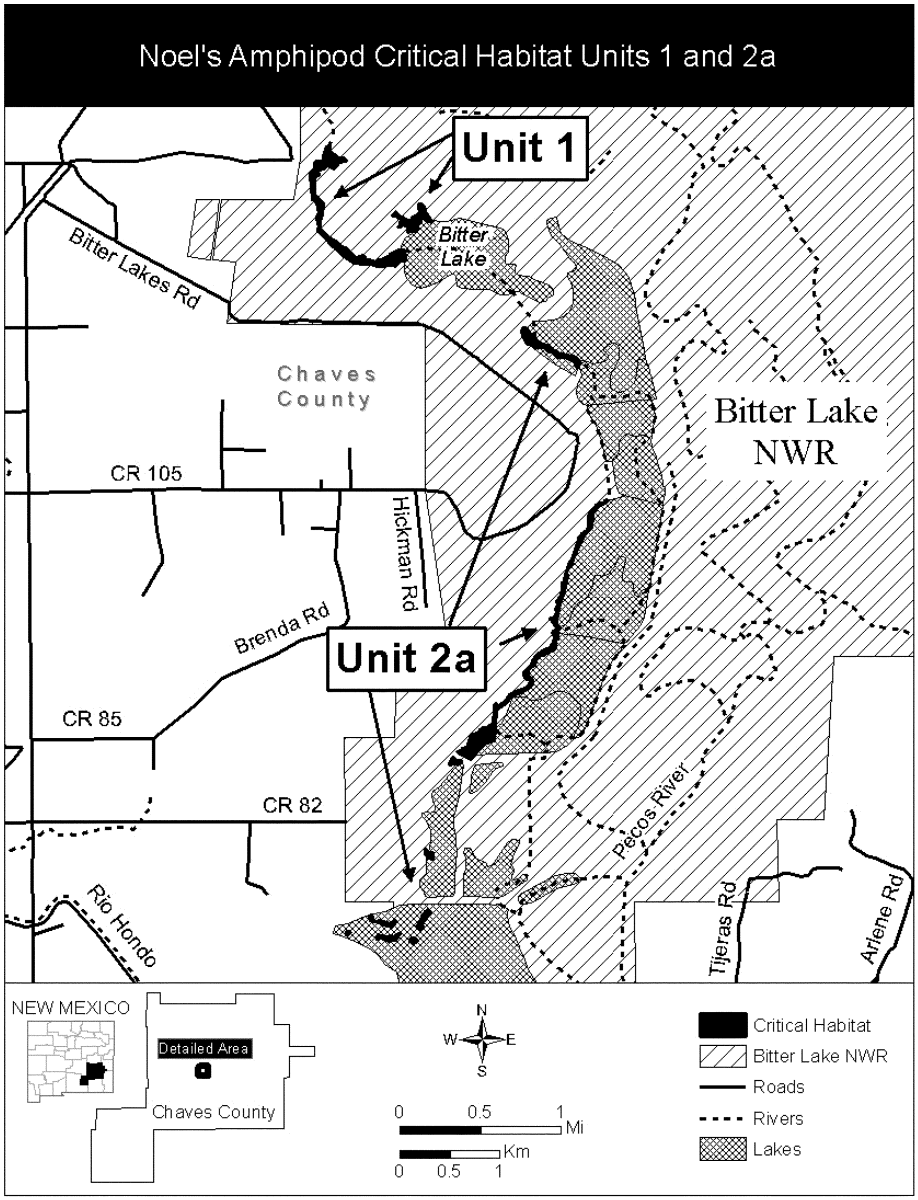
(4) *Critical habitat map units.* Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Unit 1: Sago/Bitter Creek Complex, Chaves County, New Mexico.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): (A) 553337, 3705095; 553357, 3705102; 553360, 3705067; 553371, 3705041; 553420, 3705010; 553433, 3704982; 553482, 3704987; 553499, 3704955; 553437, 3704946; 553424, 3704909; 553401, 3704883; 553340, 3704906; 553319, 3704879; 553266, 3704869; 553274, 3704816; 553240, 3704797; 553240, 3704623; 553306, 3704532; 553300, 3704419; 553280, 3704354; 553287, 3704287; 553338, 3704221; 553438, 3704145; 553459, 3704108; 553499, 3704091; 553533, 3704059; 553559, 3704024; 553588, 3704004; 553650, 3704024; 553655, 3704014; 553654, 3703981; 553699, 3703983; 553745, 3703960; 553775, 3703978; 553799, 3703979; 553828, 3704003; 553859, 3704016; 553871, 3704037; 553907, 3704053; 553938, 3704074; 553964, 3704078; 553983, 3704080; 553993, 3703978; 553939, 3703960; 553917, 3703914; 553903, 3703927; 553758, 3703909; 553710, 3703936; 553656, 3703932; 553567, 3703940; 553484, 3704010; 553426, 3704085; 553396, 3704109; 553357, 3704150; 553270, 3704273; 553271, 3704299; 553270, 3704344; 553255, 3704398; 553274, 3704444; 553254, 3704540; 553218, 3704577; 553197, 3704824; 553205, 3704843; 553246, 3704885; 553233, 3704911; 553238, 3704941; 553265, 3704950; 553294, 3704941; 553312, 3705045; 553337, 3705095.

(B) 553906, 3704450; 553915, 3704455; 553920, 3704452; 553917, 3704438; 553926, 3704432; 553935, 3704420; 553957, 3704404; 553965, 3704405; 553974, 3704406; 553985, 3704388; 553993, 3704387; 554019, 3704376; 554037, 3704362; 554045, 3704389; 554060, 3704406; 554083, 3704416; 554085, 3704429; 554110, 3704452; 554132, 3704457; 554121, 3704474; 554106, 3704494; 554102, 3704531; 554119, 3704531; 554135, 3704523; 554144, 3704510; 554157, 3704481; 554154, 3704460; 554174, 3704431; 554192, 3704393; 554210, 3704366; 554216, 3704346; 554190, 3704357; 554174, 3704365; 554166, 3704375; 554159, 3704395; 554146, 3704394; 554126, 3704391; 554117, 3704384; 554123, 3704364; 554119, 3704346; 554105, 3704337; 554091, 3704312; 554097, 3704289; 554094, 3704269; 554084, 3704261; 554059, 3704273; 554052, 3704260; 554034, 3704259; 554022, 3704248; 554005, 3704272; 554024, 3704293; 554040, 3704300; 554041, 3704321; 554016, 3704332; 554006, 3704317; 553974, 3704323; 553963, 3704324; 553963, 3704316; 553966, 3704314; 553961, 3704302; 553949, 3704302; 553936, 3704302; 553934, 3704311; 553946, 3704321; 553952, 3704323; 553946, 3704332; 553946, 3704353; 553958, 3704373; 553964, 3704381; 553958, 3704392; 553946, 3704391; 553938, 3704396; 553934, 3704394; 553930, 3704397; 553930, 3704409; 553924, 3704409; 553906, 3704413; 553902, 3704424; 553894, 3704419; 553885, 3704419; 553898, 3704448; 553906, 3704450.

(ii) NOTE: Map of Noel's Amphipod Critical Habitat Units 1 and 2a follows:



(6) Unit 2a: Springsnail/Amphipod Impoundment Complex, Chaves County, New Mexico.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): (A) 554982, 3703317; 555004, 3703315; 555011, 3703299; 555053, 3703215; 555079, 3703205; 555094, 3703168; 555171, 3703138; 555222, 3703093; 555259, 3703078; 555289, 3703055; 555338, 3703047; 555420, 3703024; 555458, 3702955; 555442, 3702940; 555422, 3702925; 555406, 3702974; 555330, 3703017; 555277, 3703025; 555229, 3703068; 555188, 3703090; 555151, 3703125; 555131, 3703116; 555075, 3703115; 555042, 3703144; 555014,

3703147; 554978, 3703231; 554964, 3703290; 554982, 3703317.

(B) 555695, 3701598; 555603, 3701536; 555568, 3701479; 555565, 3701460; 555559, 3701324; 555532, 3701296; 555502, 3701277; 555355, 3700892; 555356, 3700852; 555342, 3700778; 555333, 3700694; 555294, 3700533; 555271, 3700409; 555281, 3700322; 555273, 3700266; 555257, 3700265; 555238, 3700281; 555247, 3700304; 555268, 3700316; 555269, 3700343; 555221, 3700433; 555257, 3700433; 555263, 3700446; 555269, 3700498; 555260, 3700534; 555284, 3700550; 555285, 3700567; 555274, 3700604; 555288, 3700636; 555312, 3700666; 555322, 3700725; 555325, 3700767; 555345, 3700858; 555350, 3700891; 555355, 3700901; 555365, 3700958; 555379, 3700992; 555392, 3701014; 555436, 3701152; 555450, 3701200; 555450, 3701241; 555472, 3701247; 555480, 3701271; 555504, 3701300; 555520, 3701303; 555534, 3701340; 555529, 3701451; 555549, 3701492; 555589, 3701560; 555621, 3701579; 555656, 3701579; 555669, 3701602; 555686, 3701610; 555695, 3701598.

(C) 554768, 3699378; 554765, 3699345; 554761, 3699217; 554681, 3699179; 554608, 3699086; 554569, 3699029; 554501, 3699079; 554455, 3699103; 554488, 3699119; 554497, 3699142; 554543, 3699151; 554539, 3699185; 554571, 3699264; 554587, 3699280; 554622, 3699291; 554639, 3699320; 554667, 3699343; 554699, 3699341; 554719, 3699367; 554748, 3699380; 554768, 3699378.

(D) 554487, 3699017; 554487, 3698993; 554435, 3698991; 554392, 3698980; 554398, 3699012; 554405, 3699026; 554410, 3699056; 554427, 3699057; 554423, 3699035; 554458, 3699018; 554487, 3699017.

(E) 554195, 3698145; 554220, 3698101; 554258, 3698101; 554256, 3698043; 554224, 3698055; 554210, 3698079; 554193, 3698085; 554191, 3698097; 554195, 3698145.

(F) 554223, 3697539; 554247, 3697505; 554195, 3697448; 554171, 3697394; 554179, 3697365; 554152, 3697343; 554132, 3697360; 554123, 3697373; 554155, 3697405; 554167, 3697472; 554223, 3697539.

(G) 554070, 3697244; 554099, 3697254; 554134, 3697240; 554127, 3697220; 554096, 3697208; 554071, 3697229; 554070, 3697244.

(H) 553784, 3697256; 553807, 3697291; 553829, 3697279; 553849, 3697268; 553881, 3697270; 553911, 3697274; 553931, 3697267; 553979, 3697295; 553989, 3697296; 553980, 3697274; 553965, 3697264; 553963, 3697246; 553939, 3697239; 553914, 3697242; 553901, 3697230; 553881, 3697235; 553872, 3697251; 553848, 3697246; 553833, 3697254; 553829, 3697262; 553821, 3697262; 553799, 3697250; 553784, 3697256.

(I) 553928, 3697415; 553935, 3697425; 553952, 3697426; 553941, 3697416; 553940, 3697405; 553942, 3697385; 553927, 3697367; 553852, 3697391; 553833, 3697408; 553822, 3697403; 553766, 3697414; 553739, 3697424; 553735, 3697478; 553747, 3697483; 553764, 3697425; 553795, 3697420; 553820, 3697429; 553849, 3697415; 553880, 3697408; 553905, 3697395; 553921, 3697407; 553928, 3697415.

(J) 553538, 3697315; 553550, 3697308; 553572, 3697322; 553580, 3697314; 553556, 3697287; 553538, 3697302; 553538, 3697315.

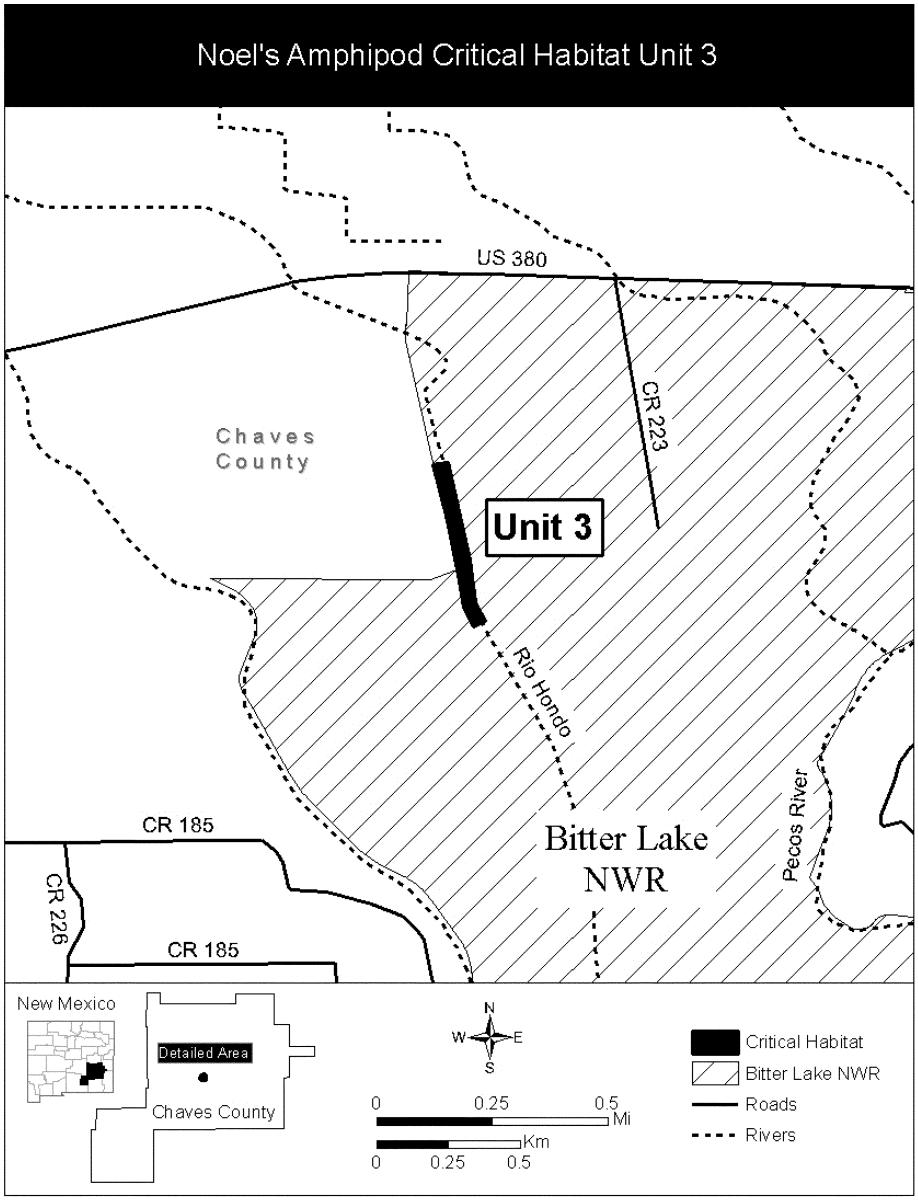
(K) 555054, 3699844; 555015, 3699840; 555015, 3699840; 555006, 3699890; 555065, 3699975; 555086, 3700030; 555115, 3700032; 555114, 3700030; 555076, 3699953; 555038, 3699915; 555039, 3699861; 555054, 3699844.

(ii) Map of Unit 2a for Noel's amphipod is provided at paragraph (5)(ii) of this entry.

(7) Unit 3: Rio Hondo, Chaves County, New Mexico.

(i) Land bounded by the following UTM Zone 13N, North American Datum of 1983 (NAD83) coordinates (E, N): 554121, 3694838; 554166, 3694847; 554200, 3694673; 554230, 3694507; 554247, 3694358; 554277, 3694294; 554243, 3694274; 554212, 3694343; 554196, 3694458; 554164, 3694649; 554121, 3694838.

(ii) NOTE: Map of Noel's Amphipod Critical Habitat Unit 3 follows:



PECK'S CAVE AMPHIPOD (*Stygobromus pecki*).

(1) Critical habitat units are depicted for Comal County, Texas, on the maps below.

(2) The primary constituent elements of critical habitat for Peck's cave amphipod are:

(i) High-quality water with no or minimal levels of pollutants, such as soaps and detergents (Brown 1987, p. 261) and other compounds containing surfactants, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, pharmaceuticals and

veterinary medicines, and semi-volatile compounds, such as industrial cleaning agents, and including:

(A) Low salinity with total dissolved solids that generally range from 307 to 368 mg/L; and

(B) Low turbidity that generally is less than 5 nephelometric turbity units;

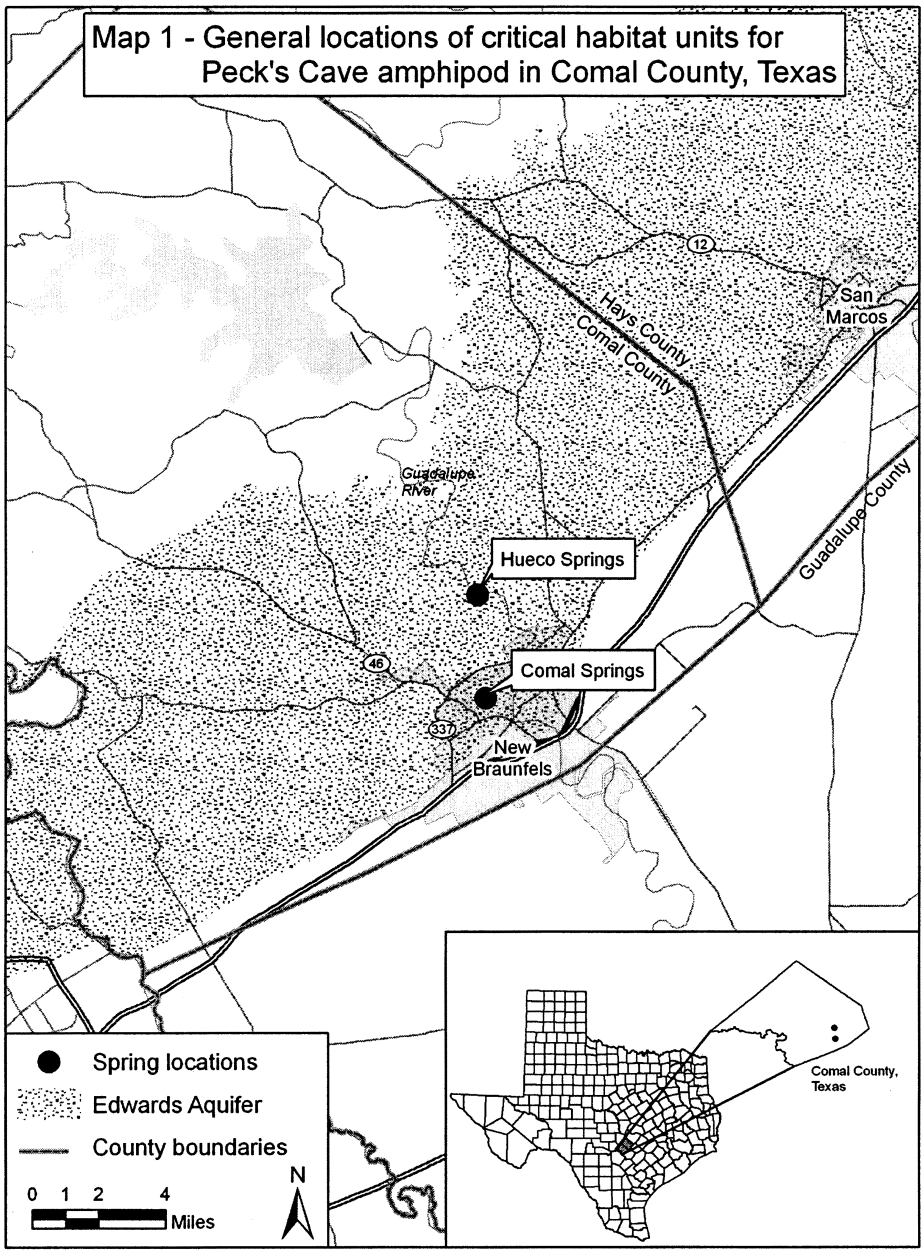
(ii) Aquifer water temperatures that range from approximately 68 to 75 °F (20 to 24 °C); and

(iii) Food supply that includes detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria and other microorganisms, and decaying roots.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule. Where lakes are designated, critical habitat is only designated for areas where springs occur and does not include areas of the lake bottom beyond a radius of 50 ft (15.2 m) from the spring outlet.

(4) *Critical habitat map units.* Data layers defining map units were created by using ArcGIS. All coordinates are UTM zone 14 coordinate pairs, referenced to North American Horizontal Datum 1983. Coordinates were derived from 2004 digital orthophotographs. All acreage and mileage calculations were performed using GIS.

(5) NOTE: Index map (Map 1) follows:

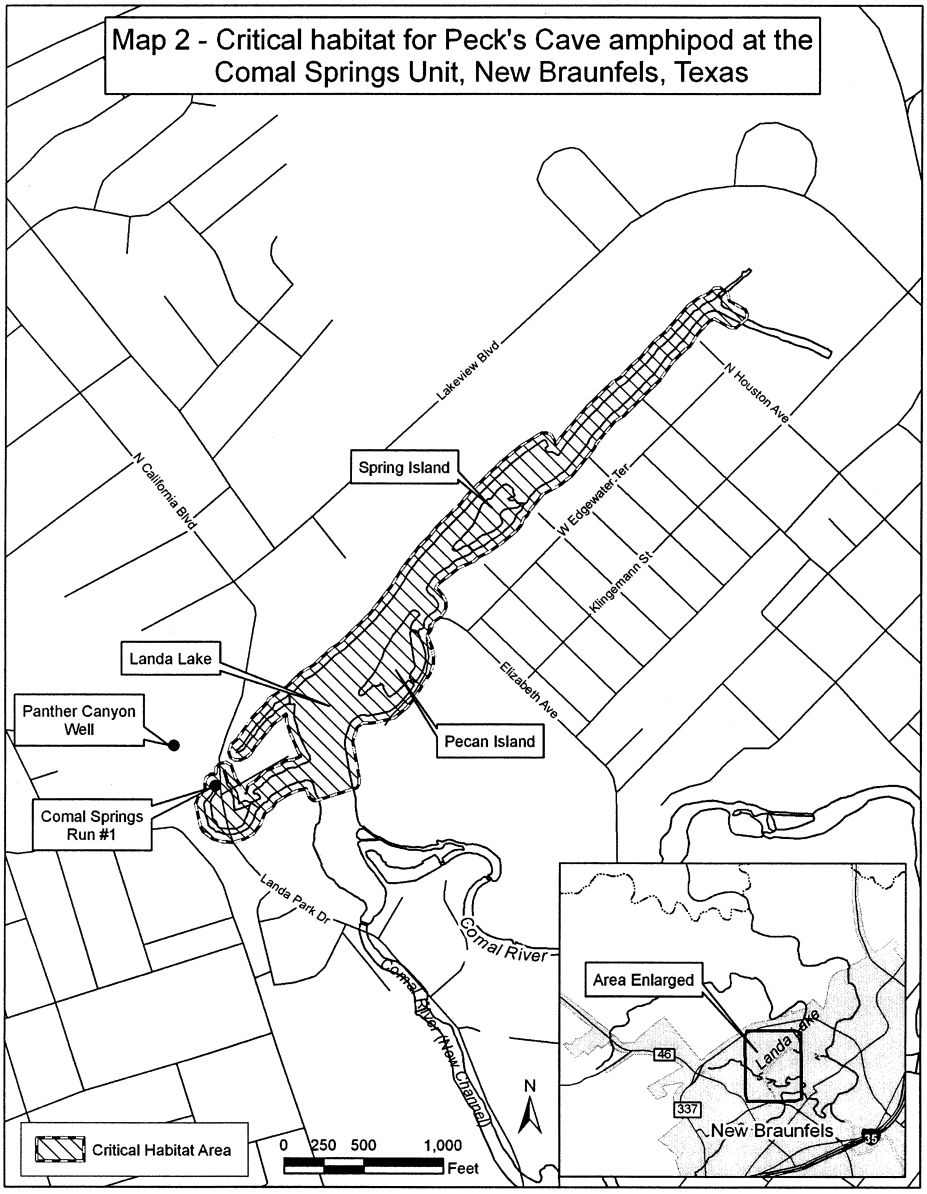


(6) Comal Springs Unit, Comal County, Texas.

(i) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 583387, 3287251; 583392, 3287264; 583405, 3287280; 583404, 3287290; 583407, 3287301; 583414, 3287307; 583425, 3287308; 583425, 3287320; 583433, 3287328; 583444, 3287330; 583454, 3287325; 583463, 3287301; 583482, 3287272; 583486, 3287286; 583501, 3287296; 583520, 3287314; 583547, 3287326;

583557, 3287333; 583572, 3287335; 583586, 3287342; 583567, 3287387; 583560, 3287408; 583559, 3287423; 583534, 3287403; 583499, 3287359; 583491, 3287347; 583484, 3287340; 583471, 3287334; 583461, 3287334; 583452, 3287340; 583450, 3287350; 583454, 3287364; 583465, 3287374; 583494, 3287415; 583521, 3287443; 583526, 3287453; 583563, 3287477; 583589, 3287503; 583613, 3287519; 583643, 3287547; 583662, 3287561; 583719, 3287617; 583759, 3287669; 583780, 3287701; 583811, 3287743; 583833, 3287764; 583848, 3287784; 583892, 3287826; 583911, 3287850; 583970, 3287907; 584008, 3287938; 584047, 3287963; 584055, 3287964; 584065, 3287960; 584073, 3287948; 584074, 3287941; 584081, 3287952; 584131, 3288011; 584164, 3288044; 584183, 3288062; 584197, 3288071; 584216, 3288093; 584236, 3288110; 584258, 3288138; 584284, 3288161; 584325, 3288209; 584343, 3288223; 584364, 3288233; 584375, 3288243; 584386, 3288244; 584401, 3288234; 584403, 3288218; 584433, 3288201; 584437, 3288193; 584436, 3288184; 584416, 3288167; 584405, 3288167; 584375, 3288184; 584365, 3288180; 584344, 3288156; 584329, 3288131; 584320, 3288125; 584298, 3288103; 584273, 3288067; 584204, 3287997; 584187, 3287985; 584176, 3287973; 584152, 3287943; 584147, 3287933; 584105, 3287880; 584080, 3287862; 584049, 3287844; 584026, 3287815; 584021, 3287805; 584013, 3287798; 584009, 3287787; 583999, 3287775; 583971, 3287751; 583947, 3287735; 583927, 3287725; 583920, 3287718; 583890, 3287704; 583850, 3287673; 583845, 3287665; 583851, 3287662; 583860, 3287650; 583865, 3287640; 583865, 3287629; 583863, 3287622; 583854, 3287609; 583840, 3287600; 583836, 3287584; 583829, 3287576; 583838, 3287552; 583841, 3287535; 583841, 3287520; 583835, 3287501; 583804, 3287452; 583790, 3287435; 583766, 3287416; 583727, 3287406; 583706, 3287406; 583695, 3287398; 583686, 3287370; 583699, 3287298; 583698, 3287288; 583694, 3287282; 583617, 3287257; 583610, 3287258; 583605, 3287262; 583597, 3287280; 583584, 3287277; 583565, 3287270; 583541, 3287255; 583534, 3287244; 583518, 3287233; 583510, 3287211; 583496, 3287192; 583480, 3287183; 583459, 3287177; 583436, 3287178; 583419, 3287184; 583400, 3287198; 583396, 3287205; 583387, 3287251.

(ii) NOTE: Comal Springs Unit (Map 2) follows:



(7) Hueco Springs Unit, Comal County, Texas.

(i) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 583113, 3292498; 583114, 3292498; 583115, 3292498; 583116, 3292498; 583117, 3292498; 583118, 3292497; 583119, 3292497; 583120, 3292497; 583120, 3292496; 583121, 3292496; 583122, 3292495; 583123, 3292495; 583124, 3292494; 583124, 3292493; 583125, 3292493; 583126, 3292492; 583126, 3292491; 583127, 3292490; 583127, 3292489; 583127, 3292489; 583128, 3292488; 583128, 3292487; 583128, 3292486; 583128, 3292485; 583128, 3292484; 583128, 3292483; 583128, 3292482; 583128, 3292481; 583128, 3292480;

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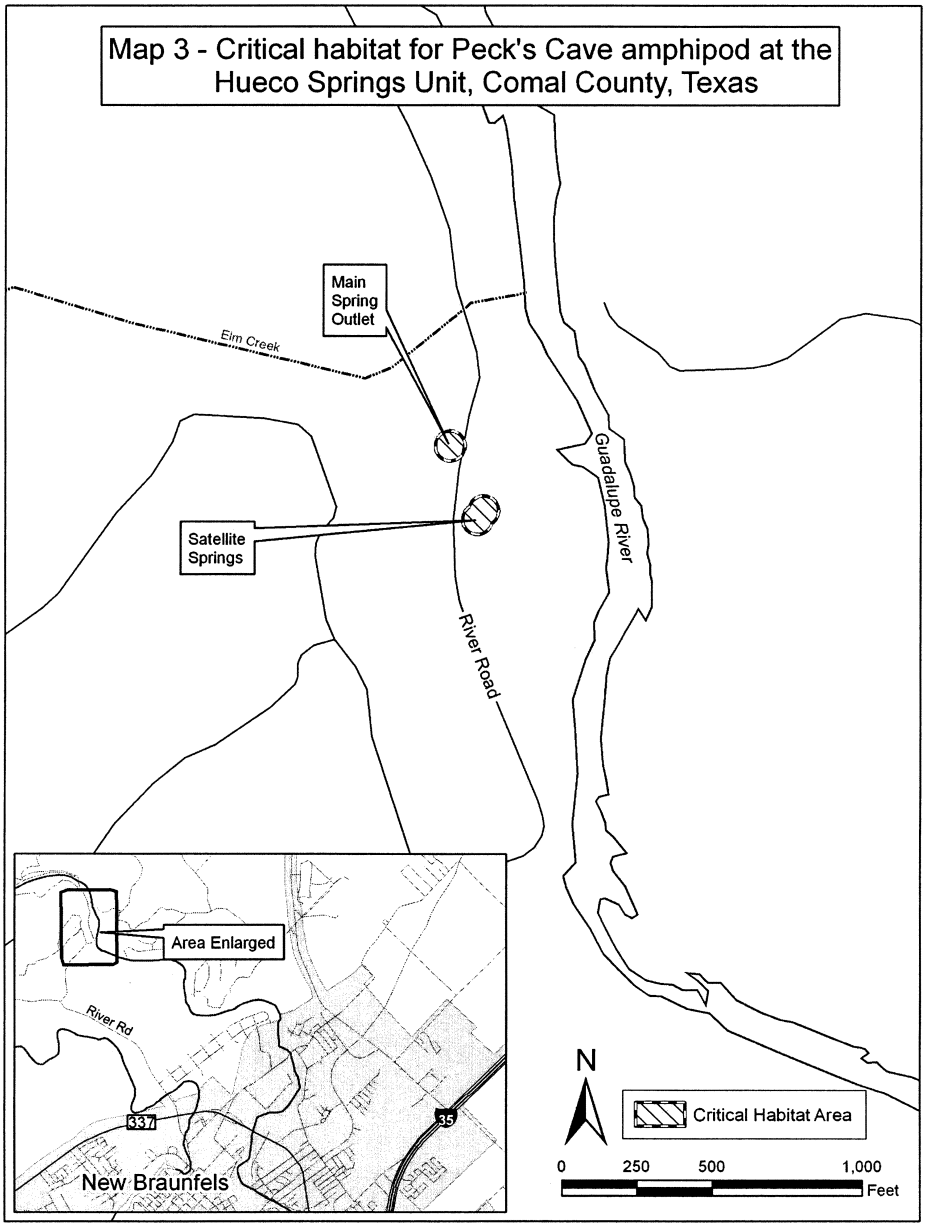
(ii) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 583132, 3292420; 583133, 3292421; 583133, 3292421; 583133, 3292422; 583134, 3292423; 583134, 3292424; 583134, 3292425; 583135, 3292426; 583136, 3292426; 583136, 3292427; 583137, 3292428; 583138, 3292428; 583138, 3292429; 583139, 3292430; 583140, 3292430; 583141, 3292430; 583142, 3292431; 583143, 3292431; 583143, 3292431; 583144, 3292432; 583145, 3292432; 583146, 3292432; 583147, 3292432; 583148, 3292432; 583149, 3292432; 583150, 3292432; 583151, 3292432; 583152, 3292431; 583153, 3292431; 583154, 3292431; 583155, 3292430; 583155, 3292430; 583156, 3292429; 583157, 3292429; 583158, 3292428; 583158, 3292427; 583159, 3292427; 583160, 3292426; 583160, 3292425; 583161, 3292424; 583161, 3292423; 583162, 3292422; 583162, 3292422; 583162, 3292421; 583162, 3292420; 583163, 3292419; 583163, 3292418; 583163, 3292417; 583163, 3292416; 583163, 3292415; 583162, 3292414; 583162, 3292413; 583162, 3292412; 583162, 3292411; 583161, 3292410; 583161, 3292409; 583160, 3292409; 583160, 3292408; 583159, 3292407; 583159, 3292406; 583158, 3292406; 583157, 3292405; 583156, 3292404; 583156, 3292404; 583156, 3292403; 583155, 3292402; 583155, 3292402; 583155, 3292401; 583154, 3292400; 583154, 3292399; 583153, 3292398; 583152, 3292398; 583152, 3292397; 583151, 3292396; 583150, 3292396; 583149, 3292395; 583149, 3292395; 583148, 3292394; 583147, 3292394; 583146, 3292393; 583145, 3292393; 583144, 3292393; 583143, 3292393; 583142, 3292393; 583141, 3292393; 583140, 3292393; 583139, 3292393; 583138, 3292393; 583137, 3292393; 583137, 3292393; 583136, 3292394; 583135, 3292394; 583134, 3292395; 583133, 3292395; 583132, 3292396; 583132, 3292396; 583131, 3292397; 583130, 3292397; 583129, 3292398; 583129, 3292399; 583128, 3292400; 583128, 3292400; 583127, 3292401; 583127, 3292402; 583127, 3292403; 583126, 3292404; 583126, 3292405; 583126, 3292406; 583126, 3292407; 583126, 3292408; 583126, 3292409; 583126, 3292410; 583126, 3292411; 583126, 3292412; 583127, 3292413; 583127, 3292413; 583127, 3292414; 583128, 3292415; 583128, 3292416; 583129, 3292417; 583129, 3292418; 583130, 3292418; 583131, 3292419; 583131, 3292420; 583132, 3292420.

(iii) NOTE: Hueco Springs Unit (Map 3) follows:



PECOS AMPHIPOD (*Gammarus pecos*)

(1) The critical habitat unit is depicted for Pecos County, Texas, on the map below.

(2) Within this area, the primary constituent elements of the physical or biological features essential to the conservation of Pecos amphipod are springs and spring-fed aquatic systems that contain:

(i) Permanent, flowing, unpolluted water (free from contamination) emerging from the ground and flowing on the surface;

(ii) Water temperatures that vary between 11 and 27 °C (52 to 81 °F) with natural seasonal and diurnal variations slightly above and below that range;

(iii) Substrates that include cobble, gravel, pebble, sand, silt, and aquatic vegetation, for breeding, maturing, feeding, and escape from predators;

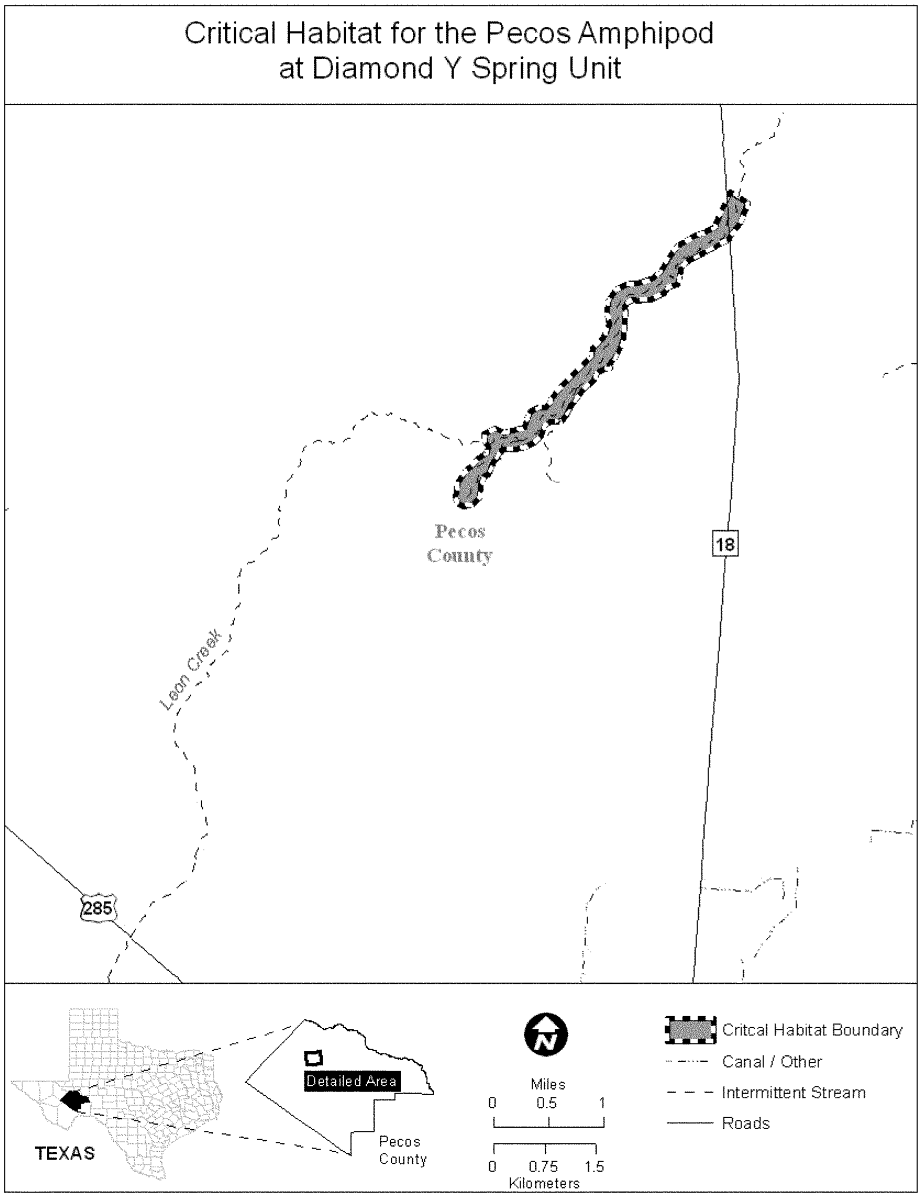
(iv) Abundant food, consisting of algae, bacteria, decaying organic material, and submergent vegetation that contributes the necessary nutrients, detritus, and bacteria on which these species forage; and

(v) Either an absence of nonnative predators and competitors or nonnative predators and competitors at low population levels.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, oil and gas well pads, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Data layers defining map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public on the internet at *http://www.regulations.gov* at Docket No. FWS–R2–ES–2013–0004 and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Diamond Y Spring Unit, Pecos County, Texas. Map of Diamond Y Spring Unit follows:



CONSERVANCY FAIRY SHRIMP (*Branchinecta conservatio*).

(1) Critical habitat units are depicted for Butte, Colusa, Mariposa, Merced, Solano, Stanislaus, Tehama, and Ventura Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for Conservancy fairy shrimp (*Branchinecta conservatio*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in

complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 19 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

(iv) Structure within the pools described above in paragraph (2)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1 Tehama County, California.

(i) Unit 1A: Tehama County, California. From USGS 1:24,000 topographic quadrangles Richardson Springs, and Acorn Hollow. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 588739, 4429822; 588900, 4429500; 589500, 4429500; 589500, 4428600; 589500, 4428000; 589800, 4427100; 590500, 4426400; 590500, 4425300; 591200, 4424400; 591500, 4423300; 591562, 4422558; 590526, 4423686; 589986, 4424273; 589816, 4424458; 589129, 4425207; 588454, 4426221; 588425, 4426265; 588279, 4426485; 588213, 4426583; 588213, 4426584; 588600, 4429100; 588733, 4429833; returning to 588739, 4429822.

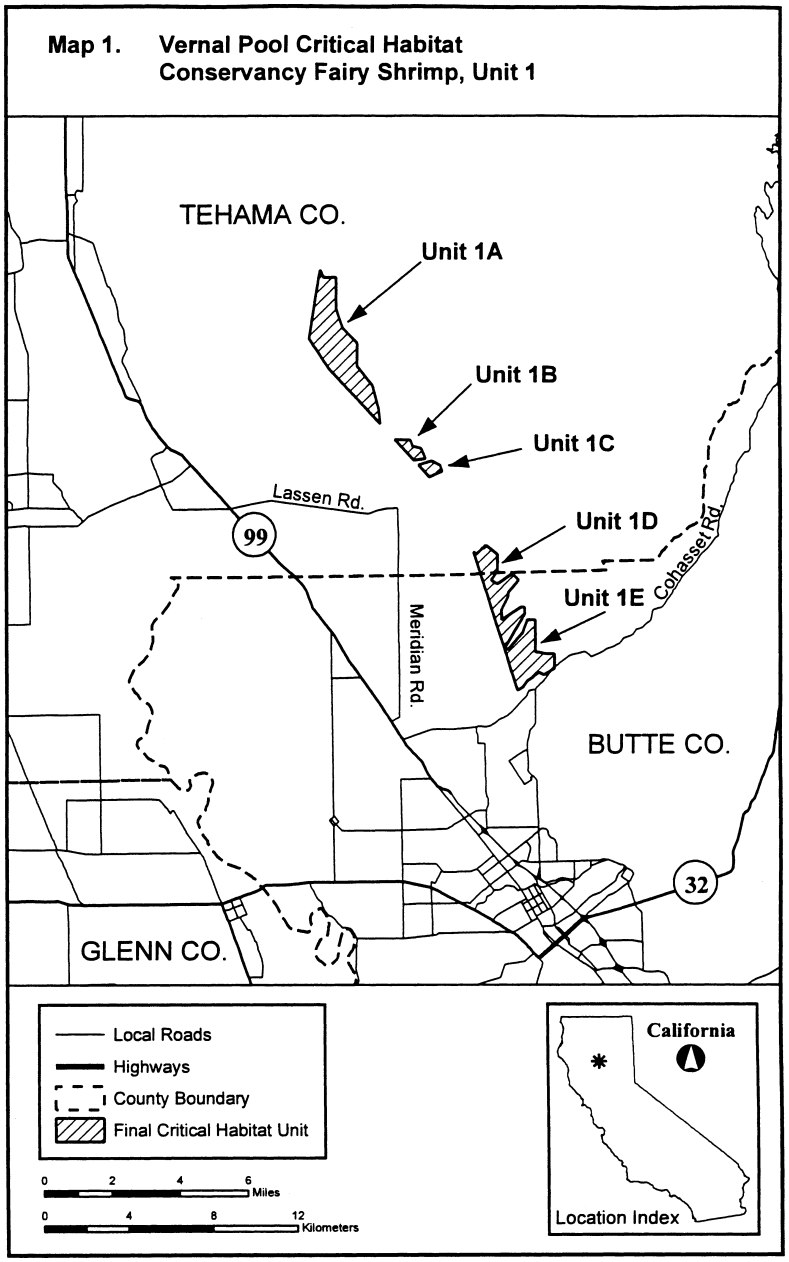
(ii) Unit 1B: Tehama County, California. From USGS 1:24,000 topographic quadrangle Richardson Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 593700, 4420900; 593164, 4420815; 592329, 4421723; 592258, 4421800; 593000, 4421800; 593100, 4421500; 593500, 4421400; returning to 593700, 4420900.

(iii) Unit 1C: Tehama County, California. From USGS 1:24,000 topographic quadrangle Richardson Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 594500, 4420300; 593881, 4420035; 593371, 4420590; 594000, 4420800; 594400, 4420600; returning to 594500, 4420300.

(iv) Unit 1D: Tehama County, and Butte County, California. From USGS 1:24,000 topographic quadrangles Richardson Springs NW, Campbell Mound, Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 597100, 4416400; 597100, 4415600; 597044, 4415525; 596800, 4415200; 597100, 4415000; 597800, 4415500; 598100, 4415200; 597600, 4414600; 597600, 4414400; 597300, 4413800; 597300, 4413300; 598200, 4413900; 598400, 4413900; 598400, 4413600; 597422, 4411938; 597281, 4412382; 596959, 4413403; 596640, 4414416; 596620, 4414481; 596305, 4415484; 596303, 4415489; 596130, 4416040; 596091, 4416160; 596028, 4416358; 596011, 4416411; 595993, 4416465; 595982, 4416500; 596000, 4416500; 596100, 4416400; 596200, 4416500; 596300, 4416600; 596400, 4416700; 596500, 4416700; 596500, 4416800; 596600, 4416800; returning to 597100, 4416400.

(v) Unit 1E: Butte County, California. From USGS 1:24,000 topographic quadrangles Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 598900, 4411800; 599400, 4411700; 599800, 4411700; 599800, 4411000; 599300, 4410700; 599100, 4410800; 599000, 4410800; 598800, 4410600; 598500, 4410400; 598300, 4410100; 598100, 4410000; 598070, 4409970; 598051, 4409993; 598038, 4410010; 598014, 4410083; 597806, 4410737; 597725, 4410990; 597461, 4411816; 597434, 4411900; 597600, 4411900; 598300, 4412700; 598500, 4413300; 598900, 4413300; returning to 598900, 4411800.

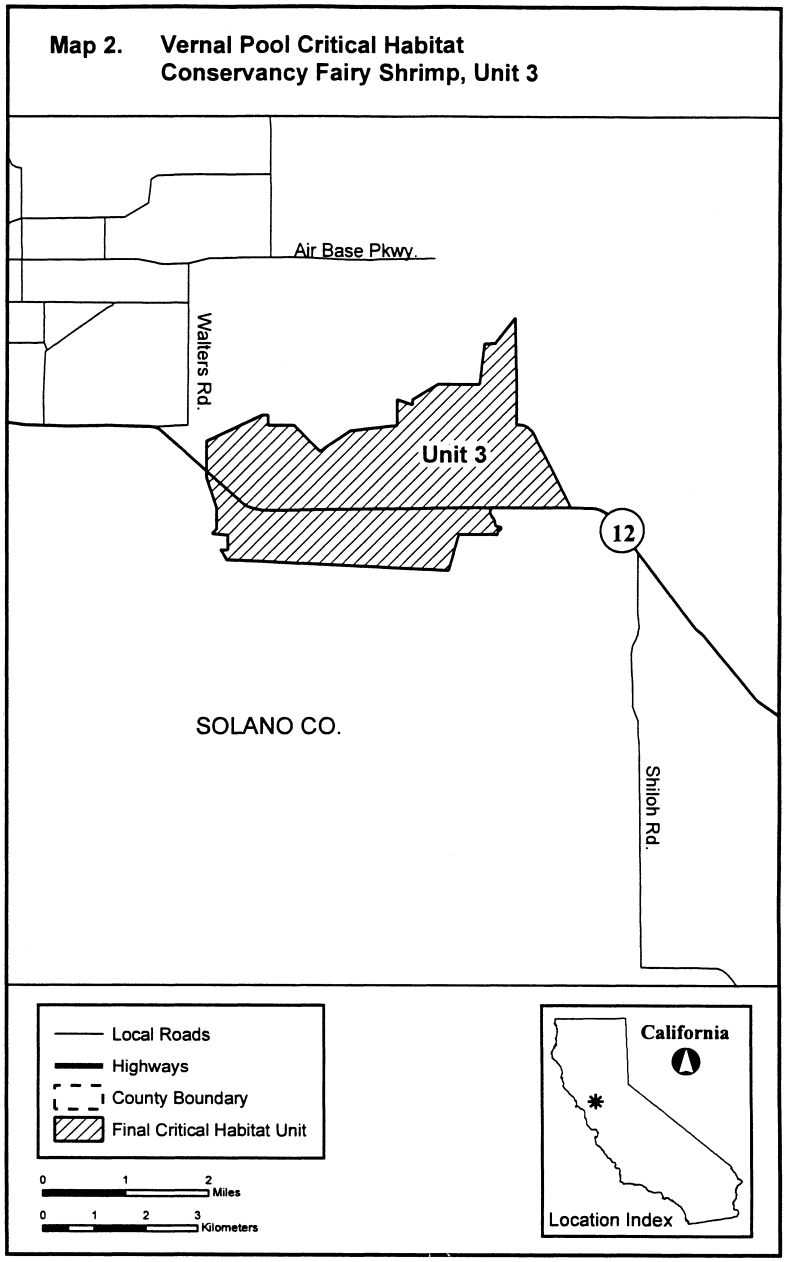
(vi) NOTE: Unit 1 (Map 1) follows:



(5) Unit 3: Solano County, California. From USGS 1:24,000 topographic quadrangles Elmira, and Denverton. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 594915, 4234098; 594916, 4233314; 595044, 4233310; 595068, 4233296; 595131, 4233266; 595174, 4233226; 595189, 4233210; 595239, 4233151; 595322, 4232978; 595423, 4232778; 595483, 4232667; 595553,

4232524; 595699, 4232243; 595966, 4231717; 594927, 4231710; 594445, 4231707; 594409, 4231673; 594410, 4231616; 594434, 4231540; 594474, 4231494; 594495, 4231457; 594497, 4231414; 594510, 4231370; 594543, 4231356; 594575, 4231342; 594603, 4231341; 594614, 4231338; 594616, 4231325; 594618, 4231311; 594614, 4231290; 594605, 4231284; 594583, 4231275; 594573, 4231268; 594557, 4231245; 594550, 4231209; 594543, 4231179; 594500, 4231200; 593800, 4231200; 593600, 4230500; 593291, 4230515; 593291, 4230514; 589300, 4230700; 589179, 4230901; 589179, 4230901; 589240, 4230894; 589274, 4230890; 589315, 4230894; 589321, 4230909; 589313, 4231179; 589015, 4231215; 589100, 4231300; 589100, 4231700; 588900, 4232300; 588900, 4233000; 589983, 4233500; 590000, 4233500; 590100, 4233500; 590100, 4233300; 590600, 4233300; 591100, 4232800; 591138, 4232825; 591143, 4232820; 591184, 4232856; 591700, 4233200; 592513, 4233290; 592594, 4233291; 592594, 4233299; 592600, 4233300; 592600, 4233800; 592900, 4233700; 592900, 4233751; 592901, 4233751; 592900, 4233754; 592900, 4233800; 593400, 4234100; 594200, 4234100; 594300, 4234900; 594500, 4234900; 594890, 4235396; returning to 594915, 4234098.

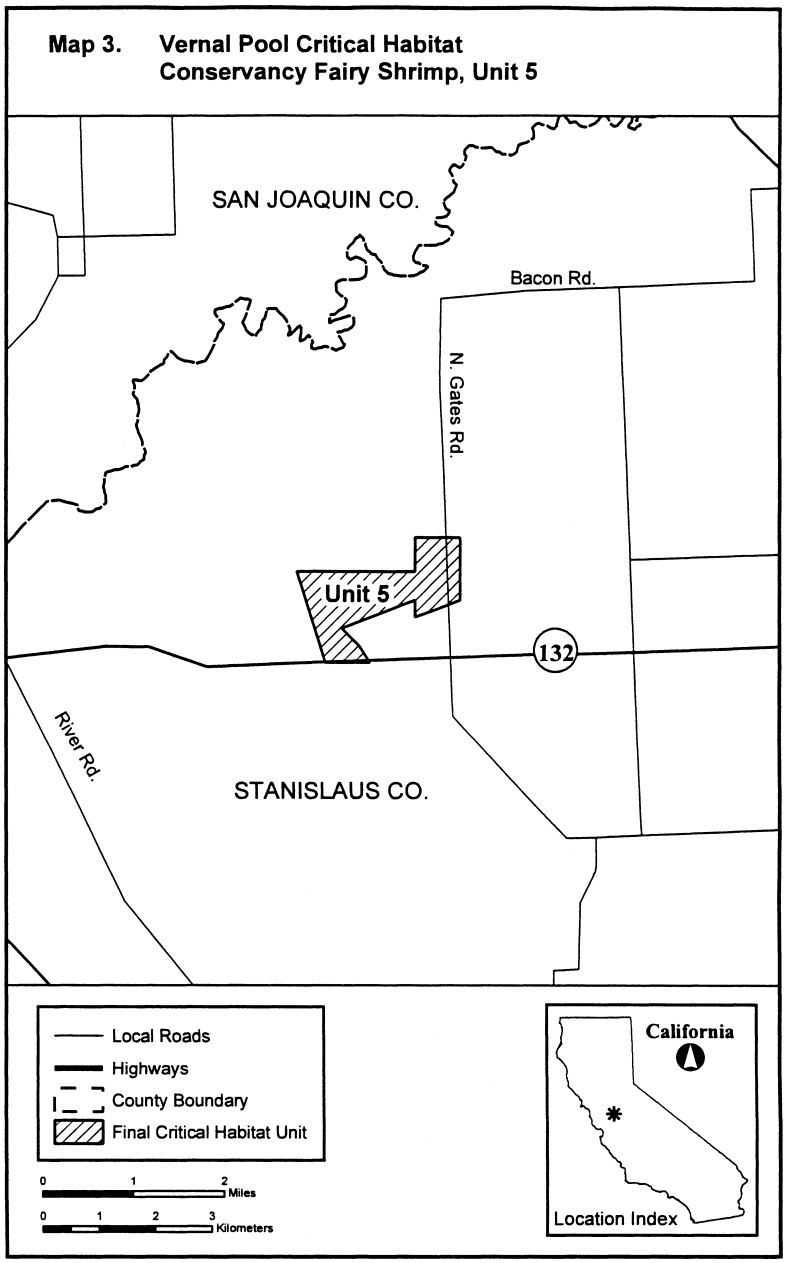
(6) NOTE: Unit 3 (Map 2) follows:



(7) Unit 5: Stanislaus County, California. From USGS 1:24,000 topographic quadrangle Ripon. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 662400, 4168300; 661600, 4168000; 661600, 4168300; 660300, 4167800; 660600, 4167500; 660800, 4167200; 660000, 4167200; 659500, 4168800; 661600, 4168800; 661600,

4169400; 662400, 4169400; returning to 662400, 4168300.

(8) NOTE: Unit 5 (Map 3) follows:



(9) Unit 6: Merced County, and Mariposa County, California. From USGS 1:24,000 topographic quadrangles Snelling, Merced Falls, Winton, Yosemite Lake, Haystack Mtn. Indian Gulch, Merced, Planada, Owens Reservoir, Illinois Hill, Plainsburg, Le Grand, and Raynor Creek. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 747003, 4125902; 747142, 4125971; 747303, 4125987; 747358, 4126000; 747200, 4126000; 747142, 4125971; 747123, 4125969; 747070, 4125950; 747003, 4125902; 747000, 4125900; 746900, 4125900; 746600, 4125800; 746300, 4125700; 746200, 4125600; 746200, 4125500; 745700, 4125500; 745700, 4125100; 744500, 4125100; 744500, 4125300; 744400, 4125300; 744400, 4125200; 743700, 4125200; 743700, 4125800; 744500, 4125800; 744500, 4126200; 743700, 4126200; 743700, 4127000; 743600, 4127000; 742700, 4127000; 742400, 4127000; 742000, 4127200; 742000, 4128600; 742800, 4128600; 742800, 4129100; 742900, 4129100; 743000, 4129100; 743000, 4129200; 743400, 4129300; 743600, 4129500; 743600, 4130284; 743605, 4130284; 743600, 4130493; 743600, 4130700; 743595, 4130700; 743561, 4132097; 743560, 4132170; 743556, 4132335; 743549, 4132692; 743537, 4133202; 743529, 4133301; 743531, 4133352; 743530, 4133400; 743523, 4133729; 743518, 4134016; 743515, 4134159; 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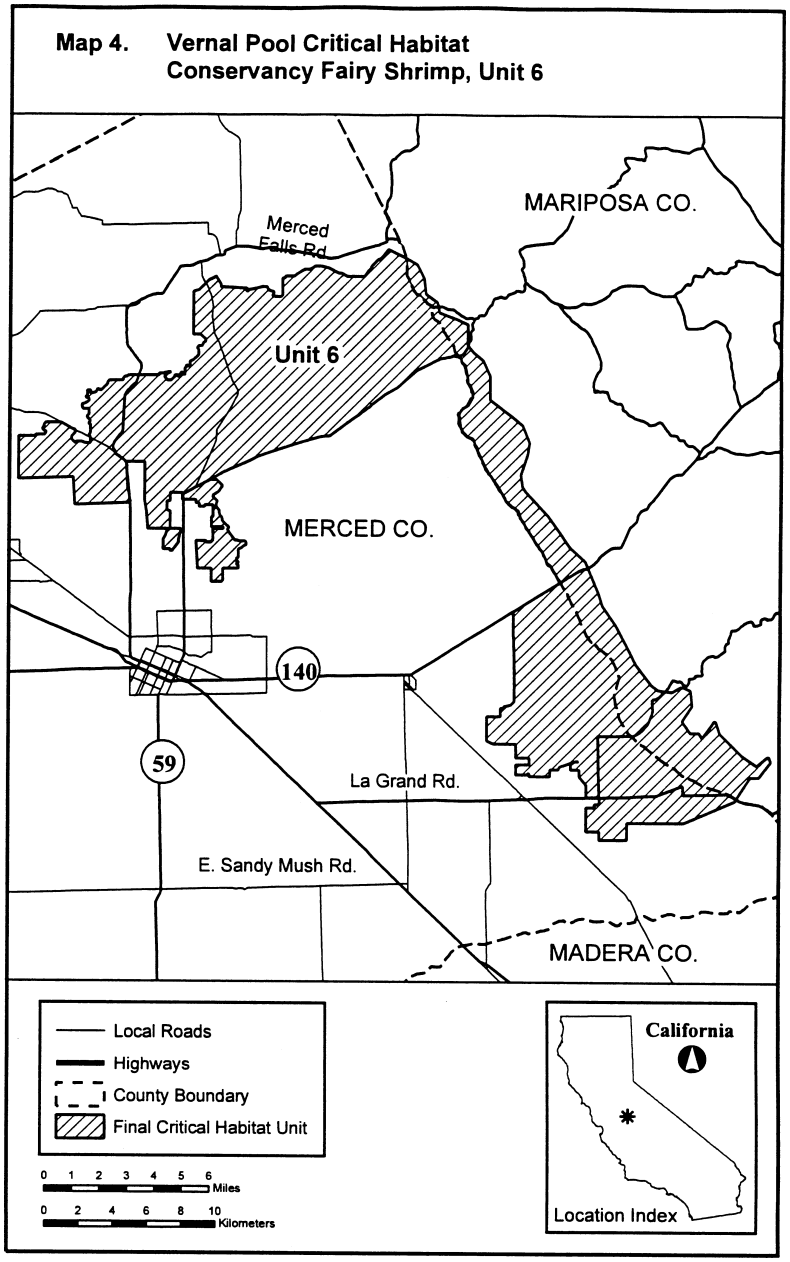
(10) NOTE: Unit 6 (Map 4) follows:



(11) Unit 7: Merced County, California.

(i) Unit 7A: Merced County, California. From USGS 1:24,000 topographic quadrangles Gustine, Stevinson, San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 688300, 4129000; 688600, 4128800; 689100, 4128900; 689200, 4128800; 689400, 4128600; 689800, 4128500; 689900, 4128300; 690200,

4128300; 690400, 4128200; 690500, 4128000; 690600, 4125500; 692700, 4125500; 693200, 4125000; 693100, 4124800; 693100, 4124400; 693300, 4123700; 693600, 4123400; 693800, 4123000; 694000, 4122900; 694079, 4122821; 694035, 4122790; 692453, 4121671; 692300, 4121900; 692200, 4122000; 692200, 4122500; 692100, 4122700; 691800, 4122800; 691400, 4122800; 691261, 4123079; 691262, 4123097; 691263, 4123113; 691267, 4123155; 691273, 4123198; 691267, 4123238; 691248, 4123272; 691217, 4123291; 691200, 4123294; 691200, 4123500; 691110, 4123679; 691126, 4123677; 691149, 4123682; 691156, 4123694; 691166, 4123718; 691177, 4123739; 691191, 4123771; 691193, 4123793; 691200, 4123800; 691195, 4123810; 691201, 4123850; 691215, 4123892; 691220, 4123942; 691214, 4123980; 691192, 4124020; 691171, 4124049; 691150, 4124072; 691127, 4124089; 691099, 4124095; 691071, 4124095; 691055, 4124090; 690900, 4124400; 690559, 4124400; 690559, 4124402; 690569, 4124417; 690582, 4124427; 690582, 4124447; 690576, 4124466; 690563, 4124483; 690546, 4124493; 690525, 4124502; 690523, 4124502; 690523, 4124519; 690500, 4124524; 690475, 4124530; 690469, 4124538; 690445, 4124570; 690388, 4124590; 690353, 4124592; 690180, 4124650; 690127, 4124689; 690083, 4124695; 690025, 4124783; 690020, 4124854; 689996, 4124900; 689988, 4125006; 689952, 4125056; 689912, 4125095; 689856, 4125119; 689819, 4125184; 689788, 4125210; 689747, 4125229; 689700, 4125300; 689658, 4125595; 689665, 4125595; 689672, 4125603; 689645, 4125757; 689630, 4125793; 689600, 4126000; 689700, 4126200; 689600, 4126600; 689400, 4126600; 689275, 4126538; 689239, 4126581; 689188, 4126664; 689134, 4126678; 689121, 4126682; 689069, 4126728; 689067, 4126852; 689020, 4126961; 688990, 4126993; 688911, 4126978; 688903, 4126995; 688913, 4127006; 689100, 4127100; 689024, 4127195; 689025, 4127207; 688949, 4127292; 688931, 4127324; 688922, 4127322; 688854, 4127407; 688823, 4127454; 688780, 4127503; 688735, 4127581; 688723, 4127621; 688696, 4127650; 688684, 4128244; 688193, 4128235; 688100, 4128700; returning to 688300, 4129000.

(ii) Unit 7B: Merced County, California. From USGS 1:24,000 topographic quadrangles Stevinson, San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 695400, 4125600; 695500, 4122000; 694900, 4122400; 694700, 4122700; 694500, 4122900; 694500, 4123100; 694100, 4123400; 693800, 4123500; 693800, 4123800; 693500, 4123900; 693500, 4124500; 693700, 4124700; 693800, 4125000; 693600, 4125200; 693400, 4125300; 693122, 4125670; 693100, 4125700; 693146, 4125746; 693200, 4125800; 693700, 4125900; 693700, 4127300; 693800, 4127300; 693900, 4127000; 694200, 4126900; 694600, 4126400; 694600, 4126200; 694700, 4126000; 695179, 4125726; returning to 695400, 4125600.

(iii) Unit 7C: Merced County, California. From USGS 1:24,000 topographic quadrangles Stevinson, Arena, San Luis Ranch, Turner Ranch: Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 699300, 4126300; 699300, 4125400; 700100, 4125400; 700200, 4126000; 700600, 4125700; 701100, 4125300; 701100, 4124300; 700300, 4124300; 700300, 4123800; 700500, 4123800; 700600, 4123500; 701100, 4123400; 701200, 4123200; 701400, 4123100; 701600, 4122700; 701900, 4122500; 702600, 4122200; 702870, 4121705; 703200, 4121100; 703900, 4120500; 704600, 4119800; 704600, 4119800; 704700, 4119700; 698900, 4119600; 698800, 4119700; 698543, 4119957; 698558, 4119970; 698501, 4120012; 698504, 4120069; 698626, 4120197; 698662, 4120077; 698694, 4120113; 698668, 4121116; 698663, 4121510; 698594, 4121508; 698600, 4121600; 699900, 4121600; 700000, 4120400; 700200, 4120400; 700200, 4122700; 697000, 4122600; 696900, 4125100; 697700, 4125100; 697700, 4125300; 697600, 4125400; 697700, 4125600; 698000, 4125700; 698200, 4125800; 698300, 4126100; 698700, 4126500; 699500, 4126500; 699600, 4126300; returning to 699300, 4126300.

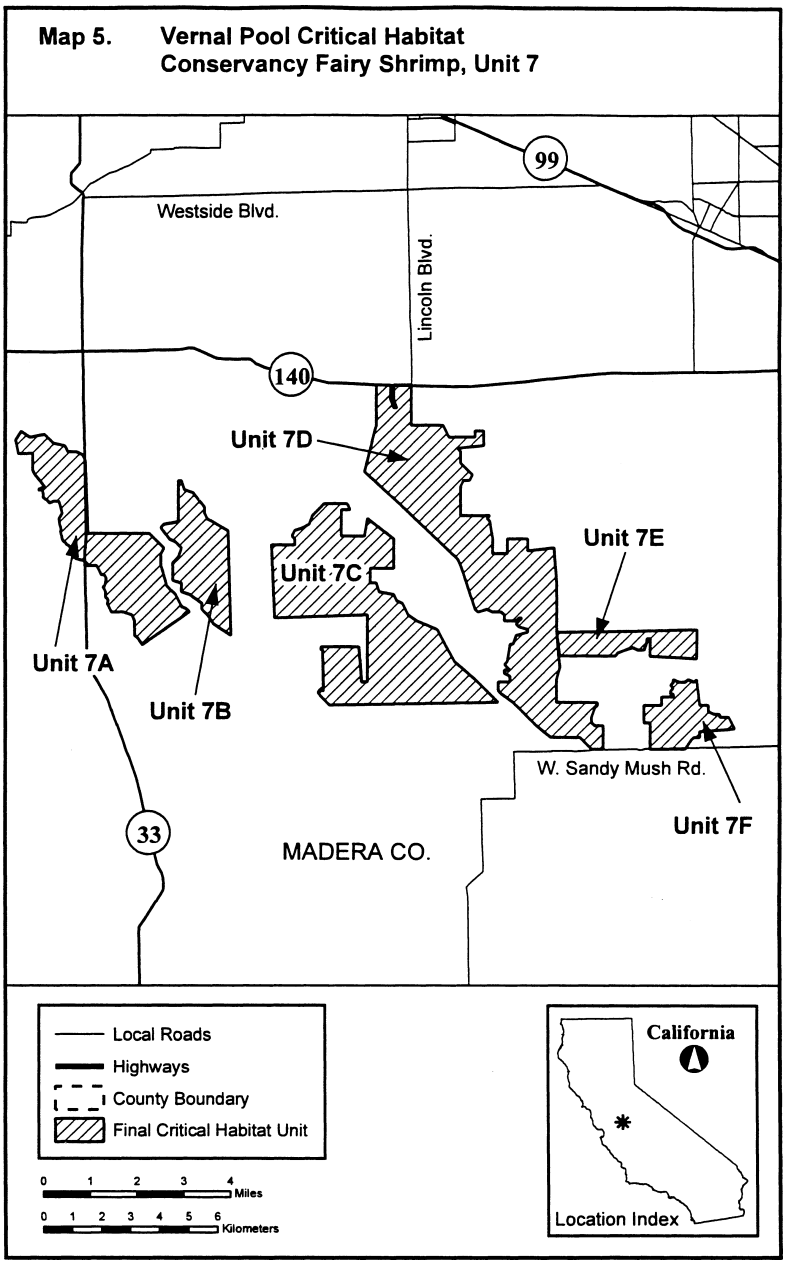
(iv) Unit 7D: Merced County, California. From USGS 1:24,000 scale quadrangles Arena, Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706700, 4122100; 706800, 4120900; 706700, 4120500; 706700, 4119700; 708100, 4119700; 708100, 4119600; 708000, 4119500; 707900, 4119200; 707900, 4119000; 708000, 4118900; 708300, 4118900; 708300, 4118100; 707900, 4118100; 707500, 4118500; 706500, 4118500; 706000, 4118900; 705600, 4119300; 705200, 4119700; 704800, 4120000; 704700, 4120100; 704700, 4120400; 705100, 4120400; 705100, 4120600; 704900, 4120700; 704900, 4120800; 705100, 4120800; 704900, 4121000; 705000, 4121100; 705100, 4121700; 705200, 4121700; 705300, 4122000; 705700, 4122100; 705700, 4122200; 705400, 4122300; 705300, 4122400; 705500, 4122600; 705400, 4122600; 705300, 4122500; 705200, 4122500; 705100, 4122500; 704900, 4122500; 704900, 4122700; 704800, 4122800; 704500, 4122800; 704300, 4122900; 704000, 4122800; 703900, 4122900; 703400, 4124400; 703300, 4124600; 701300, 4126500; 700100, 4127600; 700467, 4129067; 700500, 4129200; 700500, 4130600; 701000, 4130600; 701000, 4130100; 701100, 4129800; 701200, 4129800; 701100, 4130100; 701100, 4130600; 701700, 4130600; 701700, 4129200; 701800, 4129200; 702800, 4129200; 703000, 4128800; 703300, 4128800; 703900, 4128800; 703900, 4129000; 704200, 4129000; 704200, 4128500; 703300, 4128400; 703400, 4128300; 703400, 4127900; 703500, 4127800; 703800, 4127500; 703700, 4127300; 703500, 4127300; 703400, 4127100; 703400, 4126100; 703500, 4126100; 704400, 4126100; 704300, 4126000; 704400, 4125900; 704500, 4125300; 704500, 4124800; 705000, 4124800; 705000, 4125300; 705700, 4125300; 705700, 4124900; 706600, 4125000; 706700, 4123700; returning to 706700, 4122100.

(v) Unit 7E: Merced County, California. From USGS 1:24,000 scale quadrangles Turner Ranch, Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706700, 4122100; 711500, 4122200; 711500, 4121700; 711500, 4121200; 709900, 4121300; 709900, 4121900; 709800, 4121900; 709800, 4121800; 709700, 4121500; 709500, 4121500; 709300, 4121600; 708800, 4121400; 708700, 4121300; 706800, 4121300; returning to 706700, 4122100.

(vi) Unit 7F: Merced County, California. From USGS 1:24,000 scale quadrangles Turner Ranch, Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 711200, 4120500; 711400, 4120400; 711500, 4120500; 711600, 4119600; 711900, 4119600; 711900, 4119400; 712100, 4119300; 712300, 4119300; 712300, 4119200; 712600, 4119200; 712800, 4118800; 711600, 4118700; 711600, 4118500; 711400, 4118500;

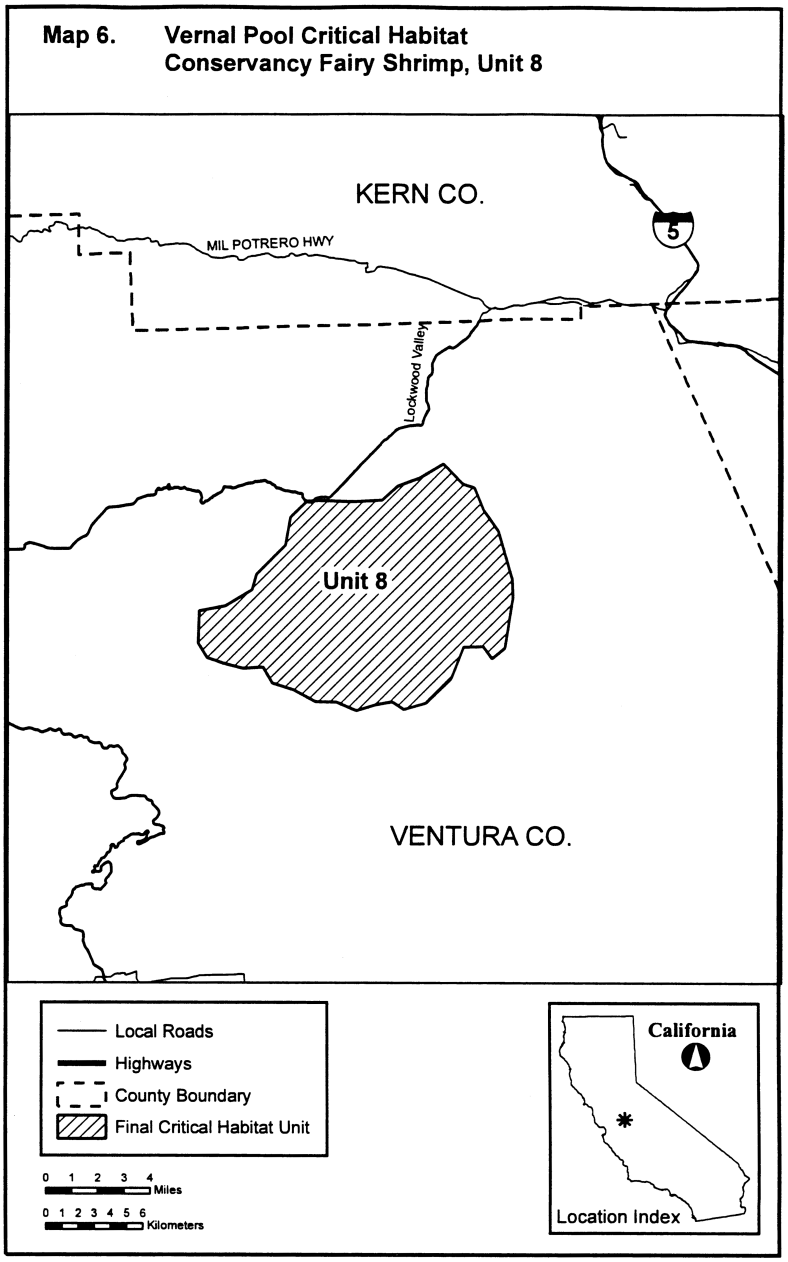
711300, 4118400; 711100, 4118100; 709900, 4118100; 709900, 4118800; 709900, 4119000; 709700, 4119000; 709700, 4119600; 710300, 4119600; 710300, 4119900; 710700, 4119900; 710700, 4120000; 710600, 4120000; 710600, 4120100; 710700, 4120200; 710600, 4120300; 710700, 4120400; 710700, 4120500; 710900, 4120400; 711100, 4120400; returning to 711200, 4120500.

(vii) NOTE: Unit 7 (Map 5) follows:



(12) Unit 8: Ventura County, California. From USGS 1:24,000 scale quadrangles San Guillermo, Lockwood Valley, Alamo Mountain, Lion Canyon, Topatopa Mountains. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 864689, 3849170; 865272, 3847801; 866149, 3846550; 867028, 3843593; 867093, 3842494; 867037, 3842150; 866579, 3839353; 865815, 3838706; 865267, 3839476; 864068, 3839404; 863282, 3837452; 861766, 3835957; 860385, 3835574; 859656, 3836032; 858662, 3835872; 857481, 3835501; 856246, 3836030; 854941, 3836052; 853594, 3836774; 852265, 3837196; 851706, 3838166; 850507, 3838094; 849284, 3838422; 848261, 3838762; 847708, 3839632; 847788, 3841642; 849375, 3841937; 851020, 3842938; 851266, 3843856; 853063, 3845668; 853362, 3847390; 854407, 3848355; 855307, 3848409; 857217, 3848323; 859016, 3848430; 859968, 3849289; 861343, 3849773; 862794, 3850662; 863971, 3849428; returning to 864689, 3849170.

(13) NOTE: Unit 8 (Map 6) follows:



LONGHORN FAIRY SHRIMP (*Branchinecta longiantenna*)

(1) Critical habitat units are depicted for Alameda, Contra Costa, Merced, and San Luis Obispo Counties, California, on the map below.

(2) The primary constituent elements of critical habitat for longhorn fairy shrimp

(*Branchinecta longiantenna*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 23 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

(iv) Structure within the pools described above in paragraph (2)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

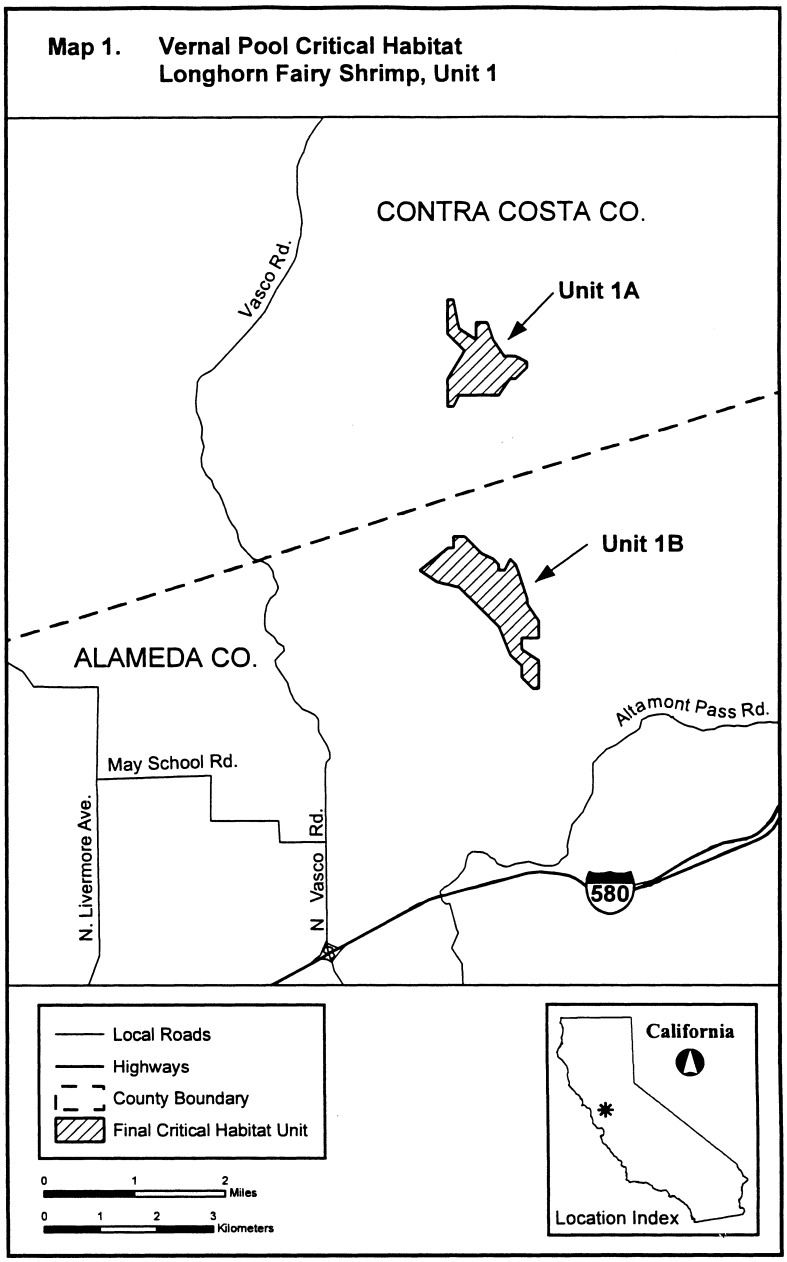
(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Contra Costa County.

(i) Unit 1A: Contra Costa County. USGS 24,000 topographic quad Byron Hot Springs: Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 614800, 4185400; 615100, 4185200; 615100, 4185500; 615300, 4185500; 615400, 4185200; 615600, 4184900; 615800, 4184900; 616000, 4184800; 616000, 4184700; 615800, 4184500; 615700, 4184500; 615500, 4184200; 615100, 4184200; 614800, 4184200; 614700, 4184000; 614600, 4184000; 614600, 4184500; 614900, 4185000; 614600, 4185300; 614600, 4185900; 614700, 4185900; returning to 614800, 4185400.

(ii) Unit 1B: Alameda County. USGS 24,000 topographic quad Byron Hot Springs: Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 615500, 4181200; 615500, 4181100; 615600, 4181100; 615700, 4181300; 615800, 4181200; 616000, 4180600; 616000, 4180500; 616200, 4180200; 616200, 4179900; 615900, 4179900; 615900, 4179700; 616200, 4179500; 616200, 4179000; 616100, 4179000; 615900, 4179200; 615900, 4179400; 615700, 4179600; 615500, 4180100; 615100, 4180500; 614800, 4180800; 614400, 4180900; 614100, 4181100; 614600, 4181500; 614700, 4181500; 614700, 4181700; 614900, 4181700; 615200, 4181400; 615400, 4181300; returning to 615500, 4181200.

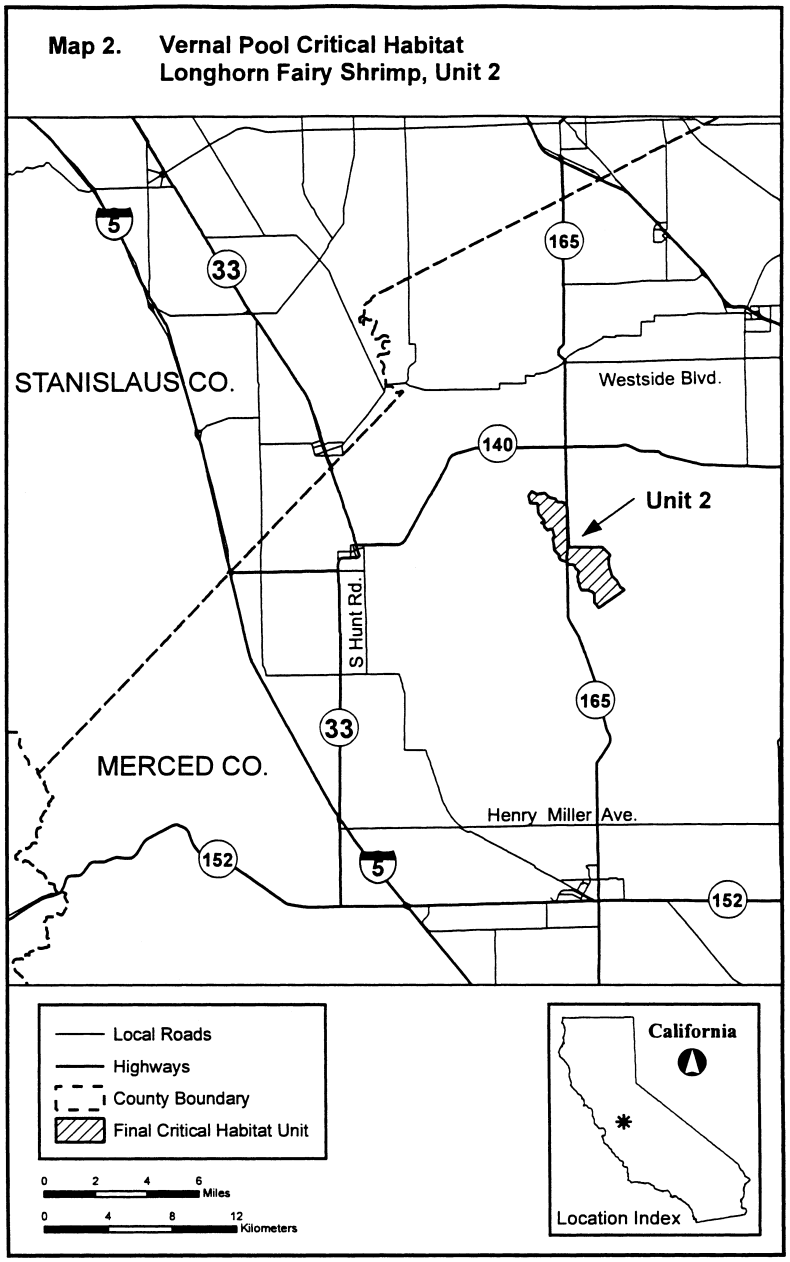
(iii) NOTE: Unit 1 (Map 1) follows:



(5) Unit 2: Merced County. USGS 24,000 topographic quads Gustine, Stevinson, San Luis Ranch: Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 688300, 4129000; 688600, 4128800; 689100, 4128900; 689200, 4128800; 689400, 4128600; 689800, 4128500; 689900, 4128300; 690200, 4128300; 690400, 4128200; 690500, 4128000; 690600, 4125500; 692700, 4125500;

693200, 4125000; 693100, 4124800; 693100, 4124400; 693300, 4123700; 693600, 4123400; 693800, 4123000; 694000, 4122900; 694079, 4122821; 694035, 4122790; 692453, 4121671; 692300, 4121900; 692200, 4122000; 692200, 4122500; 692100, 4122700; 691800, 4122800; 691400, 4122800; 691261, 4123079; 691262, 4123097; 691263, 4123113; 691267, 4123155; 691273, 4123198; 691267, 4123238; 691248, 4123272; 691217, 4123291; 691200, 4123294; 691200, 4123500; 691110, 4123679; 691126, 4123677; 691149, 4123682; 691156, 4123694; 691166, 4123718; 691177, 4123739; 691191, 4123771; 691193, 4123793; 691200, 4123800; 691195, 4123810; 691201, 4123850; 691215, 4123892; 691220, 4123942; 691214, 4123980; 691192, 4124020; 691171, 4124049; 691150, 4124072; 691127, 4124089; 691099, 4124095; 691071, 4124095; 691055, 4124090; 690900, 4124400; 690559, 4124400; 690559, 4124402; 690569, 4124417; 690582, 4124427; 690582, 4124447; 690576, 4124466; 690563, 4124483; 690546, 4124493; 690525, 4124502; 690523, 4124502; 690523, 4124519; 690500, 4124524; 690475, 4124530; 690469, 4124538; 690445, 4124570; 690388, 4124590; 690353, 4124592; 690180, 4124650; 690127, 4124689; 690083, 4124695; 690025, 4124783; 690020, 4124854; 689996, 4124900; 689988, 4125006; 689952, 4125056; 689912, 4125095; 689856, 4125119; 689819, 4125184; 689788, 4125210; 689747, 4125229; 689700, 4125300; 689658, 4125595; 689665, 4125595; 689672, 4125603; 689645, 4125757; 689630, 4125793; 689600, 4126000; 689700, 4126200; 689600, 4126600; 689400, 4126600; 689275, 4126538; 689239, 4126581; 689188, 4126664; 689134, 4126678; 689121, 4126682; 689069, 4126728; 689067, 4126852; 689020, 4126961; 688990, 4126993; 688911, 4126978; 688903, 4126995; 688913, 4127006; 689100, 4127100; 689024, 4127195; 689025, 4127207; 688949, 4127292; 688931, 4127324; 688922, 4127322; 688854, 4127407; 688823, 4127454; 688780, 4127503; 688735, 4127581; 688723, 4127621; 688696, 4127650; 688684, 4128244; 688193, 4128235; 688100, 4128700; returning to 688300, 4129000.

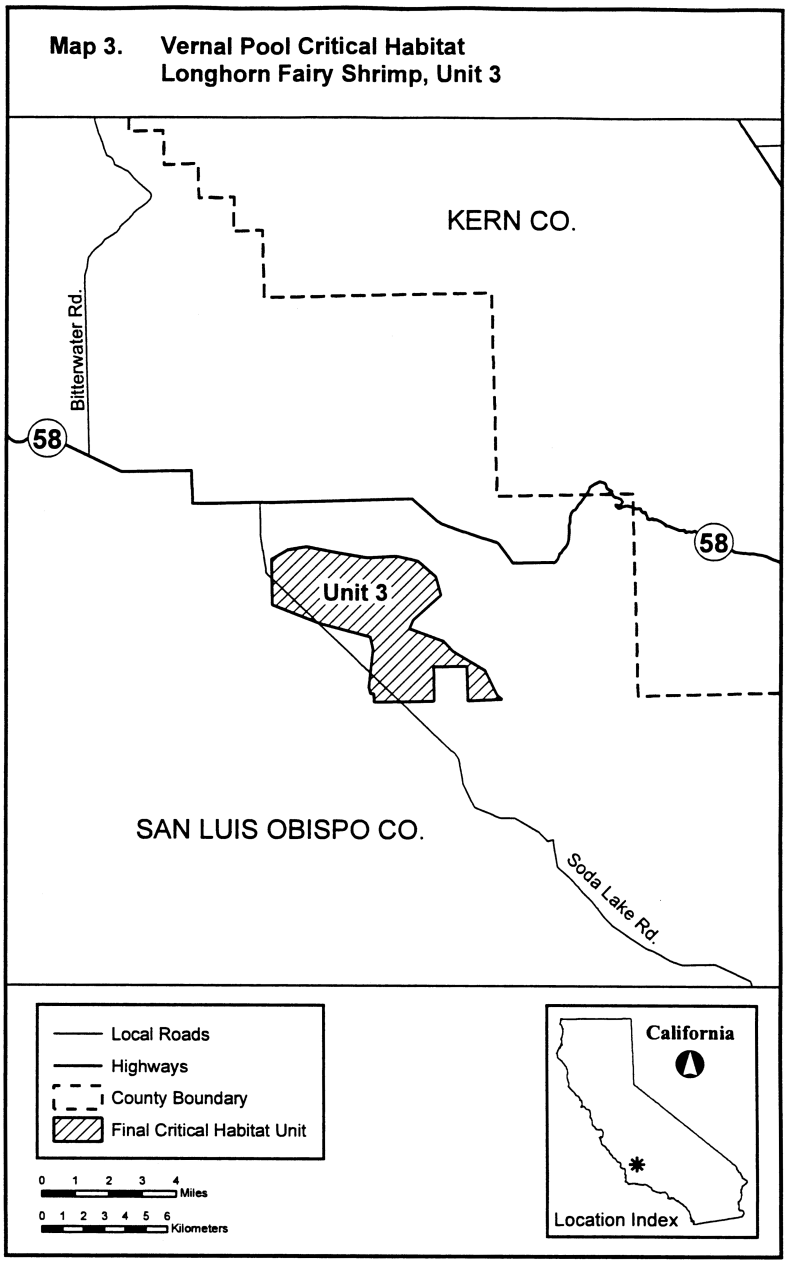
(6) NOTE: Unit 2 (Map 2) follows:



(7) Unit 3: San Luis Obispo County. USGS 24,000 topographic quads Simmler: Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 774375, 3914002; 777312, 3913479; 778710, 3913564; 779726, 3913325; 780573, 3912575; 780827, 3911688; 779496, 3910506; 779321, 3910094; 780960, 3909492; 781390, 3909017; 782948, 3908110; 783520, 3906942; 783765, 3906725; 783760,

3906724; 782946, 3906690; 782936, 3906690; 782156, 3906654; 782132, 3906653; 782082, 3908301; 780768, 3908263; 780485, 3908255; 780490, 3908031; 780522, 3906619; 779393, 3906593; 777627, 3906558; 777613, 3906978; 777456, 3906974; 777388, 3907272; 777578, 3909087; 777442, 3909680; 774998, 3910333; 772742, 3911198; 772708, 3913400; 773483, 3913848; returning to 774375, 3914002.

(8) NOTE: Unit 3 (Map 3) follows:


Map 3. Vernal Pool Critical Habitat
Longhorn Fairy Shrimp, Unit 3
KERN CO.
Bitterwater Rd.
58
58
Unit 3
SAN LUIS OBISPO CO.
Soda Lake Rd.
Local Roads
Highways
County Boundary
Final Critical Habitat Unit
0 1 2 3 4 Miles
0 1 2 3 4 5 6 Kilometers
California
Location Index

RIVERSIDE FAIRY SHRIMP (*Streptocephalus woottoni*)

(1) Unit descriptions are depicted for Ventura, Orange, and San Diego Counties, California, on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Riverside fairy shrimp consist of three components:

(i) Ephemeral wetland habitat consisting of vernal pools and ephemeral habitat that have wet and dry periods appropriate for the incubation, maturation, and reproduction of the Riverside fairy shrimp in all but the driest of years, such that the pools:

(A) Are inundated (pond) approximately 2 to 8 months during winter and spring, typically filled by rain, surface, and subsurface flow;

(B) Generally dry down in the late spring to summer months;

(C) May not pond every year; and

(D) Provide the suitable water chemistry characteristics to support the Riverside fairy shrimp. These characteristics include physiochemical factors such as alkalinity, pH, temperature, dissolved solutes, dissolved oxygen, which can vary depending on the amount of recent precipitation, evaporation, or oxygen saturation; time of day; season; and type and depth of soil and subsurface layers. Vernal pool habitat typically exhibits a range of conditions but remains within the physiological tolerance of the species. The general ranges of conditions include, but are not limited to:

(*1*) Dilute, freshwater pools with low levels of total dissolved solids (low ion levels (sodium ion concentrations generally below 70 millimoles per liter));

(*2*) Low alkalinity levels (lower than 80 to 1,000 milligrams per liter (mg/l)); and

(*3*) A range of pH levels from slightly acidic to neutral (typically in range of 6.4–7.1).

(ii) Intermixed wetland and upland habitats that function as the local watershed, including topographic features characterized by mounds, swales, and low-lying depressions within a matrix of upland habitat that result in intermittently flowing surface and subsurface water in swales, drainages, and pools described in paragraph (h)(2)(i) of this entry. Associated watersheds provide water to fill the vernal or ephemeral pools in the winter and spring months. Associated watersheds vary in size and therefore cannot be generalized, and they are affected by factors including surface and underground hydrology, the topography of the area surrounding the pool or pools, the vegetative coverage, and the soil substrates in the area. The size of associated watersheds likely varies from a few acres to greater than 100 ac (40 ha).

(iii) Soils that support ponding during winter and spring which are found in areas characterized in paragraphs (h)(2)(i) and (h)(2)(ii), respectively, of this entry, that have a clay component or other property that creates an impermeable surface or subsurface layer. Soil series with a clay component or an impermeable surface or subsurface layer typically slow percolation, increase water runoff (at least initially), and contribute to the filling and persistence of ponding of ephemeral wetland habitat where the Riverside fairy shrimp occurs. Soils and soil series known to support vernal pool habitat include, but are not limited to:

(A) The Azule, Calleguas, Cropley, and Linne soils series in Ventura County;

(B) The Alo, Balcom, Bosanko, Calleguas, Cieneba, and Myford soils series in Orange County;

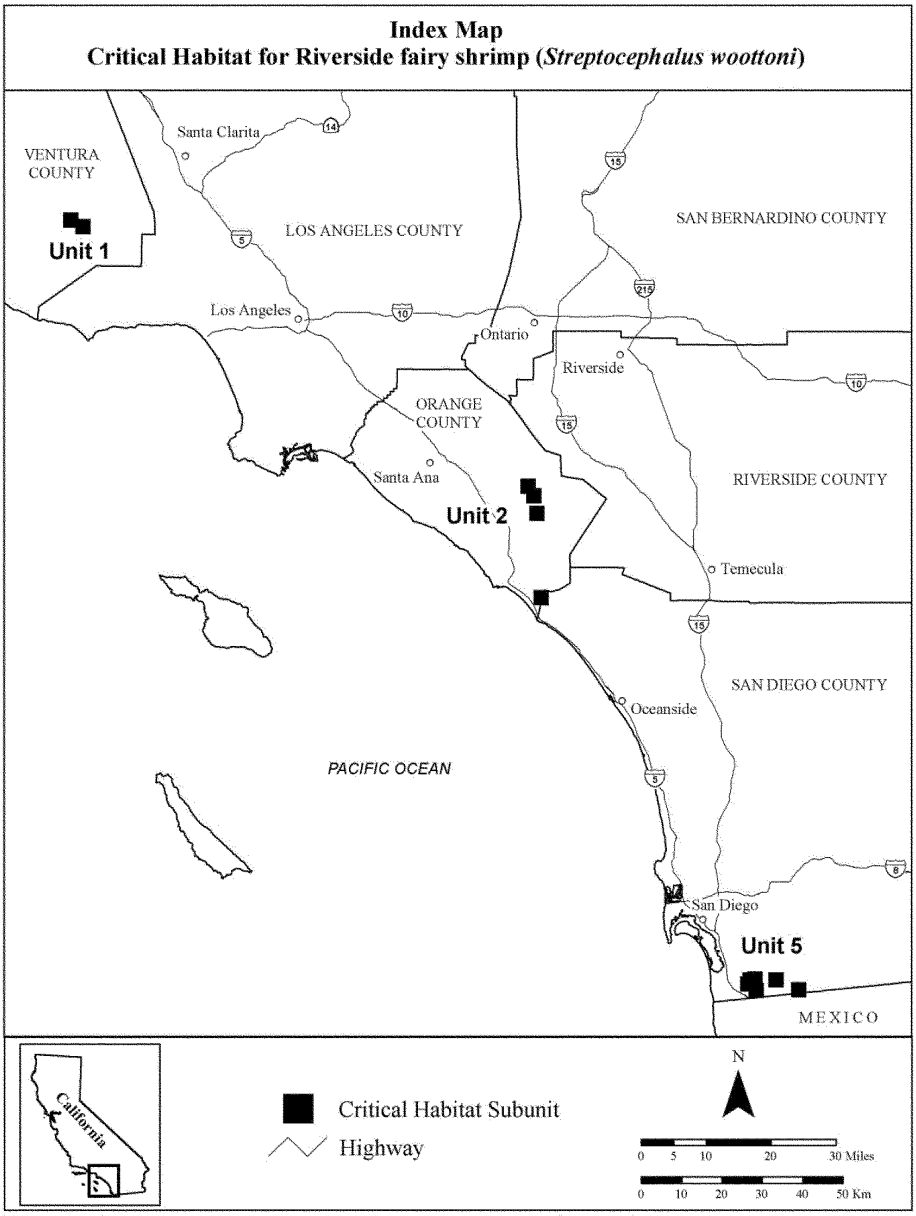
(C) The Cajalco, Claypit, Murrieta, Porterville, Ramona, Traver, and Willows soils series in Riverside County; and

(D) The Diablo, Huerhuero, Linne, Placentia, Olivenhain, Redding, Salinas, and Stockpen soils series in San Diego County.

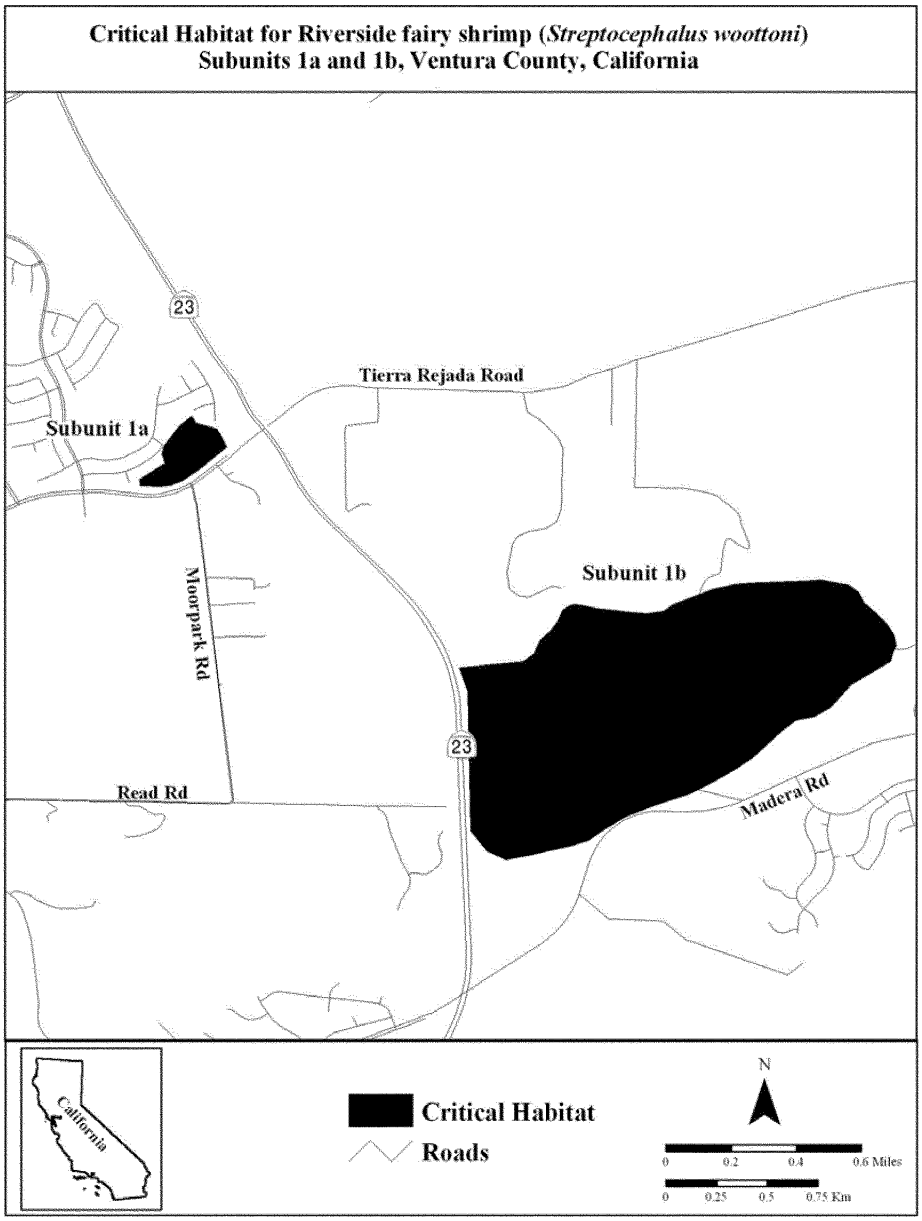
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on January 3, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created using a base of U.S. Geological Survey 7.5′ quadrangle maps. Unit descriptions were then mapped using Universal Transverse Mercator (UTM) zone 11, North American Datum (NAD) 1983 coordinates. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public on *http://regulations.gov* at Docket No. FWS–R8–ES–2011–0013, on our Internet site (*http://www.fws.gov/carlsbad/*), and at the Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011.

(5) **Note:** Index map follows:

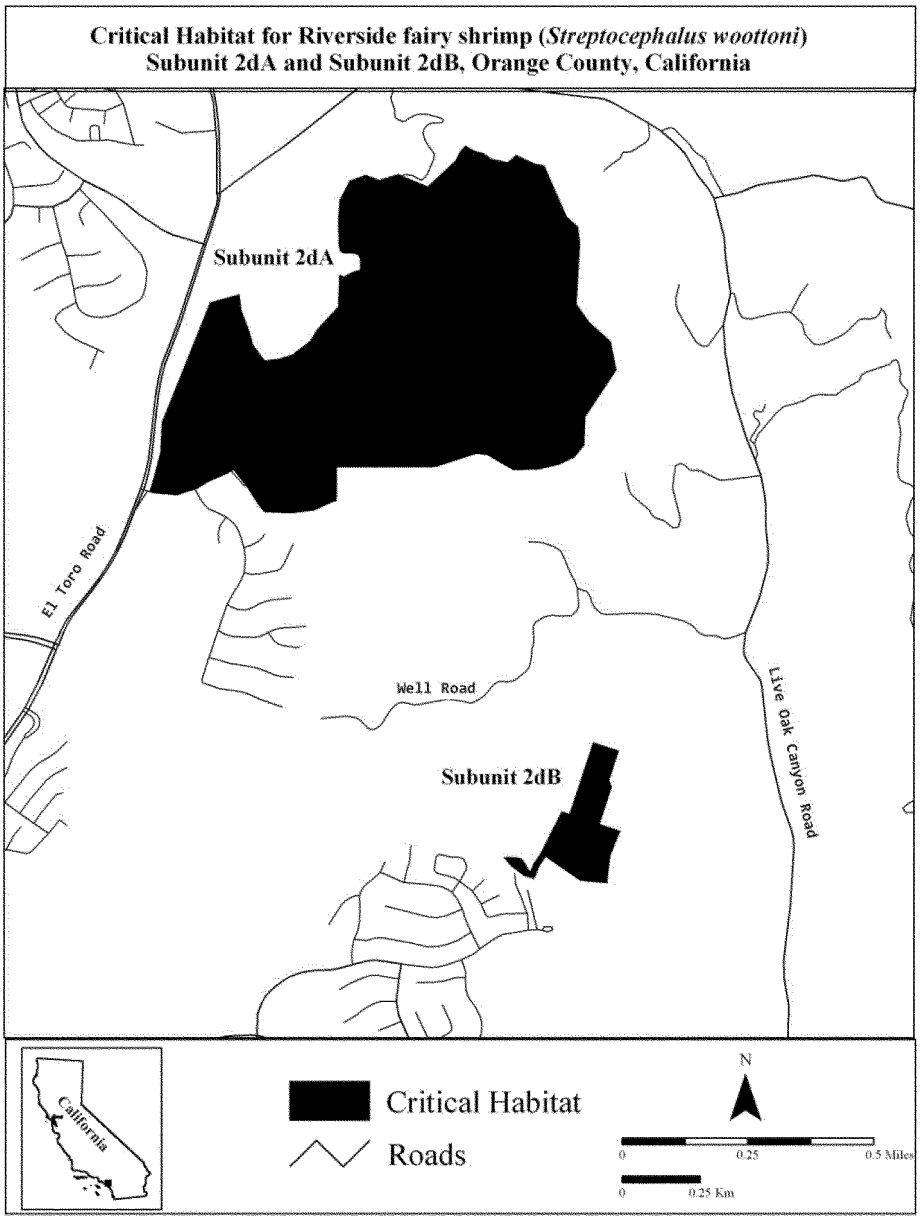


(6) Unit 1: Ventura County, California. Map of Subunit 1a, Tierra Rejada Preserve, and Subunit 1b, South of Tierra Rejada Valley, follows:

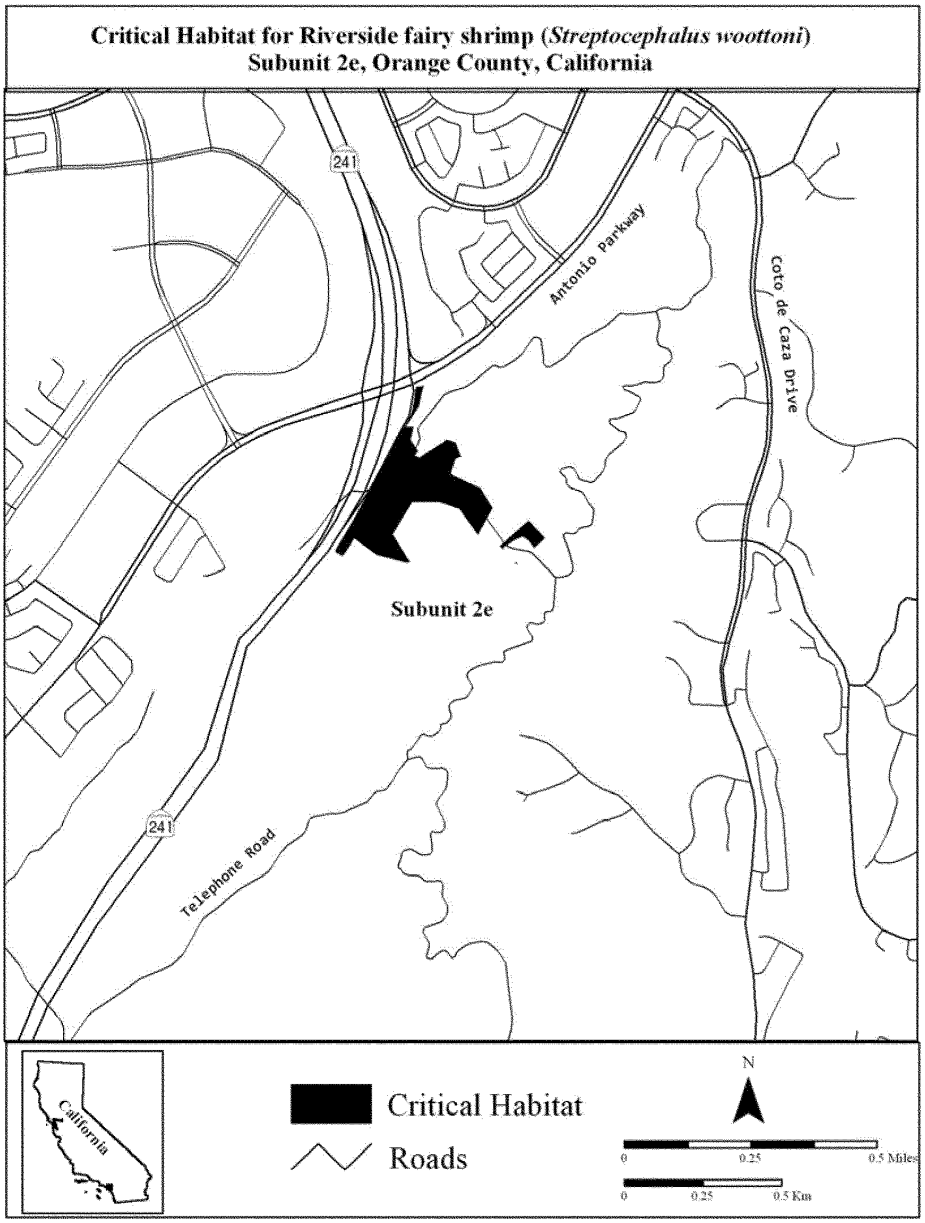


(7) Unit 2: Los Angeles Basin-Orange County Foothills, Orange County, California.

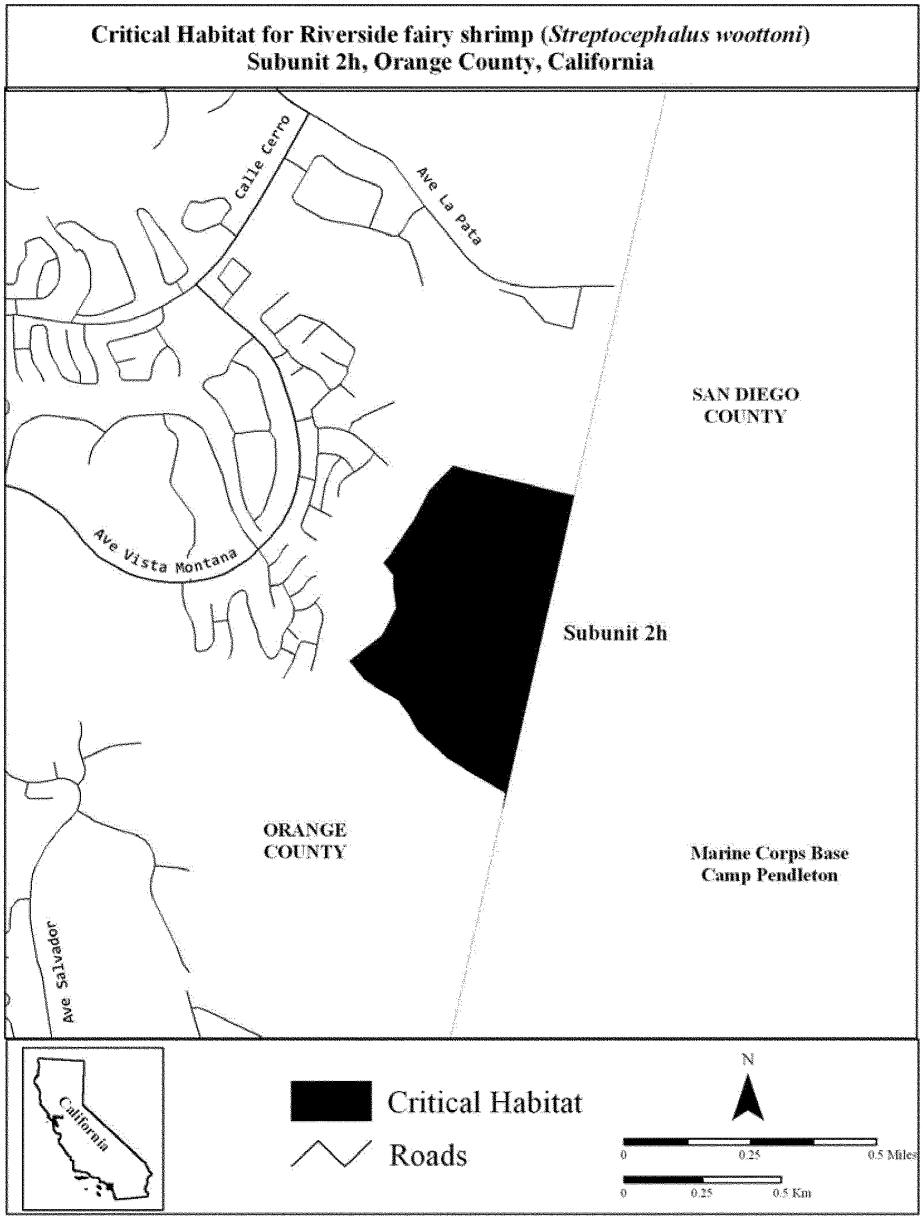
(i) Map of Subunit 2dA, Saddleback Meadows, and Subunit 2dB, O'Neill Regional Park (near Trabuco Canyon), follows:



(ii) Map of Subunit 2e, O'Neill Regional Park (near Cañada Gobernadora), follows:

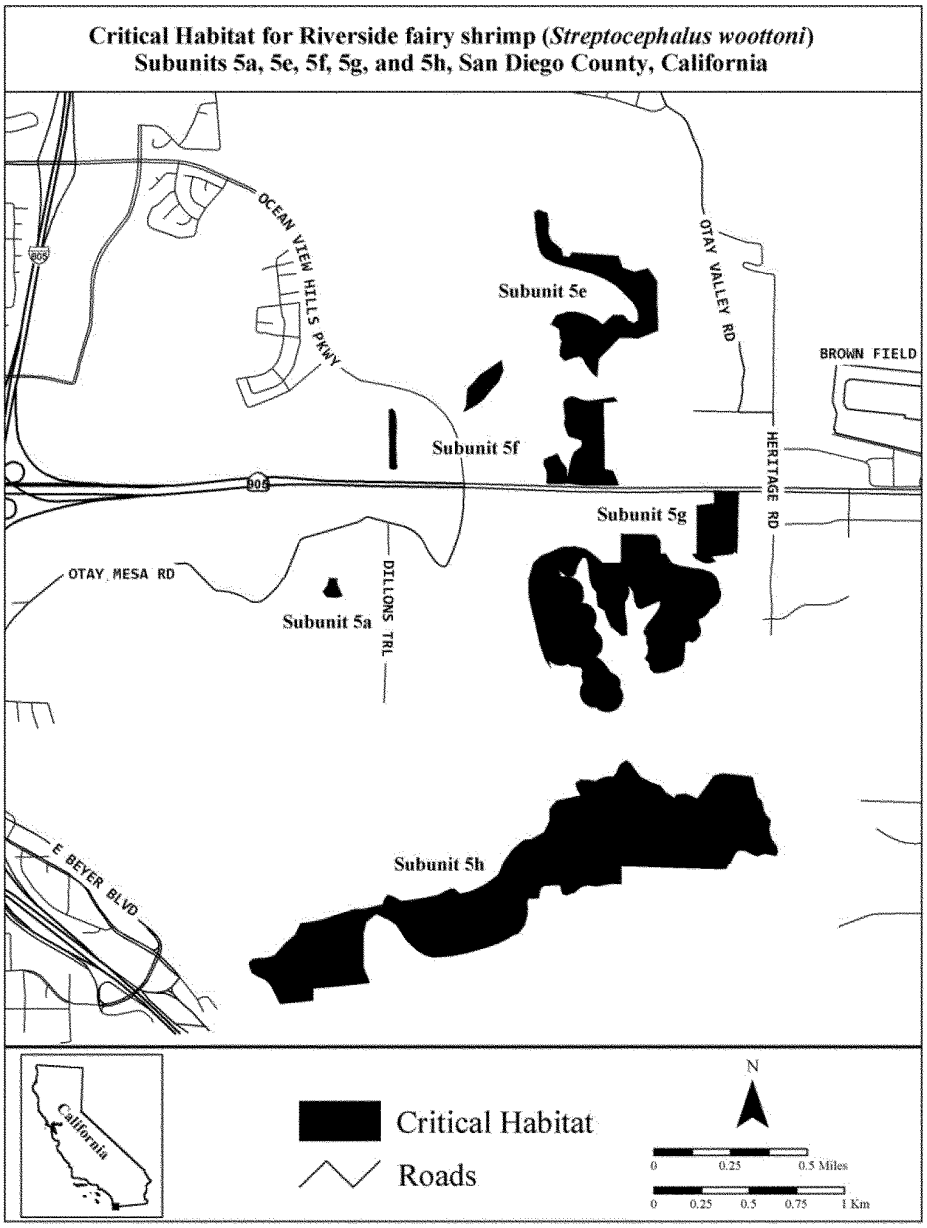


(iii) Map of Subunit 2h, San Onofre State Beach, State Park-leased land (near Christianitos Creek foothills) (near Camp Pendleton), follows:

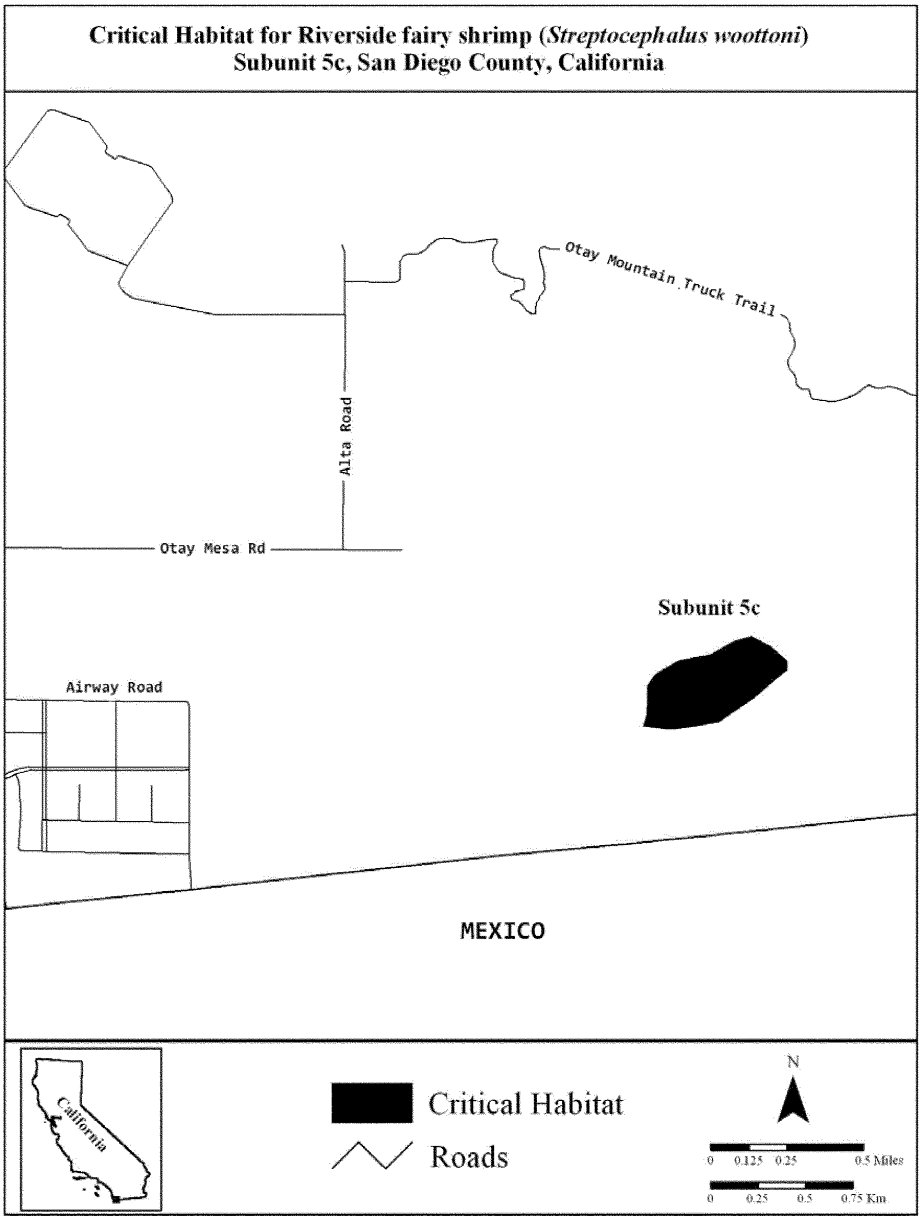


(8) Unit 5: San Diego Southern Coastal Mesas, San Diego County, California.

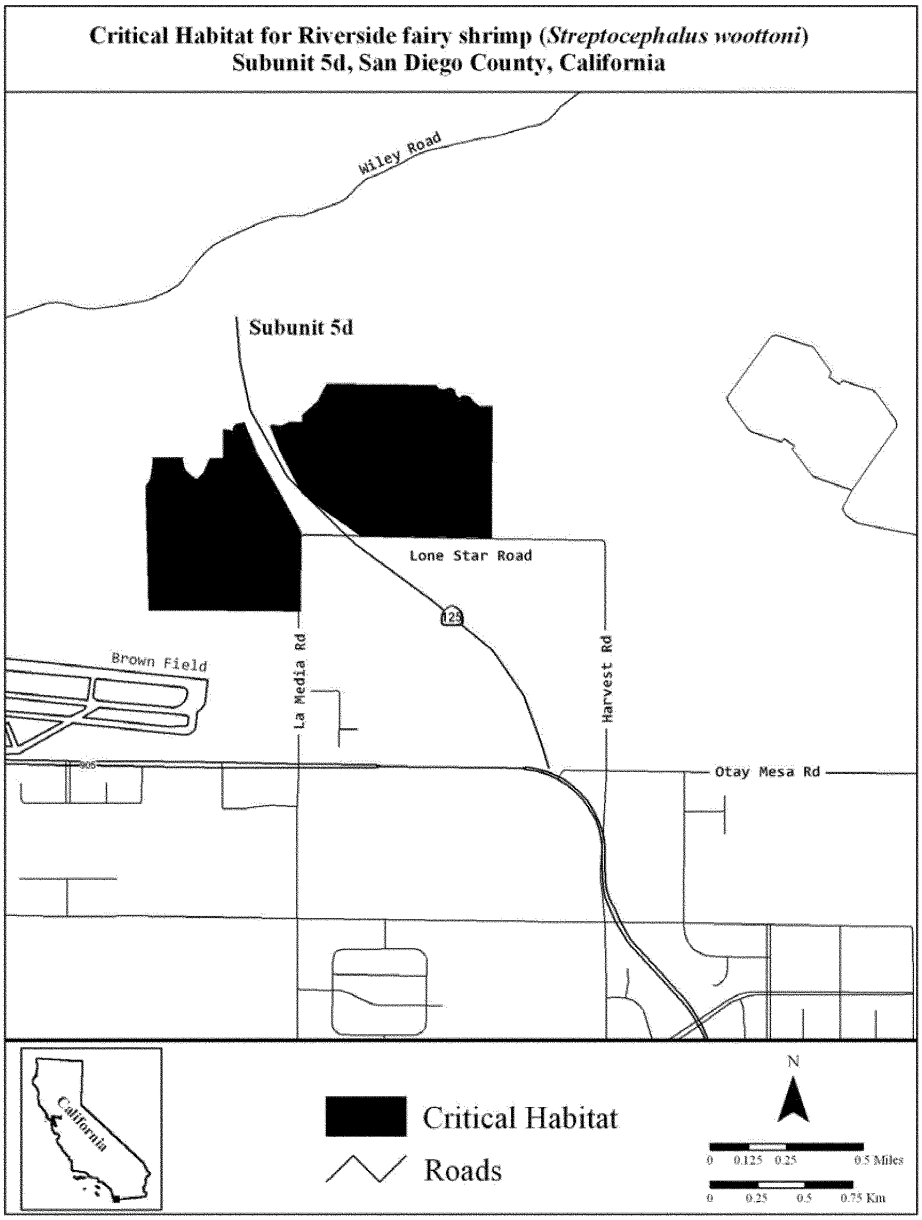
(i) Map of Subunit 5a, Sweetwater (J33); Subunit 5e, J2 N, J4, J5 (Robinhood Ridge); Subunit 5f, J2 W and J2 S (Hidden Trails, Cal Terraces, Otay Mesa Road); Subunit 5g, J14; and Subunit 5h, J11 E and J11 W, J12, J16–18 (Goat Mesa), follows:



(ii) Map of Subunit 5c, East Otay Mesa, follows:



(iii) Map of Subunit 5d, J29–31, follows:



SAN DIEGO FAIRY SHRIMP (*Branchinecta sandiegonensis*)

(1) Critical habitat units are depicted for Orange and San Diego counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the San Diego fairy shrimp are:

(i) Vernal pools with shallow to moderate depths (2 in (5 cm) to 12 in (30 cm)) that hold water for sufficient lengths of time (7 to 60

days) necessary for incubation, maturation, and reproduction of the San Diego fairy shrimp, in all but the driest years;

(ii) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described in paragraph (2)(i) of this entry, providing for dispersal and promoting hydroperiods of adequate length in the pools (*i.e.*, the vernal pool watershed); and

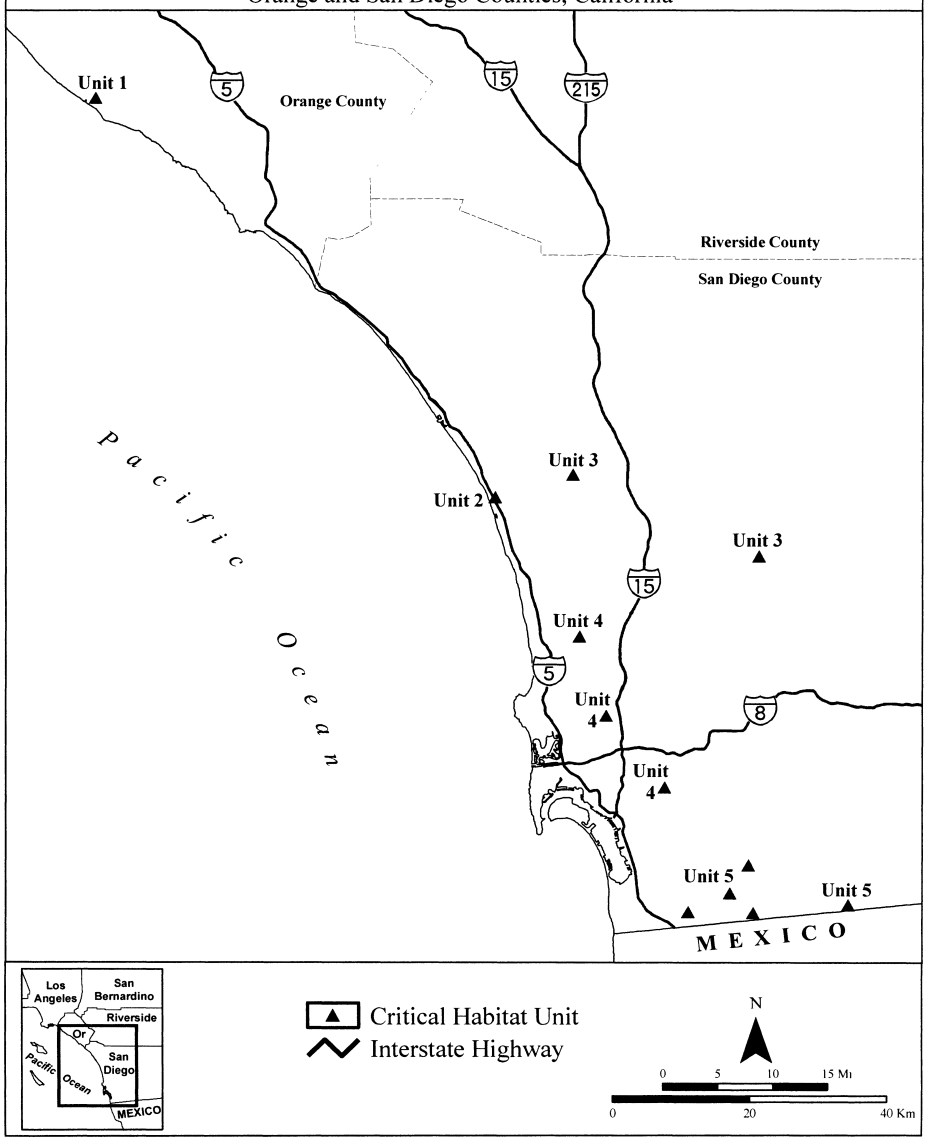
(iii) Flat to gently sloping topography, and any soil type with a clay component and/or an impermeable surface or subsurface layer known to support vernal pool habitat (including Carlsbad, Chesterton, Diablo, Huerhuero, Linne, Olivenhain, Placentia, Redding, and Stockpen soils).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Data layers defining map units were created using a base of U.S. Geological Survey 7.5′ quadrangle maps, and the critical habitat units were then mapped using UTM coordinates.

(5) NOTE: Index map (Map 1) follows:

Map 1. Index Map
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Orange and San Diego Counties, California

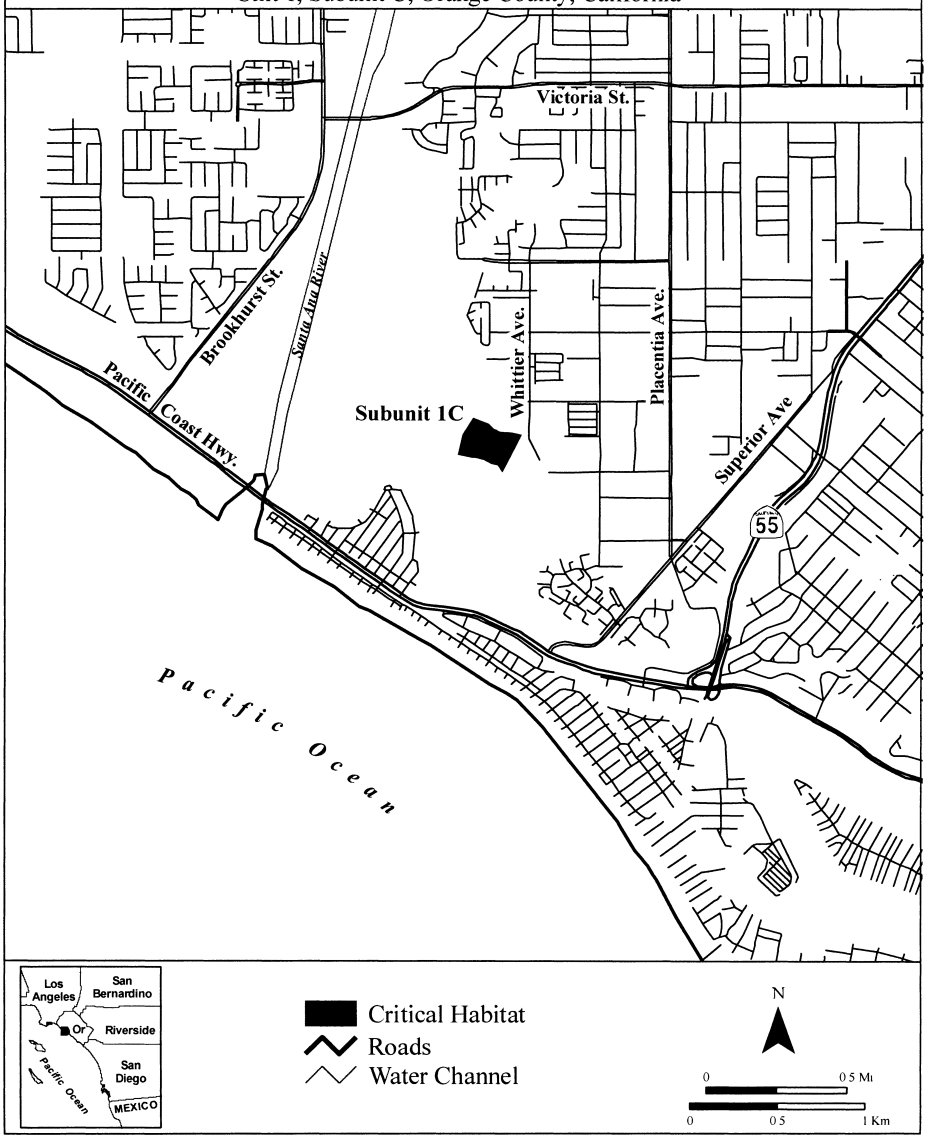


(6) Unit 1: Orange County, California. From USGS 1:24, 000 quadrangle map Newport Beach.

(i) Subunit 1C. Land bounded by the following UTM NAD27 coordinates (E,N): 412805, 3721810; 412694, 3721593; 412668, 3721631; 412633, 3721638; 412589, 3721661; 412539, 3721674; 412521, 3721676; 412436, 3721693; 412465, 3721807; 412524, 3721907; 412616, 3721871; 412643, 3721844; 412677, 3721827; 412744, 3721820; 412805, 3721810.

(ii) NOTE: Map of Unit 1, Subunit 1C (Map 2) follows:

Map 2.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 1, Subunit C, Orange County, California



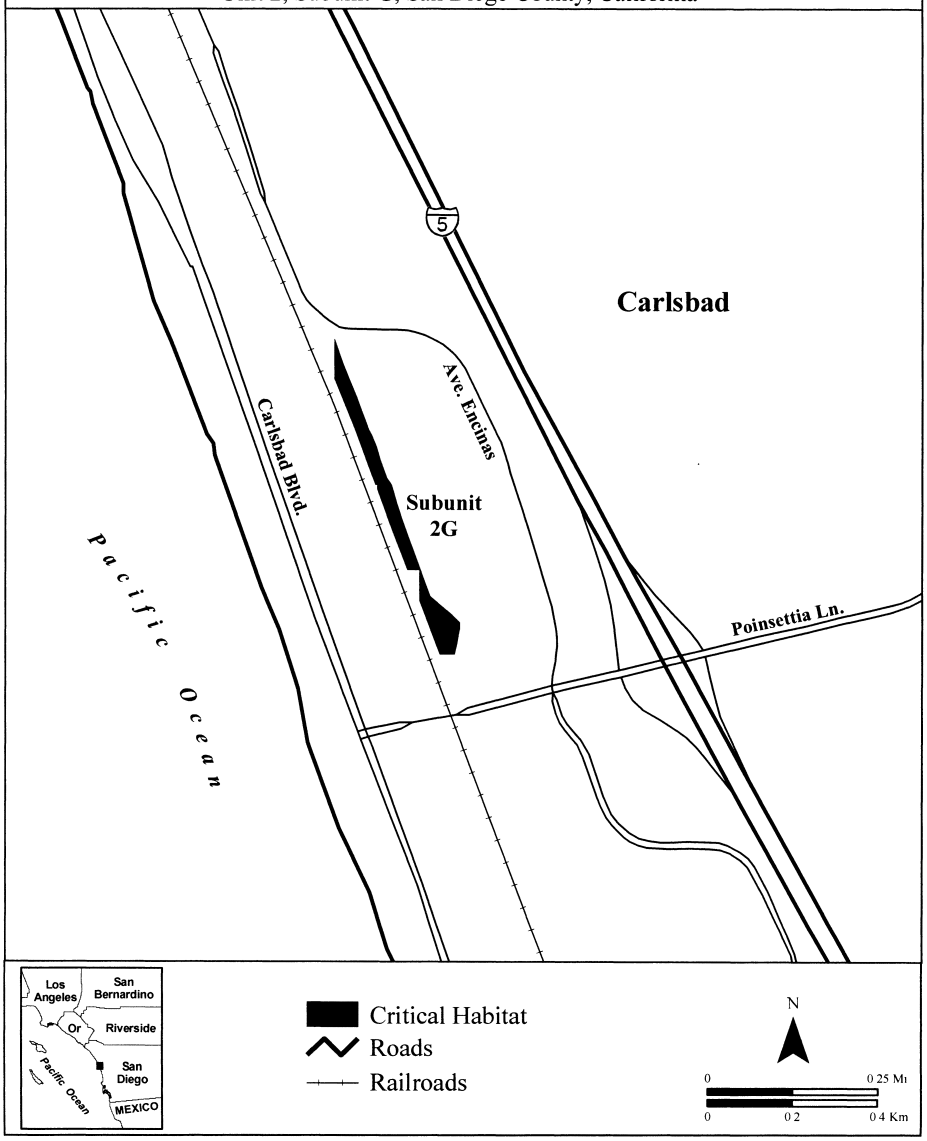
(7) Unit 2: San Diego County, California. From USGS 1:24, 000 quadrangle map Encinitas.

(i) Subunit 2G. Land bounded by the following UTM NAD27 coordinates (E,N): 470300, 3663348; 470301, 3663346; 470323, 3663284; 470356, 3663198; 470366, 3663172; 470382, 3663133; 470388, 3663119; 470399, 3663092; 470399, 3663092; 470408, 3663065; 470418, 3663034; 470424, 3663019; 470434, 3663002; 470442, 3662980; 470447, 3662960; 470459, 3662925; 470476, 3662876; 470527, 3662739; 470531, 3662733; 470573, 3662699; 470596, 3662675; 470596,

3662661; 470590, 3662625; 470584, 3662600; 470568, 3662600; 470548, 3662600; 470500, 3662727; 470500, 3662779; 470500, 3662800; 470492, 3662800; 470472, 3662800; 470430, 3662912; 470400, 3662991; 470400, 3663000; 470397, 3663000; 470343, 3663144; 470300, 3663252; 470300, 3663328; 470300, 3663330.

(ii) NOTE: Map of Unit 2, Subunit 2G (Map 3) follows:

Map 3.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 2, Subunit G, San Diego County, California



(8) Unit 3: San Diego County, California. From USGS 1:24, 000 quadrangle maps San Marcos, San Pasqual, and Ramona.

(i) Subunit 3A. Land bounded by the following UTM NAD27 coordinates (E,N): 482519, 3667481; 482522, 3667490; 482746, 3667403; 482743, 3667398; 482702, 3667300; 482600, 3667300; 482600, 3667232; 482556, 3667127; 482419, 3667185; 482436, 3667237; 482433, 3667249; 482361, 3667282; 482404, 3667370; 482467, 3667341; 482489, 3667400; 482500, 3667400; 482500, 3667430.

(ii) Subunit 3C. Land bounded by the following UTM NAD27 coordinates (E,N): 482054, 3666630; 481931, 3666341; 481800, 3666394; 481800, 3666400; 481786, 3666400; 481600, 3666476; 481600, 3666500; 481542, 3666500; 481586, 3666600; 481600, 3666600; 481600, 3666631; 481672, 3666793. Land bounded by the following UTM NAD27 coordinates (E,N): 481457, 3666290; 481750, 3666164; 481792, 3666269; 481822, 3666258; 481888, 3666230; 481888, 3666188; 481900, 3666135; 481900, 3666128; 481900, 3666100; 481908, 3666100; 481910, 3666093; 481926, 3666044; 481938, 3666006; 481954, 3665952; 481953, 3665951; 481872, 3665932; 481893, 3665863; 481726, 3665813; 481717, 3665831; 481700, 3665878; 481700, 3665900; 481692, 3665900; 481662, 3665987; 481637, 3666057; 481623, 3666077; 481600, 3666087; 481600, 3666100; 481572, 3666100; 481571, 3666100; 481406, 3666174; 481444, 3666261; 481455, 3666286.

(iii) Subunit 3D. Land bounded by the following UTM NAD27 coordinates (E,N): 482905, 3666600; 482943, 3666600; 482951, 3666576; 482878, 3666400; 482844, 3666400; 482800, 3666539; 482800, 3666566.

(iv) Subunit 3E.1. Land bounded by the following UTM NAD27 coordinates (E,N): 505832, 3655634; 505833, 3655626; 505920, 3655402; 506333, 3654967; 506504, 3655015; 506619, 3655015; 506795, 3655157; 507417, 3654906; 507417, 3654593; 507713, 3654398; 507614, 3654262; 506880, 3654385; 506410, 3654601; 505906, 3654692; 505398, 3655020; 505000, 3655164; 505000, 3655250; 505000, 3655500; 505000, 3655532; 505068, 3655630; 505199, 3655620; 505259, 3655600; 505403, 3655674; 505514, 3655610; 505534, 3655573; 505660, 3655633; 505665, 3655636; 505665, 3655636; 505692, 3655667; 505811, 3655671; 505832, 3655634; 505832, 3655634.

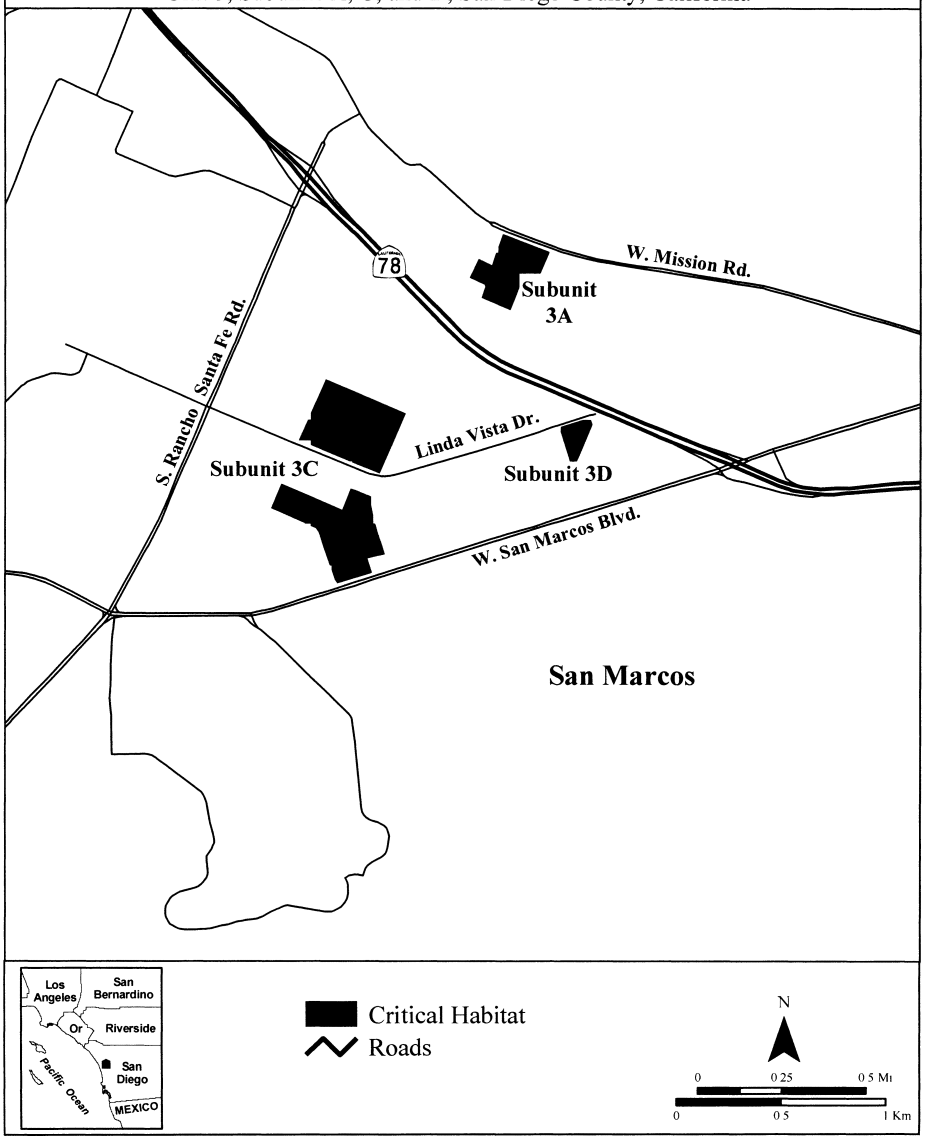
(v) Subunit 3E.2. Land bounded by the following UTM NAD27 coordinates (E,N): 509149, 3655266; 509295, 3655337; 509429, 3655206; 509321, 3655061; 509275, 3655000; 509250, 3655000; 509250, 3654973; 509174, 3654924; 509203, 3654625; 508642, 3654684; 508347, 3654484; 508311, 3654514; 508344, 3654563; 508583, 3654776; 508577, 3654914; 508488, 3654973; 508013, 3654934; 508029, 3655012; 507918, 3655209; 507485, 3655284; 507301, 3655340; 507261, 3655424; 507203, 3655544; 508301, 3655340; 508379, 3655228; 508429, 3655157; 508444, 3655152; 508646, 3655084; 508760, 3655311; 509003, 3655196; 509131, 3655258.

(vi) Subunit 3E.3. Land bounded by the following UTM NAD27 coordinates (E,N): 510101, 3654200; 510140, 3654178; 510198, 3654185; 510244, 3654214; 510292, 3654240; 510317, 3654246; 510342, 3654205; 510330, 3654166; 510323, 3654121; 510325, 3654076; 510321, 3654007; 510314, 3654000; 510300, 3654000; 510300, 3653984; 510250, 3653938; 510250, 3653938; 510210, 3653900; 510200, 3653900; 510152, 3653953; 510148, 3653968; 510158, 3654004; 510110, 3654061; 510023, 3654160; 510062, 3654196; 510098, 3654200; 510100, 3654200; 510100, 3654200. Land bounded by the following UTM NAD27 coordinates (E,N): 511334, 3655370; 511340, 3655365; 511345, 3655353; 511397, 3655274; 511404, 3655265; 511416, 3655273; 511460, 3655300; 511473, 3655300; 511500, 3655262; 511500, 3655250; 511500, 3655218; 511500, 3655214; 511331, 3655102; 511310, 3655088; 511300, 3655099; 511300, 3655100; 511299, 3655100; 511292, 3655107; 511250, 3655150; 511208, 3655192; 511200, 3655200; 511200, 3655265; 511250, 3655310; 511299, 3655354; 511333, 3655371.

(vii) Subunit 3E.4. Land bounded by the following UTM NAD27 coordinates (E,N): 512552, 3654788; 512561, 3654778; 512553, 3654759; 512542, 3654734; 512535, 3654677; 512533, 3654565; 512532, 3654547; 512531, 3654515; 512530, 3654422; 512485, 3654420; 512487, 3654359; 512313, 3654385; 512139, 3654363; 511954, 3654363; 511937, 3654353; 511935, 3654350; 511874, 3654257; 511806, 3654242; 511802, 3654342; 511873, 3654405; 511946, 3654429; 511947, 3654432; 511948, 3654430; 512095, 3654525; 512106, 3654533; 512441, 3654750; 512442, 3654750; 512443, 3654750; 512500, 3654787; 512500, 3654785; 512517, 3654799; 512532, 3654810; 512533, 3654809.

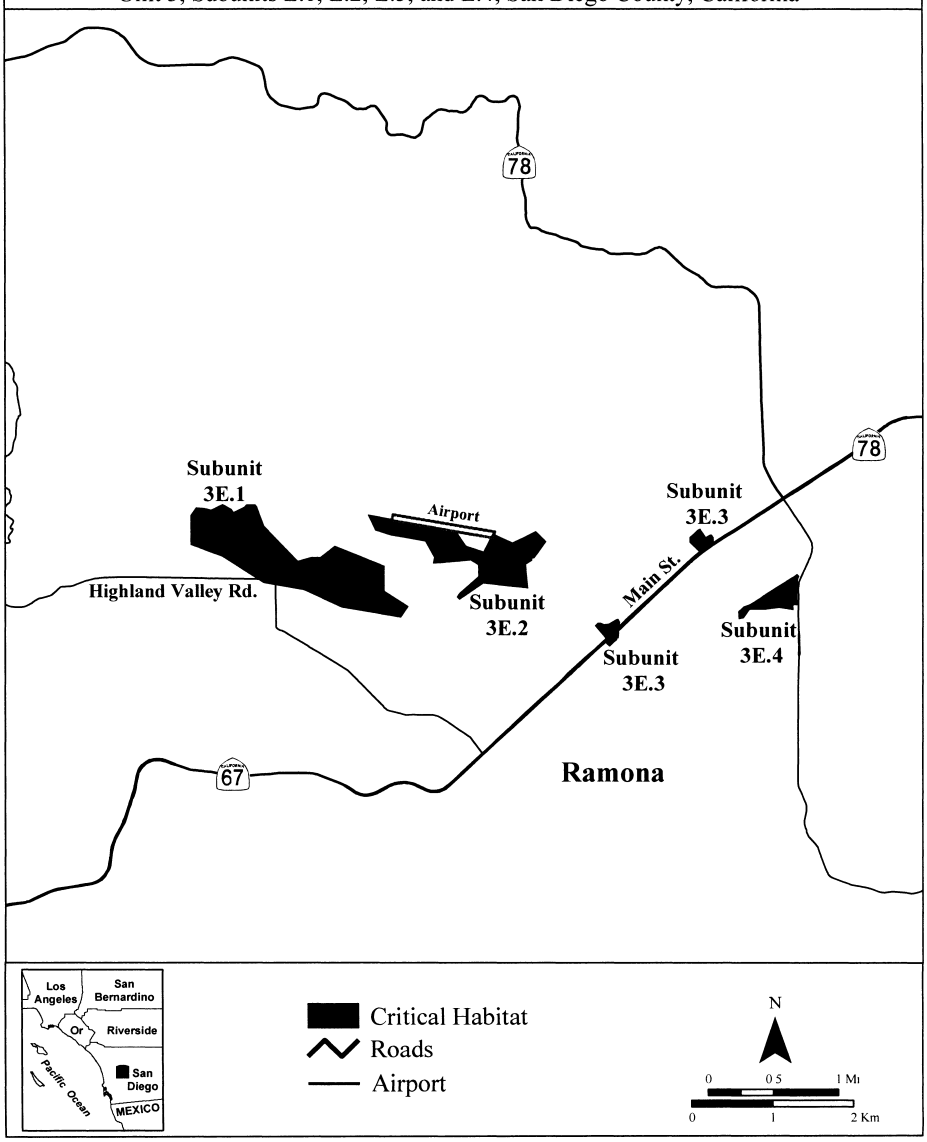
(viii) NOTE: Map of Unit 3, Subunits 3A, 3C, and 3D (Map 4) follows:

Map 4.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 3, Subunits A, C, and D, San Diego County, California



(ix) NOTE: Map of Unit 3, Subunits 3E.1, 3E.2, 3E.3, and 3E.4 (Map 5) follows:

Map 5.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 3, Subunits E.1, E.2, E.3, and E.4, San Diego County, California



(9) *Unit 4:* San Diego County, California. From USGS 1:24, 000 quadrangle maps Del Mar, La Jolla, and La Mesa.

(i) Subunit 4A/B. Land bounded by the following UTM NAD27 coordinates (E,N): 485317, 3645035; 485298, 3645039; 485274, 3645039; 485259, 3645035; 485245, 3645032; 485244, 3645032; 485241, 3645032; 485226, 3645028; 485213, 3645026; 485209, 3645025; 485187, 3645020; 485173, 3645017; 485153, 3645012; 485139, 3645009; 485128, 3645009; 485114, 3645012; 485101, 3645018; 485090, 3645027; 485078, 3645035; 485065, 3645043; 485052, 3645052; 485033,

3645066; 485019, 3645074; 485009, 3645081; 485001,
3645086; 484987, 3645095; 484971, 3645103; 484957,
3645107; 484940, 3645108; 484923, 3645108; 484912,
3645106; 484901, 3645102; 484897, 3645098; 484890,
3645093; 484886, 3645088; 484884, 3645085; 484883,
3645077; 484886, 3645067; 484890, 3645055; 484899,
3645041; 484906, 3645034; 484915, 3645027; 484921,
3645018; 484929, 3645005; 484935, 3644996; 484943,
3644981; 484947, 3644970; 484947, 3644958; 484945,
3644947; 484939, 3644936; 484933, 3644928; 484925,
3644922; 484916, 3644917; 484904, 3644916; 484891,
3644921; 484873, 3644929; 484860, 3644939; 484860,
3644939; 484850, 3644950; 484841, 3644961; 484829,
3644979; 484822, 3644989; 484817, 3644997; 484812,
3645003; 484806, 3645012; 484796, 3645023; 484795,
3645024; 484785, 3645030; 484771, 3645032; 484758,
3645034; 484741, 3645032; 484729, 3645030; 484715,
3645026; 484709, 3645024; 484704, 3645022; 484697,
3645018; 484691, 3645012; 484688, 3645008; 484685,
3645004; 484675, 3644990; 484670, 3644981; 484665,
3644967; 484662, 3644959; 484659, 3644953; 484656,
3644947; 484651, 3644936; 484650, 3644934; 484639,
3644920; 484633, 3644912; 484629, 3644906; 484622,
3644899; 484615, 3644896; 484605, 3644894; 484600,
3644893; 484589, 3644893; 484575, 3644897; 484561,
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3644929; 484523, 3644951; 484520, 3644957; 484518,
3644963; 484517, 3644969; 484515, 3644975; 484512,
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3645030; 484378, 3645037; 484367, 3645047; 484358,
3645060; 484352, 3645072; 484349, 3645083; 484350,
3645096; 484357, 3645102; 484368, 3645107; 484379,
3645111; 484393, 3645112; 484410, 3645110; 484414,
3645108; 484414, 3645108; 484429, 3645101; 484441,
3645097; 484451, 3645092; 484460, 3645085; 484472,
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3645060; 484632, 3645062; 484634, 3645062; 484634,
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3645073; 484704, 3645078; 484714, 3645087; 484718,
3645095; 484720, 3645102; 484721, 3645109; 484721,
3645119; 484721, 3645123; 484720, 3645131; 484715,
3645143; 484708, 3645157; 484701, 3645163; 484691,
3645171; 484683, 3645177; 484669, 3645185; 484662,
3645189; 484651, 3645194; 484650, 3645195; 484649,
3645196; 484647, 3645199; 484637, 3645201; 484622,
3645206; 484621, 3645208; 484620, 3645208; 484620,
3645209; 484607, 3645222; 484602, 3645230; 484598,
3645243; 484595, 3645261; 484592, 3645283; 484589,
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3645331; 484582, 3645350; 484578, 3645361; 484573,
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3645385; 484531, 3645386; 484523, 3645385; 484510,
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3645365; 484429, 3645366; 484419, 3645373; 484412,
3645379; 484409, 3645388; 484406, 3645399; 484406,
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3645454; 484465, 3645459; 484471, 3645465; 484476,
3645472; 484479, 3645476; 484483, 3645490; 484483,
3645497; 484481, 3645508; 484476, 3645519; 484470,
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3645578; 484362, 3645585; 484363, 3645594; 484368,
3645599; 484368, 3645599; 484369, 3645600; 484372,
3645605; 484377, 3645611; 484380, 3645626; 484382,
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3645655; 484387, 3645663; 484387, 3645664; 484385,
3645677; 484382, 3645688; 484371, 3645700; 484363,
3645706; 484348, 3645713; 484335, 3645718; 484318,
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3645720; 484167, 3645715; 484155, 3645708; 484143,
3645699; 484130, 3645694; 484115, 3645691; 484104,
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3645785; 484199, 3645795; 484205, 3645802; 484212,
3645811; 484220, 3645818; 484229, 3645823; 484238,
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3645794; 484277, 3645788; 484292, 3645778; 484307,
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3645496; 484594, 3645482; 484600, 3645459; 484604,
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(ii) Subunit 4C. Land bounded by the following UTM NAD27 coordinates (E,N): 490395, 3629279; 490395, 3629231; 490396, 3629048; 490358, 3628917; 490295, 3628700; 490293, 3628636; 490280, 3628634; 490111, 3628613; 490000, 3628601; 489913, 3628573; 489739, 3628518; 489724, 3628567; 489718, 3628588; 489705, 3628631; 489842, 3628715; 489893, 3628747; 489985, 3628789; 490101, 3628795; 490203, 3628901; 490202, 3628998; 490304, 3629099; 490306, 3629152; 490301, 3629236; 490299, 3629280; 490342, 3629279; 490364, 3629279.

(iii) Subunit 4D. Land bounded by the following UTM NAD27 coordinates (E,N): 494410, 3622458; 494410, 3622458; 494415, 3622443; 494429, 3622410; 494425, 3622393; 494409, 3622376; 494394, 3622372; 494374, 3622371; 494341, 3622377; 494327, 3622361; 494325, 3622291; 494300, 3622294; 494300, 3622300; 494250, 3622300; 494226, 3622303; 494227, 3622331; 494234, 3622339; 494242, 3622347; 494240, 3622360; 494228, 3622373; 494210, 3622384; 494200, 3622392; 494200, 3622400; 494192, 3622400; 494186, 3622411; 494180, 3622431; 494100, 3622428; 494102, 3622400; 494100, 3622400; 494100, 3622392; 494093, 3622379; 494071, 3622370; 494044, 3622367; 494024, 3622370; 494006, 3622381; 494000, 3622388; 494000, 3622400; 493991, 3622400; 493979, 3622418; 493969, 3622437; 493839, 3622432; 493839, 3622463; 493839, 3622466; 493839, 3622467; 493839, 3622468; 493867, 3622468; 494023, 3622470; 494092, 3622471; 494099, 3622471; 494417, 3622476; 494417, 3622475; 494417, 3622475. Land bounded by the following UTM NAD27 coordinates (E,N): 494403, 3622266; 494430, 3622258; 494439, 3622241; 494444, 3622219; 494433, 3622200; 494400, 3622200; 494400, 3622136; 494399, 3622134; 494389, 3622114; 494300, 3622115; 494300, 3622151; 494308, 3622175; 494300, 3622214; 494300, 3622265.

(iv) Subunit 4E. Land bounded by the following UTM NAD27 coordinates (E,N): 479564, 3643663; 479567, 3643643; 479569, 3643624; 479569, 3643612; 479569, 3643604; 479565, 3643579; 479562, 3643558; 479558, 3643541; 479555, 3643523; 479552, 3643502; 479550, 3643476; 479551, 3643456; 479560, 3643436; 479574, 3643422; 479580, 3643414; 479580, 3643414; 479590, 3643399; 479596, 3643380; 479600, 3643346; 479600, 3643346; 479600, 3643346; 479596, 3643219; 479596, 3643164; 479605, 3643123; 479608, 3643108; 479611, 3643082; 479612, 3643060; 479610, 3643042; 479611, 3643020; 479606, 3643005; 479602, 3642994; 479597, 3642980; 479594, 3642970; 479593, 3642966; 479590, 3642954; 479589, 3642951; 479582, 3642943; 479575, 3642938; 479567, 3642936; 479565, 3642937; 479564, 3642936; 479541, 3642932; 479537, 3642904; 479500, 3642905; 479500, 3643000; 479400, 3643000; 479400, 3643055; 479400, 3643061; 479400, 3643100; 479386, 3643100; 479377, 3643100; 479308, 3643100; 479308, 3643103; 479252, 3643201; 479259, 3643248; 479330, 3643265; 479376, 3643287; 479381, 3643289; 479403, 3643300; 479415, 3643362; 479424, 3643410; 479428, 3643412; 479432, 3643426; 479443, 3643437; 479443, 3643437; 479490, 3643487; 479502, 3643499; 479503, 3643651; 479504, 3643652; 479511, 3643660; 479524, 3643673; 479548, 3643698; 479553, 3643685; 479556, 3643684; 479559, 3643677; 479561, 3643673.

(v) Subunit 4F. Land bounded by the following UTM NAD27 coordinates (E,N): 479996, 3643593; 479997, 3643543; 479997, 3643513; 479913, 3643503; 479900, 3643503; 479900, 3643577; 479900, 3643683; 479998, 3643682.

(vi) Subunit 4G. Land bounded by the following UTM NAD27 coordinates (E,N): 484021, 3642526; 484021, 3642515; 484019, 3642503; 484019, 3642503; 484015, 3642495; 484008, 3642489; 484005, 3642487; 483999, 3642483; 483988, 3642477; 483978, 3642473; 483969, 3642470; 483965, 3642469; 483952, 3642466; 483943, 3642465; 483931, 3642465; 483921, 3642466; 483909, 3642470; 483898, 3642470; 483891, 3642472; 483881, 3642475; 483862, 3642479; 483847, 3642484; 483832, 3642490; 483823, 3642494; 483823, 3642494; 483814, 3642497; 483795, 3642503; 483778, 3642505; 483756, 3642504; 483742, 3642499; 483727, 3642491; 483712, 3642484; 483696, 3642476; 483682, 3642473; 483669, 3642475; 483662, 3642480; 483659, 3642490; 483659, 3642502; 483664, 3642514; 483682, 3642533; 483690, 3642536; 483703, 3642538; 483721, 3642540; 483740, 3642541; 483760, 3642541; 483777,

3642538; 483788, 3642540; 483790, 3642540; 483805, 3642537; 483826, 3642531; 483846, 3642527; 483865, 3642528; 483880, 3642532; 483882, 3642532; 483898, 3642540; 483912, 3642548; 483927, 3642557; 483943, 3642565; 483955, 3642571; 483968, 3642573; 483978, 3642570; 483988, 3642566; 484001, 3642560; 484008, 3642553; 484016, 3642542; 484020, 3642535.

(vii) Subunit 4H. Land bounded by the following UTM NAD27 coordinates (E,N): 483842, 3642261; 483853, 3642265; 483867, 3642269; 483879, 3642272; 483892, 3642272; 483905, 3642274; 483912, 3642274; 483917, 3642275; 483933, 3642275; 483948, 3642277; 483964, 3642279; 483976, 3642280; 483993, 3642281; 484005, 3642281; 484013, 3642279; 484023, 3642276; 484028, 3642270; 484030, 3642263; 484030, 3642255; 484029, 3642248; 484025, 3642241; 484020, 3642233; 484014, 3642224; 484002, 3642214; 483985, 3642202; 483972, 3642193; 483953, 3642177; 483939, 3642167; 483933, 3642159; 483933, 3642146; 483939, 3642132; 483948, 3642118; 483954, 3642108; 483955, 3642106; 483955, 3642105; 483934, 3642094; 483873, 3642068; 483839, 3642059; 483835, 3642058; 483834, 3642058; 483819, 3642055; 483809, 3642053; 483796, 3642052; 483747, 3642050; 483677, 3642050; 483628, 3642051; 483601, 3642056; 483596, 3642059; 483549, 3642079; 483543, 3642082; 483549, 3642088; 483558, 3642093; 483570, 3642095; 483580, 3642095; 483589, 3642094; 483597, 3642092; 483606, 3642090; 483607, 3642090; 483607, 3642090; 483635, 3642088; 483682, 3642088; 483719, 3642094; 483754, 3642105; 483783, 3642129; 483796, 3642147; 483797, 3642148; 483803, 3642165; 483806, 3642181; 483810, 3642198; 483814, 3642219; 483818, 3642238; 483823, 3642249; 483824, 3642251; 483832, 3642258; 483841, 3642261.

(viii) Subunit 4I. Land bounded by the following UTM NAD27 coordinates (E,N): 485100, 3641415; 485231, 3641411; 485237, 3641411; 485445, 3641409; 485450, 3641409; 485450, 3641400; 485444, 3641310; 485444, 3641310; 485438, 3641220; 485369, 3641214; 485290, 3641219; 485258, 3641235; 485211, 3641234; 485143, 3641234; 485111, 3641262; 485101, 3641270; 485069, 3641328; 485056, 3641340; 485041, 3641355; 485022, 3641356; 485015, 3641375; 485004, 3641397; 485000, 3641419; 485019, 3641424; 485035, 3641417; 485036, 3641417; 485039, 3641417.

(ix) Subunit 4J. Land bounded by the following UTM NAD27 coordinates (E,N): 485600, 3639788; 485601, 3639788; 485612, 3639787; 485615, 3639782; 485615, 3639781; 485609, 3639777; 485604, 3639774; 485600, 3639771; 485595, 3639769; 485578, 3639758; 485558, 3639749; 485534, 3639741; 485503, 3639730; 485490, 3639724; 485478, 3639714; 485466, 3639709; 485445, 3639701; 485441, 3639700; 485417, 3639692; 485400, 3639687; 485385, 3639682; 485363, 3639673; 485322, 3639658; 485308, 3639654; 485285, 3639648; 485267, 3639644; 485247, 3639637; 485195, 3639619; 485173, 3639614; 485170, 3639614; 485153, 3639615; 485139, 3639618; 485125, 3639622; 485114, 3639632; 485106, 3639643; 485100, 3639655; 485097, 3639660; 485095, 3639672; 485099, 3639680; 485100, 3639681; 485102, 3639685; 485107, 3639693; 485112, 3639703; 485114, 3639705; 485123, 3639716; 485131, 3639722; 485136, 3639730; 485134, 3639744; 485125, 3639756; 485115, 3639770; 485104, 3639781; 485104, 3639787; 485105, 3639787; 485104, 3639797; 485600, 3639797.

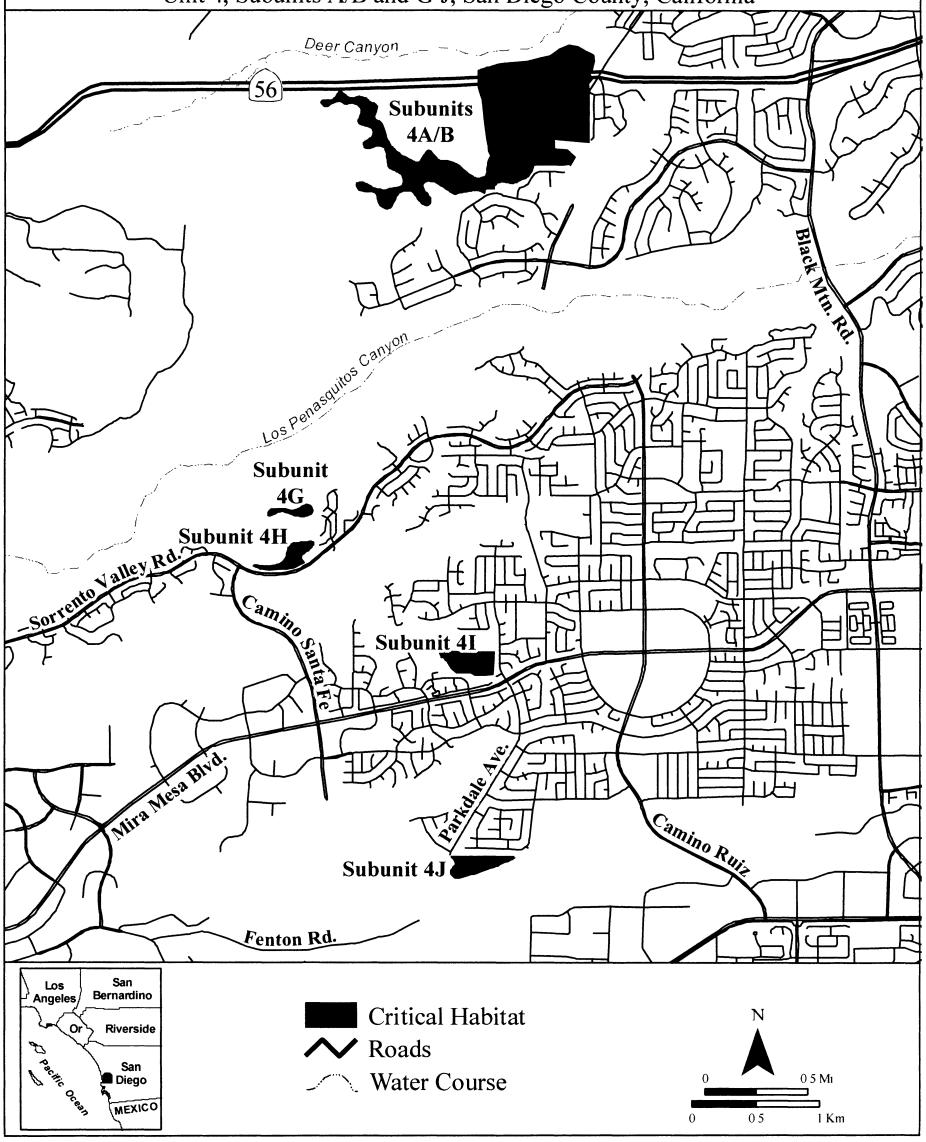
(x) Subunit 4K. Land bounded by the following UTM NAD27 coordinates (E,N): 486900, 3633200; 486911, 3633200; 486913, 3633170; 486914, 3633158; 486917, 3633125; 486934, 3632893; 486937, 3632893; 486941, 3632892; 486943, 3632892; 486942, 3632891; 486940, 3632890; 486995, 3632852; 486996, 3632831; 486996, 3632805; 486971, 3632804; 486964, 3632804; 486964, 3632819; 486948, 3632822; 486941, 3632873; 486939, 3632873; 486916, 3632876; 486915, 3632877; 486915, 3632877; 486909, 3632877; 486903, 3632877; 486900, 3632877; 486895, 3632877; 486859, 3632877; 486791, 3632884; 486731, 3632895; 486720, 3632900; 486693, 3632912; 486682, 3632917; 486674, 3632921; 486668, 3632923; 486627, 3632941; 486618, 3632944; 486596, 3632950; 486580, 3632937; 486579, 3632937; 486400, 3632968; 486192, 3633005; 486136, 3633015; 486136, 3633015; 486135, 3633139; 486200, 3633155; 486220, 3633160; 486220, 3633161; 486331, 3633188; 486332, 3633188; 486332, 3633189; 486381, 3633201; 486402, 3633206; 486482, 3633225; 486603, 3633253; 486689, 3633272; 486690, 3633272; 486700, 3633274; 486771, 3633284; 486775, 3633284; 486786, 3633284; 486900, 3633299.

(xi) Subunit 4L. Land bounded by the following UTM NAD27 coordinates (E,N): 487340, 3633277; 487340, 3633277; 487361, 3633261; 487346, 3633241; 487346, 3633241; 487346, 3633241; 487298, 3633197; 487280, 3633208; 487280, 3633208; 487280, 3633209; 487268, 3633218; 487200, 3633269; 487196, 3633272; 487160, 3633234; 487100, 3633264; 487073, 3633277; 487065, 3633300; 487062, 3633309; 487053, 3633340; 487147, 3633365; 487147, 3633366; 487152, 3633366; 487204, 3633380.

(xii) Subunit 4M. Land bounded by the following UTM NAD27 coordinates (E,N): 487669, 3631049; 487669, 3631036; 487667, 3630972; 487660, 3630780; 487672, 3630772; 487816, 3630687; 487818, 3630675; 487828, 3630556; 487829, 3630556; 488292, 3630338; 488292, 3630320; 488294, 3630143; 488295, 3630029; 488260, 3630028; 488195, 3630027; 488076, 3630043; 487879, 3630039; 487830, 3630081; 487805, 3630102; 487714, 3630177; 487798, 3630210; 487829, 3630273; 487830, 3630336; 487830, 3630388; 487516, 3630559; 487501, 3630568; 487340, 3630655; 487335, 3630674; 487313, 3630766; 487384, 3630777; 487428, 3630783; 487503, 3630920; 487508, 3631141; 487677, 3631228; 487672, 3631125; 487670, 3631078.

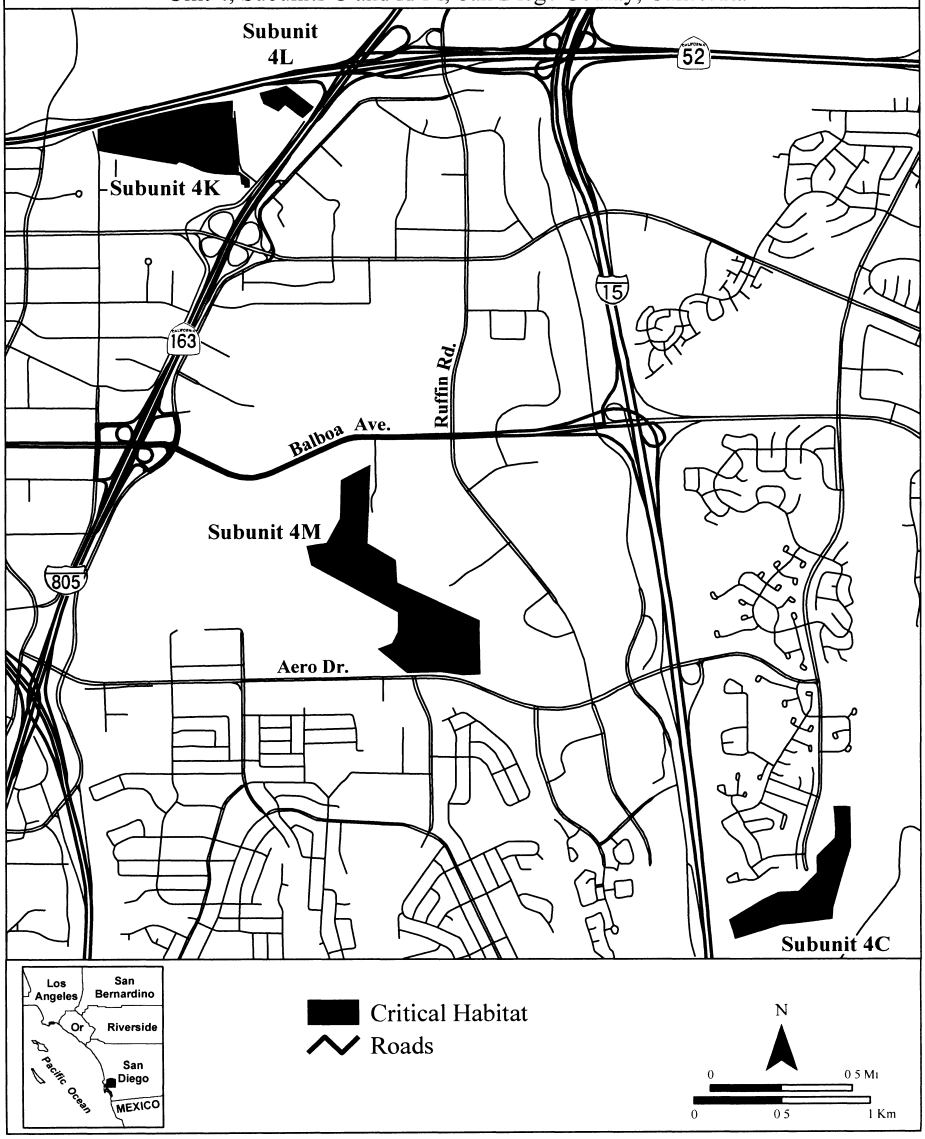
(xiii) NOTE: Map of Unit 4, Subunits 4A/B, 4G, 4H, 4I, and 4J (Map 6) follows:

Map 6.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunits A/B and G-J, San Diego County, California



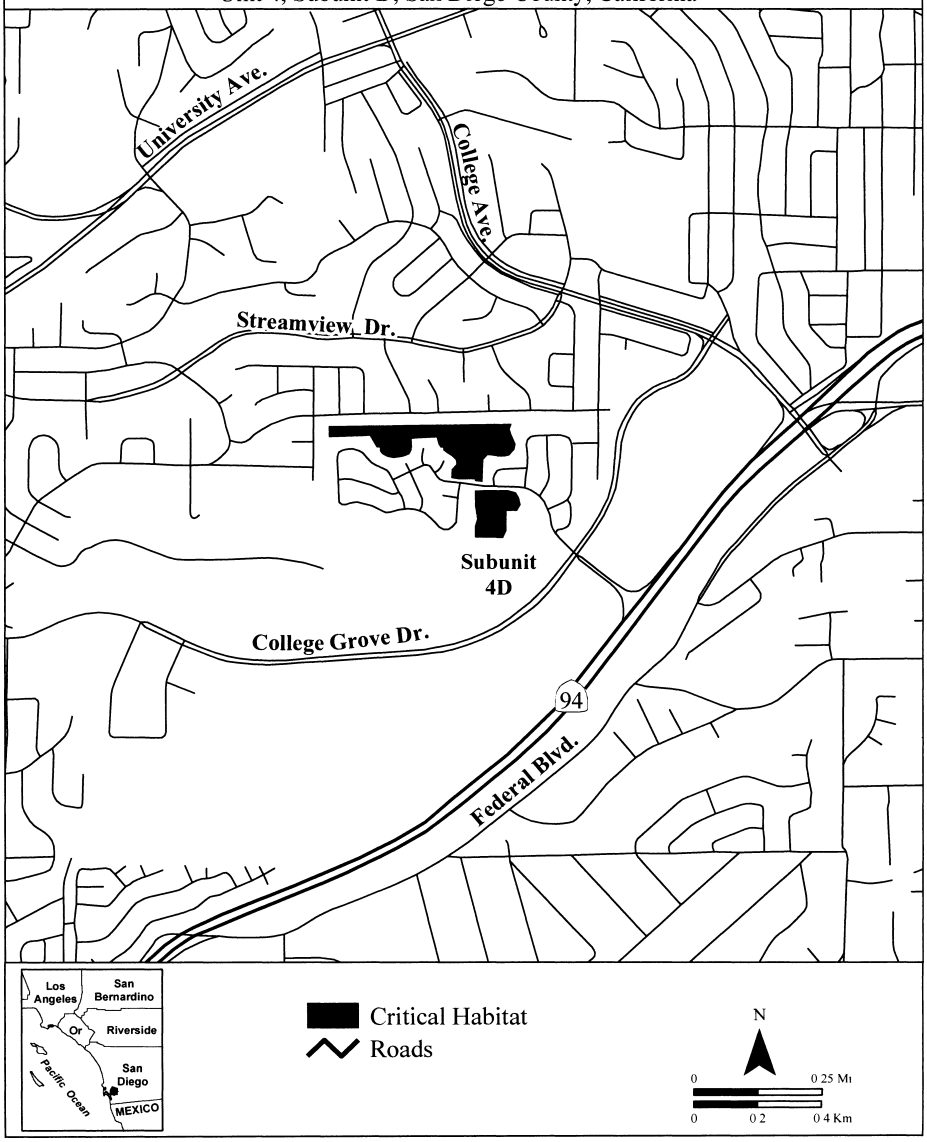
(xiv) NOTE: Map of Unit 4, Subunits 4C, 4K, 4L and 4M (Map 7) follows:

Map 7.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunits C and K-M, San Diego County, California



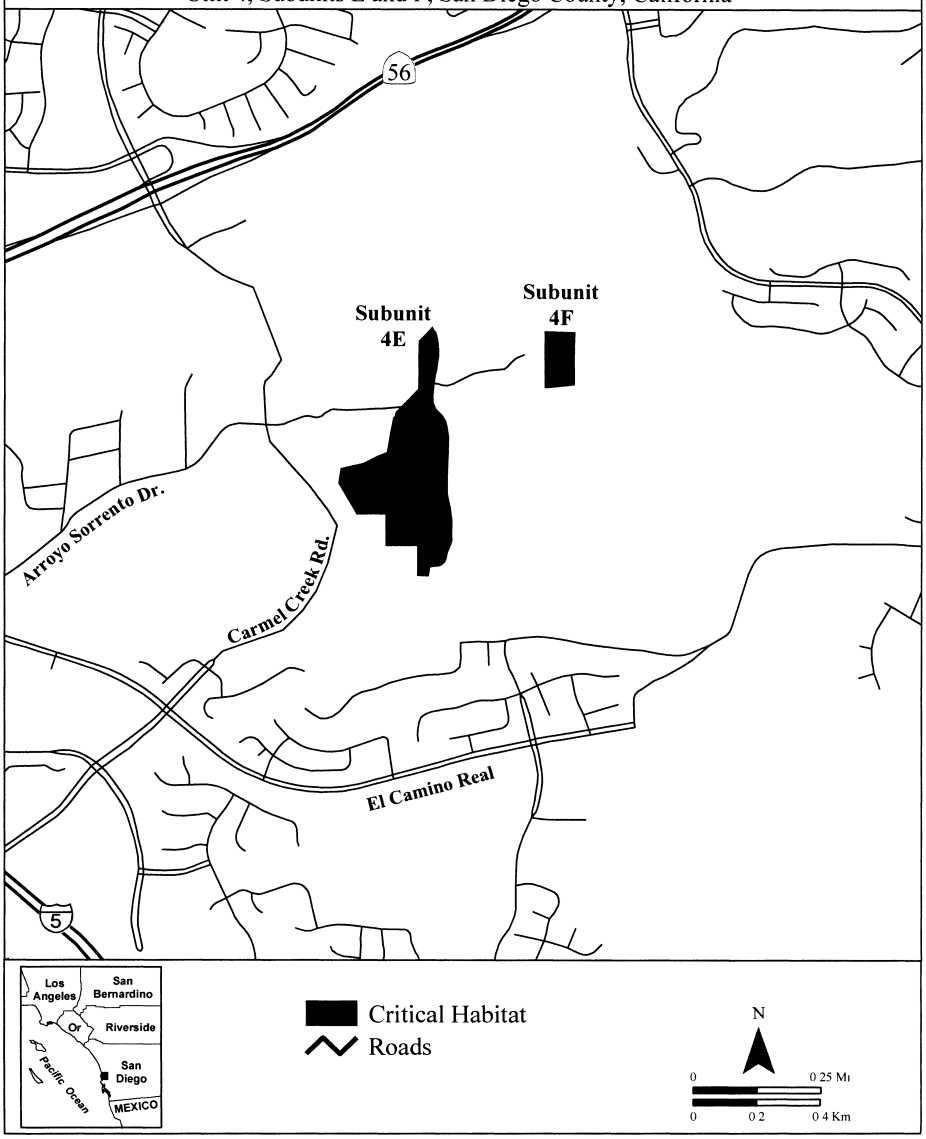
(xv) NOTE: Map of Unit 4, Subunit 4D (Map 8) follows:

Map 8.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunit D, San Diego County, California



(xvi) NOTE: Map of Unit 4, Subunits 4E and 4F (Map 9) follows:

Map 9.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 4, Subunits E and F, San Diego County, California



(10) Unit 5: San Diego County, California. From USGS 1:24, 000 quadrangle maps Imperial Beach, Jamul Mountains, Otay Mesa, and Otay Mountain.

(i) Subunit 5A. Land bounded by the following UTM NAD27 coordinates (E,N): 506870, 3606405; 506878, 3606405; 506888, 3606405; 506887, 3606404; 506881, 3606394; 506880, 3606392; 506879, 3606390; 506882, 3606388; 506874, 3606348; 506856, 3606282; 506837, 3606194; 506847, 3606090; 506880, 3606025; 506858, 3606009; 506843, 3605998; 506802, 3605981; 506795, 3605978; 506749, 3605974; 506739,

3605981; 506713, 3605998; 506692, 3606035; 506675, 3606077; 506660, 3606147; 506656, 3606157; 506647, 3606180; 506644, 3606186; 506636, 3606200; 506625, 3606220; 506593, 3606288; 506586, 3606303; 506555, 3606368; 506541, 3606400; 506539, 3606405; 506528, 3606429; 506522, 3606487; 506609, 3606517; 506609, 3606518; 506613, 3606522; 506620, 3606526; 506631, 3606530; 506657, 3606530; 506685, 3606523; 506688, 3606523; 506691, 3606524; 506702, 3606526; 506707, 3606529; 506719, 3606537; 506724, 3606543; 506728, 3606550; 506732, 3606567; 506733, 3606573; 506734, 3606582; 506753, 3606589; 506741, 3606620; 506742, 3606626; 506744, 3606633; 506745, 3606642; 506748, 3606650; 506754, 3606656; 506760, 3606661; 506766, 3606664; 506773, 3606667; 506780, 3606666; 506788, 3606665; 506793, 3606660; 506801, 3606654; 506806, 3606648; 506813, 3606638; 506819, 3606631; 506827, 3606625; 506837, 3606621; 506844, 3606619; 506846, 3606618; 506853, 3606616; 506857, 3606614; 506858, 3606461; 506858, 3606449; 506858, 3606449; 506858, 3606436; 506858, 3606427; 506858, 3606405; 506858, 3606405. Excluding land bounded by the following UTM NAD27 coordinates (E,N): 506704, 3606405; 506655, 3606405; 506655, 3606405; 506655, 3606400; 506656, 3606300; 506656, 3606200; 506656, 3606186; 506656, 3606186; 506706, 3606186; 506831, 3606187; 506831, 3606252; 506847, 3606275; 506858, 3606290; 506858, 3606290; 506858, 3606372; 506858, 3606392; 506858, 3606405. Land bounded by the following UTM NAD27 coordinates (E,N): 505791, 3606031; 505841, 3605966; 505884, 3605895; 505914, 3605830; 505935, 3605785; 505950, 3605753; 505951, 3605750; 505964, 3605715; 505973, 3605708; 505983, 3605665; 505863, 3605614; 505847, 3605635; 505834, 3605651; 505825, 3605658; 505797, 3605677; 505774, 3605686; 505774, 3605767; 505774, 3605767; 505774, 3605807; 505774, 3606046; 505774, 3606046.

(ii) Subunit 5B. Land bounded by the following UTM NAD27 coordinates (E,N): 504332, 3605189; 504347, 3605165; 504372, 3605163; 504405, 3605173; 504429, 3605160; 504432, 3605139; 504454, 3605119; 504474, 3605134; 504505, 3605127; 504533, 3605097; 504559, 3605077; 504597, 3605074; 504629, 3605076; 504630, 3604936; 504630, 3604918; 504629, 3604782; 504627, 3604782; 504627, 3604746; 504626, 3604744; 504627, 3604742; 504626, 3604631; 504603, 3604604; 504587, 3604590; 504573, 3604589; 503692, 3604599; 503641, 3604600; 503620, 3604621; 503508, 3604831; 503453, 3604971; 503470, 3604979; 503500, 3604973; 503517, 3604970; 503525, 3604977; 503534, 3604982; 503556, 3604994; 503626, 3604992; 503626, 3605008; 503626, 3605032; 503628, 3605033; 503628, 3605033; 503705, 3605099; 503742, 3605171; 503743, 3605172; 503754, 3605194. Land bounded by the following UTM NAD27 coordinates (E,N): 503241, 3604951; 503260, 3604945; 503260, 3604964; 503275, 3604981; 503314, 3604988; 503319, 3604989; 503389, 3604822; 503508, 3604612; 503537, 3604561; 503567, 3604506; 503620, 3604411; 503620, 3604400; 503619, 3604330; 503617, 3604074; 503617, 3603990; 503609, 3603990; 503569, 3603990; 503464, 3603991; 502923, 3603996; 502813, 3603997; 502813, 3603997; 502800, 3604601; 502800, 3604620; 502799, 3604653; 502800, 3604654; 502820, 3604686; 502830, 3604730; 502835, 3604781; 502836, 3604804; 502994, 3604803; 502991, 3604794; 503003, 3604742; 503041, 3604705; 503064, 3604692; 503074, 3604694; 503104, 3604726; 503111, 3604741; 503137, 3604801; 503208, 3604801; 503208, 3604953.

(iii) Subunit 5C. Land bounded by the following UTM NAD27 coordinates (E,N): 505948, 3603807; 505970, 3603764; 505991, 3603750; 506009, 3603736; 505983, 3603699; 505954, 3603652; 505908, 3603585; 505841, 3603550; 505808, 3603538; 505522, 3603537; 505458, 3603536; 505450, 3603546; 505435, 3603553; 505408, 3603570; 505401, 3603574; 505369, 3603601; 505358, 3603624; 505365, 3603650; 505375, 3603667; 505374, 3603667; 505390, 3603794; 505391, 3603794; 505416, 3603798; 505467, 3603821; 505484, 3603845; 505500, 3603876; 505487, 3603903; 505566, 3604008; 505566, 3604011; 505568, 3604010; 505578, 3604030; 505600, 3604057; 505623, 3604065; 505623, 3604065; 505622, 3604070; 505617, 3604088; 505625, 3604130; 505632, 3604141; 505633, 3604141; 505633, 3604141; 505641, 3604152; 505675, 3604184; 505720, 3604211; 505732, 3604218; 505732, 3604218; 505732, 3604218; 505785, 3604243; 505820, 3604252; 505844, 3604235; 505902, 3604197; 505948, 3604161; 505958, 3604137; 505958, 3604117; 505946, 3604091; 505926, 3604057; 505920, 3604041; 505929, 3604037; 505942, 3604028; 505949, 3604021; 505955, 3604011; 505961, 3603997; 505959, 3603982; 505951, 3603973; 505948, 3603966; 505942, 3603961; 505929, 3603951; 505914, 3603946; 505912, 3603945; 505912, 3603928; 505926, 3603866; 505936, 3603840.

(iv) Subunit 5D. Land bounded by the following UTM NAD27 coordinates (E,N): 509019, 3602417; 509019, 3602284; 509015, 3602132; 509048, 3602002; 509135, 3601973; 509203, 3602071; 509235, 3602133; 509236, 3602136; 509268, 3602255; 509270, 3602335; 509272, 3602407; 509308, 3602461; 509348, 3602490; 509438, 3602540; 509604, 3602573; 509727, 3602641; 509821, 3602670; 509926, 3602613; 510009, 3602537; 510009, 3602450; 509976, 3602327; 509915, 3602212; 509832, 3602096; 509727, 3601865; 509712, 3601746; 509692, 3601743; 509659, 3601737; 509628, 3601732; 509604, 3601726; 509576, 3601713; 509533, 3601697; 509504, 3601687; 509419, 3601669; 509357, 3601654; 509354, 3601654; 509315, 3601643; 509277, 3601623; 509010, 3601592; 508505, 3601541; 508494, 3601540; 508266, 3601517; 508266, 3601517; 508266, 3601517; 508265, 3601517; 507688, 3601459; 507688, 3601459; 507534, 3601443; 507508, 3601733; 507507, 3601736; 507509, 3601735; 507571, 3601753; 507517, 3601850; 507484, 3601937; 507560, 3601995; 507589, 3602056; 507582, 3602147; 507614, 3602241; 507654, 3602208; 507690, 3602147; 507719, 3602172; 507730, 3602248; 507737, 3602331; 507748, 3602410; 507787, 3602450; 507813, 3602403; 507860, 3602320; 507921, 3602190; 507983, 3602049; 508003, 3602033; 508113, 3601944; 508141, 3601999; 508161, 3602070; 508181, 3602147; 508217, 3602168; 508243, 3602118; 508279, 3602013; 508394, 3601901; 508524, 3601901; 508554, 3601918; 508651, 3601973; 508712, 3602061; 508719, 3602071; 508719, 3602165; 508719, 3602255; 508745, 3602302; 508795, 3602414; 508819, 3602464; 508839, 3602504; 508867, 3602504; 508887, 3602499; 508907, 3602494; 508936, 3602486; 509019, 3602425.

(v) Subunit 5F. Land bounded by the following UTM NAD27 coordinates (E,N): 500168, 3603213; 500175, 3603212; 500176, 3603212; 500176, 3603205; 500175, 3603200; 500174, 3603154; 500170, 3603022; 500168, 3602973; 500167, 3602921; 500166, 3602890; 500165, 3602890; 500150, 3602901; 500145,

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Land bounded by the following UTM NAD27 coordinates (E,N): 499760, 3602958; 499763, 3602950; 499763, 3602887; 499792, 3602887; 499808, 3602860; 499825, 3602835; 499861, 3602824; 499904, 3602816; 499951, 3602808; 499986, 3602804; 500000, 3602800; 500003, 3602796; 500004, 3602796; 500018, 3602793; 500030, 3602787; 500042, 3602779; 500052, 3602769; 500060, 3602758; 500066, 3602745; 500069, 3602731; 500069, 3602728; 500070, 3602718; 500070, 3602716; 500076, 3602703; 500080, 3602689; 500081, 3602676; 500080, 3602662; 500076, 3602648; 500070, 3602636; 500062, 3602624; 500052, 3602614; 500041, 3602606; 500028, 3602600; 500026, 3602600; 500025, 3602597; 500019, 3602585; 500011, 3602573; 500001, 3602564; 500000, 3602563; 499990, 3602556; 499977, 3602550; 499965, 3602546; 499963, 3602527; 499972, 3602500; 499975, 3602477; 499969, 3602456; 499952, 3602435; 499929, 3602421; 499913, 3602434; 499909, 3602430; 499897, 3602422; 499895, 3602421; 499891, 3602411; 499891, 3602373; 499888, 3602336; 499887, 3602329; 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(vi) Subunit 5G. Land bounded by the following UTM NAD27 coordinates (E,N): 499163, 3604679; 499168, 3604677; 499169, 3604676; 499169, 3604671; 499174, 3604638; 499175, 3604631; 499177, 3604618; 499175, 3604601; 499173, 3604575; 499176, 3604567; 499190, 3604533; 499200, 3604524; 499227, 3604500; 499242, 3604487; 499250, 3604456; 499251, 3604452; 499286, 3604445; 499299, 3604469; 499543, 3604452; 499556, 3604416; 499565, 3604389; 499629, 3604368; 499699, 3604386; 499700, 3604385; 499744, 3604322; 499744, 3604300; 499745, 3604266; 499747, 3604175; 499748, 3604122; 499748, 3604122; 499749, 3604100; 499750, 3604061; 499739, 3604057; 499700, 3604042; 499648, 3604021; 499618, 3604022; 499549, 3604024; 499533, 3604008; 499525, 3604000; 499500, 3603974; 499440, 3603913; 499439, 3603900; 499431, 3603830; 499429, 3603817; 499404, 3603839; 499398, 3603849; 499369, 3603891; 499356, 3603915; 499337, 3603927; 499328, 3603924; 499305, 3603918; 499263, 3603904; 499237, 3603929; 499238, 3603972; 499247, 3604004; 499245, 3604008; 499242, 3604014; 499239, 3604020; 499237, 3604027; 499236, 3604034; 499235, 3604041; 499235, 3604048; 499236, 3604055; 499237, 3604058; 499228, 3604075; 499190, 3604094; 499200, 3604109; 499218, 3604140; 499258, 3604151; 499259, 3604151; 499270, 3604156; 499292, 3604156; 499325, 3604156; 499377, 3604142; 499427, 3604118; 499460, 3604091; 499487, 3604114; 499517, 3604142; 499557, 3604141; 499570, 3604141; 499593, 3604115; 499622, 3604098; 499646, 3604112; 499648, 3604135; 499644, 3604167; 499640, 3604175; 499620, 3604210; 499579, 3604252; 499575, 3604255; 499557, 3604274; 499551, 3604279; 499533, 3604297; 499474, 3604333; 499452, 3604342; 499412, 3604360; 499376, 3604370; 499328, 3604385; 499258, 3604401; 499240, 3604407; 499213, 3604414; 499162, 3604442; 499150, 3604454; 499138, 3604466; 499124, 3604500; 499124, 3604501; 499123, 3604508; 499118, 3604536; 499111, 3604581; 499110, 3604584; 499109, 3604607; 499108, 3604623; 499108, 3604623; 499107, 3604623; 499106, 3604640; 499103, 3604677; 499103, 3604682; 499120, 3604694; 499120, 3604695; 499121, 3604695. Land bounded by the following UTM NAD27 coordinates (E,N): 498823, 3603831; 498873, 3603865; 498928, 3603903; 498930, 3603895; 498938, 3603850; 498912, 3603794; 498870, 3603746; 498833, 3603700; 498795, 3603670; 498762, 3603651; 498719, 3603629; 498670, 3603600; 498663, 3603579; 498678, 3603566; 498669, 3603545; 498651, 3603535; 498622, 3603534; 498625, 3603525; 498634, 3603530; 498648, 3603533; 498661, 3603535; 498675, 3603533; 498689, 3603530; 498701, 3603524; 498713, 3603516; 498723, 3603506; 498731, 3603495; 498737, 3603482; 498740, 3603468; 498741, 3603463; 498747, 3603476; 498755, 3603484; 498773, 3603507; 498810, 3603545; 498859, 3603574; 498901, 3603605; 498943, 3603631; 498976, 3603632; 499011, 3603645; 499027, 3603658; 499026, 3603657; 499024, 3603656; 499010, 3603652; 498996, 3603651; 498983, 3603652; 498969, 3603656; 498960, 3603660; 498956, 3603662; 498945, 3603670; 498935, 3603680; 498927, 3603691; 498921, 3603704; 498918, 3603717; 498916, 3603731; 498916, 3603732; 498918, 3603745; 498921, 3603759; 498927, 3603771; 498935, 3603783; 498945, 3603792; 498956, 3603800; 498969, 3603806; 498983, 3603810; 498988, 3603810; 498996, 3603811; 499010, 3603810; 499024, 3603806; 499036, 3603800; 499048, 3603792; 499058, 3603783; 499066, 3603771; 499072, 3603759; 499075, 3603745; 499076, 3603731; 499075, 3603717; 499072, 3603704; 499066, 3603691; 499058, 3603680; 499056, 3603679; 499082, 3603687; 499082, 3603687; 499088, 3603650; 499088, 3603612; 499094, 3603574; 499107, 3603535; 499120, 3603511; 499139, 3603492; 499127, 3603448; 499102, 3603430; 499075, 3603416; 499056, 3603387; 499061, 3603365; 499101, 3603365; 499143, 3603379; 499174, 3603384; 499205, 3603385; 499211, 3603370; 499223, 3603341; 499229, 3603313; 499237, 3603306; 499241, 3603296; 499242, 3603293; 499246, 3603283; 499249, 3603265; 499248, 3603257; 499248, 3603254; 499247, 3603250; 499247, 3603249; 499244, 3603249; 499218, 3603250; 499214, 3603250; 499024, 3603257; 499021, 3603257; 499021, 3603258; 499023, 3603301; 499025, 3603366; 499026, 3603409; 499067, 3603488; 499062, 3603580; 499036, 3603611;

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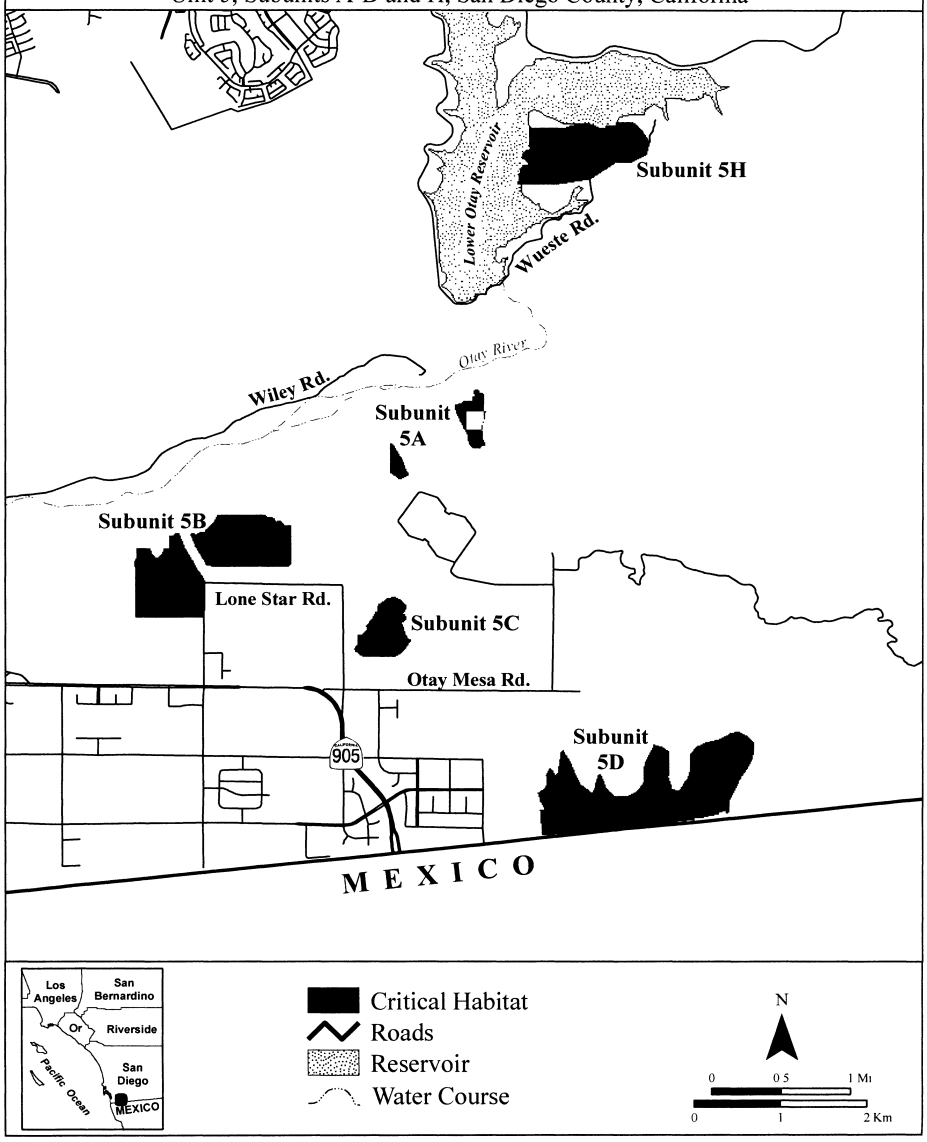
(vii) Subunit 5H. Land bounded by the following UTM NAD27 coordinates (E,N): 507788, 3609712; 507858, 3609742; 507950, 3609771; 508044, 3609778; 508178, 3609744; 508218, 3609710; 508262, 3609710; 508280, 3609740; 508330, 3609757; 508397, 3609740; 508403, 3609790; 508604, 3609787; 508699, 3609699; 508787, 3609559; 508746, 3609407; 508557, 3609308; 508392, 3609308; 508090, 3609118; 507643, 3609056; 507269, 3609054; 507257, 3609091; 507269, 3609148; 507269, 3609191; 507290, 3609251; 507329, 3609280; 507389, 3609280; 507367, 3609319; 507310, 3609369; 507310, 3609419; 507338, 3609448; 507401, 3609470; 507382, 3609518; 507394, 3609547; 507391, 3609636; 507388, 3609713.

(viii) Subunit 5I. Land bounded by the following UTM NAD27 coordinates (E,N): 522790, 3603588; 522715, 3603505; 522712, 3603500; 522700, 3603500; 522700, 3603479; 522699, 3603478; 522663, 3603371; 522692, 3603132; 522639, 3603116; 522566, 3603131; 522529, 3603165; 522517, 3603225; 522514, 3603355; 522496, 3603446; 522488, 3603478; 522497, 3603494; 522563, 3603563; 522641, 3603627; 522720, 3603689; 522759, 3603708; 522791, 3603699; 522800, 3603685; 522800, 3603617.

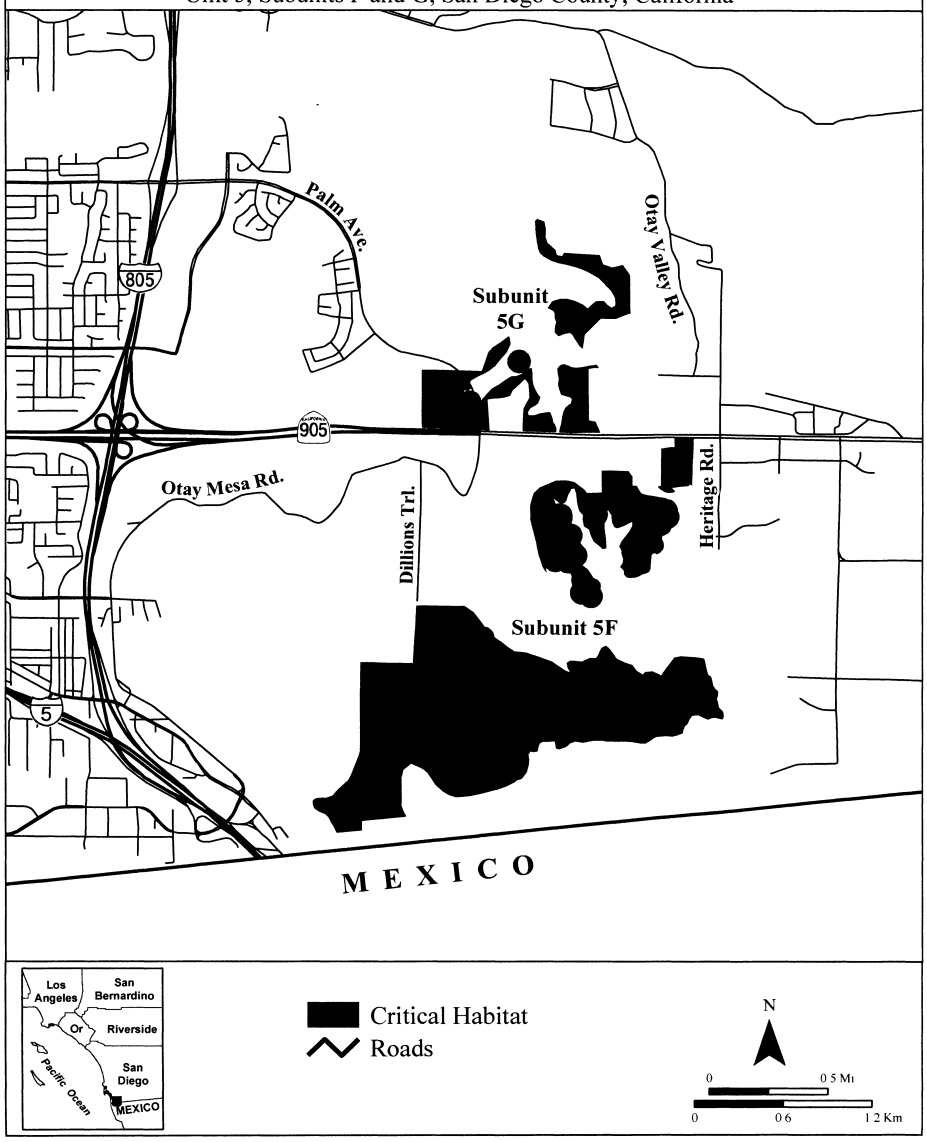
(ix) NOTE: Map of Unit 5, Subunits 5A, 5B, 5C, 5D, and 5H (Map 10) follows:

Map 10.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 5, Subunits A-D and H, San Diego County, California



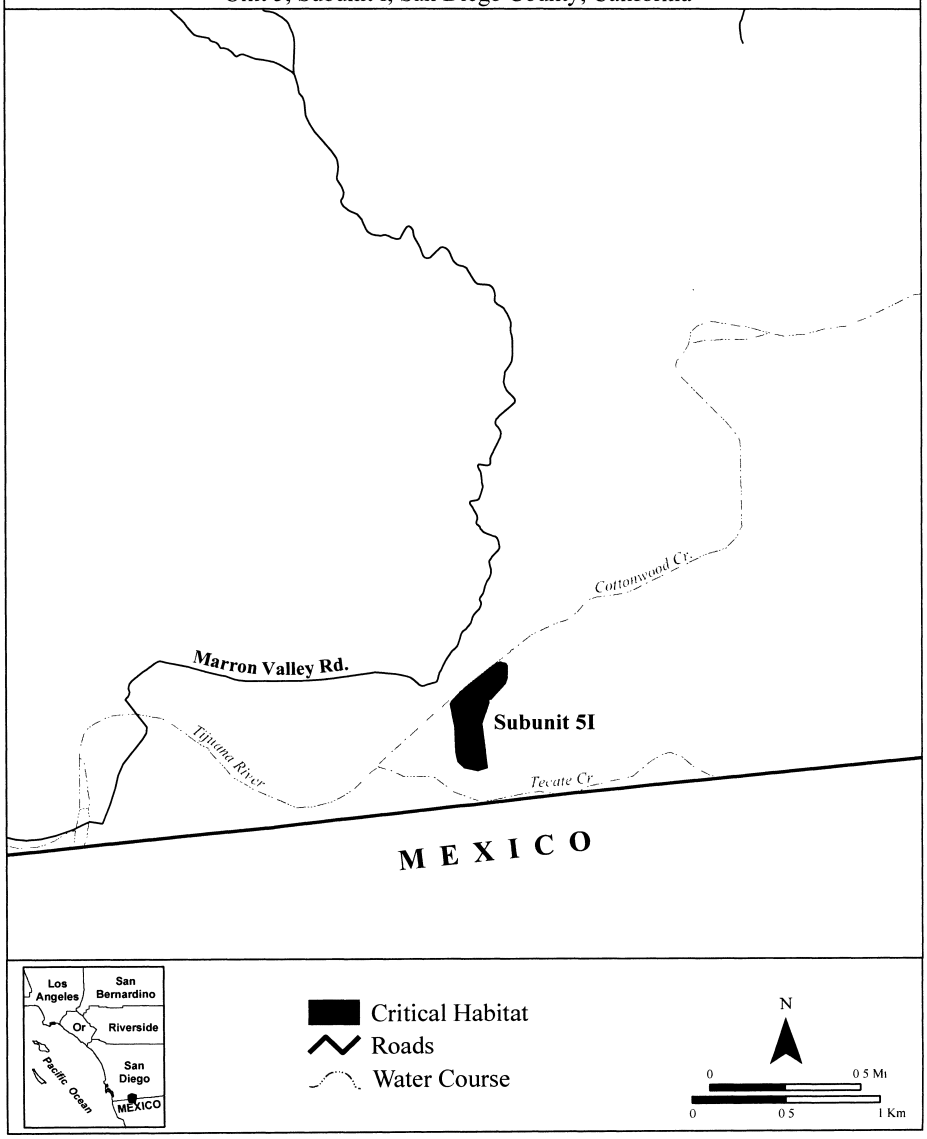
(x) NOTE: Map of Unit 5, Subunits 5F and 5G (Map 11) follows:

Map 11.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 5, Subunits F and G, San Diego County, California



(xi) NOTE: Map of Unit 5, Subunit 5I (Map 12) follows:

Map 12.
Critical Habitat for San Diego fairy shrimp (Branchinecta sandiegonensis)
Unit 5, Subunit I, San Diego County, California



VERNAL POOL FAIRY SHRIMP (*Branchinecta lynchi*)

(1) Critical habitat units are depicted for Jackson County, Oregon, and Alameda, Amador, Butte, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Napa, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Tehama, Tulare, Ventura, and Yuba Counties, California on the map below:

(2) The primary constituent elements of critical habitat for vernal pool fairy shrimp (*Branchinecta lynchi*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 18 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

(iv) Structure within the pools described above in paragraph (3)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Jackson County, Oregon

(i) Unit 1A: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Shady Grove. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 514300, 4710800; 514300, 4710300; 514100, 4710300; 514100, 4709900; 513900, 4709900; 513900, 4709700; 513600, 4709700; 513600, 4709800; 513500, 4709800; 513500, 4710000; 513700, 4710000; 513700, 4710300; 513200, 4710300; 513200, 4710600; 513100, 4710600; 513100, 4710800; returning to 514300, 4710800;

(ii) Unit 1B: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Shady Grove. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 514100, 4707500; 514100, 4707300; 514000, 4707300; 514000, 4707200; 513900, 4707200; 513900, 4707000; 513600, 4707000; 513600, 4707300; 513700, 4707300; 513700, 4707400; 513800, 4707400; 513800, 4707500; 513400, 4707500; 513400, 4708000; 514700, 4708000; 514700, 4707700; 514600, 4707700; 514600, 4707600; 514200, 4707600; 514200, 4707500; returning to 514100, 4707500;

(iii) Unit 1C: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Shady Grove. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 511800, 4707800; 511800, 4707300; 511900, 4707300; 511900, 4706800; 512000, 4706800; 512000, 4706600; 511800, 4706600; 511800, 4706700; 511300, 4706700; 511300, 4706800; 511200, 4706800; 511200, 4706900; 511100, 4706900; 511100, 4707000; 511000, 4707000; 511000, 4707200; 511100, 4707200; 511100, 4707300; 511200, 4707300; 511200, 4707400; 511100, 4707400; 511100, 4707500; 511200, 4707500; 511200, 4707600; 511400, 4707600; 511400, 4707700; 511600, 4707700; 511600, 4707800; returning to 511800, 4707800.

(iv) Unit 1D: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 515900, 4706700; 515900, 4706500; 516000, 4706500; 516000, 4706400; 516100, 4706400; 516100, 4706600; 516000, 4706600; 516000, 4706700; 515900, 4706700; 515900, 4707000; 516200, 4707000; 516200, 4706900; 516300, 4706900; 516300, 4706700; 516400, 4706700; 516400, 4706800; 516500, 4706800; 516500, 4707000; 516700, 4707000; 516700, 4706900; 516900, 4706900; 516900, 4707000; 517000, 4707000; 517000, 4707100; 517100, 4707100; 517100, 4706900; 517400, 4706900; 517400, 4706700; 517300, 4706700; 517300, 4706500; 517200, 4706500; 517200, 4706400; 517100, 4706400; 517100, 4706300; 516700, 4706300; 516700, 4705600; 516500, 4705600; 516500, 4705500; 516600, 4705500; 516600, 4705400; 516700, 4705400; 516700, 4704800; 516600, 4704800; 516600, 4704600; 516300, 4704600; 516300, 4704500; 516400, 4704500; 516400, 4704400; 516500, 4704400; 516500, 4704300; 515800, 4704300; 515800, 4704600; 516000, 4704600; 516000, 4704700; 515500, 4704700; 515500, 4704800; 515400, 4704800; 515400, 4705100; 515500, 4705100; 515500, 4705200; 515700, 4705200; 515700, 4705300; 515800, 4705300; 515800, 4705900; 515700, 4705900; 515700, 4706200; 515600, 4706200; 515600, 4706400; 515500, 4706400; 515500, 4706500; 515100, 4706500; 515100, 4706700; 515000, 4706700; 515000, 4706900; 514700, 4706900; 514700, 4707000; 514600, 4707000; 514600, 4707200; 514700, 4707200; 514700, 4707300; 515000, 4707300; 515000, 4707200; 515100, 4707200; 515100, 4707100; 515200, 4707100; 515200, 4707000; 515300, 4707000; 515300, 4706800; 515400, 4706800; 515400, 4706700; 515500, 4706700; 515500, 4706600; 515600, 4706600; 515600, 4706700; returning to 515900, 4706700;

(v) Unit 1E: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Shady Grove. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N):510800, 4707100; 510800, 4706900; 511000, 4706900; 511000, 4706500; 510700, 4706500; 510700, 4706300; 510500, 4706300; 510500, 4706000; 510400, 4706000; 510400, 4706100; 510300, 4706100; 510300, 4706300; 510100, 4706300; 510100, 4706400; 510000, 4706400; 510000, 4706500; 509800, 4706500; 509800, 4706700; 510000, 4706700;

510000, 4706900; 510100, 4706900; 510100, 4707000; 510200, 4707000; 510200, 4706900; 510500, 4706900; 510500, 4707000; 510600, 4707000; 510600, 4707100; returning to 510800, 4707100.

(vi) Unit 1F: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Shady Grove. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 511300, 4706000; 511300, 4705900; 511500, 4705900; 511500, 4705100; 511400, 4705100; 511400, 4704800; 511200, 4704800; 511200, 4705000; 511000, 4705000; 511000, 4705200; 510900, 4705200; 510900, 4705300; 510800, 4705300; 510800, 4705900; 511000, 4705900; 511000, 4706000; 511300, 4706000; excluding 511200, 4705500; 511200, 4705300; 511300, 4705300; 511300, 4705500; returning to 511200, 4705500;

(vii) Unit 1G: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 517600, 4705100; 517600, 4705000; 517800, 4705000; 517800, 4704900; 517900, 4704900; 517900, 4704800; 519100, 4704800; 519100, 4704700; 519300, 4704700; 519300, 4704600; 519400, 4704600; 519400, 4704300; 519100, 4704300; 519100, 4704200; 518600, 4704200; 518600, 4704100; 517900, 4704100; 517900, 4704200; 517700, 4704200; 517700, 4704000; 517200, 4704000; 517200, 4704100; 517100, 4704100; 517100, 4704300; 517000, 4704300; 517000, 4704700; 516900, 4704700; 516900, 4704900; 517000, 4704900; 517000, 4705000; 517100, 4705000; 517100, 4705100; returning to 517600, 4705100

(5) Unit 2: Jackson County, Oregon.

(i) Unit 2A: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 514200, 4699200; 514200, 4698800; 514300, 4698800; 514300, 4698900; 514400, 4698900; 514400, 4699000; 514900, 4699000; 514900, 4698900; 515100, 4698900; 515100, 4699100; 515200, 4699100; 515200, 4699000; 515500, 4699000; 515500, 4698800; 515600, 4698800; 515600, 4699000; 515700, 4699000; 515700, 4698900; 515800, 4698900; 515800, 4698500; 515500, 4698500; 515500, 4698700; 515400, 4698700; 515400, 4698600; 515300, 4698600; 515300, 4698500; 515100, 4698500; 515100, 4698600; 514900, 4698600; 514900, 4698500; 514400, 4698500; 514400, 4698600; 514300, 4698600; 514300, 4698400; 513400, 4698400; 513400, 4698500; 513300, 4698500; 513300, 4698600; 513400, 4698600; 513400, 4698700; 513500, 4698700; 513500, 4698800; 513700, 4698800; 513700, 4699000; 513800, 4699000; 513800, 4699100; 513900, 4699100; 513900, 4699200; returning to 514200, 4699200.

(ii) Unit 2B: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 517300, 4698400; 517300, 4698300; 517500, 4698300; 517500, 4698200; 517600, 4698200; 517600, 4698300; 517900, 4698300; 517900, 4697800; 518500, 4697800; 518500, 4697700; 518600, 4697700; 518600, 4697600; 518800, 4697600; 518800, 4697700; 519100, 4697700; 519100, 4697600; 519300, 4697600; 519300, 4697500; 519400, 4697500; 519400, 4697400; 519500, 4697400; 519500, 4697300; 519700, 4697300; 519700, 4697200; 519800, 4697200; 519800, 4697100; 520000, 4697100; 520000, 4696800; 519900, 4696800; 519900, 4696700; 520400, 4696700; 520400, 4696600; 520500, 4696600; 520500, 4696300; 520400, 4696300; 520400, 4696100; 520500, 4696100; 520500, 4696200; 520600, 4696200; 520600, 4696100; 520700, 4696100; 520700, 4695900; 520600, 4695900; 520600, 4695800; 520500, 4695800; 520500, 4695500; 520700, 4695500; 520700, 4695400; 520800, 4695400; 520800, 4694400; 520700, 4694400; 520700, 4694500; 520500, 4694500; 520500, 4694600; 520400, 4694600; 520400, 4694700; 520300, 4694700; 520300, 4694800; 519900, 4694800; 519900, 4694900; 519500, 4694900; 519500, 4695200; 519400, 4695200; 519400, 4695600; 519300, 4695600; 519300, 4695800; 519200, 4695800; 519200, 4695900; 519100, 4695900; 519100, 4696000; 519000, 4696000; 519000, 4696200; 519300, 4696200; 519300, 4696300; 519100, 4696300; 519100, 4696400; 518900, 4696400; 518900, 4696500; 518800, 4696500; 518800, 4696400; 518600, 4696400; 518600, 4696700; 518500, 4696700; 518500, 4696800; 518400, 4696800; 518400, 4696900; 518300, 4696900; 518300, 4697000; 518200, 4697000; 518200, 4697100; 518100, 4697100; 518100, 4697200; 517600, 4697200; 517600, 4697300; 517300, 4697300; 517300, 4697400; 517100, 4697400; 517100, 4697600; 517000, 4697600; 517000, 4697800; 516900, 4697800; 516900, 4698400; returning to 517300, 4698400.

(iii) Unit 2C: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 516100, 4697800; 516100, 4697400; 515000, 4697400; 515000, 4697800; 515200, 4697800; 515200, 4697700; 515300, 4697700; 515300, 4697800; returning to 516100, 4697800.

(iv) Unit 2D. Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 517000, 4697200; 517000, 4697100; 517200, 4697100; 517200, 4697000; 517300, 4697000; 517300, 4696900; 517400, 4696900; 517400, 4696600; 517200, 4696600; 517200, 4696700; 516800, 4696700; 516800, 4696600; 516300, 4696600; 516300, 4696500; 516200, 4696500; 516200, 4696200; 515900, 4696200; 515900, 4696900; 516100, 4696900; 516100, 4697000; 516500, 4697000; 516500, 4697100; 516800, 4697100; 516800, 4697200; returning to 517000, 4697200.

(v) Unit 2E: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 515500, 4696600; 515500, 4696400; 515100, 4696400; 515100, 4696300; 515200, 4696300; 515200, 4695800; 515000, 4695800; 515000, 4695900; 514500, 4695900; 514500, 4695800; 514300, 4695800; 514300, 4695900; 514200, 4695900; 514200, 4696000; 514100, 4696000; 514100, 4695900; 514000, 4695900; 514000, 4695800; 513900, 4695800; 513900, 4695900; 513800, 4695900; 513800, 4696600; 513500, 4696600; 513500, 4696800; 515600, 4696800; 515600, 4696600; returning to 515500, 4696600; excluding 514500, 4696500; 514500, 4696400; 514300, 4696400; 514300, 4696500; 514200, 4696500; 514200, 4696400; 514100, 4696400; 514100, 4696300; 514700, 4696300; 514700, 4696500; returning to 514500, 4696500.

(6) Unit 3: Jackson County, Oregon.

(i) Unit 3A: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 511600, 4698900; 511600, 4699000; 511400, 4699000; 511400, 4699100; 511100, 4699100; 511100, 4699200; 510700, 4699200; 510700, 4699300; 510600, 4699300; 510600, 4699500; 510900, 4699500; 510900, 4699600; 511200, 4699600; 511200, 4699700; 511300, 4699700; 511300, 4699900; 511400, 4699900; 511400, 4700000; 511500, 4700000; 511500, 4699900; 511600, 4699900; 511600, 4699800; 511700, 4699800; 511700, 4699900; 511900, 4699900; 511900, 4698900; returning to 511600, 4698900.

(ii) Unit 3B: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Eagle Point, Sams Valley. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 511600, 4698900; 511600, 4698600; 511300, 4698600; 511300, 4698700; 511200, 4698700; 511200, 4698600; 511000, 4698600; 511000, 4698500; 510700, 4698500; 510700, 4698600; 510500, 4698600; 510500, 4698500; 509600, 4698500; 509600, 4698100; 509400, 4698100; 509400, 4698000; 509200, 4698000; 509200, 4697800; 509300, 4697800; 509300, 4697600; 509400, 4697600; 509400, 4697200; 509500, 4697200; 509500, 4697000; 510100, 4697000; 510100, 4697100; 511700, 4697100; 511700, 4697000; 511900, 4697000; 511900, 4696400; 510800, 4696400; 510800, 4696300; 510600, 4696300; 510600, 4696400; 510300, 4696400; 510300, 4696500; 509700, 4696500; 509700, 4696600; 509600, 4696600; 509600, 4696500; 508900, 4696500; 508900, 4696600; 508600, 4696600; 508600, 4696700; 508400, 4696700; 508400, 4696800; 508300, 4696800; 508300, 4696900; 508200, 4696900; 508200, 4697000; 508100, 4697000; 508100, 4697100; 508000, 4697100; 508000, 4697300; 508100, 4697300; 508100, 4697600; 508400, 4697600; 508400, 4697700; 508600, 4697700; 508600, 4697800; 508500, 4697800; 508500, 4698000; 508400, 4698000; 508400, 4698400; 508500, 4698400; 508500, 4698500; 508800, 4698500; 508800, 4698600; 508900, 4698600; 508900, 4698300; 509000, 4698300; 509000, 4698400; 509100, 4698400; 509100, 4698600; 509200, 4698600; 509200, 4698700; 509500, 4698700; 509500, 4698900; 509800, 4698900; 509800, 4699000; 510100, 4699000; 510100, 4699100; 511000, 4699100; 511000, 4699000; 511300, 4699000; 511300, 4698900; 511600, 4698900; excluding 508500, 4697300; 508500, 4697100; returning to 508600, 4697100; 508600, 4697300; 508500, 4697300; also excluding 508800, 4697800; 508800, 4697700; 509100, 4697700; 509100, 4697800; returning to 508800, 4697800;

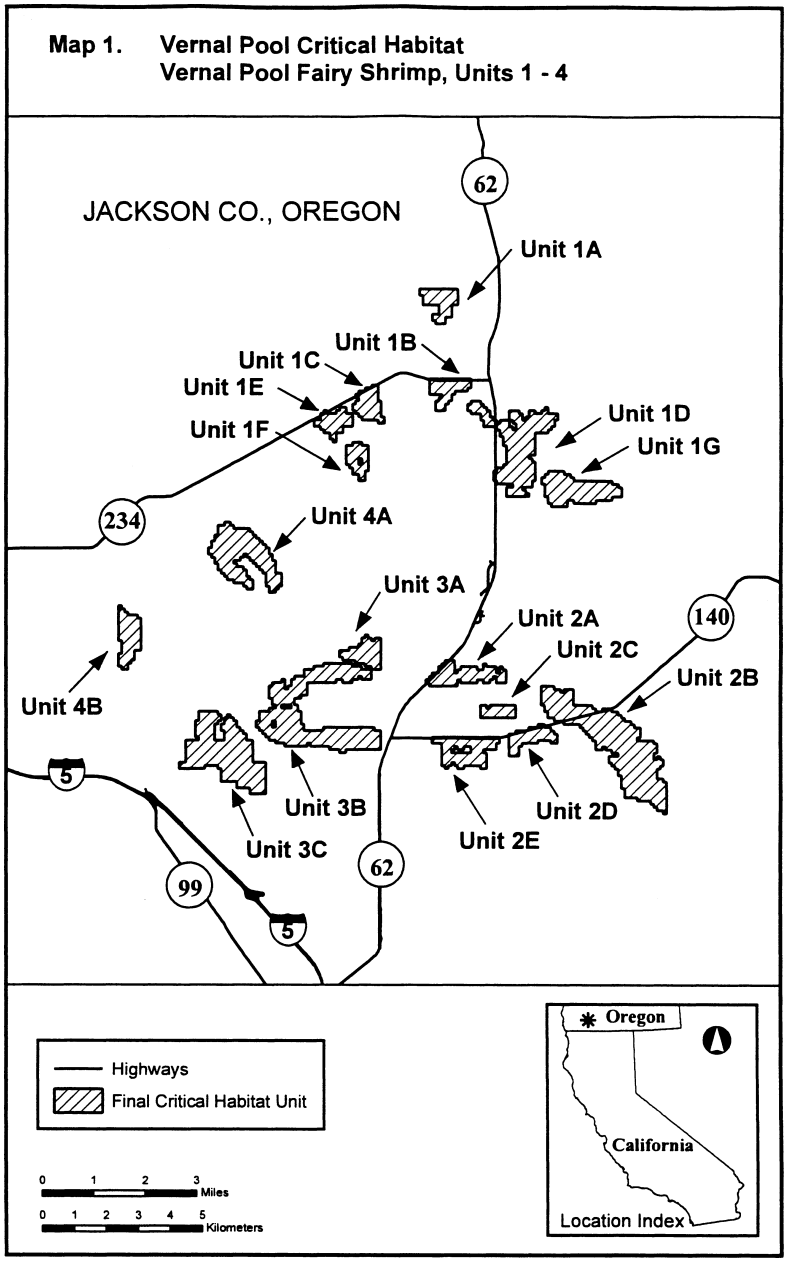
(iii) Unit 3C: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Sams Valley. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 506800, 4697600; 506800, 4697500; 506900, 4697500; 506900, 4697300; 506800, 4697300; 506800, 4697200; 506700, 4697200; 506700, 4696700; 507000, 4696700; 507000, 4697000; 506900, 4697000; 506900, 4697200; 507000, 4697200; 507000, 4697400; 507100, 4697400; 507100, 4697500; 507200, 4697500; 507200, 4697400; 507300, 4697400; 507300, 4697300; 507400, 4697300; 507400, 4697100; 507500, 4697100; 507500, 4697000; 507600, 4697000; 507600, 4696900; 507700, 4696900; 507700, 4696700; 507900, 4696700; 507900, 4696000; 508300, 4696000; 508300, 4695000; 507800, 4695000; 507800, 4695200; 507400, 4695200; 507400, 4695400; 506900, 4695400; 506900, 4695800; 506800, 4695800; 506800, 4695900; 506400, 4695900; 506400, 4695800; 505600, 4695800; 505600, 4696000; 505800, 4696000; 505800, 4696700; 506200, 4696700; 506200, 4696800; 506100, 4696800; 506100, 4697300; 506200, 4697300; 506200, 4697600; returning to 506800, 4697600.

(7) Unit 4: Jackson County, Oregon

(i) Unit 4A: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Sams Valley. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 507200, 4703500; 507200, 4703400; 507300, 4703400; 507300, 4703300; 507800, 4703300; 507800, 4703200; 507900, 4703200; 507900, 4703100; 508000, 4703100; 508000, 4703000; 508100, 4703000; 508100, 4702900; 508200, 4702900; 508200, 4702800; 508300, 4702800; 508300, 4702700; 508400, 4702700; 508400, 4702500; 508500, 4702500; 508500, 4702300; 508600, 4702300; 508600, 4701900; 508800, 4701900; 508800, 4701500; 508700, 4701500; 508700, 4701400; 508600, 4701400; 508600, 4701300; 508400, 4701300; 508400, 4701500; 508300, 4701500; 508300, 4701900; 508200, 4701900; 508200, 4702000; 508100, 4702000; 508100, 4702100; 508000, 4702100; 508000, 4702200; 507900, 4702200; 507900, 4702300; 507800, 4702300; 507800, 4702400; 507700, 4702400; 507700, 4702500; 507600, 4702500; 507600, 4702400; 507500, 4702400; 507500, 4702300; 507300, 4702300; 507300, 4702200; 507400, 4702200; 507400, 4702100; 507600, 4702100; 507600, 4702000; 507700, 4702000; 507700, 4701800; 507800, 4701800; 507800, 4701700; 507900, 4701700; 507900, 4701400; 507700, 4701400; 507700, 4701500; 507600, 4701500; 507600, 4701600; 507300, 4701600; 507300, 4701700; 507100, 4701700; 507100, 4701800; 507000, 4701800; 507000, 4701900; 506900, 4701900; 506900, 4702000; 506800, 4702000; 506800, 4702200; 506700, 4702200; 506700, 4702400; 506600, 4702400; 506600, 4702500; 506500, 4702500; 506500, 4702700; 506600, 4702700; 506600, 4702900; 506700, 4702900; 506700, 4703100; 506800, 4703100; 506800, 4703400; 507000, 4703400; 507000, 4703500; returning to 507200, 4703500;

(ii) Unit 4B: Jackson County, Oregon. From USGS 1:24,000 scale quadrangle Sams Valley. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 503800, 4700900; 503800, 4700800; 503900, 4700800; 503900, 4700700; 504000, 4700700; 504000, 4700600; 504300, 4700600; 504300, 4700500; 504400, 4700500; 504400, 4699500; 504200, 4699500; 504200, 4699200; 504100, 4699200; 504100, 4699100; 504000, 4699100; 504000, 4698900; 503800, 4698900; 503800, 4699000; 503700, 4699000; 503700, 4699400; 503800, 4699400; 503800, 4699800; 503700, 4699800; 503700, 4700900; returning to 503800, 4700900.

(iii) NOTE: Units 1–4 (Map 1) follow:



(8) Unit 5: Shasta County, California. From USGS 1:24,000 scale quadrangle Palo Cedro, Enterprise, Balls Ferry, Cottonwood. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 562500, 4487400; 562700, 4487100; 562900, 4487200; 563200, 4487200; 563300, 4487000; 563300, 4486700; 563800, 4486400; 564300, 4484700; 564300, 4484400; 564500, 4484100; 564500,

4483800; 564600, 4483700; 564600, 4483400; 564400, 4483100; 564100, 4482800; 564100, 4482600; 564300, 4482600; 564300, 4482400; 564300, 4482300; 564200, 4482200; 564100, 4482100; 564000, 4482100; 564200, 4481800; 564200, 4480900; 563600, 4480900; 563300, 4481000; 563100, 4480900; 562900, 4480900; 562500, 4481200; 562400, 4481500; 562400, 4481700; 562300, 4482400; 562000, 4482500; 561900, 4482800; 561800, 4483300; 561500, 4483700; 561000, 4484000; 560700, 4485400; 560700, 4486500; 560800, 4486700; 561000, 4486900; 561200, 4487000; 561300, 4487600; 561600, 4487900; 562000, 4487900; returning to 562500, 4487400;

(9) Unit 6: Tehama County, California. From USGS 1:24,000 scale quadrangle Red Bluff East, Red Bluff West, Gerber, West of Gerber, Corning, Henleyville. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 563400, 4444500; 563400, 4444400; 563500, 4444400; 563700, 4444400; 563800, 4443800; 564200, 4443800; 564300, 4443600; 564200, 4443400; 564100, 4443200; 564000, 4443200; 564000, 4443000; 564100, 4443000; 564100, 4442800; 564100, 4442700; 564100, 4442600; 564200, 4442600; 564300, 4442900; 564400, 4443100; 564400, 4443400; 564700, 4443400; 565200, 4443400; 565500, 4443300; 565800, 4442900; 566100, 4442900; 566200, 4442500; 566100, 4442400; 566100, 4442100; 565800, 4441900; 566000, 4441600; 566000, 4441500; 565400, 4441200; 565500, 4441000; 565400, 4440800; 565400, 4440200; 565400, 4439000; 566100, 4439000; 566100, 4439300; 566500, 4439900; 566400, 4440400; 566000, 4440600; 567500, 4441200; 567900, 4441200; 568673, 4440582; 568400, 4440400; 568300, 4439900; 568700, 4439100; 569500, 4439400; 569850, 4438750; 570194, 4438101; 569400, 4438200; 569000, 4438300; 568600, 4438400; 567800, 4438400; 567600, 4438400; 567400, 4438200; 567000, 4438100; 567000, 4438000; 566800, 4437700; 566800, 4437400; 566200, 4437400; 566200, 4438200; 565900, 4438400; 565400, 4438000; 564200, 4438000; 564200, 4437800; 563900, 4437800; 563600, 4437600; 563400, 4437400; 563400, 4436900; 563400, 4436600; 563200, 4436600; 563200, 4436200; 563200, 4435800; 563500, 4435800; 563700, 4436100; 564200, 4436400; 564500, 4436500; 564700, 4436500; 564900, 4436400; 564900, 4436200; 564800, 4435800; 565100, 4435800; 564800, 4435500; 564500, 4435500; 564400, 4435400; 564200, 4435200; 564100, 4435000; 563800, 4434900; 563600, 4434700; 563500, 4434500; 563400, 4434500; 563200, 4434200; 563600, 4434200; 563600, 4432600; 563700, 4432600; 563500, 4432100; 564500, 4431968; 564500, 4431500; 565400, 4431500; 565400, 4431400; 567000, 4431300; 567000, 4430700; 566800, 4430500; 567400, 4430500; 567500, 4429600; 566800, 4429600; 566300, 4429600; 566100, 4429700; 566100, 4429100; 566000, 4429200; 565800, 4429300; 565500, 4429200; 565300, 4429200; 565100, 4429000; 564600, 4429000; 564300, 4428700; 564000, 4428700; 563700, 4428500; 563700, 4428200; 564100, 4428200; 564600, 4428200; 565500, 4428300; 566600, 4428100; 566600, 4428000; 567000, 4428000; 567100, 4427900; 567300, 4427200; 566900, 4427200; 566100, 4426900; 566000, 4426700; 565500, 4426700; 565400, 4426600; 565297, 4426600; 565307, 4427383; 564276, 4427370; 564270, 4428012; 564280, 4428155; 563943, 4428136; 563688, 4428134; 563596, 4428131; 563607, 4427381; 563688, 4427377; 563689, 4426540; 563940, 4426553; 564800, 4426576; 564800, 4426200; 564800, 4425900; 563700, 4425800; 562600, 4425100; 562300, 4425000; 562100, 4425000; 562000, 4425000; 561800, 4424900; 561700, 4424800; 561600, 4424800; 561500, 4424800; 561300, 4424800; 561200, 4424800; 560900, 4424900; 560700, 4424900; 560400, 4425000; 560100, 4424900; 559800, 4424800; 559800, 4424500; 559700, 4424400; 559400, 4424300; 559300, 4424400; 559200, 4424500; 559100, 4424500; 558900, 4424700; 558700, 4424800; 558300, 4424800; 558100, 4424800; 557900, 4424600; 557700, 4424500; 557300, 4424300; 557000, 4424200; 556800, 4424100; 556600, 4424100; 556100, 4424000; 555900, 4424000; 555800, 4423900; 555800, 4423800; 555500, 4423800; 555400, 4423800; 555300, 4423700; 555200, 4423600; 555100, 4423600; 555000, 4423600; 554600, 4424900; 555100, 4425600; 557200, 4426300; 557800, 4426800; 558300, 4426500; 559500, 4428300; 558200, 4428200; 557800, 4428500; 557400, 4429300; 558000, 4429900; 558600, 4430000; 558600, 4431100; 560000, 4431600; 559200, 4431900; 558300, 4432000; 557400, 4432200; 557400, 4432600; 558400, 4433100; 558400, 4433600; 557800, 4433600; 557500, 4433800; 557300, 4434400; 555100, 4434800; 555100, 4435400; 557000, 4436200; 557900, 4439000; 557000, 4439000; 554600, 4437400; 553200, 4437000; 553200, 4437600; 554500, 4438100; 555400, 4439700; 556500, 4439800; 556500, 4441800; 558500, 4442600; 558500, 4443000; 557400, 4442900; 557000, 4443000; 556800, 4443400; 557500, 4444300; 558000, 4443700; 558400, 4443700; 559800, 4443900; 559800, 4443700; 559700, 4443500; 559700, 4443200; 559900, 4443400; 560000, 4443500; 560500, 4443500; 560700, 4443600; 561000, 4443700; 561700, 4443900; 562400, 4444000; 562500, 4444100; 562600, 4444100; 562600, 4444500; 562900, 4444500; returning to 563400, 4444500;

(10) Unit 7: Tehama County, California.

(i) Unit 7A: Tehama County, California. From USGS 1:24,000 scale quadrangle Acorn Hollow and Richardson Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 588739, 4429822; 588900, 4429500; 589500, 4429500; 589500, 4428600; 589500, 4428000; 589800, 4427100; 590500, 4426400; 590500, 4425300; 591200, 4424400; 591500, 4423300; 591562, 4422558; 590526, 4423686; 589986, 4424273; 589816, 4424458; 589129, 4425207; 588454, 4426221; 588425, 4426265; 588279, 4426485; 588213, 4426583; 588213, 4426584; 588600, 4429100; 588733, 4429833; returning to 588739, 4429822;

(ii) Unit 7B: Tehama County, California. From USGS 1:24,000 scale quadrangle Sloughhouse. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 593700, 4420900; 593164, 4420815; 592329, 4421723; 592258, 4421800; 593000, 4421800; 593100, 4421500; 593500, 4421400; returning to 593700, 4420900;

(iii) Unit 7C: Tehama County, California. From USGS 1:24,000 scale quadrangle Richard Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 594500, 4420300; 593881, 4420035; 593371, 4420590; 594000, 4420800; 594400, 4420600; returning to 594500, 4420300;

(iv) Unit 7D: Tehama and Butte Counties, California. From USGS 1:24,000 scale quadrangle Campbell Mound, Richardson Springs, and Richardson Springs NW. Land bounded

by the following UTM Zone 10, NAD 83 coordinates (E,N): 597100, 4416400; 597100, 4415600; 597044, 4415525; 596800, 4415200; 597100, 4415000; 597800, 4415500; 598100, 4415200; 597600, 4414600; 597600, 4414400; 597300, 4413800; 597300, 4413300; 598200, 4413900; 598400, 4413900; 598400, 4413600; 597422, 4411938; 597281, 4412382; 596959, 4413403; 596640, 4414416; 596620, 4414481; 596305, 4415484; 596303, 4415489; 596130, 4416040; 596091, 4416160; 596028, 4416358; 596011, 4416411; 595993, 4416465; 595982, 4416500; 596000, 4416500; 596100, 4416400; 596200, 4416500; 596300, 4416600; 596400, 4416700; 596500, 4416700; 596500, 4416800; 596600, 4416800; returning to 597100, 4416400.

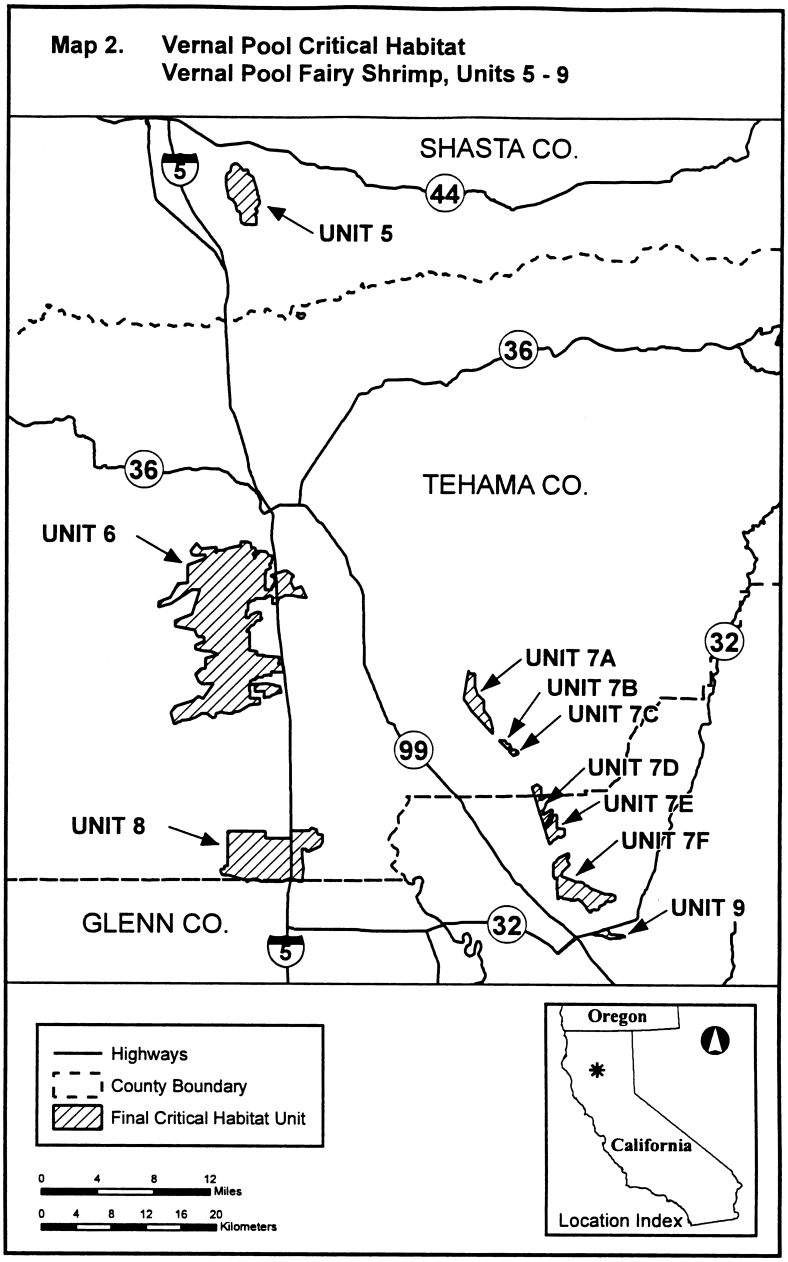
(v) Unit 7E: Butte County, California. From USGS 1:24,000 scale quadrangle Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 598900, 4411800; 599400, 4411700; 599800, 4411700; 599800, 4411000; 599300, 4410700; 599100, 4410800; 599000, 4410800; 598800, 4410600; 598500, 4410400; 598300, 4410100; 598100, 4410000; 598070, 4409970; 598051, 4409993; 598038, 4410010; 598014, 4410083; 597806, 4410737; 597725, 4410990; 597461, 4411816; 597434, 4411900; 597600, 4411900; 598300, 4412700; 598500, 4413300; 598900, 4413300; returning to 598900, 4411800;

(vi) Unit 7F: Butte County, California, California. From USGS 1:24,000 scale quadrangle Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 599500, 4406200; 600300, 4406000; 601200, 4405600; 601800, 4405600; 602000, 4405500; 602200, 4405200; 602500, 4405200; 602700, 4404900; 603300, 4404700; 604500, 4404200; 605200, 4404200; 605600, 4404000; 605600, 4403600; 605100, 4403300; 604700, 4403400; 604500, 4403300; 604475, 4403175; 604400, 4403100; 604300, 4403100; 604200, 4403000; 604100, 4402900; 604000, 4402900; 603800, 4402800; 603800, 4402600; 603600, 4402400; 603400, 4402400; 603200, 4402500; 603100, 4402400; 602900, 4402400; 602900, 4402100; 602700, 4402100; 602300, 4402600; 602300, 4402700; 601800, 4403300; 601714, 4403300; 601553, 4403500; 601501, 4403499; 601465, 4403621; 601319, 4403663; 601226, 4403595; 601089, 4403571; 600979, 4403503; 600901, 4403569; 600860, 4403446; 600704, 4403566; 600542, 4403475; 600507, 4403530; 600473, 4403563; 600453, 4403580; 600369, 4403651; 600344, 4403642; 600232, 4403605; 599983, 4403679; 599973, 4403678; 599801, 4403662; 599725, 4403718; 599651, 4403697; 599493, 4403839; 599328, 4403862; 599302, 4403865; 599269, 4403870; 599084, 4403634; 599024, 4403611; 598987, 4404400; 598980, 4404543; 598971, 4404723; 598955, 4405388; 598953, 4405458; 598951, 4405529; 598947, 4405677; 598934, 4405719; 598919, 4405750; 599000, 4405800; 598900, 4406100; 598700, 4406000; 598694, 4406000; 598635, 4406058; 598598, 4406103; 598583, 4406127; 598567, 4406159; 598549, 4406210; 598544, 4406234; 598540, 4406255; 598533, 4406421; 598522, 4406815; 598516, 4407133; 598511, 4407496; 598513, 4407515; 598525, 4407568; 598527, 4407571; 598527, 4407589; 598580, 4407812; 598800, 4407900; 598900, 4408100; 599200, 4408400; 600200, 4408900; 600300, 4408800; 600300, 4408400; 600000, 4408100; 600400, 4407600; 599500, 4406700; returning to 599500, 4406200.

(11) Unit 8: Tehama and Glenn Counties, California. From USGS 1:24,000 scale quadrangle Kirkwood and Black Butte Dam. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 572100, 4410900; 572100, 4410100; 571800, 4409600; 570500, 4409000; 570200, 4409000; 570200, 4409300; 569700, 4409300; 569700, 4409000; 569800, 4407700; 569900, 4407000; 569800, 4406100; 569800, 4405643; 569800, 4405500; 569400, 4405500; 569107, 4405647; 568600, 4405900; 568300, 4405900; 567809, 4405654; 567500, 4405500; 567200, 4405500; 565000, 4405500; 564769, 4405673; 564600, 4405800; 564100, 4405800; 563860, 4405680; 563700, 4405600; 563400, 4405400; 563214, 4405679; 563200, 4405700; 562800, 4405800; 561400, 4406200; 560900, 4406200; 560600, 4406300; 560500, 4406400; 560400, 4406600; 560400, 4406900; 560800, 4406900; 560800, 4407300; 561200, 4407300; 561200, 4411300; 565500, 4411300; 565500, 4410500; 568400, 4410500; 568400, 4410600; 568400, 4411400; 570500, 4411400; 570800, 4411700; 571400, 4411500; 571500, 4411000; returning to 572100, 4410900;

(12) Unit 9: Butte County, California. From USGS 1:24,000 scale quadrangle Chico. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 605100, 4399600; 606500, 4399500; 606797, 4399330; 606777, 4399300; 606724, 4399252; 606568, 4399265; 606528, 4399272; 606479, 4399279; 606478, 4399279; 606394, 4399264; 606362, 4399238; 606329, 4399210; 606274, 4399169; 606209, 4399135; 606125, 4399122; 606060, 4399122; 605967, 4399131; 605899, 4399134; 605857, 4399134; 605822, 4399130; 605789, 4399116; 605781, 4399138; 605775, 4399149; 605764, 4399152; 605763, 4399152; 605701, 4399142; 605589, 4399116; 605504, 4399107; 605432, 4399110; 605319, 4399064; 605233, 4399045; 605173, 4399034; 605135, 4399023; 605134, 4399023; 605127, 4399023; 605109, 4399023; 605080, 4399025; 605063, 4399025; 605002, 4399051; 604957, 4399069; 604907, 4399092; 604029, 4399508; 603896, 4399435; 603886, 4399435; 603879, 4399436; 603300, 4399523; 603300, 4399600; 602900, 4399600; 603500, 4399800; 604700, 4400200; returning to 605100, 4399600.

(13) NOTE: Units 5–9 (Map 2) follow:



(14) Unit 10: Glenn and Colusa Counties, California. This unit was excluded from the designation pursuant to Section 4(b)(2) of the Act.

(15) Unit 11: Yuba County, California. From USGS 1:24,000 scale quadrangle Browns Valley and Wheatland. Land bounded by the following UTM Zone 10, NAD 83 coordinates

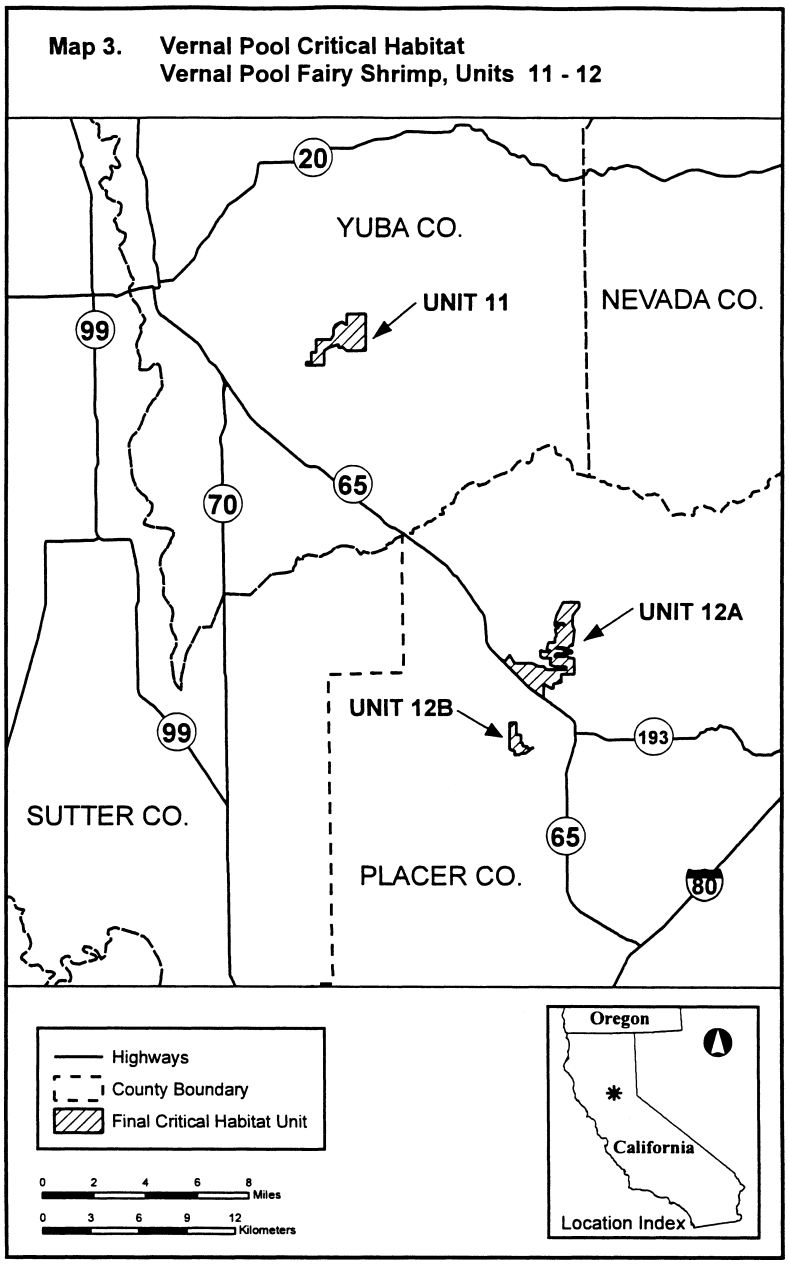
(E,N): 635000, 4332200; 635000, 4329900; 634600, 4329900; 633800, 4329900; 633600, 4330100; 633500, 4330100; 633300, 4330100; 633300, 4330300; 632700, 4330100; 632400, 4329900; 632400, 4329000; 631300, 4329000; 631300, 4329200; 631600, 4329200; 631600, 4329800; 631900, 4329800; 631900, 4330600; 632800, 4330600; 633000, 4330900; 633000, 4331300; 633100, 4331500; 633500, 4331700; 633800, 4331500; 633800, 4332200; returning to 635000, 4332200.

(16) Unit 12: Placer County, California.

(i) Unit 12A: Placer County, California. From USGS 1:24,000 scale quadrangle Lincoln. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 647900, 4313400; 647900, 4312700; 648000, 4312500; 647900, 4311500; 647700, 4311500; 647600, 4311300; 647300, 4311400; 646900, 4311400; 646900, 4311300; 647200, 4311300; 647500, 4311200; 647800, 4311200; 647900, 4311100; 647800, 4311000; 646900, 4311000; 646800, 4310900; 646800, 4310800; 647400, 4310800; 647500, 4310900; 647600, 4310800; 647800, 4310700; 648000, 4310700; 648000, 4310000; 648000, 4309700; 647200, 4309700; 647200, 4309200; 646700, 4309100; 646700, 4308800; 646600, 4308800; 646100, 4309100; 646100, 4308200; 646126, 4308174; 646012, 4308259; 645967, 4308294; 645917, 4308327; 645822, 4308387; 645337, 4308742; 645215, 4308841; 645100, 4308942; 644197, 4309858; 644195, 4309860; 644194, 4309862; 644149, 4309914; 643464, 4310618; 643700, 4310500; 644000, 4310900; 644300, 4310400; 645400, 4310400; 645800, 4310200; 646100, 4310200; 646300, 4310000; 647500, 4310000; 647500, 4310200; 646800, 4310200; 646500, 4310300; 646500, 4310600; 646600, 4310700; 646100, 4310700; 645900, 4310800; 645900, 4311200; 646100, 4311100; 646500, 4311100; 646500, 4311200; 646300, 4311200; 646300, 4311400; 646400, 4311700; 646800, 4311700; 646800, 4311900; 646800, 4312000; 646900, 4312100; 646800, 4312500; 647000, 4312600; 647100, 4312800; 647300, 4312800; 647400, 4312700; 647400, 4312800; 647300, 4312900; 647100, 4312900; 646800, 4312698; 646800, 4313000; 646900, 4313400; 647100, 4313800; 647300, 4314200; 648300, 4314200; 648300, 4313900; returning to 647900, 4313400;

(ii) Unit 12B: Placer County, California. From USGS 1:24,000 scale quadrangle Lincoln. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 644400, 4306677; 644400, 4305900; 644700, 4305900; 644700, 4305400; 644800, 4305400; 644800, 4305200; 645100, 4305200; 645100, 4305100; 645200, 4305000; 645400, 4305100; 645526, 4305100; 645502, 4305086; 645456, 4305073; 645413, 4305069; 645405, 4305070; 645394, 4305065; 645377, 4305040; 645344, 4305023; 645314, 4305010; 645277, 4304988; 645258, 4304970; 645235, 4304941; 645228, 4304937; 645208, 4304916; 645145, 4304856; 645068, 4304806; 644987, 4304762; 644904, 4304734; 644828, 4304731; 644796, 4304732; 644778, 4304737; 644764, 4304744; 644764, 4304742; 644744, 4304744; 644707, 4304725; 644667, 4304698; 644626, 4304669; 644600, 4304649; 644575, 4304634; 644563, 4304634; 644560, 4304636; 644554, 4304639; 644540, 4304653; 644526, 4304663; 644515, 4304656; 644483, 4304652; 644439, 4304646; 644388, 4304643; 644357, 4304642; 644327, 4304640; 644316, 4304635; 644300, 4304631; 644300, 4304900; 644100, 4304900; 644100, 4305000; 644000, 4305000; 644000, 4306669; returning to 644400, 4306677.

(iii) NOTE: Units 11–12 (Map 3) follow:



(17) Unit 13: Sacramento County, California. From USGS 1:24,000 scale quadrangle Carmichael. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 649800, 4269600; 649800, 4268700; 650400, 4268900; 650800, 4268800; 651000, 4268800; 651000, 4269400; 651800, 4269300; 651500, 4268800; 651600, 4267900; 651600, 4266500; 651500, 4266400; 651500, 4266300;

651100, 4266300; 651100, 4266000; 651570, 4265812; 651589, 4265075; 651600, 4264400; 651400, 4264400; 651400, 4264200; 650500, 4264200; 650500, 4264300; 650400, 4264300; 650400, 4264600; 650000, 4264700; 649900, 4265100; 649400, 4265100; 649100, 4265000; 648900, 4265100; 648700, 4265100; 648700, 4265300; 648700, 4265500; 649900, 4265500; 649900, 4266000; 648300, 4266000; 648300, 4266200; 648500, 4266400; 648700, 4266200; 649000, 4266200; 649300, 4266400; 649400, 4266600; 649635, 4266678; 649700, 4266700; 649794, 4266693; 650200, 4267100; 650400, 4267000; 650600, 4267000; 650800, 4267200; 650900, 4267500; 650800, 4267900; 650500, 4267800; 650300, 4268100; 649900, 4268400; 649400, 4268100; 649100, 4267800; 649100, 4267500; 649400, 4267400; 649200, 4267100; 648400, 4267100; 648300, 4267700; 648000, 4268000; 648600, 4268500; 649400, 4268900; 649400, 4269200; 649600, 4269600; returning to 649800, 4269600.

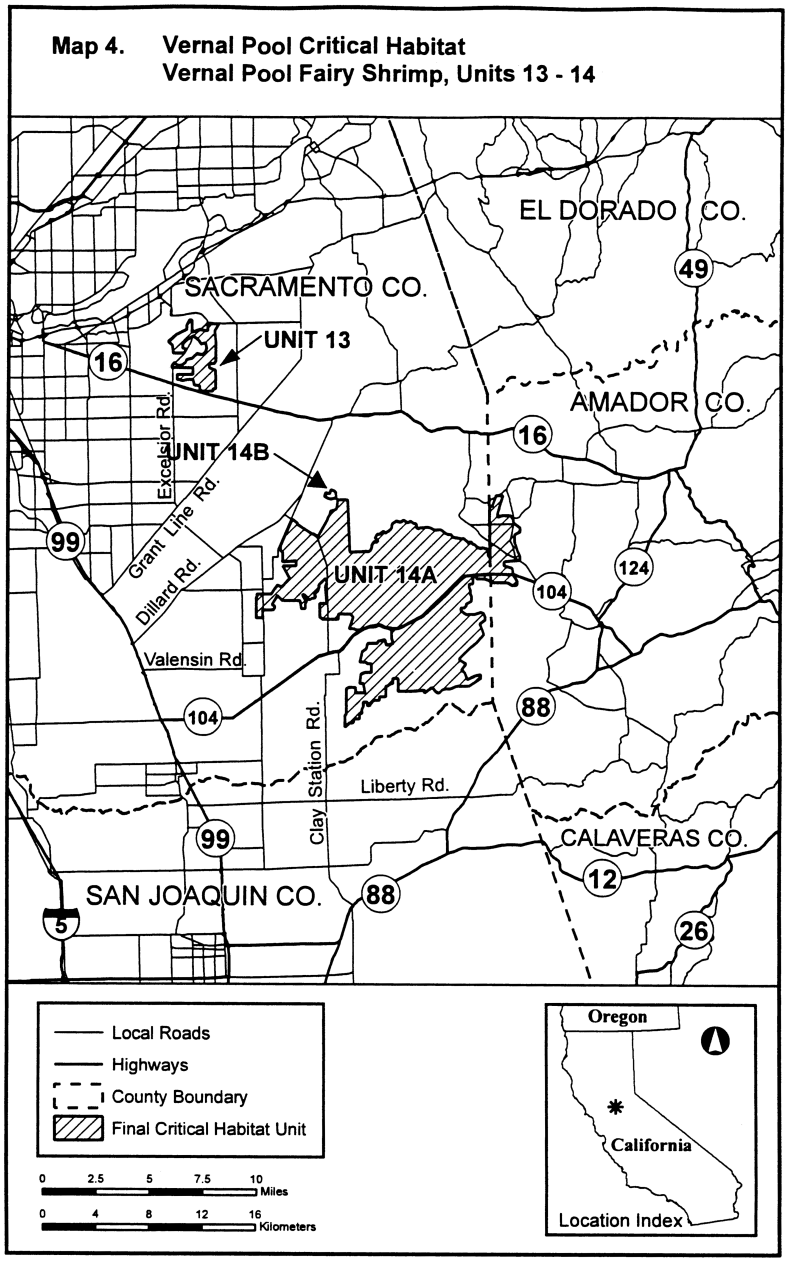
(18) Unit 14: Sacramento and Amador County, California.

(i) Unit 14A: Sacramento and Amador County, California. From USGS 1:24,000 scale quadrangle Carbondale, Sloughhouse, Goose Creek, and Clay. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 673200, 4256400; 672800, 4255100; 672800, 4254800; 673100, 4254900; 673800, 4254900; 674000, 4254600; 674000, 4254400; 674500, 4254000; 674500, 4253700; 674100, 4253500; 674100, 4252900; 674300, 4252300; 674500, 4251900; 674500, 4251600; 673400, 4251500; 673300, 4251400; 673300, 4251200; 673900, 4251000; 674000, 4250500; 674300, 4250000; 674300, 4249800; 674200, 4249700; 673900, 4249700; 673600, 4249900; 672500, 4249900; 672315, 4249992; 671900, 4250200; 671300, 4250200; 671100, 4250500; 671000, 4250500; 671000, 4249800; 670700, 4249800; 670700, 4249500; 670800, 4249300; 670800, 4249000; 670900, 4248900; 670900, 4248500; 670500, 4248300; 670500, 4248125; 670400, 4248100; 670400, 4248000; 670100, 4248000; 670100, 4247800; 670500, 4247500; 671100, 4247500; 671600, 4247700; 671800, 4247600; 671900, 4247300; 671900, 4247100; 671500, 4246800; 671600, 4246600; 671800, 4246000; 671800, 4246000; 671255, 4245364; 670800, 4245000; 670000, 4244200; 670000, 4244100; 670500, 4243800; 670200, 4243400; 670200, 4243300; 670300, 4243200; 670400, 4243100; 670600, 4242600; 671200, 4242900; 671600, 4243000; 671600, 4242700; 670700, 4242100; 669800, 4242100; 669300, 4241900; 668900, 4241900; 668700, 4241800; 668500, 4241600; 668400, 4241600; 668200, 4241700; 668000, 4242000; 667900, 4242000; 667400, 4241600; 667400, 4241800; 666400, 4241700; 665400, 4241700; 665400, 4242700; 665000, 4242700; 665000, 4242300; 664800, 4242300; 664800, 4242200; 664700, 4242200; 664600, 4242100; 664500, 4242100; 664500, 4241300; 664000, 4241300; 664000, 4241000; 663500, 4241000; 663500, 4240900; 663400, 4240800; 663300, 4240800; 663300, 4240600; 663100, 4240600; 663100, 4240900; 662800, 4240900; 662800, 4240500; 662700, 4240400; 662700, 4240000; 662500, 4240000; 662500, 4239600; 662100, 4239600; 662100, 4239400; 662000, 4239300; 661700, 4239300; 661700, 4239200; 661400, 4239000; 661400, 4239900; 661500, 4239900; 661500, 4241600; 661500, 4241900; 661700, 4242000; 662200, 4242000; 662200, 4241600; 662900, 4241600; 662800, 4242300; 662500, 4242300; 662600, 4243000; 662900, 4243100; 663400, 4243100; 663400, 4243800; 663050, 4243800; 663029, 4243841; 663000, 4243900; 662500, 4243900; 662700, 4244700; 662850, 4244800; 663000, 4244900; 663100, 4245300; 663800, 4245300; 663900, 4245500; 664400, 4245600; 664500, 4245200; 664600, 4245200; 664750, 4245238; 664900, 4245275; 665000, 4245300; 664900, 4245700; 664900, 4246500; 664400, 4246500; 663900, 4246700; 662500, 4246300; 662233, 4246300; 662100, 4246400; 661700, 4246400; 661900, 4247000; 662000, 4247300; 661800, 4247500; 660900, 4247500; 660900, 4247140; 660850, 4247100; 659700, 4247100; 659500, 4247300; 659500, 4248300; 660000, 4248300; 659900, 4249600; 660000, 4249900; 659900, 4250200; 659400, 4249700; 659400, 4249500; 659300, 4249200; 659100, 4249000; 659100, 4248900; 659200, 4248800; 659100, 4248700; 658900, 4248700; 658800, 4248600; 658600, 4248600; 658500, 4248800; 658400, 4248900; 658200, 4249000; 658200, 4248900; 658300, 4248700; 658500, 4248500; 658500, 4248400; 658400, 4248300; 658400, 4247900; 658100, 4247900; 658000, 4248500; 656700, 4248500; 656300, 4248900; 655900, 4248200; 656100, 4248100; 656100, 4248000; 656000, 4247800; 655200, 4247800; 655200, 4247200; 654700, 4247200; 654700, 4248750; 654800, 4248900; 654700, 4249000; 655100, 4249000; 655800, 4249000; 656300, 4249700; 656600, 4249500; 657200, 4250200; 656700, 4251100; 657700, 4251100; 657700, 4251500; 656700, 4251400; 656700, 4252100; 656500, 4252300; 656500, 4252600; 657000, 4253700; 657400, 4254600; 657800, 4254300; 657800, 4254200; 657800, 4254200; 658100, 4254000; 658900, 4253500; 659000, 4253500; 659300, 4253300; 660000, 4254500; 660100, 4254800; 660200, 4254900; 660300, 4255200; 660600, 4255300; 660700, 4255400; 660800, 4256000; 660754, 4256046; 660777, 4256046; 661541, 4256060; 661554, 4255796; 661731, 4252263; 661736, 4252142; 662180, 4252172; 662313, 4252175; 662583, 4252191; 663009, 4252217; 663119, 4252198; 663221, 4252234; 663275, 4252290; 663311, 4252341; 663324, 4252391; 663344, 4252446; 663378, 4252511; 663390, 4252591; 663409, 4252710; 663437, 4252770; 663510, 4252890; 663546, 4252914; 663590, 4252922; 663630, 4252907; 663726, 4252900; 663761, 4252901; 663800, 4252916; 663817, 4252959; 663824, 4252991; 663760, 4253075; 663650, 4253199; 663651, 4253232; 663667, 4253286; 663741, 4253408; 663807, 4253488; 663832, 4253490; 663904, 4253486; 663962, 4253498; 664039, 4253560; 664088, 4253602; 664125, 4253617; 664219, 4253695; 664248, 4253699; 664313, 4253672; 664369, 4253606; 664471, 4253613; 664566, 4253675; 664591, 4253700; 664647, 4253753; 664752, 4253850; 664854, 4253953; 664868, 4254000; 664877, 4254124; 664856, 4254193; 664883, 4254238; 664977, 4254334; 665118, 4254420; 665174, 4254468; 665227, 4254492; 665313, 4254463; 665390, 4254424; 665514, 4254389; 665619, 4254438; 665656, 4254494; 665723, 4254546; 665757, 4254558; 665800, 4254553; 665853, 4254513; 665880, 4254493; 665956, 4254434; 665960, 4254402; 666029, 4254364; 666067, 4254367; 666114, 4254379; 666168, 4254392; 666236, 4254440; 666273, 4254448; 666310, 4254440; 666339, 4254435; 666417, 4254404; 666451, 4254362; 666491, 4254319; 666523, 4254309; 666581, 4254312; 666652, 4254306; 666705, 4254261; 666722, 4254230; 666740, 4254164; 666742, 4254084; 666763, 4253987; 666791, 4253947; 666826, 4253919; 666849, 4253913; 666914, 4253917; 666977, 4253951; 667057, 4253975; 667142, 4253997; 667253, 4253980; 667277, 4253964; 667302, 4253968; 667313, 4253981; 667315, 4254007; 667377, 4254034; 667482, 4254039; 667618,

4254026; 667801, 4253975; 667959, 4253881; 668167, 4253821; 668360, 4253834; 668422, 4253849; 668525, 4253837; 668643, 4253804; 668700, 4253743; 668799, 4253665; 668877, 4253610; 668998, 4253531; 669098, 4253487; 669171, 4253483; 669251, 4253471; 669328, 4253465; 669399, 4253396; 669461, 4253324; 669558, 4253276; 669619, 4253256; 669665, 4253257; 669859, 4253247; 670012, 4253179; 670143, 4253173; 670241, 4253188; 670278, 4253185; 670320, 4253159; 670371, 4253105; 670419, 4253074; 670499, 4253007; 670537, 4252992; 670594, 4252927; 670626, 4252873; 670642, 4252848; 670663, 4252843; 670712, 4252851; 670732, 4252875; 670716, 4252907; 670727, 4252921; 670756, 4252934; 670807, 4252923; 670850, 4252924; 670883, 4252896; 670912, 4252829; 670949, 4252789; 670975, 4252773; 671041, 4252762; 671109, 4252759; 671191, 4252663; 671270, 4252568; 671315, 4252537; 671376, 4252519; 671438, 4252504; 671509, 4252465; 671531, 4252448; 671559, 4252450; 671603, 4252490; 671631, 4252509; 671674, 4252515; 671716, 4252510; 671773, 4252503; 671827, 4252497; 671848, 4252476; 671934, 4252419; 671943, 4252426; 671963, 4252453; 671990, 4252458; 672004, 4252435; 672042, 4252400; 672107, 4252306; 672117, 4252284; 672129, 4252256; 672134, 4252244; 672152, 4252230; 672159, 4252200; 672153, 4252190; 672148, 4252180; 672110, 4252165; 672104, 4252149; 672109, 4252101; 672114, 4252080; 672113, 4252055; 672107, 4251980; 672120, 4251908; 672151, 4251893; 672177, 4251906; 672185, 4251900; 672199, 4251865; 672213, 4251830; 672245, 4251802; 672263, 4251784; 672271, 4251775; 672271, 4251787; 672265, 4252117; 672263, 4252199; 672247, 4252916; 672246, 4252941; 672231, 4253670; 672225, 4253953; 672223, 4254006; 672220, 4254157; 672219, 4254229; 672217, 4254287; 672192, 4255610; 672200, 4255600; 672400, 4255600; 672700, 4256400; returning to 673200, 4256400.

(ii) Unit 14B: Sacramento County, California. From USGS 1:24,000 scale quadrangle Sloughhouse. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 660660, 4256508; 660681, 4256119; 660600, 4256200; 660300, 4256100; 660000, 4256200; 659800, 4256300; 659850, 4256450; 659900, 4256600; 660200, 4256500; 660300, 4256800; 660515, 4256728; 660633, 4256644; 660645, 4256626; returning to 660660, 4256508.

(iii) NOTE: Units 13–14 (Map 4) follow:



(19) Unit 16: Solano County, California.

(i) Unit 16A: Solano County, California. From USGS 1:24,000 scale quadrangle Elmira, Denverton, and Fairfield South. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 594915, 4234098; 594916, 4233314; 595044, 4233310; 595068, 4233296; 595131, 4233266; 595174, 4233226; 595189, 4233210; 595239,

4233151; 595322, 4232978; 595423, 4232778; 595483, 4232667; 595553, 4232524; 595699, 4232243; 595966, 4231717; 594927, 4231710; 594445, 4231707; 594409, 4231673; 594410, 4231616; 594434, 4231540; 594474, 4231494; 594495, 4231457; 594497, 4231414; 594510, 4231370; 594543, 4231356; 594575, 4231342; 594603, 4231341; 594614, 4231338; 594616, 4231325; 594618, 4231311; 594614, 4231290; 594605, 4231284; 594583, 4231275; 594573, 4231268; 594557, 4231245; 594550, 4231209; 594543, 4231179; 594500, 4231200; 593800, 4231200; 593600, 4230500; 593291, 4230515; 593291, 4230514; 593700, 4229900; 594000, 4229700; 593900, 4229600; 593900, 4229500; 594000, 4229400; 593900, 4229300; 593900, 4229100; 594300, 4229000; 594300, 4228500; 593700, 4228400; 593500, 4228100; 592800, 4228100; 592700, 4228000; 592600, 4228000; 592500, 4227900; 592200, 4227800; 592000, 4227500; 591700, 4227400; 591500, 4227200; 591200, 4227100; 590900, 4227000; 590700, 4227100; 590400, 4227100; 589400, 4227400; 589265, 4227400; 589026, 4227463; 588707, 4227579; 587979, 4227869; 587973, 4227872; 587467, 4228036; 587339, 4228077; 587009, 4228197; 586933, 4228334; 586900, 4228400; 586700, 4228500; 586600, 4229000; 586400, 4229100; 586200, 4229100; 586100, 4229300; 585400, 4229900; 585400, 4230100; 585500, 4230200; 585000, 4230300; 585100, 4230400; 585000, 4230500; 585111, 4230567; 585124, 4230550; 585327, 4230585; 585319, 4230629; 585295, 4230649; 585270, 4230662; 585500, 4230800; 585600, 4231100; 585903, 4231100; 585908, 4231071; 585926, 4231064; 585956, 4231058; 586038, 4231061; 586045, 4231073; 586045, 4231088; 586027, 4231096; 586022, 4231100; 586267, 4231100; 586273, 4231084; 586323, 4231038; 586340, 4230994; 587435, 4231016; 587882, 4231052; 587967, 4231111; 587991, 4231124; 588015, 4231126; 588034, 4231123; 588075, 4231099; 588085, 4231097; 588116, 4231095; 588700, 4230900; 588842, 4230900; 588842, 4230900; 588925, 4230897; 588989, 4230899; 589090, 4230913; 589179, 4230901; 589179, 4230901; 589240, 4230894; 589274, 4230890; 589315, 4230894; 589321, 4230909; 589313, 4231179; 589015, 4231215; 589100, 4231300; 589100, 4231700; 588600, 4231600; 588440, 4231680; 588417, 4232400; 588500, 4232400; 588500, 4232500; 588600, 4232500; 588600, 4232800; 588400, 4233000; 588600, 4233300; 588700, 4233500; 589300, 4233500; 589983, 4233500; 590000, 4233500; 590100, 4233500; 590100, 4233300; 590600, 4233300; 591100, 4232800; 591138, 4232825; 591143, 4232820; 591184, 4232856; 591700, 4233200; 592513, 4233290; 592594, 4233291; 592594, 4233299; 592600, 4233300; 592600, 4233800; 592900, 4233700; 592900, 4233751; 592901, 4233751; 592900, 4233754; 592900, 4233800; 593400, 4234100; 594200, 4234100; 594300, 4234900; 594500, 4234900; 594890, 4235396; returning to 594915, 4234098.

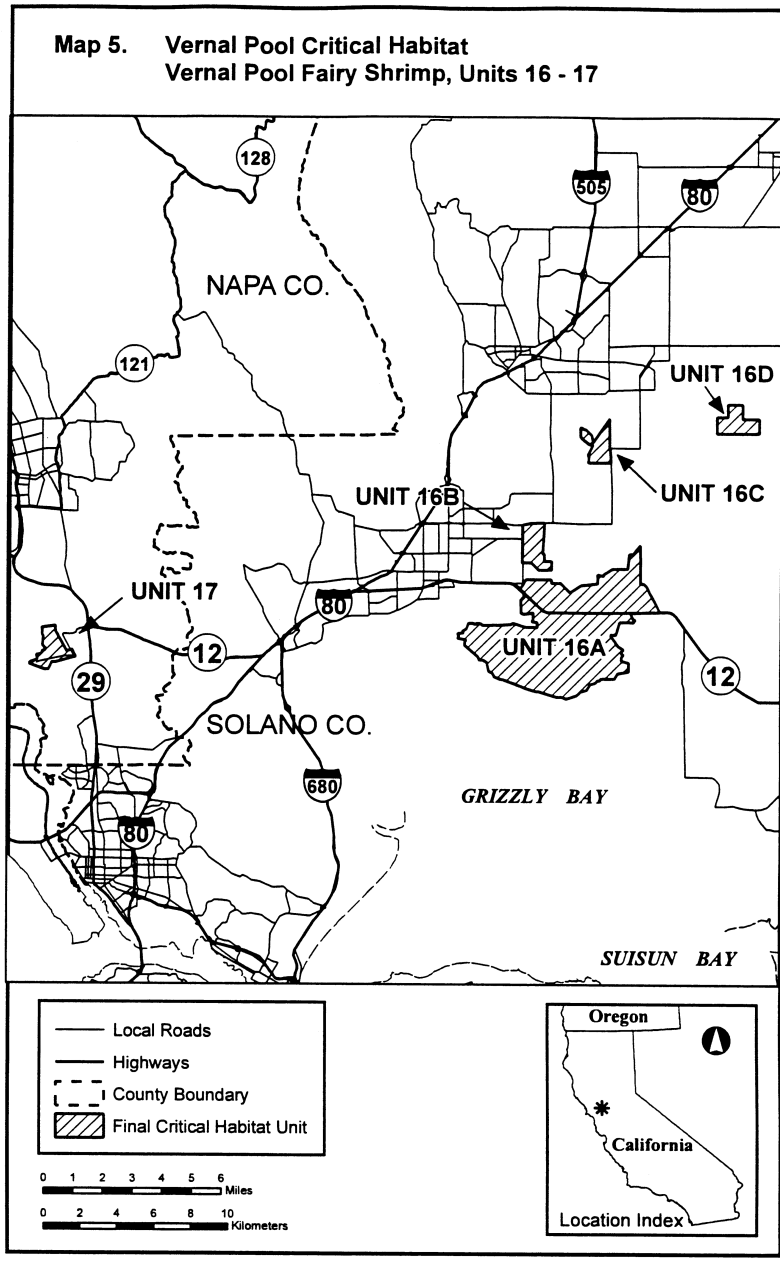
(ii) Unit 16B: Solano County, California. From USGS 1:24,000 scale quadrangle Elmira and Denverton. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 589698, 4236560; 589600, 4234900; 589700, 4234900; 589700, 4234500; 590100, 4234500; 590100, 4234064; 590100, 4234000; 589400, 4234000; 589000, 4234400; 588500, 4234400; 588500, 4236400; 588549, 4236449; 588944, 4236551; 589524, 4236558; 589670, 4236559; returning to 589698, 4236560.

(iii) Unit 16C: Solano County, California. From USGS 1:24,000 scale quadrangle Elmira. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 593200, 4242200; 593200, 4240600; 593211, 4240600; 593255, 4239807; 592030, 4239793; 592062, 4240126; 592044, 4240137; 592026, 4240170; 592026, 4240181; 592030, 4240261; 592300, 4240800; 592100, 4240800; 591800, 4241000; 591700, 4241100; 591600, 4241200; 591600, 4241300; 591600, 4241700; 591700, 4241700; 591800, 4241600; 591900, 4241600; 592000, 4241500; 592200, 4241300; 592300, 4240900; returning to 593200, 4242200.

(iv) Unit 16D: Solano County, California. From USGS 1:24,000 scale quadrangle Dozier. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 600400, 4243000; 600400, 4242200; 601300, 4242200; 601300, 4241416; 601002, 4241415; 600878, 4241415; 600446, 4241414; 600021, 4241414; 599000, 4241412; 599000, 4242300; 599600, 4242300; 599600, 4243000; returning to 600400, 4243000.

(20) Unit 17: Napa County, California. From USGS 1:24,000 scale quadrangle Cuttings Wharf. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 563200, 4230600; 563800, 4229500; 564100, 4229600; 564300, 4229200; 563200, 4228900; 563000, 4228900; 562800, 4228500; 562622, 4228500; 562261, 4228644; 561890, 4228781; 561756, 4228832; 561798, 4228870; 561864, 4228920; 562198, 4229067; 562156, 4229301; 562420, 4229359; 562483, 4229527; 562531, 4229524; 562620, 4229552; 562652, 4229575; 562655, 4229641; 562604, 4229686; 562537, 4229781; 562480, 4229857; 562528, 4230295; 562458, 4230498; 562480, 4230568; 562477, 4230610; 562477, 4230692; 562464, 4230746; 562476, 4230800; 562500, 4230800; 563200, 4230900; returning to 563200, 4230600.

(21) NOTE: Units 16–17 (Map 5) follow:



(22) Unit 18: San Joaquin County, California. From USGS 1:24,000 scale quadrangle Valley Springs SW, Linden, Farmington, and Peters. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 676000, 4212400; 676600, 4211200; 676300, 4211200; 676400, 4211000; 676300, 4210600; 676200, 4210500; 676100, 4210500; 675800, 4210300; 675600, 4210200; 675700,

4210000; 675900, 4209700; 675900, 4209600; 676500, 4209600; 676700, 4210100; 676700, 4210800; 676800, 4210900; 677200, 4211300; 678700, 4211300; 678800, 4210500; 680200, 4210400; 680200, 4209700; 681100, 4209700; 681800, 4210300; 682002, 4210263; 682013, 4209755; 682023, 4209287; 681500, 4209100; 681300, 4208500; 680800, 4208400; 680800, 4206100; 680500, 4205700; 680400, 4205100; 679700, 4204600; 679700, 4203300; 679200, 4203300; 679200, 4203400; 679000, 4203400; 679000, 4203300; 678500, 4203300; 678400, 4203100; 678300, 4203100; 678300, 4203000; 678400, 4202900; 678400, 4202700; 677700, 4202200; 677600, 4201700; 677500, 4201700; 677425, 4201625; 677367, 4201600; 675800, 4201600; 675700, 4203000; 675900, 4203000; 675900, 4203200; 675700, 4203200; 675700, 4204800; 672500, 4204700; 672500, 4205600; 672800, 4205800; 672800, 4206300; 672100, 4206300; 672100, 4206500; 671800, 4206500; 671600, 4206700; 671600, 4207100; 673200, 4207100; 673200, 4207400; 674000, 4207400; 674000, 4207700; 674700, 4207500; 674700, 4207200; 675100, 4207200; 675600, 4207400; 675600, 4208100; 675300, 4208100; 675300, 4208000; 674500, 4208000; 674400, 4208100; 674200, 4208200; 673930, 4208380; 673907, 4208701; 674800, 4208800; 674700, 4209300; 674600, 4209300; 674600, 4209600; 673900, 4209600; 673900, 4209800; 673500, 4209700; 673200, 4209600; 673200, 4209500; 673100, 4209500; 673100, 4211900; 673500, 4211800; 673900, 4211700; 673900, 4211400; 674100, 4211400; 674100, 4211500; 674300, 4211500; 674300, 4211600; 674900, 4211400; 675200, 4211500; 675200, 4211700; 675300, 4211800; 675300, 4211867; 675350, 4211900; 675500, 4211900; 675500, 4212000; 675500, 4212400; returning to 676000, 4212400;

(23) Unit 19: Contra Costa County, California.

(i) Unit 19A: Contra Costa County, California. From USGS 1:24,000 scale quadrangle Brentwood and Antioch South. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 612500, 4195900; 611700, 4194500; 611700, 4194300; 611400, 4193400; 610900, 4193500; 610200, 4193700; 609900, 4193900; 609700, 4194000; 609100, 4194000; 608100, 4194300; 608500, 4194900; 608400, 4195100; 608600, 4195300; 608600, 4195900; 609600, 4195900; 609500, 4195600; 609200, 4195100; 609200, 4195000; 609300, 4194900; 609900, 4194800; 610200, 4194800; 610500, 4195100; 611200, 4195900; 612100, 4196300; returning to 612500, 4195900;

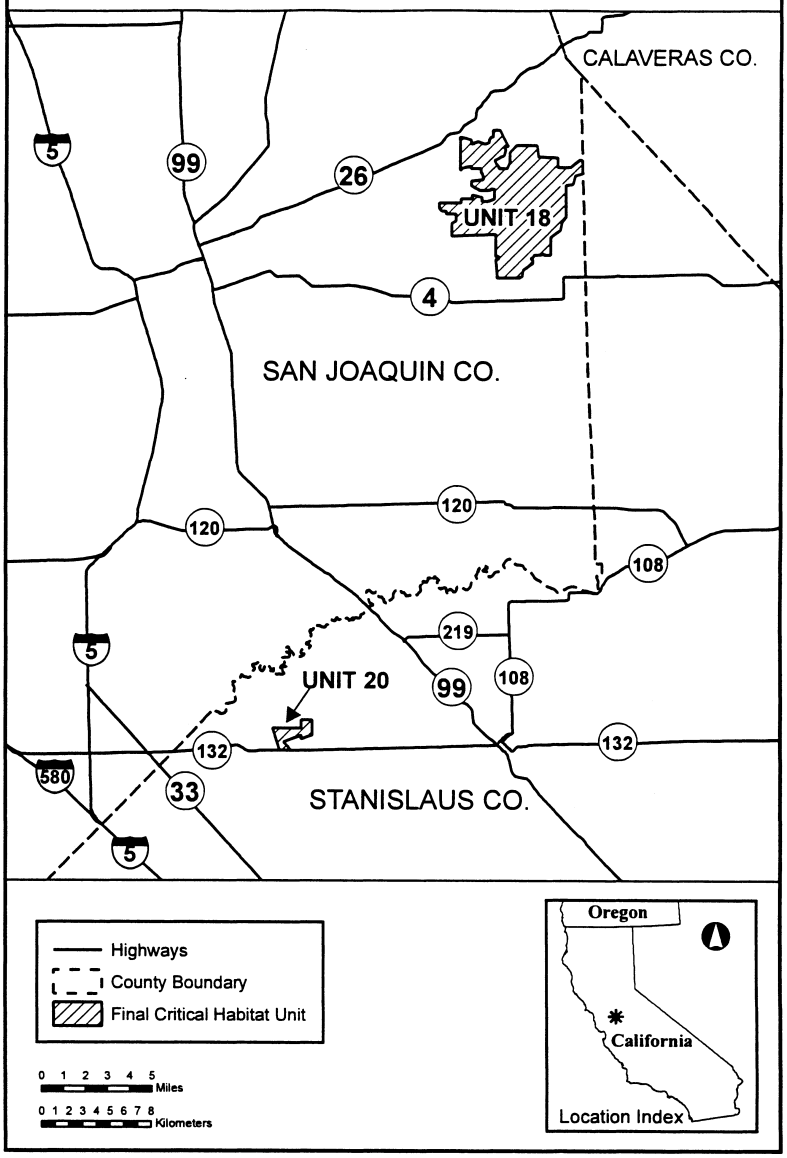
(ii) Unit 19B: Contra Costa County, California. From USGS 1:24,000 scale quadrangle Clifton Court Forebay and Byron Hot Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 621800, 4191200; 622200, 4190700; 622275, 4190400; 622400, 4189900; 623000, 4189300; 622900, 4188700; 622200, 4188700; 622100, 4188800; 621900, 4189000; 621700, 4189300; 621400, 4189700; 621200, 4190000; 621200, 4190400; 621100, 4190400; 621100, 4188700; 620900, 4188700; 620600, 4188400; 620400, 4188600; 620400, 4188100; 620500, 4187900; 620600, 4187800; 620700, 4187700; 620900, 4187700; 621100, 4187500; 620500, 4187100; 620500, 4186900; 621319, 4187272; 621338, 4187281; 621600, 4187400; 622000, 4187000; 622400, 4186400; 622600, 4186100; 622500, 4186000; 622500, 4185800; 622000, 4185300; 621200, 4185300; 621000, 4185500; 620800, 4185500; 620500, 4185200; 620200, 4185300; 619900, 4185600; 619600, 4185500; 619400, 4185700; 618200, 4186600; 618100, 4187100; 617700, 4187400; 617800, 4187900; 618200, 4188100; 618500, 4188300; 618400, 4188600; 617700, 4188800; 617800, 4188900; 617618, 4188855; 617400, 4189000; 617400, 4189200; 618200, 4189500; 618100, 4189800; 618200, 4190100; 618700, 4190300; 618700, 4190700; 619000, 4191000; 619300, 4191100; 619600, 4191100; 619800, 4190700; 619900, 4190700; 620100, 4190900; 620400, 4190900; 620400, 4190900; 620500, 4191200; returning to 621800, 4191200;

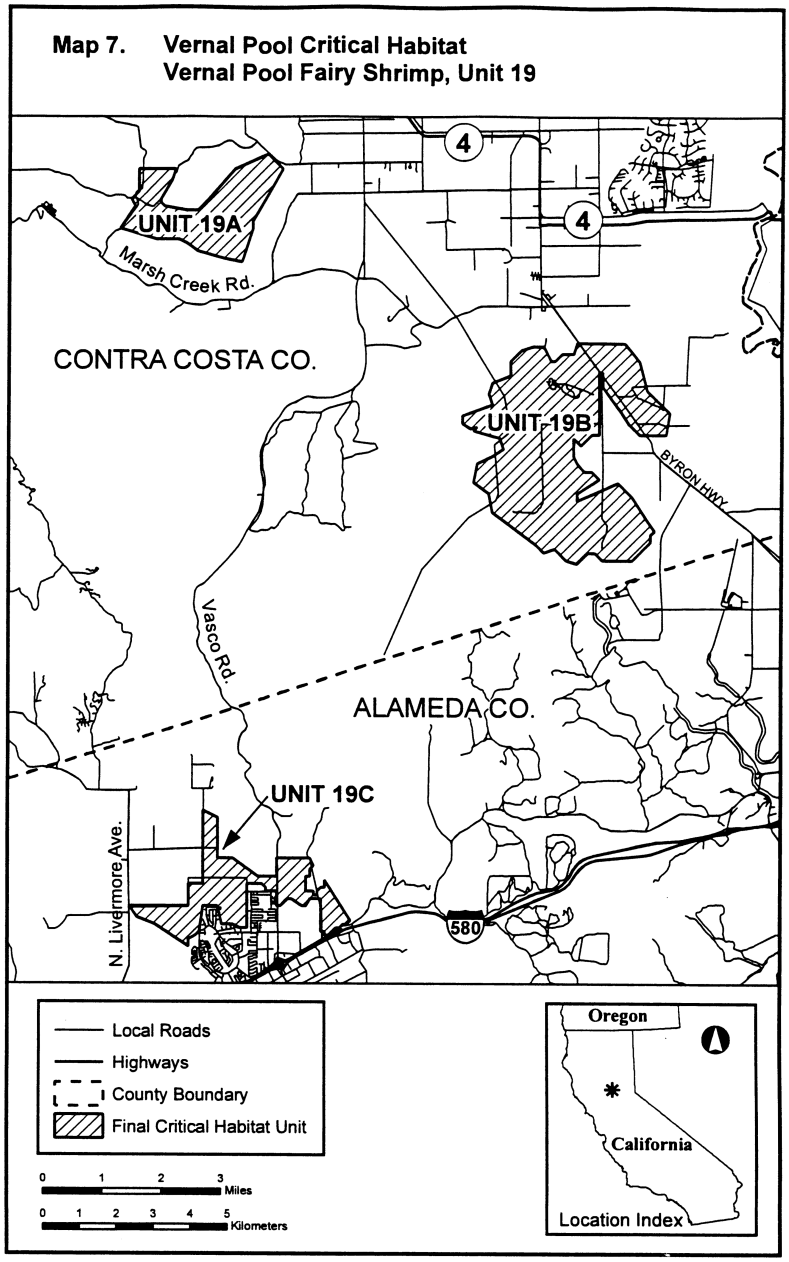
(iii) Unit 19C: Alameda County, California. From USGS 1:24,000 scale quadrangle Altamont and Livermore. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 610800, 4177500; 610800, 4177200; 611200, 4177200; 611900, 4176700; 612300, 4176700; 612400, 4176700; 612400, 4177200; 613300, 4177200; 613300, 4177200; 613400, 4177000; 613300, 4176900; 613300, 4176800; 613300, 4176700; 613200, 4176700; 613200, 4176300; 613400, 4176300; 613400, 4176200; 613500, 4176200; 613500, 4176300; 613600, 4176400; 613700, 4176400; 613700, 4176600; 614400, 4175500; 614300, 4175400; 614200, 4175400; 614100, 4175300; 614000, 4175300; 613900, 4175200; 613800, 4175100; 613700, 4175100; 613700, 4175200; 613600, 4175200; 613600, 4176100; 613300, 4176100; 613200, 4175900; 613100, 4175900; 612800, 4176100; 612700, 4176100; 612500, 4175900; 612400, 4175900; 612400, 4176300; 612100, 4176300; 612100, 4176400; 612000, 4176500; 611800, 4176500; 611600, 4176500; 611600, 4175300; 611400, 4175300; 611200, 4175400; 610900, 4175400; 610800, 4175900; 610400, 4175900; 610300, 4175200; 610200, 4175100; 610000, 4175000; 610000, 4174800; 609100, 4175400; 608600, 4175600; 608400, 4175900; 610000, 4175900; 610000, 4176500; 610400, 4176500; 610400, 4178500; 610800, 4178300; returning to 610800, 4177500;

(24) Unit 20: Stanislaus County, California. From USGS 1:24,000 scale quadrangle Ripon. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 662400, 4168300; 661600, 4168000; 661600, 4168300; 660300, 4167800; 660600, 4167500; 660800, 4167200; 660000, 4167200; 659500, 4168800; 661600, 4168800; 661600, 4169400; 662400, 4169400; returning to 662400, 4168300;

(25) NOTE: Maps of Units 18, 19, and 20 (Maps 6 and 7) follow:

Map 6. Vernal Pool Critical Habitat
Vernal Pool Fairy Shrimp, Units 18 and 20





(26) Unit 21: Stanislaus County, California.

(i) Unit 21A: Stanislaus County, California. From USGS 1:24,000 scale quadrangle Paulsell and Montpelier. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 704200, 4166200; 704000, 4166200; 703800, 4166400; 703400, 4166600; 703400, 4166800; 703500, 4166800; 703600, 4166900; 703700, 4167000;

703700, 4167200; 704600, 4167600; 704700, 4167600; 704800, 4167500; 705000, 4167400; 705300, 4167400; 705300, 4166400; 705000, 4166300; 704400, 4166300; returning to 704200, 4166200;

(ii) Unit 21B: Stanislaus, Merced, and Mariposa Counties, California. From USGS 1:24,000 scale quadrangle La Grange, Cooperstown, Paulsell, Turlock Lake, Snelling, Montpelier and Merced Falls. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 725100, 4167900; 725300, 4167200; 726200, 4167100; 726500, 4166800; 726500, 4166600; 726727, 4166429; 727300, 4166000; 727700, 4165800; 729000, 4165800; 730100, 4165400; 730400, 4165100; 730500, 4164900; 730700, 4164100; 731300, 4164100; 731700, 4163800; 731800, 4163400; 732200, 4162800; 732200, 4162500; 732700, 4162700; 733000, 4162600; 733600, 4162100; 733700, 4161500; 733600, 4161000; 734600, 4160400; 734727, 4160273; 734800, 4160200; 734800, 4160135; 734800, 4159500; 734400, 4158700; 734300, 4158100; 734500, 4157900; 734700, 4158000; 734900, 4158300; 735000, 4158800; 735500, 4158800; 735505, 4158795; 735700, 4158600; 735674, 4158472; 735600, 4158100; 736171, 4157529; 736200, 4157500; 736800, 4157300; 736900, 4157100; 736900, 4156500; 736712, 4156500; 736300, 4156500; 736000, 4156300; 735500, 4156300; 734100, 4156900; 733400, 4157100; 731700, 4156900; 730900, 4156500; 728900, 4156600; 728700, 4156700; 728700, 4156800; 728600, 4156900; 728300, 4156900; 728100, 4156800; 727900, 4156800; 727100, 4156800; 726900, 4156600; 726700, 4156500; 726300, 4156500; 726100, 4156600; 725800, 4156500; 725600, 4156400; 725500, 4156300; 725400, 4156200; 725100, 4156100; 725000, 4156000; 724900, 4156000; 724800, 4156100; 724300, 4156100; 724300, 4155700; 723800, 4155700; 723900, 4155300; 723300, 4155400; 722700, 4155100; 722700, 4155400; 722300, 4155400; 722300, 4156800; 722900, 4156800; 722900, 4157400; 723500, 4157400; 723500, 4157000; 723700, 4157000; 723700, 4156900; 724300, 4156900; 724300, 4157400; 724200, 4157400; 724200, 4157400; 724100, 4158200; 723800, 4158200; 723700, 4159000; 722500, 4159000; 722500, 4159200; 722400, 4159200; 722300, 4159300; 722200, 4159300; 721600, 4159300; 721600, 4159500; 721500, 4159600; 721500, 4159800; 721600, 4159800; 721600, 4159900; 721700, 4159900; 721700, 4160500; 721100, 4160500; 721100, 4160100; 720800, 4160100; 720800, 4160500; 719500, 4160500; 719500, 4160300; 720000, 4159600; 719600, 4159600; 719600, 4159500; 719500, 4159500; 719400, 4159500; 719300, 4159400; 719100, 4159400; 719000, 4159400; 718900, 4159300; 718700, 4159100; 718600, 4159000; 718600, 4158900; 718400, 4158900; 718200, 4158800; 718200, 4158700; 718300, 4158600; 718400, 4158500; 718500, 4158500; 718600, 4158400; 718700, 4158400; 718900, 4158300; 719000, 4158100; 719000, 4157900; 718700, 4157600; 718000, 4157700; 717800, 4157400; 717900, 4157200; 718000, 4157000; 718400, 4157300; 718700, 4156700; 718700, 4156300; 717500, 4156300; 717500, 4156700; 717100, 4156700; 717100, 4156300; 716600, 4156300; 716600, 4155800; 716300, 4155700; 716200, 4155000; 715900, 4154900; 715900, 4155100; 715800, 4155200; 715800, 4155300; 715700, 4155400; 715600, 4155700; 715500, 4155800; 715400, 4155800; 715300, 4156600; 715400, 4156600; 715400, 4157200; 715400, 4157400; 715500, 4157400; 715500, 4157600; 717600, 4157600; 717600, 4159700; 718100, 4160200; 718200, 4160500; 718400, 4160800; 718700, 4161100; 716800, 4161100; 716800, 4160400; 715253, 4160400; 714900, 4160400; 714900, 4160900; 715000, 4160900; 715000, 4161000; 715200, 4161000; 715200, 4161100; 714400, 4161100; 714400, 4161200; 713700, 4161200; 713700, 4161100; 713300, 4161100; 713200, 4161200; 713100, 4161100; 713100, 4161000; 713400, 4160700; 713400, 4160600; 713600, 4160500; 713800, 4160800; 713900, 4160800; 714000, 4160700; 714000, 4160400; 711133, 4160301; 711100, 4161900; 709500, 4161900; 709500, 4163500; 707900, 4163500; 707900, 4163100; 707000, 4163100; 707000, 4165600; 707400, 4165600; 707400, 4165800; 706700, 4166100; 706500, 4165800; 706200, 4166000; 706300, 4166300; 706200, 4166400; 706200, 4166500; 706300, 4166500; 706300, 4166700; 706200, 4166700; 706200, 4167100; 706500, 4167100; 706700, 4166700; 706800, 4166700; 706800, 4166300; 707000, 4166300; 707000, 4166100; 707200, 4166100; 707200, 4166700; 707400, 4166700; 707800, 4166000; 707800, 4165600; 708000, 4165800; 708200, 4165800; 708400, 4165700; 708400, 4165500; 708200, 4165400; 708200, 4165300; 708300, 4165200; 708400, 4165200; 708500, 4165300; 708600, 4165400; 708800, 4165400; 709100, 4165100; 710200, 4165100; 710200, 4166400; 710100, 4166400; 710100, 4166500; 710000, 4166500; 709900, 4166500; 709900, 4166700; 709800, 4166700; 709800, 4167100; 710200, 4166800; 711000, 4167600; 711600, 4167800; 712400, 4167800; 712400, 4167300; 712900, 4167300; 712900, 4167200; 712600, 4166900; 711800, 4167000; 711600, 4166800; 711600, 4166600; 711800, 4166500; 711800, 4166600; 711900, 4166600; 712000, 4166300; 712100, 4166500; 712200, 4166500; 712300, 4166400; 712500, 4166400; 712500, 4166200; 712700, 4166200; 712700, 4166300; 712800, 4166300; 713000, 4166100; 712923, 4166062; 712800, 4166000; 712700, 4165800; 712500, 4165800; 712500, 4165600; 712700, 4165600; 712600, 4165400; 712400, 4165500; 712300, 4165400; 712500, 4165300; 712500, 4165200; 712400, 4165100; 712600, 4165100; 712600, 4165000; 712600, 4164900; 712700, 4164800; 712600, 4164700; 712500, 4164800; 712400, 4164800; 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718700, 4166400; 719100, 4166700; 719300, 4166800; 719500, 4166800; 719500, 4166500; 719600, 4166400; 719600, 4166100; 719800, 4166100; 719900, 4166300; 719900, 4166200; 720700, 4166200; 720700, 4163700; 721533, 4163700; 721700, 4163700; 722400, 4164100; 722400, 4164155; 722400, 4165300; 722200, 4165300; 722200, 4165400; 721500, 4165400; 721500,

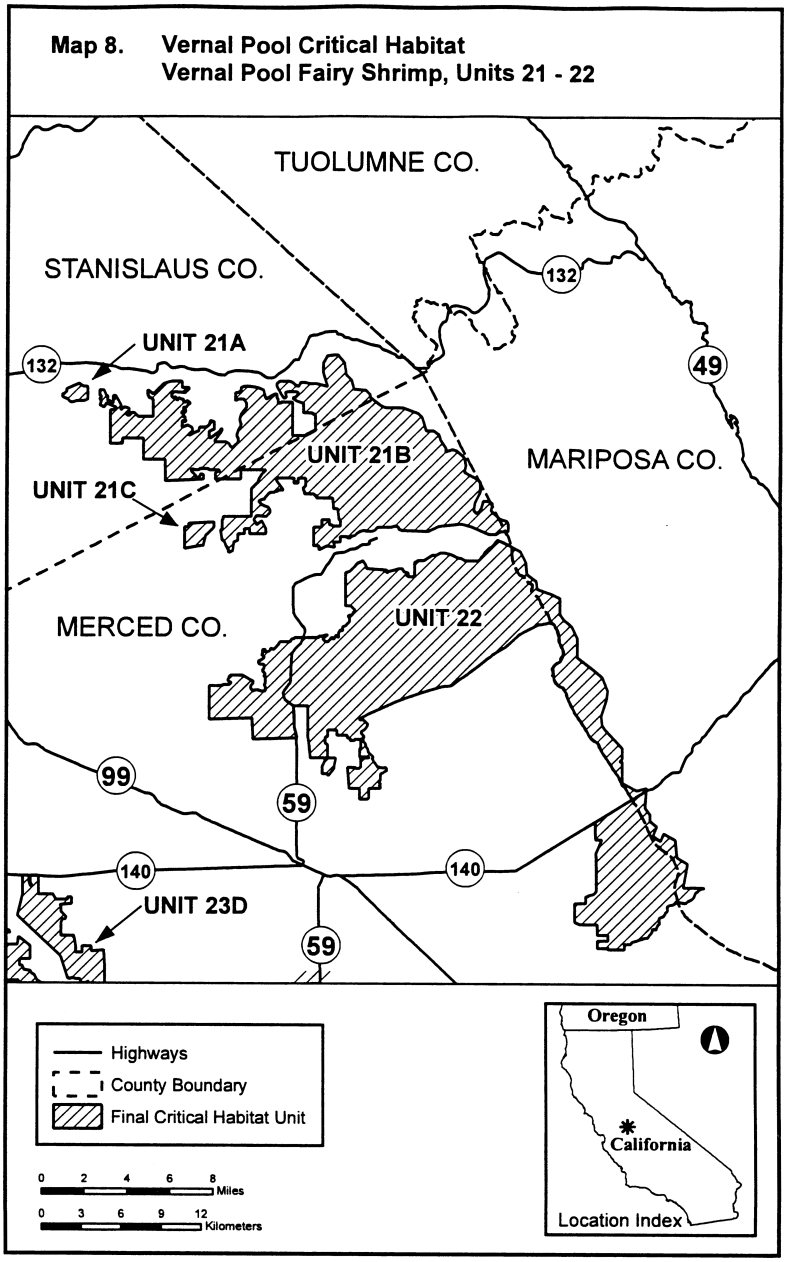
4166100; 721000, 4166300; 720700, 4166500; 720900, 4166600; 721000, 4166700; 721100, 4166900; 721000, 4167000; 720300, 4167000; 720100, 4166900; 720200, 4166700; 720200, e 55'4166600; 720100, 4166500; 720000,4166500; 719800,4166800; 719500,4167400; 719500,4167600; 719700,4167800; 720500,4167800; 720700,4167700; 720900,4167500; 721100,4167400; 721300,4167700; 721700,4167700; 722000,4167600; 722500,4167600; 722900,4167500; 723300,4167400; 723000,4168400; 723000,4169200; 723300,4169700; 723800,4169800; 724100,4169800; 724600,4169200; 724700,4168300; returning to 725100,4167900;

(iii) Unit 21C: Merced County, California. From USGS 1:24,000 scale quadrangle Turlock Lake. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 713800,4155400; 712600,4155200; 712600,4156800; 712900,4156800; 712900,4157100; 714800,4157200; 714800,4156800; 714300,4156300; 714200,4156200; 714000,4155500; 714000,4155400; returning to 713800,4155400;

(27) Unit 22: Merced County, California. From USGS 1:24,000 scale quadrangle Merced Falls, Snelling, Indian Gulch, Haystack Mtn., Yosemite Lake, Winton, Owens Reservoir, Planada, Le Grand, Plainsburg, and Merced. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 737800,4155000; 738200,4154200; 738300,4153300; 739000,4152800; 739100,4152200; 740200,4151800; 740800,4151500; 740800,4150300; 741100,4149900; 741700,4149400; 742100,4148500; 742100,4147100; 743400,4146100; 744000,4145600; 744400,4144600; 744300,4143900; 743900,4142700; 744000,4142000; 744200,4141700; 745500,4140300; 745500,4139600; 745500,4139576; 745500,4139500; 745432,4139432; 745400,4139400; 745339,4139307; 745338,4139306; 745334,4139300; 745500,4139300; 745500,4139100; 745500,4137700; 746600,4137100; 747300,4137300; 747200,4135800; 747600,4135300; 747600,4134800; 748100,4134400; 747800,4133700; 748400,4133300; 748600,4133900; 749500,4133400; 749600,4132100; 750400,4131600; 750100,4129800; 751693,4129800; 751681,4129794; 751664,4129785; 751654,4129772; 751560,4129753; 751457,4129733; 751416,4129705; 751410,4129701; 751400,4129700; 751399,4129700; 751326,4129693; 751299,4129685; 751191,4129530; 751123,4129507; 751088,4129488; 751053,4129470; 751004,4129410; 751002,4129402; 750955,4129261; 750909,4129180; 750848,4129037; 750790,4128977; 750766,4128953; 750609,4128861; 750506,4128806; 750420,4128760; 750409,4128754; 750305,4128665; 750239,4128660; 750017,4128694; 750006,4128700; 749963,4128723; 749886,4128721; 749824,4128725; 749716,4128734; 749672,4128755; 749591,4128753; 749563,4128739; 749458,4128596; 749410,4128574; 749363,4128542; 749133,4128508; 749013,4128457; 749005,4128453; 749002,4128451; 748903,4128379; 748906,4128277; 748917,4128239; 748933,4128123; 748899,4128013; 748784,4127941; 748764,4127912; 748753,4127851; 748635,4127644; 748439,4127570; 748396,4127553; 748343,4127521; 748306,4127500; 748300,4127486; 748287,4127458; 748295,4127296; 748300,4127277; 748320,4127203; 748332,4127134; 748321,4127094; 748292,4127060; 748196,4126992; 748194,4126991; 748166,4126932; 748141,4126839; 748080,4126756; 748085,4126672; 748075,4126641; 748037,4126635; 747962,4126676; 747898,4126700; 747863,4126691; 747823,4126667; 747794,4126628; 747766,4126528; 747692,4126358; 747650,4126316; 747562,4126246; 747502,4126125; 747478,4126053; 747451,4126022; 747406,4126011; 747358,4126000; 747200,4126000; 747142,4125971; 747123,4125969; 747070,4125950; 747003,4125902; 747000,4125900; 746900,4125900; 746600,4125800; 746300,4125700; 746200,4125600; 746200,4125500; 745700,4125500; 745700,4125100; 744500,4125100; 744500,4125300; 744400,4125300; 744400,4125200; 743700,4125200; 743700,4125800; 744500,4125800; 744500,4126200; 743700,4126200; 743700,4127000; 743600,4127000; 742700,4127000; 742400,4127000; 742000,4127200; 742000,4128600; 742800,4128600; 742800,4129100; 742900,4129100; 743000,4129100; 743000,4129200; 743400,4129300; 743600,4129500; 743600,4130284; 743605,4130284; 743600,4130493; 743600,4130700; 743595,4130700; 743561,4132097; 743560,4132170; 743556,4132335; 744000,4133400; 743530,4133400; 743523,4133729; 743518,4134016; 743515,4134159; 743509,4134382; 743500,4134708; 743504,4134743; 743565,4134782; 744447,4135329; 746234,4136439; 746230,4136445; 745985,4136865; 745952,4136931; 745915,4136978; 745914,4136987; 745902,4137008; 745748,4137298; 745669,4137403; 745620,4137437; 745503,4137487; 745203,4138201; 744984,4138471; 744895,4138606; 744895,4138606; 744830,4138711; 744596,4139085; 744234,4139637; 744233,4139645; 744162,4139744; 744162,4139744; 744013,4140002; 744013,4140002; 743998,4140029; 743996,4140030; 743973,4140072; 743907,4140195; 743889,4140229; 743877,4140264; 743750,4140609; 743388,4140868; 743091,4141131; 743053,4141165; 742997,4141268; 742771,4141692; 742748,4141734; 742355,4142343; 742336,4142368; 742271,4142457; 742238,4142503; 742139,4142637; 742056,4142749; 742002,4142823; 741974,4142874; 741808,4143176; 741722,4143360; 741419,4144010; 741385,4144081; 741316,4144328; 741297,4144395; 741245,4144456; 741194,4144530; 741162,4144608; 741076,4144820; 740864,4144897; 740843,4144899; 740750,4144952; 740641,4145056; 740535,4145175; 740517,4145182; 740490,4145240; 740487,4145263; 740386,4145415; 740321,4145847; 740320,4146066; 740303,4146114; 740276,4146159; 740272,4146225; 740293,4146273; 740293,4146303; 740370,4146426; 740415,4146474; 740536,4146602; 740735,4146722; 740825,4146775; 741069,4147251; 741071,4147549; 741071,4147576; 740982,4147830; 740955,4147883; 740914,4147967; 740822,4148059; 740772,4148182; 740782,4148363; 740776,4148391; 740695,4148831; 740617,4149151; 740447,4149311; 740396,4149534; 740344,4149561; 740303,4149575; 740289,4149588; 740238,4149636; 740225,4149666; 740057,4149659; 739993,4149678; 739917,4149678; 739791,4149621; 739705,4149597; 739701,4149596; 739602,4149593; 739521,4149560; 739443,4149542; 739197,4149515; 738714,4149273; 738694,4149252; 738674,4149251; 738178,4148999; 737835,4148823; 737747,4148772; 737044,4148135; 736672,4147809; 736430,4147669; 735929,4147379; 735716,4147219; 735669,4147184; 735605,4147136; 735437,4147009; 735223,4146848; 735183,4146809; 735156,4146798; 735151,4146778; 735022,4146655; 734989,4146630; 734609,4146349; 734480,4146255; 734012,4145909; 733808,4145758; 733765,4145739; 733763,4145732; 733370,4145442; 732703,4144952; 732391,4144910;

732197,4144885; 731993,4144850; 731062,4144594; 730371,4144363; 729000,4143905; 728736,4143813; 728542,4143745; 728346,4143647; 728018,4143482; 727340,4143194; 726795,4142958; 726607,4142867; 726599,4142856; 726577,4142853; 725785,4142417; 725793,4142408; 725843,4142361; 726002,4142378; 726117,4142355; 726204,4142264; 726415,4142046; 726420,4141975; 726381,4141921; 726367,4141880; 726261,4141732; 726182,4141648; 725935,4141477; 725916,4141451; 725903,4141379; 725914,4141349; 725981,4141288; 726033,4141240; 726145,4141137; 726156,4141109; 726147,4141073; 726096,4140993; 726083,4140896; 726089,4140784; 726108,4140739; 726268,4140551; 726269,4140436; 726283,4140368; 726313,4140308; 726412,4140209; 726455,4140025; 726457,4140000; 726459,4139959; 726715,4139715; 726786,4139647; 726804,4139630; 726822,4139625; 726822,4139611; 726823,4139582; 726809,4139546; 726755,4139466; 726754,4139433; 726931,4139179; 727174,4138842; 727220,4138823; 727261,4138819; 727328,4138864; 727331,4138842; 727333,4138831; 727335,4138819; 727343,4138816; 727396,4138803; 727406,4138800; 727414,4138798; 727552,4138779; 727711,4138793; 727806,4138786; 727819,4138766; 727845,4138644; 727858,4138617; 727881,4138590; 727700,4138500; 727600,4138400; 727400,4138300; 727400,4137800; 727300,4137800; 727300,4137600; 727400,4137600; 727400,4137500; 727300,4137500; 727300,4137400; 727400,4137400; 727400,4137200; 726500,4137200; 726500,4136500; 726400,4136400; 725800,4136400; 725800,4137200; 725000,4137200; 724900,4138800; 725500,4138800; 725500,4138700; 725800,4138700; 725800,4138800; 725900,4138800; 725900,4139500; 726500,4139500; 726500,4139600; 725900,4139600; 725800,4139600; 725800,4140200; 725900,4140200; 725900,4140900; 725400,4140900; 725400,4140800; 725100,4140800; 725100,4141000; 724900,4141000; 724900,4141200; 724100,4141200; 724100,4141600; 723400,4141600; 723400,4141100; 723200,4141100; 723200,4140600; 723400,4140500; 723400,4139500; 724000,4139500; 724000,4139400; 723900,4138900; 723900,4138700; 723500,4138200; 723400,4138200; 723400,4138300; 723000,4138300; 723000,4138700; 723000,4138900; 723100,4139100; 723200,4139400; 723300,4139500; 722100,4139500; 722000,4140500; 721900,4141100; 721900,4141900; 721900,4143400; 720800,4143400; 720900,4141800; 721000,4141500; 721000,4141200; 721100,4141100; 721000,4141000; 717800,4140900; 717700,4142500; 714500,4142400; 714500,4144900; 715500,4144900; 715500,4145000; 715800,4145000; 715900,4145000; 716000,4145000; 716100,4145100; 716100,4145200; 716000,4145200; 715900,4145300; 715900,4145400; 716000,4145500; 716000,4145600; 716100,4145700; 717000,4145700; 717700,4145300; 717800,4145300; 717800,4145200; 717800,4145100; 717600,4144900; 717600,4144800; 717600,4144700; 717800,4144500; 717900,4144600; 718200,4144600; 718400,4144500; 718700,4144500; 718700,4144800; 718600,4145000; 718700,4145100; 718700,4145600; 718600,4145600; 718600,4145700; 718700,4145800; 718600,4145900; 718500,4146000; 718500,4146100; 718600,4146200; 718600,4146500; 718300,4146500; 718200,4146600; 718200,4146800; 718300,4146800; 718500,4146900; 718600,4147000; 718600,4147100; 718400,4147200; 718500,4147300; 718500,4147600; 718700,4147600; 718700,4147400; 719000,4147500; 719100,4147700; 719300,4147600; 719600,4147900; 719700,4148000; 719700,4148100; 719800,4148200; 720000,4148200; 720600,4148200; 720600,4148300; 720700,4148400; 720800,4148400; 720900,4148500; 722700,4148500; 722700,4148600; 722900,4148600; 723200,4148700; 723400,4148700; 723200,4148600; 723100,4148500; 723000,4148400; 723200,4148200; 723400,4148200; 723500,4148300; 723600,4148400; 723600,4148500; 723800,4148500; 723800,4148400; 723900,4148400; 723900,4148500; 724000,4148700; 724200,4148500; 724200,4148900; 724300,4149000; 724300,4149100; 724500,4149000; 724500,4149300; 724700,4149400; 724900,4149600; 725000,4149700; 725000,4150000; 724900,4150100; 725000,4150200; 725200,4150200; 725300,4150400; 725400,4150500; 725400,4150600; 725100,4150900; 724700,4150900; 724700,4153400; 725000,4153500; 725400,4153900; 725600,4154100; 725800,4154200; 726000,4154300; 726200,4154000; 726300,4153800; 726300,4153700; 727800,4153600; 727800,4153400; 727900,4153400; 727900,4153500; 728400,4153600; 728700,4153700; 729000,4153700; 729000,4153600; 729100,4153500; 729300,4153400; 729400,4153400; 729400,4153300; 729300,4153200; 729500,4153100; 729800,4153100; 729900,4153200; 729900,4154200; 730000,4154200; 730100,4154300; 730600,4154300; 730700,4154400; 731000,4154600; 731200,4154700; 731500,4154700; 731800,4154900; 732200,4154900; 732600,4154800; 733200,4154500; 733400,4154500; 733700,4154300; 734700,4154300; 734900,4154600; 735100,4154800; 735100,4154900; 735500,4155300; 735600,4155300; 735800,4155500; 736100,4155900; 737100,4155400; 737157,4155367; returning to 737800,4155000;

(28) NOTE: Units 21–22 (Map 8) follow:



(29) Unit 23: Merced County, California

(i) Unit 23A: Merced County, California. From USGS 1:24,000 scale quadrangle Stevinson, Gustine, and San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 688300, 4129000; 688600, 4128800; 689100, 4128900; 689200, 4128800; 689400, 4128600; 689800, 4128500; 689900, 4128300;

690200, 4128300; 690400, 4128200; 690500, 4128000; 690600, 4125500; 692700, 4125500; 693200, 4125000; 693100, 4124800; 693100, 4124400; 693300, 4123700; 693600, 4123400; 693800, 4123000; 694000, 4122900; 694079, 4122821; 694035, 4122790; 692453, 4121671; 692300, 4121900; 692200, 4122000; 692200, 4122500; 692100, 4122700; 691800, 4122800; 691400, 4122800; 691261, 4123079; 691262, 4123097; 691263, 4123113; 691267, 4123155; 691273, 4123198; 691267, 4123238; 691248, 4123272; 691217, 4123291; 691200, 4123294; 691200, 4123500; 691110, 4123679; 691126, 4123677; 691149, 4123682; 691156, 4123694; 691166, 4123718; 691177, 4123739; 691191, 4123771; 691193, 4123793; 691200, 4123800; 691195, 4123810; 691201, 4123850; 691215, 4123892; 691220, 4123942; 691214, 4123980; 691192, 4124020; 691171, 4124049; 691150, 4124072; 691127, 4124089; 691099, 4124095; 691071, 4124095; 691055, 4124090; 690900, 4124400; 690559, 4124400; 690559, 4124402; 690569, 4124417; 690582, 4124427; 690582, 4124447; 690576, 4124466; 690563, 4124483; 690546, 4124493; 690525, 4124502; 690523, 4124502; 690523, 4124519; 690500, 4124524; 690475, 4124530; 690469, 4124538; 690445, 4124570; 690388, 4124590; 690353, 4124592; 690180, 4124650; 690127, 4124689; 690083, 4124695; 690025, 4124783; 690020, 4124854; 689996, 4124900; 689988, 4125006; 689952, 4125056; 689912, 4125095; 689856, 4125119; 689819, 4125184; 689788, 4125210; 689747, 4125229; 689700, 4125300; 689658, 4125595; 689665, 4125595; 689672, 4125603; 689645, 4125757; 689630, 4125793; 689600, 4126000; 689700, 4126200; 689600, 4126600; 689400, 4126600; 689275, 4126538; 689239, 4126581; 689188, 4126664; 689134, 4126678; 689121, 4126682; 689069, 4126728; 689067, 4126852; 689020, 4126961; 688990, 4126993; 688911, 4126978; 688903, 4126995; 688913, 4127006; 689100, 4127100; 689024, 4127195; 689025, 4127207; 688949, 4127292; 688931, 4127324; 688922, 4127322; 688854, 4127407; 688823, 4127454; 688780, 4127503; 688735, 4127581; 688723, 4127621; 688696, 4127650; 688684, 4128244; 688193, 4128235; 688100, 4128700; returning to 688300, 4129000;

(ii) Unit 23B: Merced County, California. From USGS 1:24,000 scale quadrangle Stevinson and San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 695400, 4125600; 695500, 4122000; 694900, 4122400; 694700, 4122700; 694500, 4122900; 694500, 4123100; 694100, 4123400; 693800, 4123500; 693800, 4123800; 693500, 4123900; 693500, 4124500; 693700, 4124700; 693800, 4125000; 693600, 4125200; 693400, 4125300; 693122, 4125670; 693100, 4125700; 693146, 4125746; 693200, 4125800; 693700, 4125900; 693700, 4127300; 693800, 4127300; 693900, 4127000; 694200, 4126900; 694600, 4126400; 694600, 4126200; 694700, 4126000; 695179, 4125726; returning to 695400, 4125600;

(iii) Unit 23C: Merced County, California. From USGS 1:24,000 scale quadrangle Arena, Stevinson, Turner Ranch, and San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 699300, 4126300; 699300, 4125400; 700100, 4125400; 700200, 4126000; 700600, 4125700; 701100, 4125300; 701100, 4124300; 700300, 4124300; 700300, 4123800; 700500, 4123800; 700600, 4123500; 701100, 4123400; 701200, 4123200; 701400, 4123100; 701600, 4122700; 701900, 4122500; 702600, 4122200; 702870, 4121705; 703200, 4121100; 703900, 4120500; 704600, 4119800; 704600, 4119800; 704700, 4119700; 698900, 4119600; 698800, 4119700; 698543, 4119957; 698558, 4119970; 698501, 4120012; 698504, 4120069; 698626, 4120197; 698662, 4120077; 698694, 4120113; 698668, 4121116; 698663, 4121510; 698594, 4121508; 698600, 4121600; 699900, 4121600; 700000, 4120400; 700200, 4120400; 700200, 4122700; 697000, 4122600; 696900, 4125100; 697700, 4125100; 697700, 4125300; 697600, 4125400; 697700, 4125600; 698000, 4125700; 698200, 4125800; 698300, 4126100; 698700, 4126500; 699500, 4126500; 699600, 4126300; returning to 699300, 4126300;

(iv) Unit 23D: Merced County, California. From USGS 1:24,000 scale quadrangle Arena and Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706700, 4122100; 706800, 4120900; 706700, 4120500; 706700, 4119700; 708100, 4119700; 708100, 4119600; 708000, 4119500; 707900, 4119200; 707900, 4119000; 708000, 4118900; 708300, 4118900; 708300, 4118100; 707900, 4118100; 707500, 4118500; 706500, 4118500; 706000, 4118900; 705600, 4119300; 705200, 4119700; 704800, 4120000; 704700, 4120100; 704700, 4120400; 705100, 4120400; 705100, 4120600; 704900, 4120700; 704900, 4120800; 705100, 4120800; 704900, 4121000; 705000, 4121100; 705100, 4121700; 705200, 4121700; 705300, 4122000; 705700, 4122100; 705700, 4122200; 705400, 4122300; 705300, 4122400; 705500, 4122600; 705400, 4122600; 705300, 4122500; 705200, 4122500; 705100, 4122500; 704900, 4122500; 704900, 4122700; 704800, 4122800; 704500, 4122800; 704300, 4122900; 704000, 4122800; 703900, 4122900; 703400, 4124400; 703300, 4124600; 701300, 4126500; 700100, 4127600; 700467, 4129067; 700500, 4129200; 700500, 4130600; 701000, 4130600; 701000, 4130100; 701100, 4129800; 701200, 4129800; 701100, 4130100; 701100, 4130600; 701700, 4130600; 701700, 4129200; 701800, 4129200; 702800, 4129200; 703000, 4128800; 703300, 4128800; 703900,4128800; 703900, 4129000; 704200, 4129000; 704200, 4128500; 703300,4128400; 703400, 4128300; 703400, 4127900; 703500,4127800; 703800, 4127500; 703700, 4127300; 703500, 4127300; 703400,4127100; 703400, 4126100; 703500, 4126100; 704400, 4126100; 704300, 4126000; 704400, 4125900; 704500, 4125300; 704500, 4124800; 705000, 4124800; 705000, 4125300; 705700, 4125300; 705700, 4124900; 706600, 4125000; 706700, 4123700; returning to 706700, 4122100;

(v) Unit 23E: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush and Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706700, 4122100; 711500, 4122200; 711500, 4121700; 711500, 4121200; 709900, 4121300; 709900, 4121900; 709800, 4121900; 709800, 4121800; 709700, 4121500; 709500, 4121500; 709300, 4121600; 708800, 4121400; 708700, 4121300; 706800, 4121300; returning to 706700, 4122100;

(vi) Unit 23F: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush and Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 711200, 4120500; 711400, 4120400; 711500, 4120500; 711600, 4119600; 711900, 4119600; 711900,4119400; 712100, 4119300; 712300, 4119300; 712300, 4119200; 712600, 4119200; 712800, 4118800; 711600, 4118700; 711600, 4118500; 711400, 4118500;

711300, 4118400; 711100, 4118100; 709900, 4118100; 709900, 4118800; 709900, 4119000; 709700, 4119000; 709700, 4119600; 710300, 4119600; 710300, 4119900; 710700, 4119900; 710700, 4120000; 710600, 4120000; 710600, 4120100; 710700, 4120200; 710600, 4120300; 710700, 4120400; 710700, 4120500; 710900, 4120400; 711100, 4120400; returning to 711200, 4120500;

(vii) Unit 23G: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 714600, 4115000; 713300, 4115000; 713100, 4115300; 713300, 4115300; 713800, 4115400; 713800, 4116600; 715400, 4116600; 715500, 4116500; 715500, 4115818; 714600, 4115800; returning to 714600, 4115000;

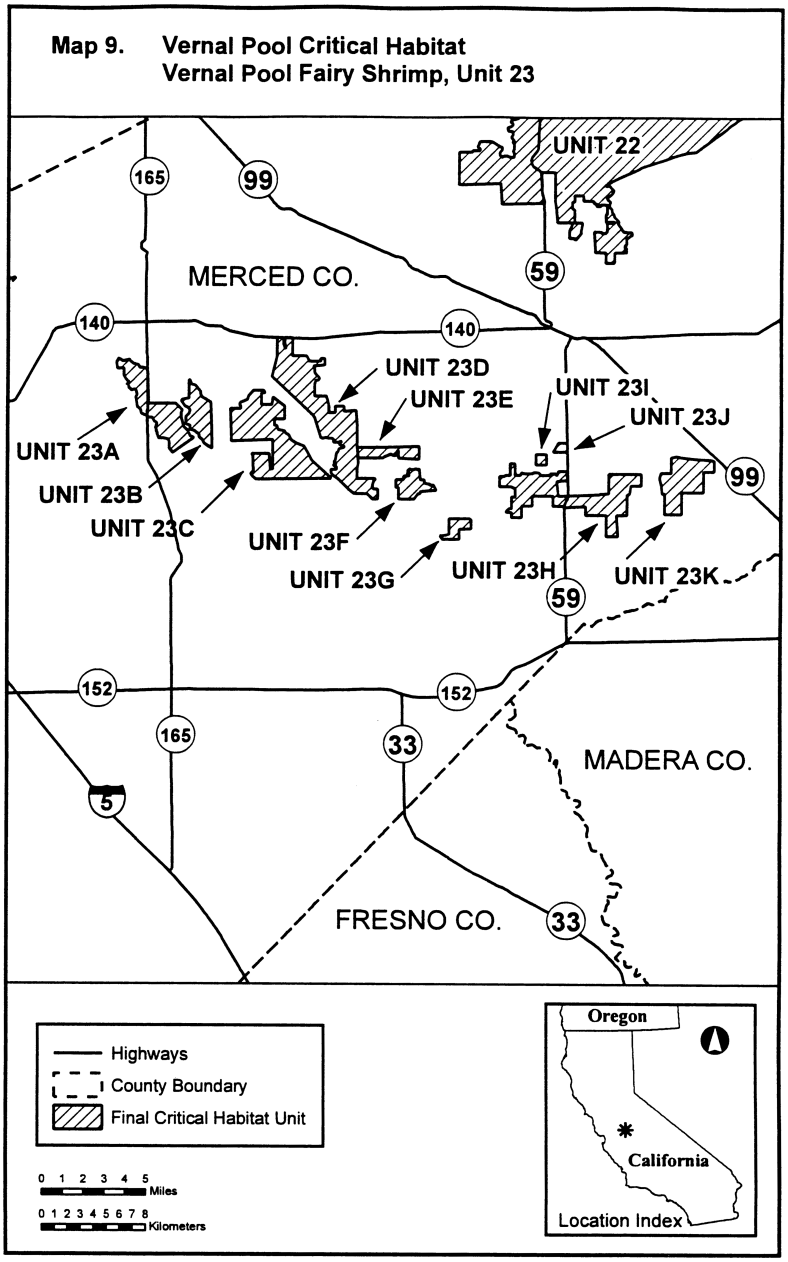
(viii) Unit 23H: Merced County, California. From USGS 1:24,000 scale quadrangle El Nido and Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 718900, 4120900; 718900, 4120000; 719300, 4120000; 719400, 4120200; 719600, 4120100; 720200, 4120100; 720300, 4120200; 720700, 4120200; 720900, 4120000; 721500, 4120000; 721600, 4120100; 722000, 4120100; 722100, 4120000; 722200, 4120200; 722200, 4120300; 722900, 4120300; 722900, 4119600; 722100, 4119500; 722200, 4118400; 725400, 4118500; 725400, 4118578; 726100, 4118600; 726100, 4120100; 728600, 4120100; 728600, 4119200; 727800, 4119200; 727700, 4118600; 727600, 4118500; 727500, 4118500; 727500, 4118400; 727500, 4116900; 726800, 4116900; 726700, 4116900; 726800, 4115300; 725900, 4115300; 725900, 4116900; 724300, 4116900; 724300, 4117600; 722694, 4117506; 722600, 4117600; 721800, 4117600; 721800, 4118400; 720200, 4118400; 720200, 4117600; 719400, 4117600; 719400, 4116700; 718600, 4116700; 718600, 4117100; 718200, 4117100; 718200, 4117200; 718300, 4117300; 718400, 4117400; 718600, 4117400; 718600, 4117500; 718600, 4118291; 718900, 4118300; 718900, 4118900; 718800, 4119000; 718700, 4119000; 718600, 4119100; 717700, 4119100; 717700, 4119900; 718100, 4119900; 718100, 4119950; 718100, 4120000; 718500, 4120000; 718500, 4120900; returning to 718900, 4120900;

(ix) Unit 23I: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 721300, 4120800; 720500, 4120800; 720500, 4121600; 721300, 4121600; 721300, 4121200; returning to 721300, 4120800;

(x) Unit 23J: Merced County, California. From USGS 1:24,000 scale quadrangle El Nido. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 722900, 4121800; 721800, 4121800; 722200, 4122500; 722900, 4122500; returning to 722900, 4121800;

(xi) Unit 23K: Merced County, California. From USGS 1:24,000 scale quadrangle Plainsburg and El Nido. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 731700, 4117000; 730400, 4117000; 730400, 4118600; 730200, 4118600; 730100, 4119300; 730000, 4119700; 730000, 4119900; 730100, 4120200; 730900, 4120200; 730900, 4121400; 731300, 4121500; 731800, 4121400; 732700, 4121300; 734000, 4121200; 734200, 4121100; 734200, 4120300; 733400, 4120300; 733400, 4118700; 731700, 4118700; returning to 731700, 4117000.

(xii) NOTE: Unit 23 (Map 9) follows:



(30) Unit 24: Madera County, California.

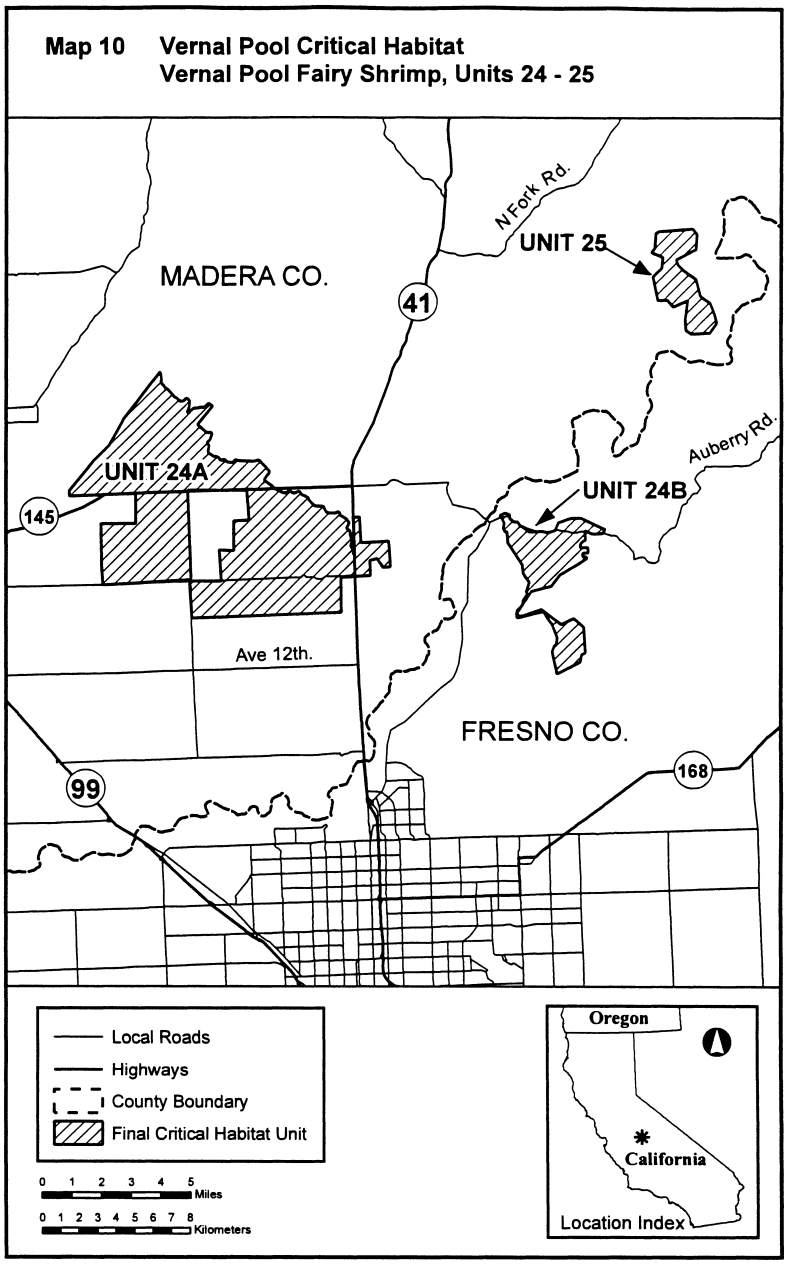
(i) Unit 24A: Madera County, California. From USGS 1:24,000 scale quadrangle Little Table Mountain, Daulton, Lanes Bridge, and Gregg. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 775948, 4105456; 775999, 4105450; 776120, 4105477; 776212, 4105561; 776272, 4105591; 776338, 4105583; 776404,

4105519; 776449, 4105460; 776460, 4105422; 776461, 4105333; 776454, 4105310; 776453, 4105259; 776440, 4105190; 776403, 4105067; 776342, 4104912; 776338, 4104874; 776344, 4104834; 776389, 4104794; 776390, 4104794; 776511, 4104930; 776669, 4105060; 776888, 4105057; 777034, 4105112; 777089, 4105117; 777174, 4105104; 777227, 4105114; 777322, 4105160; 777452, 4105307; 777505, 4105311; 777525, 4105303; 777569, 4105287; 777611, 4105253; 777630, 4105233; 777676, 4105204; 777716, 4105178; 777254, 4104608; 776860, 4104161; 777386, 4103739; 777417, 4103722; 777478, 4103724; 777556, 4103747; 777592, 4103745; 777628, 4103729; 777649, 4103704; 777655, 4103686; 777652, 4103610; 777595, 4103484; 777574, 4103361; 777542, 4103322; 777483, 4103277; 777424, 4103214; 777425, 4103166; 777452, 4103116; 777471, 4103096; 777503, 4103036; 777500, 4102977; 777455, 4102796; 777458, 4102704; 777472, 4102666; 777490, 4102639; 777701, 4102491; 777761, 4102460; 777902, 4102427; 778037, 4102384; 778066, 4102347; 778094, 4102274; 778118, 4102255; 778167, 4102239; 778212, 4102243; 778340, 4102295; 778379, 4102282; 778505, 4102141; 778562, 4102125; 778633, 4102132; 778720, 4102092; 778766, 4102096; 778798, 4102120; 778918, 4102254; 778976, 4102268; 778997, 4102264; 779059, 4102223; 779095, 4102209; 779762, 4102193; 779897, 4102172; 780079, 4102219; 780132, 4102236; 780185, 4102235; 780236, 4102217; 780360, 4102089; 780617, 4101823; 780666, 4101774; 780673, 4101764; 780682, 4101751; 780688, 4101743; 780713, 4101714; 780759, 4101634; 780761, 4101576; 780738, 4101514; 780687, 4101446; 780591, 4101336; 780514, 4101212; 780513, 4101163; 780527, 4101126; 780569, 4101089; 780939, 4100827; 781071, 4100686; 781076, 4100683; 781136, 4100645; 781561, 4100454; 781645, 4100459; 781800, 4100538; 781863, 4100561; 781925, 4100540; 781944, 4100528; 782075, 4100451; 782128, 4100455; 782347, 4100528; 782403, 4100533; 782429, 4100521; 782457, 4100499; 782535, 4100382; 782587, 4100338; 782809, 4100244; 782840, 4100222; 782884, 4100193; 782929, 4100075; 783072, 4099907; 783203, 4099779; 783268, 4099756; 783377, 4099744; 783662, 4099749; 783703, 4099735; 783743, 4099676; 783751, 4099641; 783755, 4099621; 783767, 4099609; 783768, 4099584; 783781, 4099548; 783795, 4099504; 783827, 4099471; 783858, 4099445; 783890, 4099424; 783916, 4099399; 783946, 4099382; 784056, 4099380; 784184, 4099372; 784246, 4099369; 784263, 4099375; 784300, 4099370; 784342, 4099377; 784378, 4099391; 784414, 4099405; 784438, 4099417; 784462, 4099430; 784493, 4099442; 784516, 4099445; 784536, 4099439; 784561, 4099422; 784574, 4099398; 784593, 4099356; 784601, 4099324; 784620, 4099288; 784627, 4099259; 784651, 4099241; 784652, 4099240; 784671, 4099217; 784701, 4099206; 784733, 4099188; 784758, 4099176; 784776, 4099164; 784801, 4099153; 784820, 4099143; 784845, 4099124; 784876, 4099102; 784907, 4099085; 784944, 4099056; 784970, 4099032; 784995, 4099006; 785020, 4098984; 785040, 4098960; 785046, 4098935; 785059, 4098917; 785060, 4098888; 785073, 4098858; 785074, 4098834; 785068, 4098801; 785061, 4098785; 785052, 4098764; 785041, 4098739; 785024, 4098708; 785006, 4098676; 784995, 4098640; 784978, 4098615; 784967, 4098591; 784960, 4098572; 784968, 4098548; 784993, 4098525; 785024, 4098508; 785062, 4098476; 785086, 4098473; 785117, 4098442; 785130, 4098431; 785143, 4098395; 785152, 4098345; 785159, 4098279; 785168, 4098231; 785176, 4098163; 785184, 4098120; 785184, 4098108; 785204, 4098054; 785220, 4097988; 785238, 4097931; 785246, 4097885; 785247, 4097853; 785237, 4097805; 785216, 4097736; 785199, 4097682; 785188, 4097625; 785182, 4097596; 785190, 4097576; 785209, 4097535; 785235, 4097499; 785266, 4097451; 785286, 4097422; 785312, 4097385; 785325, 4097349; 785320, 4097300; 785329, 4097245; 785330, 4097202; 785337, 4097165; 785350, 4097153; 785362, 4097142; 785387, 4097137; 785386, 4097154; 785380, 4097178; 785336, 4098764; 785334, 4098821; 785334, 4098823; 785325, 4099157; 785658, 4099178; 785746, 4097781; 787243, 4097875; 787331, 4096478; 786932, 4096452; 786601, 4096933; 786208, 4096807; 786246, 4096208; 786258, 4096009; 785453, 4095958; 784661, 4095908; 784661, 4095908; 784662, 4095507; 784662, 4094305; 784681, 4094005; 780582, 4093847; 779783, 4093796; 776583, 4093695; 776463, 4095591; 776657, 4095704; 778160, 4095698; 778053, 4097395; 778858, 4097346; 778857, 4098949; 779656, 4099000; 779555, 4100597; 776348, 4100594; 776551, 4095797; 776451, 4095791; 773656, 4095615; 771760, 4095495; 771697, 4096493; 771652, 4098795; 773554, 4098815; 773553, 4100418; 769954, 4100291; 769935, 4100590; 771238, 4102176; 772086, 4103031; 772447, 4103655; 772896, 4104485; 774373, 4106482; 774835, 4107052; 774846, 4107045; 774850, 4107042; 774860, 4107038; 774885, 4106988; 774910, 4106826; 774924, 4106643; 774919, 4106604; 774912, 4106536; 774917, 4106473; 774975, 4106381; 774999, 4106361; 775134, 4106205; 775285, 4106081; 775406, 4105942; 775604, 4105742; 775620, 4105713; 775682, 4105659; 775765, 4105623; returning to 775948, 4105456;

(ii) Unit 24B: Fresno County, California. From USGS 1:24,000 scale quadrangle Friant. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 793782, 4099090; 793994, 4098902; 794194, 4098915; 794306, 4098722; 794618, 4098541; 794831, 4098354; 795529, 4098398; 795835, 4098317; 796228, 4098442; 796403, 4098854; 797089, 4099098; 797289, 4099111; 797588, 4099129; 798930, 4098512; 798743, 4098300; 798244, 4098269; 797832, 4098443; 797863, 4097944; 797670, 4097832; 797577, 4097725; 797583, 4097626; 797589, 4097526; 797989, 4097551; 798007, 4097252; 797708, 4097233; 797721, 4097033; 797920, 4097046; 797926, 4096946; 797446, 4096615; 796479, 4096053; 796018, 4095422; 794932, 4095153; 794203, 4094004; 794215, 4093805; 794515, 4093824; 795494, 4094186; 796549, 4093351; 797229, 4093694; 797760, 4093226; 797848, 4091829; 797655, 4091716; 797580, 4091310; 796372, 4090700; 796318, 4090707; 796265, 4090961; 796301, 4090929; 796262, 4090975; 796072, 4091876; 796159, 4092137; 796200, 4092206; 796282, 4092261; 796330, 4092663; 796160, 4093099; 796056, 4093364; 795805, 4093706; 795727, 4093853; 795710, 4093880; 795603, 4094060; 795291, 4093982; 794825, 4093866; 794320, 4093746; 794171, 4093710; 794163, 4093773; 794145, 4093931; 794183, 4094110; 794269, 4094203; 794321, 4094260; 794475, 4094454; 794503, 4094666; 794724, 4094985; 794665, 4095138; 794826, 4095644; 794644, 4095919; 794496, 4096144; 794468, 4096427; 794455, 4096564; 793663, 4097789; 793626, 4098378; 793513, 4098371; 793423, 4098551; 793475, 4098842; 793327, 4099109; 793333, 4099147; 793270, 4099175; 793237, 4099239; 793463, 4099370; 793563, 4099377; 793769, 4099289; returning to 793782, 4099090;

(31) Unit 25: Madera County, California. From USGS 1:24,000 scale quadrangle Millerton Lake East. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 804045, 4111166; 804569, 4110798; 804807, 4110212; 804938, 4109719; 804571, 4109194; 803572, 4109131; 803260, 4109312; 803222, 4109911; 803359, 4110922; 802579, 4110572; 802254, 4110952; 801755, 4110921; 801473, 4112206; 801947, 4112637; 802009, 4113242; 801391, 4113504; 801578, 4113716; 801627, 4114521; 801820, 4114634; 803618, 4114748; 803836, 4114461; 803787, 4113656; 802720, 4113087; 802839, 4112794; 803158, 4112513; 803788, 4112052; returning to 804045, 4111166;

(32) NOTE: Units 24–25 (Map 10) follow:



(33) Unit 26: Tulare and Kings Counties, California.

(i) Unit 26A: Tulare and Kings Counties, California. From USGS 1:24,000 scale quadrangle Monson, Traver, Burris Park, and Remnoy. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 828797, 4041134; 828810, 4040935; 829509, 4040978;

829634, 4040585; 829709, 4039386; 830449, 4039621; 830453, 4039463; 830420, 4039230; 829721, 4039186; 829521, 4039174; 829509, 4039374; 828304, 4039399; 828279, 4039798; 827580, 4039755; 827605, 4039355; 827205, 4039330; 827280, 4038132; 826381, 4038076; 826400, 4037776; 825601, 4037726; 825582, 4038026; 824877, 4038082; 824895, 4037782; 822892, 4037758; 822929, 4037159; 821031, 4037041; 821075, 4036342; 820575, 4036310; 820606, 4035811; 820207, 4035786; 820157, 4034981; 820200, 4034282; 818203, 4034157; 818222, 4033858; 817135, 4033589; 816842, 4033471; 816667, 4033059; 816274, 4032935; 816181, 4032934; 814570, 4032928; 813902, 4032386; 813727, 4031974; 813565, 4031362; 813284, 4031044; 812996, 4030826; 812891, 4032523; 813790, 4032579; 814252, 4033209; 814539, 4033428; 814851, 4034164; 814889, 4034252; 815581, 4034395; 816256, 4034838; 817560, 4034819; 816992, 4035886; 818490, 4035980; 819364, 4036436; 819770, 4036360; 820900, 4037534; 821693, 4037683; 822542, 4038539; 824646, 4038569; 824846, 4038582; 826344, 4038675; 826313, 4039175; 825507, 4039225; 825445, 4040223; 827043, 4040323; 827100, 4041028; returning to 828797, 4041134;

(ii) Unit 26B: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 831257, 4040285; 831281, 4039895; 831228, 4039894; 831226, 4040265; 830457, 4040256; 830452, 4040335; returning to 831257, 4040285;

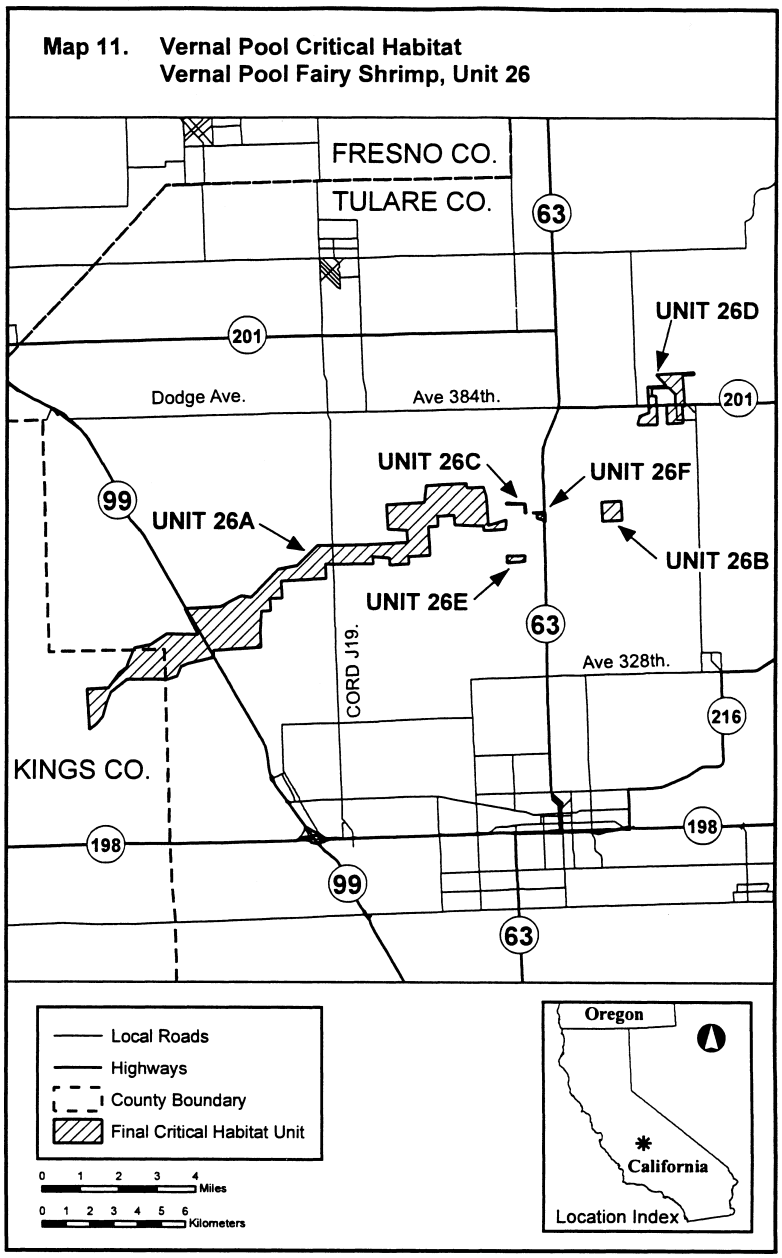
(iii) Unit 26C: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 835309, 4039635; 834510, 4039585; 834460, 4040384; 835259, 4040434; returning to 835309, 4039635;

(iv) Unit 26D: Tulare County, California. From USGS 1:24,000 scale quadrangle Ivanhoe. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 837863, 4043705; 837178, 4043663; 837165, 4044455; 837527, 4044471; 837510, 4044925; 837253, 4045186; 836546, 4045165; 836550, 4044829; 836726, 4044828; 836732, 4044453; 836753, 4044453; 836777, 4043638; 836764, 4043637; 836765, 4043628; 835983, 4043614; 835959, 4043687; 836040, 4043993; 836433, 4044117; 836365, 4045216; 837164, 4045266; 836733, 4045741; 838331, 4045841; 838338, 4045740; 837838, 4045710; 837919, 4044411; 837819, 4044405; returning to 837863, 4043705;

(v) Unit 26E: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 831258, 4037878; 830508, 4037831; 830507, 4037837; 830510, 4037837; 830495, 4038113; 830867, 4038116; 831249, 4038123; returning to 831258, 4037878;

(vi) Unit 26F: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 832081, 4039935; 832106, 4039535; 832038, 4039531; 831991, 4039595; 831752, 4039679; 831748, 4039853; 832035, 4039864; 832031, 4039913; 831542, 4039901; 832081, 4039935; returning to 832081, 4039935;

(vii) NOTE: Unit 26 (Map 11) follows:



(34) Unit 27: Tulare County, California.

(i) Unit 27A: Tulare County, California. From USGS 1:24,000 scale quadrangle Taylor Weir, Corcoran, and Alpaugh. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 816702, 4000178; 816908, 4000090; 818306, 4000177; 818405, 3998578; 819903, 3998671; 820002, 3997073; 818403, 3996974; 818502,

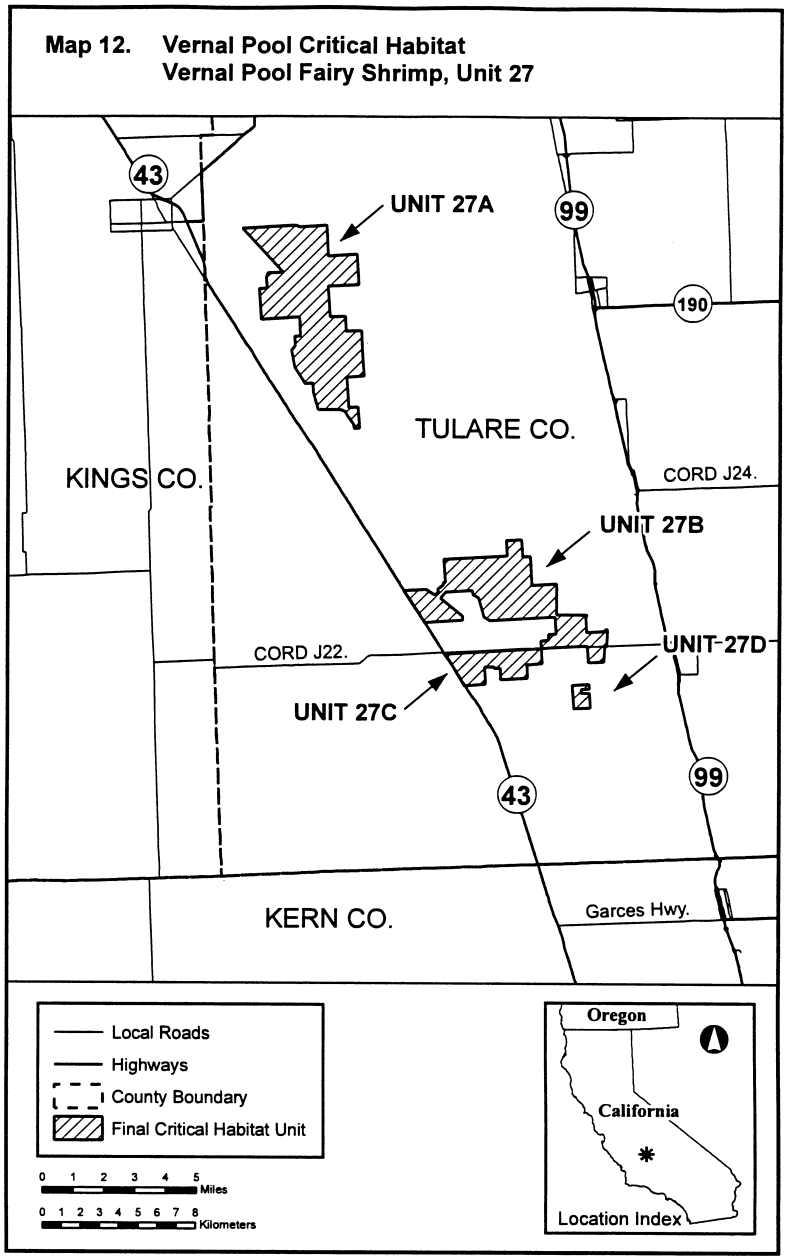
3995377; 819301, 3995426; 819351, 3994627; 820149, 3994676; 820199, 3993877; 820248, 3993078; 820297, 3992279; 819399, 3992224; 819497, 3990626; 819996, 3990656; 820064, 3989558; 819765, 3989539; 819752, 3989739; 819422, 3990220; 819310, 3990414; 819104, 3990501; 817899, 3990527; 817644, 3991413; 817613, 3991913; 817214, 3991888; 816659, 3992756; 816504, 3993649; 816691, 3993861; 816660, 3994360; 816960, 3994379; 816910, 3995178; 816898, 3995378; 814901, 3995254; 814802, 3996852; 815201, 3996877; 815164, 3997476; 815252, 3997682; 816051, 3997731; 813905, 4000005; returning to 816702, 4000178.

(ii) Unit 27B: Tulare County, California. From USGS 1:24,000 scale quadrangle Pixley and Alpaugh. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 829592, 3978113; 829568, 3978513; 829967, 3978537; 829949, 3978837; 830348, 3978862; 830293, 3979761; 826897, 3979551; 826585, 3979733; 826454, 3980226; 826324, 3980719; 826012, 3980901; 825999, 3981101; 824601, 3981014; 824320, 3980697; 825480, 3979765; 825492, 3979565; 825392, 3979559; 823495, 3979442; 822391, 3981079; 823590, 3981153; 824008, 3980878; 824201, 3980990; 824189, 3981190; 824476, 3981408; 824470, 3981508; 824570, 3981514; 824496, 3982713; 827793, 3982915; 827743, 3983715; 828543, 3983764; 828598, 3982865; 828997, 3982890; 829090, 3981391; 829090, 3981391; 830388, 3981471; 830387, 3979867; 831991, 3979865; 831897, 3979759; 831947, 3978960; 832946, 3979021; 832939, 3979121; 833039, 3979128; 832995, 3978222; 832895, 3978216; 832845, 3977419; 832047, 3977387; 831990, 3978261; 829992, 3978138; returning to 829592, 3978113;

(iii) Unit 27C: Tulare County, California. From USGS 1:24,000 scale quadrangle Pixley and Alpaugh. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 829592, 3978113; 829641, 3977314; 828842, 3977265; 828848, 3977165; 828848, 3977165; 828885, 3976566; 827487, 3976480; 827450, 3977079; 827150, 3977060; 827144, 3977160; 826645, 3977130; 826700, 3976231; 825601, 3976163; 824598, 3977806; returning to 829592, 3978113;

(iv) Unit 27D: Tulare County, California. From USGS 1:24,000 scale quadrangle Delano West. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 831681, 3975979; 831682, 3975780; 832114, 3975799; 832147, 3975004; 831304, 3974962; 831290, 3974961; 831213, 3976207; 832099, 3976262; 832108, 3976000; returning to 831681, 3975979;

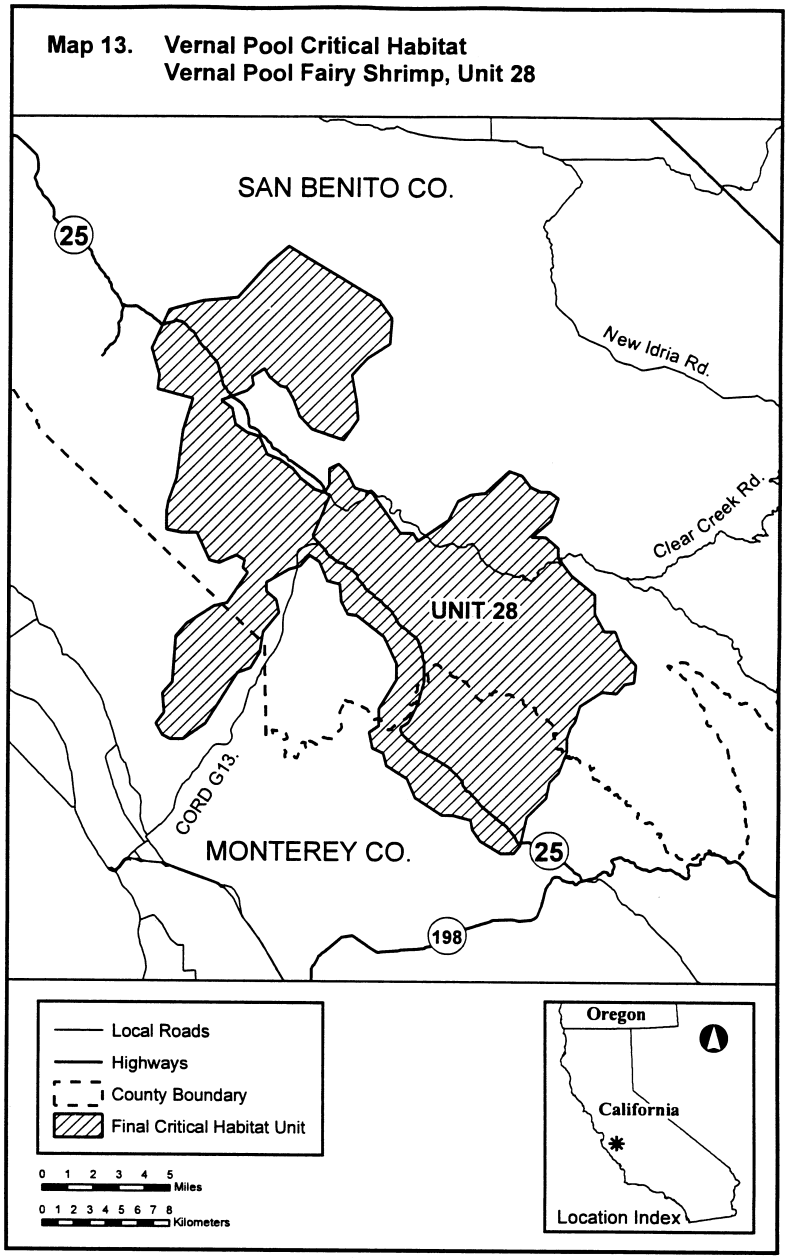
(v) NOTE: Unit 27 (Map 12) follows:



(35) Unit 28: San Benito and Monterey Counties, California. From USGS 1:24,000 scale quadrangle Hernandez Reservoir, Rock Springs Peak, Topo Peak, Hepsedam Peak, Lonoak, Pinalito Canyon, Monarch Peak, and Nattrass Valley. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 682300, 4039700; 681300, 4038600; 681600,

4037000; 681700, 4035800; 680800, 4034500; 678800, 4035200; 678000, 4036000; 677600, 4037100; 677200, 4037800; 67680, 4037900; 676100, 4038500; 675800, 4039000; 675000, 4038500; 675100, 4038000; 674700, 4037600; 673100, 4037000; 673800, 4036500; 674000, 4035500; 674700, 4035000; 675500, 4034700; 676000, 4033600; 676800, 4033300; 677600, 4032700; 678100, 4032100; 679000, 4031400; 679600, 4031200; 679900, 4031700; 679900, 4032700; 680500, 4033000; 681000, 4032500; 681500, 4031500; 682600, 4031200; 684400, 4028700; 685200, 4028700; 685500, 4028200; 687400, 4029500; 688000, 4030700; 688800, 4031100; 689700, 4031200; 691200, 4032600; 692000, 4032300; 692500, 4031600; 693200, 4031300; 693700, 4031300; 694300, 4030900; 693800, 4029500; 692600, 4028500; 693500, 4028500; 694300, 4027800; 694300, 4027200; 695100, 4026100; 696600, 4024900; 696600, 4023700; 697200, 4022600; 697900, 4022600; 698300, 4021500; 699200, 4020500; 699100, 4019400; 698500, 4019300; 698000, 4018700; 697100, 4018800; 695700, 4017900; 695400, 4016900; 695100, 4016500; 694900, 4015900; 694900, 4015000; 694857, 4014888; 694400, 4013700; 693800, 4013100; 693600, 4012100; 692400, 4010900; 692000, 4009100; 691600, 4008600; 690800, 4008600; 689500, 4009400; 689000, 4010100; 688900, 4010700; 687800, 4011000; 687100, 4011000; 685400, 4012100; 684900, 4013300; 683600, 4014100; 683400, 4014900; 682700, 4015200; 682500, 4016200; 683100, 4016600; 683100, 4017044; 683100, 4017700; 684200, 4019500; 684200, 4020500; 683400, 4022200; 681700, 4023500; 681100, 4023600; 680700, 4024400; 680600, 4025500; 679800, 4025700; 679300, 4026900; 678700, 4027300; 678100, 4026600; 677400, 4026400; 676000, 4025600; 676000, 4025000; 676600, 4024500; 676800, 4023700; 675800, 4022500; 675702, 4021862; 675600, 4021200; 675000, 4020200; 674200, 4019900; 672200, 4016700; 670800, 4015700; 670000, 4015700; 669500, 4016000; 669100, 4016700; 669600, 4017400; 669500, 4018600; 670100, 4019300; 670300, 4022200; 671000, 4023000; 672700, 4024100; 673205, 4024226; 673500, 4024300; 674800, 4026200; 674500, 4026500; 674600, 4027000; 674100, 4027300; 673000, 4026800; 672400, 4027000; 671600, 4028700; 670700, 4028700; 669700, 4028900; 669700, 4030100; 669800, 4030700; 670300, 4032100; 670700, 4035100; 671300, 4037100; 669100, 4037700; 669200, 4038600; 668700, 4040300; 669800, 4042700; 671900, 4043300; 674100, 4043500; 676000, 4045600; 677300, 4046700; 683000, 4043300; 683800, 4042200; 683700, 4040600; returning to 682300, 4039700.

(36) NOTE: Unit 28 (Map 13) follows:



(37) Unit 29: Monterey County, California.

(i) Unit 29A: Monterey County, California. From USGS 1:24,000 scale quadrangle Williams Hill and Jolon. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 668500, 3981900; 668700, 3981600; 668500, 3981100; 668700, 3980600; 669400, 3980100; 669800, 3980500; 670600, 3980700; 671400, 3980600; 671400,

3979500; 671900, 3979500; 672700, 3978600; 674700, 3978600; 675400, 3978200; 674600, 3976900; 674800, 3975700; 674900, 3975567; 674900, 3975500; 674700, 3975500; 674640, 3975981; 674639, 3976224; 674609, 3976226; 674600, 3976300; 673444, 3976300; 673418, 3976654; 673400, 3976654; 673400, 3976700; 673032, 3976700; 673029, 3977031; 673830, 3977043; 673838, 3977861; 673000, 3977858; 673000, 3977900; 672261, 3977869; 672201, 3978658; 670585, 3978648; 670610, 3977800; 670600, 3977800; 670600, 3977628; 670210, 3977909; 669793, 3978209; 669403, 3978493; 669204, 3978638; 669009, 3978794; 668691, 3979047; 668676, 3979059; 668631, 3979094; 668575, 3979139; 668542, 3979154; 668427, 3979205; 668355, 3979245; 668300, 3979300; 667137, 3980172; 668155, 3980187; 668138, 3980992; 667738, 3980995; 667723, 3981807; 667320, 3981800; 667314, 3982100; 668000, 3982100; returning to 668500, 3981900;

(ii) Unit 29B: Monterey County, California. From USGS 1:24,000 scale quadrangle Valleton, Wunpost, San Miguel. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706300, 3975100; 706500, 3974400; 706400, 3971900; 706600, 3970800; 707000, 3970100; 707000, 3969400; 706800, 3969200; 706800, 3968200; 706600, 3967499; 705500, 3965500; 705400, 3965500; 705290, 3970469; 706068, 3970480; 706043, 3972930; 705235, 3972918; 705200, 3974500; 705155, 3974500; 705155, 3974504; 704931, 3974500; 704000, 3974500; 703700, 3973800; 703700, 3973400; 703229, 3972552; 703170, 3972480; 702900, 3972300; 702600, 3972000; 702500, 3971900; 701931, 3971236; 701923, 3971236; 701885, 3971200; 701600, 3971200; 701300, 3971000; 700800, 3971000; 700000, 3971000; 700000, 3970400; 699000, 3970410; 699000, 3970500; 699200, 3970700; 699800, 3972200; 700200, 3972800; 700400, 3973600; 700800, 3974300; 701300, 3974700; 701700, 3975500; 702900, 3976300; 703200, 3976900; 704200, 3977800; 704800, 3977900; 705400, 3977900; 706100, 3978300; 706700, 3978700; 706700, 3978300; 706200, 3976700; 706100, 3975500; returning to 706300, 3975100;

(iii) Unit 29C: San Luis Obispo County, California. From USGS 1:24,000 scale quadrangle Estrella, Paso Robles, Cholame Hills, Ranchito Canyon, and Creston. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 725000, 3962100; 725600, 3961700; 726100, 3961700; 726100, 3961300; 725200, 3960400; 725100, 3959200; 724700, 3958300; 724300, 3956700; 724700, 3956500; 725200, 3955000; 724100, 3953600; 723800, 3952700; 723400, 3952000; 723100, 3950600; 723500, 3949700; 723500, 3949000; 724100, 3948500; 723500, 3948400; 722300, 3948900; 719200, 3948900; 719200, 3949700; 718300, 3949700; 718300, 3948900; 718900, 3948900; 719000, 3948700; 719200, 3948700; 719200, 3948100; 720000, 3948100; 720000, 3946500; 720200, 3946400; 720800, 3945700; 721000, 3945200; 721100, 3944900; 721100, 3943400; 720100, 3943400; 718700, 3942200; 717700, 3941700; 717400, 3941700; 717000, 3941900; 717200, 3942500; 715100, 3944900; 715300, 3945200; 714500, 3945900; 714800, 3946200; 714600, 3946400; 714000, 3946400; 713200, 3947000; 713200, 3947200; 713600, 3947800; 713500, 3948400; 713200, 3948700; 712800, 3947900; 712600, 3947900; 712500, 3948000; 712500, 3948800; 711600, 3949100; 711300, 3949300; 711200, 3949800; 710600, 3949900; 710500, 3950000; 710500, 3950200; 710900, 3950400; 710900, 3950600; 710600, 3950700; 709400, 3950500; 709300, 3952100; 709800, 3952800; 709800, 3954800; 709500, 3955200; 709500, 3955600; 710200, 3955600; 710400, 3955500; 711000, 3955300; 711500, 3954600; 711600, 3953600; 713900, 3953600; 714200, 3954000; 714500, 3953800; 715000, 3953700; 715300, 3953500; 715500, 3953400; 715700, 3953400; 716000, 3953700; 716500, 3953700; 716800, 3953600; 717600, 3953700; 717900, 3954200; 718500, 3954600; 718900, 3954800; 719300, 3954900; 720400, 3955600; 721400, 3956700; 722200, 3958400; 722500, 3960400; 723300, 3962100; 724200, 3962500; 724400, 3963300; 724657, 3963557; 725100, 3964000; 725100, 3963563; 725100, 3963300; returning to 725000, 3962100;

(iv) Unit 29D: San Luis Obispo and Monterey Counties, California. From USGS 1:24,000 scale quadrangle Bradley. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 695400, 3963500; 695700, 3963400; 695755, 3963400; 695761, 3963087; 695592, 3963031; 695500, 3963000; 695500, 3962966; 695470, 3962965; 695500, 3961632; 695500, 3961400; 694300, 3961400; 694300, 3961200; 694200, 3961400; 694800, 3961800; 694900, 3962400; 694700, 3962800; 694730, 3963011; 694800, 3963500; 695400, 3963500;

(v) Unit 29E: Monterey and San Luis Obispo County, NIT_NUM = 20D California. From USGS 1:24,000 scale quadrangle San Miguel. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 707500, 3961300; 706900, 3961300; 706900, 3961400; 706793, 3961480; 706792, 3961534; 706809, 3962857; 706650, 3962895; 706543, 3962948; 706490, 3963003; 706410, 3963007; 706288, 3963052; 706477, 3963218; 706800, 3963500; 707600, 3963500; 707563, 3963241; 707500, 3962800; 707900, 3962500; 708100, 3962000; returning to 707500, 3961300;

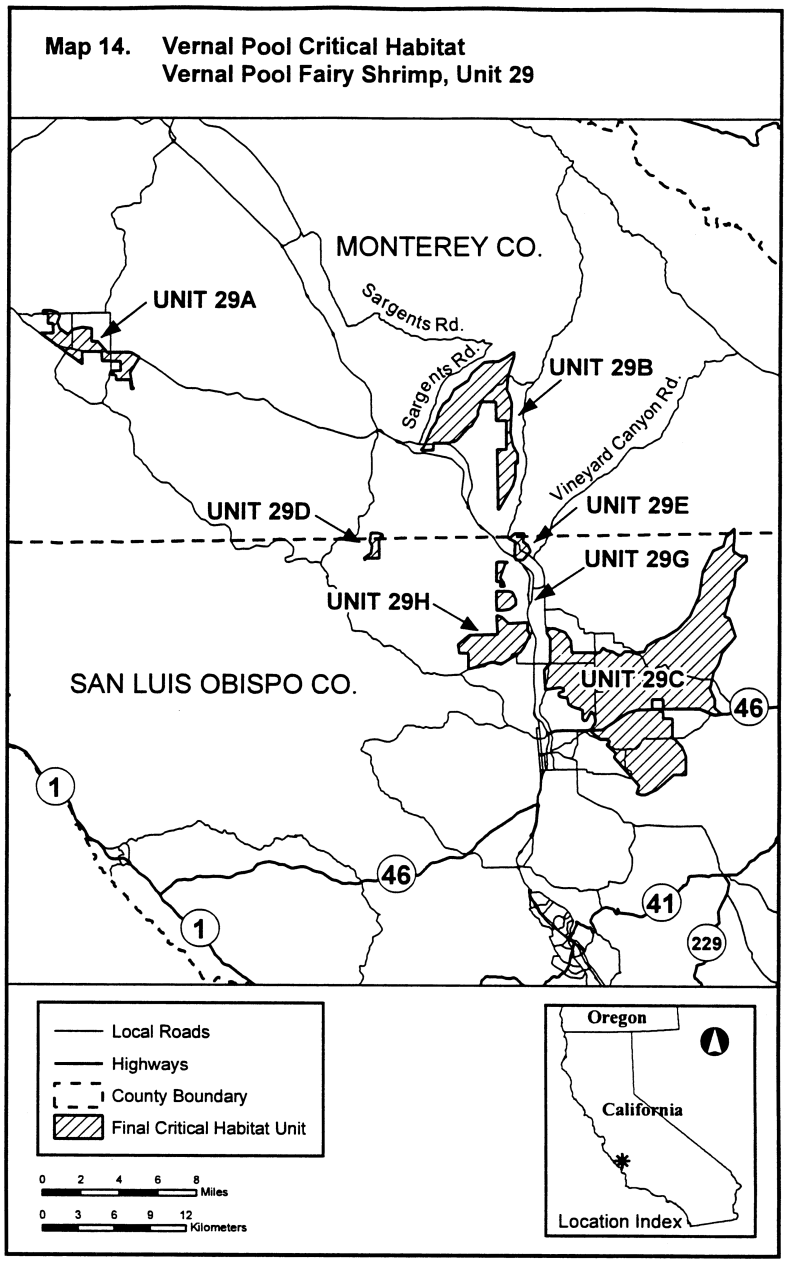
(vi) Unit 29F: San Luis Obispo County, California. From USGS 1:24,000 scale quadrangle San Miguel. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 705600, 3959800; 705900, 3959400; 705949, 3959103; 705635, 3959098; 705626, 3959502; 705300, 3959498; 705300, 3961100; 705464, 3961118; 706200, 3961125; 706200, 3961100; 706000, 3961000; 705600, 3959800;

(vii) Unit 29G: San Luis Obispo County, California. From USGS 1:24,000 scale quadrangle San Miguel and Paso Robles. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 705700, 3957100; 705311, 3957100; 705300, 3957657; 705300, 3958689; 706287, 3958704; 706600, 3958600; 706900, 3958000; 706900, 3957600; 706400, 3957200; returning to 705700, 3957100;

(viii) Unit 29H: San Luis Obispo, California. From USGS 1:24,000 scale quadrangle Paso Robles and Adelaida. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 705800, 3956500; 706300, 3956000; 707900, 3956100; 707900, 3955400; 708100, 3955100; 707600, 3954000; 707300, 3953600; 705700, 3952600; 705000, 3952800; 703200, 3952200; 703000, 3952200; 703000, 3953500; 702200, 3953500; 702113, 3954196; 703041, 3955028; 705352, 3955079; 705351, 3955100; 705400,

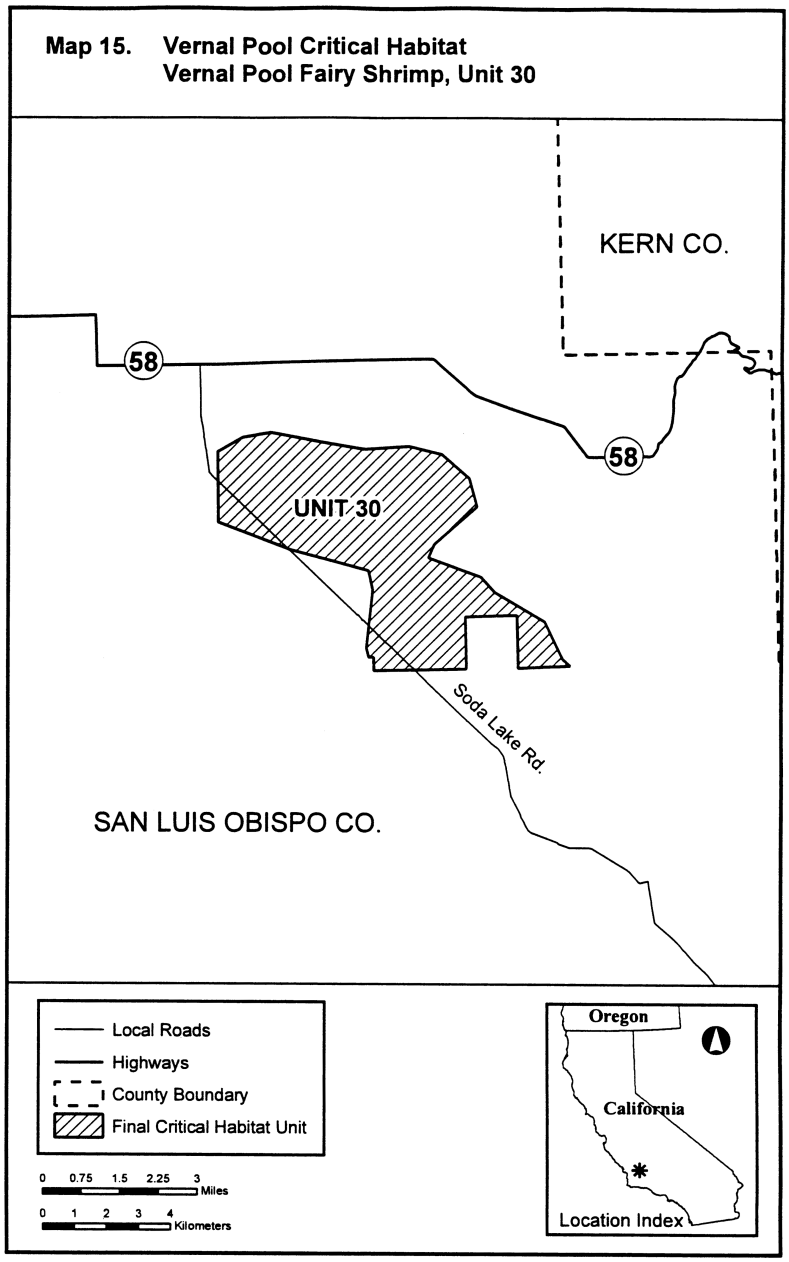
3955100; 705328, 3956248; 705319, 3956700; 705400, 3956700; returning to 705800, 3956500;

(ix) NOTE: Unit 29 (Map 14) follows:



(38) Unit 30: San Luis Obispo County, California. From USGS 1:24,000 scale quadrangle Simmler. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 774375, 3914002; 777312, 3913479; 778710, 3913564; 779726, 3913325; 780573, 3912575; 780827, 3911688; 779496, 3910506; 779321, 3910094; 780960, 3909492; 781390, 3909017; 782948, 3908110; 783520, 3906942; 783765, 3906725; 783760, 3906724; 782946, 3906690; 782936, 3906690; 782156, 3906654; 782132, 3906653; 782082, 3908301; 780768, 3908263; 780485, 3908255; 780490, 3908031; 780522, 3906619; 779393, 3906593; 777627, 3906558; 777613, 3906978; 777456, 3906974; 777388, 3907272; 777578, 3909087; 777442, 3909680; 774998, 3910333; 772742, 3911198; 772708, 3913400; 773483, 3913848; returning to 774375, 3914002;

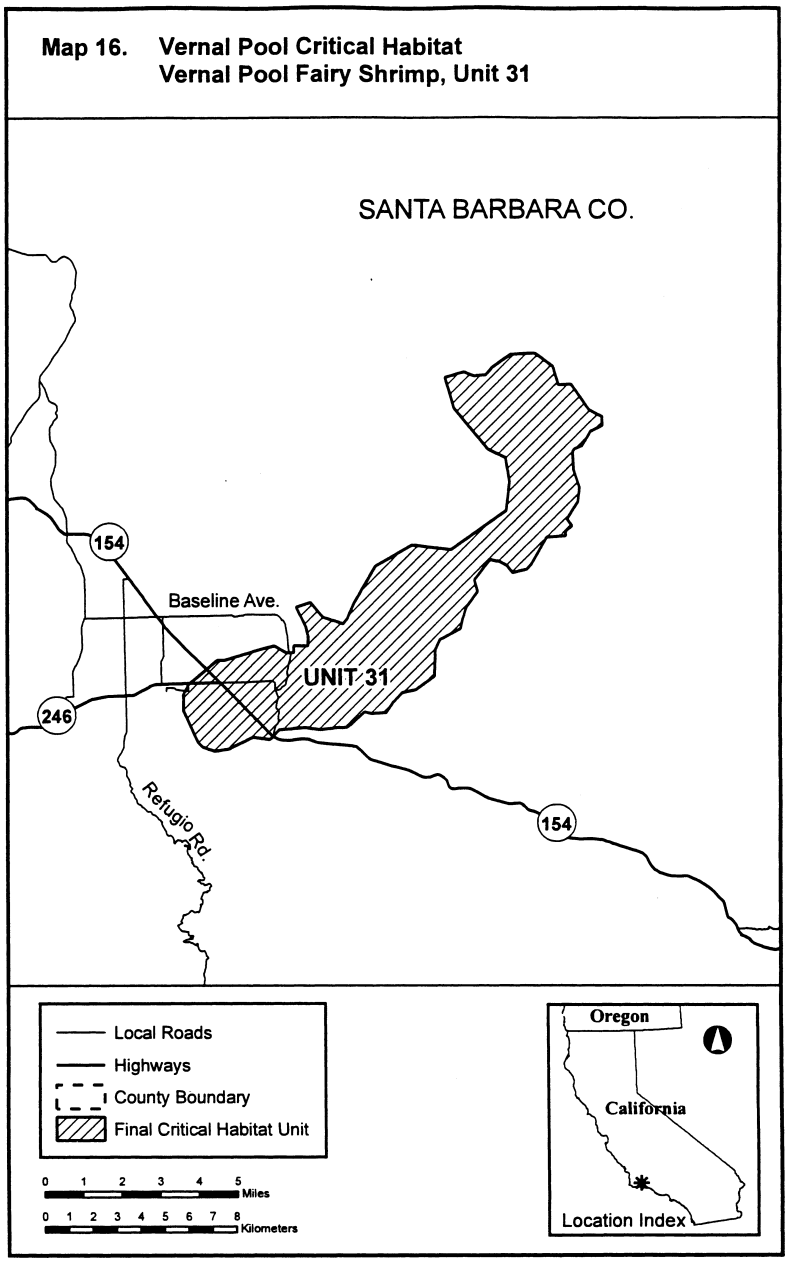
(39) NOTE: Unit 30 (Map 15) follows:



(40) Unit 31: Santa Barbara County, California. From USGS 1:24,000 scale quadrangle Figueroa Mtn., Los Olivos, Lake Cachuma, and Santa Ynez. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 775060, 3831898; 774653, 3831857; 774200, 3831800; 773600, 3831900; 772500, 3831800; 772100, 3831400; 771400, 3831500; 770400, 3831000; 769800,

3830900; 769300, 3831100; 769100, 3831300; 768500, 3832600; 768500, 3833300; 768700, 3833700; 769900, 3834700; 770200, 3834700; 771157, 3834982; 772300, 3835300; 772800, 3835000; 773100, 3835000; 773100, 3835300; 773700, 3835300; 773700, 3835700; 773600, 3836100; 773200, 3836900; 773800, 3837100; 774300, 3836500; 774928, 3836289; 774935, 3836124; 775060, 3831898; UTM NAD83 Zone *11N:* 225515, 3836830; 226600, 3838500; 228200, 3839300; 229800, 3839000; 232200, 3840500; 232400, 3841700; 232300, 3842700; 231600, 3843100; 230300, 3844900; 230000, 3846200; 230800, 3846400; 231200, 3846200; 231700, 3846200; 232000, 3846500; 232800, 3847000; 233800, 3847000; 234500, 3846400; 234700, 3845600; 235200, 3845600; 235900, 3844500; 236400, 3844200; 236400, 3843800; 235900, 3843600; 235500, 3843000; 235200, 3842900; 235100, 3842800; 235100, 3842000; 235300, 3841300; 235200, 3840700; 234700, 3840000; 234900, 3839700; 234600, 3839500; 234600, 3839300; 233800, 3839300; 233100, 3838200; 232900, 3838000; 232300, 3837900; 232100, 3838200; 231800, 3838400; 231400, 3838500; 230700, 3837700; 230800, 3837200; 230300, 3836600; 230100, 3836100; 230000, 3835700; 229100, 3835300; 228900, 3834900; 228800, 3833800; 228000, 3833300; 227400, 3833200; 227000, 3832800; 226700, 3832400; 226100, 3832400; 225800, 3832500; 225200, 3832000; 225000, 3831900; 224752, 3831904; 224835, 3834499; 224871, 3835728; 224904, 3836287; 225100, 3836200; 225372, 3836544; 225515, 3836830;

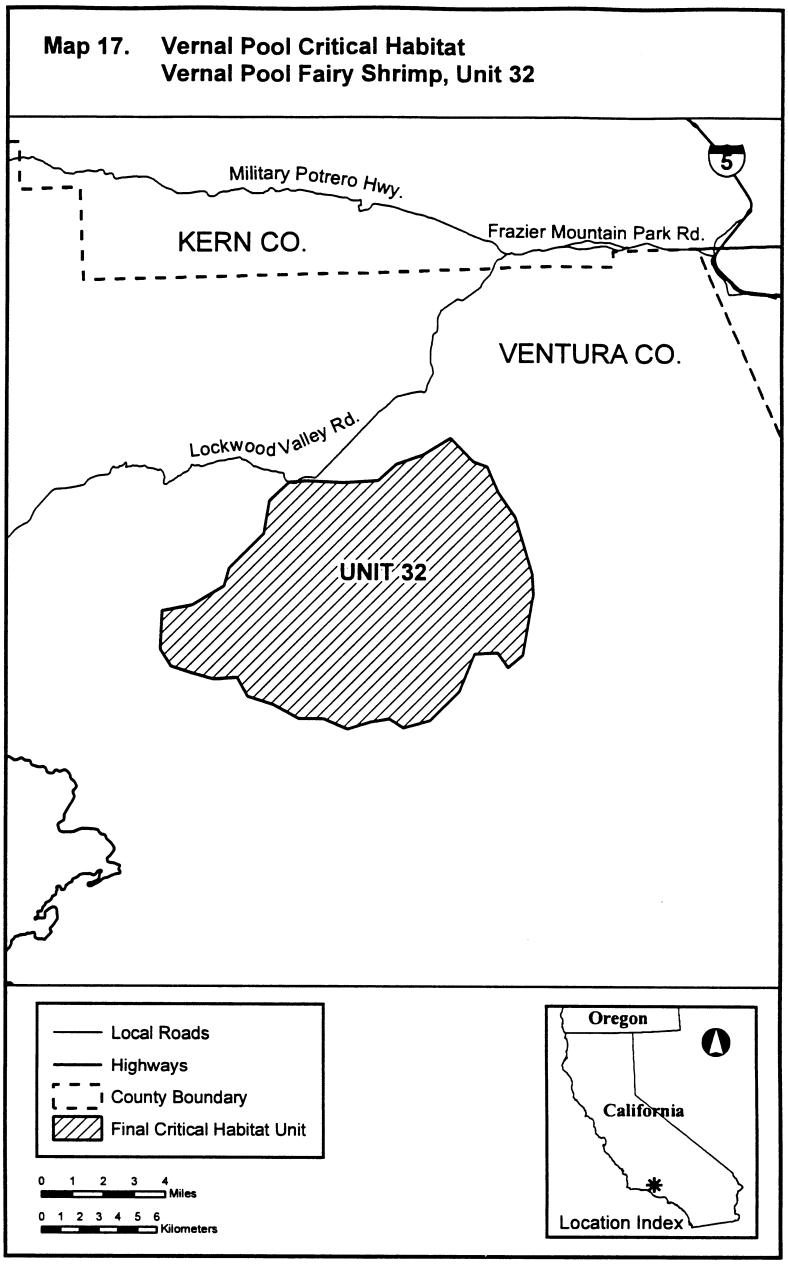
(41) NOTE: Unit 31 (Map 16) follows:



(42) Unit 32: Ventura County, California. From USGS 1:24,000 scale quadrangle Alamo Mountain, Lockwood Valley, San Guillermo, Topatopa Mountains, Lion Canyon. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 864689, 3849170; 865272, 3847801; 866149, 3846550; 867028, 3843593; 867093, 3842494; 867037, 3842150; 866579, 3839353; 865815,

3838706; 865267, 3839476; 864068, 3839404; 863282, 3837452; 861766, 3835957; 860385, 3835574; 859656, 3836032; 858662, 3835872; 857481, 3835501; 856246, 3836030; 854941, 3836052; 853594, 3836774; 852265, 3837196; 851706, 3838166; 850507, 3838094; 849284, 3838422; 848261, 3838762; 847708, 3839632; 847788, 3841642; 849375, 3841937; 851020, 3842938; 851266, 3843856; 853063, 3845668; 853362, 3847390; 854407, 3848355; 855307, 3848409; 857217, 3848323; 859016, 3848430; 859968, 3849289; 861343, 3849773; 862794, 3850662; 863971, 3849428; returning to 864689, 3849170;

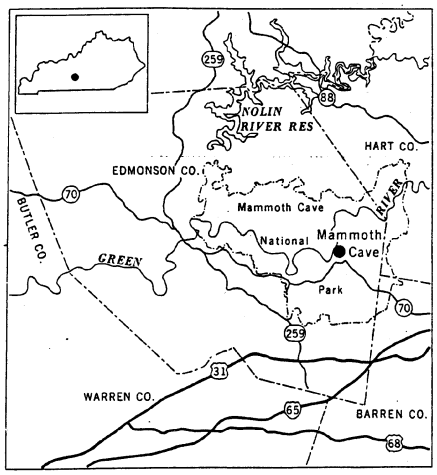
(43) NOTE: Unit 32 (Map 17) follows:



KENTUCKY CAVE SHRIMP (*Palaemonias ganteri*)

Kentucky, Edmonson County: The Roaring River passage of the Flint-Mammoth Cave System in Mammoth Cave National Park.

NOTE: Map follows:



Known constituent elements include a stream in a base level cave passage with abundant organic material and sediments consisting of coarse silt and very coarse to very fine sand.

VERNAL POOL TADPOLE SHRIMP (*Lepidurus packardi*)

(1) Critical habitat units are depicted for Alameda, Amador, Butte, Colusa, Fresno, Kings, Madera, Mariposa, Merced, Sacramento, Shasta, Solano, Stanislaus, Tehama, Tulare, Yolo, and Yuba counties, California, on the map below.

(2) The primary constituent elements of critical habitat for vernal pool tadpole shrimp (*Lepidurus packardi*) are the habitat components that provide:

(i) Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described below in paragraph (2)(ii), providing for dispersal and promoting hydroperiods of adequate length in the pools;

(ii) Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 41 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction. As these features are inundated on a seasonal basis, they do not promote the development of obligate wetland vegetation habitats typical of permanently flooded emergent wetlands;

(iii) Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and

(iv) Structure within the pools described above in paragraph (2)(ii), consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas do not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species and/or primary constituent elements in adjacent critical habitat.

(4) Unit 1: Shasta County, California. From USGS 1:24,000 scale quadrangle Palo Cedro, Enterprise, Balls Ferry, and Cottonwood. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 562500, 4487400; 562700, 4487100; 562900, 4487200; 563200, 4487200; 563300, 4487000; 563300, 4486700; 563800, 4486400; 564300, 4484700; 564300, 4484400; 564500, 4484100; 564500, 4483800; 564600, 4483700; 564600, 4483400; 564400, 4483100; 564100, 4482800; 564100, 4482600; 564300, 4482600; 564300, 4482400; 564300, 4482300; 564200, 4482200; 564100, 4482100; 564000, 4482100; 564200, 4481800; 564200, 4480900; 563600, 4480900; 563300, 4481000; 563100, 4480900; 562900, 4480900; 562500, 4481200; 562400, 4481500; 562400, 4481700; 562300, 4482400; 562000, 4482500; 561900, 4482800; 561800, 4483300; 561500, 4483700; 561000, 4484000; 560700, 4485400; 560700, 4486500; 560800, 4486700; 561000, 4486900; 561200, 4487000; 561300, 4487600; 561600, 4487900; 562000, 4487900; returning to 562500, 4487400;

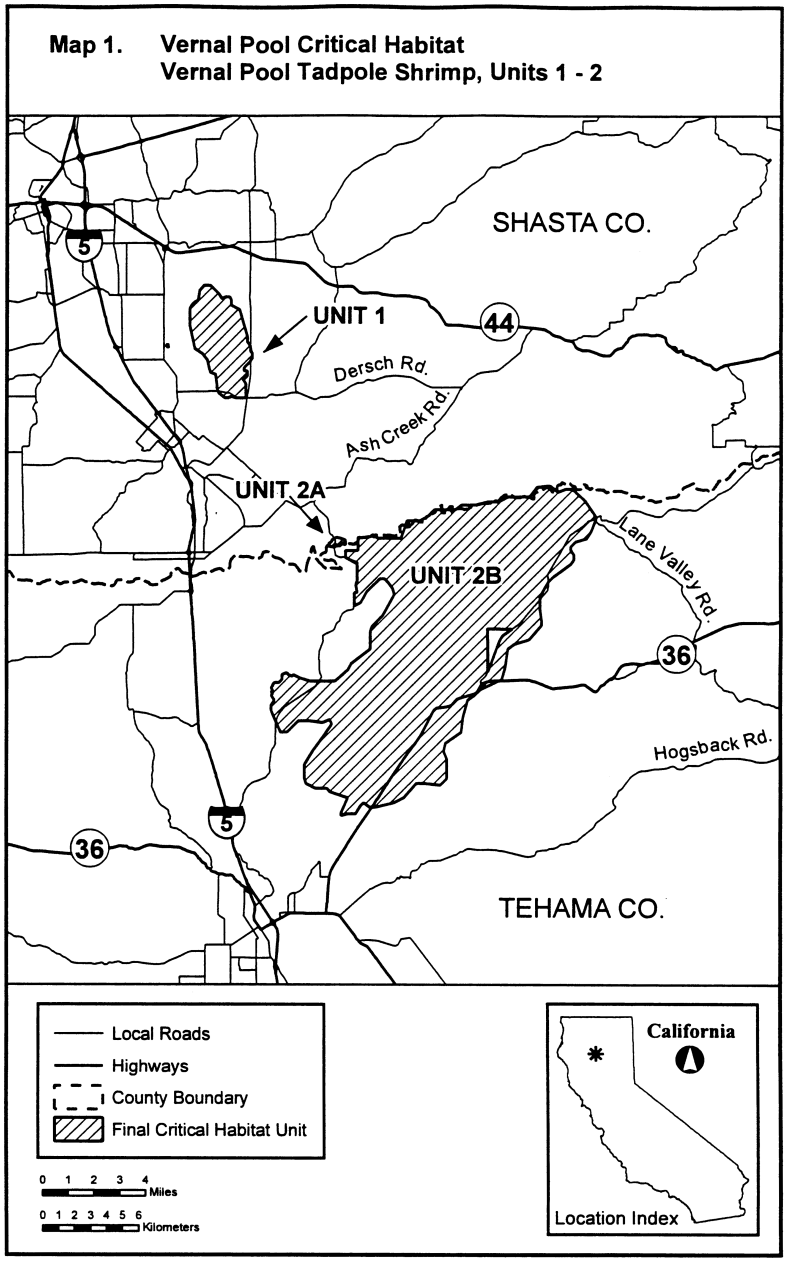
(5) Unit 2: Shasta County, California.

(i) Unit 2A: Shasta County, California. From USGS 1:24,000 scale quadrangle Balls Ferry. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 570448, 4472017; 570459, 4471725; 570459, 4471725; 570459, 4471724; 570408, 4471708; 570382, 4471714; 570356, 4471741; 570335, 4471767; 570304, 4471767; 570298, 4471772; 570279, 4471768; 570240, 4471758; 570210, 4471761; 570196, 4471743; 570183, 4471738; 570173, 4471734; 570160, 4471705; 570156, 4471680; 570156, 4471678; 570150, 4471671; 570139, 4471657; 570139, 4471654; 570139, 4471645; 570118, 4471628; 570092, 4471624; 570089, 4471624; 570071, 4471623; 570054, 4471623; 570006, 4471624; 569975, 4471641; 569952, 4471639; 569913, 4471639; 569893, 4471626; 569866, 4471623; 569852, 4471624; 569821, 4471597; 569810, 4471574; 569789, 4471573; 569761, 4471574; 569757, 4471575; 569735, 4471544; 569722, 4471574; 569676, 4471581; 569658, 4471581; 569644, 4471584; 569625, 4471584; 569605, 4471585; 569557, 4471585; 569534, 4471593; 569517, 4471599; 569494, 4471607; 569465, 4471615; 569438, 4471622; 569415, 4471629; 569400, 4471629; 569400, 4471687; 569400, 4471800; 569600,

4471900; 569600, 4472000; 569900, 4472200; 570200, 4472100; returning to 570448, 4472017;

(ii) Unit 2B: Shasta and Tehama Counties, California. From USGS 1:24,000 scale quadrangle Shingletown, Tuscan Buttes NE, Balls Ferry, Dales, Bend, and Red Bluff East. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 583610, 4475072; 583700, 4475000; 584200, 4475200; 584600, 4475200; 585400, 4474500; 586000, 4473600; 586100, 4473400; 585800, 4472600; 585500, 4472100; 584800, 4471900; 584500, 4471600; 584500, 4471400; 584700, 4471100; 584700, 4470800; 584500, 4470500; 583400, 4469700; 583100, 4469400; 582600, 4468500; 582600, 4467600; 582700, 4466900; 582700, 4466700; 581900, 4465800; 581000, 4465500; 580600, 4465200; 580400, 4464000; 580200, 4463300; 578900, 4462700; 578500, 4462300; 578100, 4462000; 577800, 4460900; 577700, 4460000; 576700, 4459300; 576600, 4458800; 576800, 4458300; 576800, 4457100; 576400, 4456700; 575500, 4456800; 574900, 4456800; 574100, 4455900; 573500, 4455600; 572300, 4455300; 572000, 4455300; 571600, 4455600; 571400, 4455400; 571100, 4454900; 570600, 4454900; 570200, 4454800; 570200, 4455000; 570600, 4455900; 570000, 4456100; 569500, 4456300; 569300, 4456500; 568900, 4456500; 568600, 4456500; 568000, 4456800; 567900, 4457100; 567900, 4458000; 568400, 4458800; 569100, 4459800; 569600, 4460500; 569500, 4460800; 569000, 4460600; 568300, 4460700; 567500, 4460700; 566800, 4460000; 566400, 4460000; 565900, 4461100; 565800, 4461400; 565800, 4461700; 566000, 4462000; 565800, 4462300; 565900, 4462400; 565800, 4462500; 565900, 4462600; 565800, 4462800; 565900, 4462900; 565900, 4463000; 566000, 4463100; 566300, 4463100; 566500, 4463300; 566500, 4463600; 566700, 4463700; 566800, 4463700; 566900, 4463600; 567100, 4463500; 567200, 4463600; 567600, 4463400; 568300, 4463200; 569800, 4463200; 570600, 4463900; 570800, 4464300; 572000, 4465200; 572000, 4466300; 572100, 4466600; 572800, 4467300; 573500, 4468600; 573400, 4469000; 573100, 4469400; 572900, 4469600; 572600, 4469600; 571800, 4468800; 571400, 4468100; 571000, 4467900; 571000, 4468700; 571200, 4468700; 571100, 4469200; 571200, 4469500; 571200, 4470500; 570500, 4470900; 570460, 4470920; 570460, 4470932; 570466, 4470931; 570461, 4471354; 570786, 4471349; 571229, 4471353; 571235, 4471908; 571236, 4471912; 571238, 4471962; 571244, 4471992; 571237, 4472042; 571244, 4472069; 571247, 4472123; 571249, 4472164; 571271, 4472165; 571363, 4472165; 571405, 4472139; 571460, 4472143; 571460, 4472143; 571467, 4472144; 571524, 4472166; 571541, 4472166; 571635, 4472166; 571647, 4472171; 571714, 4472199; 571723, 4472200; 571739, 4472200; 571900, 4472200; 572154, 4472285; 572154, 4472284; 572156, 4472284; 572159, 4472227; 572162, 4472225; 572168, 4472227; 572181, 4472226; 572208, 4472225; 572219, 4472223; 572231, 4472219; 572241, 4472217; 572282, 4472215; 572307, 4472215; 572325, 4472213; 572332, 4472212; 572500, 4472100; 573900, 4472100; 574151, 4472791; 574207, 4472814; 574212, 4472816; 574219, 4472814; 574238, 4472808; 574256, 4472804; 574271, 4472800; 574293, 4472798; 574321, 4472797; 574342, 4472798; 574360, 4472803; 574369, 4472807; 574384, 4472811; 574403, 4472815; 574428, 4472823; 574450, 4472828; 574469, 4472831; 574483, 4472832; 574489, 4472834; 574488, 4472924; 574488, 4472933; 574488, 4472941; 574487, 4472952; 574487, 4472951; 574459, 4472946; 574443, 4472942; 574425, 4472940; 574411, 4472938; 574397, 4472937; 574391, 4472934; 574379, 4472930; 574373, 4472928; 574365, 4472924; 574356, 4472921; 574353, 4472920; 574342, 4472919; 574346, 4472925; 574358, 4472955; 574465, 4473021; 574448, 4473020; 574445, 4473038; 574336, 4472971; 574326, 4472947; 574297, 4472920; 574278, 4472922; 574261, 4472941; 574253, 4472951; 574231, 4472975; 574223, 4472987; 574300, 4473200; 574754, 4473200; 574939, 4473200; 575100, 4473200; 575456, 4473413; 575600, 4473500; 575624, 4473524; 576000, 4473900; 576107, 4473900; 576460, 4473900; 576600, 4473900; 576883, 4473900; 577069, 4473900; 577300, 4473900; 577344, 4473933; 577351, 4473938; 577700, 4474200; 578600, 4474200; 578685, 4474224; 578803, 4474258; 579300, 4474400; 579637, 4474400; 580000, 4474400; 580600, 4474700; 580991, 4474700; 581447, 4474700; 581900, 4474700; 581931, 4474738; 582400, 4475300; 583000, 4475400; 583200, 4475400; returning to 583610, 4475072;

(iii) NOTE: Units 1 and 2 (Map 1) follow:



(6) Unit 3: Tehama County, California.

(i) Unit 3A: Tehama County, California. From USGS 1:24,000 scale quadrangle Acorn Hollow and Richardson Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 588739, 4429822; 588900, 4429500; 589500, 4429500; 589500, 4428600; 589500, 4428000; 589800, 4427100; 590500, 4426400; 590500,

4425300; 591200, 4424400; 591500, 4423300; 591562, 4422558; 590526, 4423686; 589986, 4424273; 589816, 4424458; 589129, 4425207; 588454, 4426221; 588425, 4426265; 588279, 4426485; 588213, 4426583; 588213, 4426584; 588600, 4429100; 588733, 4429833; returning to 588739, 4429822;

(ii) Unit 3B: Tehama County, California. From USGS 1:24,000 scale quadrangle Richard Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 593700, 4420900; 593164, 4420815; 592329, 4421723; 592258, 4421800; 593000, 4421800; 593100, 4421500; 593500, 4421400; returning to 593700, 4420900;

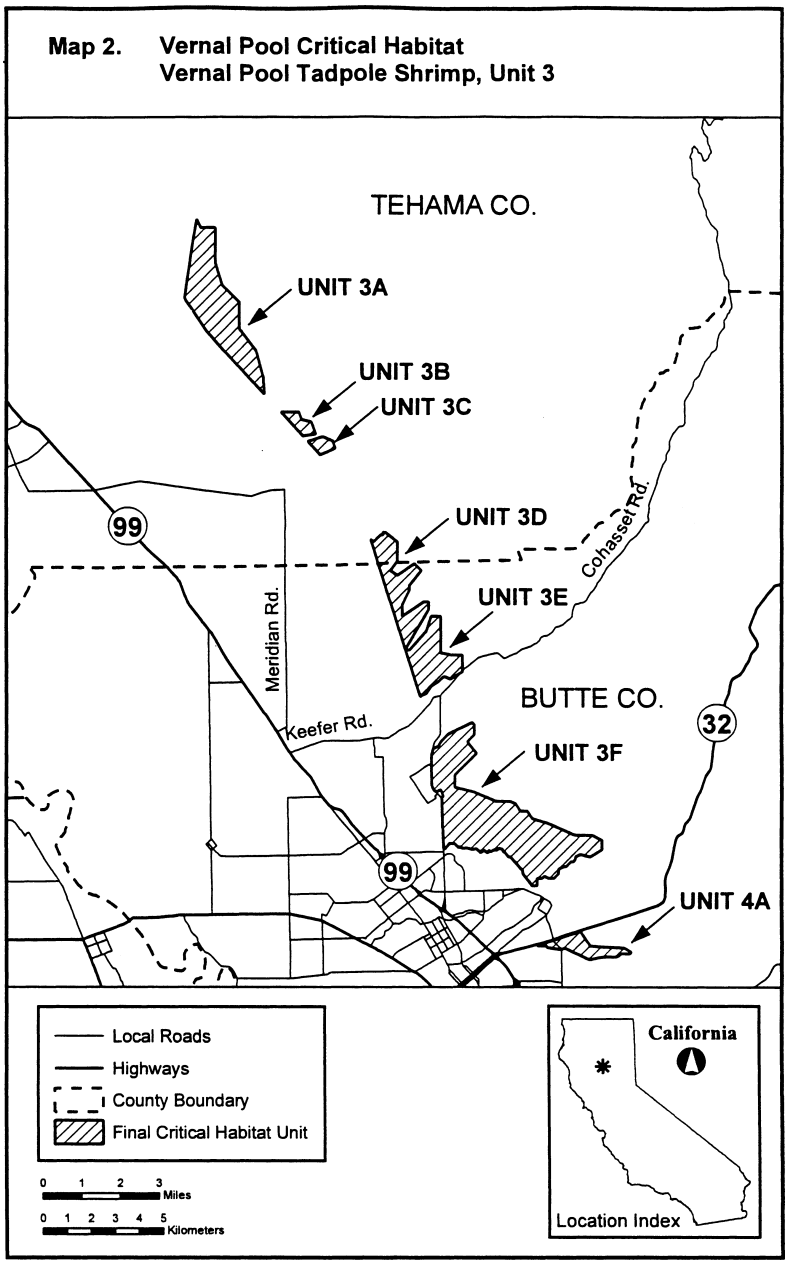
(iii) Unit 3C: Tehama County, California. From USGS 1:24,000 scale quadrangle Richard Springs NW. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 594500, 4420300; 593881, 4420035; 593371, 4420590; 594000, 4420800; 594400, 4420600; returning to 594500, 4420300;

(iv) Unit 3D: Tehama and Butte Counties, California. From USGS 1:24,000 scale quadrangle Campbell Mound, Richardson Springs NW, and Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 597100, 4416400; 597100, 4415600; 597044, 4415525; 596800, 4415200; 597100, 4415000; 597800, 4415500; 598100, 4415200; 597600, 4414600; 597600, 4414400; 597300, 4413800; 597300, 4413300; 598200, 4413900; 598400, 4413900; 598400, 4413600; 597422, 4411938; 597281, 4412382; 596959, 4413403; 596640, 4414416; 596620, 4414481; 596305, 4415484; 596303, 4415489; 596130, 4416040; 596091, 4416160; 596028, 4416358; 596011, 4416411; 595993, 4416465; 595982, 4416500; 596000, 4416500; 596100, 4416400; 596200, 4416500; 596300, 4416600; 596400, 4416700; 596500, 4416700; 596500, 4416800; 596600, 4416800; 597100, 4416400;

(v) Unit 3E: Butte County, California. From USGS 1:24,000 scale quadrangle Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 598900, 4411800; 599400, 4411700; 599800, 4411700; 599800, 4411000; 599300, 4410700; 599100, 4410800; 599000, 4410800; 598800, 4410600; 598500, 4410400; 598300, 4410100; 598100, 4410000; 598070, 4409970; 598051, 4409993; 598038, 4410010; 598014, 4410083; 597806, 4410737; 597725, 4410990; 597461, 4411816; 597434, 4411900; 597600, 4411900; 598300, 4412700; 598500, 4413300; 598900, 4413300; returning to 598900, 4411800;

(vi) Unit 3F: Butte County, California. From USGS 1:24,000 scale quadrangle Richardson Springs. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 599500, 4406200; 600300, 4406000; 601200, 4405600; 601800, 4405600; 602000, 4405500; 602200, 4405200; 602500, 4405200; 602700, 4404900; 603300, 4404700; 604500, 4404200; 605200, 4404200; 605600, 4404000; 605600, 4403600; 605100, 4403300; 604700, 4403400; 604500, 4403300; 604475, 4403175; 604400, 4403100; 604300, 4403100; 604200, 4403000; 604100, 4402900; 604000, 4402900; 603800, 4402800; 603800, 4402600; 603600, 4402400; 603400, 4402400; 603200, 4402500; 603100, 4402400; 602900, 4402400; 602900, 4402100; 602700, 4402100; 602300, 4402600; 602300, 4402700; 601800, 4403300; 601714, 4403300; 601553, 4403500; 601501, 4403499; 601465, 4403621; 601319, 4403663; 601226, 4403595; 601089, 4403571; 600979, 4403503; 600901, 4403569; 600860, 4403446; 600704, 4403566; 600542, 4403475; 600507, 4403530; 600473, 4403563; 600453, 4403580; 600369, 4403651; 600344, 4403642; 600232, 4403605; 599983, 4403679; 599973, 4403678; 599801, 4403662; 599725, 4403718; 599651, 4403697; 599493, 4403839; 599328, 4403862; 599302, 4403865; 599269, 4403870; 599084, 4403634; 599024, 4403611; 598987, 4404400; 598980, 4404543; 598971, 4404723; 598955, 4405388; 598953, 4405458; 598951, 4405529; 598947, 4405677; 598934, 4405719; 598919, 4405750; 599000, 4405800; 598900, 4406100; 598700, 4406000; 598694, 4406000; 598635, 4406058; 598598, 4406103; 598583, 4406127; 598567, 4406159; 598549, 4406210; 598544, 4406234; 598540, 4406255; 598533, 4406421; 598522, 4406815; 598516, 4407133; 598511, 4407496; 598513, 4407515; 598525, 4407568; 598527, 4407571; 598527, 4407589; 598580, 4407812; 598800, 4407900; 598900, 4408100; 599200, 4408400; 600200, 4408900; 600300, 4408800; 600300, 4408400; 600000, 4408100; 600400, 4407600; 599500, 4406700; returning to 599500, 4406200.

(vii) NOTE: Unit 3 (Map 2) follows:



(7) Unit 4: Butte County, California.

(i) Unit 4A: Butte County, California. From USGS 1:24,000 scale quadrangle Chico. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 605100, 4399600; 606500, 4399500; 606797, 4399330; 606777, 4399300; 606724, 4399252; 606568, 4399265; 606528, 4399272; 606479, 4399279; 606478, 4399279; 606394, 4399264; 606362,

4399238; 606329, 4399210; 606274, 4399169; 606209, 4399135; 606125, 4399122; 606060, 4399122; 605967, 4399131; 605899, 4399134; 605857, 4399134; 605822, 4399130; 605789, 4399116; 605781, 4399138; 605775, 4399149; 605764, 4399152; 605763, 4399152; 605701, 4399142; 605589, 4399116; 605504, 4399107; 605432, 4399110; 605319, 4399064; 605233, 4399045; 605173, 4399034; 605135, 4399023; 605134, 4399023; 605127, 4399023; 605109, 4399023; 605080, 4399025; 605063, 4399025; 605002, 4399051; 604957, 4399069; 604907, 4399092; 604029, 4399508; 603896, 4399435; 603886, 4399435; 603879, 4399436; 603300, 4399523; 603300, 4399600; 602900, 4399600; 603500, 4399800; 604700, 4400200; returning to 605100, 4399600;

(ii) Unit 4B: Butte County, California. From USGS 1:24,000 scale quadrangle Hamlin Canyon and Chico. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 606028, 4393143; 606288, 4392851; 606346, 4392785; 606490, 4392637; 606537, 4392593; 607117, 4392045; 607644, 4391539; 607748, 4391438; 607826, 4391363; 608227, 4390978; 608537, 4390636; 608852, 4390288; 609145, 4389965; 609391, 4389694; 609721, 4389330; 609736, 4389313; 609890, 4389143; 610122, 4388889; 610187, 4388819; 610239, 4388754; 610321, 4388664; 610359, 4388624; 610400, 4388500; 609300, 4388100; 609300, 4387900; 608800, 4387800; 608800, 4389300; 607600, 4389300; 607600, 4389500; 607500, 4389600; 607400, 4389600; 607400, 4389900; 607300, 4390000; 607400, 4390000; 607500, 4390100; 607400, 4390300; 607400, 4390500; 607300, 4390600; 607300, 4390800; 607100, 4391000; 605700, 4392300; 605800, 4392300; 606000, 4392500; 606100, 4392700; 605900, 4392900; 605800, 4392900; 605600, 4392800; returning to 606028, 4393143;

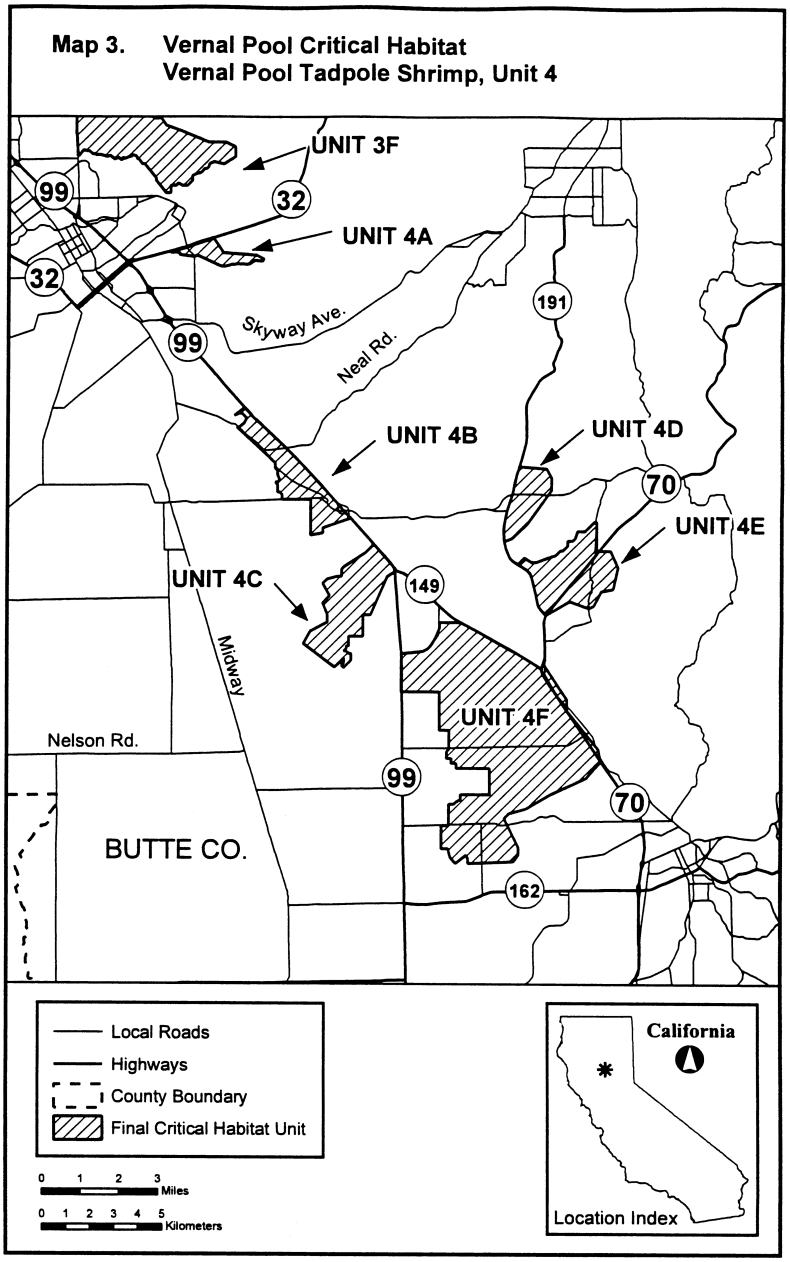
(iii) Unit 4C: Butte County, California. From USGS 1:24,000 scale quadrangle Hamlin Canyon and Shippee. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 610300, 4383000; 610400, 4382900; 610500, 4382900; 610500, 4382800; 610500, 4382700; 610500, 4382600; 610200, 4382300; 610100, 4382400; 610200, 4382500; 610200, 4382600; 610200, 4382700; 610100, 4382600; 609900, 4382400; 609814, 4382314; 608500, 4383300; 608800, 4383800; 609500, 4384200; 609500, 4384500; 609300, 4385000; 609600, 4385300; 609300, 4385800; 609500, 4386000; 609900, 4386100; 610100, 4386100; 610100, 4386400; 610200, 4386500; 610500, 4386700; 611100, 4387100; 611400, 4387400; 611364, 4387515; 611887, 4386936; 612214, 4386572; 612293, 4386410; 612300, 4386300; 612000, 4386100; 611300, 4384500; 611000, 4384500; 611000, 4383600; 610400, 4383600; 610400, 4383200; 610300, 4383200; 610300, 4383100; 610200, 4383000; returning to 610300, 4383000;

(iv) Unit 4D: Butte County, California. From USGS 1:24,000 scale quadrangle Cherokee and Hamlin Canyon. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 617200, 4387700; 616864, 4387566; 616852, 4387659; 616841, 4388048; 616843, 4388082; 616851, 4388261; 616929, 4388656; 616982, 4388850; 617175, 4389518; 617195, 4389572; 617301, 4390087; 617309, 4390125; 617361, 4390354; 617380, 4390409; 617409, 4390495; 617442, 4390589; 617469, 4390681; 618600, 4390600; 618800, 4390200; 618800, 4389700; 617800, 4388300; returning to 617200, 4387700;

(v) Unit 4E: Butte County, California. From USGS 1:24,000 scale quadrangle Cherokee, Shippee, and Oroville. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 620700, 4388400; 620700, 4387200; 621300, 4387200; 621600, 4386500; 621400, 4385600; 620900, 4385500; 620600, 4384900; 620400, 4384800; 619600, 4385100; 618600, 4384500; 618592, 4384506; 618592, 4384506; 618560, 4384544; 618512, 4384601; 618377, 4384762; 618358, 4384795; 618286, 4384915; 618226, 4385148; 618207, 4385219; 618185, 4385338; 618017, 4386021; 617998, 4386107; 617951, 4386211; 617930, 4386256; 617902, 4386281; 617839, 4386361; 617731, 4386441; 617685, 4386463; 617667, 4386465; 617664, 4386478; 617425, 4386625; 617700, 4386900; 618000, 4386700; 618200, 4386700; 618700, 4386900; 619000, 4387000; 619200, 4387200; 619300, 4387200; 619500, 4387400; 619500, 4387600; 619700, 4387600; 619800, 4387700; 619900, 4388000; 620200, 4388000; 620600, 4388400; returning to 620700, 4388400;

(vi) Unit 4F: Butte County, California. From USGS 1:24,000 scale quadrangle Oroville and Shippe. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 618368, 4382306; 618445, 4382277; 618444, 4382301; 618457, 4382372; 618463, 4382408; 618500, 4382501; 618500, 4382500; 619300, 4381300; 619500, 4381000; 619500, 4380500; 620800, 4378900; 620900, 4378400; 620300, 4377700; 618800, 4377000; 617800, 4376400; 617100, 4376200; 616900, 4376000; 617500, 4374800; 617500, 4374500; 617300, 4374200; 615415, 4374121; 615404, 4374354; 615319, 4374453; 614883, 4374120; 614665, 4374382; 614570, 4374749; 614300, 4374727; 614300, 4375700; 614600, 4375700; 614600, 4376600; 614800, 4376600; 614900, 4376700; 615100, 4376800; 615100, 4377000; 615900, 4377000; 616300, 4377000; 616300, 4378100; 614900, 4378100; 614900, 4378300; 614700, 4378300; 614700, 4378500; 614500, 4378500; 614500, 4378800; 614600, 4378900; 614600, 4379700; 614200, 4379700; 614200, 4381300; 612600, 4381300; 612600, 4382900; 613500, 4383000; 613700, 4383100; 613800, 4383200; 614000, 4383500; 614200, 4384000; 614200, 4384200; 614800, 4384200; 615073, 4384200; 615806, 4383804; 616704, 4383304; 617266, 4382991; 617327, 4382957; 617563, 4382829; 617589, 4382812; 617987, 4382563; 618347, 4382330; returning to 618368, 4382306.

(vii) NOTE: Unit 4 (Map 3) follows:

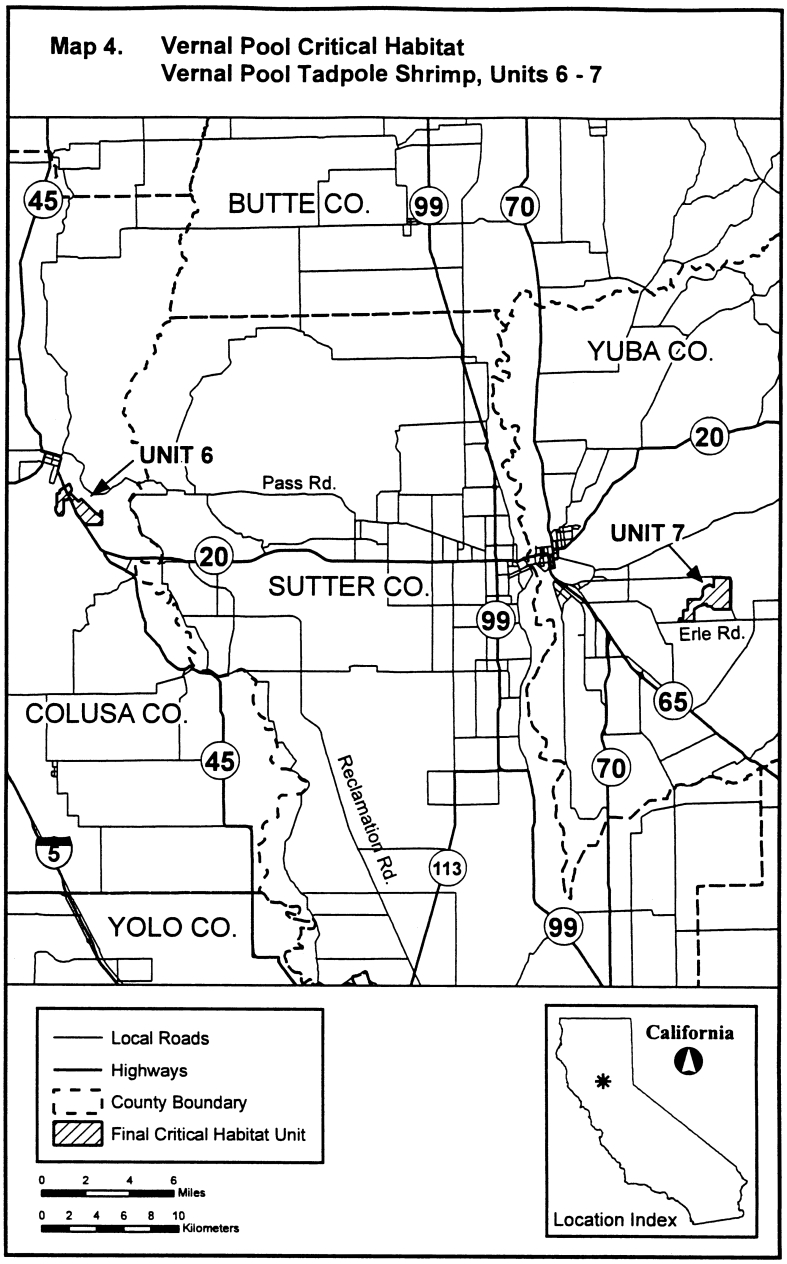


(8) Unit 6: Colusa County, California. From USGS 1:24,000 scale quadrangle Meridian and Colusa. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 585800, 4337200; 585900, 4337200; 585900, 4337200; 585900, 4338200; 586100, 4338200; 586100, 4338400; 586800, 4338900; 587000, 4338500; 587000, 4338400; 586800, 4338200; 587000, 4338100; 587500, 4337600; 587700,

4337800; 588800, 4336700; 588900, 4336700; 589100, 4336500; 589100, 4336900; 589200, 4336900; 589200, 4335900; 587900, 4335900; 587900, 4336000; 587400, 4336600; 587300, 4336800; 586900, 4337800; 586700, 4337800; 586700, 4337700; 586400, 4337700; 586400, 4336800; 586300, 4336600; 586000, 4336600; 585800, 4336900; returning to 585800, 4337200;

(9) Unit 7: Yuba County, California. From USGS 1:24,000 scale quadrangle Browns Valley and Wheatland. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 635000, 4332200; 635000, 4329900; 634600, 4329900; 633800, 4329900; 633600, 4330100; 633500, 4330100; 633300, 4330100; 633300, 4330300; 632700, 4330100; 632400, 4329900; 632400, 4329000; 631300, 4329000; 631300, 4329200; 631600, 4329200; 631600, 4329800; 631900, 4329800; 631900, 4330600; 632800, 4330600; 633000, 4330900; 633000, 4331300; 633100, 4331500; 633500, 4331700; 633800, 4331500; 633800, 4332200; returning to 635000, 4332200;

(10) NOTE: Units 6 and 7 (Map 4) follow:



(11) Unit 8: Sacramento County, California. From USGS 1:24,000 scale quadrangle Carmichael. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 649800, 4269600; 649800, 4268700; 650400, 4268900; 650800, 4268800; 651000, 4268800; 651000, 4269400; 651800, 4269300; 651500, 4268800; 651600, 4267900; 651600, 4266500; 651500, 4266400; 651500, 4266300;

651100, 4266300; 651100, 4266000; 651570, 4265812; 651589, 4265075; 651600, 4264400; 651400, 4264400; 651400, 4264200; 650500, 4264200; 650500, 4264300; 650400, 4264300; 650400, 4264600; 650000, 4264700; 649900, 4265100; 649400, 4265100; 649100, 4265000; 648900, 4265100; 648700, 4265100; 648700, 4265300; 648700, 4265500; 649900, 4265500; 649900, 4266000; 648300, 4266000; 648300, 4266200; 648500, 4266400; 648700, 4266200; 649000, 4266200; 649300, 4266400; 649400, 4266600; 649635, 4266678; 649700, 4266700; 649794, 4266693; 650200, 4267100; 650400, 4267000; 650600, 4267000; 650800, 4267200; 650900, 4267500; 650800, 4267900; 650500, 4267800; 650300, 4268100; 649900, 4268400; 649400, 4268100; 649100, 4267800; 649100, 4267500; 649400, 4267400; 649200, 4267100; 648400, 4267100; 648300, 4267700; 648000, 4268000; 648600, 4268500; 649400, 4268900; 649400, 4269200; 649600, 4269600; returning to 649800, 4269600;

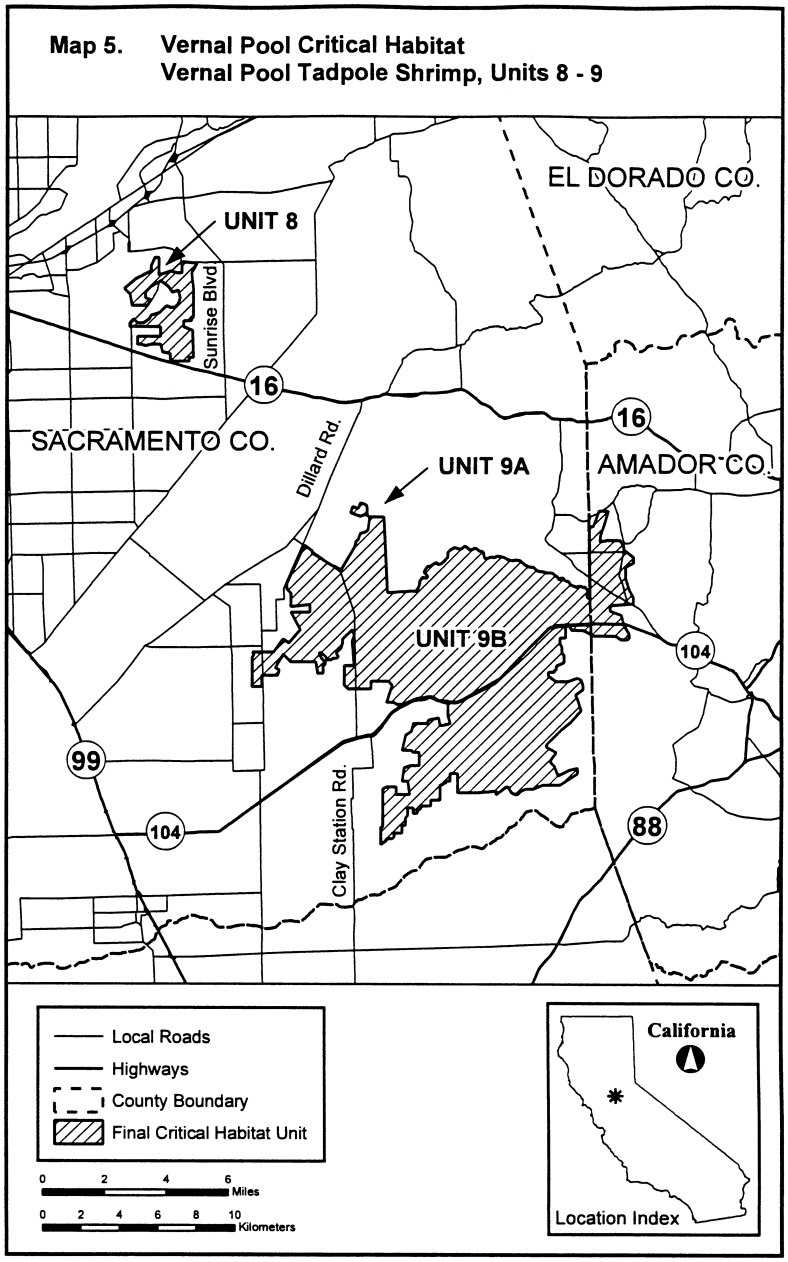
(12) Unit 9: Sacramento County, California.

(i) Unit 9A: Sacramento County, California. From USGS 1:24,000 scale quadrangle Sloughhouse. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 660660, 4256508; 660681, 4256119; 660600, 4256200; 660300, 4256100; 660000, 4256200; 659800, 4256300; 659850, 4256450; 659900, 4256600; 660200, 4256500; 660300, 4256800; 660515, 4256728; 660633, 4256644; 660645, 4256626; returning to 660660, 4256508;

(ii) Unit 9B: Sacramento and Amador Counties, California. From USGS 1:24,000 scale quadrangle Carbondale, Sloughhouse, Goose Creek, and Clay. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 673200, 4256400; 672800, 4255100; 672800, 4254800; 673100, 4254900; 673800, 4254900; 674000, 4254600; 674000, 4254400; 674500, 4254000; 674500, 4253700; 674100, 4253500; 674100, 4252900; 674300, 4252300; 674500, 4251900; 674500, 4251600; 673400, 4251500; 673300, 4251400; 673300, 4251200; 673900, 4251000; 674000, 4250500; 674300, 4250000; 674300, 4249800; 674200, 4249700; 673900, 4249700; 673600, 4249900; 672500, 4249900; 672315, 4249992; 671900, 4250200; 671300, 4250200; 671100, 4250500; 671000, 4250500; 671000, 4249800; 670700, 4249800; 670700, 4249500; 670800, 4249300; 670800, 4249000; 670900, 4248900; 670900, 4248500; 670500, 4248300; 670500, 4248125; 670400, 4248100; 670400, 4248000; 670100, 4248000; 670100, 4247800; 670500, 4247500; 671100, 4247500; 671600, 4247700; 671800, 4247600; 671900, 4247300; 671900, 4247100; 671500, 4246800; 671600, 4246600; 671800, 4246000; 671800, 4246000; 671255, 4245364; 670800, 4245000; 670000, 4244200; 670000, 4244100; 670500, 4243800; 670200, 4243400; 670200, 4243300; 670300, 4243200; 670400, 4243100; 670600, 4242600; 671200, 4242900; 671600, 4243000; 671600, 4242700; 670700, 4242100; 669800, 4242100; 669300, 4241900; 668900, 4241900; 668700, 4241800; 668500, 4241600; 668400, 4241600; 668200, 4241700; 668000, 4242000; 667900, 4242000; 667400, 4241600; 667400, 4241800; 666400, 4241700; 665400, 4241700; 665400, 4242700; 665000, 4242700; 665000, 4242300; 664800, 4242300; 664800, 4242200; 664700, 4242200; 664600, 4242100; 664500, 4242100; 664500, 4241300; 664000, 4241300; 664000, 4241000; 663500, 4241000; 663500, 4240900; 663400, 4240800; 663300, 4240800; 663300, 4240600; 663100, 4240600; 663100, 4240900; 662800, 4240900; 662800, 4240500; 662700, 4240400; 662700, 4240000; 662500, 4240000; 662500, 4239600; 662100, 4239600; 662100, 4239400; 662000, 4239300; 661700, 4239300; 661700, 4239200; 661400, 4239000; 661400, 4239900; 661500, 4239900; 661500, 4241600; 661500, 4241900; 661700, 4242000; 662200, 4242000; 662200, 4241600; 662900, 4241600; 662800, 4242300; 662500, 4242300; 662600, 4243000; 662900, 4243100; 663400, 4243100; 663400, 4243800; 663050, 4243800; 663029, 4243841; 663000, 4243900; 662500, 4243900; 662700, 4244700; 662850, 4244800; 663000, 4244900; 663100, 4245300; 663800, 4245300; 663900, 4245500; 664400, 4245600; 664500, 4245200; 664600, 4245200; 664750, 4245238; 664900, 4245275; 665000, 4245300; 664900, 4245700; 664900, 4246500; 664400, 4246500; 663900, 4246700; 662500, 4246300; 662233, 4246300; 662100, 4246400; 661700, 4246400; 661900, 4247000; 662000, 4247300; 661800, 4247500; 660900, 4247500; 660900, 4247140; 660850, 4247100; 659700, 4247100; 659500, 4247300; 659500, 4248300; 660000, 4248300; 659900, 4249600; 660000, 4249900; 659900, 4250200; 659400, 4249700; 659400, 4249500; 659300, 4249200; 659100, 4249000; 659100, 4248900; 659200, 4248800; 659100, 4248700; 658900, 4248700; 658800, 4248600; 658600, 4248600; 658500, 4248800; 658400, 4248900; 658200, 4249000; 658200, 4248900; 658300, 4248700; 658500, 4248500; 658500, 4248400; 658400, 4248300; 658400, 4247900; 658100, 4247900; 658000, 4248500; 656700, 4248500; 656300, 4248900; 655900, 4248200; 656100, 4248100; 656100, 4248000; 656000, 4247800; 655200, 4247800; 655200, 4247200; 654700, 4247200; 654700, 4248750; 654800, 4248900; 654700, 4249000; 655100, 4249000; 655800, 4249000; 656300, 4249700; 656600, 4249500; 657200, 4250200; 656700, 4251100; 657700, 4251100; 657700, 4251500; 656700, 4251400; 656700, 4252100; 656500, 4252300; 656500, 4252600; 657000, 4253700; 657400, 4254600; 657800, 4254300; 657800, 4254200; 657800, 4254200; 658100, 4254000; 658900, 4253500; 659000, 4253500; 659300, 4253300; 660000, 4254500; 660100, 4254800; 660200, 4254900; 660300, 4255200; 660600, 4255300; 660700, 4255400; 660800, 4256000; 660754, 4256046; 660777, 4256046; 661541, 4256060; 661554, 4255796; 661731, 4252263; 661736, 4252142; 662180, 4252172; 662313, 4252175; 662583, 4252191; 663009, 4252217; 663119, 4252198; 663221, 4252234; 663275, 4252290; 663311, 4252341; 663324, 4252391; 663344, 4252446; 663378, 4252511; 663390, 4252591; 663409, 4252710; 663437, 4252770; 663510, 4252890; 663546, 4252914; 663590, 4252922; 663630, 4252907; 663726, 4252900; 663761, 4252901; 663800, 4252916; 663817, 4252959; 663824, 4252991; 663760, 4253075; 663650, 4253199; 663651, 4253232; 663667, 4253286; 663741, 4253408; 663807, 4253488; 663832, 4253490; 663904, 4253486; 663962, 4253498; 664039, 4253560; 664088, 4253602; 664125, 4253617; 664219, 4253695; 664248, 4253699; 664313, 4253672; 664369, 4253606; 664471, 4253613; 664566, 4253675; 664591, 4253700; 664647, 4253753; 664752, 4253850; 664854, 4253953; 664868, 4254000; 664877, 4254124; 664856, 4254193; 664883, 4254238; 664977, 4254334; 665118, 4254420; 665174, 4254468; 665227, 4254492; 665313, 4254463; 665390, 4254424; 665514, 4254389; 665619, 4254438; 665656, 4254494; 665723, 4254546; 665757, 4254558; 665800, 4254553; 665853, 4254513; 665880, 4254493; 665956, 4254434; 665960, 4254402; 666029, 4254364; 666067, 4254367; 666114, 4254379; 666168, 4254392; 666236, 4254440; 666273, 4254448; 666310, 4254440; 666339, 4254435; 666417, 4254404; 666451,

4254362; 666491, 4254319; 666523, 4254309; 666581, 4254312; 666652, 4254306; 666705, 4254261; 666722, 4254230; 666740, 4254164; 666742, 4254084; 666763, 4253987; 666791, 4253947; 666826, 4253919; 666849, 4253913; 666914, 4253917; 666977, 4253951; 667057, 4253975; 667142, 4253997; 667253, 4253980; 667277, 4253964; 667302, 4253968; 667313, 4253981; 667315, 4254007; 667377, 4254034; 667482, 4254039; 667618, 4254026; 667801, 4253975; 667959, 4253881; 668167, 4253821; 668360, 4253834; 668422, 4253849; 668525, 4253837; 668643, 4253804; 668700, 4253743; 668799, 4253665; 668877, 4253610; 668998, 4253531; 669098, 4253487; 669171, 4253483; 669251, 4253471; 669328, 4253465; 669399, 4253396; 669461, 4253324; 669558, 4253276; 669619, 4253256; 669665, 4253257; 669859, 4253247; 670012, 4253179; 670143, 4253173; 670241, 4253188; 670278, 4253185; 670320, 4253159; 670371, 4253105; 670419, 4253074; 670499, 4253007; 670537, 4252992; 670594, 4252927; 670626, 4252873; 670642, 4252848; 670663, 4252843; 670712, 4252851; 670732, 4252875; 670716, 4252907; 670727, 4252921; 670756, 4252934; 670807, 4252923; 670850, 4252924; 670883, 4252896; 670912, 4252829; 670949, 4252789; 670975, 4252773; 671041, 4252762; 671109, 4252759; 671191, 4252663; 671270, 4252568; 671315, 4252537; 671376, 4252519; 671438, 4252504; 671509, 4252465; 671531, 4252448; 671559, 4252450; 671603, 4252490; 671631, 4252509; 671674, 4252515; 671716, 4252510; 671773, 4252503; 671827, 4252497; 671848, 4252476; 671934, 4252419; 671943, 4252426; 671963, 4252453; 671990, 4252458; 672004, 4252435; 672042, 4252400; 672107, 4252306; 672117, 4252284; 672129, 4252256; 672134, 4252244; 672152, 4252230; 672159, 4252200; 672153, 4252190; 672148, 4252180; 672110, 4252165; 672104, 4252149; 672109, 4252101; 672114, 4252080; 672113, 4252055; 672107, 4251980; 672120, 4251908; 672151, 4251893; 672177, 4251906; 672185, 4251900; 672199, 4251865; 672213, 4251830; 672245, 4251802; 672263, 4251784; 672271, 4251775; 672271, 4251787; 672265, 4252117; 672263, 4252199; 672247, 4252916; 672246, 4252941; 672231, 4253670; 672225, 4253953; 672223, 4254006; 672220, 4254157; 672219, 4254229; 672217, 4254287; 672192, 4255610; 672200, 4255600; 672400, 4255600; 672700, 4256400; returning to 673200, 4256400;

(iii) NOTE: Units 8 and 9 (Map 5) follow:



(13) Unit 10: Yolo County, California. From USGS 1:24,000 scale quadrangle Davis. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 615400, 4262300; 615400, 4260700; 614500, 4260700; 614500, 4261500; 614200, 4261500; 614200, 4261800; 614000, 4261800; 614000, 4262300; returning to 615400, 4262300;

(14) Unit 11: Solano County, California

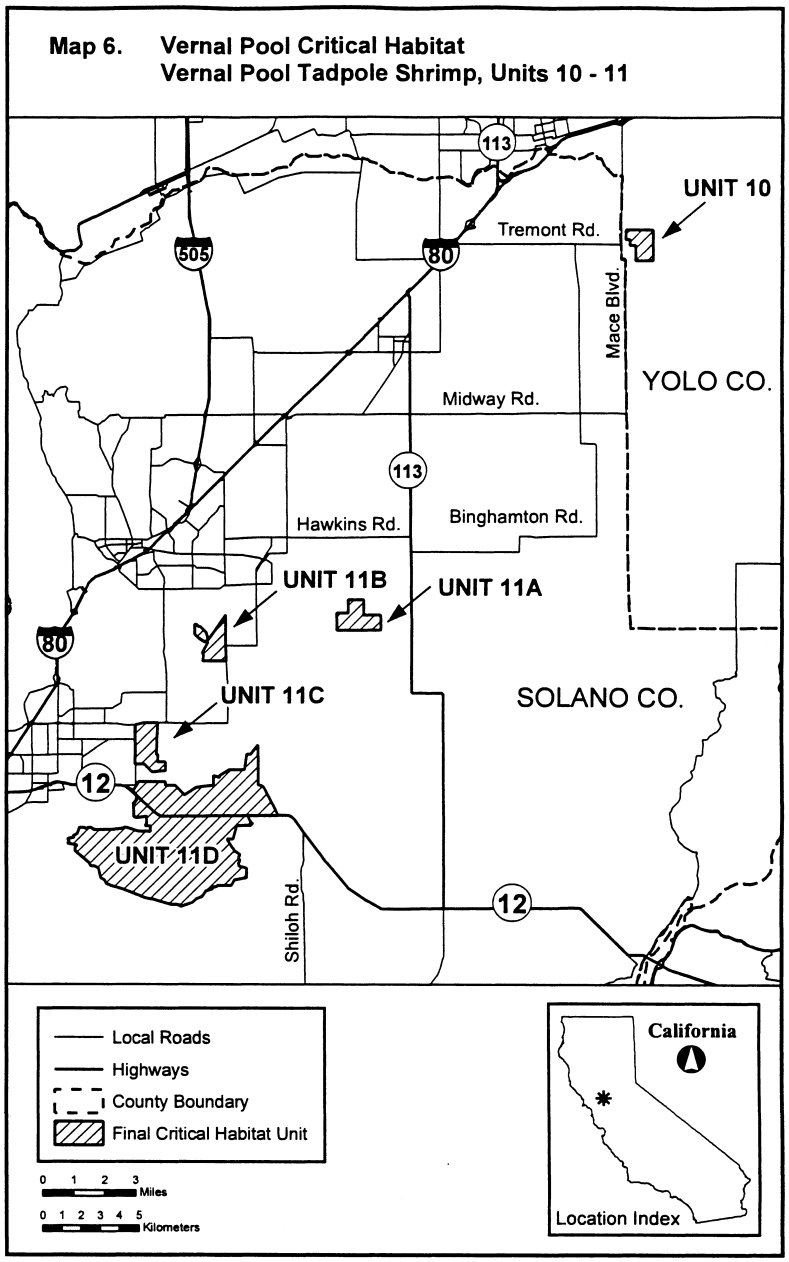
(i) Unit 11A: Solano County, California. From USGS 1:24,000 scale quadrangle Dozier. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 600400, 4243000; 600400, 4242200; 601300, 4242200; 601300, 4241416; 601002, 4241415; 600878, 4241415; 600446, 4241414; 600021, 4241414; 599000, 4241412; 599000, 4242300; 599600, 4242300; 599600, 4243000; returning to 600400, 4243000;

(ii) Unit 11B: Solano County, California. From USGS 1:24,000 scale quadrangle Elmira. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 593200, 4242200; 593200, 4240600; 593211, 4240600; 593255, 4239807; 592030, 4239793; 592062, 4240126; 592044, 4240137; 592026, 4240170; 592026, 4240181; 592030, 4240261; 592300, 4240800; 592100, 4240800; 591800, 4241000; 591700, 4241100; 591600, 4241200; 591600, 4241300; 591600, 4241700; 591700, 4241700; 591800, 4241600; 591900, 4241600; 592000, 4241500; 592200, 4241300; 592300, 4240900; returning to 593200, 4242200;

(iii) Unit 11C: Solano County, California. From USGS 1:24,000 scale quadrangle Elmira and Denverton. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 589698, 4236560; 589600, 4234900; 589700, 4234900; 589700, 4234500; 590100, 4234500; 590100, 4234064; 589400, 4234000; 589000, 4234400; 588500, 4234400; 588500, 4236400; 588549, 4236449; 588944, 4236551; 589524, 4236558; 589670, 4236559; returning to 589698, 4236560;

(iv) Unit 11D: Solano County, California. From USGS 1:24,000 scale quadrangle Elmira, Denverton, and Fairfield South. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 594915, 4234098; 594916, 4233314; 595044, 4233310; 595068, 4233296; 595131, 4233266; 595174, 4233226; 595189, 4233210; 595239, 4233151; 595322, 4232978; 595423, 4232778; 595483, 4232667; 595553, 4232524; 595699, 4232243; 595966, 4231717; 594927, 4231710; 594445, 4231707; 594409, 4231673; 594410, 4231616; 594434, 4231540; 594474, 4231494; 594495, 4231457; 594497, 4231414; 594510, 4231370; 594543, 4231356; 594575, 4231342; 594603, 4231341; 594614, 4231338; 594616, 4231325; 594618, 4231311; 594614, 4231290; 594605, 4231284; 594583, 4231275; 594573, 4231268; 594557, 4231245; 594550, 4231209; 594543, 4231179; 594500, 4231200; 593800, 4231200; 593600, 4230500; 593291, 4230515; 593291, 4230514; 593700, 4229900; 594000, 4229700; 593900, 4229600; 593900, 4229500; 594000, 4229400; 593900, 4229300; 593900, 4229100; 594300, 4229000; 594300, 4228500; 593700, 4228400; 593500, 4228100; 592800, 4228100; 592700, 4228000; 592600, 4228000; 592500, 4227900; 592200, 4227800; 592000, 4227500; 591700, 4227400; 591500, 4227200; 591200, 4227100; 590900, 4227000; 590700, 4227100; 590400, 4227100; 589400, 4227400; 589265, 4227400; 589026, 4227463; 588707, 4227579; 587979, 4227869; 587973, 4227872; 587467, 4228036; 587339, 4228077; 587009, 4228197; 586933, 4228334; 586900, 4228400; 586700, 4228500; 586600, 4229000; 586400, 4229100; 586200, 4229100; 586100, 4229300; 585400, 4229900; 585400, 4230100; 585500, 4230200; 585000, 4230300; 585100, 4230400; 585000, 4230500; 585111, 4230567; 585124, 4230550; 585327, 4230585; 585319, 4230629; 585295, 4230649; 585270, 4230662; 585500, 4230800; 585600, 4231100; 585903, 4231100; 585908, 4231071; 585926, 4231064; 585956, 4231058; 586038, 4231061; 586045, 4231073; 586045, 4231088; 586027, 4231096; 586022, 4231100; 586267, 4231100; 586273, 4231084; 586323, 4231038; 586340, 4230994; 587435, 4231016; 587882, 4231052; 587967, 4231111; 587991, 4231124; 588015, 4231126; 588034, 4231123; 588075, 4231099; 588085, 4231097; 588116, 4231095; 588700, 4230900; 588842, 4230900; 588842, 4230900; 588925, 4230897; 588989, 4230899; 589090, 4230913; 589179, 4230901; 589179, 4230901; 589240, 4230894; 589274, 4230890; 589315, 4230894; 589321, 4230909; 589313, 4231179; 589015, 4231215; 589100, 4231300; 589100, 4231700; 588600, 4231600; 588440, 4231680; 588417, 4232400; 588500, 4232400; 588500, 4232500; 588600, 4232500; 588600, 4232800; 588400, 4233000; 588600, 4233300; 588700, 4233500; 589300, 4233500; 589983, 4233500; 590000, 4233500; 590100, 4233500; 590100, 4233300; 590600, 4233300; 591100, 4232800; 591138, 4232825; 591143, 4232820; 591184, 4232856; 591700, 4233200; 592513, 4233290; 592594, 4233291; 592594, 4233299; 592600, 4233300; 592600, 4233800; 592900, 4233700; 592900, 4233751; 592901, 4233751; 592900, 4233754; 592900, 4233800; 593400, 4234100; 594200, 4234100; 594300, 4234900; 594500, 4234900; 594890, 4235396; returning to 594915, 4234098;

(v) NOTE: Units 10 and 11 (Map 6) follow:



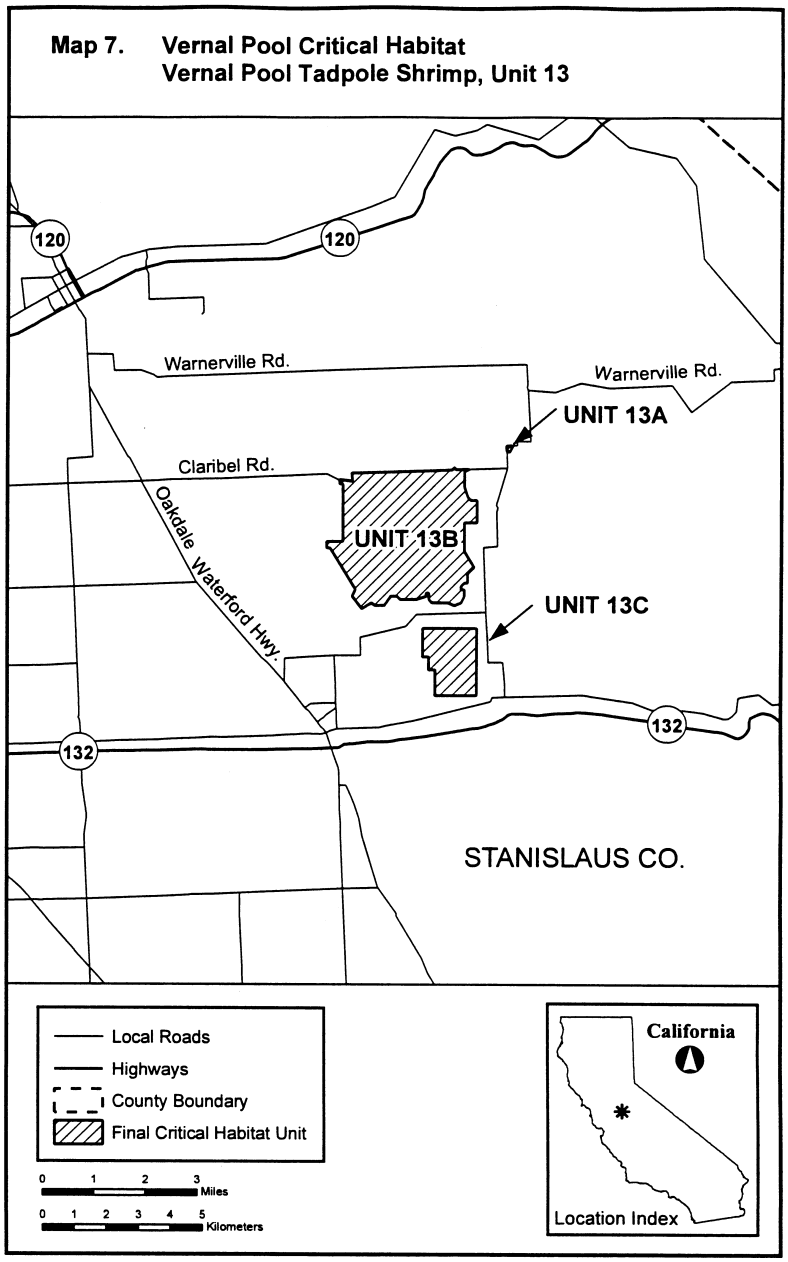
(15) Unit 13: Stanislaus County, California.

(i) Unit 13A: Stanislaus County, California. From USGS 1:24,000 scale quadrangle Paulsell. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 703100, 4177500; 703000, 4177300; 702911, 4177359; 702906, 4177503; 703100, 4177507; returning to 703100, 4177500;

(ii) Unit 13B: Stanislaus County, California. From USGS 1:24,000 scale quadrangle Paulsell and Waterford. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 701282, 4176830; 701345, 4176765; 701756, 4176778; 701600, 4176700; 701600, 4176500; 701600, 4176200; 701700, 4175900; 701800, 4175800; 702000, 4175800; 702000, 4175100; 701600, 4175100; 701600, 4174200; 701900, 4173700; 701800, 4173600; 701700, 4173500; 701700, 4173300; 701700, 4173200; 701600, 4173200; 701500, 4173100; 701500, 4173000; 701600, 4173000; 701600, 4172800; 701500, 4172600; 701300, 4172500; 701100, 4172600; 700700, 4172600; 700600, 4172600; 700500, 4172700; 700500, 4172900; 700400, 4172900; 700400, 4172800; 700100, 4172700; 699600, 4172700; 699500, 4172800; 699300, 4172800; 699100, 4172500; 698800, 4172500; 698700, 4172600; 698400, 4172400; 698100, 4172800; 698200, 4173000; 697400, 4174300; 697300, 4174300; 697300, 4174500; 697800, 4174500; 697800, 4176300; 697700, 4176300; 697700, 4176437; 698090, 4176397; 698085, 4176613; 698084, 4176642; 699300, 4176684; 700500, 4176726; 701204, 4176750; returning to 701282, 4176830;

(iii) Unit 13C: Stanislaus County, California. From USGS 1:24,000 scale quadrangle Paulsell. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 702000, 4171800; 702000, 4169800; 702000, 4169700; 701000, 4169700; 700700, 4169700; 700700, 4170400; 700700, 4170500; 700550, 4170500; 700500, 4170500; 700500, 4170533; 700500, 4170900; 700300, 4170900; 700300, 4171100; 700300, 4171800; 701200, 4171800; returning to 702000, 4171800.

(iv) NOTE: Unit 13 (Map 7) follows:



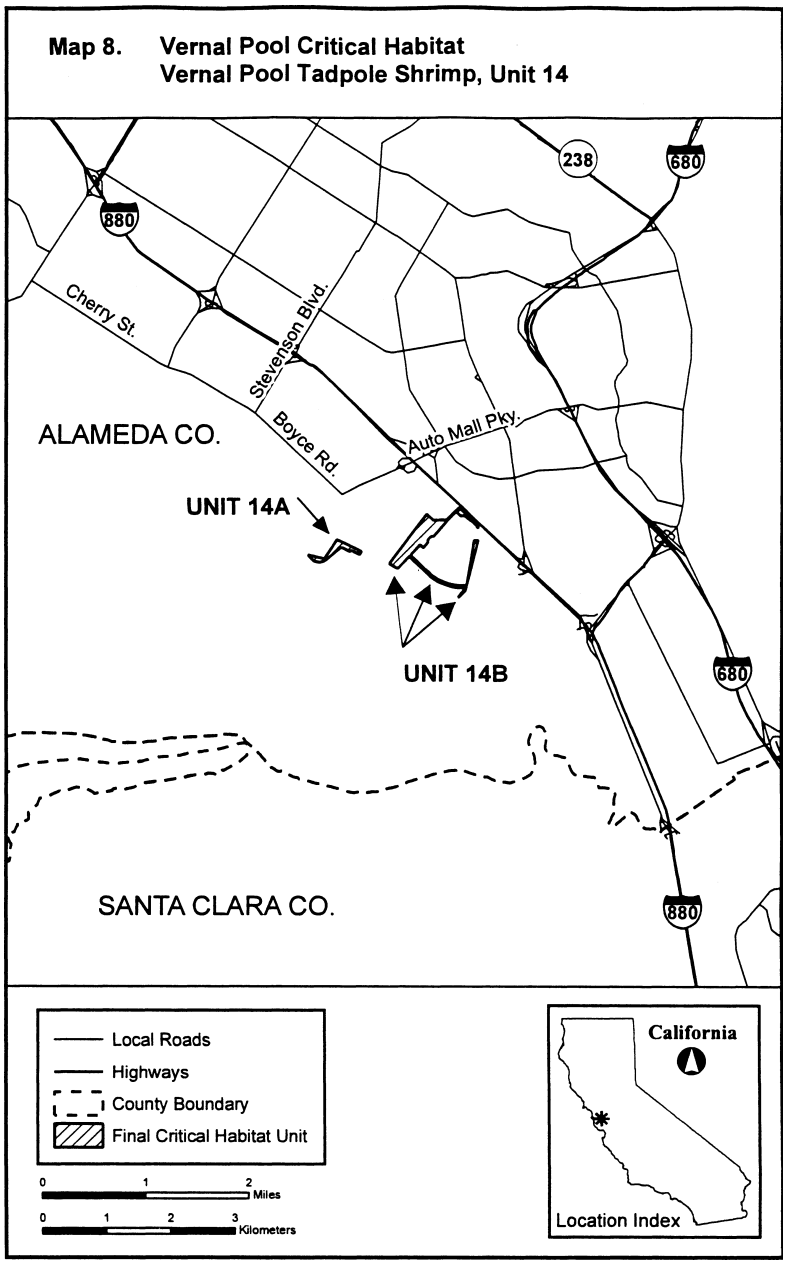
(16) Unit 14: Alameda County, California.

(i) Unit 14A: Alameda County, California. From USGS 1:24,000 scale quadrangle Milpitas. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 590100, 4150400; 590481, 4150210; 590452, 4150159; 590383, 4150201; 590320, 4150230; 590312, 4150216; 590309, 4150216; 590306, 4150215; 590303, 4150215;

590300, 4150214; 590297, 4150213; 590294, 4150212; 590291, 4150212; 590202, 4150262; 590201, 4150263; 590199, 4150264; 590197, 4150265; 590195, 4150266; 590193, 4150267; 590191, 4150267; 590189, 4150268; 590187, 4150269; 590185, 4150269; 590183, 4150269; 590180, 4150270; 590178, 4150270; 590176, 4150270; 590174, 4150270; 590172, 4150270; 590170, 4150270; 590168, 4150270; 590165, 4150270; 590163, 4150270; 590161, 4150269; 590159, 4150269; 590157, 4150269; 590155, 4150268; 590153, 4150267; 590151, 4150266; 590149, 4150266; 590147, 4150265; 590145, 4150264; 590143, 4150263; 590141, 4150262; 590140, 4150261; 590138, 4150260; 590136, 4150258; 590134, 4150257; 590133, 4150256; 589930, 4150084; 589926, 4150080; 589921, 4150076; 589916, 4150073; 589911, 4150070; 589906, 4150066; 589901, 4150064; 589896, 4150061; 589891, 4150059; 589885, 4150056; 589880, 4150054; 589874, 4150052; 589869, 4150050; 589863, 4150049; 589857, 4150048; 589852, 4150046; 589846, 4150045; 589840, 4150045; 589834, 4150044; 589829, 4150044; 589823, 4150044; 589817, 4150044; 589811, 4150044; 589805, 4150045; 589799, 4150045; 589794, 4150046; 589788, 4150047; 589782, 4150048; 589776, 4150050; 589771, 4150052; 589765, 4150053; 589760, 4150055; 589754, 4150058; 589749, 4150060; 589744, 4150063; 589739, 4150066; 589734, 4150068; 589729, 4150072; 589724, 4150075; 589719, 4150078; 589715, 4150082; 589710, 4150086; 589706, 4150090; 589702, 4150094; 589698, 4150098; 589694, 4150103; 589641, 4150165; 589900, 4150100; returning to 590100, 4150400;

(ii) Unit 14B: Alameda County, California. From USGS 1:24,000 scale quadrangle Milpitas. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 592000, 4150900; 592300, 4150600; 592300, 4150582; 592274, 4150603; 592276, 4150615; 592213, 4150675; 592195, 4150689; 592081, 4150769; 592026, 4150768; 591957, 4150835; 591831, 4150703; 591824, 4150696; 591604, 4150449; 591601, 4150449; 591598, 4150449; 591595, 4150449; 591592, 4150449; 591589, 4150448; 591586, 4150448; 591583, 4150448; 591581, 4150447; 591578, 4150446; 591575, 4150446; 591572, 4150445; 591569, 4150444; 591567, 4150443; 591564, 4150441; 591561, 4150440; 591559, 4150439; 591556, 4150437; 591554, 4150436; 591552, 4150434; 591549, 4150433; 591547, 4150431; 591545, 4150429; 591542, 4150427; 591540, 4150425; 591538, 4150423; 591536, 4150421; 591534, 4150419; 591533, 4150416; 591531, 4150414; 591529, 4150412; 591528, 4150409; 591526, 4150407; 591525, 4150404; 591523, 4150401; 591522, 4150399; 591521, 4150396; 591520, 4150393; 591519, 4150391; 591518, 4150388; 591518, 4150385; 591517, 4150382; 591516, 4150379; 591516, 4150376; 591516, 4150374; 591515, 4150371; 591515, 4150368; 591515, 4150365; 591515, 4150362; 591515, 4150359; 591516, 4150356; 591516, 4150354; 591442, 4150273; 591396, 4150319; 591243, 4150156; 591255, 4150145; 591269, 4150133; 591300, 4150104; 591331, 4150075; 591473, 4149942; 591550, 4149873; 591589, 4149840; 591620, 4149817; 591665, 4149787; 591688, 4149775; 591721, 4149761; 591777, 4149738; 591825, 4149720; 591872, 4149707; 591913, 4149697; 591958, 4149690; 592001, 4149686; 592064, 4149684; 592119, 4149689; 592237, 4150383; 592245, 4150384; 592244, 4150388; 592251, 4150389; 592252, 4150385; 592298, 4150392; 592200, 4150000; 592100, 4149600; 592000, 4149500; 591984, 4149500; 592103, 4149649; 592088, 4149647; 592058, 4149645; 592030, 4149647; 591994, 4149650; 591954, 4149655; 591886, 4149666; 591844, 4149677; 591783, 4149697; 591717, 4149723; 591651, 4149757; 591594, 4149794; 591557, 4149824; 591530, 4149850; 591453, 4149920; 591310, 4150053; 591279, 4150082; 591248, 4150110; 591235, 4150123; 591222, 4150134; 591220, 4150131; 591045, 4149947; 590916, 4150021; 591500, 4150800; 591600, 4150700; 591800, 4150700; returning to 592000, 4150900;

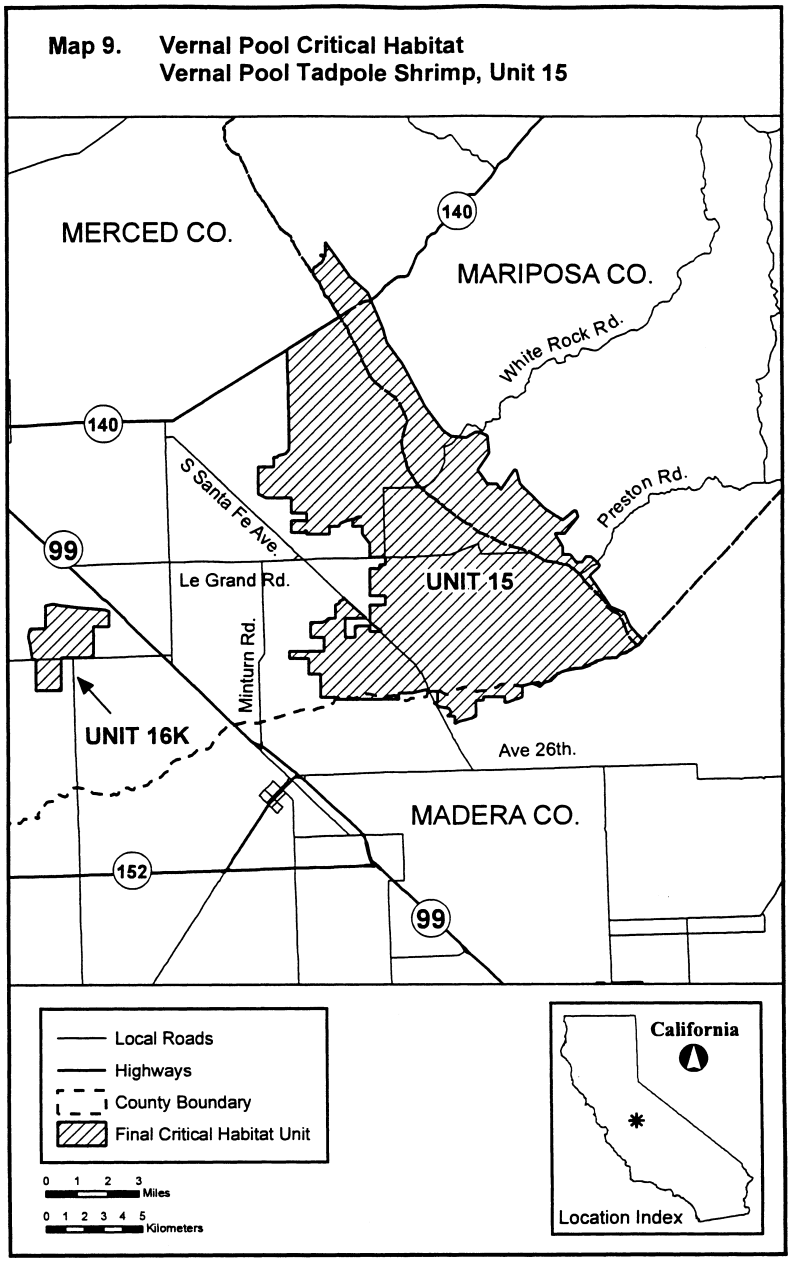
(iii) NOTE: Unit 14 (Map 8) follows:



(17) Unit 15: Merced, Madera, and Mariposa Counties, California. From USGS 1:24,000 scale quadrangle Raynor Creek, Le Grand, and Plainsburg. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 747003, 4125902; 747142, 4125971; 747303, 4125987; 747358, 4126000; 747200, 4126000; 747142, 4125971; 747123, 4125969; 747070, 4125950; 747003,

4125902; 747000, 4125900; 746900, 4125900; 746600, 4125800; 746300, 4125700; 746200, 4125600; 746200, 4125500; 745700, 4125500; 745700, 4125100; 744500, 4125100; 744500, 4125300; 744400, 4125300; 744400, 4125200; 743700, 4125200; 743700, 4125800; 744500, 4125800; 744500, 4126200; 743700, 4126200; 743700, 4127000; 743600, 4127000; 742700, 4127000; 742400, 4127000; 742000, 4127200; 742000, 4128600; 742800, 4128600; 742800, 4129100; 742900, 4129100; 743000, 4129100; 743000, 4129200; 743400, 4129300; 743600, 4129500; 743600, 4130284; 743605, 4130284; 743600, 4130493; 743600, 4130700; 743595, 4130700; 743561, 4132097; 743560, 4132170; 743556, 4132335; 743549, 4132692; 743537, 4133202; 743529, 4133301; 743531, 4133352; 743530, 4133400; 743523, 4133729; 743518, 4134016; 743515, 4134159; 743509, 4134382; 743500, 4134708; 743504, 4134743; 743565, 4134782; 744447, 4135329; 746234, 4136439; 746230, 4136445; 745985, 4136865; 745952, 4136931; 745915, 4136978; 745914, 4136987; 745902, 4137008; 745748, 4137298; 745669, 4137403; 745620, 4137437; 745503, 4137487; 745203, 4138201; 744984, 4138471; 744895, 4138606; 744893, 4138653; 744892, 4138670; 744854, 4138756; 744852, 4138807; 744873, 4138873; 744890, 4138973; 744922, 4139007; 745038, 4139064; 745171, 4139174; 745299, 4139239; 745334, 4139300; 745338, 4139306; 745339, 4139307; 745400, 4139400; 745432, 4139432; 745432, 4139432; 745368, 4139567; 745324, 4139603; 745219, 4139621; 745269, 4139653; 745281, 4139676; 745422, 4139619; 745490, 4139575; 745500, 4139576; 745500, 4139600; 745500, 4140300; 746100, 4139500; 746800, 4138500; 747700, 4137700; 748500, 4135800; 748700, 4135100; 749500, 4134000; 749501, 4133999; 750173, 4132710; 750700, 4131700; 751600, 4130500; 752000, 4130200; 752094, 4130188; 752157, 4130180; 752800, 4130100; 753300, 4130400; 753500, 4130400; 753900, 4130200; 754000, 4129300; 753400, 4128400; 753900, 4127700; 754400, 4127700; 754600, 4127400; 755300, 4128400; 755400, 4128400; 755600, 4127700; 756900, 4126400; 757800, 4125800; 758400, 4126300; 758500, 4126300; 758600, 4126000; 757900, 4125100; 757400, 4125100; 757800, 4124400; 757800, 4124000; 758200, 4124000; 758500, 4123600; 758800, 4123600; 759000, 4123900; 759300, 4123900; 759700, 4123500; 759700, 4123400; 759200, 4122900; 760300, 4121300; 761000, 4121000; 761300, 4120300; 761955, 4119563; 761968, 4119549; 761718, 4119265; 761701, 4119258; 761698, 4119256; 761644, 4119235; 761519, 4119174; 761497, 4119158; 761476, 4119142; 761412, 4119094; 761355, 4119052; 761244, 4118969; 761107, 4118894; 760858, 4118839; 760750, 4118755; 760594, 4118634; 760278, 4118609; 760228, 4118605; 760119, 4118597; 760084, 4118594; 760084, 4118594; 760008, 4118588; 759742, 4118512; 759529, 4118452; 759375, 4118358; 759330, 4118326; 759173, 4118214; 758783, 4118084; 758541, 4118070; 758036, 4117982; 757933, 4117964; 757910, 4117955; 757910, 4117955; 757811, 4117918; 757808, 4117917; 757797, 4117914; 757694, 4117865; 757622, 4117811; 757620, 4117809; 757616, 4117808; 757591, 4117800; 757532, 4117781; 757485, 4117741; 757476, 4117726; 757475, 4117726; 757450, 4117700; 757411, 4117661; 757378, 4117627; 757377, 4117626; 757352, 4117600; 757350, 4117598; 757221, 4117467; 757182, 4117433; 757117, 4117417; 757086, 4117410; 757047, 4117400; 756985, 4117385; 756917, 4117369; 756872, 4117341; 756823, 4117300; 756785, 4117267; 756759, 4117243; 756745, 4117231; 756634, 4117128; 756624, 4117124; 756592, 4117112; 756590, 4117110; 756590, 4117110; 756500, 4117200; 756223, 4117292; 756200, 4117300; 755800, 4117200; 755700, 4117200; 755700, 4117160; 755700, 4116700; 755700, 4116600; 755500, 4116500; 755400, 4116500; 754900, 4116300; 754800, 4116300; 754800, 4116600; 753700, 4116600; 753700, 4116400; 753300, 4116400; 753300, 4115600; 753100, 4115500; 752700, 4115400; 752400, 4115300; 752200, 4115200; 752200, 4115600; 751800, 4115600; 752000, 4115800; 751900, 4116000; 751400, 4116100; 751100, 4116300; 751300, 4116300; 751300, 4116900; 751100, 4116900; 750815, 4116900; 750800, 4116900; 750700, 4117000; 750000, 4116800; 749300, 4116800; 749300, 4116611; 749300, 4116500; 746800, 4116500; 746000, 4116500; 746000, 4116520; 746000, 4116600; 745200, 4116600; 745200, 4117800; 744600, 4117800; 744600, 4118600; 743600, 4118600; 743600, 4119000; 745400, 4119000; 745400, 4119700; 744700, 4119700; 744700, 4120500; 745300, 4120500; 745500, 4120600; 745600, 4120700; 746000, 4120700; 746000, 4121400; 746200, 4121500; 746200, 4121600; 746400, 4121700; 746400, 4121800; 747600, 4120700; 746500, 4120700; 746500, 4119700; 747000, 4119700; 747000, 4120300; 747800, 4120300; 747800, 4120000; 748400, 4120000; 747800, 4120500; 747800, 4121400; 748600, 4121400; 748600, 4121900; 747800, 4121900; 747800, 4123300; 748300, 4123300; 748300, 4123500; 748500, 4123500; 748600, 4123500; 748600, 4123900; 747800, 4123900; 747800, 4124600; 747400, 4125100; 747400, 4125500; 746900, 4125500; 746900, 4125763; 746902, 4125767; 746921, 4125818; 746971, 4125871; 746997, 4125897; returning to 747003, 4125902; excluding 757175, 4117475; 757117, 4117435; 757138, 4117438; 757146, 4117439; 757245, 4117516; 757255, 4117530; returning to 757175, 4117475.

(18) NOTE: Unit 15 (Map 9) follows:



(19) Unit 16: Merced County, California.

(i) Unit 16A: Merced County, California. From USGS 1:24,000 scale quadrangle Stevinson, Gustine, and San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 688300, 4129000; 688600, 4128800; 689100, 4128900; 689200, 4128800; 689400, 4128600; 689800, 4128500; 689900, 4128300;

690200, 4128300; 690400, 4128200; 690500, 4128000; 690600, 4125500; 692700, 4125500; 693200, 4125000; 693100, 4124800; 693100, 4124400; 693300, 4123700; 693600, 4123400; 693800, 4123000; 694000, 4122900; 694079, 4122821; 694035, 4122790; 692453, 4121671; 692300, 4121900; 692200, 4122000; 692200, 4122500; 692100, 4122700; 691800, 4122800; 691400, 4122800; 691261, 4123079; 691262, 4123097; 691263, 4123113; 691267, 4123155; 691273, 4123198; 691267, 4123238; 691248, 4123272; 691217, 4123291; 691200, 4123294; 691200, 4123500; 691110, 4123679; 691126, 4123677; 691149, 4123682; 691156, 4123694; 691166, 4123718; 691177, 4123739; 691191, 4123771; 691193, 4123793; 691200, 4123800; 691195, 4123810; 691201, 4123850; 691215, 4123892; 691220, 4123942; 691214, 4123980; 691192, 4124020; 691171, 4124049; 691150, 4124072; 691127, 4124089; 691099, 4124095; 691071, 4124095; 691055, 4124090; 690900, 4124400; 690559, 4124400; 690559, 4124402; 690569, 4124417; 690582, 4124427; 690582, 4124447; 690576, 4124466; 690563, 4124483; 690546, 4124493; 690525, 4124502; 690523, 4124502; 690523, 4124519; 690500, 4124524; 690475, 4124530; 690469, 4124538; 690445, 4124570; 690388, 4124590; 690353, 4124592; 690180, 4124650; 690127, 4124689; 690083, 4124695; 690025, 4124783; 690020, 4124854; 689996, 4124900; 689988, 4125006; 689952, 4125056; 689912, 4125095; 689856, 4125119; 689819, 4125184; 689788, 4125210; 689747, 4125229; 689700, 4125300; 689658, 4125595; 689665, 4125595; 689672, 4125603; 689645, 4125757; 689630, 4125793; 689600, 4126000; 689700, 4126200; 689600, 4126600; 689400, 4126600; 689275, 4126538; 689239, 4126581; 689188, 4126664; 689134, 4126678; 689121, 4126682; 689069, 4126728; 689067, 4126852; 689020, 4126961; 688990, 4126993; 688911, 4126978; 688903, 4126995; 688913, 4127006; 689100, 4127100; 689024, 4127195; 689025, 4127207; 688949, 4127292; 688931, 4127324; 688922, 4127322; 688854, 4127407; 688823, 4127454; 688780, 4127503; 688735, 4127581; 688723, 4127621; 688696, 4127650; 688684, 4128244; 688193, 4128235; 688100, 4128700; returning to 688300, 4129000;

(ii) Unit 16B: Merced County, California. From USGS 1:24,000 scale quadrangle Stevinson and San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 695400, 4125600; 695500, 4122000; 694900, 4122400; 694700, 4122700; 694500, 4122900; 694500, 4123100; 694100, 4123400; 693800, 4123500; 693800, 4123800; 693500, 4123900; 693500, 4124500; 693700, 4124700; 693800, 4125000; 693600, 4125200; 693400, 4125300; 693122, 4125670; 693100, 4125700; 693146, 4125746; 693200, 4125800; 693700, 4125900; 693700, 4127300; 693800, 4127300; 693900, 4127000; 694200, 4126900; 694600, 4126400; 694600, 4126200; 694700, 4126000; 695179, 4125726; returning to 695400, 4125600;

(iii) Unit 16C: Merced County, California. From USGS 1:24,000 scale quadrangle Arena, Stevinson, Turner Ranch, and San Luis Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 699300, 4126300; 699300, 4125400; 700100, 4125400; 700200, 4126000; 700600, 4125700; 701100, 4125300; 701100, 4124300; 700300, 4124300; 700300, 4123800; 700500, 4123800; 700600, 4123500; 701100, 4123400; 701200, 4123200; 701400, 4123100; 701600, 4122700; 701900, 4122500; 702600, 4122200; 702870, 4121705; 703200, 4121100; 703900, 4120500; 704600, 4119800; 704600, 4119800; 704700, 4119700; 698900, 4119600; 698800, 4119700; 698543, 4119957; 698558, 4119970; 698501, 4120012; 698504, 4120069; 698626, 4120197; 698662, 4120077; 698694, 4120113; 698668, 4121116; 698663, 4121510; 698594, 4121508; 698600, 4121600; 699900, 4121600; 700000, 4120400; 700200, 4120400; 700200, 4122700; 697000, 4122600; 696900, 4125100; 697700, 4125100; 697700, 4125300; 697600, 4125400; 697700, 4125600; 698000, 4125700; 698200, 4125800; 698300, 4126100; 698700, 4126500; 699500, 4126500; 699600, 4126300; returning to 699300, 4126300;

(iv) Unit 16D: Merced County, California. From USGS 1:24,000 scale quadrangle Arena and Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706700, 4122100; 706800, 4120900; 706700, 4120500; 706700, 4119700; 708100, 4119700; 708100, 4119600; 708000, 4119500; 707900, 4119200; 707900, 4119000; 708000, 4118900; 708300, 4118900; 708300, 4118100; 707900, 4118100; 707500, 4118500; 706500, 4118500; 706000, 4118900; 705600, 4119300; 705200, 4119700; 704800, 4120000; 704700, 4120100; 704700, 4120400; 705100, 4120400; 705100, 4120600; 704900, 4120700; 704900, 4120800; 705100, 4120800; 704900, 4121000; 705000, 4121100; 705100, 4121700; 705200, 4121700; 705300, 4122000; 705700, 4122100; 705700, 4122200; 705400, 4122300; 705300, 4122400; 705500, 4122600; 705400, 4122600; 705300, 4122500; 705200, 4122500; 705100, 4122500; 704900, 4122500; 704900, 4122700; 704800, 4122800; 704500, 4122800; 704300, 4122900; 704000, 4122800; 703900, 4122900; 703400, 4124400; 703300, 4124600; 701300, 4126500; 700100, 4127600; 700467, 4129067; 700500, 4129200; 700500, 4130600; 701000, 4130600; 701000, 4130100; 701100, 4129800; 701200, 4129800; 701100, 4130100; 701100, 4130600; 701700, 4130600; 701700, 4129200; 701800, 4129200; 702800, 4129200; 703000, 4128800; 703300, 4128800; 703900, 4128800; 703900, 4129000; 704200, 4129000; 704200, 4128500; 703300, 4128400; 703400, 4128300; 703400, 4127900; 703500, 4127800; 703800, 4127500; 703700, 4127300; 703500, 4127300; 703400, 4127100; 703400, 4126100; 703500, 4126100; 704400, 4126100; 704300, 4126000; 704400, 4125900; 704500, 4125300; 704500, 4124800; 705000, 4124800; 705000, 4125300; 705700, 4125300; 705700, 4124900; 706600, 4125000; 706700, 4123700; returning to 706700, 4122100;

(v) Unit 16E: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush and Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 706700, 4122100; 711500, 4122200; 711500, 4121700; 711500, 4121200; 709900, 4121300; 709900, 4121900; 709800, 4121900; 709800, 4121800; 709700, 4121500; 709500, 4121500; 709300, 4121600; 708800, 4121400; 708700, 4121300; 706800, 4121300; returning to 706700, 4122100;

(vi) Unit 16F: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush and Turner Ranch. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 711200, 4120500; 711400, 4120400; 711500, 4120500; 711600, 4119600; 711900, 4119600; 711900, 4119400; 712100, 4119300; 712300, 4119300; 712300, 4119200; 712600, 4119200; 712800, 4118800; 711600, 4118700; 711600, 4118500; 711400, 4118500;

711300, 4118400; 711100, 4118100; 709900, 4118100; 709900, 4118800; 709900, 4119000; 709700, 4119000; 709700, 4119600; 710300, 4119600; 710300, 4119900; 710700, 4119900; 710700, 4120000; 710600, 4120000; 710600, 4120100; 710700, 4120200; 710600, 4120300; 710700, 4120400; 710700, 4120500; 710900, 4120400; 711100, 4120400; returning to 711200, 4120500;

(vii) Unit 16G: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 714600, 4115000; 713300, 4115000; 713100, 4115300; 713300, 4115300; 713800, 4115400; 713800, 4116600; 715400, 4116600; 715500, 4116500; 715500, 4115818; 714600, 4115800; returning to 714600, 4115000;

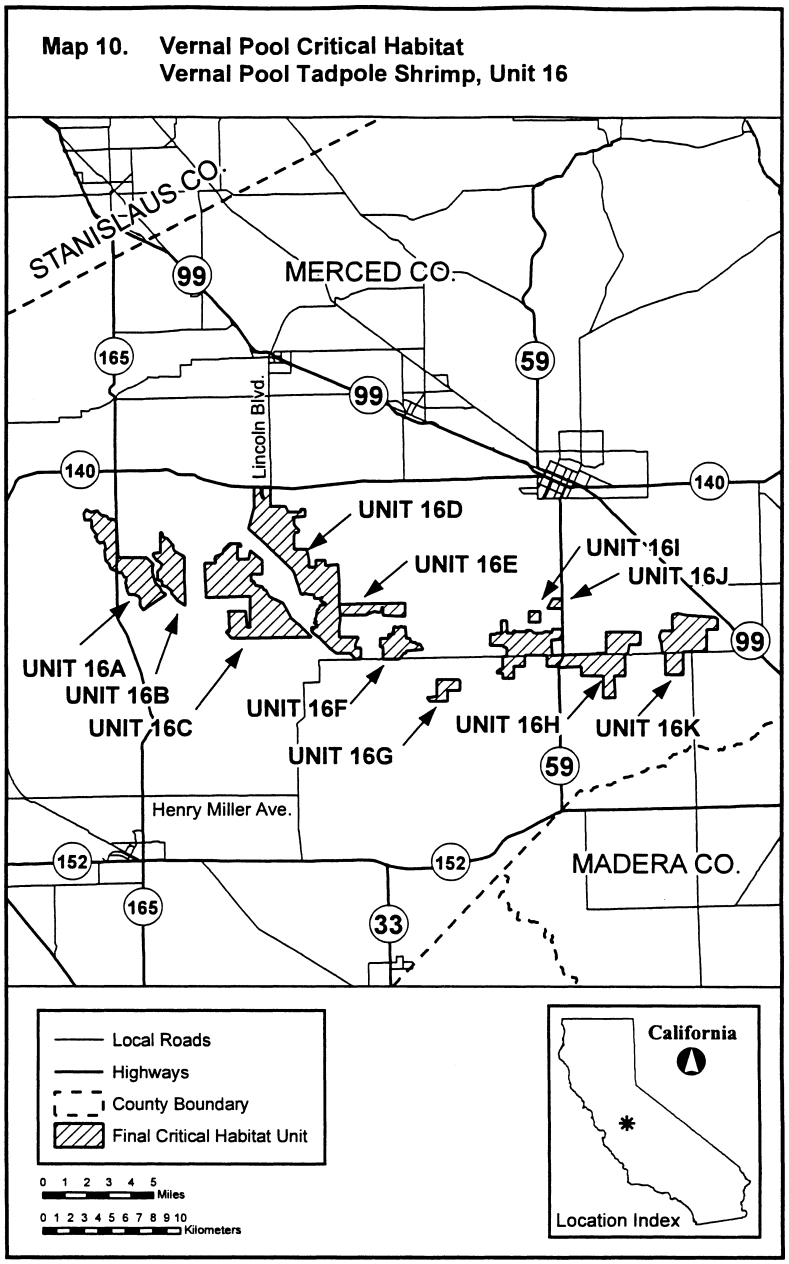
(viii) Unit 16H: Merced County, California. From USGS 1:24,000 scale quadrangle El Nido and Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 718900, 4120900; 718900, 4120000; 719300, 4120000; 719400, 4120200; 719600, 4120100; 720200, 4120100; 720300, 4120200; 720700, 4120200; 720900, 4120000; 721500, 4120000; 721600, 4120100; 722000, 4120100; 722100, 4120000; 722200, 4120200; 722200, 4120300; 722900, 4120300; 722900, 4119600; 722100, 4119500; 722200, 4118400; 725400, 4118500; 725400, 4118578; 726100, 4118600; 726100, 4120100; 728600, 4120100; 728600, 4119200; 727800, 4119200; 727700, 4118600; 727600, 4118500; 727500, 4118500; 727500, 4118400; 727500, 4116900; 726800, 4116900; 726700, 4116900; 726800, 4115300; 725900, 4115300; 725900, 4116900; 724300, 4116900; 724300, 4117600; 722694, 4117506; 722600, 4117600; 721800, 4117600; 721800, 4118400; 720200, 4118400; 720200, 4117600; 719400, 4117600; 719400, 4116700; 718600, 4116700; 718600, 4117100; 718200, 4117100; 718200, 4117200; 718300, 4117300; 718400, 4117400; 718600, 4117400; 718600, 4117500; 718600, 4118291; 718900, 4118300; 718900, 4118900; 718800, 4119000; 718700, 4119000; 718600, 4119100; 717700, 4119100; 717700, 4119900; 718100, 4119900; 718100, 4119950; 718100, 4120000; 718500, 4120000; 718500, 4120900; returning to 718900, 4120900;

(ix) Unit 16I: Merced County, California. From USGS 1:24,000 scale quadrangle Sandy Mush. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 721300, 4120800; 720500, 4120800; 720500, 4121600; 721300, 4121600; 721300, 4121200; returning to 721300, 4120800;

(x) Unit 16J: Merced County, California. From USGS 1:24,000 scale quadrangle El Nido. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 722900, 4121800; 721800, 4121800; 722200, 4122500; 722900, 4122500; returning to 722900, 4121800;

(xi) Unit 16K: Merced County, California. From USGS 1:24,000 scale quadrangle Plainsburg and El Nido. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 731700, 4117000; 730400, 4117000; 730400, 4118600; 730200, 4118600; 730100, 4119300; 730000, 4119700; 730000, 4119900; 730100, 4120200; 730900, 4120200; 730900, 4121400; 731300, 4121500; 731800, 4121400; 732700, 4121300; 734000, 4121200; 734200, 4121100; 734200, 4120300; 733400, 4120300; 733400, 4118700; 731700, 4118700; returning to 731700, 4117000;

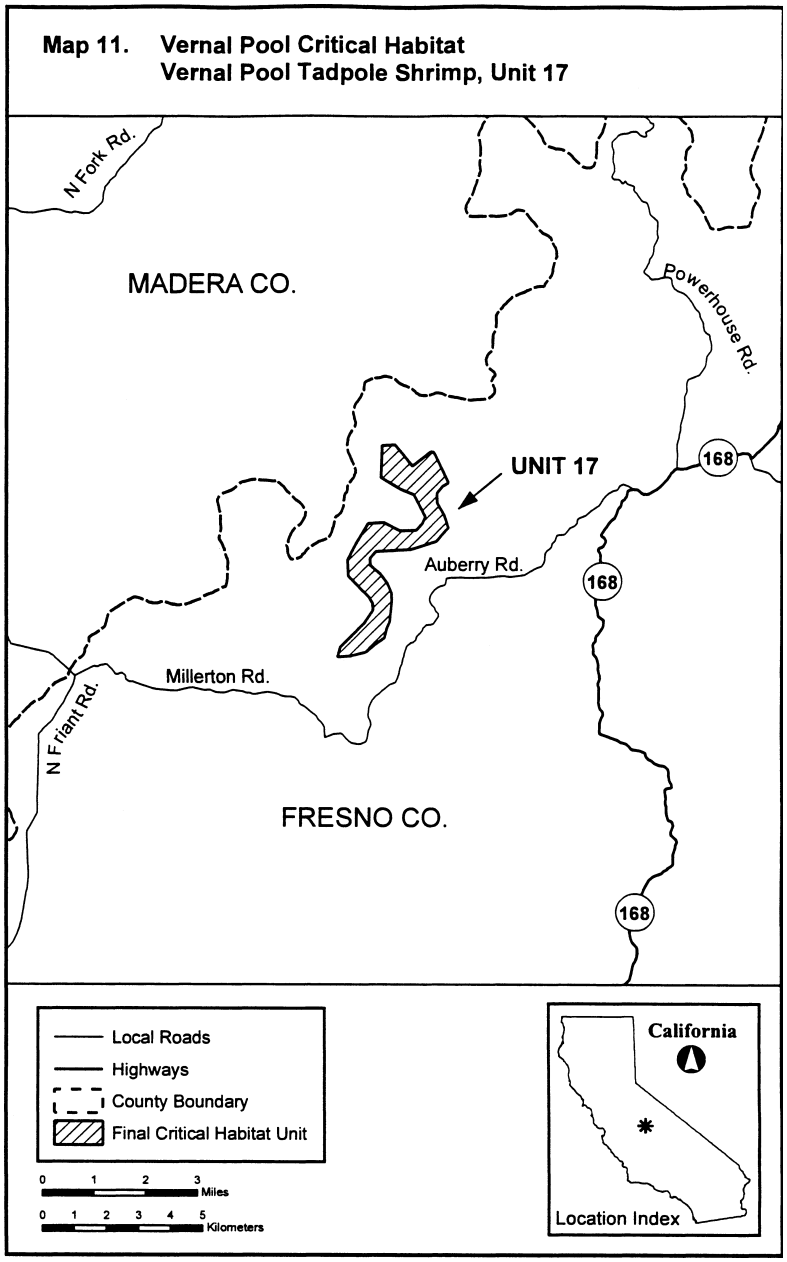
(xii) NOTE: Unit 16 (Map 10) follows:



(20) Unit 17, Fresno County, California. From USGS 1:24,000 scale quadrangle Millerton Lake East and Academy. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 802663, 4106066; 803207, 4105399; 803781, 4105836; 803880, 4105842; 804343, 4104869; 804150, 4104757; 803962, 4104544; 803981, 4104245; 804206, 4103858; 804331, 4103465; 804238,

4103359; 803957, 4103040; 803171, 4102790; 802073, 4102721; 801886, 4102509; 801898, 4102309; 802217, 4102028; 802435, 4101741; 802554, 4101448; 802573, 4101149; 802511, 4100543; 802424, 4100337; 802343, 4100031; 802056, 4099812; 801769, 4099594; 801276, 4099463; 800877, 4099437; 800958, 4099743; 801712, 4100492; 801987, 4100911; 801974, 4101110; 801862, 4101304; 801218, 4101965; 801187, 4102464; 801455, 4102983; 801816, 4103607; 802316, 4103638; 802834, 4103370; 803333, 4103402; 803520, 4103614; 803607, 4103820; 803264, 4104500; 802852, 4104675; 802227, 4105036; 802264, 4106041; 802663, 4106066.

(21) NOTE: Unit 17 (Map 11) follows:



(22) Unit 18: Tulare and Kings Counties, California.

(i) Unit 18A: Tulare and Kings Counties, California. From USGS 1:24,000 scale quadrangle Monson, Traver, Burris Park, and Remnoy. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 828797, 4041134; 828810, 4040935; 829509, 4040978;

829634, 4040585; 829709, 4039386; 830449, 4039621; 830453, 4039463; 830420, 4039230; 829721, 4039186; 829521, 4039174; 829509, 4039374; 828304, 4039399; 828279, 4039798; 827580, 4039755; 827605, 4039355; 827205, 4039330; 827280, 4038132; 826381, 4038076; 826400, 4037776; 825601, 4037726; 825582, 4038026; 824877, 4038082; 824895, 4037782; 822892, 4037758; 822929, 4037159; 821031, 4037041; 821075, 4036342; 820575, 4036310; 820606, 4035811; 820207, 4035786; 820157, 4034981; 820200, 4034282; 818203, 4034157; 818222, 4033858; 817135, 4033589; 816842, 4033471; 816667, 4033059; 816274, 4032935; 816181, 4032934; 814570, 4032928; 813902, 4032386; 813727, 4031974; 813565, 4031362; 813284, 4031044; 812996, 4030826; 812891, 4032523; 813790, 4032579; 814252, 4033209; 814539, 4033428; 814851, 4034164; 814889, 4034252; 815581, 4034395; 816256, 4034838; 817560, 4034819; 816992, 4035886; 818490, 4035980; 819364, 4036436; 819770, 4036360; 820900, 4037534; 821693, 4037683; 822542, 4038539; 824646, 4038569; 824846, 4038582; 826344, 4038675; 826313, 4039175; 825507, 4039225; 825445, 4040223; 827043, 4040323; 827100, 4041028; returning to 828797, 4041134;

(ii) Unit 18B: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 831257, 4040285; 831281, 4039895; 831228, 4039894; 831226, 4040265; 830457, 4040256; 830452, 4040335; returning to 831257, 4040285;

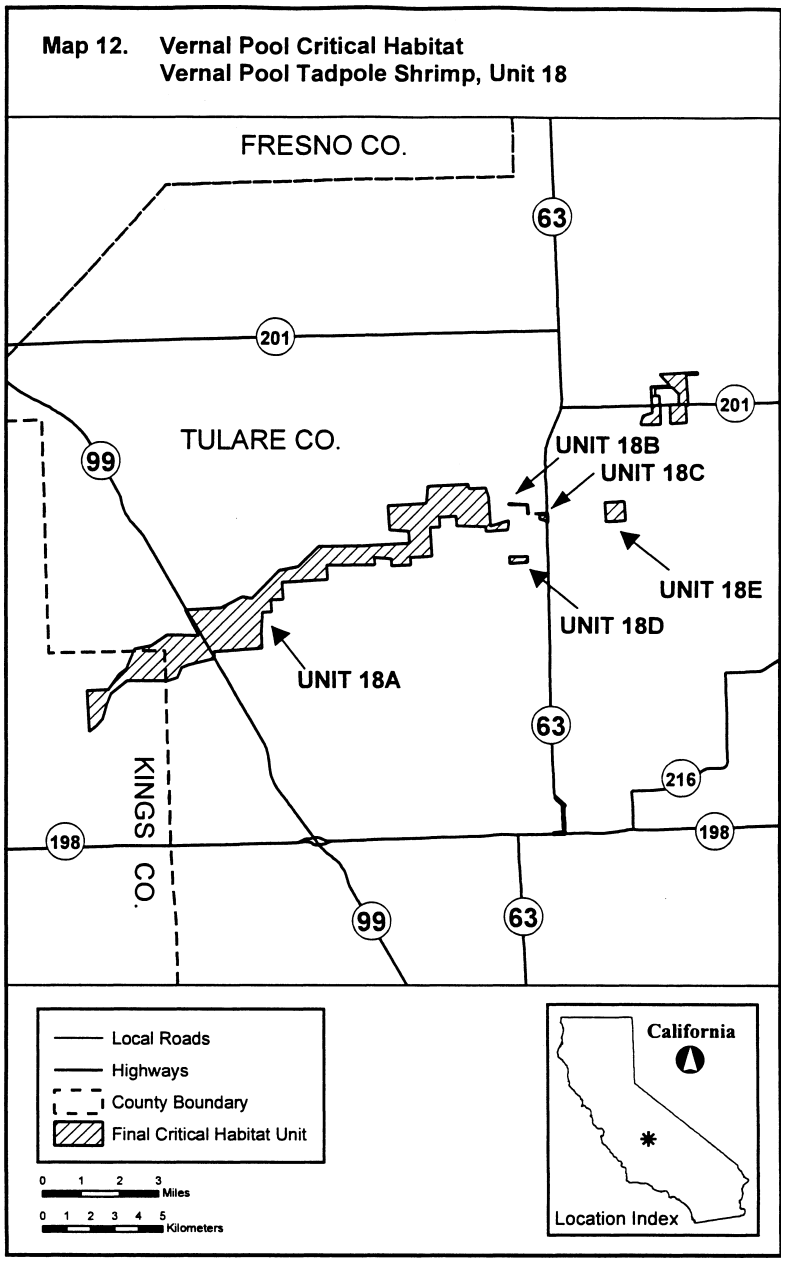
(iii) Unit 18C: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 832081, 4039935; 832106, 4039535; 832038, 4039531; 831991, 4039595; 831752, 4039679; 831748, 4039853; 832035, 4039864; 832031, 4039913; 831542, 4039901; 832081, 4039935; returning to 832081, 4039935;

(iv) Unit 18D: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 831258, 4037878; 830508, 4037831; 830507, 4037837; 830510, 4037837; 830495, 4038113; 830867, 4038116; 831249, 4038123; returning to 831258, 4037878;

(v) Unit 18E: Tulare County, California. From USGS 1:24,000 scale quadrangle Monson. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E, N): 835309, 4039635; 834510, 4039585; 834460, 4040384; 835259, 4040434; returning to 835309, 4039635;

(vi) Unit 18F: Tulare County, California. From USGS 1:24,000 scale quadrangle Ivanhoe. Land bounded by the following UTM Zone 10, NAD 83 coordinates (E,N): 837863, 4043705; 837178, 4043663; 837165, 4044455; 837527, 4044471; 837510, 4044925; 837253, 4045186; 836546, 4045165; 836550, 4044829; 836726, 4044828; 836732, 4044453; 836753, 4044453; 836777, 4043638; 836764, 4043637; 836765, 4043628; 835983, 4043614; 835959, 4043687; 836040, 4043993; 836433, 4044117; 836365, 4045216; 837164, 4045266; 836733, 4045741; 838331, 4045841; 838338, 4045740; 837838, 4045710; 837919, 4044411; 837819, 4044405; returning to 837863, 4043705;

(vii) NOTE: Unit 18 (Map 12) follows:



(i) *Insects.*

CASEY'S JUNE BEETLE (*Dinacoma caseyi*)

(1) The critical habitat unit is depicted for Riverside County in California on the map below.

(2) Within this area, the primary constituent elements of critical habitat for Casey's June beetle are the habitat components that provide:

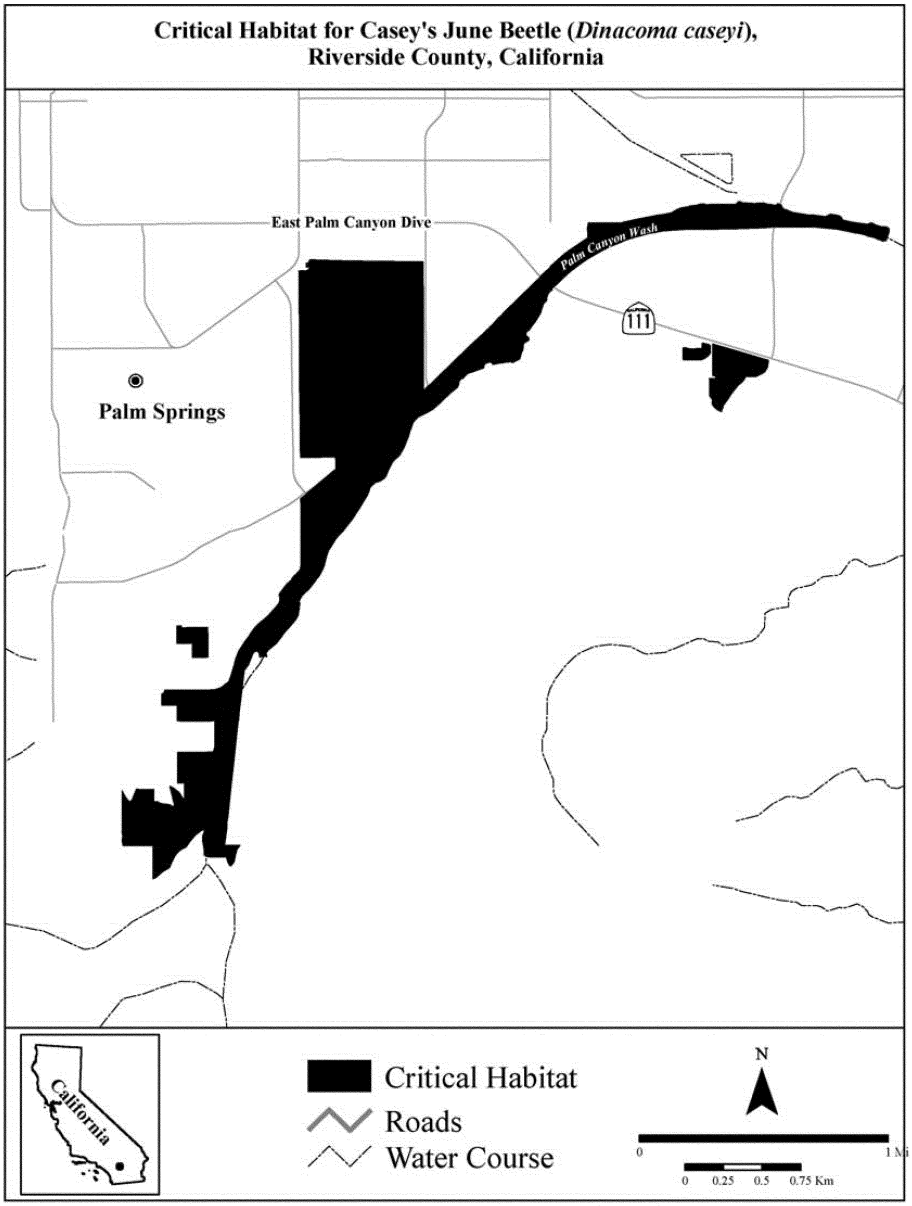
(i) Soils of the Carsitas (CdC) gravelly sand and Riverwash (RA) series, or inclusions of Carsitas cobbly sand (ChC) series soils, or inclusions of Myoma fine sands (MaB) or Coachella fine sands (CpA) within CdC soils, at or below 620 ft (189 m) in elevation, associated with washes and alluvial fans deposited on 0 to 9 percent slopes to provide space for population growth and reproduction, moisture, and food sources; and

(ii) Predominantly native desert vegetation, to provide shelter from traffic-related mortality and food for the species.

(3) Critical habitat does not include lands covered by manmade structures, such as buildings, aqueducts, airports, and roads, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat map unit. Data layers defining the map unit were created on a base of USGS 7.5′ quadrangles, and the critical habitat unit was then mapped using Universal Transverse Mercator (UTM) coordinates zone 11, North American Datum (NAD) 1983 coordinates.

(5) NOTE: Map of critical habitat for Casey's June beetle follows:



(6) Palm Springs: Palm Canyon Wash, Riverside County, California. From USGS 1:24,000 quadrangles Palm Springs and Cathedral City, land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): (E, N): 546545, 3740363; 546556, 3740362; 546566, 3740362; 546577, 3740362; 546587, 3740362; 546595, 3740361; 546603, 3740360; 546608, 3740360; 546614, 3740359; 546625, 3740360; 546637, 3740361; 546650, 3740363; 546657, 3740362; 546667, 3740364; 546668, 3740364; 546674, 3740364; 546680, 3740362;

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546980, 3740284; 547001, 3740284; 547022, 3740282;
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COMAL SPRINGS DRYOPID BEETLE (*Stygoparnus comalensis*).

(1) Critical habitat units are depicted for Comal and Hays Counties, Texas, on the maps below.

(2) The primary constituent elements of critical habitat for the Comal Springs dryopid beetle are:

(i) High-quality water with no or minimal levels of pollutants, such as soaps and detergents (Brown 1987, p. 261) and other compounds containing surfactants, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, pharmaceuticals and veterinary medicines, and semi-volatile compounds, such as industrial cleaning agents, and including:

(A) Low salinity with total dissolved solids that generally range from 307 to 368 mg/L; and

(B) Low turbidity that generally is less than 5 nephelometric turbidity units;

(ii) Aquifer water temperatures that range from approximately 68 to 75 °F (20 to 24 °C);

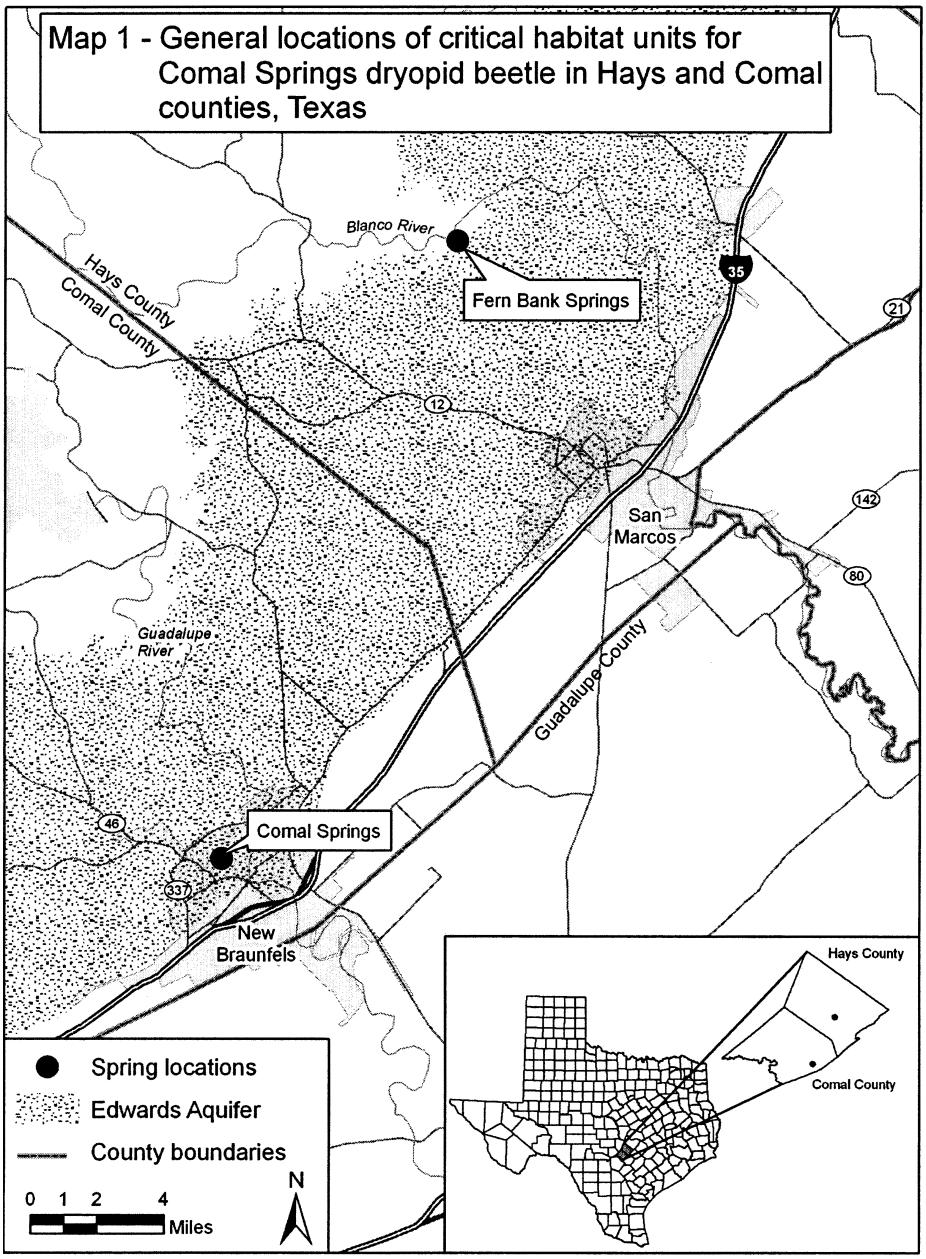
(iii) A hydrologic regime that allows for adequate spring flows that provide levels of dissolved oxygen in the approximate range of 4.0 to 10.0 mg/L for respiration of the Comal Springs dryopid beetle; and

(iv) Food supply that includes detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria and other microorganisms, and decaying roots.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, roads, and other paved areas) and the land on which they are located existing with the legal boundaries on the effective date of this rule. Where lakes are designated, critical habitat is only designated for areas where springs occur and does not include areas of the lake bottom beyond a radius of 50 ft (15.2 m) from the spring outlet.

(4) *Critical habitat map units.* Data layers defining map units were created by using ArcGIS. All coordinates are UTM zone 14 coordinate pairs, referenced to North American Horizontal Datum 1983. Coordinates were derived from 2004 digital orthophotographs. All acreage and mileage calculations were performed using GIS.

(5) NOTE: Index map of the critical habitat units for Comal Springs dryopid beetle (Map 1) follows:



(6) Comal Springs Unit, Comal County, Texas.

(i) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 583387, 3287251; 583392, 3287264; 583405, 3287280; 583404, 3287290; 583407, 3287301; 583414, 3287307; 583425, 3287308; 583425, 3287320; 583433, 3287328; 583444, 3287330; 583454, 3287325;

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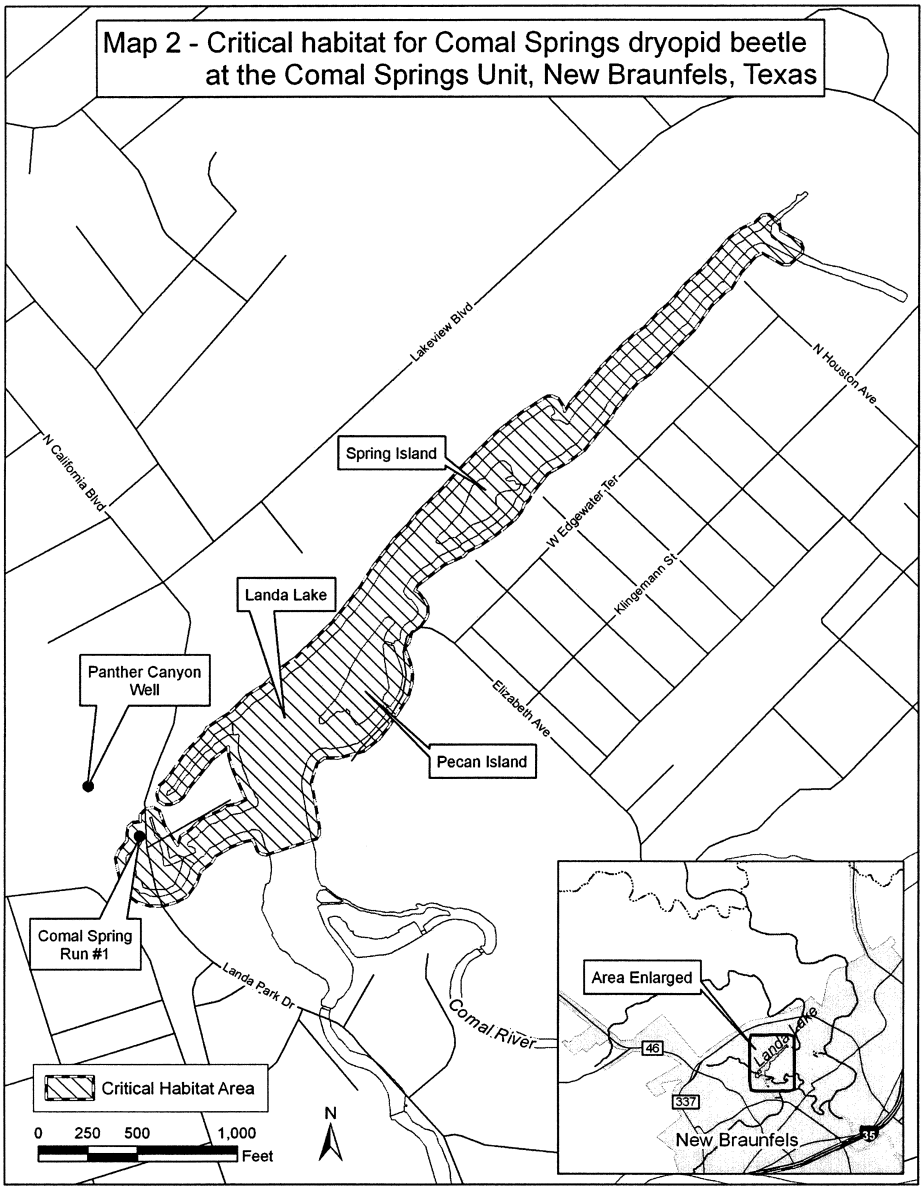
(ii) NOTE: Comal Springs Unit (Map 2) follows:



(7) Fern Bank Springs Unit, Hays County, Texas.

(i) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 595131, 3317374; 595131, 3317375; 595132, 3317376; 595132, 3317377; 595132, 3317378; 595132, 3317379; 595133, 3317380; 595133, 3317381; 595133, 3317382; 595134, 3317383; 595135, 3317383; 595135, 3317384; 595136, 3317385; 595137, 3317386; 595137, 3317386; 595138, 3317387; 595139, 3317387; 595140, 3317388; 595141, 3317388; 595141, 3317388; 595168, 3317398; 595181, 3317411; 595198, 3317428; 595198, 3317428; 595199, 3317429; 595199, 3317430; 595200, 3317430; 595201, 3317431; 595202, 3317431; 595203, 3317432; 595204, 3317432; 595205, 3317432; 595206, 3317432; 595207, 3317433; 595208, 3317433;

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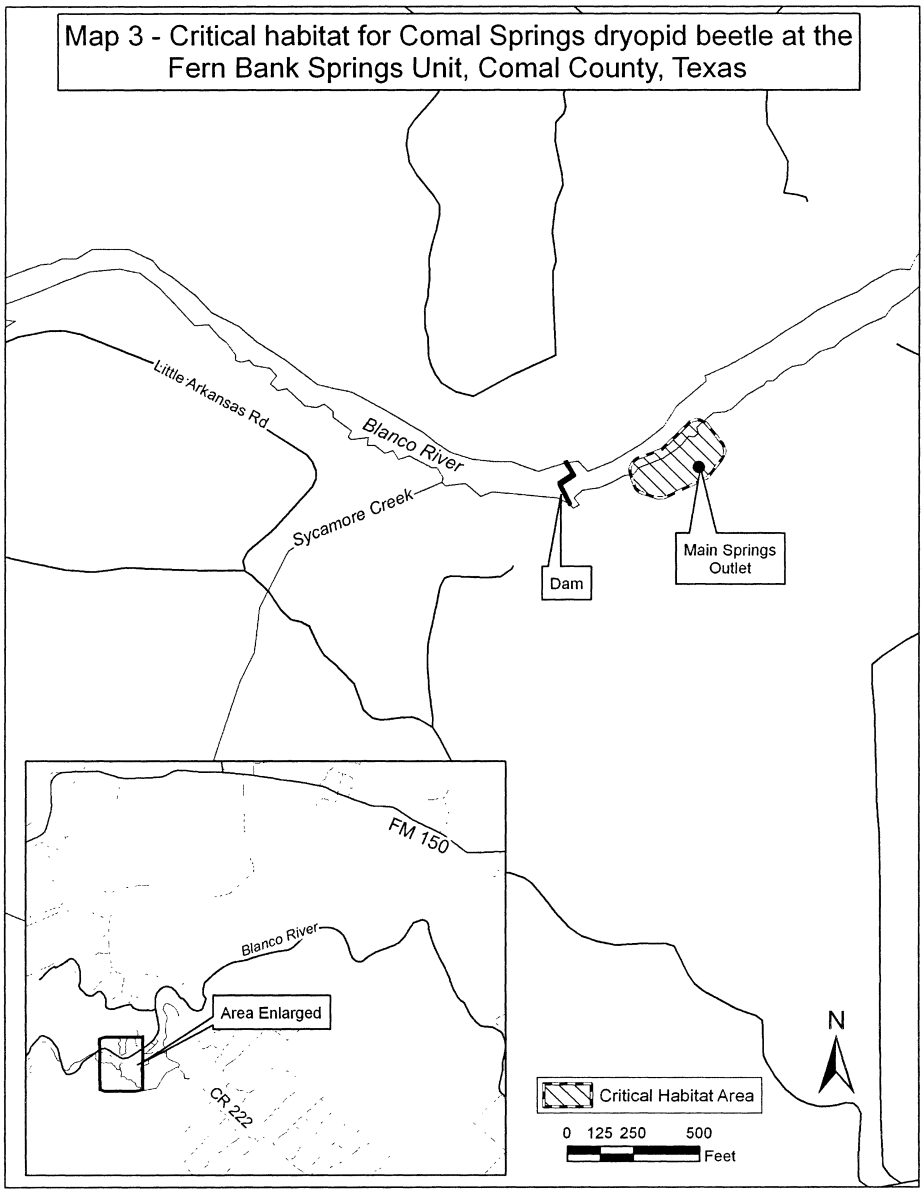
(ii) NOTE: Fern Bank Springs Unit (Map 3) follows:



COMAL SPRINGS RIFFLE BEETLE (*Heterelmis comalensis*).

(1) Critical habitat units are depicted for Comal and Hays Counties, Texas, on the maps below.

(2) The primary constituent elements of critical habitat for Comal Springs riffle beetle are:

(i) High-quality water with no or minimal levels of pollutants, such as soaps and detergents (Brown 1987, p. 261) and other compounds containing surfactants, heavy metals, pesticides, fertilizer nutrients, petroleum hydrocarbons, pharmaceuticals and veterinary medicines, and semi-volatile compounds, such as industrial cleaning agents, and including:

(A) Low salinity with total dissolved solids that generally range from 307 to 368 mg/L; and

(B) Low turbidity that generally is less than 5 nephelometric turbidity units;

(ii) Aquifer water temperatures that range from approximately 68 to 75 °F (20 to 24 °C);

(iii) A hydrologic regime that allows for adequate spring flows that provide levels of dissolved oxygen in the approximate range of 4.0 to 10.0 mg/L for respiration of the Comal Springs riffle beetle;

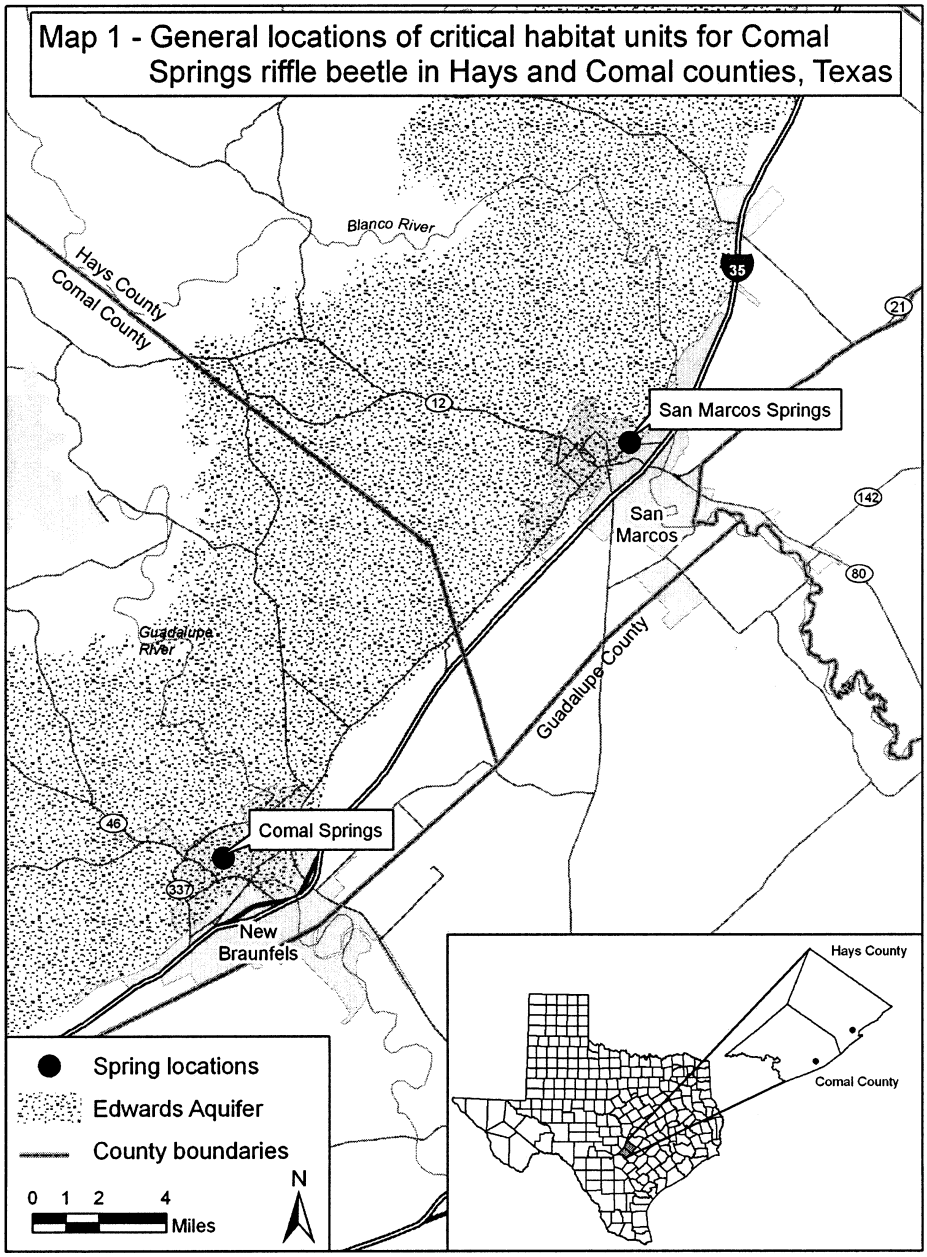
(iv) Food supply that includes detritus (decomposed materials), leaf litter, living plant material, algae, fungi, bacteria and other microorganisms, and decaying roots; and

(v) Bottom substrate in surface water habitat of the Comal Springs riffle beetle that is free of sand and silt, and is composed of gravel and cobble ranging in size from 0.3 to 5.0 inches (8 to 128 millimeters).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units*. Data layers defining map units were created by using ArcGIS. All coordinates are UTM zone 14 coordinate pairs, referenced to North American Horizontal Datum 1983. Coordinates were derived from 2004 digital orthophotographs. All acreage and mileage calculations were performed using GIS.

(5) NOTE: Index map of the critical habitat units for Comal Springs riffle beetle (Map 1) follows:



(6) Comal Springs Unit, Comal County, Texas.

(i) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 583420, 3287293; 583423, 3287293; 583426, 3287293; 583428, 3287290; 583429, 3287285; 583428, 3287280; 583426, 3287273; 583422, 3287268; 583416, 3287259; 583415, 3287255; 583415, 3287249;

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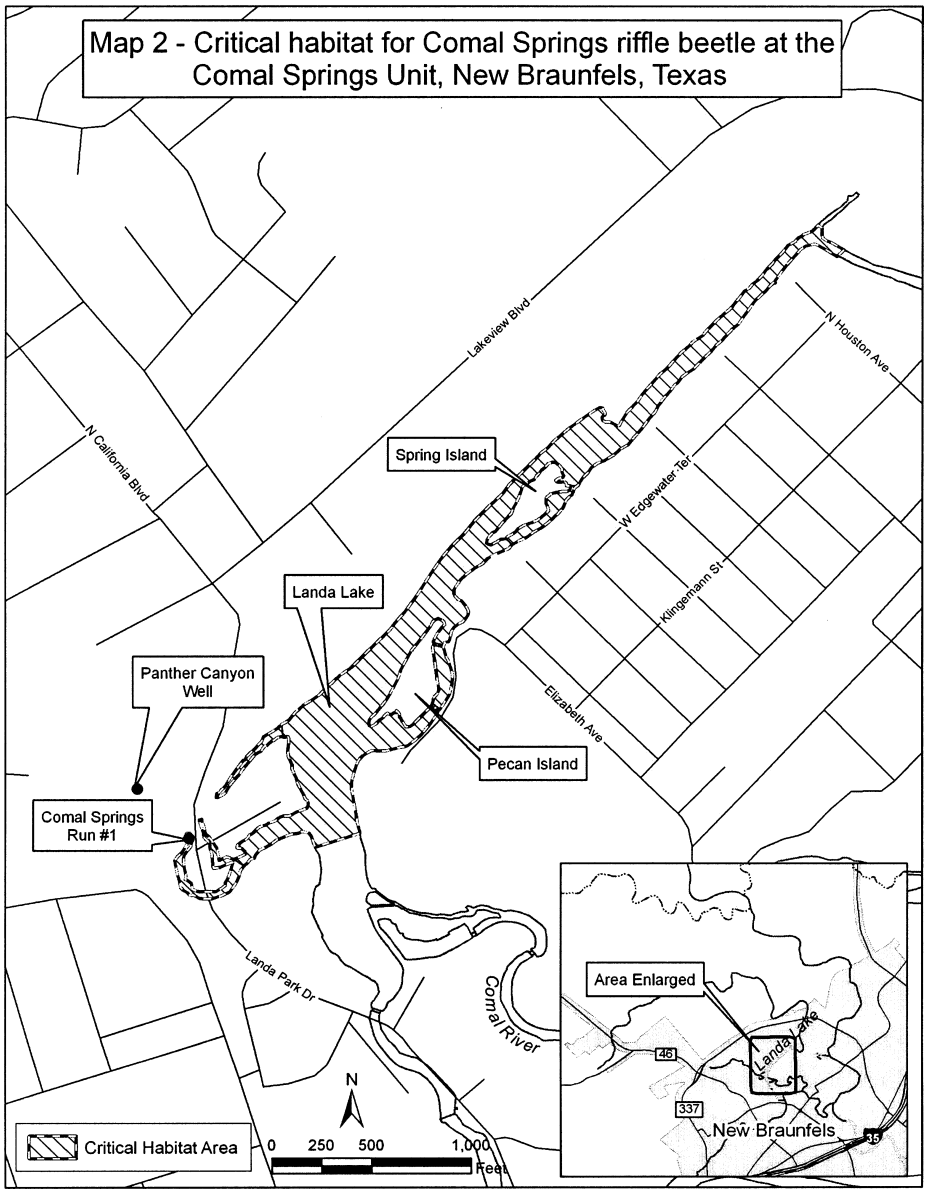
(ii) NOTE: Comal Springs Unit (Map 2) follows:



(7) San Marcos Springs Unit, Hays County, Texas.

(i) Aquatic habitat areas bounded by the UTM Zone 14 NAD 83 coordinates (meters E, meters N): 602869, 3307092; 602870, 3307100; 602877, 3307131; 602892, 3307172; 602926, 3307215; 602936, 3307229; 602942, 3307237; 602945, 3307243; 602957, 3307286; 603007, 3307329; 603072, 3307386; 603154, 3307462; 603158, 3307463; 603166, 3307466; 603175, 3307465; 603186, 3307473; 603219, 3307486; 603258, 3307508; 603288, 3307526; 603307, 3307541; 603317, 3307544; 603326, 3307539; 603329, 3307527; 603319, 3307512; 603251, 3307456; 603234, 3307439; 603224, 3307433; 603218, 3307419; 603206, 3307412;

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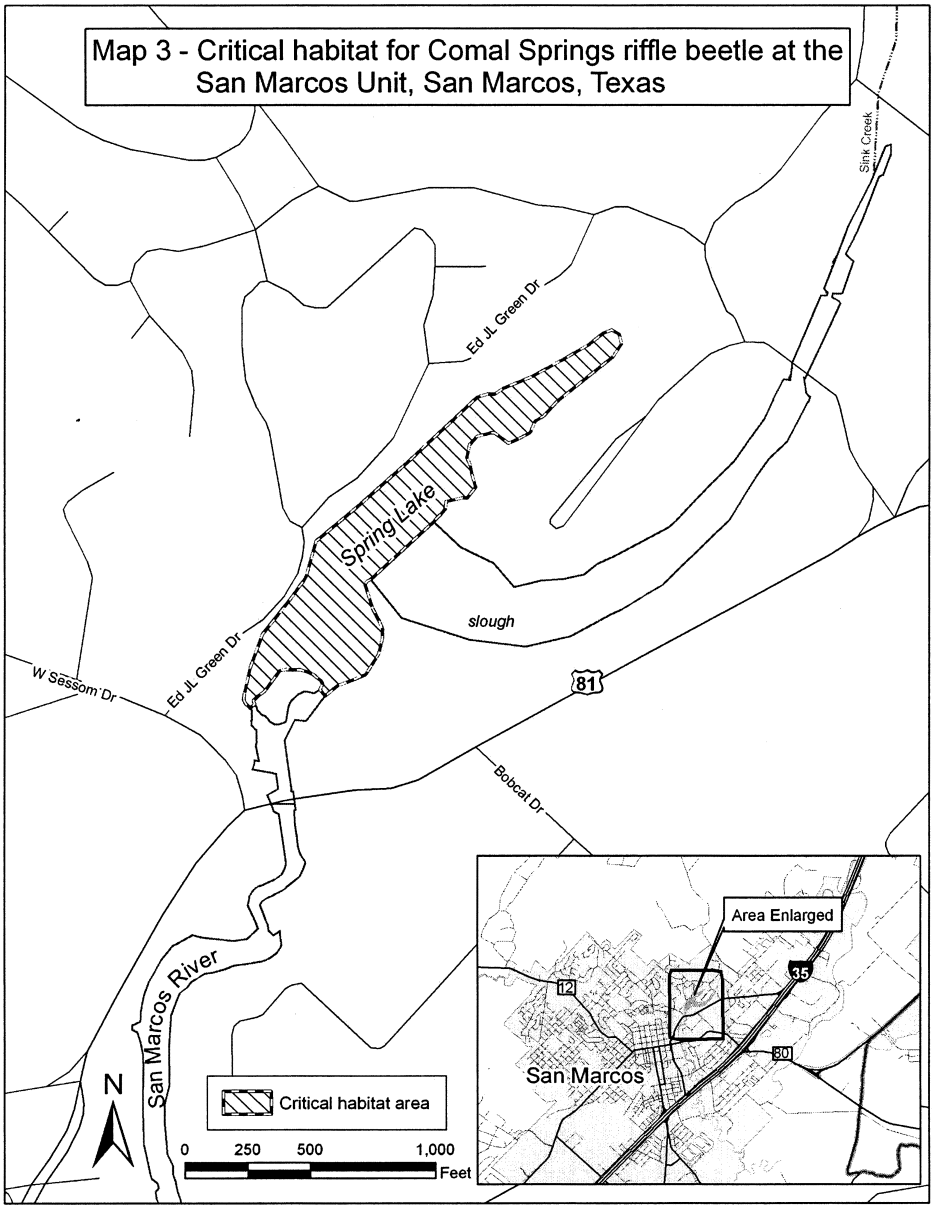
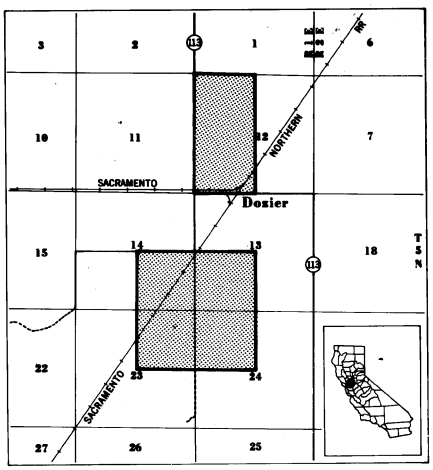
(ii) NOTE: San Marcos Springs Unit (Map 3) follows:



DELTA GREEN GROUND BEETLE (*Elaphrus viridis*)

California. Solano County. T.5N. R.1E. West ½ Sec. 12, southwest ¼ Sec. 13, southeast ¼ Sec. 14, northeast ¼ Sec. 23, northwest ¼ Sec. 24.

NOTE: Map follows:



HELOTES MOLD BEETLE (*Batrisodes venyivi*)

(1) Critical habitat for the Helotes mold beetle in Bexar County, Texas, occurs in Units 1e, 3, and 5 as described in this entry and depicted on Maps 1 (index map), 2, 4, and 5 of this entry.

(2) The primary constituent elements of critical habitat for *Batrisodes venyivi* are:

(i) Karst-forming rock containing subterranean spaces (caves and connected mesocaverns) with stable temperatures, high humidities (near saturation), and suitable substrates (for example, spaces between and underneath rocks for foraging and sheltering) that are free of contaminants; and

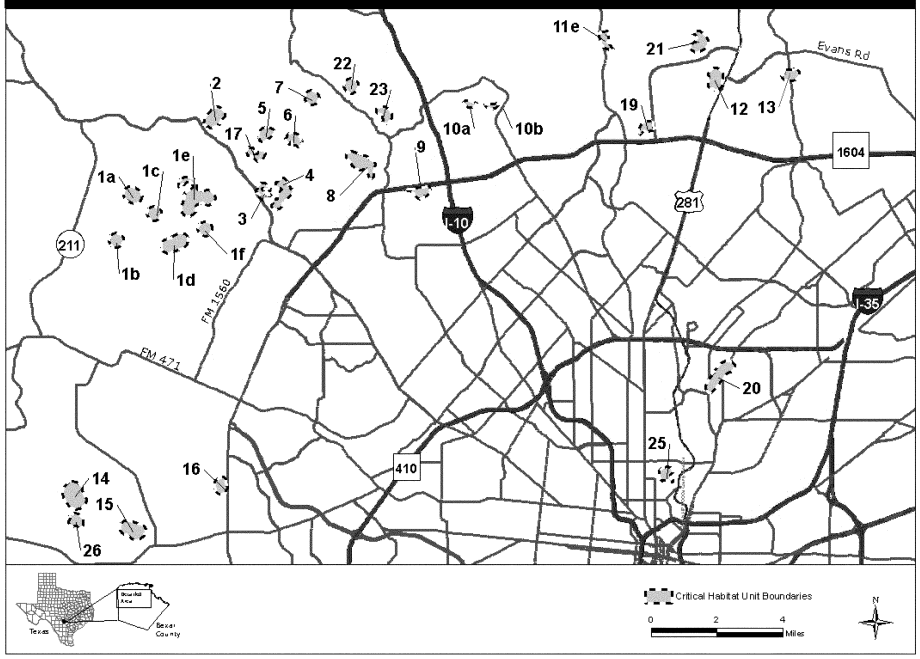
(ii) Surface and subsurface sources (such as plants and their roots, fruits, and leaves, and animal (e.g., cave cricket) eggs, feces, and carcasses) that provide nutrient input into the karst ecosystem.

(3) Developed lands that do not contain the subsurface primary constituent elements (see paragraph (2)(i) of this entry) and that existed on the effective date of this rule are not considered to be critical habitat.

(4) Data layers defining this map unit were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(5) Index map of Bexar County invertebrates critical habitat units, Bexar County, Texas, follows:

Map 1. Bexar County, Texas, Karst Invertebrate Critical Habitat Units Overview



(6) Unit 1e: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 526403, 3273634; 526465, 3273472; 526487, 3273282; 526506, 3273157; 526879, 3273092; 527025, 3273129; 527180, 3273102; 527297, 3273019; 527383, 3272873; 527398, 3272719; 527346, 3272571; 527228, 3272449; 527075, 3272402; 526905, 3272426; 526783, 3272497; 526472, 3272434; 526435, 3272318; 526460, 3272223; 526443, 3272077; 526356, 3271945; 526158, 3271842; 525997, 3271842; 525854, 3271930; 525762, 3272044; 525703, 3272205; 525729, 3272352; 525802, 3272494; 525890, 3272776; 525876, 3272894; 525858, 3272918; 525912, 3272925; 525904, 3272945; 525903, 3272947; 525903, 3272949; 525902, 3272950; 525902, 3272952; 525901, 3272954; 525901, 3272956; 525900, 3272957; 525900, 3272959; 525899, 3272961; 525899, 3272963; 525898, 3272965; 525898, 3272966; 525898, 3272968; 525898, 3272970; 525897, 3272972; 525897, 3272974; 525897, 3272975; 525897, 3272977; 525897, 3272979; 525897, 3272981; 525897, 3272983; 525897, 3272985; 525897, 3272986; 525897, 3272988; 525897, 3272990; 525897, 3272992; 525897, 3272994; 525897, 3272996; 525897, 3272997; 525898, 3272999; 525898, 3273001; 525898, 3273003; 525899, 3273005; 525899, 3273007; 525899, 3273008; 525900, 3273010; 525900, 3273012; 525901, 3273014; 525901, 3273015; 525902, 3273017; 525902, 3273019; 525903, 3273021; 525904, 3273022; 525904, 3273024; 525905, 3273026; 525906, 3273027; 525906, 3273029; 525907, 3273031; 525908, 3273032; 525909, 3273034; 525910, 3273036; 525911, 3273037; 525912, 3273039; 525913, 3273040; 525914, 3273042; 525915, 3273044; 525916, 3273045; 525917, 3273047; 525918, 3273048; 525919, 3273049; 525920, 3273051; 525921, 3273052; 525923, 3273054; 525924, 3273055; 525925, 3273056; 525926, 3273058; 525928, 3273059; 525929, 3273060; 525930, 3273062; 525932, 3273063; 525933, 3273064; 525934, 3273065; 525936, 3273066; 525937, 3273068; 525939, 3273069; 525940, 3273070; 525942, 3273071; 525943, 3273072; 525945, 3273073; 525946, 3273074; 525948, 3273075; 525949, 3273076; 525951, 3273077; 525953, 3273078; 525954, 3273078; 525956, 3273079; 525958, 3273080; 526305, 3273293; 526303, 3273302; 526276, 3273412; 526276, 3273412; 526254, 3273499; 526202, 3273564; 526023, 3273523; 525917, 3273448; 525824, 3273382; 525786, 3273440; 525587, 3273259; 525586, 3273260; 525572, 3273363; 525594, 3273505; 525693, 3273659; 525876, 3273765; 526048, 3273798; 526253, 3273754; 526403, 3273634.

(ii) NOTE: Map 2 of Units 1a, 1b, 1c, 1d, 1e, and 1f follows:

(7) Unit 3: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529906, 3272892; 529975, 3272934; 529993, 3272946; 529996, 3272945; 529998, 3272943; 530001, 3272942; 530004, 3272940; 530006, 3272938; 530007, 3272938; 530020, 3272926; 530026, 3272920; 530030, 3272917; 530032, 3272915;

530043, 3272905; 530045, 3272903; 530045, 3272902; 530046, 3272901; 530047, 3272900; 530049, 3272897; 530050, 3272895; 530050, 3272895; 530120, 3272932; 530134, 3272895; 530165, 3272898; 530159, 3272895; 530124, 3272875; 530112, 3272843; 530083, 3272805; 530081, 3272805; 530049, 3272774; 530020, 3272734; 529995, 3272714; 529909, 3272671; 529790, 3272649; 529688, 3272658; 529646, 3272723; 529589, 3272792; 529584, 3272798; 529600, 3272911; 529558, 3272947; 529514, 3272978; 529473, 3272968; 529445, 3273019; 529423, 3273086; 529449, 3273173; 529482, 3273196; 529507, 3273216; 529496, 3273253; 529504, 3273344; 529564, 3273416; 529676, 3273477; 529771, 3273499; 529870, 3273496; 529918, 3273447; 529970, 3273351; 530058, 3273320; 530110, 3273233; 530105, 3273183; 530099, 3273138; 530128, 3273120; 530096, 3273123; 530057, 3273126; 530055, 3273143; 530048, 3273180; 530057, 3273190; 530057, 3273190; 530049, 3273191; 530038, 3273192; 530002, 3273195; 529946, 3273200; 529916, 3273202; 529898, 3273204; 529897, 3273204; 529680, 3273221; 529753, 3273117; 529764, 3273100; 529836, 3272993; 529845, 3272981; 529906, 3272892.

(ii) NOTE: Map 4 of Units 3 and 4 follows:

(8) Unit 5: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529536, 3275753; 529533, 3275931; 529585, 3276056; 529741, 3276191; 529927, 3276249; 530112, 3276208; 530275, 3276093; 530350, 3275987; 530318, 3275927; 530238, 3275838; 530169, 3275776; 530109, 3275735; 529970, 3275629;

529950, 3275603; 529936, 3275565; 529781, 3275523; 529719, 3275529; 529621, 3275548; 529566, 3275611; 529536, 3275753.

(ii) NOTE: Map 5 of Units 5, 6, and 17 follows:

BEETLE (NO COMMON NAME) (*Rhadine exilis*)

(1) Critical habitat for the beetle (*Rhadine exilis*) in Bexar County, Texas, occurs in Units 1b, 1d, 1e, 2, 3, 4, 5, 6, 7, 8, 9, 11e, 12, 13, and 21, and is depicted on Maps 3, 6, 7, 8, 10, 11, 12, and 18 in this entry, and on Maps 2, 4, and 5, provided at paragraphs (6), (7), and (8) of the entry for the Helotes mold beetle in this paragraph (i). The units are also depicted on Map 1 (index map) provided in paragraph (5) of the entry for the Helotes mold beetle in this paragraph (i).

(2) Eight caves and their associated karst management areas established under the La Cantera Habitat Conservation Plan section 10(a)(1)(B) permit are adjacent to or within the boundaries of Units 1e, 3, 6, 8, and 17, but are not designated as critical habitat. These caves are Canyon Ranch Pit, Fat Man's Nightmare Cave, Scenic Overlook Cave and the surrounding approximately 75 ac (30 ha) adjacent to Unit 1e; Helotes Blowhole and Helotes Hilltop Caves and the surrounding approximately 25 ac (10 ha) adjacent to Unit 3; John Wagner Cave No. 3 and the surrounding approximately 4 ac (1.6 ha) adjacent to Unit 6; Hills and Dales Pit and the surrounding approximately 70 ac (28 ha) adjacent to Unit 8; and Madla's Cave and the surrounding approximately 5 ac (2 ha) within Unit 17.

(3) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for *Rhadine exilis* are identical to those set forth at paragraphs (2) and (3) of the entry for the Helotes mold beetle in this paragraph (i).

(4) Data layers defining map units were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5′ quadrangles. Points were placed on the GIS.

(5) Unit 1b: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522172, 3270656; 522202, 3270794; 522259, 3270889; 522375, 3270977; 522521, 3271014; 522677, 3270988; 522793, 3270905; 522880, 3270758; 522894, 3270605; 522843, 3270457; 522724, 3270335; 522571, 3270287; 522401, 3270312; 522280, 3270382; 522186, 3270538; 522172, 3270656.

(ii) NOTE: Map 2 of Unit 1b is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(6) Unit 1d: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 524739, 3270323; 524739, 3270454; 524798, 3270590; 524917, 3270699; 525091, 3270744; 525462, 3270937; 525613, 3271016; 525757, 3271026; 525893, 3270977; 526000, 3270883; 526059, 3270741; 526062, 3270603; 525980, 3270370; 525836, 3270243; 525700, 3270206; 525289, 3270072; 525153, 3270020; 525016, 3270023; 524883, 3270092; 524788, 3270191; 524739, 3270323.

(ii) NOTE: Map 2 of Unit 1d is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(7) Unit 1e: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 526403, 3273634; 526465, 3273472; 526487, 3273282; 526506, 3273157; 526879, 3273092; 527025, 3273129; 527180, 3273102; 527297, 3273019; 527383, 3272873; 527398, 3272719; 527346, 3272571; 527228, 3272449; 527075, 3272402; 526905, 3272426; 526783, 3272497; 526472, 3272434; 526435, 3272318; 526460, 3272223; 526443, 3272077; 526356, 3271945; 526158, 3271842; 525997, 3271842; 525854, 3271930; 525762, 3272044; 525703, 3272205; 525729, 3272352; 525802, 3272494; 525890, 3272776; 525876, 3272894; 525858, 3272918; 525912, 3272925; 525904, 3272945; 525903, 3272947; 525903, 3272949; 525902, 3272950; 525902, 3272952; 525901, 3272954; 525901, 3272956; 525900, 3272957; 525900, 3272959; 525899, 3272961; 525899, 3272963; 525898, 3272965; 525898, 3272966; 525898, 3272968; 525898, 3272970; 525897, 3272972; 525897, 3272974; 525897, 3272975; 525897, 3272977; 525897, 3272979; 525897, 3272981; 525897, 3272983; 525897, 3272985; 525897, 3272986; 525897, 3272988; 525897, 3272990; 525897, 3272992; 525897, 3272994; 525897, 3272996; 525897, 3272997; 525898, 3272999; 525898, 3273001; 525898, 3273003; 525899, 3273005; 525899, 3273007; 525899, 3273008; 525900, 3273010; 525900, 3273012; 525901, 3273014; 525901, 3273015; 525902, 3273017; 525902, 3273019; 525903, 3273021; 525904, 3273022; 525904, 3273024; 525905, 3273026; 525906, 3273027; 525906, 3273029; 525907, 3273031; 525908, 3273032; 525909, 3273034; 525910, 3273036; 525911, 3273037; 525912, 3273039; 525913, 3273040; 525914, 3273042; 525915, 3273044; 525916, 3273045; 525917, 3273047; 525918, 3273048; 525919, 3273049; 525920, 3273051; 525921, 3273052; 525923, 3273054; 525924, 3273055; 525925, 3273056; 525926, 3273058; 525928, 3273059; 525929, 3273060; 525930, 3273062; 525932, 3273063; 525933, 3273064; 525934, 3273065; 525936, 3273066; 525937, 3273068; 525939, 3273069; 525940, 3273070; 525942, 3273071; 525943, 3273072; 525945, 3273073; 525946, 3273074; 525948, 3273075; 525949, 3273076; 525951, 3273077; 525953, 3273078; 525954, 3273078; 525956, 3273079; 525958, 3273080; 526305, 3273293; 526303, 3273302; 526276, 3273412; 526276, 3273412; 526254, 3273499; 526202, 3273564; 526023, 3273523; 525917, 3273448; 525824, 3273382; 525786, 3273440; 525587, 3273259; 525586, 3273260; 525572, 3273363; 525594, 3273505; 525693, 3273659; 525876, 3273765; 526048, 3273798; 526253, 3273754; 526403, 3273634.

(ii) NOTE: Map 2 of Unit 1e is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(8) Unit 2: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 527508, 3276359; 527444, 3276287; 527343, 3276226; 527229, 3276204; 527117, 3276216; 527116, 3276253; 527085, 3276279; 527003, 3276270; 526933, 3276334; 526905, 3276386; 526783, 3276386; 526851, 3276555; 526850, 3276556; 526864, 3276662; 526908, 3276736; 526960, 3276801; 527010, 3276865; 527213, 3277098; 527281, 3277166; 527392, 3277230; 527536, 3277252; 527711, 3277190;

527805, 3277102; 527857, 3277003; 527869, 3276903; 527861, 3276787; 527803, 3276674; 527699, 3276578; 527644, 3276515; 527643, 3276397; 527630, 3276386; 527530, 3276384; 527508, 3276359.

(ii) NOTE: Map 3 of Unit 2 follows:

(9) Unit 3: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529583, 3272798; 529599, 3272911; 529557, 3272947; 529513, 3272978; 529473, 3272967; 529445, 3273019; 529422, 3273086; 529448, 3273172; 529481, 3273196; 529507, 3273216; 529496, 3273252; 529503, 3273343; 529563, 3273415; 529676, 3273477; 529771, 3273498; 529870, 3273496; 529917, 3273446; 529970, 3273350; 530057, 3273319; 530110, 3273232; 530104, 3273182; 530099, 3273138; 530147, 3273107; 530178, 3273102; 530182, 3273047; 530190, 3273009; 530208, 3272933; 530211, 3272920; 530159, 3272895; 530123, 3272875; 530112, 3272843; 530083, 3272804; 530081, 3272804; 530049, 3272773; 530020, 3272733; 529995, 3272713; 529909, 3272670; 529790, 3272648; 529687, 3272657; 529646, 3272722; 529588, 3272791; 529583, 3272798.

(ii) NOTE: Units 3 and 4 are depicted on Map 4, which is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(10) Unit 4: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 530856, 3272567; 530829, 3272537; 530779, 3272510; 530734, 3272516; 530717, 3272422; 530676, 3272341; 530620, 3272272; 530531, 3272213; 530417, 3272180; 530271, 3272194; 530240, 3272264; 530185, 3272283; 530180, 3272385; 530234, 3272501; 530209, 3272542; 530206, 3272578; 530217, 3272624; 530247, 3272658; 530294, 3272681; 530349, 3272685; 530367, 3272699; 530396, 3272702; 530448, 3272698; 530442, 3272851; 530447, 3272909; 530473, 3272992; 530595, 3273076; 530685, 3273138; 530683, 3273167; 530640, 3273210; 530578, 3273224; 530471, 3273226; 530441, 3273259; 530396, 3273326; 530369, 3273344; 530362, 3273412; 530385, 3273503; 530436, 3273540; 530493, 3273576; 530498, 3273608; 530591, 3273684; 530668, 3273720; 530738, 3273733; 530903, 3273657; 530959, 3273526; 530967, 3273452; 530973, 3273424; 531003, 3273401; 531069, 3273343; 531081, 3273277; 531099, 3273245; 531134, 3273194; 531222, 3273176; 531252, 3273111; 531282, 3273015; 531205, 3272961; 531135, 3272916; 531056, 3272822; 530975, 3272780; 530909, 3272689; 530855, 3272599; 530856, 3272567.

(ii) NOTE: Units 3 and 4 are depicted on Map 4, which is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(11) Unit 5: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529536, 3275753; 529533, 3275931; 529585, 3276056; 529741, 3276191; 529927, 3276249; 530112, 3276208; 530275, 3276093; 530350, 3275987; 530318, 3275927; 530238, 3275838; 530169, 3275776; 530109, 3275735; 529970, 3275629; 529950, 3275603; 529936, 3275565; 529781, 3275523; 529719, 3275529; 529621, 3275548; 529566, 3275611; 529536, 3275753.

(ii) NOTE: Units 5, 6, and 17 are depicted on Map 5, which is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(12) Unit 6: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 531676, 3275515; 531639, 3275342; 531576, 3275302; 531483, 3275283; 531331, 3275337; 531242, 3275350; 531189, 3275346; 531193, 3275501; 531094, 3275501; 531094, 3275378; 531072, 3275398; 530953, 3275478; 530909, 3275521; 530851, 3275661; 530871, 3275702; 530981, 3275903; 531119, 3275970; 531335, 3275950; 531512, 3275851; 531615, 3275701; 531676, 3275515.

(ii) NOTE: Units 5 and 6 are depicted on Map 5, which is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(13) Unit 7: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 531798, 3277694; 531828, 3277832; 531885, 3277927; 532001, 3278016; 532148, 3278053; 532303, 3278026; 532420, 3277943; 532506, 3277797; 532520, 3277643; 532469, 3277495; 532351, 3277373; 532197, 3277326; 532028, 3277350; 531906, 3277421; 531812, 3277576; 531798, 3277694.

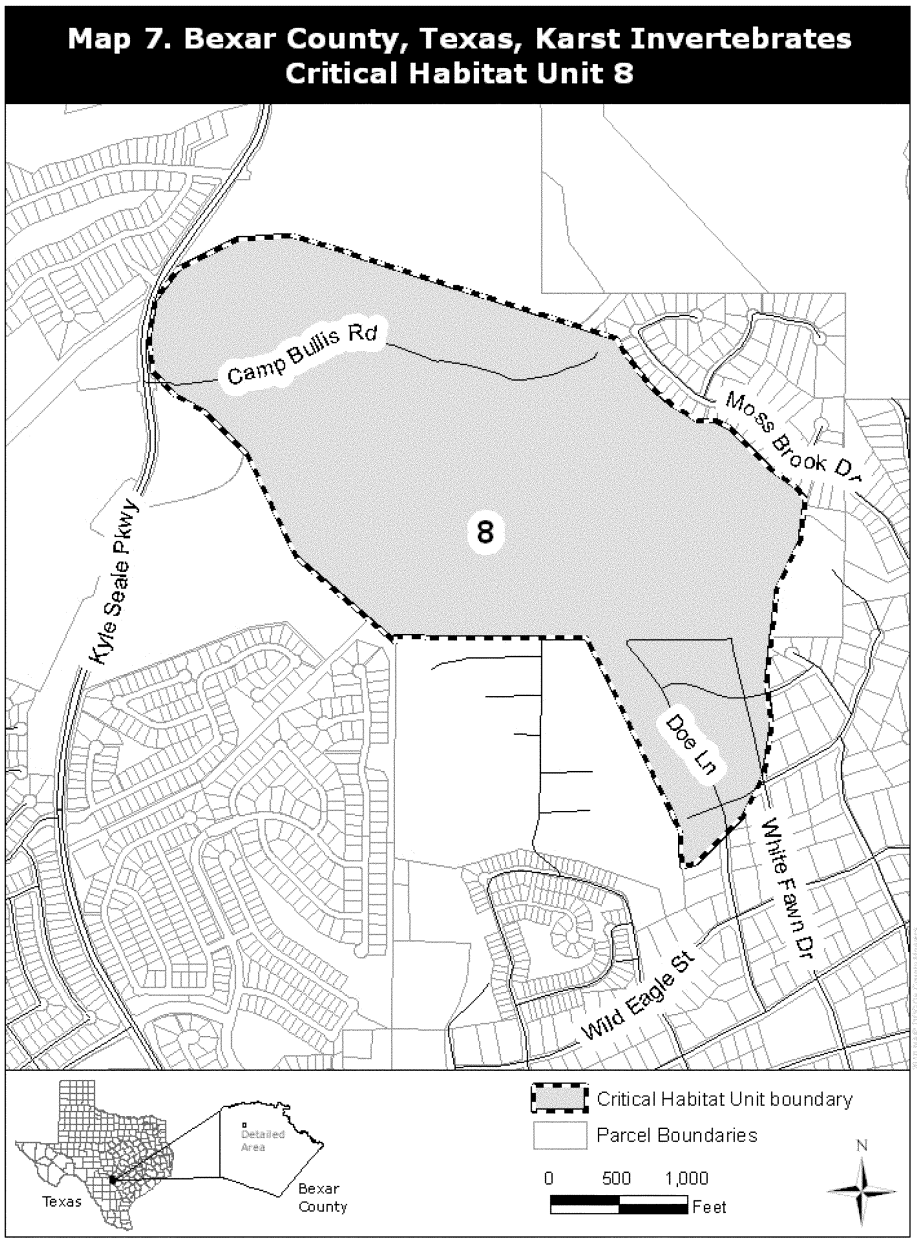
(ii) NOTE: Map 6 of Unit 7 follows:

(14) Unit 8: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 535007, 3274657; 535063, 3274624; 535096, 3274626; 535133, 3274610; 535173, 3274570; 535222, 3274516; 535282, 3274478; 535302, 3274450; 535290, 3274359; 535238, 3274250; 535215, 3274045; 535226, 3273947; 535209, 3273836; 535160, 3273741; 535056, 3273640; 535027, 3273631; 535026, 3273654; 535022, 3273714; 535018, 3273721;

535013, 3273730; 534992, 3273775; 534988, 3273784; 534962, 3273838; 534962, 3273838; 534936, 3273892; 534909, 3273947; 534909, 3273947; 534883, 3274002; 534856, 3274057; 534856, 3274057; 534813, 3274142; 534708, 3274141; 534625, 3274140; 534519, 3274140; 534389, 3274145; 534389, 3274132; 534168, 3274322; 534058, 3274551; 533966, 3274645; 533893, 3274683; 533848, 3274736; 533839, 3274809; 533853, 3274895; 533905, 3274965; 534037, 3275030; 534156, 3275037; 534290, 3274997; 534292, 3274995; 534881, 3274809; 534894, 3274782; 534931, 3274737; 534962, 3274695; 535007, 3274657.

(ii) NOTE: Map 7 of Unit 8 follows:

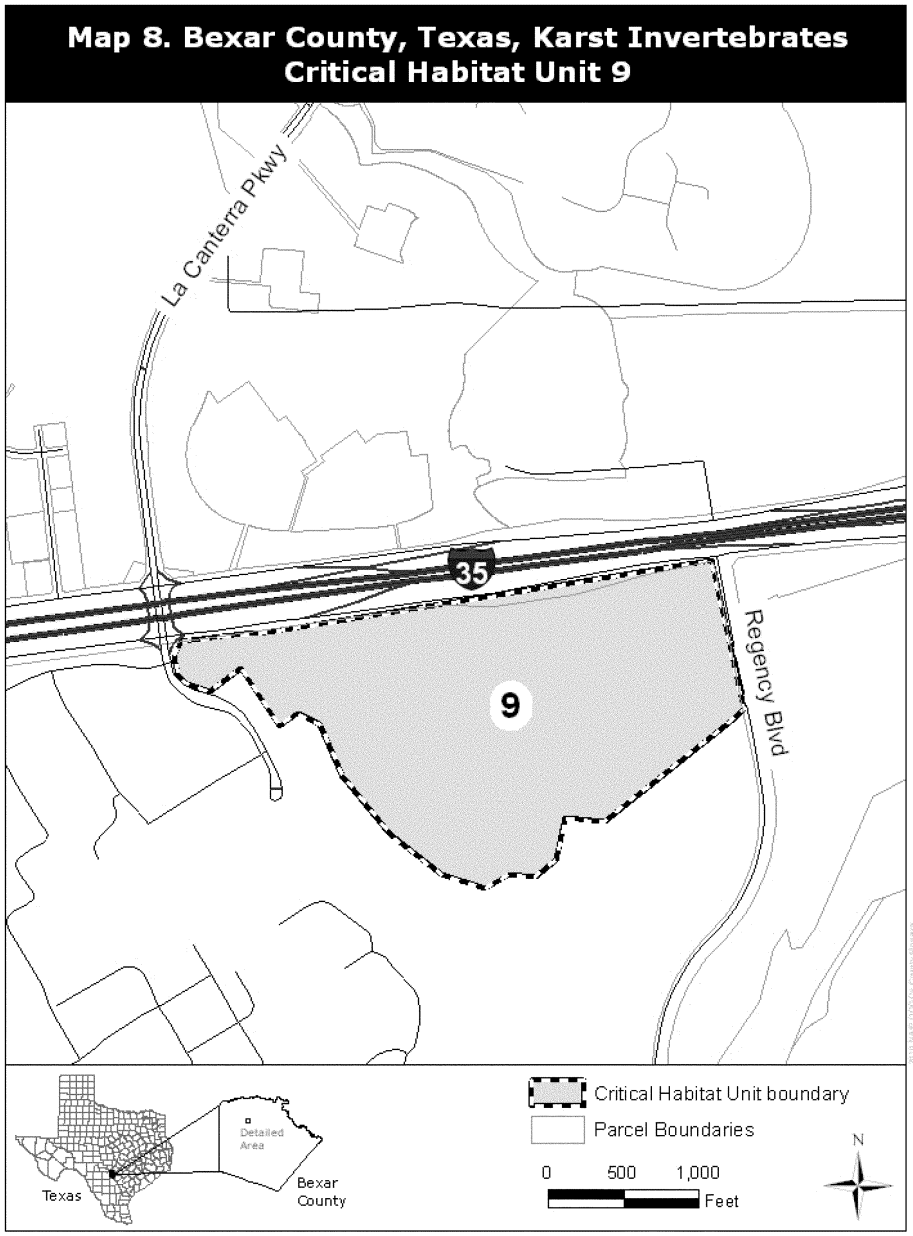


(15) Unit 9: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 536971, 3273194; 537058, 3273204; 537958, 3273349; 538025, 3273049; 538011, 3273033; 537743, 3272819; 537663, 3272828; 537645, 3272742; 537602, 3272707; 537551, 3272712; 537500, 3272684; 537412, 3272713; 537309, 3272793; 537213, 3272912; 537167, 3273017; 537121, 3273038; 537084, 3273013; 537008, 3273129; 536943, 3273082;

536897, 3273099; 536879, 3273117; 536871, 3273154; 536887, 3273183; 536971, 3273194.

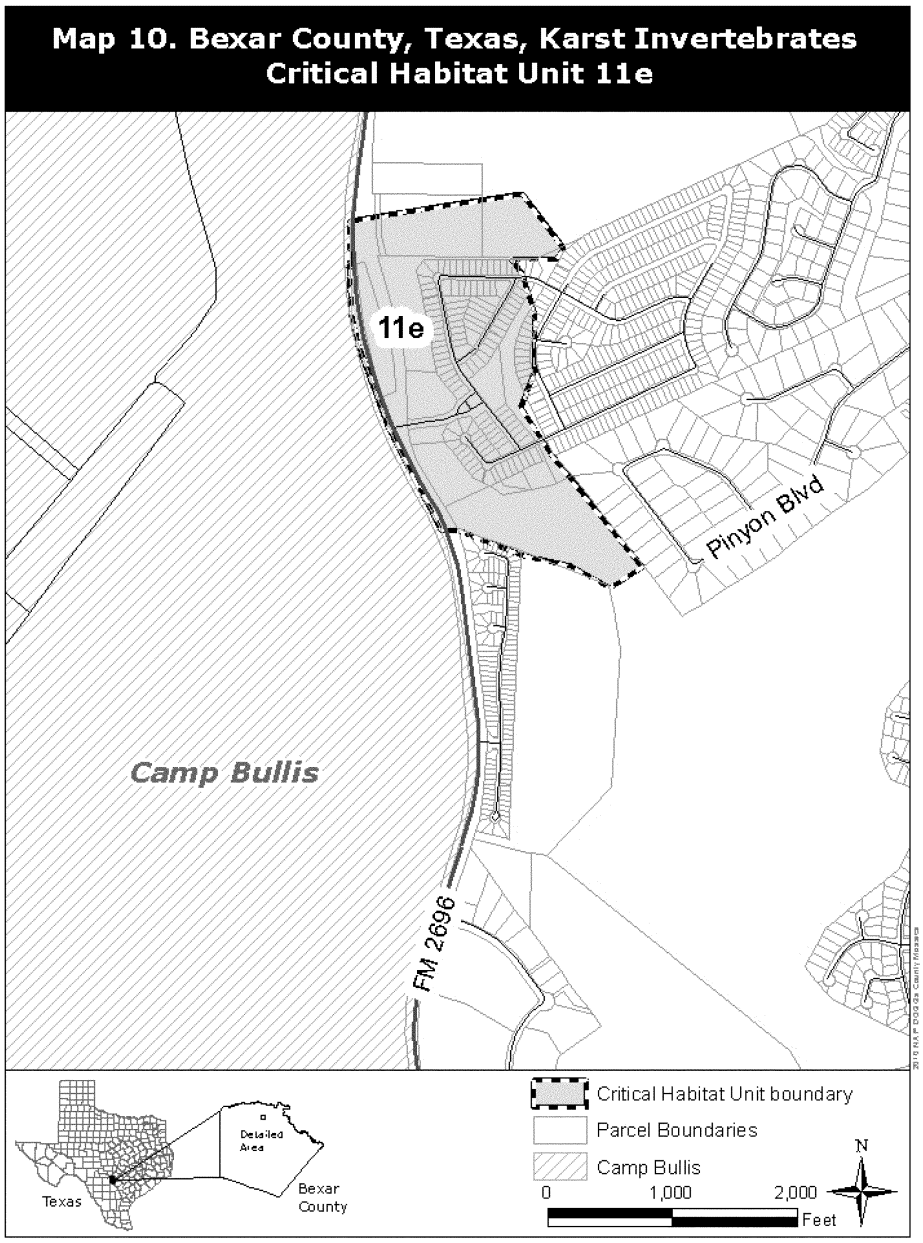
(ii) NOTE: Map 8 of Unit 9 follows:



(16) Unit 11e: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 546476, 3280267; 546413, 3280397; 546339, 3280604; 546323, 3280672; 546318, 3280792; 546318, 3280907; 546549, 3280944; 546741, 3280974; 546842, 3280841; 546822, 3280811; 546712, 3280817; 546741, 3280776; 546771, 3280674; 546768, 3280534; 546737, 3280452; 546810, 3280337; 547036, 3280060; 546957, 3280008; 546861, 3280061; 546745, 3280087; 546590, 3280148; 546541, 3280150; 546515, 3280201; 546476, 3280267.

(ii) NOTE: Map 10 of Unit 11e follows:



(17) Unit 12: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 552033, 3278053; 551928, 3278141; 551834, 3278139; 551807, 3278130; 551766, 3278160; 551687, 3278290; 551673, 3278422; 551692, 3278521; 551714, 3278718; 551702, 3278837; 551730, 3278937; 551771, 3279018; 551835, 3279091; 551959, 3279147; 552097, 3279168; 552239, 3279127; 552334, 3279050; 552409, 3278920; 552425, 3278785;

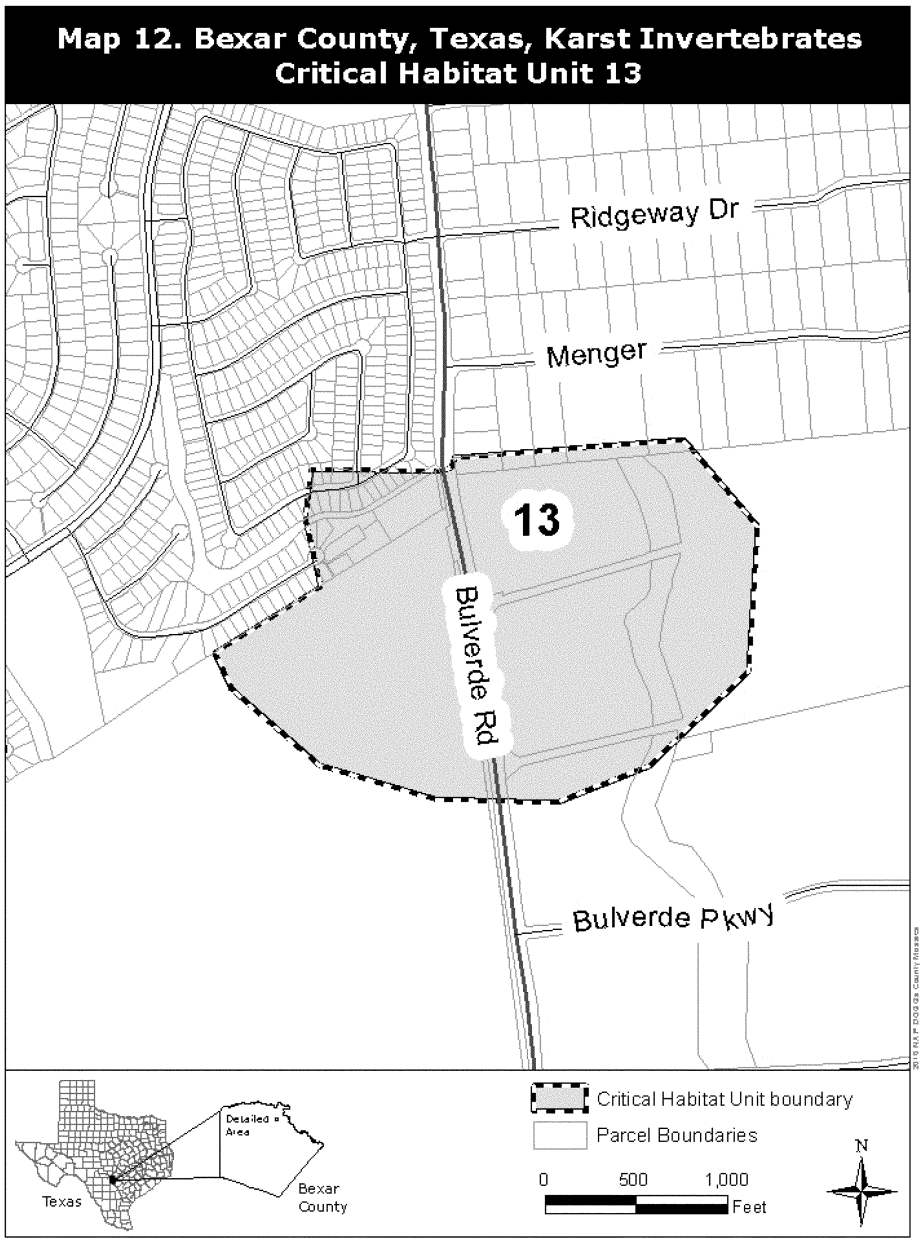
552399, 3278671; 552385, 3278483; 552385, 3278343; 552354, 3278249; 552300, 3278162; 552188, 3278085; 552105, 3278057; 552033, 3278053.

(ii) NOTE: Map 11 of Unit 12 follows:

(18) Unit 13: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 555466, 3278873; 555441, 3278986; 555451, 3279067; 555662, 3279064; 555683, 3279069; 555689, 3279087; 556071, 3279116; 556194, 3278972; 556178, 3278730; 556012, 3278573; 555860, 3278513; 555655, 3278520; 555463, 3278576; 555318, 3278702; 555289, 3278762; 555466, 3278873.

(ii) NOTE: Map 12 of Unit 13 follows:



(19) Unit 21: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 533735, 3278278; 533765, 3278416; 533821, 3278511; 533938, 3278599; 534084, 3278636; 534240, 3278610; 534356, 3278527; 534443, 3278380; 534457, 3278227; 534406, 3278079; 534287, 3277957; 534134, 3277909; 533964, 3277934; 533843, 3278004; 533749, 3278160; 533735, 3278278.

(ii) NOTE: Map 18 of Unit 21 follows:

BEETLE (NO COMMON NAME) (*Rhadine infernalis*)

(1) Critical habitat for the beetle (*Rhadine infernalis*) in Bexar County, Texas, occurs in Units 1a, 1b, 1d, 1e, 1f, 2, 3, 4, 5, 6, 8, 10a, 10b, 14, 15, 16, 17, 19, 23, and 26. These units are depicted on Maps 9, 13, 14, 15, 16, 20, and 22 in this entry; on Maps 2, 4, and 5 provided at paragraphs (6)(ii), (7)(ii), and (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i); and on Maps 3 and 7 provided at paragraphs (8)(ii) and (14)(ii) of the entry for the beetle (*Rhadine exilis*) in this paragraph (i). The units are also depicted on Map 1 (index map) provided in paragraph (5) of the entry for the Helotes mold beetle in this paragraph (i).

(2) Eight caves and their associated karst management areas established under the La Cantera Habitat Conservation Plan section 10(a)(1)(B) permit are adjacent to or within the boundaries of Units 1e, 3, 6, 8, and 17, but are not designated as critical habitat. These caves are Canyon Ranch Pit, Fat Man's Nightmare Cave, Scenic Overlook Cave and the surrounding approximately 75 ac (30 ha) adjacent to Unit 1e; Helotes Blowhole and Helotes Hilltop Caves and the surrounding approximately 25 ac (10 ha) adjacent to Unit 3; John Wagner Cave No. 3 and the surrounding approximately 4 ac (1.6 ha) adjacent to Unit 6; Hills and Dales Pit and the surrounding approximately 70 ac (28 ha) adjacent to Unit 8; and Madla's Cave and the surrounding approximately 5 ac (2 ha) within Unit 17.

(3) The primary constituent elements of, and the statements regarding developed lands in, critical habitat for the *Rhadine exilis* are identical to those set forth at paragraphs (2) and (3) of the entry for the Helotes mold beetle in this paragraph (i).

(4) Data layers defining map units were created using a geographic information system (GIS), which included cave locations, karst zone maps, roads, property boundaries, 2010 aerial photography, and USGS 7.5' quadrangles. Points were placed on the GIS.

(5) Unit 1a: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522870, 3272900; 522872, 3273024; 522919, 3273156; 523000, 3273241; 523124, 3273312; 523284, 3273323; 523438, 3273258; 523618, 3273132; 523729, 3273041; 523797, 3272836; 523784, 3272720; 523724, 3272603; 523633, 3272522; 523515, 3272464; 523406, 3272460; 523276, 3272492; 523041, 3272654; 522939, 3272737; 522870, 3272900.

(ii) NOTE: Map 2 of Unit 1a is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(6) Unit 1b: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522172, 3270656; 522202, 3270794; 522259, 3270889; 522375, 3270977; 522521, 3271014; 522677, 3270988; 522793, 3270905; 522880, 3270758; 522894, 3270605; 522843, 3270457; 522724, 3270335; 522571, 3270287; 522401, 3270312; 522280, 3270382; 522186, 3270538; 522172, 3270656

(ii) NOTE: Map 2 of Unit 1b is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(7) Unit 1d: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 524739, 3270323; 524739, 3270454; 524798, 3270590; 524917, 3270699; 525091, 3270744; 525462, 3270937; 525613, 3271016; 525757, 3271026; 525893, 3270977; 526000, 3270883; 526059, 3270741; 526062, 3270603; 525980, 3270370; 525836, 3270243; 525700, 3270206; 525289, 3270072; 525153, 3270020; 525016, 3270023; 524883, 3270092; 524788, 3270191; 524739, 3270323.

(ii) NOTE: Map 2 of Unit 1d is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(8) Unit 1e: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 526878, 3273091; 527025, 3273128; 527180, 3273102; 527296, 3273019; 527383, 3272872; 527397, 3272719; 527346, 3272571; 527228, 3272449; 527074, 3272401; 526905, 3272426; 526783, 3272496; 526471, 3272434; 526435, 3272317; 526459, 3272223; 526443, 3272076; 526355, 3271944; 526157, 3271842; 525996, 3271842; 525853, 3271930; 525762, 3272043; 525703, 3272205; 525729, 3272351; 525802, 3272494; 525890, 3272776; 525875, 3272893; 525758, 3273054; 525692, 3273095; 525586, 3273259; 525571, 3273362; 525593, 3273505; 525692, 3273659; 525875, 3273765; 526047, 3273798; 526252, 3273754; 526403, 3273633; 526465, 3273472; 526487, 3273281; 526505, 3273157; 526878, 3273091.

(ii) NOTE: Map 2 of Unit 1e is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(9) Unit 1f: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 526537, 3271231; 526567, 3271369; 526624, 3271464; 526740, 3271552; 526887, 3271589; 527042, 3271563; 527159, 3271480; 527245, 3271333; 527259, 3271180; 527208, 3271032; 527090, 3270910; 526936, 3270862; 526767, 3270887; 526645, 3270958; 526552, 3271113; 526537, 3271231.

(ii) NOTE: Map 2 of Unit 1f is provided at paragraph (6)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(10) Unit 2: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 527508, 3276359; 527444, 3276287; 527343, 3276226; 527229, 3276204; 527117, 3276216; 527116, 3276253; 527085, 3276279; 527003, 3276270; 526933, 3276334; 526905, 3276386; 526783, 3276386; 526851, 3276555; 526850, 3276556; 526864, 3276662; 526908, 3276736; 526960, 3276801; 527010, 3276865; 527213, 3277098; 527281, 3277166; 527392, 3277230; 527536, 3277252; 527711, 3277190; 527805, 3277102; 527857, 3277003; 527869, 3276903; 527861, 3276787; 527803, 3276674; 527699, 3276578;

527644, 3276515; 527643, 3276397; 527630, 3276386; 527530, 3276384; 527508, 3276359.

(ii) NOTE: Map 3 of Unit 2 is provided at paragraph (8)(ii) of the entry for the beetle (*Rhadine exilis*) in this paragraph (i).

(11) Unit 3: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529583, 3272798; 529599, 3272911; 529557, 3272947; 529513, 3272978; 529473, 3272967; 529445, 3273019; 529422, 3273086; 529448, 3273172; 529481, 3273196; 529507, 3273216; 529496, 3273252; 529503, 3273343; 529563, 3273415; 529676, 3273477; 529771, 3273498; 529870, 3273496; 529917, 3273446; 529970, 3273350; 530057, 3273319; 530110, 3273232; 530104, 3273182; 530099, 3273138; 530147, 3273107; 530178, 3273102; 530182, 3273047; 530190, 3273009; 530208, 3272933; 530211, 3272920; 530159, 3272895; 530123, 3272875; 530112, 3272843; 530083, 3272804; 530081, 3272804; 530049, 3272773; 530020, 3272733; 529995, 3272713; 529909, 3272670; 529790, 3272648; 529687, 3272657; 529646, 3272722; 529588, 3272791; 529583, 3272798.

(ii) NOTE: Map 4 of Unit 3 is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(12) Unit 4: Bexar County, Texas

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 530856, 3272567; 530829, 3272537; 530779, 3272510; 530734, 3272516; 530717, 3272422; 530676, 3272341; 530620, 3272272; 530531, 3272213; 530417, 3272180; 530271, 3272194; 530240, 3272264; 530185, 3272283; 530180, 3272385; 530234, 3272501; 530209, 3272542; 530206, 3272578; 530217, 3272624; 530247, 3272658; 530294, 3272681; 530349, 3272685; 530367, 3272699; 530396, 3272702; 530448, 3272698; 530442, 3272851; 530447, 3272909; 530473, 3272992; 530595, 3273076; 530685, 3273138; 530683, 3273167; 530640, 3273210; 530578, 3273224; 530471, 3273226; 530441, 3273259; 530396, 3273326; 530369, 3273344; 530362, 3273412; 530385, 3273503; 530436, 3273540; 530493, 3273576; 530498, 3273608; 530591, 3273684; 530668, 3273720; 530738, 3273733; 530903, 3273657; 530959, 3273526; 530967, 3273452; 530973, 3273424; 531003, 3273401; 531069, 3273343; 531081, 3273277; 531099, 3273245; 531134, 3273194; 531222, 3273176; 531252, 3273111; 531282, 3273015; 531205, 3272961; 531135, 3272916; 531056, 3272822; 530975, 3272780; 530909, 3272689; 530855, 3272599; 530856, 3272567.

(ii) NOTE: Map 4 of Unit 4 is provided at paragraph (7)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(13) Unit 5: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529536, 3275753; 529533, 3275931; 529585, 3276056; 529741, 3276191; 529927, 3276249; 530112, 3276208; 530275, 3276093; 530350, 3275987; 530318, 3275927; 530238, 3275838; 530169, 3275776; 530109, 3275735; 529970, 3275629; 529950, 3275603; 529936, 3275565; 529781, 3275523; 529719, 3275529; 529621, 3275548; 529566, 3275611; 529536, 3275753.

(ii) NOTE: Map 5 of Unit 5 is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(14) Unit 6: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 531676, 3275515; 531639, 3275342; 531576, 3275302; 531483, 3275283; 531331, 3275337; 531242, 3275350; 531189, 3275346; 531193, 3275501; 531094, 3275501; 531094, 3275378; 531072, 3275398; 530953, 3275478; 530909, 3275521; 530851, 3275661; 530871, 3275702; 530981, 3275903; 531119, 3275970; 531335, 3275950; 531512, 3275851; 531615, 3275701; 531676, 3275515.

(ii) NOTE: Map 5 of Unit 6 is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(15) Unit 8: Bexar County, Texas.

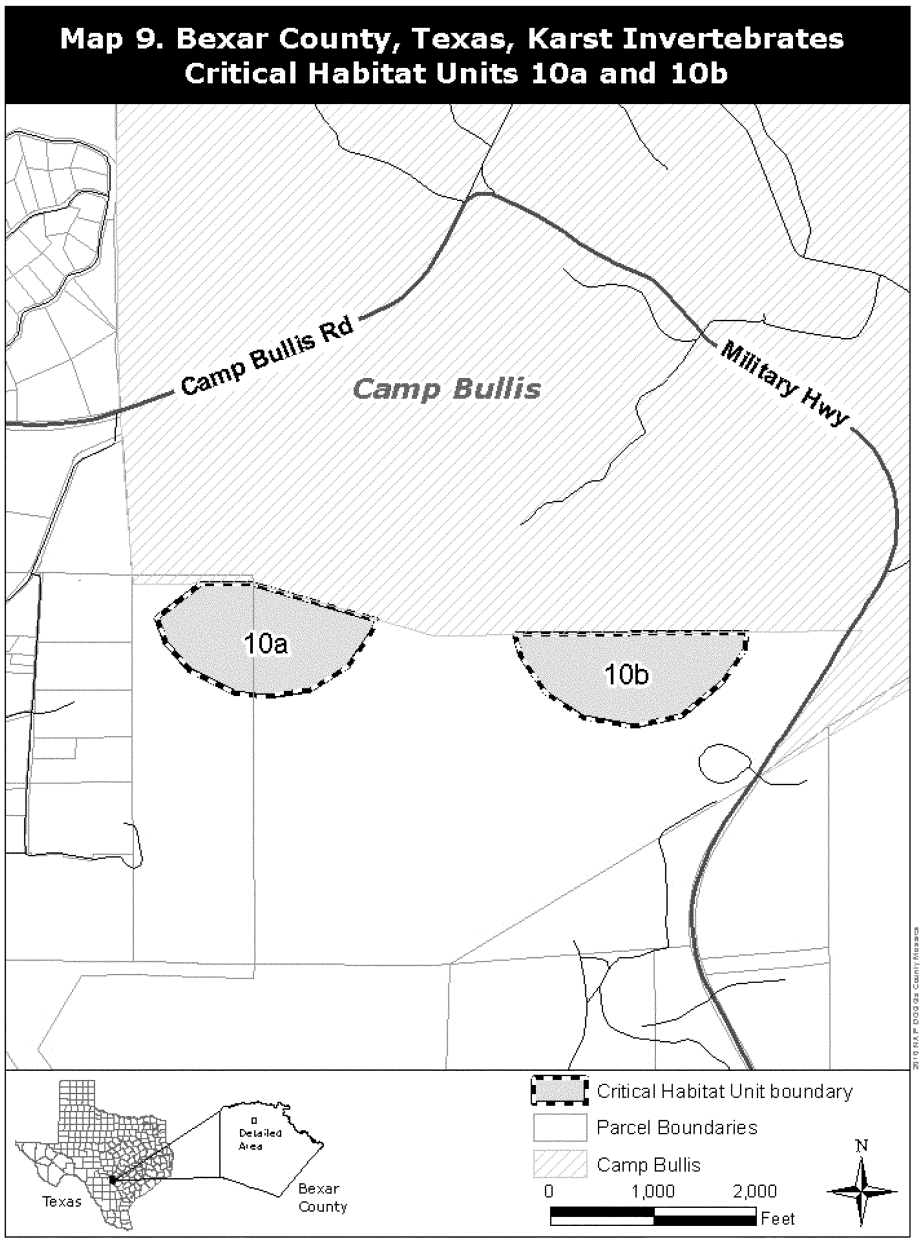
(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 535007, 3274657; 535063, 3274624; 535096, 3274626; 535133, 3274610; 535173, 3274570; 535222, 3274516; 535282, 3274478; 535302, 3274450; 535290, 3274359; 535238, 3274250; 535215, 3274045; 535226, 3273947; 535209, 3273836; 535160, 3273741; 535056, 3273640; 535027, 3273631; 535026, 3273654; 535022, 3273714; 535018, 3273721; 535013, 3273730; 534992, 3273775; 534988, 3273784; 534962, 3273838; 534962, 3273838; 534936, 3273892; 534909, 3273947; 534909, 3273947; 534883, 3274002; 534856, 3274057; 534856, 3274057; 534813, 3274142; 534708, 3274141; 534625, 3274140; 534519, 3274140; 534389, 3274145; 534389, 3274132; 534168, 3274322; 534058, 3274551; 533966, 3274645; 533893, 3274683; 533848, 3274736; 533839, 3274809; 533853, 3274895; 533905, 3274965; 534037, 3275030; 534156, 3275037; 534290, 3274997; 534292, 3274995; 534881, 3274809; 534894, 3274782; 534931, 3274737; 534962, 3274695; 535007, 3274657.

(ii) NOTE: Map 7 of Unit 8 is provided at paragraph (14)(ii) of the entry for the beetle (*Rhadine exilis*) in this paragraph (i).

(16) Unit 10a: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 540276, 3277443; 540255, 3277399; 540189, 3277302; 540076, 3277233; 539945, 3277214; 539851, 3277226; 539717, 3277295; 539645, 3277377; 539617, 3277449; 539650, 3277471; 539750, 3277551; 539905, 3277551; 540276, 3277443.

(ii) NOTE: Map 9 of Units 10a and 10b follows:



(17) Unit 10b: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 540684, 3277399; 541377, 3277406; 541368, 3277355; 541302, 3277258; 541180, 3277158; 541037, 3277126; 540890, 3277155; 540777, 3277226; 540702, 3277336; 540684, 3277399.

(ii) NOTE: Map 9 of Unit 10b is provided at paragraph (16)(ii) of this entry.

(18) Unit 14: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 520081, 3258642; 520207, 3258774; 520339, 3258764; 520542, 3258723; 520744, 3258618; 520822, 3258502; 520847, 3258327; 521047, 3257873; 521048, 3257838; 521005, 3257658; 520885, 3257494; 520710, 3257405; 520503, 3257379; 520290, 3257468; 520158, 3257609; 520006, 3257810; 519891, 3257965; 519848, 3258183; 519911, 3258441; 520081, 3258642.

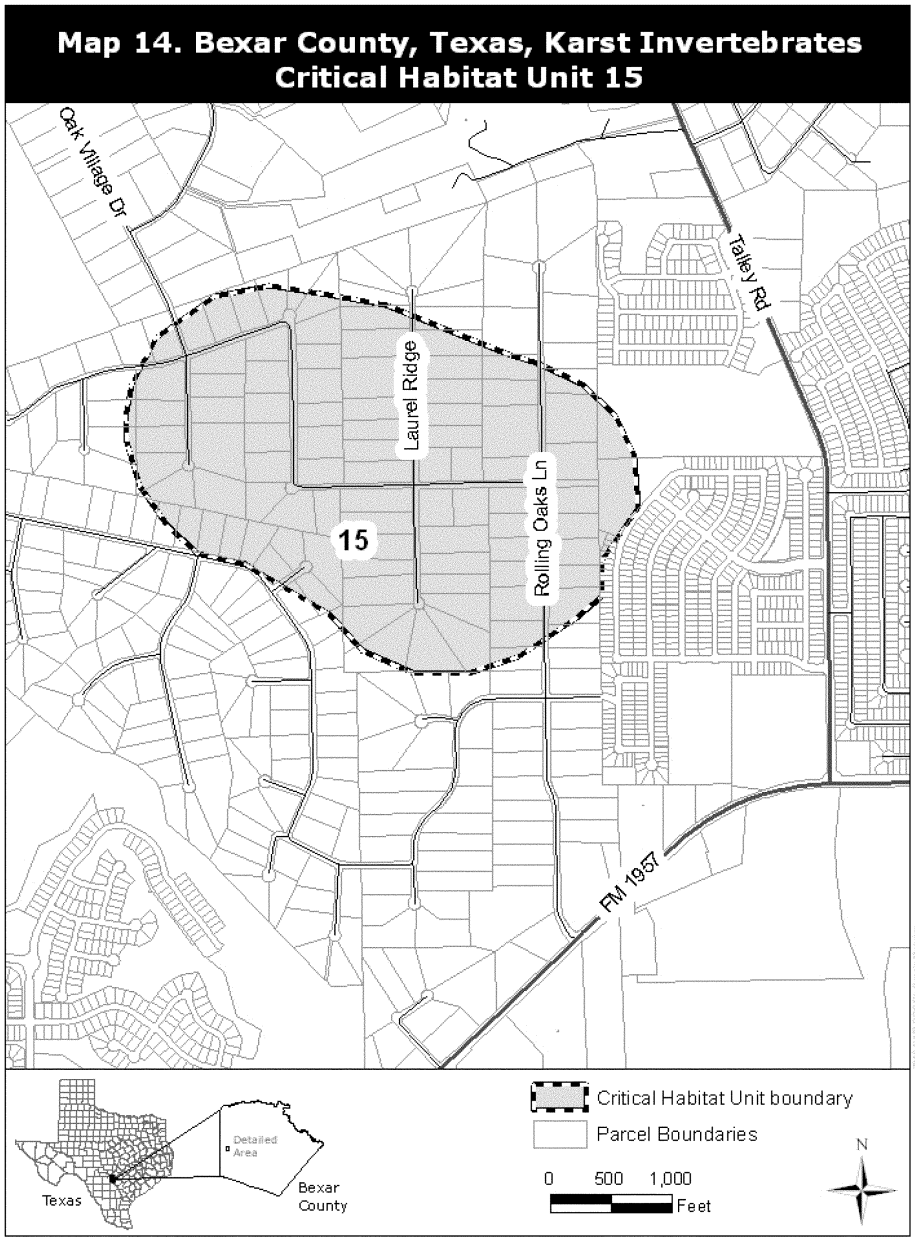
(ii) NOTE: Map 13 of Unit 14 follows:

(19) Unit 15: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 522689, 3256455; 522687, 3256517; 522703, 3256601; 522765, 3256718; 522911, 3256823; 523046, 3256851; 523177, 3256830; 523344, 3256801; 523479, 3256747; 523658, 3256674; 523725, 3256656; 523834, 3256603; 523918, 3256523; 523969, 3256419; 523978, 3256293; 523885, 3256159; 523885, 3256069; 523822, 3256015; 523674, 3255915;

523547, 3255873; 523414, 3255874; 523281, 3255933; 523201, 3256024; 523017, 3256131; 522987, 3256149; 522940, 3256160; 522894, 3256168; 522869, 3256174; 522790, 3256246; 522722, 3256345; 522689, 3256455.

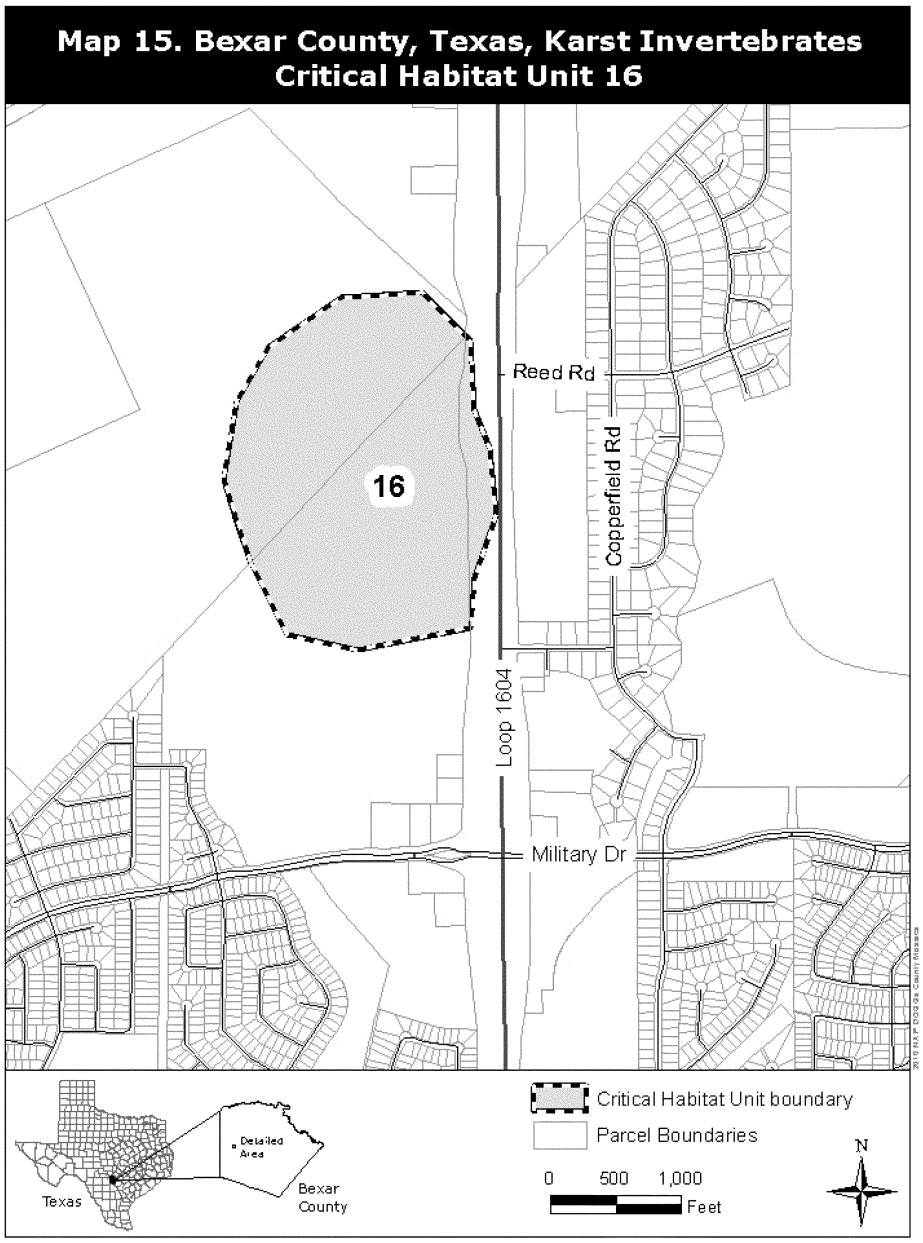
(ii) NOTE: Map 14 of Unit 15 follows:



(20) Unit 16: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 527412, 3258337; 527348, 3258534; 527379, 3258716; 527456, 3258844; 527623, 3258959; 527815, 3258972; 527925, 3258857; 527933, 3258697; 527971, 3258605; 527986, 3258452; 527934, 3258303; 527925, 3258186; 527663, 3258134; 527498, 3258173; 527412, 3258337.

(ii) NOTE: Map 15 of Unit 16 follows:



(21) Unit 17: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 528980, 3275191; 529043, 3275247; 529120, 3275242; 529245, 3275219; 529327, 3275184; 529348, 3275167; 529492, 3275167; 529613, 3275113; 529800, 3275081; 529870, 3274953; 529819, 3274777; 529698, 3274627; 529486, 3274528; 529360, 3274615; 529335, 3274712; 529174, 3274840; 528968, 3274859; 528957, 3275049; 528980, 3275191.

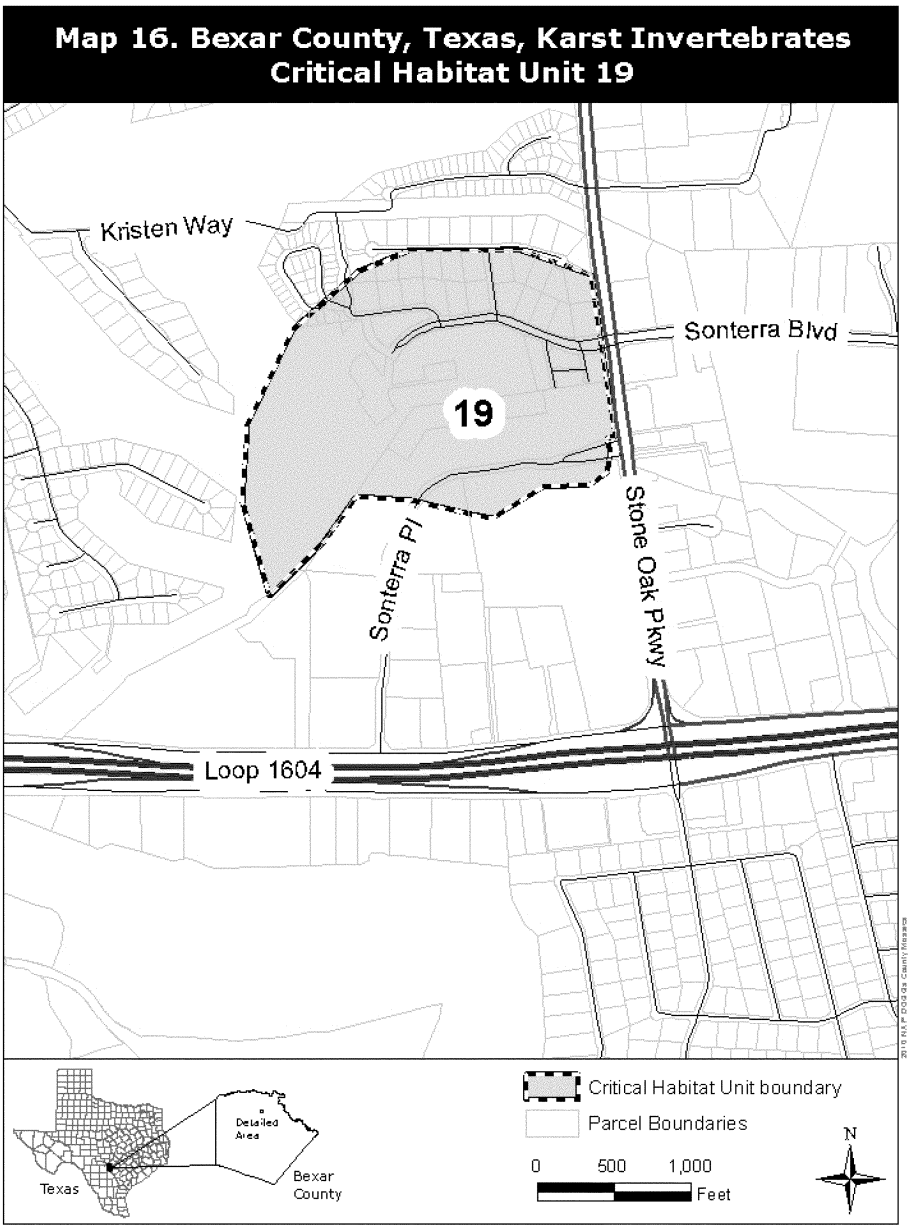
(ii) Not including land within and bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 529490, 3275008; 529490, 3275006; 529490, 3275005; 529490, 3275003; 529490, 3275002; 529489, 3275001; 529489, 3274999; 529489, 3274998; 529489, 3274997; 529489, 3274995; 529489, 3274994; 529488, 3274993; 529488, 3274992; 529489, 3274991; 529489, 3274986; 529489, 3274983; 529489, 3274982; 529482, 3274919; 529329, 3274930; 529337, 3274993; 529337, 3274993; 529337, 3274994; 529336, 3274995; 529337, 3274997; 529337, 3274998; 529336, 3274999; 529336, 3275001; 529336, 3275002; 529336, 3275003; 529336, 3275005; 529336, 3275006; 529336, 3275008; 529336, 3275009; 529336, 3275010; 529336, 3275012; 529336, 3275013; 529336, 3275014; 529336, 3275016; 529337, 3275017; 529337, 3275018; 529337, 3275020; 529337, 3275021; 529337, 3275022; 529338, 3275023; 529338, 3275025; 529338, 3275026; 529339, 3275027; 529339, 3275029; 529339, 3275030; 529340, 3275031; 529340, 3275033; 529341, 3275034; 529341, 3275035; 529342, 3275036; 529342, 3275038; 529343, 3275039; 529343, 3275040; 529344, 3275041; 529344, 3275042; 529345, 3275044; 529346, 3275045; 529346, 3275046; 529347, 3275047; 529348, 3275048; 529348, 3275049; 529349, 3275050; 529350, 3275052; 529351, 3275053; 529351, 3275054; 529352, 3275055; 529353, 3275056; 529354, 3275057; 529355, 3275058; 529356, 3275059; 529357, 3275060; 529358, 3275061; 529359, 3275062; 529359, 3275063; 529360, 3275064; 529361, 3275065; 529362, 3275066; 529363, 3275066; 529364, 3275067; 529366, 3275068; 529367, 3275069; 529368, 3275070; 529369, 3275070; 529370, 3275071; 529371, 3275072; 529372, 3275073; 529373, 3275073; 529374, 3275074; 529376, 3275075; 529377, 3275075; 529378, 3275076; 529379, 3275077; 529380, 3275077; 529382, 3275078; 529383, 3275078; 529384, 3275079; 529385, 3275079; 529387, 3275080; 529388, 3275080; 529389, 3275081; 529390, 3275081; 529392, 3275081; 529393, 3275082; 529394, 3275082; 529396, 3275082; 529397, 3275083; 529398, 3275083; 529399, 3275083; 529401, 3275083; 529402, 3275084; 529403, 3275084; 529405, 3275084; 529406, 3275084; 529407, 3275084; 529409, 3275084; 529410, 3275084; 529412, 3275084; 529413, 3275084; 529414, 3275084; 529416, 3275084; 529417, 3275084; 529418, 3275084; 529420, 3275084; 529421, 3275084; 529422, 3275084; 529424, 3275084; 529425, 3275083; 529426, 3275083; 529428, 3275083; 529429, 3275083; 529430, 3275082; 529431, 3275082; 529433, 3275082; 529434, 3275081; 529435, 3275081; 529437, 3275081; 529438, 3275080; 529439, 3275080; 529440, 3275079; 529442, 3275079; 529443, 3275078; 529444, 3275078; 529445, 3275077; 529447, 3275077; 529448, 3275076; 529449, 3275075; 529450, 3275075; 529451, 3275074; 529452, 3275073; 529454, 3275073; 529455, 3275072; 529456, 3275071; 529457, 3275070; 529458, 3275070; 529459, 3275069; 529460, 3275068; 529461, 3275067; 529462, 3275066; 529463, 3275066; 529464, 3275065; 529465, 3275064; 529466, 3275063; 529467, 3275062; 529468, 3275061; 529469, 3275060; 529470, 3275059; 529471, 3275058; 529472, 3275057; 529473, 3275056; 529473, 3275055; 529474, 3275054; 529475, 3275053; 529476, 3275052; 529477, 3275050; 529477, 3275049; 529478, 3275048; 529479, 3275047; 529479, 3275046; 529480, 3275045; 529481, 3275044; 529481, 3275042; 529482, 3275041; 529482, 3275040; 529483, 3275039; 529484, 3275038; 529484, 3275036; 529485, 3275035; 529485, 3275034; 529486, 3275033; 529486, 3275031; 529486, 3275030; 529487, 3275029; 529487, 3275027; 529487, 3275026; 529488, 3275025; 529488, 3275023; 529488, 3275022; 529489, 3275021; 529489, 3275020; 529489, 3275018; 529489, 3275017; 529489, 3275016; 529489, 3275014; 529490, 3275013; 529490, 3275012; 529490, 3275010; 529490, 3275009; 529490, 3275008.

(iii) NOTE: Map 5 of Unit 17 is provided at paragraph (8)(ii) of the entry for the Helotes mold beetle in this paragraph (i).

(22) Unit 19: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 548980, 3276370; 549011, 3276172; 548992, 3276167; 549001, 3276139; 548992, 3276099; 548960, 3276076; 548867, 3276071; 548767, 3276012; 548725, 3276018; 548608, 3276046; 548499, 3276055; 548429, 3275955; 548326, 3275856; 548274, 3276042; 548285, 3276194; 548374, 3276384; 548503, 3276497; 548601, 3276538; 548815, 3276541; 548963, 3276489; 548980, 3276370.

(ii) NOTE: Map 16 of Unit 19 follows:



(23) Unit 23: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 535851, 3276414; 535640, 3276401; 535639, 3276467; 535670, 3276630; 535613, 3276734; 535616, 3276844; 535568, 3276883; 535433, 3276912; 535314, 3277003; 535342, 3277121; 535427, 3277203; 535617, 3277255; 535763, 3277242; 535884, 3277190; 536017, 3277082; 536080, 3276928; 536088, 3276708; 536003, 3276539; 535851, 3276414.

(ii) NOTE: Map 20 of Unit 23 follows:

(24) Unit 26: Bexar County, Texas.

(i) Land bounded by the following UTM Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 520192, 3257071; 520300, 3257163; 520493, 3257203; 520672, 3257162; 520816, 3257024; 520870, 3256906; 520901, 3256737; 520865, 3256567; 520821, 3256487; 520710, 3256440; 520638, 3256540; 520556, 3256555; 520490, 3256557; 520363, 3256547; 520290, 3256566; 520195, 3256648;

520166, 3256776; 520200, 3256878; 520268, 3256943; 520228, 3257000; 520192, 3257071.

(ii) NOTE: Map 21 of Unit 26 follows:

SALT CREEK TIGER BEETLE *(Cicindela nevadica lincolniana)*

(1) Critical habitat units are depicted for Lancaster and Saunders Counties, Nebraska, on the maps below.

(2) The primary constituent elements of critical habitat for the Salt Creek tiger beetle are the following habitat components:

(i) Non-vegetated streambanks and mid-channel areas, located adjacent to and between saline stream edges and barren salt flats in saline and freshwater wetlands, in assemblages that are within 4 miles (6 kilometers) of one another;

(ii) Moist, barren salt flats with:

(A) Salmo and Saltillo soils or Lamo, Gibbon-Saltine, Obert, and Zoe soils with Salmo and Saltillo inclusions;

(B) Soil electroconductivity ranging from 2,016.0 mS/m to 2,992.2 mS/m;

(C) Soil moisture ranging from 43.5 percent to 51.7 percent; and

(D) Differential hydraulic pressures that create evaporation and result in exposed salt on soil surfaces;

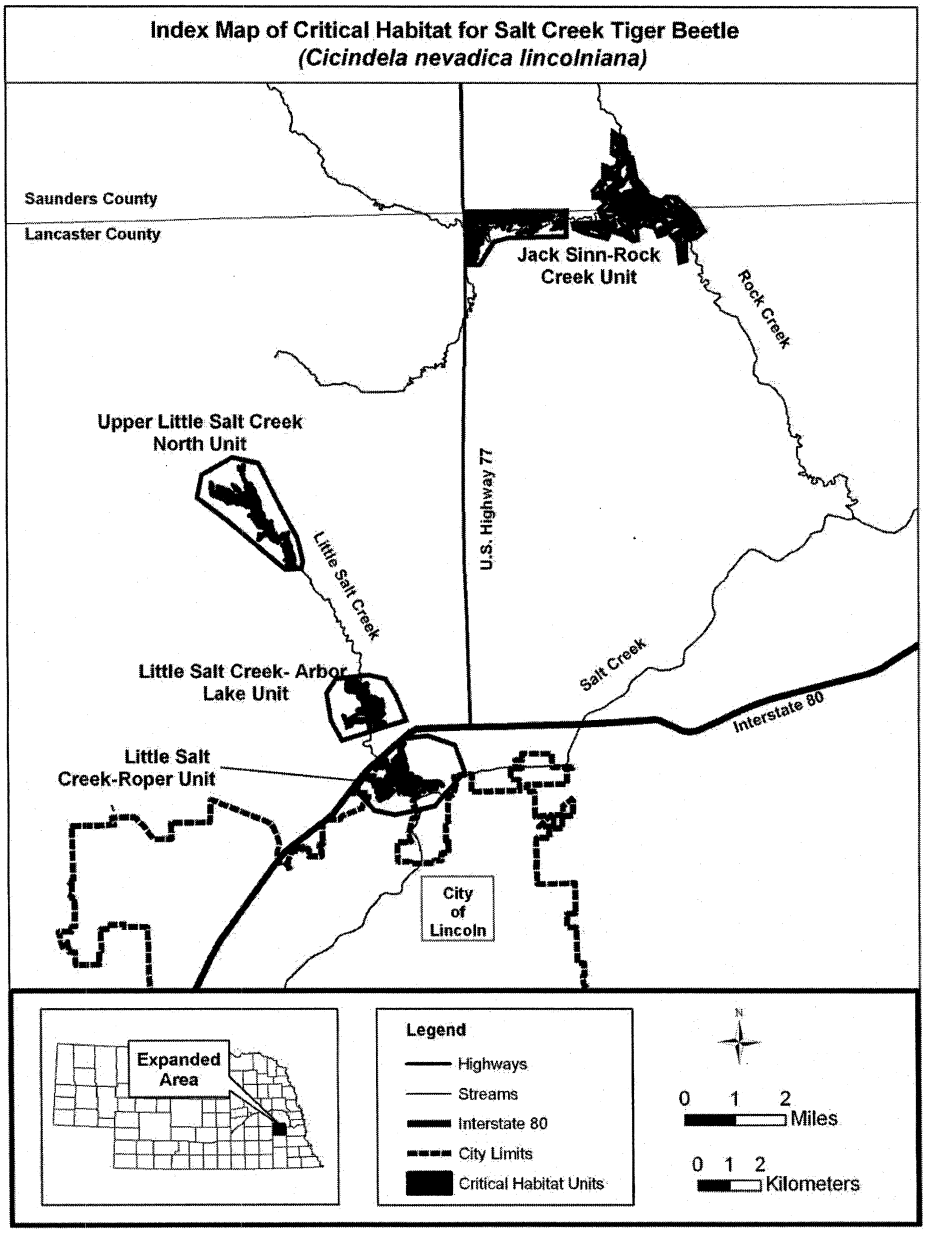
(iii) A natural hydrologic regime resulting in annual high flows in saline streams in the early spring and summer, and natural elevation changes in groundwater levels to hydrate saline wetlands located on the floodplain; and

(iv) The presence of abundant and diverse flying and non-flying invertebrate prey species belonging to the orders Coleoptera, Orthoptera, Hemiptera, Hymenoptera, Odonata, Diptera, or Lepidoptera.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, roads, and other paved areas) and the land on which they are located existing on the effective date of this rule. In the future, we will be able to distinguish structures that existed at the time of critical habitat designation from structures created since critical habitat designation by using dated detailed aerial imagery maps.

(4) Critical habitat map units. Data layers defining map units were created using GIS software. We defined critical habitat boundaries as follows. We utilized the Resource Categorization Study (RCS) (Gilbert and Stutheit 1994) to define boundaries of the Salt Creek tiger beetle's historic range. Within the RCS boundaries, we then identified existing saline wetlands containing the features essential to the conservation of the Salt Creek tiger beetle; we also identified saline stream segments flowing through the saline wetlands, as represented by National Hydrography Data and further refined with aerial photography. Coordinate points defining critical habitat unit boundaries were created through an automated GIS process using Universal Transverse Mercator as the reference coordinate system.

(5) NOTE: Index map (Map 1) follows:



(6) Unit 1: Upper Little Salt Creek North, Lancaster County, Nebraska.

(i) Tract 1a. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 692489, 4536054; 692486, 4536053; 692479, 4536054; 692476, 4536059; 692474, 4536062; 692471, 4536063; 692466, 4536064; 692464, 4536067; 692463, 4536072; 692464, 4536076; 692465, 4536079; 692468, 4536080; 692471, 4536081; 692475, 4536082; 692485, 4536083; 692494, 4536069; 692495,

4536064; 692495, 4536062; 692493, 4536057; 692489, 4536054.

(ii) Tract 1b. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 691216, 4538366; 691216, 4538366; 691216, 4538366; 691216, 4538366; 691217, 4538375; 691222, 4538376; 691225, 4538377; 691229, 4538381; 691230, 4538384; 691232, 4538389; 691231, 4538394; 691231, 4538399; 691230, 4538404; 691229, 4538408; 691226, 4538412; 691224, 4538415; 691221, 4538418; 691216, 4538420; 691214, 4538420; 691212, 4538419; 691209, 4538418; 691201, 4538419; 691204, 4538432; 691205, 4538438; 691206, 4538444; 691207, 4538449; 691210, 4538460; 691213, 4538465; 691220, 4538467; 691224, 4538466; 691227, 4538461; 691229, 4538455; 691234, 4538451; 691241, 4538452; 691248, 4538455; 691255, 4538458; 691262, 4538458; 691264, 4538451; 691265, 4538442; 691262, 4538431; 691257, 4538418; 691256, 4538405; 691257, 4538394; 691258, 4538384; 691256, 4538379; 691251, 4538371; 691244, 4538366; 691236, 4538364; 691229, 4538364; 691219, 4538366; 691217, 4538364; 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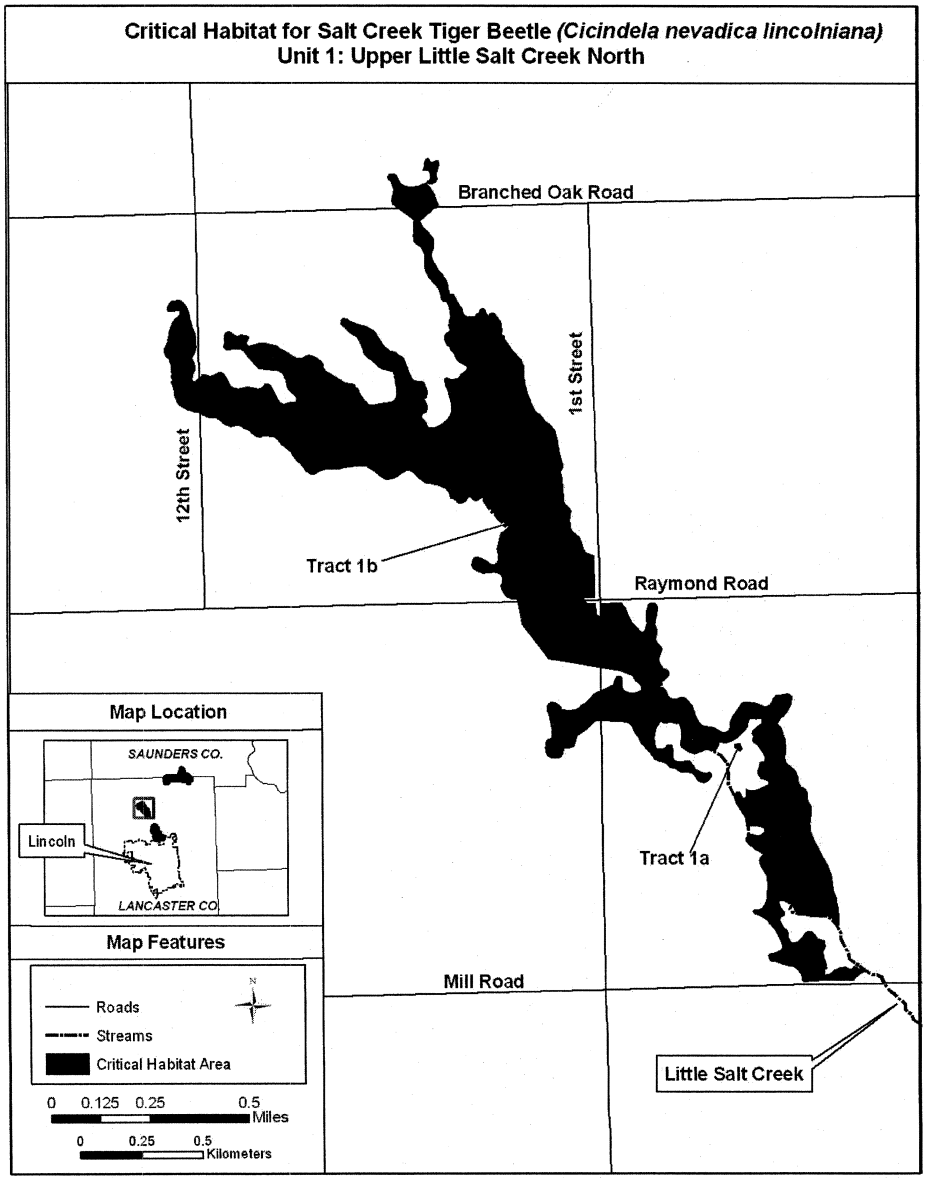
(iii) NOTE: Map of Unit 1, Upper Little Salt Creek North (Map 2), follows:



(7) Unit 2: Little Salt Creek—Arbor Lake, Lancaster County, Nebraska.

(i) Tract 2a. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 695582, 4530097; 695584, 4530093; 695585, 4530092; 695590, 4530091; 695596, 4530091; 695600, 4530088; 695602, 4530085; 695602, 4530078; 695598, 4530070; 695591, 4530064; 695583, 4530058; 695572, 4530054; 695561, 4530051; 695555, 4530050; 695547, 4530048; 695541, 4530045; 695538, 4530043; 695530, 4530040; 695515, 4530031; 695496, 4530025; 695488, 4530021; 695482, 4530016; 695476, 4530013; 695471, 4530009; 695465, 4530008; 695457, 4530008; 695450, 4530009; 695444, 4530012; 695439, 4530017; 695434, 4530023; 695432, 4530031; 695428,

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(ii) Tract 2b. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 695752, 4530111; 695749, 4530108; 695745, 4530108; 695738, 4530109; 695729, 4530109; 695722, 4530108; 695716, 4530106; 695708, 4530104; 695701, 4530104; 695694, 4530104; 695689, 4530105; 695683, 4530106; 695671, 4530106; 695669, 4530107; 695664, 4530110; 695662, 4530115; 695659, 4530124; 695658, 4530135; 695659, 4530146; 695661, 4530154; 695665, 4530165; 695670, 4530172; 695677, 4530181; 695681, 4530185; 695689, 4530190; 695695, 4530195; 695704, 4530200; 695710, 4530203; 695715, 4530205; 695721, 4530206; 695731, 4530204; 695738, 4530200; 695743, 4530198; 695748, 4530194; 695752, 4530190; 695755, 4530184; 695758, 4530177; 695761, 4530171; 695763, 4530163; 695764, 4530155; 695764, 4530146; 695762, 4530136; 695760, 4530128; 695758, 4530122; 695756, 4530117; 695752, 4530111.

(iii) Tract 2c. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 694865, 4531575; 694912, 4531436; 694913, 4531436; 694921, 4531431; 694932, 4531426; 694944, 4531421; 694955, 4531418; 694964, 4531416; 694970, 4531412; 694975, 4531403; 694979, 4531392; 694982, 4531380; 694987, 4531366; 694993, 4531353; 695000, 4531342; 695007, 4531330; 695014, 4531318; 695021, 4531310; 695028, 4531306; 695034, 4531309; 695037, 4531312; 695041, 4531317; 695045, 4531325; 695048, 4531333; 695050, 4531344; 695056, 4531359; 695061, 4531374; 695067, 4531381; 695076, 4531387; 695085, 4531390; 695095, 4531394; 695102, 4531397; 695106, 4531402; 695104, 4531408; 695103, 4531413; 695102, 4531419; 695105, 4531424; 695111, 4531427; 695119, 4531430; 695126, 4531435; 695130, 4531439; 695133, 4531441; 695139, 4531441; 695148, 4531441; 695155, 4531442; 695163, 4531445; 695170, 4531447; 695174, 4531447; 695177, 4531446; 695180, 4531441; 695182, 4531436; 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(iv) Tract 2d. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 694708, 4530350; 694706, 4530341; 694705, 4530336; 694703, 4530331; 694701, 4530326; 694699, 4530322; 694698, 4530321; 694697, 4530318; 694696, 4530316; 694697, 4530314; 694697, 4530313; 694699, 4530312; 694706, 4530302; 694708, 4530300; 694710, 4530297; 694712, 4530293; 694712, 4530290; 694712, 4530284; 694710, 4530279; 694708, 4530271; 694705, 4530263; 694703, 4530258; 694702, 4530255; 694698, 4530252; 694695, 4530250; 694692, 4530249; 694689, 4530251; 694684, 4530253; 694679, 4530257; 694676, 4530258; 694666, 4530264; 694650, 4530270; 694641, 4530271; 694633, 4530270; 694629, 4530270; 694624, 4530269; 694618, 4530269; 694614, 4530271; 694609, 4530275; 694605, 4530279; 694603, 4530283; 694601, 4530288; 694602, 4530292; 694604, 4530296; 694608, 4530301; 694615, 4530305; 694622, 4530305; 694631, 4530303; 694638, 4530301; 694649, 4530299; 694656, 4530298; 694663, 4530296; 694667, 4530296; 694670, 4530298; 694673, 4530302; 694672, 4530306; 694671, 4530313; 694668, 4530317; 694664, 4530320; 694658, 4530322; 694652, 4530324; 694646, 4530327; 694644, 4530329; 694642, 4530334; 694642, 4530336; 694643, 4530340; 694644, 4530344; 694646, 4530348; 694652, 4530349; 694661, 4530349; 694666, 4530347; 694671, 4530344; 694674, 4530344; 694677, 4530343; 694679, 4530346; 694682, 4530352; 694684, 4530357; 694686, 4530361; 694687, 4530365; 694690, 4530369; 694693, 4530372; 694697, 4530372; 694700, 4530370; 694703, 4530367; 694705, 4530363; 694706, 4530358; 694708, 4530350.

(v) Tract 2e. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 694483, 4530368; 694487, 4530364; 694488, 4530362; 694491, 4530343; 694494, 4530332; 694493, 4530323; 694490, 4530315; 694485, 4530306; 694482, 4530299; 694481, 4530288; 694484, 4530276; 694486, 4530272; 694494, 4530266; 694502, 4530265; 694513, 4530265; 694521, 4530265; 694530, 4530264; 694538, 4530260; 694545, 4530257; 694550, 4530253; 694555, 4530247; 694561, 4530241; 694565, 4530236; 694567, 4530233; 694569, 4530231; 694570, 4530228; 694572, 4530227; 694581, 4530223; 694587, 4530217; 694591, 4530212; 694593, 4530207; 694591, 4530203; 694590, 4530200; 694586, 4530199; 694579, 4530196; 694575, 4530194; 694598, 4530176; 694605, 4530177; 694613, 4530178; 694622, 4530177; 694632, 4530176; 694645, 4530175; 694654, 4530177; 694661, 4530179; 694667, 4530181; 694675, 4530179; 694683, 4530176; 694688, 4530171; 694693, 4530163; 694697, 4530156; 694700, 4530150; 694704, 4530140; 694704, 4530135; 694704, 4530123; 694709, 4530112; 694706, 4530105; 694700, 4530098; 694696, 4530091; 694694, 4530086; 694693, 4530078; 694695, 4530070; 694673, 4530067; 694663, 4530063; 694656, 4530060; 694648, 4530056; 694639, 4530052; 694631, 4530049; 694622, 4530045; 694613, 4530041; 694605, 4530039; 694600, 4530037; 694593, 4530038; 694589, 4530039; 694586, 4530041; 694583, 4530042; 694582, 4530043; 694573, 4530048; 694570, 4530047; 694566, 4530045; 694564, 4530042; 694562, 4530037; 694561, 4530032; 694559, 4530026; 694557, 4530019; 694553, 4530014; 694548, 4530010; 694543, 4530007; 694540, 4530006; 694536, 4530004; 694534, 4530002; 694532, 4529998; 694531, 4529994; 694531, 4529991; 694532, 4529989; 694522, 4529987; 694517, 4529985; 694514, 4529985; 694511, 4529988; 694510, 4529993; 694508, 4530003; 694508, 4530016; 694509, 4530030; 694512, 4530044; 694515, 4530054; 694519, 4530066; 694523, 4530075; 694528, 4530084; 694533, 4530092; 694539, 4530099; 694544, 4530104; 694549, 4530106; 694535, 4530130; 694532, 4530129; 694523, 4530126; 694511, 4530125; 694502, 4530127; 694494, 4530131; 694488, 4530135; 694481, 4530143; 694475, 4530149; 694471, 4530156; 694468, 4530164; 694467, 4530171; 694466, 4530178; 694472, 4530197; 694472, 4530213; 694471, 4530219; 694469, 4530223; 694464, 4530226; 694459, 4530227; 694456, 4530227; 694453, 4530229; 694449, 4530233; 694448, 4530237; 694448, 4530246; 694448, 4530256; 694446, 4530266; 694440, 4530276; 694434, 4530286; 694428, 4530292; 694423, 4530299; 694417, 4530306; 694413, 4530312; 694408, 4530323; 694408, 4530331; 694410, 4530338; 694413, 4530342; 694420, 4530346; 694428, 4530350; 694433, 4530352; 694436, 4530355; 694437, 4530358; 694435, 4530364; 694431, 4530367; 694424, 4530368; 694415, 4530367; 694406, 4530368;

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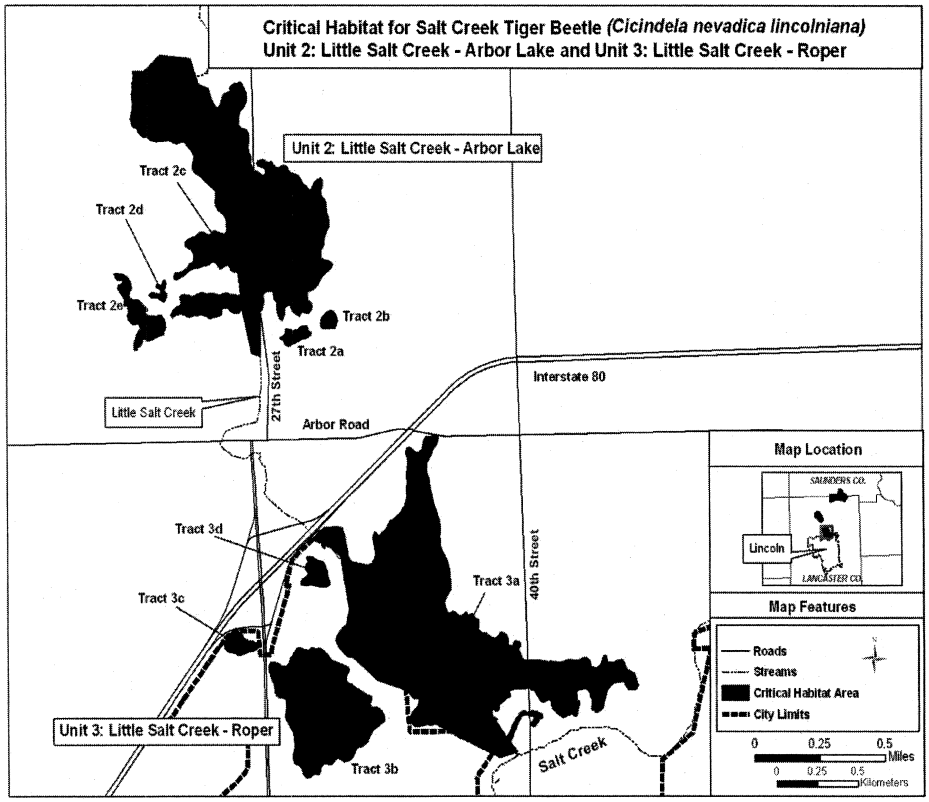
(vi) NOTE: Map of Units 2 and 3, Little Salt Creek—Arbor Lake and Little Salt Creek—Roper (Map 3), follows:



(8) Unit 3: Little Salt Creek—Roper, Lancaster County, Nebraska.

(i) Tract 3a. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 696382, 4529523; 696387, 4529519; 696387, 4529517; 696387, 4529512; 696385, 4529506; 696384, 4529499; 696383, 4529491; 696379, 4529481; 696372, 4529468; 696364, 4529460; 696359, 4529455; 696352, 4529446; 696347, 4529433; 696344, 4529427; 696339, 4529417; 696336, 4529410; 696333, 4529405; 696328, 4529398; 696326, 4529392; 696324, 4529388; 696323, 4529385; 696322, 4529384; 696316, 4529376; 696316, 4529374; 696315, 4529371; 696316, 4529356; 696313, 4529341; 696314, 4529331; 696317, 4529323; 696320, 4529310; 696325, 4529295; 696329, 4529281; 696332, 4529264; 696335, 4529246; 696338, 4529232; 696342, 4529218; 696345, 4529201; 696349, 4529187; 696353, 4529172; 696357, 4529157; 696361, 4529143; 696366, 4529132; 696370, 4529123; 696372, 4529113; 696376, 4529101; 696380, 4529089; 696385, 4529082; 696389, 4529074; 696392, 4529064; 696394, 4529053; 696394, 4529034; 696396, 4529008; 696395, 4528995; 696393, 4528975; 696394, 4528956; 696395, 4528938; 696397, 4528925; 696401, 4528909; 696406, 4528898; 696416, 4528883; 696424, 4528870; 696430, 4528860; 696436, 4528851; 696440, 4528843; 696443, 4528830; 696446, 4528817; 696450, 4528806; 696454, 4528795; 696457, 4528780; 696457, 4528766; 696458, 4528751; 696460, 4528731; 696461, 4528714; 696461, 4528701; 696460, 4528687; 696458, 4528674; 696454, 4528669; 696447, 4528661; 696440, 4528652; 696435, 4528644; 696428, 4528632; 696424, 4528620; 696422, 4528607; 696425, 4528596; 696427, 4528584; 696431, 4528575; 696434, 4528565; 696437, 4528560; 696442, 4528557; 696450, 4528555; 696456, 4528558; 696464, 4528561; 696471, 4528564; 696477, 4528564; 696487, 4528559; 696499, 4528551; 696507, 4528544; 696513,

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(ii) Tract 3b. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 695565, 4528354; 695574, 4528353; 695580, 4528356; 695586, 4528359; 695593, 4528366; 695599, 4528367; 695606, 4528366; 695613, 4528361; 695619, 4528360; 695624, 4528359; 695632, 4528361; 695636, 4528361; 695641, 4528362; 695644, 4528361; 695663, 4528357; 695667, 4528353; 695675, 4528347; 695683, 4528338; 695693, 4528329; 695700, 4528322; 695707, 4528313; 695714, 4528306; 695722, 4528299; 695730, 4528293; 695741, 4528289; 695752, 4528286; 695763, 4528282; 695774, 4528277; 695782, 4528275; 695793, 4528271; 695802, 4528268; 695811, 4528263; 695814, 4528261; 695818, 4528260; 695822, 4528258; 695824, 4528256; 695826, 4528253; 695828, 4528245; 695826, 4528238; 695823, 4528232; 695822, 4528228; 695816, 4528219; 695813, 4528210; 695812, 4528203; 695811, 4528197; 695812, 4528189; 695814, 4528184; 695816, 4528179; 695821, 4528175; 695827, 4528170; 695832, 4528167; 695837, 4528167; 695842, 4528167; 695846, 4528165; 695846, 4528165; 695848, 4528159; 695942, 4528107; 695946, 4528107; 695954, 4528106; 695962, 4528102; 695966, 4528098; 695966, 4528094; 695966, 4528088; 695965, 4528083; 695963, 4528079; 695960, 4528069; 695958, 4528060; 695960, 4528050; 695963, 4528045; 695973, 4528042; 695981, 4528040; 695995, 4528039; 696008, 4528037; 696014, 4528033; 696021, 4528028; 696028, 4528022; 696037, 4528007; 696043, 4527992; 696046, 4527985;

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(iii) Tract 3c. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 695160, 4528323; 695149, 4528321; 695141, 4528322; 695137, 4528325; 695132, 4528330; 695129, 4528332; 695119, 4528334; 695103, 4528336; 695093, 4528337; 695084, 4528340; 695076, 4528344; 695070, 4528348; 695064, 4528355; 695060, 4528363; 695058, 4528370; 695056, 4528380; 695055, 4528388; 695057, 4528396; 695062, 4528410; 695066, 4528420; 695072, 4528429; 695077, 4528435; 695083, 4528441; 695091, 4528446; 695098, 4528450; 695107, 4528452; 695115, 4528454; 695120, 4528455; 695127, 4528456; 695131, 4528455; 695139, 4528455; 695146, 4528453; 695150, 4528451; 695155, 4528448; 695167, 4528438; 695175, 4528426; 695180, 4528420; 695184, 4528417; 695187, 4528416; 695194, 4528412; 695204, 4528405; 695209, 4528403; 695218, 4528401; 695227, 4528401; 695236, 4528401; 695243, 4528400; 695252, 4528397; 695259, 4528393; 695264, 4528388; 695268, 4528381; 695269, 4528370; 695265, 4528362; 695260, 4528356; 695247, 4528349; 695237, 4528345; 695223, 4528343; 695209, 4528340; 695200, 4528337; 695190, 4528334; 695180, 4528330; 695169, 4528326; 695160, 4528323.

(iv) Tract 3d. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 695576, 4528864; 695583, 4528864; 695587, 4528864; 695595, 4528864; 695602, 4528863; 695606, 4528862; 695608, 4528861; 695613, 4528857; 695628, 4528846; 695637, 4528842; 695645, 4528841; 695652, 4528840; 695660, 4528839; 695666, 4528838; 695673, 4528832; 695677, 4528826; 695681, 4528818; 695686, 4528807; 695690, 4528798; 695693, 4528790; 695696, 4528781; 695698, 4528771; 695698, 4528763; 695700, 4528752; 695703, 4528743; 695706, 4528737; 695710, 4528728; 695711, 4528721; 695710, 4528712; 695706, 4528705; 695697, 4528698; 695688, 4528695; 695675, 4528694; 695662, 4528694; 695648, 4528697; 695633, 4528700; 695616, 4528704; 695601, 4528706; 695588, 4528707; 695576, 4528704; 695562, 4528703; 695551, 4528704; 695541, 4528705; 695535, 4528708; 695531, 4528714; 695530, 4528725; 695533, 4528735; 695537, 4528741; 695545, 4528748; 695553, 4528751; 695563, 4528754; 695567, 4528757; 695571, 4528763; 695572.

(v) NOTE: Map of Unit 3 is provided at paragraph (7)(vi) of this entry.

(9) Unit 4: Jack Sinn—Rock Creek, Lancaster and Saunders Counties, Nebraska.

(i) Tract 4a. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 698696, 4546073; 698716, 4546073; 698725, 4546074; 698733, 4546072; 698745, 4546068; 698753, 4546065; 698769, 4546054; 698781, 4546042; 698795, 4546021; 698802, 4546011; 698806, 4546005; 698811, 4546003; 698816, 4546001; 698820, 4546002; 698827, 4546004; 698832, 4546006; 698836, 4546006; 698844, 4546005; 698850, 4546004; 698855, 4546005; 698862, 4546007; 698866, 4546009; 698869, 4546012; 698874, 4546020; 698877, 4546027; 698883, 4546036; 698887, 4546039; 698893, 4546042; 698899, 4546045; 698902, 4546045; 698909, 4546044; 698919, 4546038; 698929, 4546024; 698941, 4546017; 698948, 4546013; 698955, 4546010; 698960, 4546009; 698966, 4546008; 698969, 4546007; 698978, 4546005; 698985, 4546009; 698993, 4546013; 699000, 4546017; 699008, 4546019; 699018, 4546023; 699030, 4546027; 699039, 4546027; 699046, 4546027; 699053, 4546025; 699061, 4546021; 699072, 4546017; 699083, 4546016; 699089, 4546012; 699093, 4546007; 699096, 4546002; 699097, 4545995; 699097, 4545991; 699094, 4545986; 699090, 4545982; 699086, 4545978; 699080, 4545975; 699072, 4545974; 699068, 4545973; 699060, 4545971; 699054, 4545968; 699049, 4545965; 699045, 4545959; 699040,

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(ii) Tract 4b. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 700784, 4546113; 700789, 4546099; 700792, 4546088; 700794, 4546075; 700791, 4546060; 700787, 4546048; 700783, 4546038; 700774, 4546032; 700758, 4546027; 700740, 4546022; 700727, 4546015; 700715, 4546004; 700704, 4545992; 700695, 4545976; 700689, 4545963; 700682, 4545950; 700674, 4545938; 700660, 4545924; 700646, 4545915; 700632, 4545907; 700612, 4545902; 700591, 4545899; 700573, 4545895; 700557, 4545890; 700547, 4545880; 700540, 4545867; 700538, 4545853; 700537, 4545839; 700531, 4545824; 700524, 4545818; 700506, 4545810; 700493, 4545806; 700478, 4545806; 700466, 4545808; 700459, 4545814; 700452, 4545822; 700445, 4545832; 700439, 4545839; 700429, 4545843; 700415, 4545844; 700402, 4545842; 700390, 4545844; 700380, 4545850; 700373, 4545858; 700366, 4545865; 700359, 4545872; 700352, 4545874; 700342, 4545877; 700318, 4545875; 700307, 4545871; 700293, 4545865; 700281, 4545861; 700268, 4545856; 700256, 4545856; 700244, 4545860; 700237, 4545861; 700215, 4545858; 700200, 4545855; 700179, 4545843; 700165, 4545836; 700153, 4545832; 700142, 4545833; 700129, 4545831; 700116, 4545825; 700109, 4545819; 700094, 4545809; 700081, 4545806; 700066, 4545809; 700049, 4545807; 700038, 4545805; 700027, 4545805; 700018, 4545808; 700016, 4545813; 700015, 4545822; 700017, 4545841; 700023, 4545855; 700027, 4545866; 700034, 4545874; 700045, 4545879; 700059, 4545879; 700069, 4545881; 700083, 4545887; 700097, 4545894; 700112, 4545899; 700126, 4545902; 700144, 4545905; 700163, 4545906; 700189, 4545903; 700209, 4545901; 700229, 4545900; 700249, 4545902; 700264, 4545908; 700278, 4545915; 700288, 4545922; 700300, 4545928; 700317, 4545936; 700361, 4545952; 700384, 4545961; 700398, 4545968; 700411, 4545974; 700422, 4545982; 700433, 4545989; 700443, 4545994; 700454, 4545994; 700466, 4545993; 700481, 4545994; 700490, 4545996; 700497, 4546000; 700500, 4546008; 700500, 4546018; 700499, 4546028; 700496, 4546037; 700491, 4546044; 700481, 4546050; 700468, 4546052; 700458, 4546055; 700449, 4546060; 700445, 4546067; 700442, 4546077; 700443, 4546089; 700444, 4546095; 700450, 4546102; 700468, 4546109; 700477, 4546113; 700486, 4546115; 700495, 4546115; 700508, 4546116; 700519, 4546118; 700531, 4546120; 700545, 4546123; 700559, 4546125; 700572, 4546123; 700581, 4546122; 700591, 4546124; 700598, 4546126; 700605, 4546128; 700615, 4546132; 700637, 4546116; 700652, 4546111; 700668, 4546112; 700677, 4546114; 700688, 4546118; 700694, 4546123; 700699, 4546129; 700704, 4546132; 700713, 4546135; 700727, 4546136; 700740, 4546133; 700752, 4546131; 700763, 4546129; 700773, 4546127; 700779, 4546122; 700784, 4546113.

(iii) Tract 4c. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 699777, 4546178; 699783, 4546168; 699790, 4546156; 699798, 4546147; 699810, 4546141; 699822, 4546136; 699830, 4546132; 699841, 4546126; 699849, 4546120; 699855, 4546111; 699857, 4546100; 699858, 4546088; 699853, 4546074; 699845, 4546058; 699834, 4546045; 699826, 4546036;

699816, 4546025; 699803, 4546014; 699794, 4546005; 699784, 4545993; 699776, 4545979; 699773, 4545968; 699772, 4545962; 699775, 4545951; 699779, 4545946; 699787, 4545940; 699795, 4545937; 699798, 4545937; 699801, 4545934; 699805, 4545929; 699784, 4545920; 699778, 4545920; 699770, 4545918; 699766, 4545914; 699762, 4545911; 699746, 4545927; 699744, 4545930; 699740, 4545939; 699739, 4545947; 699742, 4545963; 699748, 4545977; 699754, 4545988; 699763, 4545998; 699775, 4546009; 699785, 4546019; 699793, 4546026; 699801, 4546036; 699807, 4546044; 699811, 4546050; 699815, 4546060; 699821, 4546068; 699825, 4546078; 699826, 4546083; 699826, 4546090; 699825, 4546097; 699820, 4546103; 699809, 4546109; 699797, 4546110; 699788, 4546113; 699782, 4546122; 699779, 4546133; 699775, 4546138; 699768, 4546140; 699760, 4546144; 699756, 4546150; 699754, 4546158; 699754, 4546165; 699753, 4546170; 699752, 4546170; 699744, 4546172; 699733, 4546169; 699724, 4546161; 699717, 4546154; 699709, 4546149; 699696, 4546145; 699684, 4546142; 699671, 4546139; 699661, 4546135; 699655, 4546129; 699646, 4546118; 699639, 4546105; 699639, 4546098; 699643, 4546081; 699644, 4546073; 699642, 4546065; 699641, 4546059; 699634, 4546045; 699627, 4546029; 699623, 4546017; 699621, 4546002; 699618, 4545991; 699616, 4545983; 699615, 4545977; 699611, 4545972; 699608, 4545968; 699602, 4545963; 699600, 4545963; 699594, 4545963; 699588, 4545962; 699583, 4545964; 699577, 4545965; 699571, 4545968; 699565, 4545972; 699560, 4545978; 699555, 4545986; 699552, 4545991; 699546, 4546008; 699542, 4546024; 699540, 4546038; 699536, 4546055; 699527, 4546075; 699521, 4546089; 699511, 4546100; 699504, 4546107; 699497, 4546111; 699484, 4546114; 699457, 4546112; 699449, 4546112; 699439, 4546109; 699428, 4546104; 699423, 4546100; 699418, 4546095; 699414, 4546089; 699409, 4546081; 699406, 4546066; 699404, 4546061; 699402, 4546059; 699399, 4546060; 699395, 4546062; 699392, 4546063; 699390, 4546068; 699387, 4546076; 699386, 4546084; 699386, 4546094; 699386, 4546102; 699388, 4546113; 699395, 4546124; 699399, 4546131; 699403, 4546136; 699410, 4546142; 699433, 4546149; 699455, 4546150; 699467, 4546154; 699481, 4546152; 699499, 4546146; 699506, 4546143; 699513, 4546138; 699523, 4546129; 699532, 4546120; 699537, 4546115; 699542, 4546104; 699547, 4546095; 699550, 4546082; 699555, 4546069; 699561, 4546052; 699572, 4546024; 699579, 4546008; 699584, 4546003; 699588, 4546000; 699601, 4546001; 699601, 4546029; 699604, 4546036; 699606, 4546041; 699611, 4546053; 699615, 4546065; 699616, 4546080; 699616, 4546097; 699617, 4546110; 699619, 4546121; 699625, 4546131; 699632, 4546141; 699643, 4546150; 699658, 4546154; 699667, 4546158; 699681, 4546165; 699691, 4546174; 699700, 4546182; 699712, 4546189; 699722, 4546195; 699731, 4546198; 699742, 4546199; 699753, 4546199; 699760, 4546194; 699767, 4546186; 699777, 4546178.

(iv) Tract 4d. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 701389, 4546232; 701381, 4546222; 701438, 4546226; 701441, 4546228; 701446, 4546228; 701448, 4546228; 701457, 4546225; 701461, 4546231; 701468, 4546239; 701472, 4546242; 701474, 4546244; 701479, 4546248; 701482, 4546249; 701488, 4546249; 701492, 4546248; 701495, 4546249; 701495, 4546249; 701505, 4546261; 701511, 4546263; 701518, 4546264; 701525, 4546264; 701533, 4546261; 701539, 4546255; 701544, 4546245; 701548, 4546238; 701555, 4546233; 701565, 4546229; 701573, 4546227; 701580, 4546223; 701586, 4546218; 701589, 4546212; 701589, 4546206; 701582, 4546198; 701583, 4546185; 701583, 4546184; 701596, 4546181; 701599, 4546177; 701600, 4546158; 701598, 4546144; 701597, 4546134; 701594, 4546123; 701591, 4546115; 701586, 4546108; 701579, 4546104; 701567, 4546101; 701551, 4546099; 701537, 4546098; 701521, 4546092; 701511, 4546082; 701503, 4546070; 701493, 4546055; 701489, 4546048; 701481, 4546038; 701474, 4546028; 701467, 4546018; 701460, 4546009; 701452, 4546001; 701447, 4545998; 701444, 4545995; 701439, 4545995; 701435, 4545999; 701432, 4546005; 701429, 4546010; 701427, 4546018; 701425, 4546023; 701427, 4546031; 701431, 4546039; 701436, 4546047; 701440, 4546055; 701443, 4546062; 701444, 4546070; 701444, 4546081; 701443, 4546084; 701436, 4546089; 701429, 4546092; 701422, 4546097; 701418, 4546104; 701414, 4546116; 701413, 4546124; 701414, 4546135; 701418, 4546148; 701421, 4546155; 701425, 4546164; 701428, 4546171; 701431, 4546176; 701432, 4546180; 701432, 4546188; 701432, 4546189; 701369, 4546194; 701369, 4546194; 701357, 4546193; 701343, 4546193; 701331, 4546194; 701322, 4546195; 701275, 4546175; 701283, 4546167; 701290, 4546157; 701299, 4546147; 701308, 4546138; 701315, 4546130; 701320, 4546123; 701323, 4546119; 701326, 4546110; 701329, 4546098; 701329, 4546091; 701340, 4546095; 701342, 4546094; 701345, 4546092; 701347, 4546090; 701349, 4546085; 701352, 4546079; 701353, 4546068; 701351, 4546056; 701348, 4546043; 701342, 4546027; 701333, 4546014; 701322, 4546003; 701306, 4545995; 701291, 4545988; 701270, 4545982; 701250, 4545977; 701228, 4545972; 701208, 4545967; 701185, 4545960; 701165, 4545955; 701148, 4545951; 701139, 4545948; 701132, 4545947; 701126, 4545949; 701122, 4545951; 701120, 4545954; 701119, 4545958; 701119, 4545963; 701131, 4545970; 701145, 4545976; 701159, 4545982; 701169, 4545990; 701174, 4545996; 701177, 4546003; 701181, 4546010; 701191, 4546014; 701207, 4546018; 701216, 4546022; 701223, 4546028; 701226, 4546034; 701224, 4546042; 701219, 4546046; 701209, 4546051; 701207, 4546055; 701206, 4546061; 701211, 4546069; 701221, 4546072; 701231, 4546073; 701240, 4546074; 701252, 4546077; 701248, 4546092; 701248, 4546100; 701248, 4546109; 701250, 4546119; 701251, 4546125; 701252, 4546130; 701253, 4546135;
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(v) Tract 4e. Land bounded by the following Universal Transverse Mercator (UTM)

Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 703097, 4546215; 703095, 4546208; 703095, 4546196; 703096, 4546183; 703098, 4546171; 703101, 4546160; 703107, 4546150; 703112, 4546145; 703122, 4546142; 703130, 4546142; 703136, 4546143; 703153, 4546145; 703164, 4546146; 703171, 4546147; 703179, 4546148; 703189, 4546150; 703194, 4546149; 703198, 4546146; 703200, 4546143; 703202, 4546138; 703204, 4546131; 703204, 4546124; 703203, 4546118; 703201, 4546112; 703199, 4546106; 703198, 4546100; 703202, 4546086; 703205, 4546074; 703205, 4546074; 703161, 4546071; 703137, 4546072; 703137, 4546043; 703157, 4546008; 703170, 4545997; 703168, 4545988; 703169, 4545981; 703175, 4545979; 703181, 4545977; 703189, 4545974; 703197, 4545969; 703198, 4545963; 703201, 4545949; 703208, 4545936; 703213, 4545921; 703212, 4545906; 703208, 4545899; 703199, 4545894; 703191, 4545893; 703185, 4545895; 703132, 4545967; 703084, 4546028; 703072, 4546066; 703041, 4546051; 703009, 4546024; 702961, 4545994; 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(vi) Tract 4f. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 701018, 4546521; 701025, 4546516; 701031, 4546509; 701035, 4546497; 701036, 4546487; 701039, 4546475; 701045, 4546464; 701054, 4546454; 701069, 4546442; 701085, 4546431; 701121, 4546421; 701139, 4546419; 701158, 4546417; 701174, 4546416; 701187, 4546415; 701198, 4546413; 701208, 4546412; 701217, 4546408; 701220, 4546405; 701222, 4546401; 701223, 4546396; 701223, 4546392; 701223, 4546388; 701223, 4546384; 701223, 4546382; 701222, 4546378; 701211, 4546385; 701207, 4546385; 701202, 4546384; 701196, 4546380; 701190, 4546369; 701186, 4546360; 701180, 4546350; 701173, 4546344; 701167, 4546340; 701156, 4546338; 701144, 4546337; 701137, 4546337; 701128, 4546338; 701118, 4546336; 701108, 4546335; 701101, 4546336; 701096, 4546338; 701086, 4546338; 701081, 4546324; 701077, 4546318; 701070, 4546312; 701061, 4546306; 701049, 4546302; 701038, 4546299; 701027, 4546300; 701016, 4546300; 701009, 4546295; 701003, 4546286; 700997, 4546280; 700990, 4546274; 700979, 4546272; 700970, 4546273; 700963, 4546276; 700953, 4546279; 700944, 4546280; 700935, 4546279; 700929, 4546277; 700926, 4546274; 700918, 4546268; 700927, 4546263; 700930, 4546260; 700932, 4546254; 700933, 4546247; 700931, 4546242; 700924, 4546236; 700912, 4546231; 700903, 4546229; 700890, 4546228; 700879, 4546229; 700866, 4546229; 700859, 4546230; 700854, 4546233; 700852, 4546236;

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(vii) Tract 4g. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 701602, 4546442; 701600, 4546428; 701597, 4546415; 701592, 4546405; 701586, 4546395; 701578, 4546386; 701567, 4546378; 701556, 4546373; 701547, 4546372; 701534, 4546374; 701521, 4546377; 701505, 4546383; 701494, 4546389; 701484, 4546395; 701473, 4546402; 701460, 4546408; 701445, 4546411; 701431, 4546414; 701415, 4546414; 701401, 4546414; 701391, 4546415; 701384, 4546416; 701377, 4546418; 701372, 4546421; 701369, 4546424; 701367, 4546428; 701367, 4546432; 701371, 4546435; 701379, 4546437; 701389, 4546437; 701398, 4546437; 701410, 4546437; 701422, 4546436; 701429, 4546435; 701437, 4546433; 701447, 4546432; 701456, 4546432; 701475, 4546434; 701493, 4546438; 701512, 4546444; 701527, 4546451; 701539, 4546460; 701547, 4546468; 701553, 4546478; 701558, 4546489; 701561, 4546500; 701563, 4546510; 701565, 4546519; 701568, 4546525; 701570, 4546531; 701573, 4546535; 701578, 4546539; 701583, 4546539; 701588, 4546539; 701595, 4546534; 701598, 4546528; 701599, 4546518; 701600, 4546507; 701598, 4546493; 701596, 4546482; 701595, 4546472; 701597, 4546460; 701600, 4546452; 701602, 4546442.

(viii) Tract 4h. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 703217, 4546589; 703217, 4546586; 703217, 4546579; 703049, 4546561; 702942, 4546563; 702869, 4546558; 702844, 4546498; 702818, 4546496; 702872, 4546437; 702928, 4546418; 702978, 4546411; 703039, 4546410; 703095, 4546436; 703144, 4546479; 703218, 4546537; 703218, 4546519; 703216, 4546517; 703212, 4546515; 703210, 4546512; 703206, 4546510; 703200, 4546506; 703192, 4546498; 703186, 4546493; 703171, 4546473; 703188, 4546474; 703194, 4546477; 703200, 4546478; 703203, 4546478; 703205, 4546477; 703206, 4546471; 703204, 4546466; 703199, 4546458; 703192, 4546450; 703182, 4546443; 703172, 4546437; 703164, 4546433; 703156, 4546430; 703149, 4546428; 703142, 4546428; 703141, 4546429; 703139, 4546435; 703135, 4546434; 703129, 4546431; 703123, 4546428; 703118, 4546423; 703111, 4546415; 703107, 4546405; 703103, 4546387; 703095, 4546382; 703088, 4546378; 703082, 4546375; 703074, 4546371; 703062, 4546366; 703051, 4546363; 703036, 4546359; 703021, 4546356; 703006, 4546353; 702992, 4546350; 702979, 4546347; 702966, 4546345; 702954, 4546346; 702943, 4546350; 702925, 4546354; 702924, 4546357; 702924, 4546358; 702921, 4546364; 702918, 4546373; 702914, 4546386; 702910, 4546397; 702903, 4546402; 702892, 4546407; 702880, 4546410; 702865, 4546413; 702855, 4546419; 702850, 4546427; 702844, 4546434; 702836, 4546437; 702822, 4546437; 702809, 4546440; 702801, 4546449; 702793, 4546458; 702781, 4546464; 702768, 4546472; 702764, 4546481; 702762, 4546493; 702762, 4546499; 702764, 4546504; 702769, 4546508; 702776, 4546512; 702785, 4546514; 702796, 4546515; 702811, 4546517; 702826, 4546521; 702835, 4546531; 702835, 4546540; 702833, 4546546; 702828, 4546547; 702817, 4546549; 702807, 4546549; 702796, 4546548; 702785, 4546545; 702768, 4546545; 702753, 4546545; 702735, 4546547; 702721, 4546550; 702715, 4546557; 702715, 4546564; 702716, 4546570; 702718, 4546573; 702720, 4546574; 702723, 4546575; 702727, 4546576; 702733, 4546577; 702742, 4546579; 702750, 4546580; 702762, 4546578; 702771, 4546577; 702785, 4546577; 702797, 4546580; 702807, 4546583; 702818, 4546586; 702831, 4546589; 702842, 4546591; 702849, 4546591; 702860, 4546587; 703205, 4546592; 703210, 4546593; 703215, 4546592; 703217, 4546590; 703217, 4546589.

(ix) Tract 4i. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 704760, 4546632; 704759, 4546528; 704759, 4546503; 704757, 4546504; 704757, 4546463; 704759, 4546463; 704759, 4546435; 704751, 4546435; 704745, 4546436; 704737, 4546436; 704723, 4546436; 704708, 4546436; 704693, 4546437; 704676, 4546438; 704651, 4546439; 704611, 4546438; 704596, 4546439; 704580, 4546440; 704567, 4546437; 704548, 4546430; 704533, 4546428; 704516, 4546430; 704503, 4546433; 704489, 4546440; 704478, 4546444; 704468, 4546444; 704456, 4546442; 704444, 4546439; 704430, 4546434; 704416, 4546431; 704398, 4546427; 704381, 4546424; 704361, 4546421; 704342, 4546421; 704329, 4546422; 704318, 4546425; 704304, 4546435; 704289, 4546434; 704278, 4546456; 704240, 4546480; 704187, 4546472; 704136, 4546441; 704137, 4546396; 704167, 4546390; 704206, 4546403; 704264, 4546386; 704303, 4546371; 704316, 4546313; 704309, 4546288;

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(xi) Tract 4k. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 705162, 4546811; 705173, 4546744; 705106, 4546730; 705075, 4546704; 705137, 4546704; 705207, 4546698; 705306, 4546696; 705306, 4546696; 705308, 4546688; 705311, 4546678; 705000, 4546667; 704931, 4546687; 704873, 4546735; 704855, 4546781; 704812, 4546813; 704812, 4546814; 704812, 4546820; 704811, 4546826; 704808, 4546830; 704802, 4546831; 704793, 4546827; 704791, 4546825; 704750, 4546834; 704750, 4546838; 704748, 4546849; 704747, 4546861; 704748, 4546874; 704752, 4546882; 704762, 4546890; 704773, 4546896; 704782, 4546898; 704788, 4546902; 704796, 4546906; 704803, 4546913; 704807, 4546923; 704807, 4546936; 704807, 4546946; 704870, 4546886; 704920, 4546847; 704958, 4546774; 705006, 4546748; 705048, 4546766; 705076, 4546799; 705084, 4546840; 705084, 4546893; 705062, 4546927; 705046, 4546957; 705056, 4546960; 705070, 4546959; 705080, 4546953; 705087, 4546947; 705095, 4546942; 705103, 4546941; 705112, 4546940; 705122, 4546937; 705132, 4546930; 705140, 4546923; 705149, 4546917; 705156, 4546913; 705163, 4546904; 705167, 4546894; 705164, 4546888; 705161, 4546883; 705159, 4546875; 705161, 4546864; 705165, 4546856; 705168, 4546854; 705162, 4546811.

(xii) Tract 41. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 02925, 4547900; 702933, 4547900; 702939, 4547902; 702948, 4547887;

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(xiii) Tract 4m. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 703489, 4548057; 703478, 4548055; 703470, 4548054; 703464, 4548053; 703456, 4548057; 703453, 4548053; 703450, 4548052; 703444, 4548048; 703440, 4548044; 703432, 4548039; 703423, 4548034; 703411, 4548027; 703401, 4548021; 703388, 4548016; 703383, 4548016; 703381, 4548020; 703369, 4548005; 703365, 4547997; 703360, 4547989; 703355, 4547980; 703352, 4547973; 703353, 4547966; 703355, 4547961; 703357, 4547956; 703358, 4547949; 703335, 4547941; 703324, 4547935; 703316, 4547924; 703311, 4547910; 703309, 4547893; 703309, 4547877; 703312, 4547860; 703316, 4547842; 703320, 4547824; 703322, 4547808; 703319, 4547790; 703314, 4547773; 703308, 4547760; 703307, 4547744; 703308, 4547727; 703305, 4547714; 703302, 4547696; 703299, 4547677; 703299, 4547661; 703303, 4547648; 703311, 4547637; 703324, 4547630; 703338, 4547627; 703351, 4547623; 703360, 4547615; 703371, 4547599; 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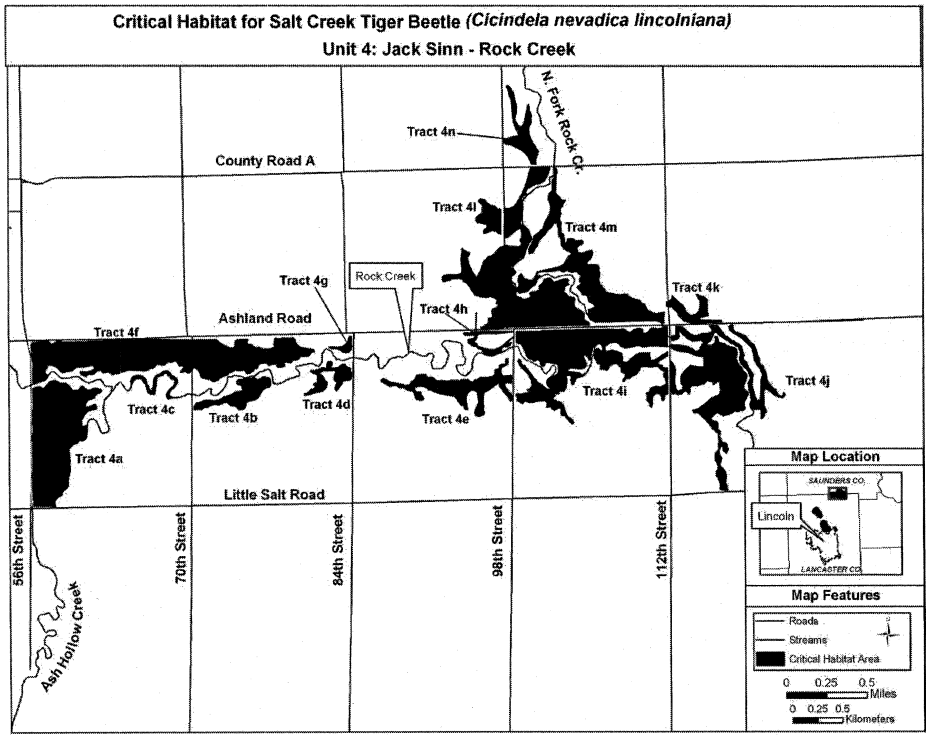
(xiv) Tract 4n. Land bounded by the following Universal Transverse Mercator (UTM) Zone 14N, North American Datum of 1983 (NAD83) coordinates (E, N): 703213, 4548983; 703212, 4548980; 703214, 4548981; 703216, 4548980; 703224, 4548972; 703227, 4548972; 703247, 4548891; 703261, 4548823; 703258, 4548757; 703244, 4548695; 703279, 4548634; 703314, 4548625; 703333, 4548677; 703347, 4548724; 703374, 4548847; 703375, 4548847; 703379, 4548849; 703382, 4548846; 703387, 4548837; 703389, 4548824; 703388, 4548810; 703388, 4548793; 703394, 4548778; 703398, 4548770; 703404, 4548759; 703406, 4548742; 703405, 4548728; 703403, 4548717; 703402, 4548703; 703408, 4548686; 703410, 4548670; 703410, 4548669; 703383, 4548606; 703387, 4548541; 703416, 4548480; 703482, 4548378; 703456, 4548298; 703458, 4548249; 703407, 4548248; 703379, 4548312; 703344, 4548357; 703290, 4548395; 703205, 4548437; 703135, 4548453; 703132, 4548456; 703126, 4548466; 703122, 4548472; 703120, 4548476; 703118, 4548481; 703117, 4548485; 703116, 4548490; 703116, 4548494; 703117, 4548499; 703119, 4548502; 703127, 4548503; 703137, 4548501; 703147, 4548500; 703157, 4548497; 703165, 4548496; 703171, 4548497; 703173, 4548501; 703179, 4548508; 703174, 4548519; 703184, 4548518; 703236, 4548529; 703279, 4548537; 703254, 4548586; 703225, 4548663; 703217, 4548736; 703208, 4548835; 703200, 4548891; 703182, 4548942; 703181, 4548946; 703180, 4548961; 703176, 4548977; 703173, 4548986; 703168, 4548996; 703164, 4549006; 703161, 4549012; 703159, 4549017; 703158, 4549021; 703157, 4549026; 703159, 4549030; 703165, 4549034; 703171, 4549034; 703179, 4549030; 703191, 4549020; 703200, 4549009; 703206, 4549000; 703210, 4548992; 703213, 4548983.

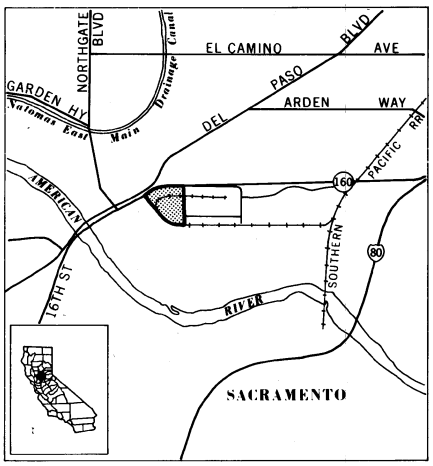
(xv) NOTE: Map of Unit 4, Jack Sinn – Rock Creek (Map 4), follows:



VALLEY ELDERBERRY LONGHORN BEETLE (*Desmocerus californicus dimorphus*) CALIFORNIA. SACRAMENTO COUNTY.

(1) *Sacramento Zone.* An area in the city of Sacramento enclosed on the north by the Route 160 Freeway, on the west and southwest by the Western Pacific railroad tracks, and on the east by Commerce Circle and its extension southward to the railroad tracks.

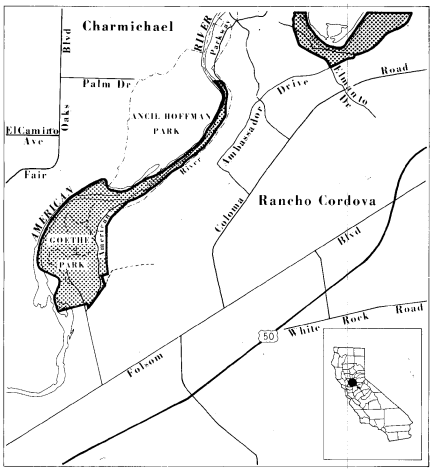
NOTE: Map follows:



(2) *American River Parkway Zone.* An area of the American River Parkway on the south bank of the American River, bounded on the north by latitude 30°37′30″ N, on the west and southwest by Elmanto Drive from its junction with Ambassador Drive to its extension

to latitute 38°37′30″ N, and on the south and east by Ambassador Drive and its extension north to latitude 38°37′30″ N. Goethe Park, and that portion of the American River Parkway northeast of Goethe Park, west of the Jedediah Smith Memorial Bicycle Trail, and north to a line extended eastward from Palm Drive.

NOTE: Map follows:



BAY CHECKERSPOT BUTTERFLY (*Euphydryas editha bayensis*)

(1) Critical habitat units are depicted for San Mateo and Santa Clara Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the Bay checkerspot butterfly are the habitat components that provide:

(i) The presence of annual or perennial grasslands with little to no overstory that provide north-south and east-west slopes with a tilt of more than 7 degrees for larval host plant survival during periods of atypical weather (for example, drought). Common grassland species include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), California oatgrass (*Danthonia californica*), purple needlegrass (*Nassella pulchra*), and Idaho fescue (*Festuca idahoensis*); less abundant in these grasslands are annual and perennial forbs such as filaree (*Erodium botrys*), true clovers (*Trifolium* sp.), dwarf plantain (*Plantago erecta*), and turkey mullein (*Croton setigerus*). These species, with the exception of dwarf plantain, are not required by the Bay checkerspot butterfly, but merely are provided here as an example of species commonly found in California grasslands.

(ii) The presence of the primary larval host plant, dwarf plantain (*Plantago erecta*), and at least one of the secondary host plants, purple owl's-clover (*Castilleja densiflora*) or exserted paintbrush (*Castilleja exserta*), are required for reproduction, feeding, and larval development.

(iii) The presence of adult nectar sources for feeding. Common nectar sources include desertparsley (*Lomatium* spp.), California goldfields (*Lasthenia californica*), tidy-tips (*Layia platyglossa*), sea muilla (*Muilla maritima*), scytheleaf onion (*Allium falcifolium*), false babystars (*Linanthus androsaceus*), and intermediate fiddleneck (*Amsinckia intermedia*).

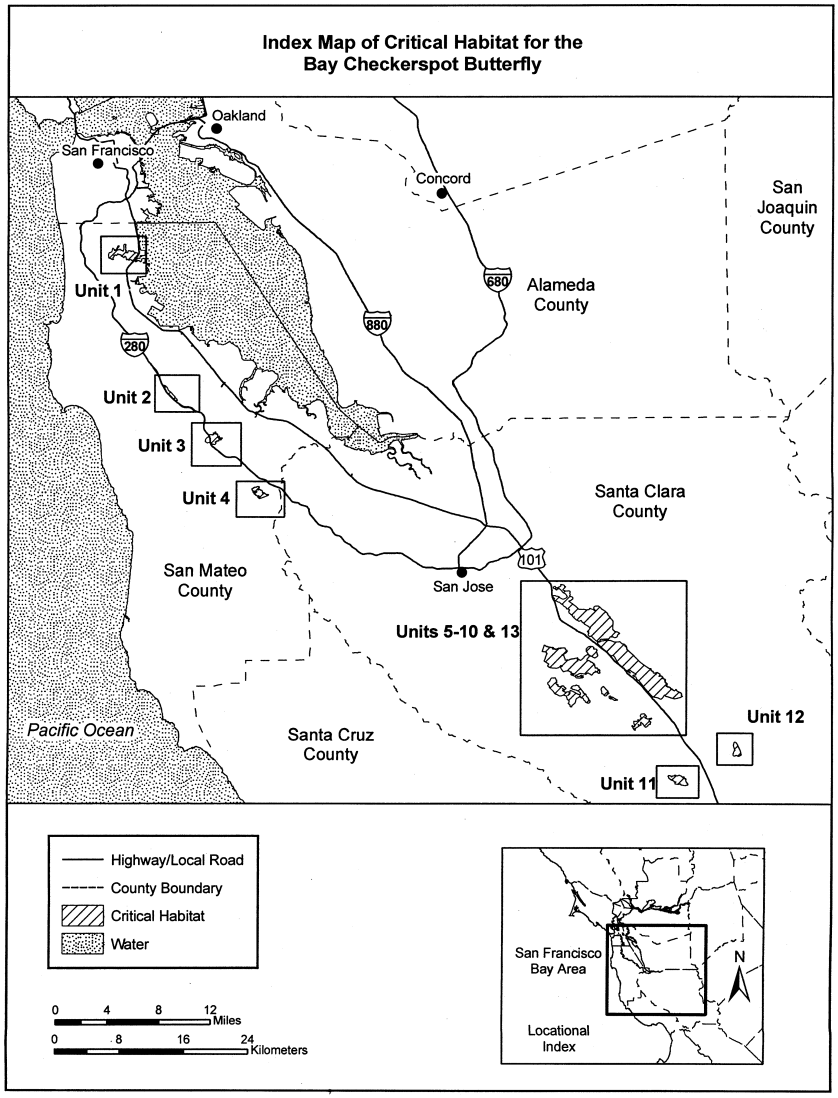
(iv) Soils derived from serpentinite ultramafic rock (Montara, Climara, Henneke, Hentine, and Obispo soil series) or similar soils (Inks, Candlestick, Los Gatos, Fagan, and Barnabe soil series) that provide areas with fewer aggressive, nonnative plant species for larval host plant and adult nectar plant survival and reproduction.

(v) The presence of stable holes and cracks in the soil, and surface rock outcrops that provide shelter for the larval stage of the Bay checkerspot butterfly during summer diapause.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat map units. Data layers defining map units were created on a base of USGS 7.5′ quadrangles using USDA National Agricultural Imagery Program (NAIP) county-wide MrSID compressed mosaics of 1 meter resolution and natural color aerial photography from summer 2005. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 1983 coordinates.

(5) NOTE: Index map for Bay checkerspot butterfly critical habitat units follows:



(6) Unit 1: San Bruno Mountain, San Mateo County, California. From USGS 1:24,000 scale quadrangle San Francisco South.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 52853, 4170062; 52856, 4170038; 52862, 4170043; 52866, 4170045; 52889, 4170061; 52915, 4170074; 52940, 4170084; 52970, 4170091; 52991, 4170102; 53010, 4170112; 53036, 4170134; 53057, 4170130; 53070, 4170151; 53089, 4170171; 53112, 4170170; 53135, 4170154; 53153, 4170109; 53184, 4170104; 53203, 4170081; 53207, 4170041; 53201, 4169958; 53214, 4169958; 53241, 4169938; 53257, 4169970; 53281, 4169974; 53303, 4169965; 53323, 4169971; 53344, 4169964; 53355, 4169943; 53374, 4169943; 53402, 4169930; 53404, 4169906; 53428, 4169900; 53458, 4169913; 53489, 4169909; 53527, 4169898; 53563, 4169900; 53592, 4169902; 53627, 4169892; 53656, 4169877; 53671, 4169859; 53713, 4169856; 53710, 4169804; 53665, 4169711; 53618, 4169606; 53604, 4169575; 53559, 4169488; 53521, 4169481; 53492, 4169479; 53478, 4169457; 53474, 4169413; 53454, 4169388; 53434, 4169364; 53387, 4169340; 53357, 4169322; 53336, 4169300; 53317, 4169269; 53301,

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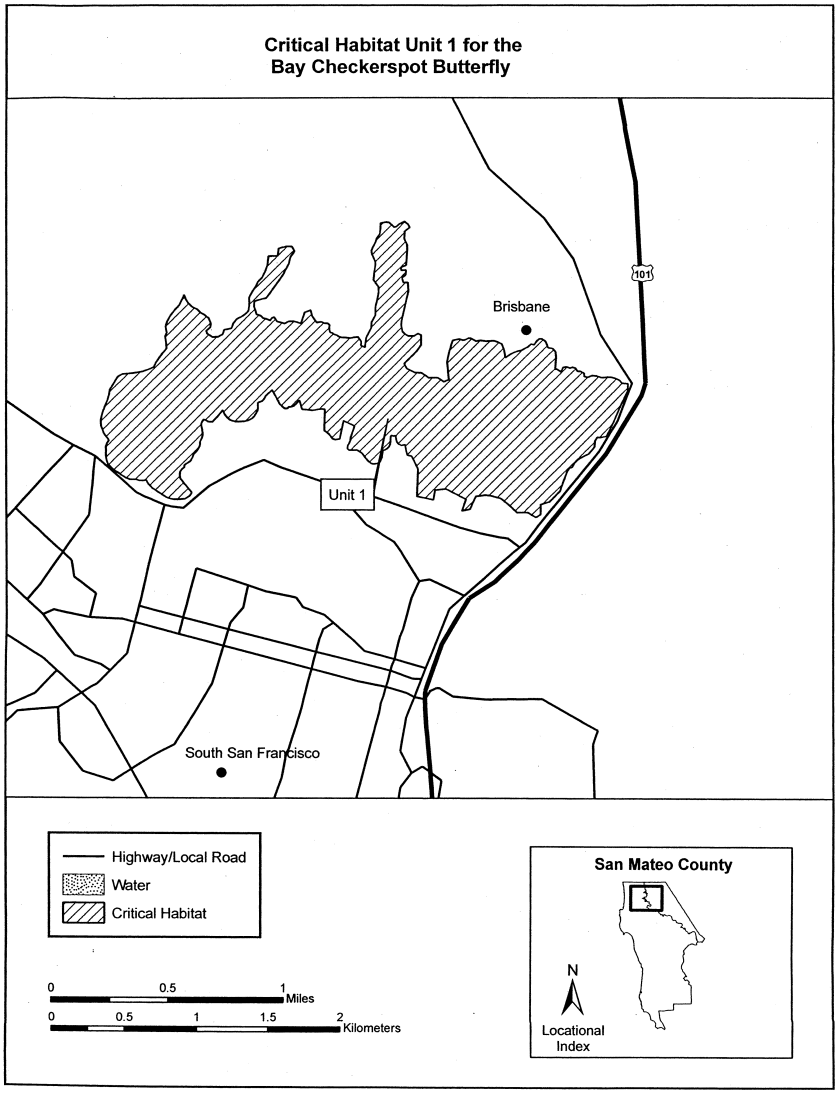
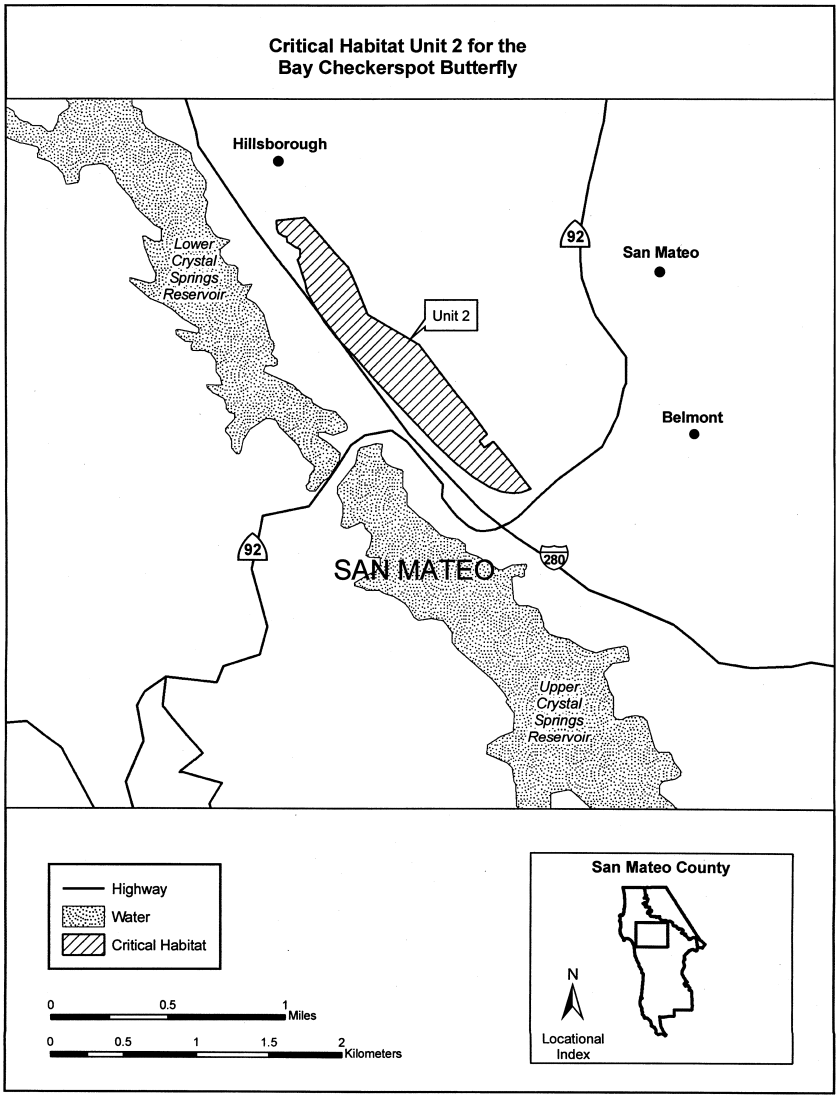
(ii) NOTE: Map of Unit 1 for Bay checkerspot butterfly follows:



(7) Unit 2: Pulgas Ridge, San Mateo County, California. From USGS 1:24,000 scale quadrangle San Mateo.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 558502, 4151442; 558422, 4151451; 558339, 4151484; 558223, 4151555; 558094, 4151656; 557957, 4151788; 557745, 4152013; 557545, 4152228; 557398, 4152392; 557274, 4152523; 557191, 4152632; 557123, 4152751; 557076, 4152838; 557061, 4152902; 557012, 4153060; 557027, 4153077; 557027, 4153130; 556994, 4153145; 556961, 4153171; 556939, 4153182; 556936, 4153216; 556913, 4153220; 556880, 4153242; 556868, 4153273; 556867, 4153329; 557060, 4153350; 557277, 4153095; 557358, 4153009; 557407, 4152900; 557494, 4152681; 557576, 4152631; 557851, 4152470; 558104, 4152134; 558210, 4152004; 558320, 4151850; 558268, 4151803; 558302, 4151758; 558363, 4151800; 558474, 4151666; 558625, 4151470; 558602, 4151463; 558557, 4151448; returning to 558502, 4151442.

(ii) NOTE: Map of Unit 2 for Bay checkerspot butterfly follows:

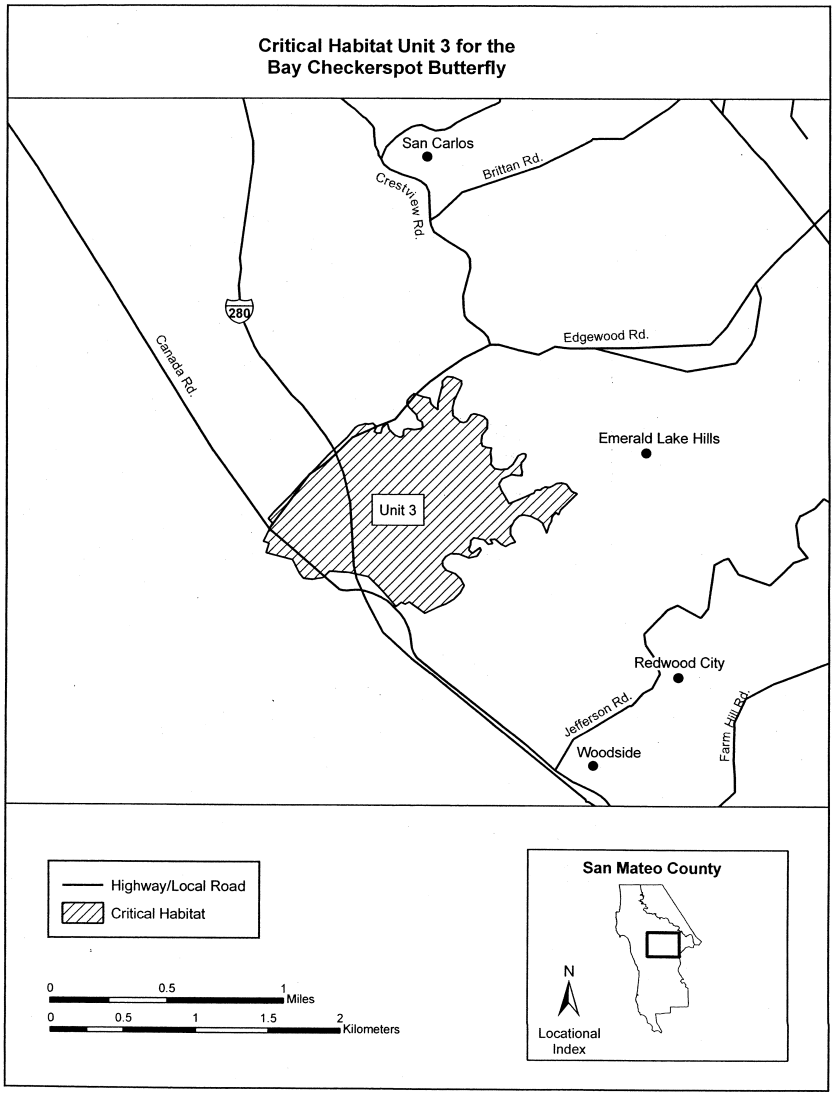


(8) Unit 3: Edgewood Park, San Mateo County, California. From USGS 1:24,000 scale quadrangle Woodside.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 564162, 4146806; 564197, 4146796; 564234, 4146748; 564270, 4146731; 564196, 4146657; 564182, 4146642; 564169, 4146630; 564154, 4146615; 564142, 4146585; 564128, 4146601; 564108, 4146585; 564097, 4146565; 564092, 4146540; 564078, 4146514; 564061, 4146457; 564032, 4146525; 564003, 4146549; 563949, 4146575; 563903, 4146582; 563868, 4146576; 563834, 4146542; 563809, 4146492; 563808, 4146448; 563842, 4146394; 563811, 4146384; 563774, 4146364; 563747, 4146377; 563726, 4146394; 563702, 4146416; 563668, 4146413; 563684, 4146384; 563656, 4146377; 563626, 4146409; 563555, 4146423; 563533, 4146403; 563533, 4146374; 563520, 4146338; 563543, 4146316; 563596, 4146356; 563604, 4146338; 563576, 4146297; 563520, 4146284; 563450, 4146312; 563396, 4146314; 563360, 4146293; 563338, 4146263; 563340, 4146229; 563365, 4146198; 563424, 4146176; 563464, 4146140; 563488, 4146094; 563459, 4146043; 563420, 4146003; 563361, 4145965; 563305, 4145945; 563215, 4145902; 563106, 4145980; 563077,

4145966; 563050, 4145976; 563014, 4145948; 562923, 4146053; 562820, 4146153; 562674, 4146184; 562550, 4146190; 562503, 4146146; 562432, 4146134; 562367, 4146141; 562337, 4146177; 562290, 4146269; 562106, 4146315; 562126, 4146380; 562087, 4146395; 562148, 4146523; 562121, 4146554; 562162, 4146602; 562260, 4146697; 562284, 4146723; 562369, 4146818; 562418, 4146870; 562467, 4146918; 562548, 4147005; 562667, 4147115; 562724, 4147186; 562744, 4147200; 562771, 4147206; 562796, 4147214; 562816, 4147212; 562849, 4147216; 562862, 4147203; 562874, 4147191; 562858, 4147160; 562876, 4147148; 562907, 4147149; 562915, 4147187; 562936, 4147221; 562955, 4147207; 562963, 4147174; 563001, 4147137; 563034, 4147121; 563052, 4147122; 563063, 4147135; 563063, 4147160; 563070, 4147174; 563098, 4147180; 563141, 4147173; 563179, 4147179; 563199, 4147187; 563196, 4147227; 563164, 4147243; 563156, 4147274; 563140, 4147290; 563124, 4147308; 563103, 4147329; 563087, 4147356; 563093, 4147379; 563113, 4147405; 563138, 4147424; 563196, 4147403; 563228, 4147396; 563247, 4147392; 563256, 4147354; 563275, 4147334; 563304, 4147313; 563304, 4147357; 563312, 4147395; 563324, 4147437; 563329, 4147458; 563336, 4147478; 563334, 4147508; 563354, 4147530; 563371, 4147543; 563411, 4147539; 563440, 4147526; 563465, 4147513; 563468, 4147488; 563457, 4147462; 563446, 4147441; 563436, 4147420; 563429, 4147405; 563422, 4147390; 563415, 4147377; 563414, 4147360; 563406, 4147327; 563408, 4147272; 563443, 4147244; 563457, 4147229; 563480, 4147222; 563502, 4147229; 563517, 4147251; 563534, 4147276; 563553, 4147283; 563569, 4147282; 563595, 4147274; 563623, 4147264; 563646, 4147239; 563645, 4147181; 563608, 4147135; 563604, 4147096; 563609, 4147060; 563647, 4147048; 563675, 4147047; 563668, 4147013; 563671, 4146982; 563673, 4146964; 563675, 4146954; 563669, 4146934; 563697, 4146903; 563739, 4146896; 563788, 4146903; 563825, 4146934; 563853, 4146979; 563862, 4146993; 563882, 4147004; 563902, 4147007; 563915, 4147002; 563912, 4146981; 563900, 4146963; 563883, 4146944; 563881, 4146913; 563889, 4146885; 563888, 4146855; 563858, 4146857; 563817, 4146861; 563749, 4146833; 563727, 4146798; 563744, 4146751; 563776, 4146699; 563799, 4146661; 563863, 4146689; 563971, 4146735; 563979, 4146753; 563997, 4146758; 564017, 4146756; 564030, 4146769; 564048, 4146778; 564080, 4146775; 564099, 4146784; 564131, 4146803; returning to 564162, 4146806.

(ii) NOTE: Map of Unit 3 for Bay checkerspot butterfly follows:

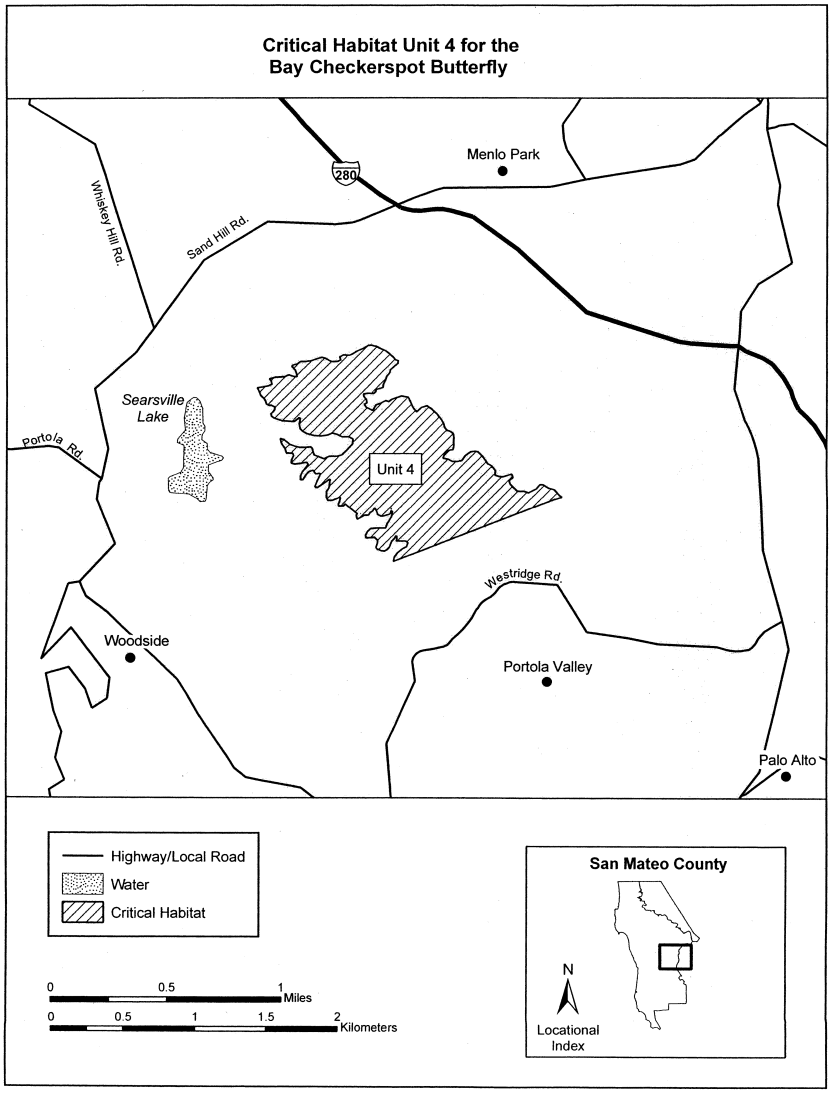


(9) Unit 4: Jasper Ridge, San Mateo County, California. From USGS 1:24,000 scale quadrangle Palo Alto.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 569513, 4139881; 569524, 4139862; 569550, 4139849; 569569, 4139829; 569580, 4139812; 569578, 4139791; 569578, 4139780; 569605, 4139771; 569631, 4139770; 569696, 4139789; 569703, 4139764; 569676, 4139743; 569686, 4139716; 569736, 4139668; 569782, 4139670; 569815, 4139659; 569839, 4139671; 569869, 4139687; 569893, 4139716; 569915, 4139714; 569954, 4139692; 569993, 4139680; 570014, 4139658; 570027, 4139642; 570046, 4139627; 569983, 4139608; 568859, 4139177; 568865, 4139205; 568889, 4139237; 568921, 4139265; 568951, 4139280; 568962, 4139308; 568947, 4139319; 568908, 4139319; 568882, 4139319; 568882, 4139327; 568885, 4139340; 568885, 4139353; 568876, 4139355; 568869, 4139342; 568848, 4139319; 568831, 4139278; 568816, 4139261; 568797, 4139250; 568775, 4139252; 568758, 4139261; 568747, 4139261; 568736, 4139274; 568745, 4139299; 568749, 4139323; 568728, 4139344; 568702, 4139342; 568674, 4139342; 568666, 4139342; 568664, 4139362; 568676, 4139387; 568698, 4139407; 568743,

4139411; 568771, 4139411; 568805, 4139411; 568816, 4139441; 568846, 4139490; 568852, 4139520; 568852, 4139527; 568844, 4139531; 568833, 4139507; 568788, 4139495; 568771, 4139495; 568749, 4139505; 568741, 4139527; 568730, 4139548; 568724, 4139548; 568713, 4139531; 568694, 4139518; 568685, 4139503; 568674, 4139501; 568657, 4139501; 568642, 4139495; 568627, 4139484; 568603, 4139473; 568597, 4139499; 568603, 4139512; 568520, 4139578; 568505, 4139565; 568475, 4139565; 568470, 4139574; 568479, 4139595; 568485, 4139621; 568481, 4139625; 568462, 4139617; 568425, 4139604; 568400, 4139604; 568389, 4139623; 568389, 4139641; 568391, 4139668; 568404, 4139688; 568410, 4139705; 568410, 4139722; 568412, 4139741; 568417, 4139746; 568408, 4139752; 568389, 4139737; 568361, 4139718; 568325, 4139694; 568314, 4139694; 568307, 4139703; 568322, 4139737; 568335, 4139765; 568348, 4139791; 568335, 4139793; 568315, 4139789; 568305, 4139799; 568296, 4139814; 568270, 4139808; 568246, 4139783; 568225, 4139748; 568210, 4139748; 568210, 4139778; 568221, 4139803; 568247, 4139836; 568261, 4139857; 568252, 4139870; 568210, 4139863; 568165, 4139858; 568142, 4139865; 568145, 4139890; 568159, 4139919; 568152, 4139934; 568108, 4139937; 568099, 4139966; 568083, 4139989; 568070, 4140011; 568066, 4140038; 568090, 4140032; 568131, 4139998; 568168, 4139984; 568203, 4139975; 568250, 4139976; 568279, 4139979; 568289, 4139967; 568294, 4139945; 568303, 4139922; 568324, 4139914; 568345, 4139906; 568371, 4139896; 568407, 4139913; 568461, 4139913; 568495, 4139923; 568526, 4139951; 568571, 4140000; 568574, 4140034; 568543, 4140051; 568497, 4140049; 568467, 4140066; 568430, 4140076; 568397, 4140063; 568353, 4140055; 568300, 4140059; 568250, 4140072; 568225, 4140087; 568205, 4140107; 568200, 4140141; 568207, 4140177; 568200, 4140183; 568163, 4140157; 568082, 4140161; 568023, 4140180; 568005, 4140193; 567998, 4140211; 568015, 4140225; 568027, 4140241; 568028, 4140259; 568006, 4140269; 567984, 4140271; 567967, 4140280; 567962, 4140301; 567948, 4140320; 567930, 4140339; 567915, 4140373; 567904, 4140392; 567938, 4140398; 567980, 4140405; 568008, 4140418; 568001, 4140442; 567988, 4140457; 568031, 4140467; 568098, 4140470; 568123, 4140484; 568166, 4140471; 568183, 4140472; 568180, 4140494; 568172, 4140517; 568147, 4140543; 568153, 4140554; 568184, 4140561; 568209, 4140577; 568249, 4140579; 568285, 4140585; 568318, 4140597; 568356, 4140608; 568383, 4140600; 568423, 4140577; 568471, 4140580; 568488, 4140590; 568483, 4140612; 568507, 4140625; 568551, 4140623; 568572, 4140632; 568606, 4140653; 568658, 4140676; 568681, 4140691; 568705, 4140693; 568723, 4140687; 568741, 4140684; 568762, 4140673; 568807, 4140653; 568830, 4140634; 568862, 4140607; 568873, 4140591; 568894, 4140584; 568891, 4140566; 568881, 4140556; 568856, 4140536; 568838, 4140520; 568834, 4140499; 568812, 4140474; 568803, 4140445; 568791, 4140422; 568786, 4140395; 568739, 4140382; 568733, 4140366; 568719, 4140353; 568682, 4140355; 568648, 4140350; 568651, 4140331; 568668, 4140312; 568672, 4140286; 568653, 4140278; 568668, 4140256; 568713, 4140235; 568736, 4140273; 568769, 4140284; 568805, 4140303; 568827, 4140297; 568848, 4140312; 568872, 4140321; 568918, 4140335; 568964, 4140327; 569000, 4140248; 569024, 4140226; 569058, 4140256; 569097, 4140267; 569129, 4140244; 569166, 4140211; 569186, 4140185; 569202, 4140165; 569217, 4140136; 569219, 4140119; 569228, 4140106; 569240, 4140094; 569260, 4140088; 569282, 4140073; 569286, 4140045; 569284, 4140017; 569286, 4139986; 569279, 4139961; 569254, 4139955; 569242, 4139943; 569217, 4139920; 569211, 4139900; 569246, 4139893; 569275, 4139877; 569305, 4139877; 569342, 4139883; 569367, 4139919; 569404, 4139945; 569434, 4139949; 569455, 4139945; 569485, 4139917; returning to 569513, 4139881.

(ii) NOTE: Map of Unit 4 for Bay checkerspot butterfly follows:

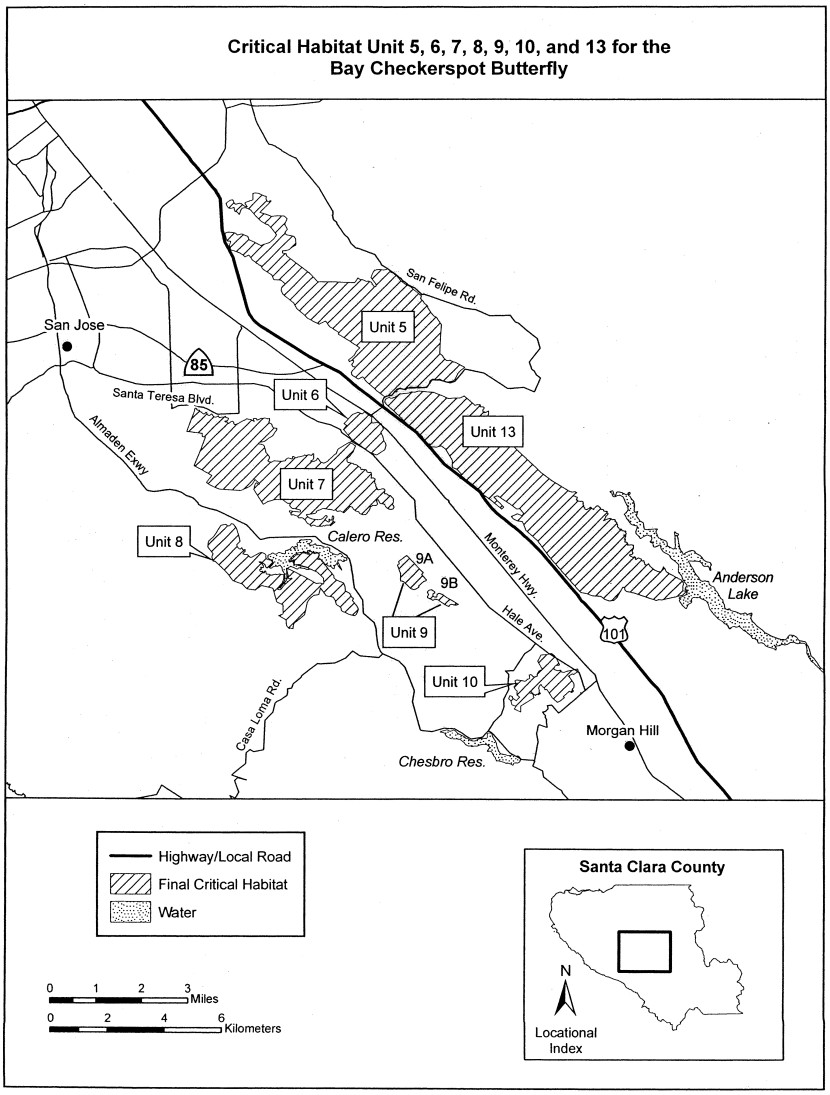


(10) Unit 5: Metcalf, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 611242, 4121203; 611273, 4121300; 611382, 4121353; 611488, 4121320; 611607, 4121360; 611707, 4121423; 611776, 4121486; 611856, 4121482; 611945, 4121496; 612084, 4121502; 612190, 4121555; 612315, 4121543; 612448, 4121585; 612577, 4121572; 612974, 4121532; 613302, 4121410; 613507, 4121310; 613672, 4121337; 613907, 4121337; 614056, 4121410; 614393, 4121110; 614418, 4121079; 614479, 4121095; 614513, 4121108; 614547, 4121103; 614579, 4121103; 614616, 4121102; 614628, 4121071; 614610, 4121032; 614633, 4121024; 614691, 4121025; 614737, 4121019; 614760, 4120988; 614750, 4120961; 614713, 4120939; 614711, 4120903; 614703, 4120876; 614718, 4120863; 614731, 4120832; 614743, 4120810; 614774, 4120852; 614784, 4120819; 614904, 4120878; 614919, 4120849; 614913, 4120812; 614919, 4120775; 614897, 4120730; 614874, 4120715; 614886, 4120686; 614891, 4120659; 614921, 4120671; 614969, 4120678; 614999, 4120664; 614999, 4120625; 614974,

4120593; 614980, 4120547; 614950, 4120517; 614942, 4120488; 614970, 4120470; 614986, 4120424; 614996, 4120339; 615037, 4120410; 615163, 4120270; 615782, 4119656; 615873, 4119555; 616548, 4118936; 616751, 4118743; 617140, 4118453; 617774, 4118066; 617873, 4118037; 617986, 4118057; 618040, 4118015; 617983, 4117993; 617934, 4117940; 617896, 4117916; 617930, 4117901; 617984, 4117896; 618000, 4117874; 618032, 4117863; 618054, 4117849; 618052, 4117820; 618027, 4117810; 618025, 4117766; 618067, 4117760; 618067, 4117728; 618144, 4117713; 618222, 4117720; 618262, 4117696; 618278, 4117655; 618256, 4117633; 618279, 4117591; 618286, 4117527; 618323, 4117503; 618317, 4117455; 618359, 4117439; 618413, 4117435; 618427, 4117461; 618457, 4117471; 618489, 4117476; 618489, 4117501; 618516, 4117516; 618545, 4117506; 618559, 4117469; 618589, 4117466; 618618, 4117430; 618642, 4117442; 618642, 4117477; 618684, 4117503; 618711, 4117527; 618730, 4117550; 618760, 4117564; 618797, 4117553; 618818, 4117545; 618836, 4117511; 618852, 4117500; 618877, 4117494; 618874, 4117457; 618894, 4117445; 618932, 4117427; 618932, 4117442; 618957, 4117445; 618976, 4117432; 618976, 4117393; 619062, 4117364; 619092, 4117373; 619113, 4117369; 619111, 4117323; 619145, 4117283; 619062, 4117188; 619058, 4117150; 619037, 4117123; 618984, 4117044; 619147, 4117114; 619236, 4117123; 619294, 4117077; 619329, 4117080; 619357, 4117092; 619387, 4117074; 619392, 4117037; 619382, 4117011; 619414, 4117004; 619446, 4116993; 619441, 4116938; 619469, 4116920; 619483, 4116876; 619460, 4116840; 619496, 4116812; 619525, 4116780; 619536, 4116746; 619553, 4116743; 619592, 4116766; 619630, 4116739; 619626, 4116701; 619641, 4116687; 619677, 4116701; 619706, 4116681; 619753, 4116690; 619769, 4116667; 619745, 4116648; 619789, 4116592; 619775, 4116566; 619685, 4116547; 619768, 4116513; 619764, 4116489; 619720, 4116399; 619758, 4116390; 619725, 4116298; 619792, 4116295; 619827, 4116268; 619843, 4116231; 619832, 4116189; 619956, 4116200; 620026, 4116196; 620027, 4116146; 620037, 4116090; 619981, 4115976; 620018, 4115910; 619981, 4115866; 619891, 4115850; 619903, 4115813; 619978, 4115796; 619996, 4115766; 620072, 4115793; 620111, 4115763; 620096, 4115712; 620116, 4115680; 620199, 4115750; 620314, 4115703; 620320, 4115653; 620356, 4115633; 620401, 4115659; 620444, 4115506; 620503, 4115495; 620571, 4115549; 620617, 4115454; 620788, 4115324; 620903, 4115266; 620995, 4115260; 621058, 4115374; 621097, 4115435; 621107, 4115413; 621122, 4115390; 621149, 4115374; 621156, 4115344; 621200, 4115254; 621608, 4115039; 621668, 4115004; 621715, 4114977; 621744, 4114932; 621789, 4114879; 621788, 4114836; 621788, 4114810; 621768, 4114773; 621773, 4114740; 621772, 4114662; 621773, 4114638; 621766, 4114618; 621782, 4114597; 621842, 4114600; 621857, 4114586; 621875, 4114583; 621881, 4114552; 621827, 4114518; 621800, 4114474; 621727, 4114441; 621038, 4114280; 620937, 4114292; 620831, 4114261; 620046, 4114525; 619795, 4114578; 619736, 4114633; 619738, 4114702; 619674, 4114732; 619453, 4114356; 619351, 4114262; 619197, 4114240; 619041, 4114293; 618895, 4114410; 618599, 4114424; 618361, 4114506; 618185, 4114530; 617740, 4115026; 617095, 4115754; 616662, 4116332; 616403, 4116568; 616244, 4116697; 616203, 4116810; 616126, 4117005; 615933, 4117032; 615789, 4117099; 615722, 4117186; 615933, 4117280; 616097, 4117217; 616167, 4117292; 616030, 4117460; 615914, 4117446; 615683, 4117614; 615229, 4117907; 615099, 4117854; 615457, 4117510; 615390, 4117438; 615003, 4117751; 614469, 4118133; 613965, 4118481; 613890, 4118524; 613954, 4118666; 613790, 4118831; 613636, 4118894; 613636, 4119149; 613557, 4119283; 613403, 4119531; 613254, 4119651; 613077, 4119606; 612893, 4119620; 612832, 4119665; 612853, 4119708; 612847, 4119729; 612784, 4119705; 612770, 4119740; 612715, 4119760; 612640, 4119824; 612618, 4119872; 612583, 4119977; 612062, 4120400; 611707, 4120758; 611686, 4120748; 611631, 4120824; 611294, 4121127; returning to 611242, 4121203.

(ii) NOTE: Unit 5 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.



(11) Unit 6: Tulare Hill, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 610971, 4120478; 611134, 4120435; 611200, 4120245; 611116, 4120132; 611181, 4119977; 611212, 4119824; 611280, 4119743; 611293, 4119653; 611241, 4119512; 610967, 4119335; 610786, 4119391; 610392, 4119622; 610302, 4119674; 610057, 4119813; 610117, 4119846; 609929, 4120074; 609799, 4120229; 609915, 4120374; 609819, 4120430; 610113, 4120749; 610310, 4120833; 610459, 4120769; 610531, 4120847; 610797, 4120659; 610776, 4120464; 610843, 4120449; returning to 610971, 4120478.

(ii) NOTE: Unit 6 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(12) Unit 7: Santa Teresa Hills, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 608447, 4119332; 608474, 4119309; 608576, 4119335; 608615, 4119330; 608689, 4119306; 608706, 4119356; 608749, 4119377; 608758, 4119360; 608746, 4119302; 608760, 4119230; 608722, 4119159; 608656, 4119124; 608669, 4119080; 608762, 4119101; 608846, 4119140; 608892, 4119222; 609000, 4119082; 609117, 4119040; 609190, 4119077; 609244, 4119107; 609509, 4119359; 609534, 4119358; 609548, 4119366; 609549, 4119393; 609568, 4119444; 609582, 4119466; 609606, 4119520; 609628, 4119547; 609656, 4119568; 610016, 4119783; 610228, 4119650; 610177, 4119543; 610143, 4119434; 610086, 4119368; 610019, 4119278; 609929, 4119219; 609928, 4119116; 609956, 4119070; 610001, 4119067; 610048, 4119044; 610138, 4119037; 610165, 4119006; 610240, 4118997; 610306, 4118956; 610325, 4118923; 610343, 4118915; 610381, 4118905; 610405, 4118877; 610414, 4118822; 610436, 4118812; 610464, 4118833; 610521, 4118824; 610564, 4118822; 610592, 4118815; 610612, 4118795; 610617, 4118776; 610617, 4118756; 610624, 4118735; 610650, 4118729; 610669, 4118717; 610700, 4118710; 610723, 4118718; 610757, 4118723; 610773, 4118706; 610780, 4118658; 610790, 4118646; 610787, 4118598; 610775, 4118570; 610773, 4118536; 610771, 4118519; 610782, 4118517; 610822, 4118530; 610842, 4118528; 610864, 4118520; 610880, 4118508; 610899, 4118501; 610915, 4118487; 610914, 4118461; 610906, 4118446; 610889, 4118430; 610886, 4118417; 610902, 4118393; 610900, 4118367; 610896, 4118340; 610912, 4118330; 610934, 4118310; 610940, 4118282; 610932, 4118260; 610935, 4118251; 610949, 4118231; 610955, 4118207; 610957, 4118181; 610964, 4118176; 610991, 4118168; 610989, 4118152; 610992, 4118113; 611000, 4118109; 611019, 4118109; 611041, 4118121; 611066, 4118127; 611096, 4118122; 611114, 4118125; 611160, 4118145; 611185, 4118147; 611220, 4118143; 611254, 4118124; 611259, 4118093; 611250, 4118046; 611250, 4118012; 611247, 4117972; 611255, 4117966; 611276, 4117974; 611292, 4117975; 611331, 4117963; 611374, 4117922; 611421, 4117919; 611446, 4117915; 611462, 4117908; 611475, 4117891; 611511, 4117839; 611533, 4117814; 611554, 4117805; 611567, 4117772; 611556, 4117741; 611560, 4117712; 611562, 4117677; 611517, 4117611; 611572, 4117536; 611578, 4117500; 611570, 4117478; 611547, 4117451; 611503, 4117429; 611458, 4117422; 611405, 4117439; 611323, 4117480; 611291, 4117518; 611268, 4117566; 611230, 4117618; 611169, 4117625; 611100, 4117637; 611072, 4117668; 611021, 4117766; 610962, 4117743; 610985, 4117678; 611007, 4117611; 610957, 4117563; 610836, 4117565; 610800, 4117537; 610773, 4117534; 610752, 4117518; 610733, 4117438; 610716, 4117404; 610610, 4117272; 610572, 4117243; 610501, 4117238; 610412, 4117262; 610370, 4117294; 610350, 4117341; 610281, 4117354; 610220, 4117381; 610179, 4117413; 610146, 4117441; 610127, 4117492; 610058, 4117531; 609819, 4117309; 609692, 4117372; 609593, 4117353; 609526, 4117409; 609460, 4117386; 609405, 4117409; 609091, 4117456; 608872, 4117364; 608840, 4117297; 608733, 4117262; 608502, 4117237; 608524, 4117204; 608603, 4117138; 608723, 4117081; 608830, 4117067; 608934, 4117066; 609071, 4117093; 609181, 4117210; 609225, 4117208; 609240, 4117159; 609163, 4117083; 609228, 4117009; 609303, 4116981; 609325, 4117003; 609303, 4117052; 609302, 4117087; 609324, 4117084; 609349, 4117043; 609401, 4117059; 609409, 4117162; 609430, 4117203; 609458, 4117190; 609471, 4117150; 609435, 4117016; 609506, 4116986; 609350, 4116852; 609333, 4116880; 609256, 4116873; 609228, 4116889; 609205, 4116873; 609163, 4116848; 609131, 4116849; 609102, 4116863; 609061, 4116836; 609011, 4116841; 608843, 4116838; 608804, 4116864; 608758, 4116878; 608714, 4116867; 608672, 4116827; 608625, 4116899; 608542, 4116933; 608489, 4117019; 608426, 4117079; 608382, 4117115; 608343, 4117134; 608305, 4117136; 608259, 4117127; 608216, 4117129; 608210, 4117170; 608197, 4117192; 608138, 4117197; 608062, 4117234; 608020, 4117241; 607997, 4117227; 607959, 4117228; 607963, 4117262; 607941, 4117301; 607896, 4117334; 607909, 4117377; 608067, 4117348; 608170, 4117343; 608289, 4117332; 608298, 4117392; 608239, 4117418; 608166, 4117436; 608066, 4117450; 608012, 4117453; 607942, 4117507; 607907, 4117572; 607938, 4117605; 607924, 4117642; 607848, 4117626; 607678, 4117759; 607397, 4117766; 607129, 4117689; 606990, 4117599; 606767, 4117931; 606643, 4118119; 606701, 4118302; 606742, 4118358; 606828, 4118289; 606858, 4118323; 606693, 4118461; 606644, 4118391; 606609, 4118328; 606542, 4118254; 606425, 4118183; 606179, 4118078; 605438, 4118128; 605263, 4118203; 605074, 4118293; 604975, 4118365; 605178, 4118600; 604548, 4118947; 604625, 4119145; 604788, 4119569; 604936, 4119955; 604817, 4119974; 604817, 4120089; 604555, 4120119; 604414, 4120139; 604283, 4120149; 604549, 4120858; 604561, 4120889; 604564, 4120912; 604561, 4120952; 604572, 4120972; 604606, 4120977; 604622, 4120963; 604624, 4120946; 604628, 4120920; 604645, 4120904; 604680, 4120899; 604729, 4120910; 604729, 4120867; 604787, 4120831; 604810, 4120814; 604844, 4120783; 604890, 4120765; 604924, 4120799; 604948, 4120835; 604970, 4120831; 604986, 4120786; 605003, 4120742; 605064, 4120714; 605093, 4120722; 605132, 4120760; 605163, 4120770; 605185, 4120744; 605219, 4120689; 605272, 4120656; 605329, 4120668; 605395, 4120706; 605405, 4120671; 605424, 4120642; 605452, 4120646; 605473, 4120657; 605509, 4120656; 605548, 4120664; 605588, 4120656; 605614, 4120682; 605643, 4120689; 605647, 4120649; 605679, 4120645; 605711, 4120633; 605746, 4120610; 605728, 4120571; 605712, 4120545; 605685, 4120526; 605653, 4120525; 605613, 4120522; 605608, 4120506; 605619, 4120496; 605645, 4120487; 605709, 4120480; 605729, 4120443; 605749, 4120426; 605775, 4120431; 605792, 4120456; 605809, 4120473; 605836, 4120498; 605864, 4120508; 605879, 4120512; 605904, 4120506; 605928, 4120490; 605945, 4120465; 605949, 4120449; 605945, 4120432; 605953, 4120401; 605971, 4120390; 606001, 4120399; 606040, 4120411; 606076, 4120422; 606105, 4120433; 606133, 4120448; 606158, 4120474; 606200, 4120494; 606241, 4120516; 606272, 4120540; 606310, 4120548; 606353, 4120567; 606378, 4120587; 606394, 4120604; 606407, 4120596; 606422, 4120586; 606474, 4120580; 606521, 4120577; 606553, 4120566; 606589, 4120544; 606625, 4120524; 606653, 4120496; 606653, 4120520; 606626, 4120579; 606625, 4120607; 606650, 4120613; 606703, 4120612; 606736, 4120611; 606751, 4120586; 606748, 4120556; 606762, 4120552; 606804, 4120566; 606861, 4120594; 606917, 4120615; 606968, 4120624; 607030, 4120627; 607084, 4120614; 607139, 4120594; 607197, 4120614; 607194, 4120598; 607195, 4120569; 607195, 4120549; 607188, 4120521; 607174, 4120507; 607179, 4120472; 607191, 4120455; 607214, 4120443; 607247, 4120427; 607277, 4120408; 607280, 4120373; 607298, 4120340; 607305, 4120307; 607332,

4120290; 607364, 4120276; 607395, 4120272; 607414, 4120266; 607434, 4120261; 607453, 4120267; 607461, 4120254; 607462, 4120237; 607458, 4120220; 607449, 4120201; 607437, 4120184; 607421, 4120162; 607397, 4120136; 607370, 4120088; 607327, 4120023; 607297, 4119983; 607182, 4119926; 607113, 4119874; 607064, 4119832; 607020, 4119802; 606938, 4119784; 606848, 4119768; 606800, 4119732; 606822, 4119719; 606891, 4119713; 606982, 4119681; 607021, 4119632; 607033, 4119550; 607049, 4119507; 607064, 4119439; 607068, 4119404; 607099, 4119389; 607118, 4119342; 607152, 4119323; 607181, 4119286; 607199, 4119244; 607188, 4119204; 607145, 4119123; 607167, 4119087; 607256, 4119070; 607355, 4119123; 607619, 4119104; 607673, 4119099; 607702, 4119117; 607733, 4119120; 607774, 4119125; 607775, 4119165; 607814, 4119200; 607861, 4119222; 607909, 4119212; 607985, 4119188; 608024, 4119217; 607998, 4119236; 608004, 4119270; 608048, 4119275; 608100, 4119228; 608157, 4119228; 608207, 4119263; 608269, 4119268; 608314, 4119280; 608363, 4119287; 608409, 4119297; 608425, 4119321; returning to 608447, 4119332.

(ii) NOTE: Unit 7 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(13) Unit 8: Calero Reservoir, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 605493, 4116867; 605661, 4116896; 605718, 4116853; 605799, 4116844; 605856, 4116923; 605938, 4116906; 606045, 4116752; 606122, 4116520; 606156, 4116383; 606165, 4116288; 606051, 4116182; 606069, 4116127; 606132, 4116039; 606177, 4116025; 606230, 4116083; 606269, 4115997; 606336, 4116015; 606337, 4115938; 606300, 4115931; 606262, 4115861; 606326, 4115838; 606387, 4115849; 606433, 4115829; 606519, 4115734; 606574, 4115740; 606867, 4115901; 606937, 4115907; 606994, 4115890; 607043, 4115856; 607081, 4115818; 607068, 4115755; 607090, 4115693; 607144, 4115664; 607241, 4115643; 607290, 4115588; 607342, 4115554; 607159, 4115391; 607119, 4115368; 607073, 4115389; 607047, 4115495; 606903, 4115584; 606837, 4115586; 606861, 4115560; 606919, 4115549; 606944, 4115530; 606950, 4115482; 606978, 4115469; 606996, 4115393; 606975, 4115370; 606902, 4115402; 606901, 4115371; 606921, 4115339; 606904, 4115306; 606880, 4115337; 606861, 4115296; 606876, 4115251; 606935, 4115241; 606958, 4115263; 606986, 4115195; 607026, 4115199; 607027, 4115255; 607060, 4115266; 607082, 4115207; 607089, 4115149; 607179, 4115149; 607266, 4115115; 607415, 4115156; 607464, 4115136; 607555, 4115164; 607716, 4115136; 607712, 4115003; 607657, 4114850; 607604, 4114753; 607518, 4114686; 607611, 4114702; 607791, 4114919; 607826, 4114984; 607808, 4115366; 607972, 4115293; 608186, 4115186; 608470, 4115055; 608850, 4114830; 608992, 4114854; 609129, 4114812; 609117, 4115020; 608880, 4115233; 608512, 4115397; 608059, 4115492; 608029, 4115644; 607959, 4115592; 607880, 4115595; 607966, 4115726; 608052, 4115817; 608155, 4115878; 608258, 4115908; 608358, 4115910; 608437, 4115938; 608556, 4115906; 608545, 4115971; 608608, 4115990; 608682, 4115957; 608750, 4115901; 608776, 4115906; 608815, 4115934; 608892, 4115927; 608946, 4115873; 608948, 4115826; 608906, 4115731; 608967, 4115710; 609032, 4115647; 609481, 4115100; 609477, 4115025; 609577, 4114951; 609821, 4114856; 609866, 4114711; 609880, 4114582; 610030, 4114486; 610081, 4114398; 610120, 4114330; 610159, 4114322; 610155, 4114287; 610124, 4114240; 610287, 4114038; 610327, 4113965; 610319, 4113865; 610257, 4113742; 610202, 4113705; 610079, 4113729; 609993, 4113754; 609891, 4113813; 609798, 4113845; 609735, 4113885; 609737, 4113963; 609663, 4114035; 609563, 4114088; 609524, 4114248; 609455, 4114356; 609212, 4114403; 609004, 4114676; 608945, 4114439; 608774, 4114422; 608635, 4114302; 608547, 4114164; 608453, 4113729; 608135, 4113470; 608079, 4113433; 608043, 4113356; 608038, 4113230; 608012, 4113254; 607980, 4113238; 607947, 4113270; 607907, 4113243; 607855, 4113282; 607814, 4113362; 607802, 4113545; 607694, 4113606; 607526, 4113700; 607691, 4113754; 607691, 4114069; 607465, 4114176; 607326, 4114660; 606930, 4114755; 606709, 4114597; 606401, 4114641; 606250, 4114805; 605916, 4114924; 605715, 4115195; 605293, 4115604; 605224, 4115604; 605180, 4115755; 605224, 4115869; 605035, 4116101; 605042, 4116215; 605067, 4116309; 605123, 4116366; 605229, 4116454; 605338, 4116598; 605387, 4116705; returning to 605493, 4116867.

(ii) NOTE: Unit 8 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(14) Unit 9: Kalana Hills, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Subunit 9A: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 612463, 4115364; 612548, 4115283; 612611, 4115228; 612581, 4115190; 612560, 4115157; 612725, 4114962; 612697, 4114924; 612640, 4114916; 612512, 4114806; 612469, 4114770; 612456, 4114706; 612331, 4114635; 612276, 4114621; 612159, 4114668; 612036, 4114796; 611975, 4114842; 611928, 4114901; 611857, 4114927; 611811, 4114924; 611806, 4115198; 611735, 4115382; 611703, 4115487; 611772, 4115526; 611741, 4115600; 611742, returning to 4115605; 612028, 4115820; returning to 612463, 4115364.

(ii) Subunit 9B: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 613292, 4114458; 613477, 4114328; 613645, 4114236; 613859, 4114112; 613800, 4114081; 613704, 4114080; 613628, 4114115; 613571, 4114099; 613525, 4114035; 613464, 4114059; 613430, 4114072; 613389, 4114098; 613269, 4114176; 613135, 4114270; 613043, 4114292; 612952, 4114245; 612882, 4114296; 612769, 4114341; 612771, 4114386; 612807, 4114455; 612779, 4114504; 612761, 4114557; 612827, 4114609; 612910, 4114621; 613020, 4114550; 613029, 4114509; 612967, 4114492; 612953, 4114422; 612990, 4114368; 613090, 4114360; 613112, 4114463; 613178, 4114499; returning to 613292, 4114458;

(iii) NOTE: Unit 9 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(15) Unit 10: Hale, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Unit 10: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 617448, 4111989; 617422, 4111978; 617343, 4111978;

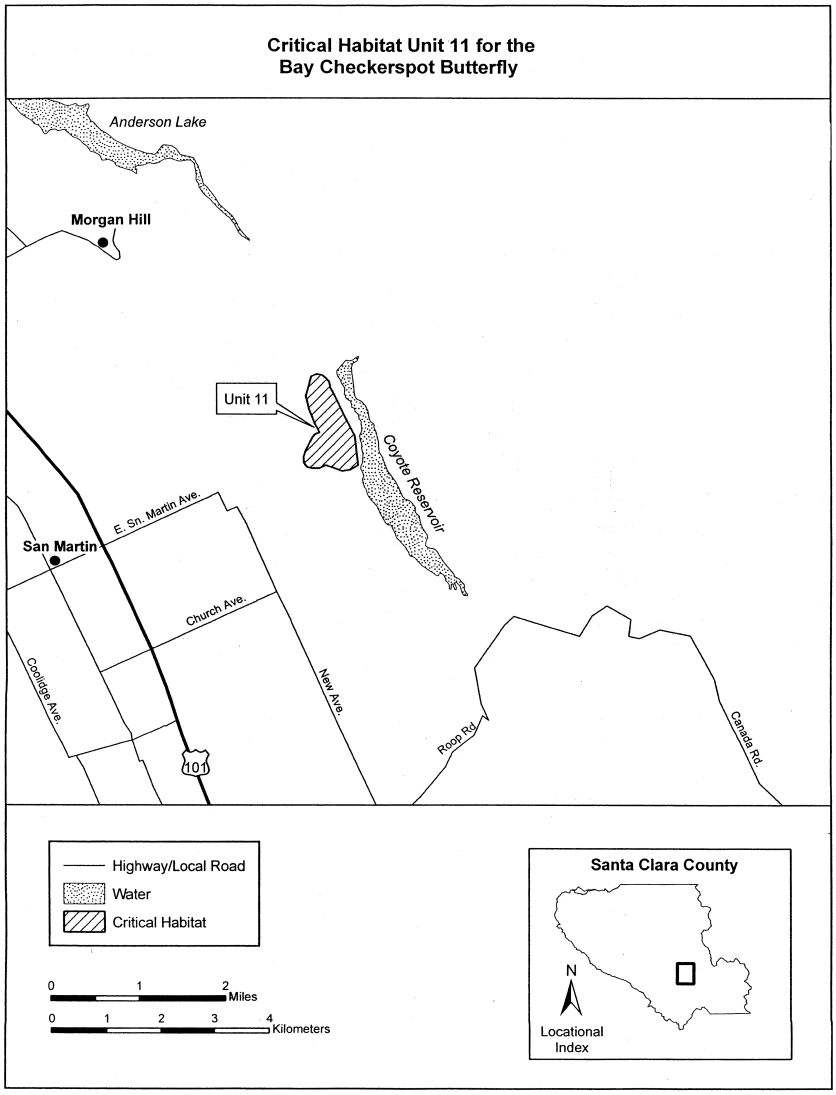
617295, 4111947; 617252, 4111862; 617269, 4111828; 617405, 4111774; 617445, 4111797; 617501, 4111797; 617512, 4111746; 617589, 4111729; 617733, 4111766; 618083, 4111853; 618116, 4111766; 618023, 4111705; 617936, 4111647; 617899, 4111684; 617764, 4111596; 617933, 4111368; 617964, 4111303; 617953, 4111188; 617891, 4111138; 617937, 4111083; 617919, 4111040; 617865, 4111014; 617798, 4111069; 617586, 4110876; 617618, 4110838; 617504, 4110738; 617459, 4110704; 617380, 4110673; 617197, 4110835; 617009, 4111119; 616981, 4111133; 616936, 4111110; 616925, 4111147; 616908, 4111187; 616885, 4111204; 616843, 4111232; 616817, 4111274; 616809, 4111303; 616781, 4111297; 616758, 4111257; 616724, 4111221; 616713, 4111159; 616744, 4111088; 616724, 4111060; 616730, 4111037; 616789, 4110983; 616702, 4110933; 616668, 4110952; 616620, 4110952; 616611, 4110901; 616436, 4111062; 616394, 4111037; 616410, 4110989; 616472, 4110988; 616532, 4110930; 616523, 4110872; 616555, 4110831; 616077, 4110537; 616073, 4110327; 615914, 4110402; 615846, 4110431; 615912, 4110524; 615761, 4110576; 615745, 4110646; 615715, 4110728; 615645, 4110790; 615684, 4110906; 615779, 4110867; 615779, 4110825; 615918, 4110725; 616038, 4110856; 615936, 4110930; 615947, 4111077; 615894, 4111105; 615830, 4111216; 615902, 4111306; 615866, 4111429; 615933, 4111449; 616044, 4111449; 616147, 4111428; 616225, 4111410; 616275, 4111430; 616313, 4111483; 616368, 4111489; 616399, 4111520; 616394, 4111579; 616380, 4111625; 616430, 4111650; 616484, 4111622; 616498, 4111585; 616555, 4111562; 616671, 4111591; 616659, 4111653; 616685, 4111715; 616741, 4111780; 616846, 4111829; 616677, 4112120; 616760, 4112261; 616792, 4112343; 617011, 4112356; 617160, 4112394; 617286, 4112306; 617433, 4112045; returning to 617448, 4111989 .

(ii) NOTE: Unit 10 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(16) Unit 11: Bear Ranch, Santa Clara County, California. From USGS 1:24,000 scale quadrangle Gilroy.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 628304, 4108774; 628402, 4108819; 628507, 4108797; 628590, 4108729; 628635, 4108675; 628659, 4108564; 628747, 4108397; 628931, 4108012; 629104, 4107674; 629171, 4107133; 629022, 4107043; 628875, 4107022; 628732, 4107075; 628575, 4107128; 628449, 4107072; 628322, 4107074; 628234, 4107094; 628173, 4107173; 628166, 4107286; 628210, 4107426; 628327, 4107650; 628375, 4107703; 628458, 4107736; 628368, 4107898; 628263, 4108172; 628208, 4108414; returning to 628304, 4108774.

(ii) NOTE: Map of Unit 11 for Bay checkerspot butterfly follows:

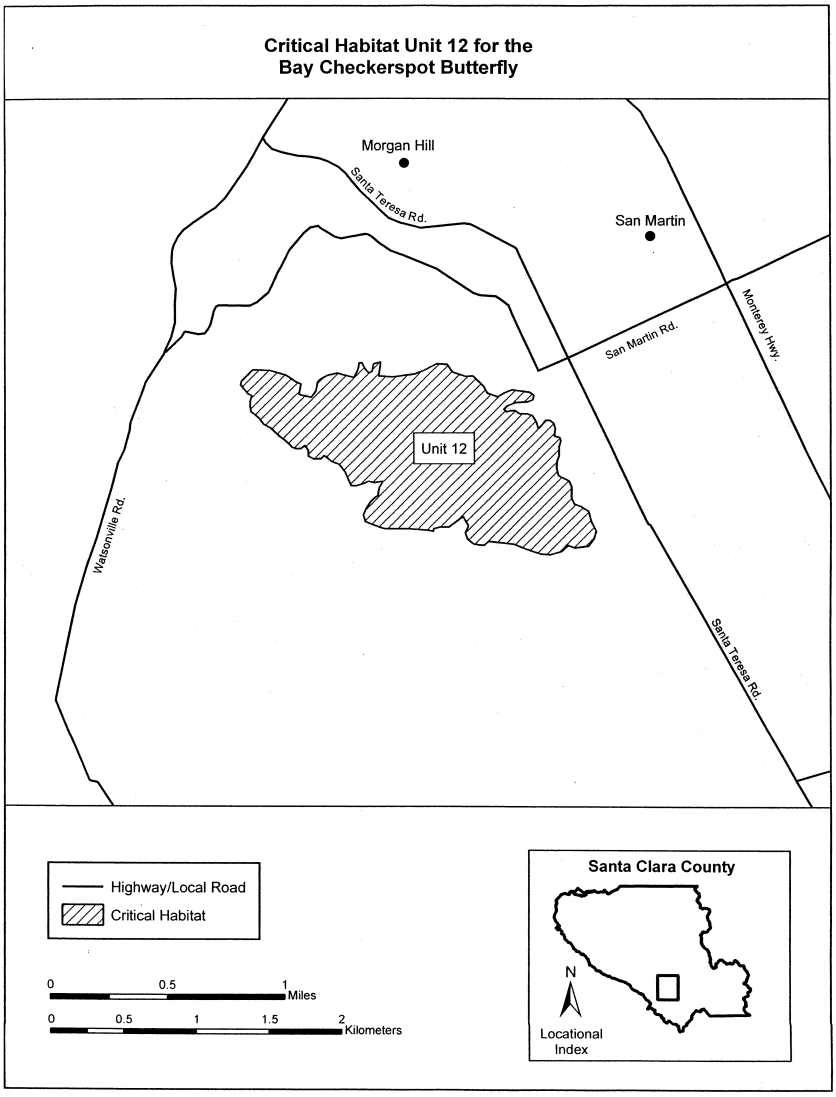


(17) Unit 12: San Martin, Santa Clara County, California. From USGS 1:24,000 scale quadrangles Mt. Madonna and Gilroy.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 622150, 4104262; 622178, 4104216; 622192, 4104170; 622217, 4104195; 622241, 4104226; 622274, 4104226; 622296, 4104208; 622309, 4104171; 622302, 4104120; 622340, 4104110; 622347, 4104088; 622336, 4104047; 622334, 4103984; 622320, 4103948; 622317, 4103898; 622330, 4103845; 622404, 4103809; 622421, 4103769; 622421, 4103689; 622441, 4103649; 622487, 4103631; 622538, 4103599; 622557, 4103529; 622591, 4103461; 622575, 4103406; 622538, 4103358; 622441, 4103346; 622399, 4103363; 622352, 4103322; 622274, 4103300; 622206, 4103304; 622098, 4103341; 622020, 4103370; 621920, 4103382; 621843, 4103390; 621812, 4103362; 621779, 4103365; 621739, 4103372; 621700, 4103404; 621682, 4103449; 621705, 4103496; 621667, 4103560; 621569, 4103489; 621509, 4103489; 621463, 4103477; 621464, 4103459; 621411, 4103467; 621348, 4103472; 621288, 4103477; 621223, 4103476; 621183, 4103476; 621127, 4103476; 621079, 4103490; 621030, 4103508; 620988, 4103525; 620973, 4103571; 620996, 4103623; 621025,

4103666; 621055, 4103695; 621076, 4103707; 621079, 4103733; 621087, 4103764; 621112, 4103805; 621046, 4103796; 621009, 4103805; 620979, 4103791; 620922, 4103774; 620887, 4103775; 620871, 4103811; 620845, 4103873; 620806, 4103922; 620751, 4103944; 620702, 4103984; 620679, 4103961; 620627, 4103961; 620593, 4103979; 620591, 4104020; 620568, 4104053; 620542, 4104032; 620509, 4104030; 620482, 4104039; 620450, 4104073; 620393, 4104116; 620330, 4104174; 620283, 4104200; 620255, 4104240; 620230, 4104262; 620197, 4104288; 620191, 4104325; 620193, 4104362; 620203, 4104399; 620176, 4104412; 620126, 4104472; 620132, 4104499; 620211, 4104578; 620245, 4104578; 620329, 4104574; 620440, 4104541; 620510, 4104492; 620543, 4104480; 620529, 4104405; 620612, 4104386; 620646, 4104431; 620657, 4104489; 620672, 4104509; 620728, 4104541; 620794, 4104556; 620852, 4104539; 620909, 4104525; 620931, 4104568; 620942, 4104598; 620946, 4104627; 620968, 4104627; 620988, 4104586; 621013, 4104556; 621034, 4104566; 621046, 4104621; 621098, 4104634; 621083, 4104537; 621176, 4104528; 621262, 4104540; 621334, 4104549; 621398, 4104575; 621488, 4104622; 621559, 4104617; 621598, 4104563; 621688, 4104533; 621739, 4104536; 621811, 4104464; 621836, 4104417; 621908, 4104391; 621951, 4104417; 622007, 4104440; 622132, 4104423; 622160, 4104403; 622153, 4104371; 622118, 4104356; 622033, 4104350; 622004, 4104340; 621974, 4104326; 621951, 4104304; 621969, 4104286; 621996, 4104293; 622032, 4104294; 622060, 4104274; 622115, 4104272; returning to 622150, 4104262.

(ii) NOTE: Map of Unit 12 for Bay checkerspot butterfly follows:



(18) Unit 13: Kirby, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 614073, 4122412; 613927, 4122313; 613818, 4122194; 613722, 4121982; 613609, 4121926; 613463, 4121895; 613322, 4121923; 613199, 4122005; 613063, 4121982; 612938, 4122012; 612845, 4121942; 612809, 4121823; 612723, 4121727; 612574, 4121711; 612435, 4121734; 612295, 4121716; 612154, 4121723; 612079, 4121699; 612017, 4121720; 611996, 4121655; 611902, 4121653; 611790, 4121695; 611662, 4121642; 611579, 4121554; 611512, 4121447; 611422, 4121445; 611365, 4121419; 611310, 4121420; 611247, 4121377; 610975, 4121590; 610770, 4121774; 610611, 4121899; 610472, 4122085; 610310, 4122006; 610106, 4122145; 610077, 4122227; 610126, 4122316; 610217, 4122395; 610179, 4122447; 610133, 4122430; 610089, 4122512; 610125, 4122559; 610156, 4122607; 610157, 4122653; 610128, 4122660; 610058, 4122641; 610016, 4122607; 609977, 4122674; 610091, 4122763; 610187, 4122847; 610220, 4122921; 610249, 4122977; 610374, 4123102; 610254, 4123181; 610015,

4123335; 609613, 4123583; 609641, 4123630; 609399, 4123790; 609324, 4123843; 609182, 4124041; 608934, 4123924; 608736, 4124027; 608538, 4124145; 608423, 4124256; 608167, 4124471; 608065, 4124633; 608059, 4124666; 607803, 4124871; 607677, 4124973; 607615, 4125109; 607637, 4125224; 607756, 4125351; 607593, 4125474; 607351, 4125490; 607272, 4125663; 607018, 4125820; 606980, 4125845; 606948, 4125876; 606896, 4125972; 606890, 4125996; 606845, 4125998; 606796, 4126045; 606753, 4126055; 606663, 4126127; 606595, 4126178; 606463, 4126353; 606314, 4126287; 606282, 4126331; 606153, 4126428; 605939, 4126505; 605841, 4126533; 605785, 4126693; 605832, 4126844; 605701, 4126851; 605621, 4127118; 605715, 4127161; 605847, 4127159; 605992, 4127130; 606076, 4127058; 606215, 4127099; 606422, 4127010; 606465, 4126897; 606699, 4126796; 606886, 4126695; 607019, 4126736; 607190, 4126796; 607356, 4126935; 607437, 4127065; 607306, 4127251; 607149, 4127421; 607062, 4127440; 606910, 4127537; 606714, 4127727; 606521, 4127943; 606345, 4128015; 606227, 4128006; 606179, 4127924; 606131, 4127779; 606097, 4127827; 606067, 4127868; 605982, 4127883; 605953, 4128027; 605857, 4127996; 605761, 4128001; 605703, 4128063; 605662, 4128160; 605702, 4128211; 605770, 4128251; 605842, 4128289; 605912, 4128287; 605946, 4128220; 605992, 4128138; 606059, 4128152; 606148, 4128174; 606210, 4128152; 606324, 4128056; 606410, 4128049; 606321, 4128171; 606343, 4128210; 606614, 4128290; 606611, 4128519; 606706, 4128535; 606802, 4128525; 607015, 4128424; 607079, 4128412; 607069, 4128316; 607125, 4128227; 607190, 4128215; 607202, 4128263; 607252, 4128252; 606865, 4127849; 607067, 4127789; 607267, 4127710; 607475, 4127729; 607713, 4127722; 607817, 4127626; 607733, 4127426; 607803, 4127314; 607825, 4127248; 607762, 4127173; 607740, 4127113; 607808, 4127063; 607894, 4127046; 608043, 4127019; 608116, 4126921; 608123, 4126707; 608000, 4126634; 607880, 4126543; 607769, 4126507; 607654, 4126497; 607668, 4126413; 607779, 4126408; 607805, 4126324; 608058, 4126129; 608255, 4125992; 608610, 4125722; 608893, 4125417; 609482, 4125417; 609838, 4125398; 610196, 4125396; 610302, 4125557; 610370, 4125506; 610487, 4125492; 610584, 4125439; 610692, 4125442; 610769, 4125405; 610827, 4125316; 610877, 4125249; 610937, 4125251; 610947, 4125345; 610759, 4125562; 610815, 4125701; 610858, 4125797; 610945, 4125841; 611101, 4125858; 611199, 4125833; 611308, 4125853; 611356, 4125884; 611424, 4125805; 611461, 4125744; 611542, 4125723; 611602, 4125671; 611673, 4125610; 611808, 4125456; 611970, 4125331; 612147, 4125249; 612322, 4125103; 612539, 4124931; 612515, 4124823; 612590, 4124756; 612648, 4124664; 612753, 4124575; 612773, 4124506; 612879, 4124335; 612972, 4124219; 613073, 4124178; 613129, 4124085; 613251, 4123917; 613206, 4123339; 613193, 4122893; 613280, 4122832; 613351, 4122715; 613426, 4122657; 613489, 4122657; 613563, 4122662; 613669, 4122607; 613741, 4122596; 614073, 4122412.

(ii) NOTE: Unit 13 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

FENDER'S BLUE BUTTERFLY (*Icaricia icarioides fenderi*)

(1) Critical habitat units are depicted for Benton, Lane, Polk, and Yamhill Counties, Oregon, on the maps below.

(2) The primary constituent elements of critical habitat for Fender's blue butterfly are the habitat components that provide:

(i) Early seral upland prairie, wet prairie, or oak savanna habitat with a mosaic of low-growing grasses and forbs, an absence of dense canopy vegetation, and undisturbed subsoils;

(ii) Larval host-plants *Lupinus sulphureus* ssp. *kincaidii*, *L. arbustus*, or *L. albicaulis;*

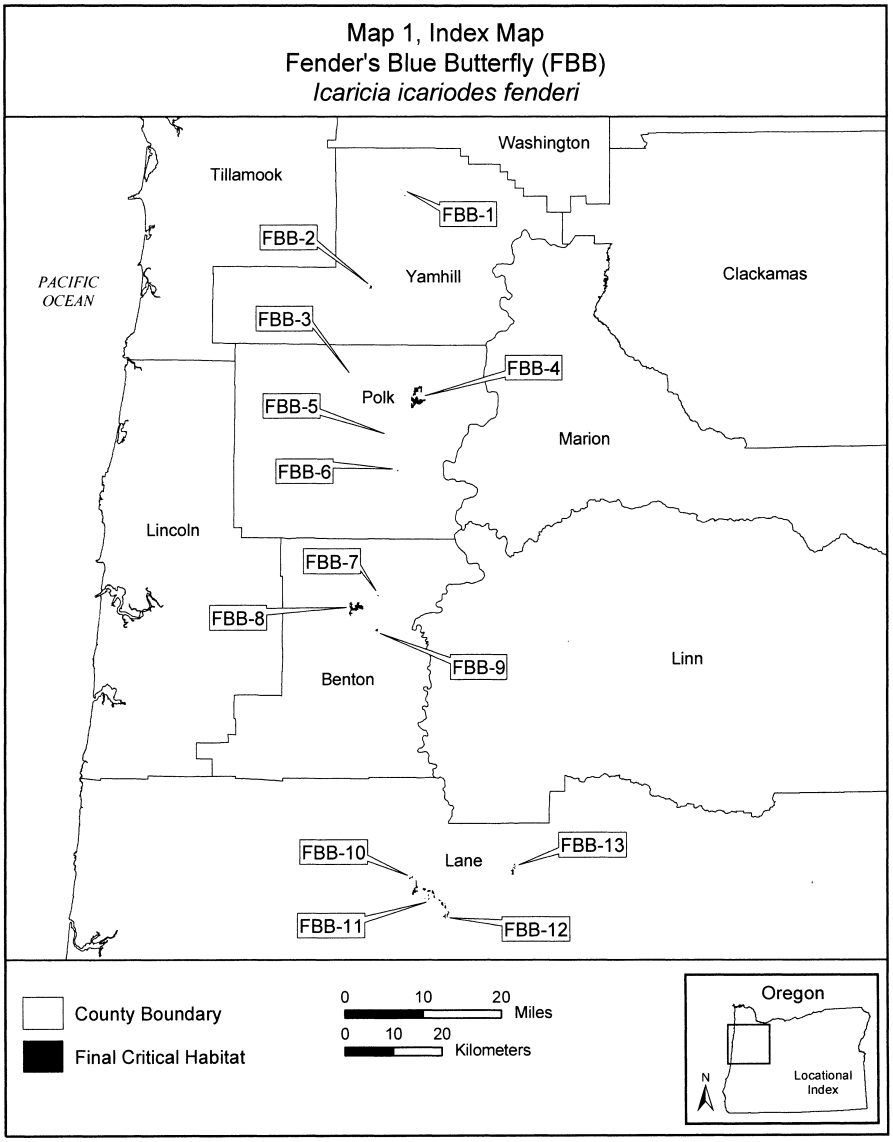
(iii) Adult nectar sources, such as: *Allium acuminatum* (tapertip onion), *Allium amplectens* (narrowleaf onion), *Calochortus tolmiei* (Tolmie's mariposa lilly), *Camassia quamash* (small camas), *Cryptantha intermedia* (clearwater cryptantha), *Eriophyllum lanatum* (wooly sunflower), *Geranium oreganum* (Oregon geranium), *Iris tenax* (toughleaf iris), *Linum angustifolium* (pale flax), *Linum perenne* (blue flax), *Sidalcea campestris* (Meadow checkermallow), *Sidalcea virgata* (rose checker-mallow), *Vicia cracca* (bird vetch), *V. sativa* (common vetch), and *V. hirsute* (tiny vetch);

(iv) Stepping-stone habitat consisting of undeveloped open areas with the physical characteristics appropriate for supporting the short-stature prairie oak savanna plant community (well-drained soils), within ~1.2 miles (~2 km) of natal lupine patches.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, roads, and other paved areas, and the land on which such structures are located) existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) *Critical Habitat Map Units*. Data layers defining map units were created using USGS 24,000 scale Digital Ortho Quads captured in 2000. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 1983 coordinates.

(5) NOTE: Map 1 (Index map for Fender's blue butterfly) follows:



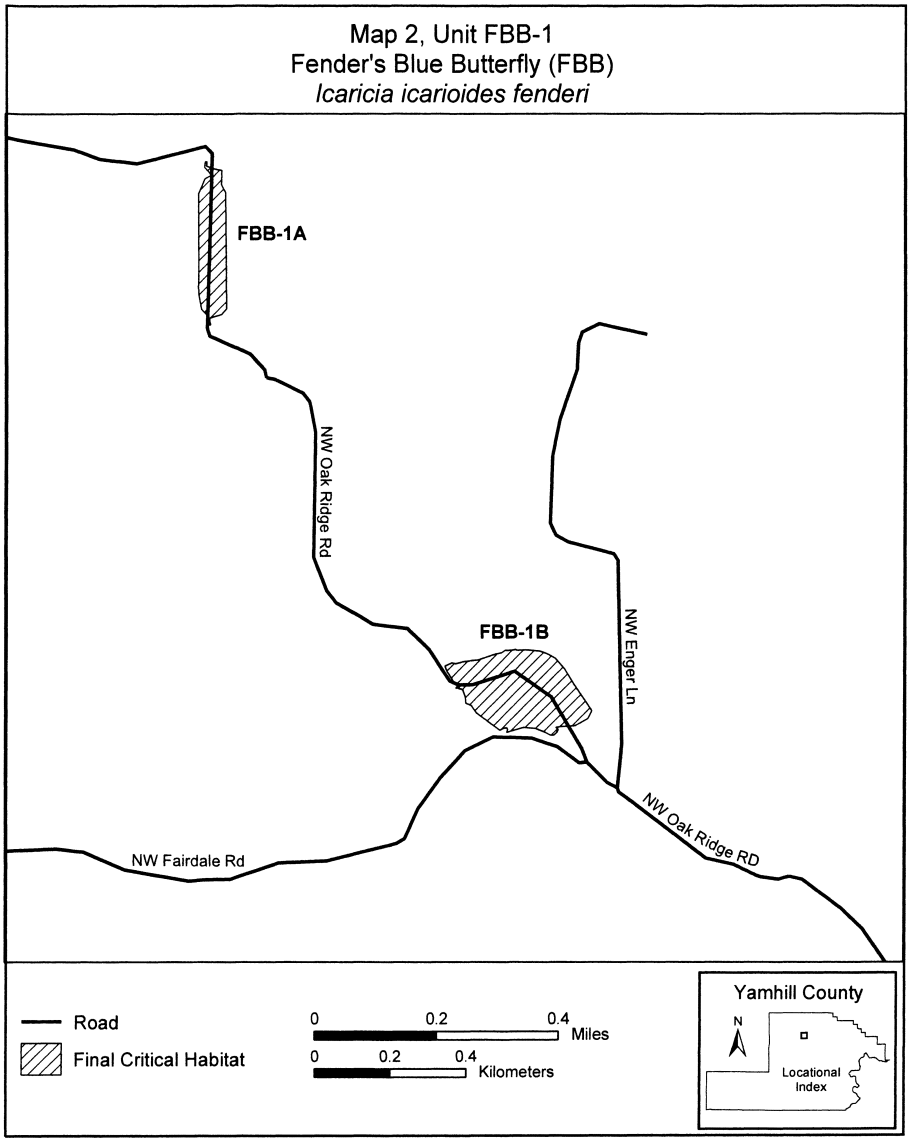
(6) Unit 1 for Fender's blue butterfly (FBB–1), Yamhill County, Oregon.

(i) Unit 1A (FBB–1A): 477069, 5022493; 477070, 5022487; 477067, 5022487; 477065, 5022493; 477063, 5022498; 477063, 5022510; 477046, 5022526; 477039, 5022566; 477039, 5022576; 477038, 5022585; 477039, 5022591; 477039, 5022824; 477055, 5022862; 477073, 5022873; 477056, 5022893; 477056, 5022901; 477057, 5022907; 477061, 5022907; 477060, 5022896; 477081, 5022888; 477101, 5022884; 477099, 5022848; 477110, 5022829; 477111, 5022528; 477098, 5022513; 477069, 5022504; 477067, 5022498; 477069, 5022493.

(ii) Unit 1B (FBB–1B): 477876, 5021643; 477881, 5021641; 477902, 5021642; 477941, 5021640; 477957, 5021634; 477983, 5021620; 478008, 5021592; 478031, 5021554; 478078, 5021484; 478068, 5021464; 478035, 5021445; 477996, 5021442; 477983, 5021440; 477989, 5021435; 477986, 5021427; 477979, 5021419; 477968, 5021420; 477956, 5021427; 477931, 5021437; 477898, 5021440; 477878, 5021434; 477854, 5021427; 477857,

5021435; 477855, 5021439; 477846, 5021438; 477836, 5021433; 477812, 5021449; 477790, 5021465; 477773, 5021478; 477759, 5021499; 477745, 5021504; 477743, 5021519; 477744, 5021519; 477737, 5021537; 477732, 5021541; 477731, 5021541; 477731, 5021541; 477731, 5021541; 477731, 5021541; 477730, 5021541; 477730, 5021541; 477729, 5021541; 477727, 5021541; 477727, 5021541; 477727, 5021541; 477727, 5021541; 477727, 5021541; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477726, 5021542; 477725, 5021543; 477724, 5021543; 477724, 5021543; 477724, 5021543; 477724, 5021543; 477723, 5021543; 477723, 5021543; 477723, 5021543; 477723, 5021543; 477722, 5021543; 477722, 5021544; 477721, 5021544; 477720, 5021543; 477720, 5021543; 477720, 5021543; 477720, 5021543; 477720, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477719, 5021543; 477718, 5021543; 477718, 5021543; 477718, 5021543; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021544; 477718, 5021545; 477718, 5021545; 477718, 5021545; 477718, 5021545; 477718, 5021545; 477718, 5021545; 477718, 5021545; 477719, 5021545; 477719, 5021545; 477719, 5021545; 477719, 5021545; 477719, 5021545; 477719, 5021545; 477719, 5021545; 477719, 5021545; 477720, 5021545; 477720, 5021545; 477720, 5021545; 477721, 5021546; 477721, 5021546; 477721, 5021546; 477721, 5021546; 477721, 5021546; 477721, 5021546; 477721, 5021546; 477722, 5021546; 477722, 5021546; 477722, 5021546; 477722, 5021546; 477722, 5021546; 477723, 5021545; 477723, 5021545; 477723, 5021545; 477723, 5021545; 477723, 5021545; 477723, 5021545; 477724, 5021545; 477725, 5021544; 477725, 5021544; 477725, 5021544; 477725, 5021544; 477726, 5021544; 477726, 5021544; 477726, 5021544; 477726, 5021544; 477726, 5021544; 477726, 5021544; 477727, 5021543; 477728, 5021543; 477729, 5021543; 477715, 5021554; 477698, 5021582; 477695, 5021586; 477695, 5021589; 477690, 5021600; 477691, 5021601; 477707, 5021609; 477719, 5021607; 477739, 5021612; 477777, 5021616; 477823, 5021631; 477839, 5021635; 477849, 5021641; 477867, 5021641; 477876, 5021643.

(iii) NOTE: Map 2 (Unit 1 for Fender's blue butterfly (FBB–1)) follows:

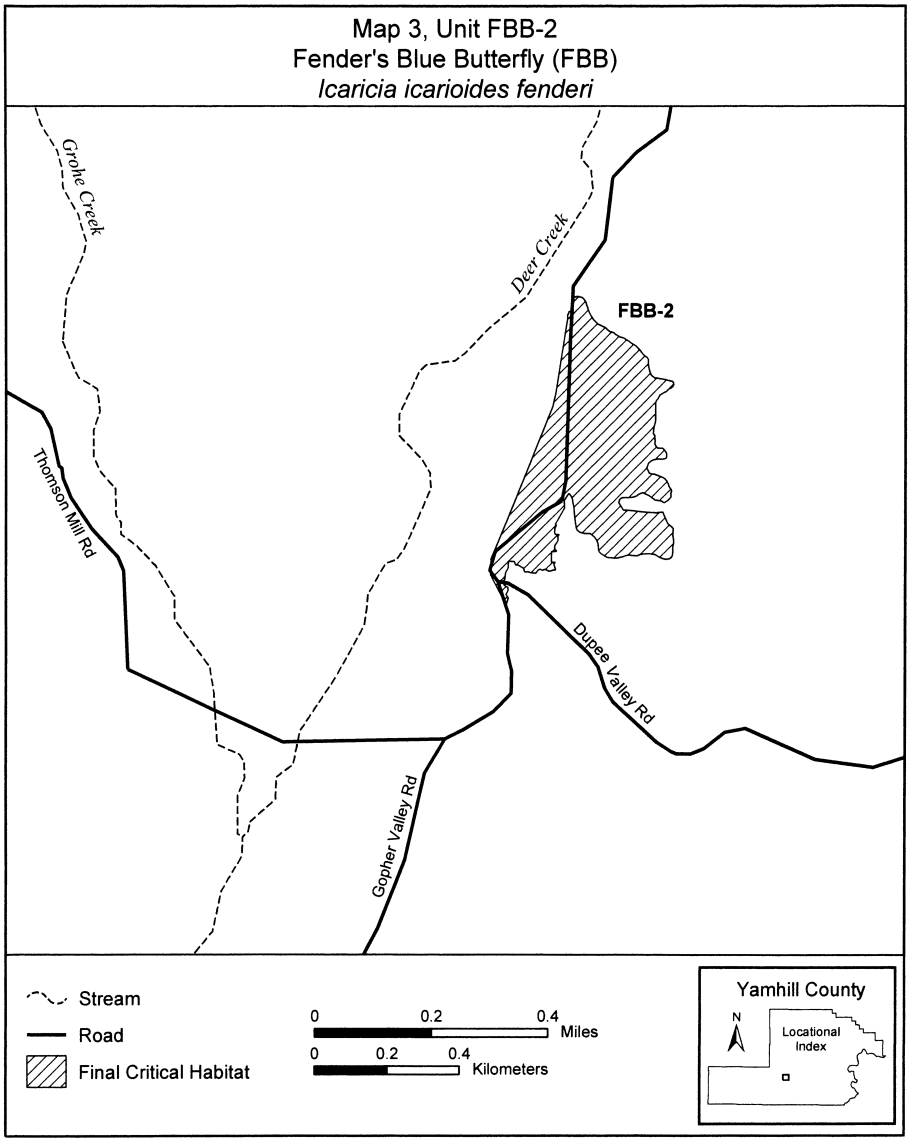


(7) Unit 2 for Fender's blue butterfly (FBB–2), Yamhill County, Oregon.

(i) Unit 2 (FBB–2): 470959, 5003231; 470965, 5003226; 470972, 5003226; 470984, 5003224; 470992, 5003223; 471004, 5003220; 471012, 5003218; 471016, 5003215; 471018, 5003209; 471014, 5003202; 471011, 5003200; 471006, 5003198; 470998, 5003191; 470991, 5003187; 470988, 5003186; 470981, 5003180; 470977, 5003176; 470973, 5003168; 470970, 5003165; 470968, 5003159; 470968, 5003151; 470968, 5003132; 470968, 5003123; 470967, 5003109; 470965, 5003099; 470962, 5003090; 470961, 5003075; 470965, 5003070; 470966, 5003065; 470967, 5003055; 470965, 5003048; 470969, 5003041; 470974, 5003036; 470979, 5003036; 470984, 5003035; 470986, 5003035; 470990, 5003032; 470995, 5003027; 470998, 5003022; 470998, 5003015; 470998, 5003010; 470994, 5003007; 470988, 5003006; 470977, 5003006; 470973, 5003006; 470963, 5003004; 470957, 5003001; 470949, 5002996; 470947, 5002994; 470945, 5002987; 470944, 5002981; 470946, 5002976; 470949,

5002967; 470958, 5002964; 470965, 5002964; 470973, 5002962; 470981, 5002958; 470988, 5002955; 470994, 5002951; 470999, 5002946; 471004, 5002937; 471005, 5002932; 471010, 5002924; 471012, 5002918; 471010, 5002913; 471011, 5002902; 471003, 5002893; 470992, 5002886; 470982, 5002892; 470966, 5002893; 470956, 5002901; 470945, 5002909; 470932, 5002914; 470925, 5002911; 470914, 5002904; 470905, 5002901; 470893, 5002900; 470876, 5002901; 470868, 5002895; 470867, 5002887; 470879, 5002867; 470888, 5002866; 470935, 5002861; 470970, 5002859; 470988, 5002861; 470991, 5002853; 470998, 5002837; 471002, 5002828; 471012, 5002821; 471016, 5002816; 471015, 5002796; 471017, 5002785; 471017, 5002776; 471016, 5002766; 471015, 5002751; 471014, 5002740; 471012, 5002737; 471008, 5002734; 470998, 5002731; 470988, 5002734; 470981, 5002737; 470975, 5002739; 470967, 5002744; 470959, 5002745; 470951, 5002747; 470943, 5002747; 470929, 5002745; 470924, 5002744; 470917, 5002740; 470908, 5002741; 470894, 5002743; 470884, 5002741; 470878, 5002739; 470871, 5002737; 470865, 5002735; 470861, 5002735; 470853, 5002735; 470843, 5002736; 470834, 5002737; 470826, 5002742; 470819, 5002745; 470814, 5002751; 470811, 5002758; 470811, 5002764; 470809, 5002774; 470805, 5002784; 470801, 5002791; 470797, 5002795; 470787, 5002802; 470780, 5002802; 470772, 5002802; 470760, 5002805; 470752, 5002811; 470750, 5002818; 470747, 5002830; 470746, 5002840; 470744, 5002861; 470743, 5002874; 470740, 5002886; 470738, 5002896; 470735, 5002904; 470731, 5002910; 470729, 5002911; 470716, 5002892; 470717, 5002872; 470704, 5002848; 470692, 5002827; 470696, 5002824; 470691, 5002816; 470690, 5002804; 470692, 5002800; 470703, 5002799; 470698, 5002794; 470700, 5002783; 470695, 5002776; 470691, 5002769; 470690, 5002762; 470695, 5002753; 470682, 5002753; 470682, 5002723; 470692, 5002723; 470689, 5002717; 470691, 5002709; 470694, 5002702; 470684, 5002700; 470675, 5002699; 470665, 5002704; 470657, 5002701; 470651, 5002704; 470645, 5002701; 470640, 5002694; 470623, 5002696; 470617, 5002697; 470608, 5002697; 470604, 5002707; 470589, 5002716; 470582, 5002715; 470580, 5002725; 470564, 5002726; 470563, 5002707; 470555, 5002695; 470553, 5002676; 470548, 5002670; 470553, 5002660; 470562, 5002655; 470562, 5002646; 470557, 5002635; 470564, 5002625; 470557, 5002608; 470514, 5002689; 470514, 5002732; 470561, 5002844; 470604, 5002950; 470685, 5003149; 470688, 5003164; 470693, 5003185; 470725, 5003387; 470725, 5003399; 470728, 5003400; 470728, 5003406; 470733, 5003407; 470738, 5003441; 470741, 5003444; 470749, 5003447; 470755, 5003446; 470764, 5003444; 470769, 5003441; 470775, 5003430; 470778, 5003422; 470780, 5003416; 470782, 5003411; 470787, 5003400; 470790, 5003393; 470794, 5003387; 470797, 5003383; 470810, 5003372; 470817, 5003367; 470829, 5003362; 470836, 5003356; 470841, 5003352; 470852, 5003349; 470856, 5003345; 470858, 5003343; 470869, 5003337; 470878, 5003335; 470891, 5003328; 470895, 5003325; 470901, 5003320; 470914, 5003313; 470925, 5003301; 470930, 5003295; 470937, 5003286; 470945, 5003282; 470948, 5003277; 470948, 5003271; 470948, 5003260; 470951, 5003247; 470955, 5003235; 470959, 5003231.

(ii) NOTE: Map 3 (Unit 2 for Fender's blue butterfly (FBB–2)) follows:

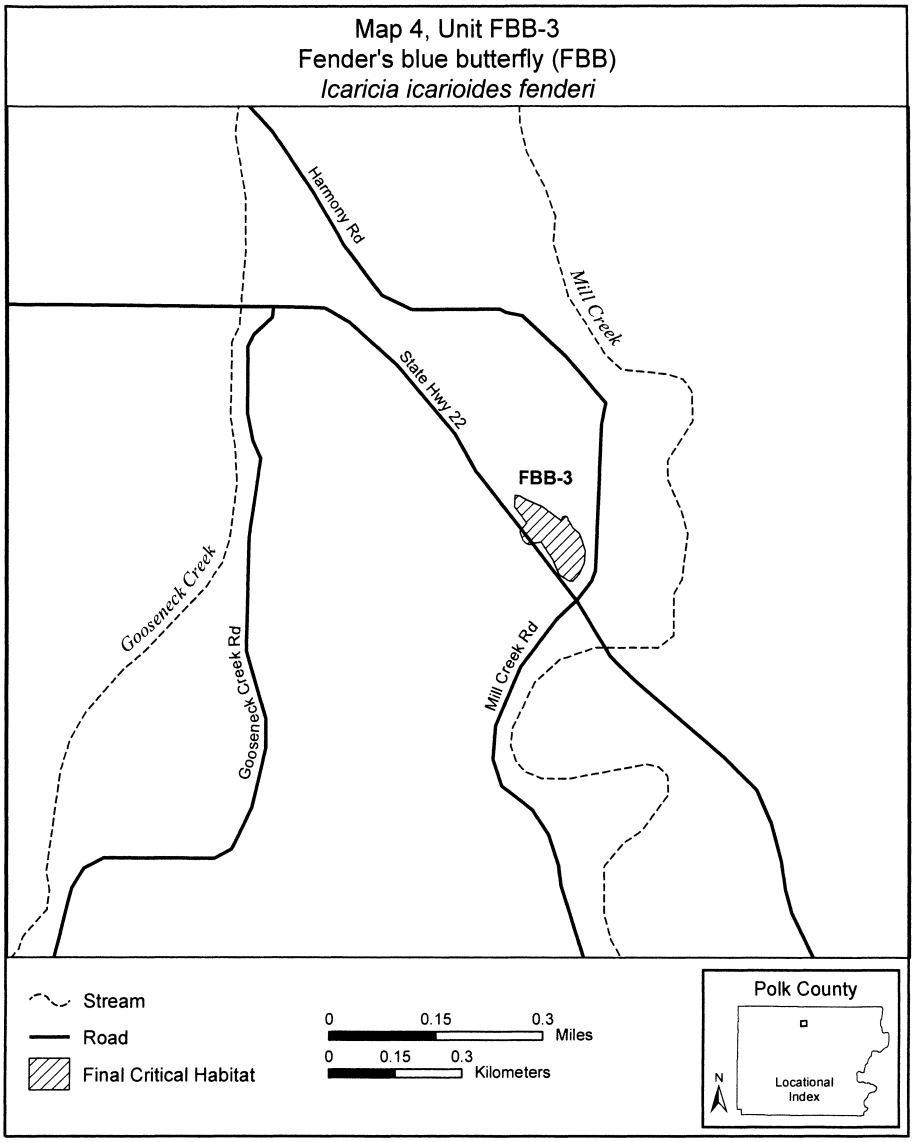


(8) Unit 3 for Fender's blue butterfly (FBB–3), Polk County, Oregon.

(i) Unit 3 (FBB–3): 466744, 4985295; 466788, 4985264; 466788, 4985266; 466788, 4985267; 466788, 4985268; 466789, 4985269; 466789, 4985270; 466790, 4985271; 466791, 4985272; 466792, 4985273; 466793, 4985273; 466795, 4985273; 466796, 4985274; 466797, 4985273; 466798, 4985273; 466800, 4985272; 466800, 4985272; 466801, 4985271; 466802, 4985270; 466802, 4985269; 466803, 4985267; 466803, 4985266; 466803, 4985265; 466802, 4985264; 466805, 4985263; 466814, 4985246; 466828, 4985234; 466834, 4985222; 466841, 4985196; 466839, 4985170; 466828, 4985145; 466814, 4985129; 466805, 4985129; 466783, 4985143; 466767, 4985178; 466742, 4985216; 466725, 4985214; 466725, 4985212; 466721, 4985211; 466718, 4985210; 466715, 4985211; 466711, 4985212; 466707, 4985213; 466700, 4985220; 466694, 4985237; 466694, 4985239; 466694, 4985241; 466696, 4985243; 466710, 4985258; 466681,

4985295; 466683, 4985320; 466691, 4985320; 466712, 4985309; 466744, 4985295.

(ii) NOTE: Map 4 (Unit 3 for Fender's blue butterfly (FBB–3)) follows:



(9) Unit 4 for Fender's blue butterfly (FBB–4), Polk County, Oregon.

(i) Unit 4A (FBB–4A): 480420, 4981038; 480415, 4980660; 480465, 4980658; 480509, 4980632; 480539, 4980585; 480559, 4980485; 480655, 4980012; 480670, 4980021; 480700, 4980045; 480721, 4980066; 480736, 4980087; 480757, 4980126; 480772, 4980165; 480790, 4980221; 480805, 4980257; 480811, 4980275; 480850, 4980311; 480865, 4980329; 480892, 4980347; 480943, 4980338; 480973, 4980332; 480997, 4980317; 481021, 4980302; 481036, 4980287; 481093, 4980302; 481105, 4980299; 481150, 4980293; 481188, 4980278; 481215,

4980266; 481218, 4980239; 481272, 4980218; 481290, 4980218; 481335, 4980218; 481371, 4980215; 481401, 4980212; 481446, 4980212; 481473, 4980221; 481482, 4980236; 481506, 4980254; 481542, 4980257; 481584, 4980257; 481617, 4980251; 481719, 4980272; 481776, 4980281; 481926, 4980287; 482124, 4980275; 482147, 4980262; 482161, 4980236; 482177, 4980217; 482190, 4980197; 482191, 4980181; 482193, 4980161; 482184, 4980150; 482154, 4980150; 482109, 4980135; 482067, 4980117; 482058, 4980075; 482052, 4980027; 481998, 4980024; 481977, 4980018; 481959, 4980003; 481938, 4980003; 481920, 4980009; 481899, 4980015; 481875, 4980003; 481866, 4979937; 481473, 4979934; 481476, 4979898; 481476, 4979835; 481482, 4979793; 481470, 4979754; 481464, 4979730; 481455, 4979703; 481434, 4979682; 481413, 4979649; 481380, 4979628; 481338, 4979625; 481293, 4979619; 481248, 4979613; 481233, 4979601; 481215, 4979577; 481194, 4979562; 481150, 4979505; 481120, 4979448; 481099, 4979418; 481069, 4979382; 481039, 4979352; 481018, 4979334; 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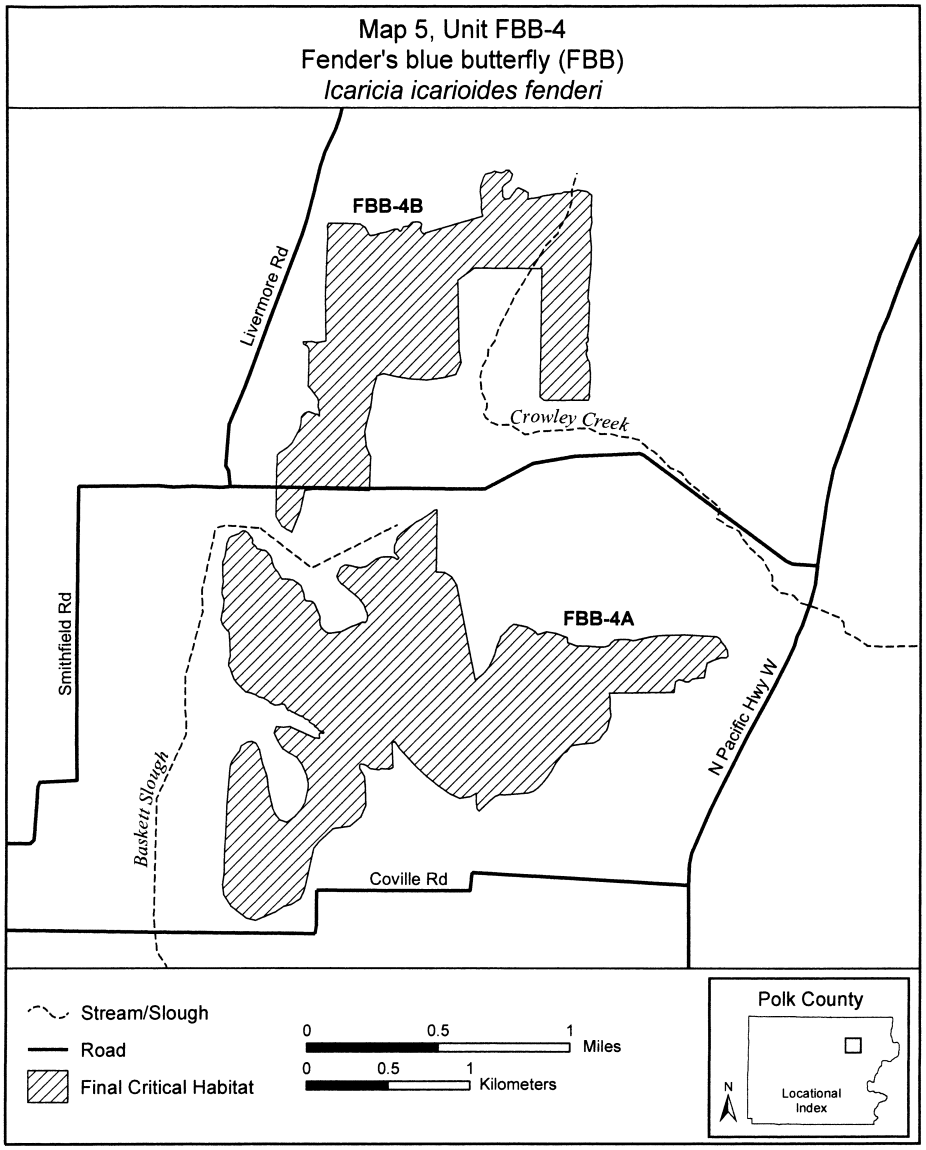
(ii) Unit 4B (FBB–4B): 480860, 4983078; 480881, 4983054; 480869, 4983018; 480854, 4983006; 480830, 4982992; 480818, 4982974; 480821, 4982950; 480821, 4982944; 480821, 4982923; 480836, 4982905; 480845, 4982908; 480860, 4982911; 480872, 4982923; 480884, 4982938; 480896, 4982953; 480902, 4982965; 480917, 4982974; 480962, 4982956; 480968, 4982950; 480977, 4982947; 480977, 4982932; 480974, 4982905; 480992, 4982911; 481046, 4982920; 481070, 4982926; 481106, 4982932; 481157, 4982941; 481178, 4982941; 481184, 4982944; 481196, 4982950; 481205, 4982950; 481220, 4982950; 481229, 4982950; 481244, 4982956; 481253, 4982953; 481280, 4982962; 481337, 4982953; 481364, 4982932; 481364, 4982914; 481361, 4982848; 481361, 4982812; 481367, 4982770; 481355, 4982716; 481361, 4982623; 481358, 4982518; 481340, 4982314; 481349, 4982287; 481346, 4982218; 481343, 4982125; 481337, 4982089; 481343, 4982062; 481337, 4982050; 481328, 4982047; 481334, 4982023; 481337, 4982002; 481328, 4981984; 481331, 4981969; 481337, 4981954; 481349, 4981930; 481352, 4981888; 481355, 4981867; 481355, 4981828; 481346, 4981742; 481349, 4981724; 481343, 4981703; 481075, 4981699; 481048, 4981722; 481059, 4982492; 480646, 4982496; 480545, 4982422; 480553,

4982004; 480564, 4981927; 480530, 4981858; 480456, 4981838; 480352, 4981823; 480247, 4981830; 480158, 4981846; 480089, 4981861; 480050, 4981850; 480023, 4981761; 480011, 4981656; 479988, 4981567; 479977, 4981509; 479984, 4981417; 480010, 4981359; 480004, 4981154; 479663, 4981161; 479609, 4981154; 479582, 4981030; 479532, 4980899; 479526, 4980905; 479499, 4980920; 479487, 4980926; 479472, 4980935; 479435, 4980999; 479436, 4981283; 479442, 4981328; 479442, 4981367; 479454, 4981382; 479475, 4981394; 479505, 4981415; 479535, 4981445; 479562, 4981499; 479574, 4981517; 479583, 4981556; 479589, 4981601; 479607, 4981622; 479619, 4981628; 479634, 4981631; 479649, 4981628; 479667, 4981619; 479688, 4981616; 479697, 4981604; 479697, 4981631; 479691, 4981661; 479694, 4981691; 479688, 4981712; 479652, 4981763; 479628, 4981787; 479631, 4981825; 479634, 4982011; 479625, 4982026; 479601, 4982038; 479598, 4982050; 479613, 4982050; 479652, 4982053; 479682, 4982047; 479739, 4982056; 479736, 4982344; 479748, 4982644; 479751, 4982674; 479751, 4982713; 479748, 4982746; 479754, 4982764; 479913, 4982761; 479931, 4982758; 479949, 4982758; 479964, 4982746; 479979, 4982740; 479988, 4982722; 480006, 4982689; 480015, 4982689; 480033, 4982692; 480072, 4982704; 480108, 4982710; 480129, 4982719; 480141, 4982722; 480159, 4982728; 480168, 4982728; 480179, 4982728; 480188, 4982716; 480197, 4982719; 480209, 4982737; 480218, 4982743; 480242, 4982746; 480254, 4982758; 480269, 4982770; 480287, 4982773; 480299, 4982773; 480314, 4982767; 480323, 4982758; 480320, 4982740; 480317, 4982722; 480329, 4982704; 480341, 4982698; 480350, 4982707; 480365, 4982710; 480698, 4982806; 480695, 4982821; 480692, 4982836; 480689, 4982860; 480692, 4982887; 480689, 4982908; 480686, 4982929; 480683, 4982950; 480686, 4982986; 480695, 4983006; 480704, 4983036; 480716, 4983054; 480731, 4983060; 480752, 4983063; 480770, 4983072; 480806, 4983063; 480815, 4983063; 480830, 4983069; 480842, 4983078; 480860, 4983078.

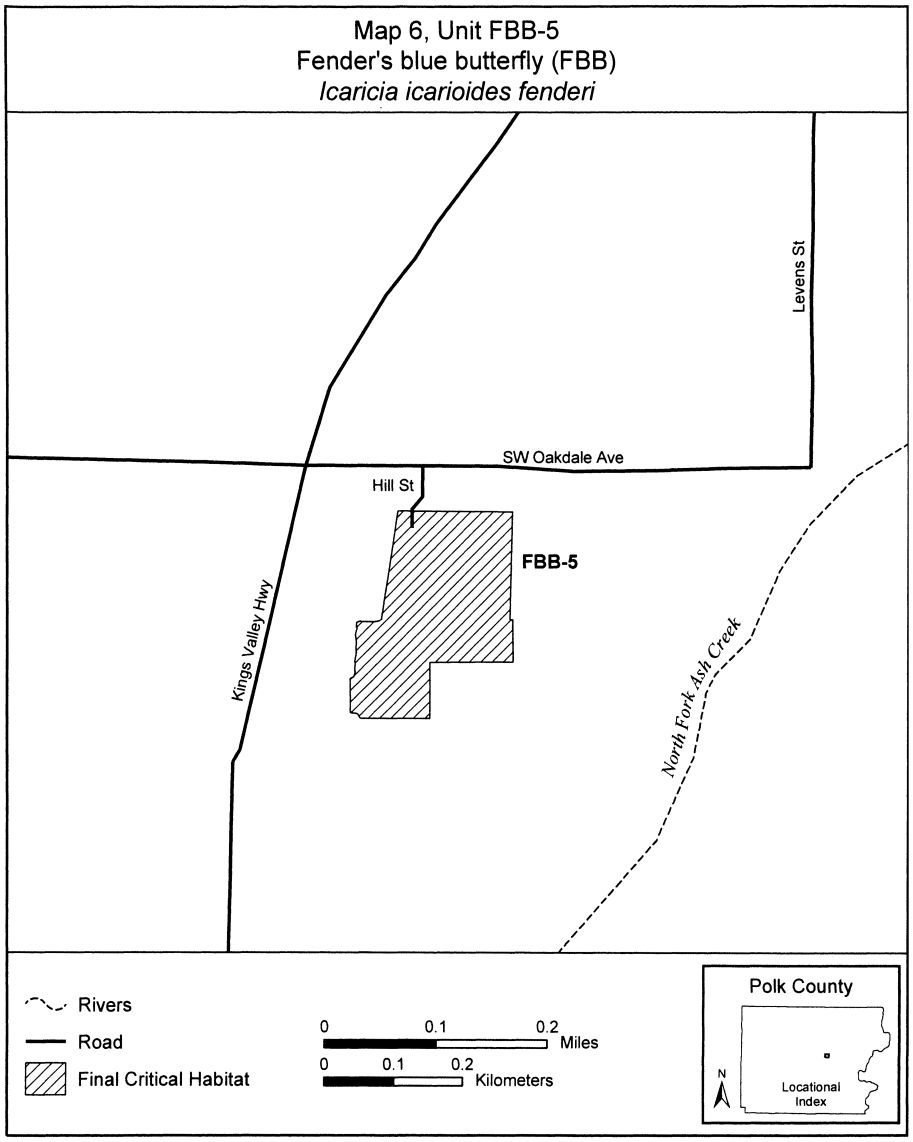
(iii) NOTE: Map 5 (Unit 4 for Fender's blue butterfly (FBB–4)) follows:



(10) Unit 5 for Fender's blue butterfly (FBB–5), Polk County, Oregon.

(i) Unit 5 (FBB–5): 474272, 4973321; 474269, 4973168; 474273, 4973168; 474274, 4973107; 474153, 4973107; 474153, 4973026; 474053, 4973026; 474051, 4973029; 474049, 4973032; 474047, 4973034; 474042, 4973034; 474039, 4973035; 474038, 4973084; 474044, 4973086; 474045, 4973092; 474045, 4973097; 474045, 4973104; 474045, 4973109; 474046, 4973116; 474047, 4973121; 474046, 4973128; 474047, 4973134; 474047, 4973139; 474046, 4973146; 474047, 4973152; 474048, 4973154; 474047, 4973158; 474048, 4973164; 474049, 4973164; 474052, 4973165; 474054, 4973165; 474061, 4973165; 474067, 4973165; 474074, 4973165; 474079, 4973166; 474083, 4973168; 474098, 4973263; 474107, 4973322; 474272, 4973321.

(ii) NOTE: Map 6 (Unit 5 for Fender's blue butterfly (FBB–5)) follows:



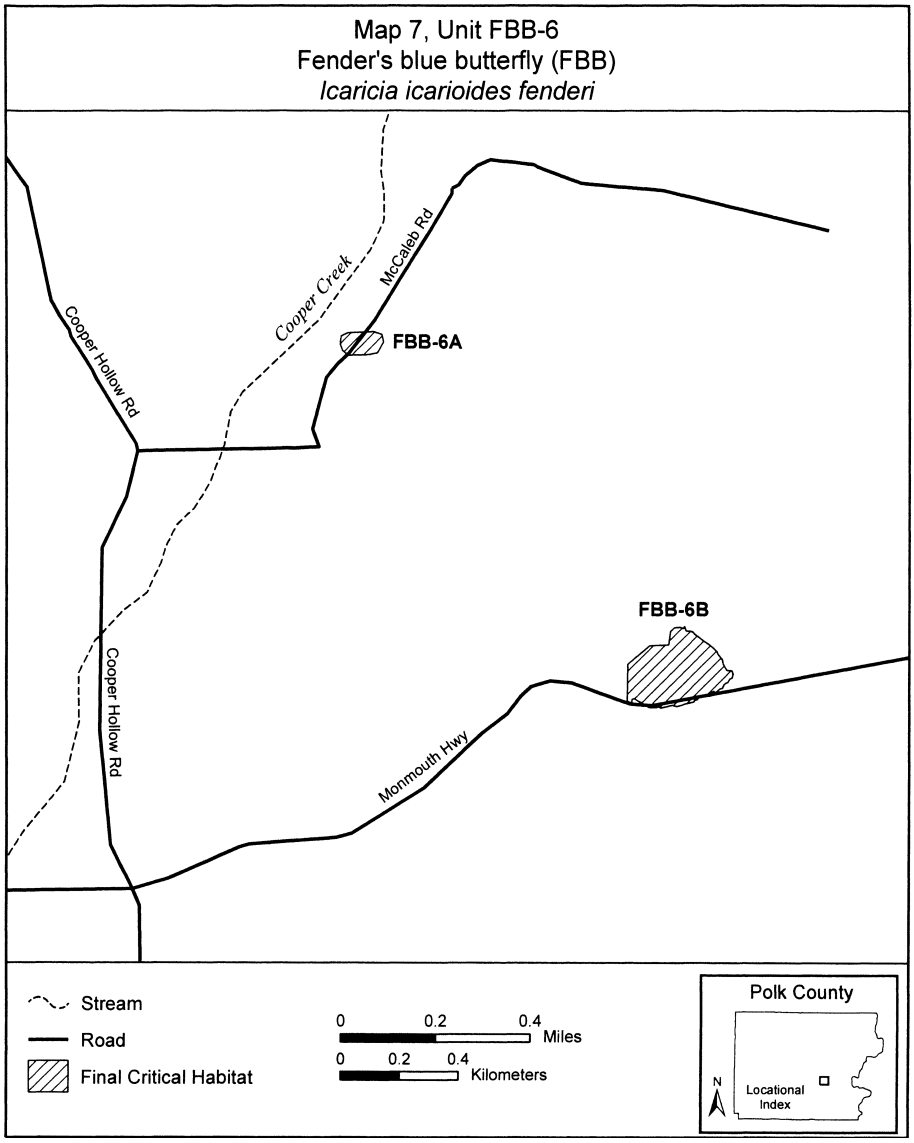
(11) Unit 6 for Fender's blue butterfly (FBB–6), Polk County, Oregon.

(i) Unit 6A (FBB–6A): 475279, 4966872; 475243, 4966871; 475222, 4966886; 475213, 4966910; 475218, 4966935; 475240, 4966947; 475327, 4966950; 475355, 4966941; 475361, 4966915; 475341, 4966880; 475311, 4966874; 475279, 4966872.

(ii) Unit 6B (FBB–6B): 476378, 4965968; 476384, 4965952; 476405, 4965950; 476419, 4965937; 476444, 4965919; 476463, 4965906; 476473, 4965897; 476487, 4965882; 476493, 4965872; 476506, 4965856; 476509, 4965842; 476521, 4965821; 476538, 4965819; 476542, 4965808; 476540, 4965796; 476532, 4965791; 476525, 4965780; 476519, 4965777; 476512, 4965770; 476507, 4965760; 476499, 4965757; 476493, 4965753; 476484, 4965744; 476477, 4965750; 476466, 4965743; 476463, 4965733; 476448, 4965733; 476435, 4965730; 476427, 4965729; 476423, 4965722; 476413, 4965718; 476411, 4965713; 476384, 4965707; 476355, 4965699; 476346, 4965699; 476339, 4965702; 476299, 4965693; 476290,

4965699; 476285, 4965694; 476259, 4965694; 476247, 4965701; 476238, 4965709; 476222, 4965716; 476209, 4965725; 476202, 4965722; 476202, 4965709; 476186, 4965715; 476186, 4965722; 476188, 4965840; 476262, 4965902; 476327, 4965906; 476329, 4965931; 476331, 4965951; 476344, 4965964; 476364, 4965964; 476376, 4965961; 476378, 4965968.

(iii) NOTE: Map 7 (Unit 6 for Fender's blue butterfly (FBB–6)) follows:



(12) Units 7, 8, and 9 for Fender's blue butterfly (FBB–7, FBB–8, and FBB–9), Benton County, Oregon.

(i) Unit 7 (FBB–7): 472041, 4940614; 472041, 4940616; 472040, 4940619; 472041, 4940623; 472043, 4940628; 472043, 4940632; 472043, 4940636; 472043,

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(ii) Unit 8 (FBB–8): 466807, 4938996; 466822, 4938987; 466857, 4938963; 466860, 4938942; 466813, 4938811; 466811, 4938793; 466828, 4938769; 466941, 4938694; 466944, 4938670; 467002, 4938673; 467028, 4938645; 467029, 4938608; 467021, 4938582; 466984, 4938561; 466908, 4938577; 466832, 4938387; 466805, 4938237; 466934, 4938170; 466973, 4938111; 466957, 4937968; 467029, 4937886; 467194, 4937886; 467195, 4937857; 467365, 4937876; 467379, 4937926; 467611, 4937920; 467606, 4938003; 467523, 4938171; 467492, 4938190; 467460, 4938377; 467542, 4938516; 467858, 4938596; 467858, 4938879; 467912, 4938876; 467912, 4939023; 467936, 4939032; 468294, 4939023; 468330, 4939008; 468384, 4939008; 468414, 4938891; 468339, 4938736; 468339, 4938638; 468297, 4938551; 468324, 4938509; 468427, 4938482; 468488, 4938484; 468601, 4938464; 468666, 4938425; 468749, 4938490; 468859, 4938476; 468989, 4938412; 469013, 4938386; 468981, 4938369; 468949, 4938351; 468934, 4938305; 468966, 4938282; 469004, 4938261; 469027, 4938227; 469137, 4938256; 469181, 4938244; 469192, 4938198; 469186, 4938151; 469169, 4938119; 469120, 4938105; 469076, 4938079; 469056, 4938041; 469013, 4938018; 468978, 4937948; 469007, 4937940; 469100, 4937954; 469143, 4937931; 469204, 4937919; 469276, 4937905; 469320, 4937899; 469314, 4937864; 469256, 4937859; 469230, 4937821; 469184, 4937806; 469143, 4937789; 469088, 4937737; 469053, 4937685; 469027, 4937656; 469050, 4937604; 469036, 4937589; 468981, 4937569; 468946, 4937583; 468923, 4937635; 468874, 4937633; 468853, 4937615; 468833, 4937636; 468842, 4937659; 468819, 4937699; 468833, 4937720; 468876, 4937722; 468903, 4937746; 468899, 4937788; 468871, 4937818; 468856, 4937864; 468824, 4937879; 468816, 4937847; 468752, 4937824; 468723, 4937792; 468642, 4937746; 468338, 4937844; 468259, 4937905; 468216, 4937917; 468204, 4937864; 468112, 4937768; 468118, 4937725; 468124, 4937663; 468155, 4937619; 468175, 4937569; 468182, 4937545; 468127, 4937546; 468085, 4937549; 468046, 4937531; 468031, 4937507; 468007, 4937539; 467971, 4937573; 467970, 4937597; 467920, 4937618; 467892, 4937661; 467875, 4937662; 467845, 4937645; 467840, 4937641; 467841, 4937621; 467850, 4937503; 467896, 4937426; 467889, 4937381; 467879, 4937358; 467844, 4937352; 467717, 4937354; 467525, 4937362; 467217, 4937372; 467186, 4937381; 467066, 4937388; 467055, 4937377; 467009, 4937373; 466961, 4937380; 466915, 4937382; 466860, 4937392; 466783, 4937400; 466746, 4937390; 466750, 4937358; 466727, 4937335; 466713, 4937308; 466667, 4937298; 466654, 4937262; 466659, 4937211; 466686, 4937130; 466701, 4937088; 466710, 4937034; 466703, 4937031; 466705, 4937011; 466705, 4936978; 466695, 4936938; 466754, 4936891; 466792, 4936884; 466800, 4936874; 466824, 4936872; 466851, 4936874; 466877, 4936883; 466901, 4936894; 466913, 4936893; 466920, 4936885; 466932, 4936902; 466948, 4936901; 466959, 4936896; 466985, 4936886; 467030, 4936878; 467052, 4936866; 467075, 4936863; 467076, 4936853; 467057, 4936837; 467040, 4936823; 467030, 4936810; 466999, 4936794; 466960, 4936800; 466949, 4936803; 466904, 4936794; 466896, 4936793; 466884, 4936799; 466874, 4936790; 466865, 4936778; 466862,

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(iii) Unit 9 (FBB–9): 472296, 4933737; 472312, 4933733; 472316, 4933734; 472317, 4933734; 472317, 4933733; 472317, 4933732; 472317, 4933732; 472315, 4933731; 472319, 4933730; 472325, 4933708; 472324, 4933707; 472325, 4933685; 472276, 4933663; 472265, 4933662; 472199, 4933648; 472192, 4933641; 472149, 4933621; 472144, 4933615; 472143, 4933611; 472140, 4933608; 472139, 4933604; 472140, 4933601; 472139, 4933599; 472138, 4933594; 472140, 4933589; 472140, 4933584; 472142, 4933581; 472148, 4933580; 472145, 4933576; 472145, 4933572; 472150, 4933570; 472159, 4933573; 472165, 4933575; 472169, 4933578; 472176, 4933582; 472182, 4933584; 472189, 4933585; 472194, 4933582; 472198, 4933579; 472201, 4933574; 472201, 4933571; 472201, 4933566; 472199, 4933561; 472194, 4933558; 472189, 4933556; 472188, 4933552; 472185, 4933550; 472184, 4933546; 472179, 4933544; 472176, 4933540; 472174, 4933534; 472169, 4933534; 472163, 4933533; 472158, 4933532; 472154, 4933529; 472151, 4933526; 472147, 4933525; 472146, 4933518; 472144, 4933513; 472142, 4933509; 472146, 4933505; 472147, 4933500; 472144, 4933496; 472144, 4933489; 472147, 4933487; 472148, 4933475; 472148, 4933469; 472149, 4933462; 472150, 4933455; 472151, 4933448; 472146, 4933447; 472146, 4933445; 472150, 4933441; 472156, 4933440; 472156, 4933436; 472151, 4933437; 472147, 4933433; 472148, 4933428; 472149, 4933421; 472146, 4933422; 472145, 4933413; 472145, 4933406; 472144, 4933395; 472147, 4933390; 472147, 4933383; 472147, 4933378; 472150, 4933375; 472151, 4933370; 472146, 4933370; 472146, 4933363; 472147, 4933342; 472148, 4933340; 472149, 4933336; 472149, 4933331; 472151, 4933321; 472151, 4933314; 472152, 4933306; 472156, 4933289; 472157, 4933267; 472158, 4933251; 472159, 4933239; 472159, 4933225; 472160, 4933213; 472161, 4933206; 472162, 4933195; 472163, 4933186; 472158, 4933167; 472147, 4933161; 472144, 4933165; 472139, 4933170; 472131, 4933175; 472127, 4933169; 472123, 4933166; 472122, 4933162; 472115, 4933158; 472111, 4933152; 472108, 4933145; 472106, 4933139; 472104, 4933137; 472104, 4933130; 472109, 4933128; 472112, 4933123; 472117, 4933124; 472121, 4933124; 472122, 4933119; 472123, 4933115; 472122, 4933112; 472118, 4933111; 472112, 4933108; 472109, 4933103; 472102, 4933103; 472096, 4933104; 472091, 4933106; 472085, 4933106; 472079, 4933107; 472074, 4933104; 472073, 4933097; 472069, 4933090; 472069, 4933086; 472067, 4933081; 472068, 4933072; 472064, 4933070; 472059, 4933071; 472053, 4933070; 472052, 4933065; 472047, 4933062; 472041, 4933063; 472039, 4933067; 472037, 4933071; 472032, 4933071; 472030, 4933071; 472027, 4933073; 472024, 4933074; 472020, 4933073; 472016, 4933073; 472010, 4933074; 472005, 4933090; 472003, 4933094; 472003, 4933101; 472007, 4933106; 472009, 4933111; 472007, 4933116; 472004, 4933116; 472004, 4933120; 472002, 4933125; 472001, 4933128; 472002, 4933134; 472004, 4933137; 472002, 4933140; 472002, 4933143; 472007, 4933146; 472009, 4933153; 472010, 4933160; 472011, 4933165; 472013, 4933170; 472016, 4933176; 472018, 4933179; 472015, 4933183; 472015, 4933186; 472019, 4933186; 472021, 4933190; 472020, 4933195; 472016, 4933198; 472011, 4933215; 472003, 4933221; 471996, 4933227; 471990, 4933231; 471989, 4933240; 471983, 4933257; 471982, 4933268; 471977, 4933277; 471976, 4933282; 471972, 4933282; 471968, 4933281; 471962, 4933280; 471962, 4933280; 471962, 4933280; 471961, 4933278; 471960, 4933276; 471958, 4933273; 471957, 4933271; 471957, 4933271; 471956, 4933271; 471956, 4933268; 471956, 4933266; 471955, 4933263; 471955, 4933260; 471955, 4933257; 471954, 4933257; 471953, 4933258; 471950, 4933257; 471947, 4933257; 471944, 4933256; 471942, 4933255; 471939, 4933253; 471936, 4933251; 471934, 4933251; 471929, 4933247; 471929, 4933247; 471929, 4933247; 471929, 4933245; 471928, 4933244; 471927, 4933242; 471925, 4933240; 471924, 4933239; 471922, 4933237; 471921, 4933237; 471919, 4933236; 471917, 4933236; 471915, 4933235; 471913, 4933236; 471911, 4933235; 471909, 4933235; 471908, 4933234; 471906, 4933234; 471904, 4933233; 471904, 4933233; 471904, 4933233; 471903, 4933233; 471902, 4933232; 471899, 4933230; 471897, 4933228; 471895, 4933227; 471894, 4933227; 471893, 4933224; 471892, 4933222; 471888, 4933220; 471884, 4933218; 471882, 4933217; 471876, 4933214; 471873, 4933212; 471870, 4933211; 471868, 4933209; 471865, 4933208; 471862, 4933207; 471859, 4933205; 471859, 4933205; 471859, 4933205; 471859, 4933203; 471854, 4933190; 471854, 4933190; 471853, 4933188; 471851, 4933183; 471851, 4933183; 471850, 4933182; 471850, 4933173; 471850, 4933171; 471850, 4933170; 471850, 4933166; 471850, 4933164; 471850, 4933162; 471850, 4933161; 471850, 4933159; 471848, 4933159; 471847, 4933158; 471846, 4933158; 471845, 4933158; 471846,

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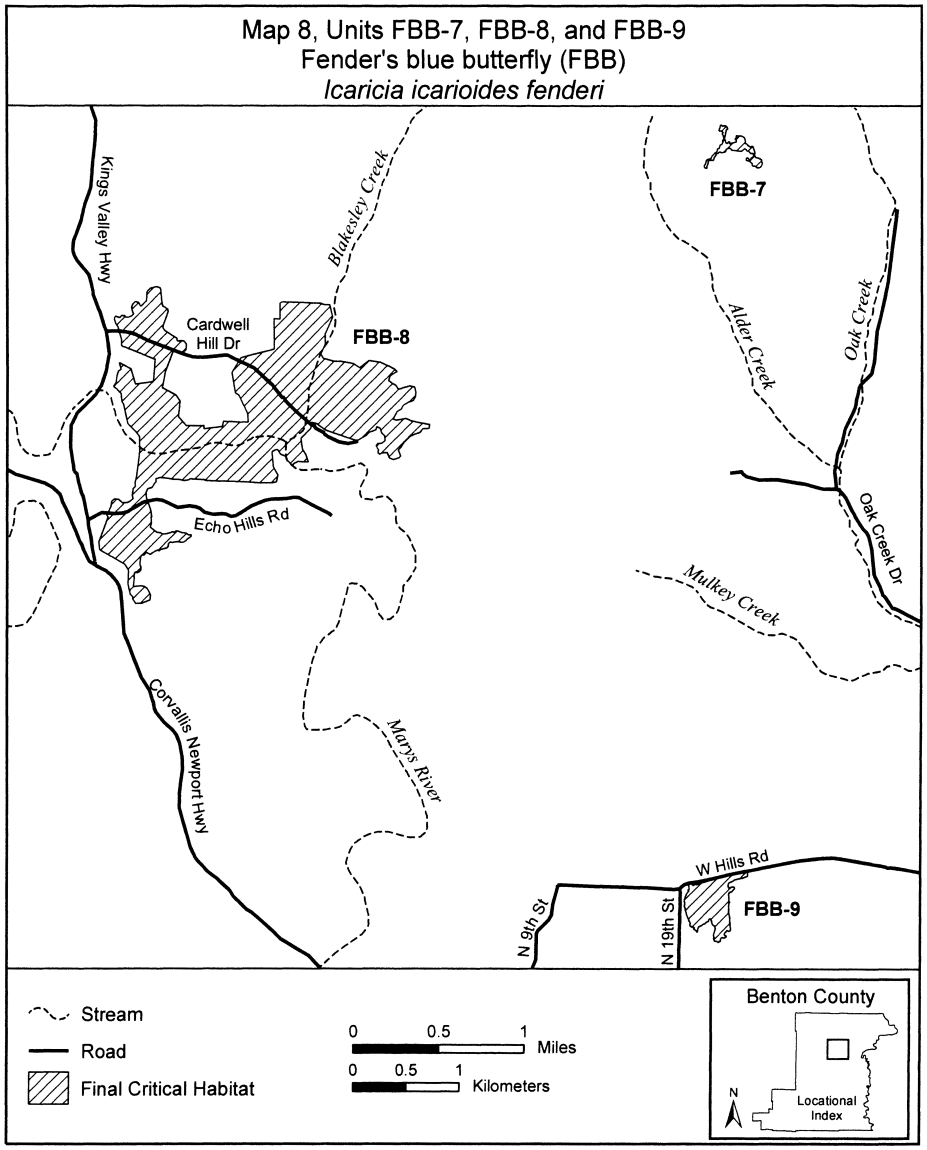
(iv) NOTE: Map 8 (Units 7, 8, and 9 for Fender's blue butterfly (FBB–7, FBB–8, and FBB–9)) follows:



(13) Units 10, 11, and 12 for Fender's blue butterfly (FBB–10, FBB–11, and FBB–12) in Lane County, Oregon.

(i) Unit 10A (FBB–10A): 479362, 4883342; 479389, 4883340; 479413, 4883340; 479442, 4883333; 479454, 4883325; 479444, 4883317; 479419, 4883305; 479409, 4883299; 479403, 4883279; 479397, 4883259; 479385, 4883239; 479377, 4883216; 479371, 4883204; 479373, 4883192; 479373, 4883176; 479375, 4883162; 479371, 4883148; 479361, 4883128; 479357, 4883120; 479353, 4883108; 479365, 4883104; 479365, 4883104; 479366, 4883104; 479370, 4883102; 479372, 4883091; 479372, 4883083; 479371, 4883075; 479369, 4883061; 479365, 4883041; 479361, 4883025; 479345, 4883003; 479332, 4883007; 479332, 4883007; 479331, 4883007; 479333, 4882993; 479321, 4882977; 479305, 4882968; 479282, 4882968; 479266, 4882969; 479246, 4882973; 479246, 4882973; 479246, 4882973; 479226, 4882972; 479219, 4882977; 479213, 4882991; 479211, 4883005;

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(ii) Unit 10B (FBB–10B): 480173, 4882467; 480173, 4882393; 480173, 4882308; 480170, 4882236; 480168, 4882173; 480168, 4882165; 480169, 4882164; 480176, 4882152; 480191, 4882150; 480226, 4882147; 480247, 4882138; 480243, 4882127; 480236, 4882109; 480232, 4882089; 480224, 4882064; 480207, 4882058; 480209, 4882042; 480209, 4882024; 480185, 4882016; 480170, 4882007; 480169, 4881966; 480191, 4881931; 480206, 4881898; 480213, 4881847; 480219, 4881787; 480246, 4881569; 480248, 4881544; 480247, 4881536; 480247, 4881524; 480239, 4881512; 480240, 4881489; 480243, 4881474; 480247, 4881442; 480243, 4881433; 480239, 4881415; 480224, 4881399; 480215, 4881399; 480210, 4881384; 480221, 4881370; 480230, 4881360; 480254, 4881347; 480271, 4881331; 480283, 4881333; 480297, 4881333; 480325, 4881335; 480338, 4881336; 480361, 4881332; 480375, 4881331; 480386, 4881325; 480394, 4881312; 480398, 4881279; 480398, 4881082; 480400, 4881032; 480399, 4881003; 480394, 4880995; 480394, 4880984; 480394, 4880984; 480360, 4880954; 480360, 4880954; 480350, 4880954; 480332, 4880958; 480316, 4880964; 480294, 4880970; 480284, 4880970; 480274, 4880966; 480261, 4880960; 480239, 4880962; 480213, 4880960; 480201, 4880950; 480179, 4880950; 480159, 4880950; 480130, 4880950; 480094, 4880944; 480080, 4880952; 480058, 4880954; 480052, 4880938; 480052, 4880920; 480044, 4880914; 480024, 4880912; 480026, 4880895; 480020, 4880883; 479997, 4880879; 479975, 4880873; 479961, 4880863; 479935, 4880849; 479917, 4880847; 479903, 4880841; 479883, 4880837; 479874, 4880825; 479874, 4880813; 479866, 4880803; 479848, 4880797; 479844, 4880779; 479848, 4880756; 479870, 4880738; 479868, 4880724; 479856, 4880702; 479872, 4880690; 479870, 4880674; 479856, 4880668; 479862, 4880650; 479876, 4880631; 479891, 4880621; 479901, 4880615; 479909, 4880597; 479919, 4880577; 479923, 4880559; 479927, 4880535; 479925, 4880523; 479939, 4880500; 479941, 4880484; 479939, 4880468; 479945, 4880456; 479947, 4880442; 479943, 4880426; 479949, 4880410; 479965, 4880400; 479975, 4880396; 479981, 4880373; 479987, 4880361; 479999, 4880357; 479999, 4880343; 480005, 4880319; 480005, 4880305; 480016, 4880283; 480034, 4880263; 480048, 4880265; 480054, 4880273; 480068, 4880265; 480088, 4880271; 480098, 4880291; 480094, 4880305; 480100, 4880315; 480118, 4880321; 480118, 4880339; 480124, 4880359; 480134, 4880388; 480141, 4880400; 480149, 4880412; 480163, 4880418; 480173, 4880428; 480177, 4880432; 480189, 4880432; 480221, 4880422; 480245, 4880424; 480261, 4880422; 480280, 4880422; 480322, 4880426; 480344, 4880432; 480378, 4880438; 480391, 4880442; 480417, 4880444; 480411, 4880428; 480405, 4880398; 480401, 4880371; 480401, 4880353; 480389, 4880333; 480384, 4880311; 480374, 4880265; 480366, 4880238; 480364, 4880208; 480362, 4880184; 480358, 4880156; 480354, 4880113; 480336, 4880109; 480300, 4880109; 480259, 4880113; 480179, 4880115; 480116, 4880115; 480076, 4880115; 480044, 4880117; 480044, 4880142; 480044, 4880166; 480042, 4880194; 480034, 4880192; 480020, 4880196; 480010, 4880198; 479997, 4880190; 480001, 4880168; 480001, 4880154; 479983, 4880156;

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(iii) Unit 10C (FBB–10C): 481378, 4880648; 481378, 4880649; 481379, 4880651; 481380, 4880651; 481386, 4880656; 481391, 4880657; 481396, 4880658; 481398, 4880658; 481400, 4880657; 481401, 4880674; 481426, 4880675; 481437, 4880674; 481437, 4880675; 481438, 4880675; 481438, 4880675; 481438, 4880675; 481443, 4880679; 481448, 4880686; 481454, 4880692; 481461, 4880697; 481466, 4880702; 481473, 4880709; 481478, 4880715; 481481, 4880724; 481484, 4880732; 481485, 4880737; 481486, 4880744; 481487, 4880751; 481488, 4880756; 481488, 4880762; 481488, 4880768; 481485, 4880774; 481482, 4880779; 481480, 4880786; 481478, 4880790; 481477, 4880795; 481475, 4880803; 481474, 4880808; 481473, 4880813; 481473, 4880820; 481467, 4880823; 481460, 4880829; 481455, 4880836; 481454, 4880844; 481455, 4880854; 481460, 4880864; 481464, 4880872; 481468, 4880877; 481472, 4880882; 481476, 4880886; 481481, 4880892; 481489, 4880897; 481495, 4880902; 481502, 4880908; 481511, 4880912; 481515, 4880917; 481521, 4880920; 481529, 4880923; 481535, 4880925; 481542, 4880927; 481545, 4880928; 481567, 4880927; 481580, 4880925; 481590, 4880922; 481597, 4880918; 481602, 4880914; 481602, 4880914; 481602, 4880913; 481609, 4880913; 481612, 4880913; 481615, 4880820; 481611, 4880820; 481611, 4880816; 481612, 4880815; 481616, 4880815; 481616, 4880806; 481617, 4880802; 481620, 4880797; 481622, 4880794; 481622, 4880793; 481623, 4880790; 481623, 4880789; 481624, 4880788; 481624, 4880786; 481816, 4880785; 481814, 4880923; 481900, 4880926; 481912, 4880916; 481942, 4880882; 481988, 4880820; 481991, 4880727; 481800, 4880618; 481741, 4880607; 481669, 4880604; 481667, 4880569; 481686, 4880525; 481718, 4880494; 481780, 4880511; 481849, 4880560; 481913, 4880614; 481964, 4880648; 482025, 4880685; 482062, 4880698; 482079, 4880687; 482089, 4880665; 482099, 4880579; 482082, 4880547; 481998, 4880506; 481925, 4880469; 481809, 4880408; 481760, 4880370; 481645, 4880354; 481620, 4880380; 481618, 4880513; 481600, 4880528; 481599, 4880529; 481598, 4880529; 481594, 4880529; 481589, 4880526; 481587, 4880525; 481577, 4880525; 481572, 4880525; 481568, 4880525; 481563, 4880525; 481559, 4880525; 481557, 4880525; 481553, 4880523; 481551, 4880523; 481541, 4880523; 481540, 4880523; 481540, 4880523; 481532, 4880524; 481525, 4880523; 481509, 4880519; 481496, 4880519; 481494, 4880520; 481483, 4880523; 481470, 4880525; 481470, 4880525; 481470, 4880525; 481469, 4880525; 481454, 4880526; 481448, 4880527; 481431, 4880531; 481409, 4880530; 481409, 4880530; 481405, 4880530; 481420, 4880517; 481445, 4880474; 481453, 4880443; 481451, 4880421; 481452, 4880420; 481444, 4880418; 481428, 4880427; 481400, 4880494; 481379, 4880554; 481368, 4880626; 481373, 4880640; 481374, 4880634; 481375, 4880644; 481377, 4880648; 481378, 4880648.

(iv) Unit 10D (FBB–10D): 482330, 4880170; 482330, 4880242; 482338, 4880299; 482384, 4880330; 482415, 4880349; 482472, 4880382; 482531, 4880408; 482566, 4880419; 482601, 4880426; 482638, 4880434; 482700, 4880436; 482751, 4880435; 482832, 4880421; 482837, 4880436; 482842, 4880441; 482846, 4880456; 482865, 4880463; 482890, 4880456; 482946, 4880435; 482951, 4880427; 482973, 4880408; 483000, 4880395; 483014, 4880387; 483040, 4880372; 483075, 4880346; 483131, 4880295; 483137, 4880272; 483125, 4880251; 483125, 4880250; 483083, 4880204; 483082, 4880205; 483069, 4880202; 483048, 4880205; 483015, 4880205; 482992, 4880209; 482984, 4880207; 482955, 4880210; 482933, 4880217; 482866, 4880211; 482836, 4880163;

482839, 4880141; 482828, 4880125; 482816, 4880120; 482804, 4880120; 482788, 4880127; 482759, 4880130; 482736, 4880121; 482713, 4880119; 482649, 4880141; 482601, 4880164; 482567, 4880154; 482546, 4880160; 482532, 4880142; 482511, 4880124; 482489, 4880130; 482457, 4880119; 482423, 4880123; 482330, 4880170.

(v) Unit 10E (FBB–10E): 483301, 4880015; 483334, 4880057; 483333, 4880306; 483332, 4880510; 483360, 4880508; 483386, 4880503; 483421, 4880492; 483444, 4880480; 483486, 4880443; 483541, 4880386; 483561, 4880361; 483631, 4880258; 483671, 4880200; 483683, 4880171; 483736, 4880004; 483767, 4879924; 483848, 4879754; 483860, 4879739; 483868, 4879724; 483868, 4879708; 483853, 4879707; 483824, 4879707; 483765, 4879712; 483763, 4879718; 483751, 4879724; 483751, 4879729; 483748, 4879746; 483706, 4879749; 483693, 4879751; 483681, 4879754; 483652, 4879767; 483614, 4879787; 483545, 4879797; 483306, 4879918; 483301, 4880015.

(vi) Unit 11A (FBB–11A): 482634, 4879216; 482560, 4879196; 482528, 4879254; 482470, 4879358; 482492, 4879432; 482573, 4879516; 482592, 4879600; 482486, 4879609; 482475, 4879701; 482527, 4879700; 482613, 4879696; 482655, 4879694; 482634, 4879216.

(vii) Unit 11B (FBB–11B): 482130, 4878873; 482101, 4878734; 481898, 4878780; 481827, 4878721; 481792, 4878680; 481750, 4878676; 481734, 4878689; 481740, 4878776; 481743, 4878847; 481771, 4878922; 481791, 4878918; 481901, 4878886; 482130, 4878873.

(viii) Unit 11C (FBB–11C): 482637, 4878489; 482654, 4878466; 482492, 4878476; 482492, 4878521; 482544, 4878709; 482595, 4878851; 482687, 4878901; 482911, 4878899; 482883, 4878825; 482792, 4878741; 482744, 4878644; 482654, 4878599; 482625, 4878583; 482637, 4878489.

(ix) Unit 11D (FBB–11D): 483917, 4879166; 483911, 4879133; 483895, 4879125; 483841, 4879126; 483792, 4879136; 483800, 4879102; 483835, 4879061; 483920, 4879021; 483949, 4879004; 483975, 4878976; 483992, 4878953; 484027, 4878883; 484048, 4878870; 484059, 4878815; 484017, 4878833; 483914, 4878874; 483812, 4878917; 483725, 4878961; 483698, 4878999; 483674, 4879071; 483668, 4879377; 483703, 4879390; 483754, 4879404; 483789, 4879412; 483849, 4879401; 483906, 4879358; 483920, 4879301; 483923, 4879247; 483917, 4879166.

(x) Unit 11E (FBB–11E): 484274, 4879053; 484439, 4878986; 484226, 4878988; 484195, 4878996; 484183, 4879004; 484183, 4879189; 484193, 4879197; 484201, 4879199; 484220, 4879148; 484239, 4879099; 484253, 4879070; 484274, 4879053.

(xi) Unit 11F (FBB–11F): 484856, 4878596; 484906, 4878565; 484909, 4878412; 485192, 4878416; 485247, 4878417; 485269, 4878317; 485038, 4878264; 484819, 4878269; 484774, 4878240; 484777, 4878237; 484743, 4878234; 484735, 4878256; 484736, 4878340; 484731, 4878360; 484711, 4878440; 484690, 4878493; 484646, 4878531; 484613, 4878561; 484639, 4878590; 484639, 4878590; 484856, 4878596.

(xii) Unit 11G (FBB–11G): 484890, 4877956; 484890, 4877986; 484893, 4878018; 484903, 4878058; 484911, 4878082; 484908, 4878084; 484943, 4878095; 484981, 4878028; 484993, 4877966; 484998, 4877917; 485005, 4877890; 485003, 4877867; 484981, 4877858; 484981, 4877861; 484960, 4877869; 484936, 4877878; 484916, 4877898; 484897, 4877925; 484890, 4877956.

(xiii) Unit 11H (FBB–11H): 485260, 4877580; 485260, 4877580; 485263, 4878059; 485381, 4878067; 485486, 4878059; 485530, 4878059; 485578, 4878058; 485595, 4878021; 485594, 4877901; 485597, 4877851; 485598, 4877813; 485589, 4877780; 485587, 4877759; 485587, 4877759; 485586, 4877757; 485592, 4877706; 485592, 4877705; 485589, 4877570; 485589, 4877512; 485616, 4877499; 485716, 4877494; 485714, 4877466; 485719, 4877374; 485716, 4877332; 485700, 4877320; 485605, 4877329; 485547, 4877340; 485479, 4877364; 485432, 4877390; 485340, 4877458; 485304, 4877484; 485260, 4877580.

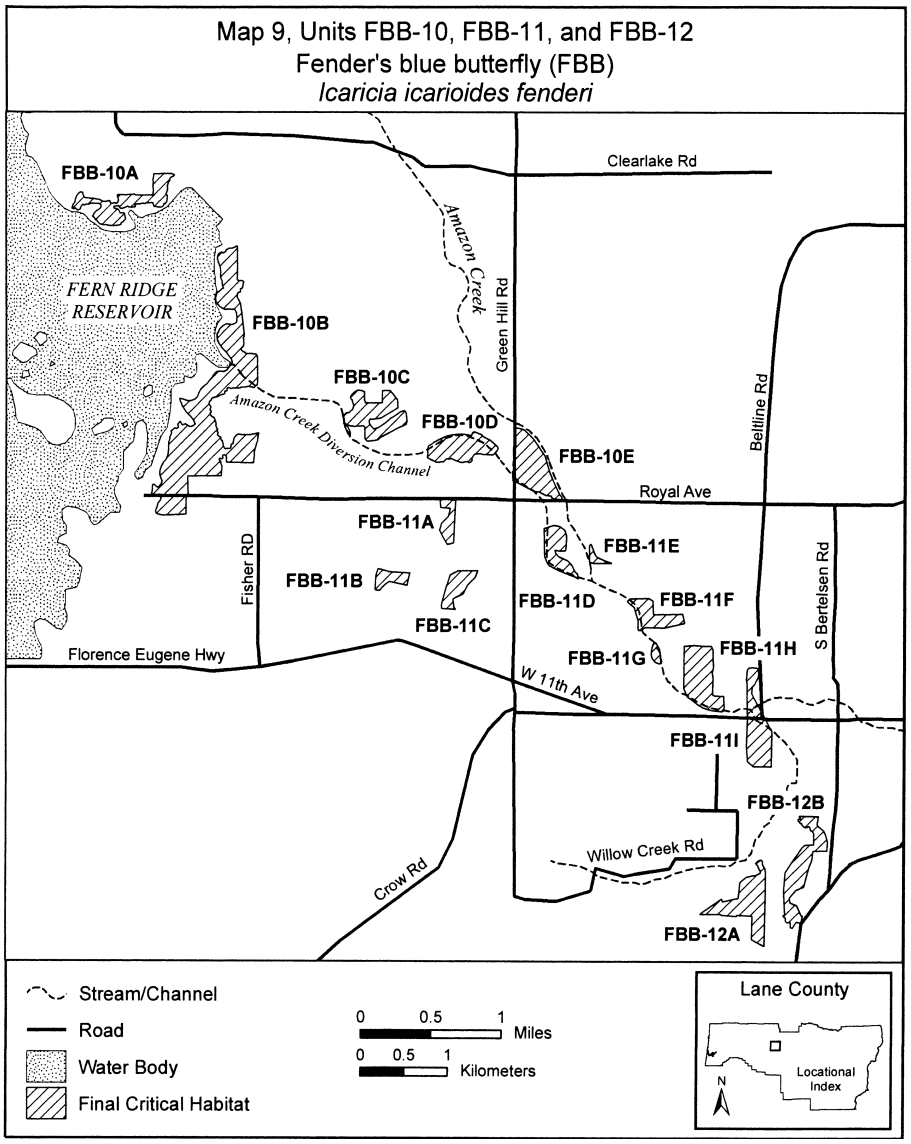
(xiv) Unit 11I (FBB–11I): 486042, 4877818; 486064, 4877815; 486085, 4877816; 486097, 4877812; 486099, 4877812; 486110, 4877794; 486111, 4877786; 486113, 4877755; 486112, 4877751; 486111, 4877741; 486112, 4877740; 486112, 4877736; 486112, 4877735; 486110, 4877734; 486110, 4877734; 486107, 4877713; 486106, 4877708; 486106, 4877708; 486106, 4877708; 486067, 4877628; 486041, 4877605; 486036, 4877586; 486033, 4877528; 486241, 4877142; 486263, 4877100; 486261, 4876700; 486057, 4876700; 485991, 4876758; 485978, 4876930; 485986, 4877216; 485986, 4877222; 485981, 4877497; 485981, 4877647; 485977, 4877652; 485975, 4877692; 485976, 4877692; 485976, 4877703; 485977, 4877703; 485976, 4877703; 485977, 4877712; 485983, 4877780; 485984, 4877781; 485987, 4877791; 485988, 4877795; 485996, 4877809; 485999, 4877814; 486024, 4877817; 486038, 4877818; 486042, 4877818.

(xv) Unit 12A (FBB–12A): 486197, 4875513; 486200, 4875474; 486201, 4875316; 486185, 4874677; 486042, 4874749; 486046, 4875014; 485875, 4875023; 485874, 4875012; 485698, 4875023; 485695, 4875035; 485450, 4875035; 485608, 4875144; 485702, 4875208; 485712, 4875178; 485862, 4875211; 485889, 4875218; 485910, 4875396; 485986, 4875456; 486062, 4875471; 486072, 4875472; 486086, 4875473; 486088, 4875478; 486096, 4875476; 486143, 4875502; 486141, 4875516; 486141, 4875526; 486138, 4875537; 486132, 4875540; 486115, 4875576; 486116, 4875585; 486113, 4875587; 486113, 4875591; 486100, 4875599; 486094, 4875607; 486092, 4875611; 486092, 4875616; 486105, 4875626; 486123, 4875643; 486143, 4875649; 486156, 4875646; 486159, 4875643; 486163, 4875634; 486164, 4875624; 486166, 4875609; 486169, 4875599; 486174, 4875586; 486190, 4875560; 486193, 4875549; 486195, 4875534; 486197, 4875513.

(xvi) Unit 12B (FBB–12B): 486793, 4876121; 486790, 4876107; 486783, 4876064; 486783, 4876051; 486790, 4876034; 486805, 4876021; 486842, 4875993; 486855, 4875977; 486860, 4875962; 486869, 4875946; 486883, 4875908; 486893, 4875878; 486895, 4875857; 486896, 4875826; 486892, 4875791; 486893, 4875754; 486886, 4875756; 486738, 4875751; 486734, 4875744; 486731, 4875711; 486725, 4875665; 486720, 4875629; 486693, 4875573; 486629, 4875348; 486549, 4875312; 486469, 4875220; 486477, 4875168; 486553, 4875136; 486603, 4875021; 486608, 4875021; 486616, 4875020; 486601, 4874935; 486577, 4874945; 486546, 4874949; 486542, 4874941; 486522, 4874907; 486507, 4874882; 486482, 4874888; 486482, 4874900; 486481, 4874944; 486439, 4874947; 486424, 4874957; 486426, 4874980; 486427, 4875000; 486409, 4875006; 486398, 4875018; 486401, 4875024; 486416, 4875027; 486422, 4875028; 486417, 4875033; 486405, 4875292; 486421, 4875508; 486517, 4875652; 486614, 4875792; 486640, 4875821; 486742, 4875825; 486742, 4875951; 486725, 4875983;

486714, 4875983; 486709, 4875984; 486702, 4875993; 486694, 4876021; 486685, 4876033; 486684, 4876035; 486680, 4876031; 486676, 4876028; 486672, 4876025; 486660, 4876020; 486657, 4876018; 486652, 4876018; 486639, 4876025; 486629, 4876029; 486620, 4876034; 486614, 4876044; 486613, 4876052; 486610, 4876058; 486605, 4876068; 486594, 4876067; 486589, 4876066; 486585, 4876068; 486581, 4876078; 486576, 4876086; 486568, 4876093; 486565, 4876102; 486563, 4876110; 486565, 4876115; 486573, 4876118; 486577, 4876118; 486583, 4876115; 486588, 4876113; 486592, 4876119; 486590, 4876128; 486585, 4876137; 486580, 4876144; 486579, 4876147; 486795, 4876145; 486793, 4876121.

(xvii) NOTE: Map 9 (Units 10, 11, and 12 for Fender's blue butterfly (FBB–10, FBB–11, and FBB–12)) follows:



(14) Unit 13 for Fender's blue butterfly, Lane County, Oregon.

(i) Unit 13 (FBB–13) exterior unit perimeter: 500237, 4885879; 500247, 4885878; 500251, 4885881; 500259, 4885886; 500266, 4885881; 500274, 4885878; 500281, 4885875; 500294, 4885870; 500305, 4885867; 500309, 4885860; 500312, 4885856; 500326, 4885855; 500374, 4885871; 500388, 4885861; 500407, 4885873; 500445, 4885876; 500494, 4885861; 500516, 4885835; 500529, 4885775; 500516, 4885744; 500461, 4885670; 500397, 4885621; 500340, 4885608; 500322, 4885619; 500317, 4885610; 500306, 4885597; 500302, 4885585; 500297, 4885572; 500297, 4885553; 500301, 4885537; 500309, 4885525; 500306, 4885510; 500301, 4885500; 500291, 4885484; 500282, 4885466; 500266, 4885451; 500242, 4885409; 500227, 4885390; 500207, 4885373; 500198, 4885360; 500187, 4885333; 500176, 4885307; 500174, 4885290; 500176, 4885279; 500179, 4885270; 500184, 4885259; 500181, 4885253; 500171, 4885244; 500164, 4885234; 500162, 4885226; 500162, 4885217; 500163, 4885206; 500168, 4885202; 500171, 4885197; 500161, 4885192; 500160, 4885180; 500160, 4885169; 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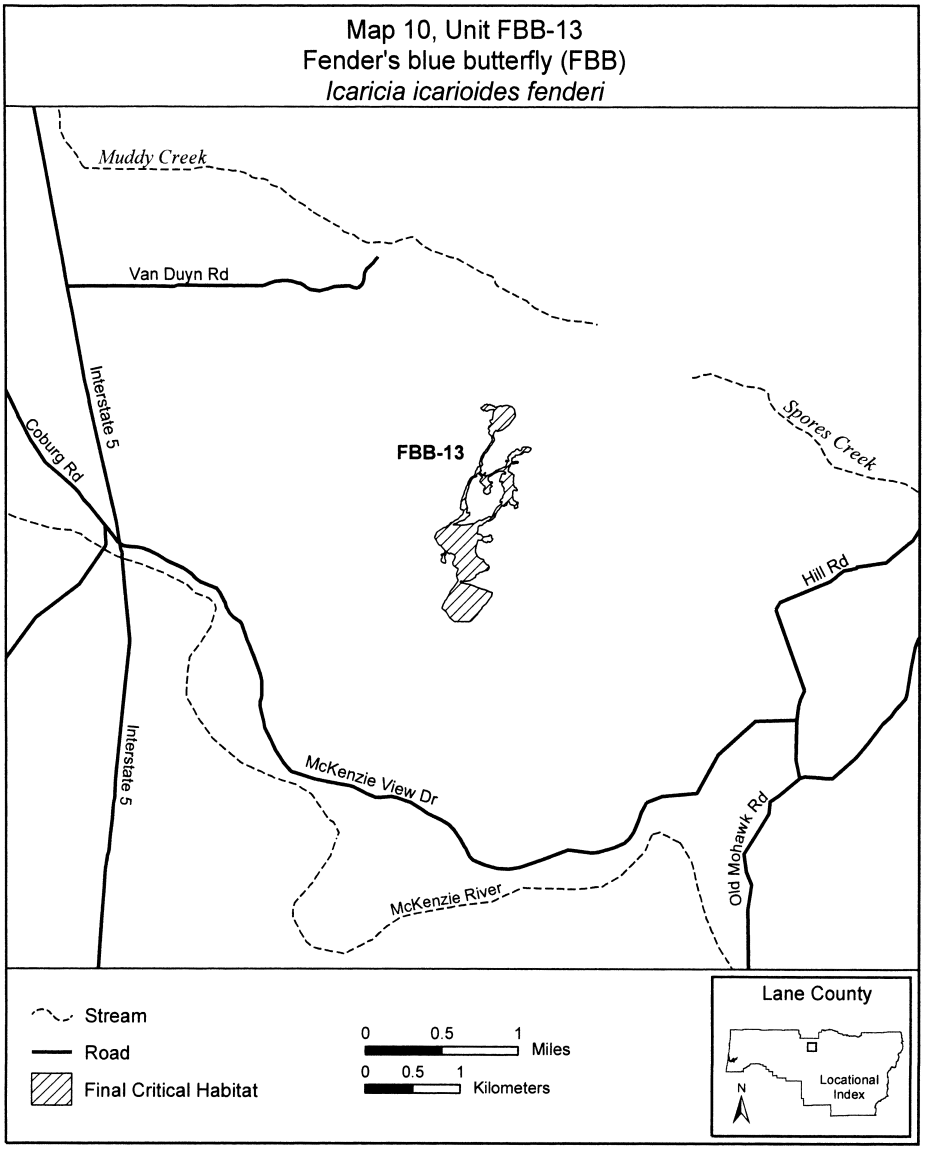
(ii) Unit 13 (FBB–13) interior unit perimeter 500014, 4884757; 500024, 4884754; 500039, 4884757; 500047, 4884762; 500047, 4884748; 500048, 4884731; 500033, 4884719; 500019, 4884709; 500009, 4884696; 499994, 4884686; 499975, 4884679; 499963, 4884672; 499939, 4884665; 499927, 4884656; 499908, 4884648; 499899, 4884644; 499883, 4884641; 499869, 4884634; 499896, 4884633; 499920, 4884633; 499959, 4884630; 500010, 4884633; 500077, 4884643; 500098, 4884643; 500132, 4884671; 500152, 4884680; 500169, 4884677; 500211, 4884696; 500232, 4884707; 500254, 4884720; 500271, 4884714; 500280, 4884715; 500316, 4884780; 500328, 4884808; 500349, 4884827; 500374, 4884844; 500382, 4884855; 500387, 4884875; 500373, 4884873; 500367, 4884862; 500367, 4884883; 500374, 4884899; 500389, 4884907; 500401, 4884915; 500393, 4884922; 500399, 4884934; 500404, 4884947; 500414, 4884955; 500421, 4884967; 500414, 4884984; 500407, 4884992; 500412, 4885011; 500406, 4885026; 500392, 4885038; 500386, 4885045; 500381, 4885060; 500391, 4885076; 500386, 4885085; 500372, 4885080; 500364, 4885083; 500362, 4885099; 500372, 4885114; 500377, 4885133; 500385, 4885158; 500391, 4885166; 500404, 4885165; 500424, 4885161; 500427, 4885174; 500422, 4885182; 500387, 4885191; 500364, 4885192; 500348, 4885190; 500333, 4885182; 500317, 4885172; 500297, 4885161; 500275, 4885150; 500261, 4885142; 500246, 4885127; 500242, 4885106; 500246, 4885090; 500260, 4885076; 500272, 4885079; 500283, 4885078; 500283, 4885068; 500272, 4885060; 500268, 4885047; 500277, 4885039; 500286, 4885038; 500275, 4885024; 500260, 4885012; 500260, 4885001; 500265, 4884987; 500264, 4884970; 500252, 4884959; 500242, 4884954; 500226, 4884951; 500208, 4884958; 500198, 4884965; 500191, 4884981; 500194, 4884996; 500202, 4885011; 500212, 4885020; 500209, 4885034; 500193, 4885043; 500186, 4885049; 500179, 4885057; 500161, 4885069; 500154, 4885086; 500166, 4885113; 500182, 4885123; 500171, 4885137; 500162, 4885147; 500149, 4885157; 500137, 4885168; 500128, 4885163; 500119, 4885147; 500121, 4885136; 500101, 4885127; 500085, 4885118; 500077, 4885110; 500070, 4885099; 500062, 4885087; 500055, 4885072; 500041, 4885045; 500034, 4885017; 500029, 4884996; 500025, 4884978; 500016, 4884959; 500011, 4884937; 500011, 4884921; 500004, 4884891; 500006, 4884875; 500006, 4884860; 500014, 4884840; 500020, 4884823; 500025, 4884806; 500021, 4884789; 500024, 4884780; 500014, 4884772; 500014, 4884757.

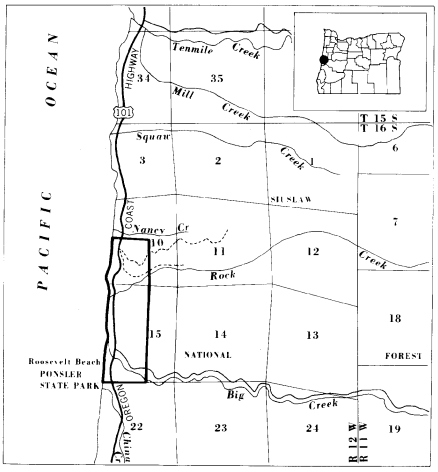
(iii) NOTE: Map 10 (Unit 13 for Fender's blue butterfly (FBB–13)) follows:


Map 10, Unit FBB-13
Fender's blue butterfly (FBB)
Icaricia icarioides fenderi
Muddy Creek
Van Duyn Rd
Interstate 5
Coburg Rd
FBB-13
Spores Creek
Hill Rd
Interstate 5
McKenzie View Dr
Old Mohawk Rd
McKenzie River
Stream
Road
Final Critical Habitat
0 0.5 1 Miles
0 0.5 1 Kilometers
Lane County
Locational Index
N

OREGON SILVERSPOT BUTTERFLY (*Speyeria zerene hippolyta*)

Oregon. Lane County T. 16 S., R. 12 W. Those portions of section 15 and of the south half of section 10 which are west of a line parallel to, and 1500 feet west of, the eastern section boundaries of sections 10 and 15.

NOTE: Map follows:



Constituent biological elements essential to the continued existence of the Oregon silverspot butterfly within the Critical Habitat include the larval foodplant (*Viola adunca*), grasses and forbs in which the larvae find shelter, the composite plants from which the adults obtain nectar, and the spruce woods in which the adults find shelter.

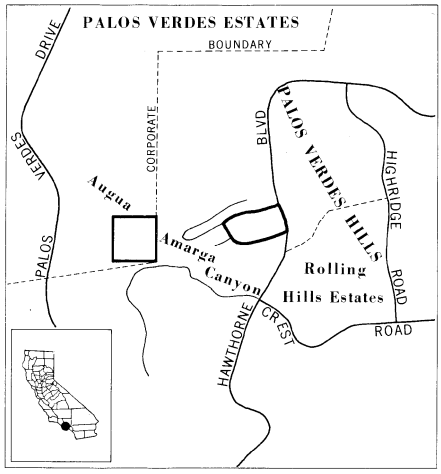
PALOS VERDES BLUE BUTTERFLY (*Glaucopsyche lygdamus palosverdesensis*)

California. Los Angeles County.

1. Agua Amarga Canyon Zone. Palos Verdes Estates. A square area of land 0.4×0.4 kilometers located at the southeast corner of the southernmost corporate boundary of Palos Verdes Estates.

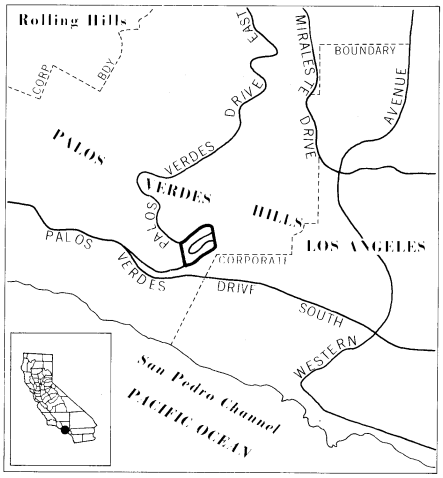
2. Frank Hesse Park Zone. Rancho Palos Verdes. An area enclosed by Hawthorne Boulevard, Locklenna Lane, and Verde Drive.

NOTE: Map follows:



3. Palos Verdes Drive Zone. Rancho Palos Verdes. The Switchback area of Palos Verdes Drive East, bounded by a line connecting the two eastern curves, a line parallel to and 0.3 kilometers southwest of this line, and the upper and lower portions of Palos Verdes Drive East.

NOTE: Map follows:



Within these Critical Habitat areas, the known biological constituent elements essential to the conservation of this species are colonies of the larval foodplant, *Astragalus trichopodus leucopsis*.

QUINO CHECKERSPOT BUTTERFLY (*Euphydryas editha quino*)

(1) Critical habitat units are depicted for Riverside and San Diego Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the Quino checkerspot butterfly are:

(i) Open areas within scrublands at least 21.5 square feet (ft2) (2 square meters (m)) in size that:

(A) Contain no woody canopy cover; and

(B) Contain one or more of the host plants *Plantago erecta*, *Plantago patagonica*, *Antirrhinum coulterianum*, or *Collinsia concolor* used for Quino checkerspot butterfly growth, reproduction, and feeding; or

(C) Contain one or more of the host plants *Cordylanthus rigidus* or *Castilleja exserta* that are within 328 ft (100 m) of the host plants listed in paragraph (2)(i)(B) above; or

(D) Contain flowering plants with a corolla tube less than or equal to 0.43 in (11 mm) used for Quino checkerspot butterfly feeding;

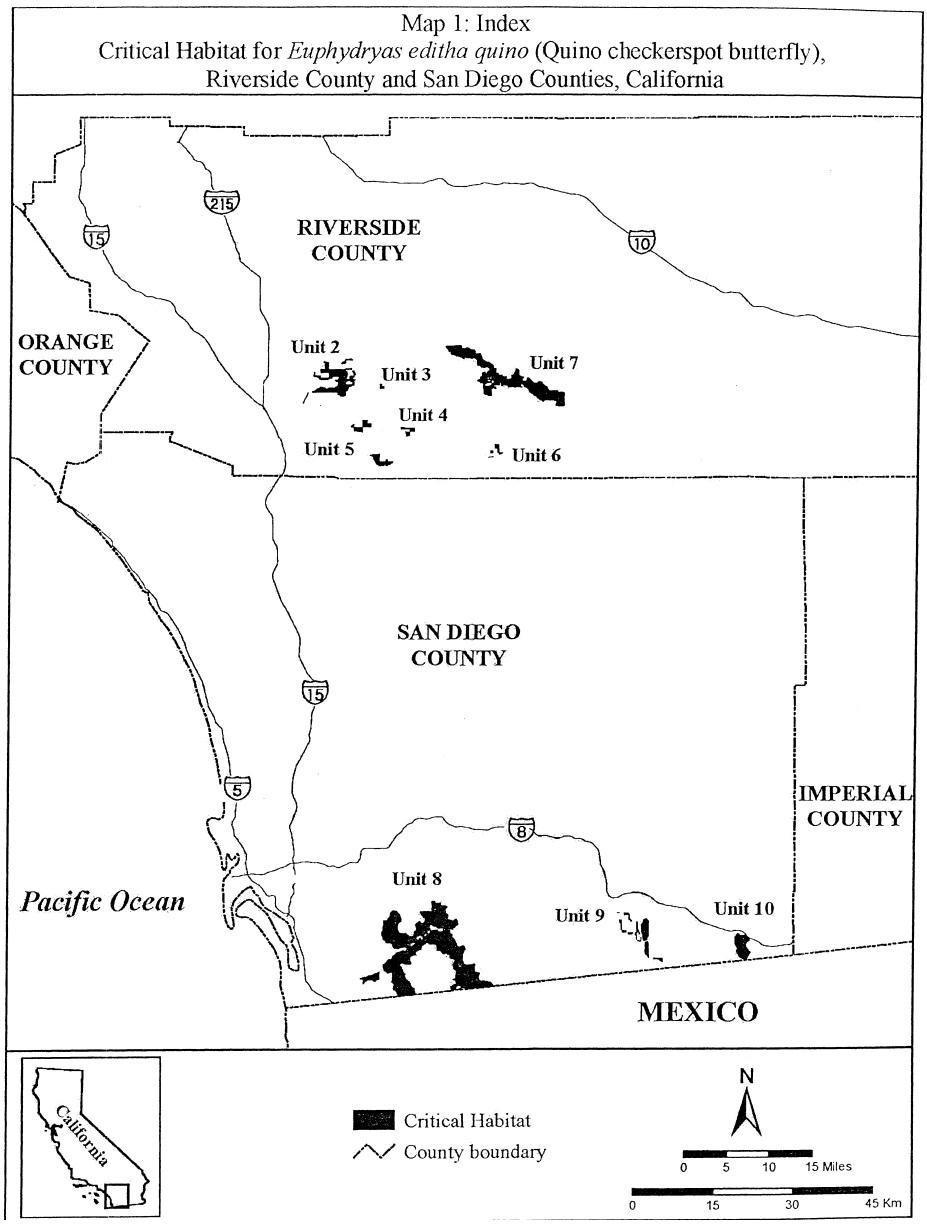
(ii) Open scrubland areas and vegetation within 656 ft (200 m) of the open canopy areas (described in paragraph (2)(i) of this entry) used for movement and basking; and

(iii) Hilltops or ridges within scrublands, containing an open, woody-canopy area at least 21.5 ft^2 (2 m^2) in size used for Quino checkerspot butterfly mating (hilltopping behavior) and are contiguous with (but not otherwise included in) open areas and natural vegetation described in paragraphs (2)(i) and (ii) above.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) NOTE: Index map of critical habitat units for the Quino checkerspot butterfly follows:



(6) Unit 2: Skinner/Johnson, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Murrieta, Bachelor Mountain, Winchester, Sage, and Hemet. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 499480, 3720871; 498641, 3720857; 498511, 3720856; 498353, 3720855; 498593, 3720996; 498642, 3721009; 499082, 3721122; 499479, 3721141; 499529, 3721143; 499731, 3721103; 499738, 3721101; 499829, 3720955; 499918, 3720879; thence

returning to 499480, 3720871. Continue to 497696, 3720235; 497728, 3720291; 497832, 3720397; 498082, 3720651; 498640, 3720657; 498640, 3720445; 498639, 3720257; 498639, 3720257; 498059, 3720244; 497833, 3720239; 497778, 3720238; thence returning to 497696, 3720235. Continue to 494486, 3720445; 494486, 3720445; 494496, 3720550; 494671, 3720558; 494796, 3720564; 495236, 3720522; 495415, 3720453; 495475, 3720430; 495475, 3720430; 495474, 3720194; 495474, 3720033; 495470, 3719192; 496227, 3719210; 496269, 3719211; 496291, 3719212; 496669, 3719221; 497068, 3719231; 497401, 3719235; 497436, 3719236; 497456, 3719236; 497636, 3719238; 497727, 3719239; 497838, 3719241; 498238, 3719245; 498463, 3719247; 498638, 3719249; 498647, 3719249; 498648, 3719249; 498654, 3719249; 498722, 3719250; 499106, 3719253; 499141, 3719254; 499290, 3719254; 499723, 3719253; 499723, 3719253; 499641, 3719206; 499612, 3719190; 499612, 3719190; 499544, 3719046; 499543, 3719044; 499543, 3719044; 499540, 3719034; 499529, 3719035; 499526, 3719035; 499524, 3719035; 499523, 3719035; 499523, 3719036; 499080, 3719076; 499079, 3719074; 499065, 3719034; 499065, 3719034; 499063, 3719029; 499059, 3719017; 498910, 3719042; 498899, 3719044; 498888, 3719047; 498877, 3719051; 498866, 3719054; 498856, 3719059; 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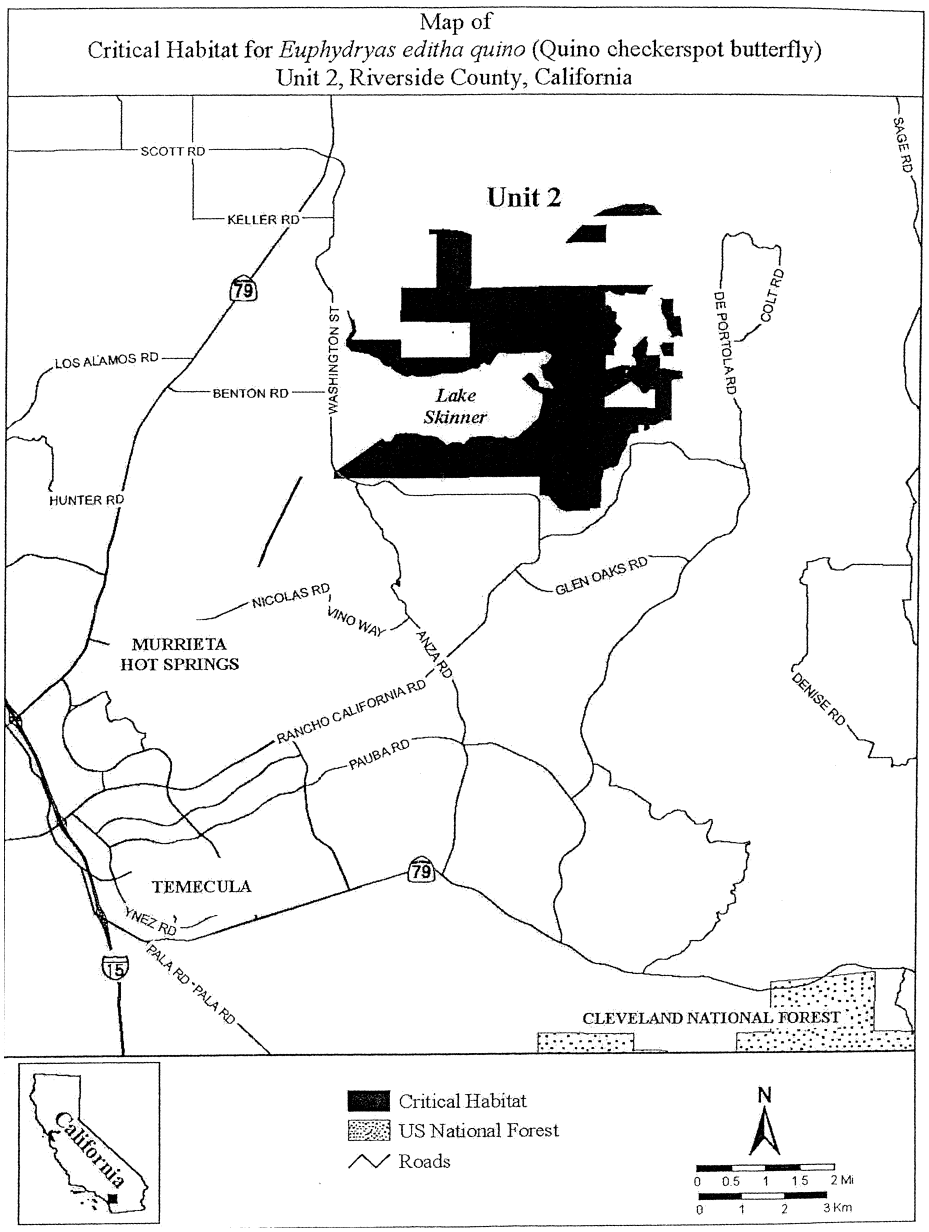
(ii) NOTE: Map of Unit 2, Skinner/Johnson follows:

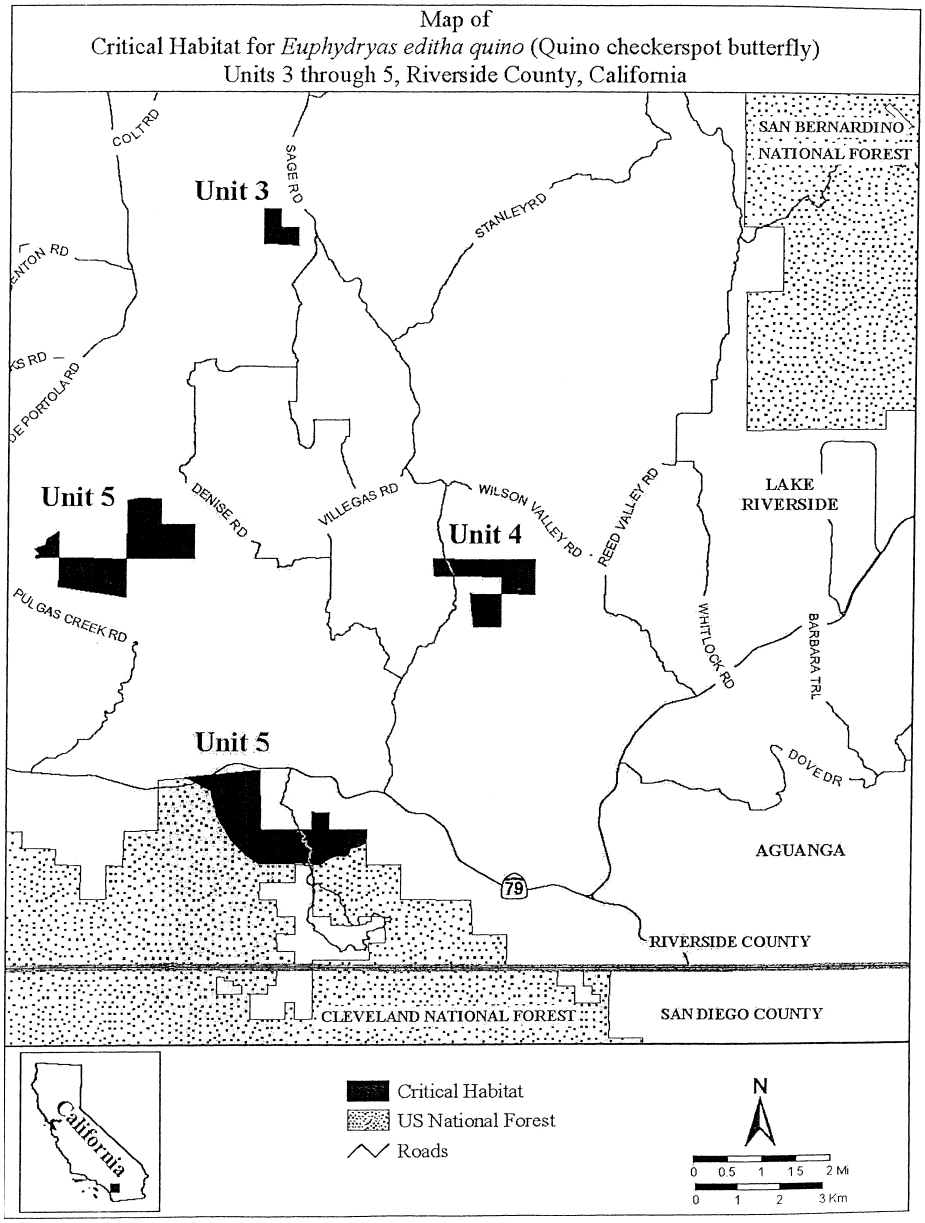


(7) Unit 3: Sage Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangle Sage. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 505035, 3716405; 505035, 3716405; 505175, 3716404; 505175, 3716404; 505245, 3716403; 505267, 3716403; 505380, 3716402; 505427, 3716402; 505429, 3716017; 505429, 3715985; 505432, 3715985; 505727, 3715975; 505831, 3715971; 505831, 3715971; 505831, 3715774; 505831, 3715547; 505025, 3715591; 505025, 3715611;

505026, 3715641; 505027, 3715789; 505027, 3715789; 505029, 3715890; 505030, 3715988; 505032, 3716141; 505032, 3716189; 505032, 3716189; thence returning to 505035, 3716405.

(ii) NOTE: Map of Unit 3 (Sage Unit), Unit 4 (Wilson Valley Unit), and Unit 5 (Vail Lake/Oak Mountain Unit) follows:



(8) Unit 4: Wilson Valley Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Cahuilla Mountain, Sage, and Vail Lake. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 510234, 3707784; 510234, 3707785; 510234, 3707800; 510234, 3707808; 509911, 3707810; 509378, 3707813; 509357, 3707813; 509356, 3707812; 509356, 3707812; 509094, 3707816; 509094, 3707816; 509094, 3707816; 509092, 3707833; 509092, 3707835; 509064, 3708174; 509061, 3708213; 509060, 3708216; 509060, 3708217; 509311, 3708214; 509360, 3708214; 509412, 3708213; 509447, 3708213; 509447, 3708213; 509535, 3708212; 509558, 3708212; 509712, 3708211; 509854, 3708209; 509870, 3708209; 509870, 3708209; 509870, 3708209; 509935, 3708209; 510386, 3708205; 510689, 3708203; 511420, 3708197; 511480, 3708197; 511507, 3708197; 511507, 3708197; 511507, 3708172; 511507, 3708066; 511507, 3708066; 511506, 3707959; 511506, 3707934; 511505, 3707784; 511504, 3707636; 511504, 3707594; 511503, 3707514; 511503, 3707503; 511503, 3707503; 511503, 3707375; 511502, 3707375; 511087, 3707383; 510706, 3707390; 510706, 3707390; 510706, 3707390; 510706, 3707424; 510704, 3707599; 510702, 3707780; 510680, 3707780; 510595, 3707781; thence returning to 510234, 3707784. Continue to 510706, 3707390; 510707, 3707301; 510715, 3706625; 510715, 3706625; 510035, 3706610; 510035, 3706610; 510025, 3706704; 510024, 3706709; 510024, 3706712; 510015, 3706798; 509994, 3707007; 509994, 3707007; 509973, 3707206; 509973, 3707206; 509963, 3707305; 509953, 3707404; 509953, 3707404; 510609, 3707392; 510678, 3707390; thence returning to 510706, 3707390.

(ii) NOTE: Unit 4 (Wilson Valley) for the Quino checkerspot butterfly is depicted on the map in paragraph (7)(ii) of this entry.

(8) Unit 5: Vail Lake/Oak Mountain Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Bachelor Mountain, Sage, Pechanga, and Vail Lake. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 501858, 3709596; 501858, 3709596; 502139, 3709646; 502615, 3709631; 502626, 3709625; 502643, 3709615; 502643, 3709609; 502642, 3709465; 502642, 3709465; 502641, 3709286; 502641, 3709256; 502640, 3709087; 502640, 3709074; 502640, 3709046; 503036, 3709037; 503036, 3709037; 503174, 3709034; 503340, 3709031; 503433, 3709028; 503434, 3708993; 503434, 3708987; 503434, 3708987; 503434, 3708899; 503435, 3708725; 503435, 3708713; 503435, 3708707; 503435, 3708707; 503437, 3708213; 503437, 3708213; 503437, 3708213; 501828, 3708226; 501828, 3708226; 501828, 3708226; 501829, 3708245; 501829, 3708258; 501841, 3708792; 501844, 3708936; 501849, 3709192; 501853, 3709344; 501853, 3709354; 501853, 3709364; thence returning to 501858, 3709596. Continue to 500229, 3708250; 500085, 3708249; 499766, 3708247; 499671, 3708246; 499671, 3708246; 499668, 3708295; 499768, 3708331; 499694, 3708419; 499652, 3708468; 499727, 3708495; 499768, 3708510; 499887, 3708558; 499915, 3708657; 499987, 3708725; 500070, 3708773; 500134, 3708820; 500154, 3708832; 500220, 3708869; 500220, 3708868; thence returning to 500229, 3708250. Continue to 501828, 3708226; 501830, 3708001; 501831, 3707844; 501833, 3707599; 501834, 3707442; 501835, 3707394; 501835, 3707318; 501835, 3707318; 501550, 3707363; 501429, 3707383; 501022, 3707448; 500616, 3707513; 500397, 3707548; 500210, 3707578; 500210, 3707578; 500210, 3707582; 500214, 3707723; 500226, 3708156; 500229, 3708250; 500229, 3708250; 500229, 3708250; 500719, 3708249; 501023, 3708249; 501441, 3708237; 501466, 3708236; 501737, 3708229; 501801, 3708227; 501817, 3708226; thence returning to 501828, 3708226. Continue to 507529, 3701874; 507531, 3701777; 507532, 3701729; 507532, 3701729; 507513, 3701663; 507489, 3701583; 507470, 3701544; 507352, 3701469; 507350, 3701469; 507350, 3701467; 507271, 3701434; 507218, 3701448; 507155, 3701416; 507129, 3701371; 507113, 3701304; 507071, 3701262; 506993, 3701239; 506916, 3701235; 506865, 3701235; 506805, 3701244; 506703, 3701200; 506640, 3701170; 506568, 3701135; 506494, 3701063; 506399, 3701047; 506264, 3701054; 506246, 3701061; 506242, 3701061; 506242, 3701072; 505840, 3701071; 505840, 3701071; 505840, 3701068; 505840, 3701068; 505833, 3701068; 505723, 3701058; 505713, 3701052; 505415, 3701052; 505035, 3701052; 505013, 3701052; 504656, 3701290; 504313, 3701648; 504171, 3701886; 503985, 3702199; 503837, 3702780; 503528, 3702954; 503528, 3702954; 503494, 3702973; 503477, 3702981; 503477, 3702981; 503417, 3703009; 503271, 3703077; 503258, 3703095; 503250, 3703106; 503340, 3703114; 503415, 3703121; 503866, 3703163; 503873, 3703164; 503946, 3703171; 503953, 3703172; 505023, 3703271; 505023, 3703271; 505026, 3703040; 505026, 3703040; 505029, 3702852; 505029, 3702852; 505030, 3702776; 505031, 3702723; 505031, 3702702; 505039, 3702145; 505043, 3701881; 505043, 3701881; 505266, 3701880; 505443, 3701879; 505443, 3701879; 505722, 3701878; 505843, 3701877; 505848, 3701877; 506242, 3701875; 506242, 3701875; 506242, 3702278; 506244, 3702278; 506643, 3702274; 506643, 3702106; 506642, 3702087; 506642, 3701873; 506642, 3701873; 506657, 3701873; 506684, 3701873; 507103, 3701873; 507282, 3701874; thence returning to 507529, 3701874.

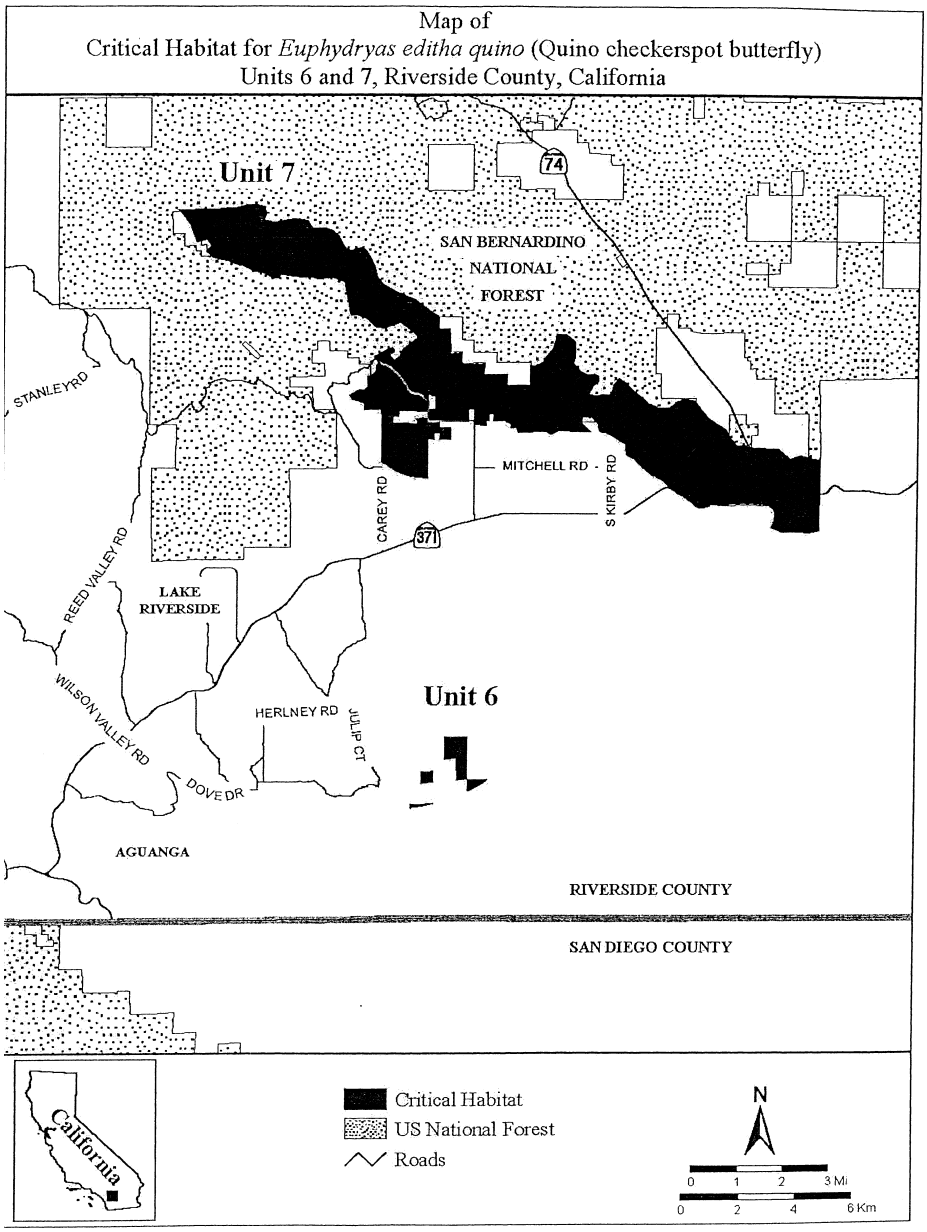
(ii) NOTE: Unit 5 (Vail Lake/Oak Mountain) for the Quino checkerspot butterfly is depicted on the map in paragraph (7)(ii) of this entry.

(10) Unit 6: Tule Peak Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Aguanga, Beauty Mountain, and Anza. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 527628, 3703575; 527233, 3703541; 527233, 3703541; 527232, 3703658; 527230, 3703925; 527230, 3703934; 527229, 3704074; 527228, 3704118; 527226, 3704307; 526831, 3704287; 526824, 3704287; 526813, 3704286; 526813, 3704286; 526811, 3704467; 526806, 3704812; 526803, 3705067; 527305, 3705070; 527625, 3705073; 527626, 3704522; 527626, 3704231; 527627, 3703961; 527627, 3703809; 527627, 3703725; 527627, 3703709; 527628, 3703696; 527628, 3703575; thence returning to 527628, 3703575. Continue to 526311, 3703859; 526400, 3703866; 526403, 3703470; 526403, 3703470; 526365, 3703467; 526040, 3703439; 525983, 3703434; 525980, 3703823; 525980, 3703835; thence returning to 526311, 3703859. Continue to

528328, 3703573; 528328, 3703573; 528310, 3703558; 528208, 3703471; 528051, 3703364; 527873, 3703263; 527737, 3703197; 527631, 3703161; 527630, 3703161; 527630, 3703161; 527628, 3703575; 527628, 3703575; 528134, 3703574; 528153, 3703574; thence returning to 528328, 3703573. Continue to 526412, 3702730; 526363, 3702718; 525995, 3702627; 525987, 3702626; 525605, 3702584; 525588, 3702582; 525588, 3702582; 525588, 3702696; 525588, 3702696; 525854, 3702707; 525986, 3702713; 526140, 3702719; 526368, 3702728; thence returning to 526412, 3702730.

(ii) NOTE: Map of Unit 6 (Tule Peak) and Unit 7 (Bautista) follows:



(8) Unit 7: Bautista Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Anza, Butterfly Peak, Blackburn Canyon, and Idyllwild. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 524940, 3714398; 524927, 3714405; 524915, 3714413; 524912, 3714415; 524909, 3714416; 524891, 3714427; 524867, 3714442; 524861, 3714445; 524843, 3714457; 524824, 3714470; 524819, 3714473; 524796, 3714488; 524773, 3714505; 524750, 3714521; 524727,

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(ii) NOTE: Unit 7 (Bautista) for the Quino checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(8) Unit 8: Otay Unit, San Diego County, California.

(i) From USGS 1:24,000 quadrangles Jamul Mountains, Dulzura, Otay Mesa, Otay Mountain, and Tecate. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 505693, 3606447; 505703, 3606427; 505702, 3606427; 505702, 3606426; 505693, 3606046; 505691, 3605963; 505687, 3605768; 505677, 3605363; 505668, 3604969; 505635, 3604959; 505560, 3604935; 505239, 3604836; 505150, 3604808; 505147, 3604807; 505125, 3604572; 505124, 3604564; 504912, 3604574; 504650, 3604587; 504549, 3604707; 504464, 3604807; 503596, 3604788; 503441, 3604784; 503423, 3604784; 502983, 3604518; 502810, 3604205; 502732, 3604207; 502715, 3605000; 502151, 3605003; 502141, 3605216; 502141, 3605222; 502335, 3605289; 502913, 3605488; 502919, 3605481; 502922, 3605478; 503260, 3605591; 503260, 3605593; 503257, 3605604; 503255, 3605606; 503274, 3605613; 503537, 3605704; 503545, 3605706; 503856, 3605814; 503909, 3605832; 503935, 3605840; 504176, 3605924; 504337, 3605979; 504546, 3606052; 504617, 3606076; 504799, 3606141; 505139, 3606262; 505378, 3606338; 505594, 3606413; 505692, 3606446; 505693, 3606447; thence returning to 505693, 3606447. Continue to 506421, 3607499; 506490, 3607502; 506512, 3607503; 506510, 3607549; 506510, 3607549; 506489, 3607885; 506564, 3607917; 506564, 3607917; 506776, 3608010; 506859, 3608047; 506976, 3608221; 507010, 3608271; 507025, 3608294; 507168, 3608518; 507452, 3608739; 507453, 3608758; 507569, 3608830; 507852, 3608932; 507977, 3608971; 508040, 3609097; 508040, 3609363; 508199, 3609449; 508324, 3609517; 508518, 3609622; 508714, 3609755; 508740, 3609897; 508745, 3609928; 508824, 3610006; 508996, 3610006; 509114, 3610061; 509177, 3610137; 509190, 3610152; 509192, 3610155; 509333, 3610179; 509420, 3610202; 509490, 3610163; 509537, 3610108; 509537, 3610202; 509553, 3610351; 509725, 3610390; 509984, 3610508; 510011, 3610531; 510039, 3610555; 510149, 3610563; 510305, 3610500; 510517, 3610469; 510666, 3610508; 510713, 3610641; 510792, 3610822; 510828, 3610885; 510909, 3611025; 510930, 3611061; 511066, 3611284; 511301, 3611402; 511497, 3611417; 511497, 3611226; 511497, 3611221; 511676, 3611260; 511787, 3611284; 512102, 3611553; 512218, 3611653; 512210, 3611672; 512171, 3611755; 512265, 3612060; 512273, 3612311; 512352, 3612421; 512508, 3612507; 512610, 3612531; 512691, 3612505; 512759, 3612484; 512785, 3612488; 512844, 3612496; 512872, 3612501; 512916, 3612507; 513018, 3612593; 513049, 3612664; 513144, 3612719; 513261, 3612742; 513266, 3612803; 513267, 3612819; 513269, 3612844; 513295, 3612845; 513313, 3612846; 513418, 3612851; 513457, 3612852; 513567, 3612758; 513567, 3612664; 513567, 3612523; 513620, 3612383; 513653, 3612295; 513880, 3612084; 513953, 3612024; 514096, 3611906; 514147, 3611864; 514249, 3611966; 514177, 3611992; 514163, 3611998; 514139, 3612068; 513990, 3612209; 513888, 3612217; 513786, 3612350; 513763, 3612499; 513810, 3612617;

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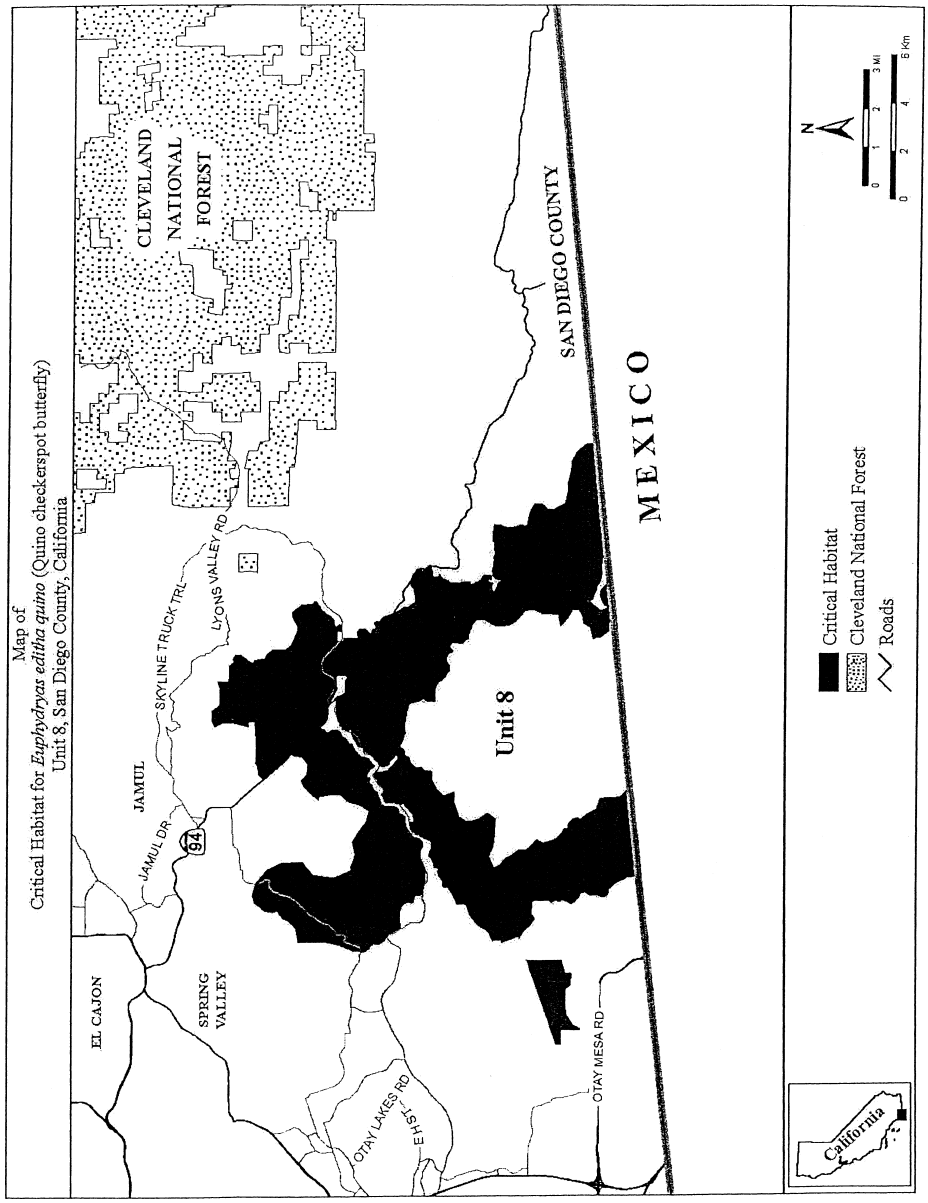
(ii) NOTE: Map of Unit 8 (Otay) follows:

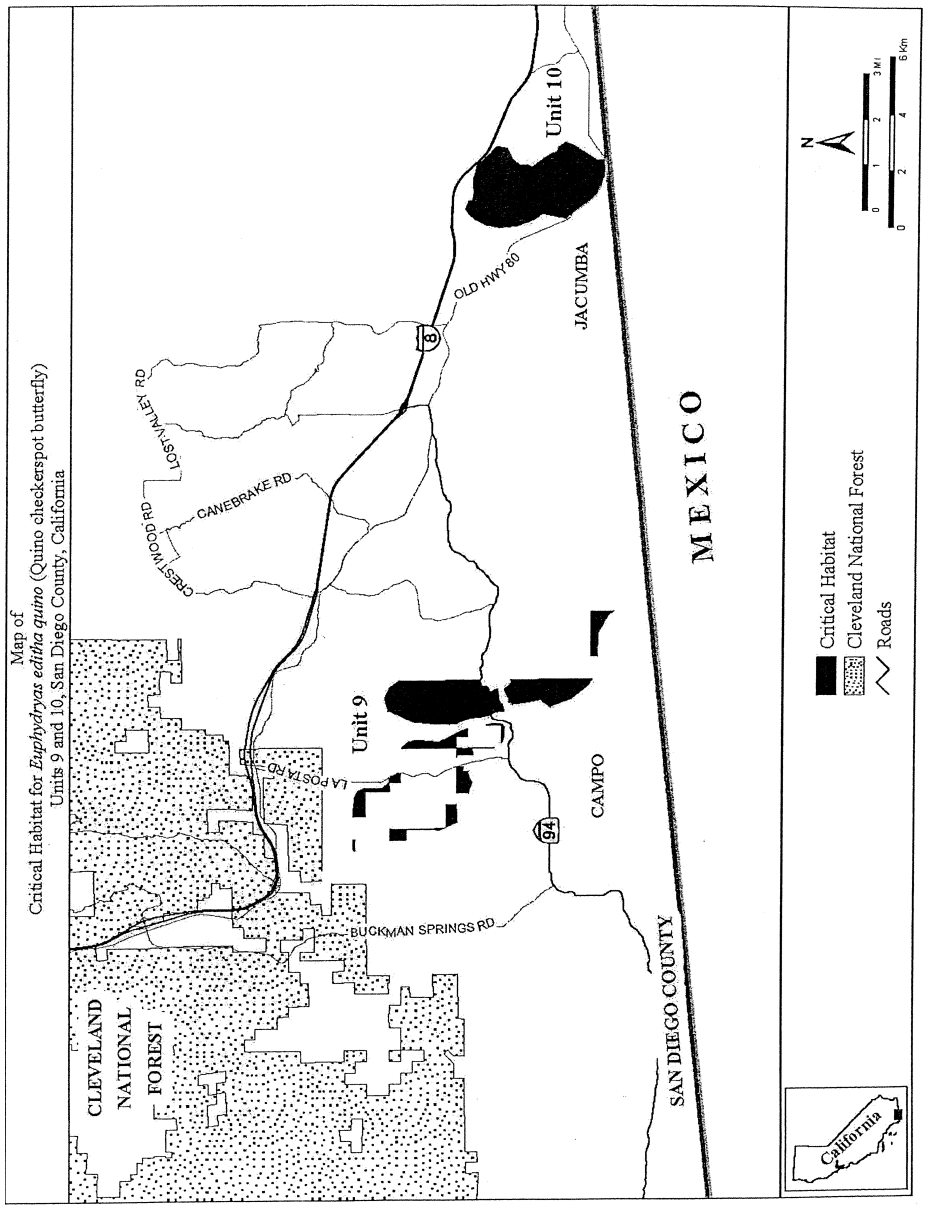


(13) Unit 9: La Posta/Campo Unit, San Diego County, California.

(i) From USGS 1:24,000 quadrangles Cameron Corners, Live Oak Springs, Campo, Tierra Del Sol. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 555235, 3612703; 555266, 3612642; 555282, 3612538; 555299, 3612347; 555299, 3612204; 555289, 3612185; 555286, 3612179; 555258, 3612122; 555255, 3612116; 555250, 3612113; 555196, 3612065; 555167, 3612040; 555141, 3612041; 554992, 3612051; 554790, 3612076; 554773, 3612078; 554750, 3612088; 554644, 3612135; 554616, 3612172; 555239,

3612178; thence returning to 555235, 3612703. Continue to 556851, 3611831; 556851, 3611792; 556854, 3611388; 556857, 3610862; 556857, 3610859; 556859, 3610589; 556859, 3610438; 556861, 3609806; 556861, 3609643; 556862, 3608972; 556862, 3608918; 556767, 3608971; 556662, 3609029; 556154, 3609661; 556051, 3609942; 555876, 3610417; 555985, 3610583; 556046, 3610677; 556107, 3610771; 556044, 3611140; 556015, 3611311; 556008, 3611382; 555969, 3611769; 556037, 3611820; 556037, 3611884; 556041, 3611885; 556101, 3611901; 556214, 3611905; 556239, 3611937; 556313, 3611993; 556440, 3612043; 556442, 3612043; 556511, 3612053; 556578, 3611968; 556613, 3611912; 556684, 3611841; 556758, 3611806; 556815, 3611806; 556832, 3611806; thence returning to 556851, 3611831. Continue to 559269, 3608184; 559129, 3608366; 558512, 3608706; 557788, 3608752; 557674, 3608729; 557672, 3608729; 557672, 3608979; 557672, 3608979; 557793, 3608980; 558433, 3608985; 559266, 3608992; 559267, 3608896; 559267, 3608810; 559267, 3608809; 559268, 3608585; 559268, 3608448; 559268, 3608441; thence returning to 559269, 3608184. Continue to 551183, 3617445; 551182, 3617374; 550771, 3617373; 550851, 3617445; 551067, 3617445; thence returning to 551183, 3617445. Continue to 551992, 3617445; 552177, 3617445; 552670, 3617384; 552673, 3617382; 552808, 3617319; 552870, 3617290; 552901, 3617276; 552934, 3617205; 552977, 3617113; 553009, 3617045; 553009, 3617022; 553009, 3616930; 553009, 3616705; 553009, 3616544; 553009, 3616397; 553101, 3616282; 553194, 3616166; 553285, 3616149; 553340, 3616138; 553348, 3616137; 553528, 3615859; 553528, 3615738; 553210, 3615735; 553209, 3616137; 553101, 3616137; 552875, 3616135; 552874, 3616544; 552873, 3616927; 552873, 3616929; 552873, 3616929; 552872, 3616985; 552810, 3616984; 552398, 3616983; 552252, 3616983; 551991, 3616983; thence returning to 551992, 3617445. Continue to 556827, 3615793; 556828, 3615737; 556830, 3615408; 556831, 3614590; 556831, 3614555; 556816, 3614517; 556830, 3614504; 556831, 3614197; 556833, 3613792; 556834, 3613792; 556835, 3613521; 556835, 3613453; 556837, 3613299; 556840, 3612986; 556840, 3612930; 556842, 3612930; 556843, 3612929; 556844, 3612929; 556844, 3612927; 556844, 3612927; 556802, 3612921; 556740, 3612911; 556636, 3612867; 556619, 3612703; 556553, 3612654; 556515, 3612626; 556479, 3612608; 556444, 3612590; 556423, 3612580; 556416, 3612577; 556521, 3612314; 556400, 3612275; 556307, 3612263; 556206, 3612250; 556186, 3612248; 556121, 3612242; 556039, 3612202; 556022, 3612193; 556018, 3612187; 555967, 3612111; 555748, 3612067; 555710, 3612089; 555707, 3612183; 555704, 3612270; 555660, 3612423; 555647, 3612445; 555602, 3612514; 555590, 3612533; 555584, 3612544; 555577, 3612572; 555545, 3612703; 555507, 3612900; 555458, 3613294; 555375, 3613607; 555290, 3613781; 555280, 3613802; 555260, 3614054; 555275, 3614501; 555306, 3614948; 555310, 3614990; 555337, 3615287; 555386, 3615398; 555506, 3615673; 555626, 3615927; 555679, 3616039; 555707, 3616099; 555753, 3616197; 556016, 3616272; 556184, 3616320; 556215, 3616306; 556416, 3616218; 556437, 3616209; 556570, 3616151; thence returning to 556827, 3615793. Continue to 551599, 3614195; 551570, 3614263; 551570, 3614263; 551526, 3614370; 551520, 3614383; 551521, 3614511; 551527, 3615370; 551528, 3615536; 551160, 3615550; 551160, 3615696; 551159, 3616111; 551186, 3616112; 551566, 3616122; 551567, 3615699; 551568, 3615371; 551570, 3614568; 551600, 3614567; 551600, 3614481; 551600, 3614370; 551599, 3614263; thence returning to 551599, 3614195. Continue to 554425, 3615730; 554441, 3615730; 554522, 3615639; 554643, 3615503; 554669, 3615392; 554705, 3615241; 554703, 3615200; 554693, 3614945; 554663, 3614637; 554666, 3614487; 554669, 3614396; 554795, 3614111; 554836, 3614027; 554844, 3614011; 554957, 3613779; 555058, 3613574; 555093, 3613469; 555125, 3613372; 554837, 3613372; 554834, 3613779; 554437, 3613777; 554435, 3613777; 554434, 3613580; 554432, 3613580; 554433, 3613380; 554434, 3613175; 554435, 3613041; 554435, 3612974; 554436, 3612795; 554436, 3612774; 554437, 3612565; 554439, 3612565; 554440, 3612406; 554440, 3612406; 554408, 3612449; 554411, 3612565; 554418, 3612773; 554419, 3612804; 554427, 3613038; 554432, 3613175; 554433, 3613218; 554175, 3613196; 554175, 3613378; 554175, 3613578; 554175, 3613771; 554102, 3613775; 554103, 3613775; 554432, 3613777; 554433, 3613777; 554429, 3614501; 554429, 3614578; 554425, 3615390; 554421, 3615720; 554425, 3615720; thence returning to 554425, 3615730. Continue to 551780, 3613764; 551611, 3614166; 552008, 3614166; 552272, 3614167; 552418, 3614167; 552419, 3613766; 552275, 3613766; 552008, 3613765; thence returning to 551780, 3613764. Continue to 553772, 3613773; 553780, 3613744; 553775, 3613536; 553615, 3613536; 553617, 3613402; 553617, 3613401; 553617, 3613344; 553549, 3613376; 553194, 3613222; 552815, 3613352; 552815, 3613352; 552819, 3613767; 553417, 3613772; 553612, 3613773; 553772, 3613774; thence returning to 553772, 3613773.

(ii) NOTE: Map of Unit 9 (La Posta/Campo) follows:



(14) Unit 10: Jacumba Unit, San Diego County, California.

(i) From USGS 1:24,000 quadrangles Jacumba, and Jacumba OE S. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates (E, N): 573863, 3613297; 574023, 3613274; 574161, 3613286; 574253, 3613292; 574396, 3613303; 574510, 3613303; 574638, 3613245; 574759, 3613218; 574955, 3613176; 575272, 3612817; 575656, 3612485; 575643, 3612410; 575643, 3612410; 575586, 3612080; 575458, 3612014; 575458, 3612014; 575439, 3612004; 575439, 3612004; 575245, 3611903; 575131, 3611815; 575017, 3611638; 575017, 3611608;

575017, 3611608; 575017, 3611404; 574935, 3611182; 575207, 3610803; 575428, 3610462; 575453, 3610310; 575637, 3610253; 575798, 3610029; 575798, 3610029; 575801, 3610025; 575696, 3609704; 575637, 3609610; 575634, 3609606; 575431, 3609284; 575322, 3609111; 575204, 3608925; 575204, 3608842; 575204, 3608780; 575204, 3608757; 575204, 3608606; 575204, 3608573; 575204, 3608558; 575172, 3608561; 574790, 3608586; 574711, 3608610; 574601, 3608645; 574490, 3608679; 574390, 3608710; 574377, 3608716; 574203, 3608800; 574198, 3608803; 574018, 3608889; 573950, 3608954; 573770, 3609124; 573586, 3609379; 573412, 3609620; 573227, 3609838; 573109, 3609978; 573149, 3610253; 573259, 3610819; 573038, 3611122; 573002, 3611221; 572980, 3611281; 572926, 3611429; 572872, 3611577; 572831, 3611688; 572824, 3611763; 572807, 3611925; 572803, 3611958; 572762, 3612351; 572770, 3612391; 572850, 3612772; 572860, 3612821; 573028, 3613163; 573037, 3613182; 573049, 3613205; 573238, 3613440; 573433, 3613566; 573668, 3613480; 573731, 3613440; 573737, 3613337; thence returning to 573863, 3613297.

(ii) NOTE: Unit 10 (Jacumba) for the Quino checkerspot butterfly is depicted on the map in paragraph (13)(ii) of this entry.

BLACKLINE HAWAIIAN DAMSELFLY
(*Megalagrion nigrohamatum nigrolineatum*)

(1) Critical habitat units are depicted for Honolulu County, Hawaii, on the maps below.

(2) *Primary constituent elements*. The primary constituent elements of critical habitat for the blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*) are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(iv) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(v) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(vi) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(vii) Perennial streams.

(viii) Slow reaches of streams.

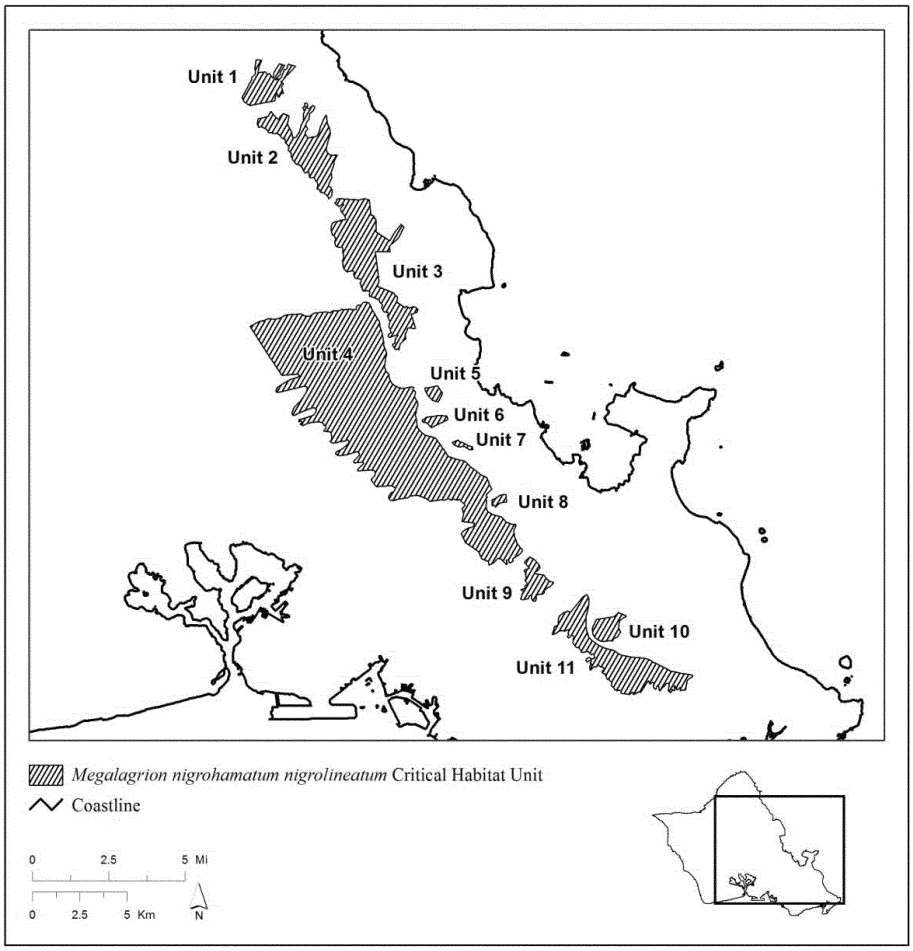
(ix) Pools.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing trails, campgrounds and their immediate surrounding landscaped area, scenic lookouts, remote helicopter landing sites, and existing fences are not included in the critical habitat designation. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or adjacent critical habitat.

(4) *Critical habitat maps*. Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83). The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/pacificislands*; at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2010–0043: and at the field office responsible for the designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

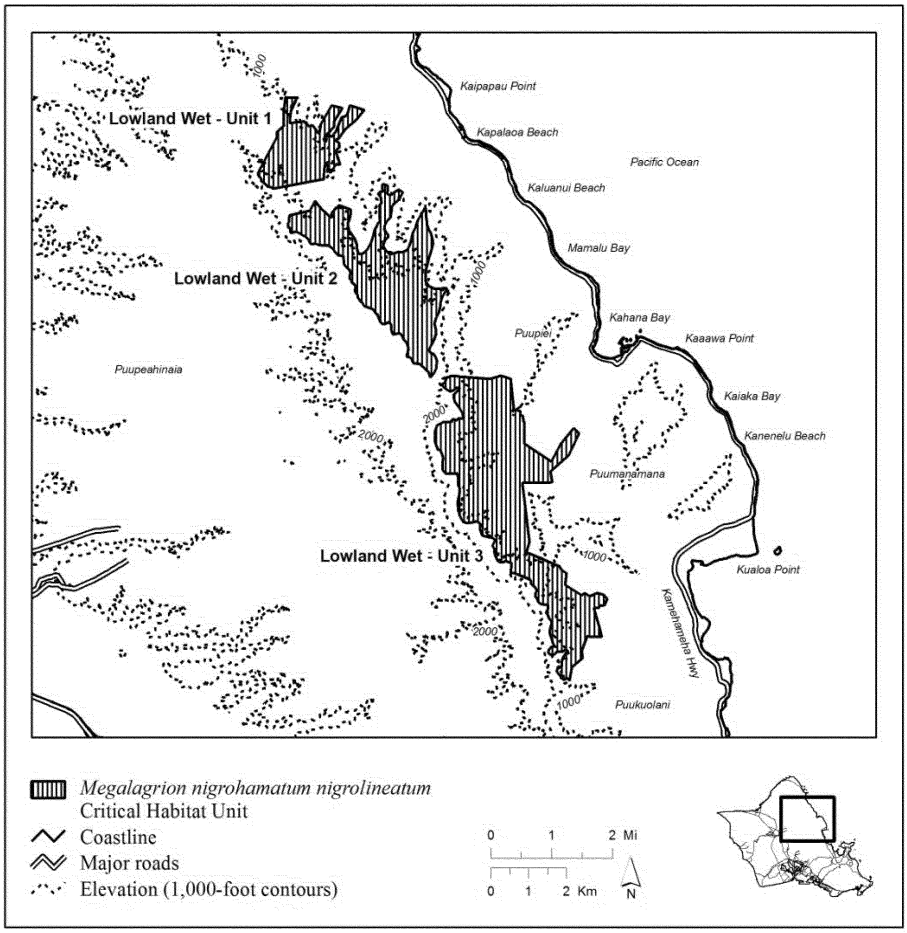
(5) Index map of critical habitat units for the blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*) follows:

Map 1
***Megalagrion nigrohamatum nigrolineatum*–Index Map**



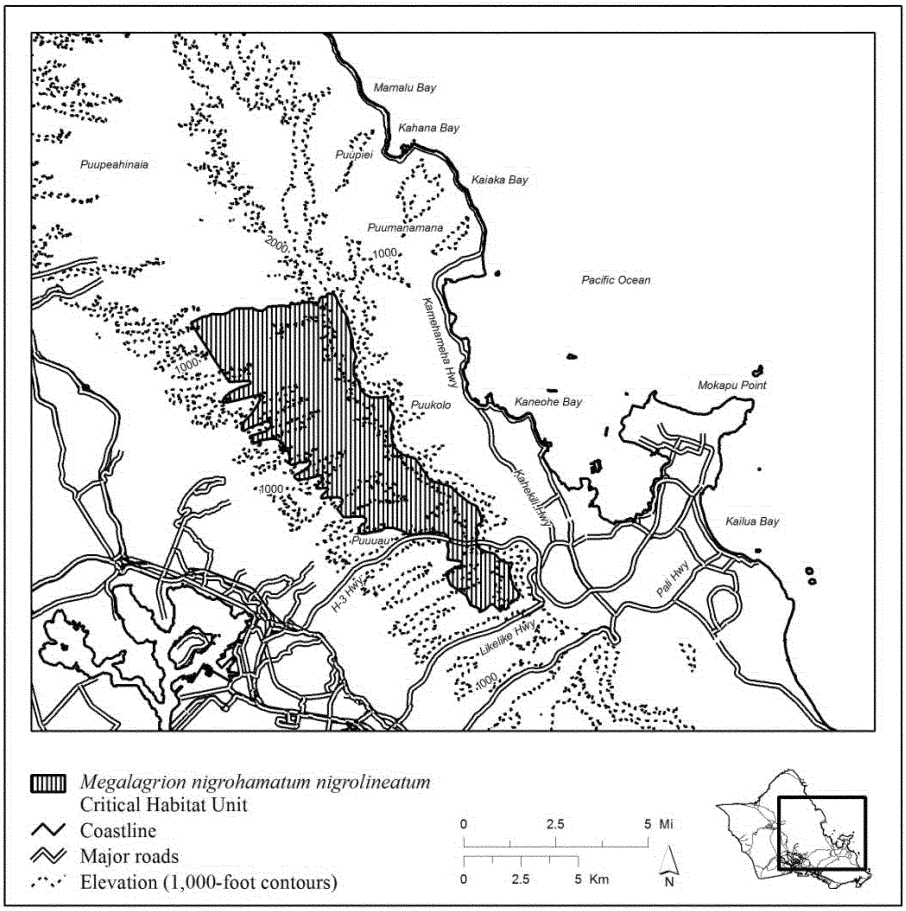
(6) *Megalagrion nigrohamatum nigrolineatum*—Unit 1—Lowland Wet, Honolulu County, Hawaii (790 ac; 320 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 2—Lowland Wet, Honolulu County, Hawaii (1,787 ac; 723 ha); and *Megalagrion nigrohamatum nigrolineatum*—Unit 3—Lowland Wet, Honolulu County, Hawaii (3,041 ac; 1,231 ha). These units are critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 1—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 2—Lowland Wet, and *Megalagrion nigrohamatum nigrolineatum*—Unit 3—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 1, Unit 2 and Unit 3



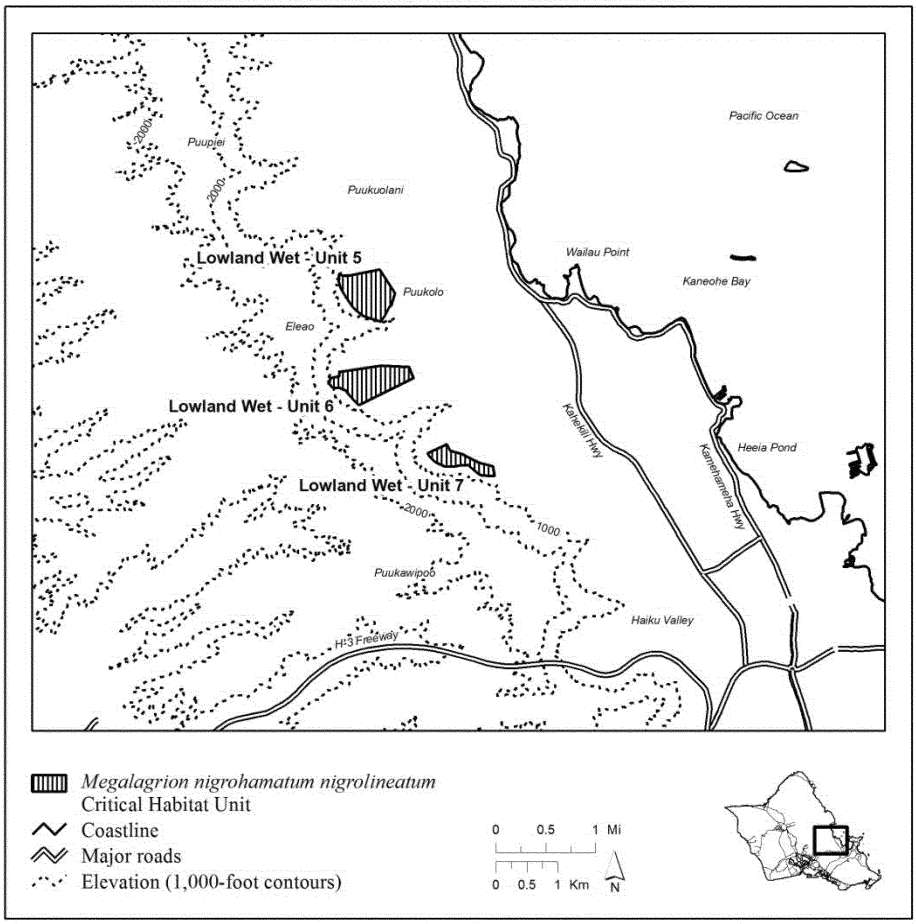
(7) *Megalagrion nigrohamatum nigrolineatum*—Unit 4—Lowland Wet, Honolulu County, Hawaii (15,728 ac; 6,365 ha). This unit is critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 4—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 4



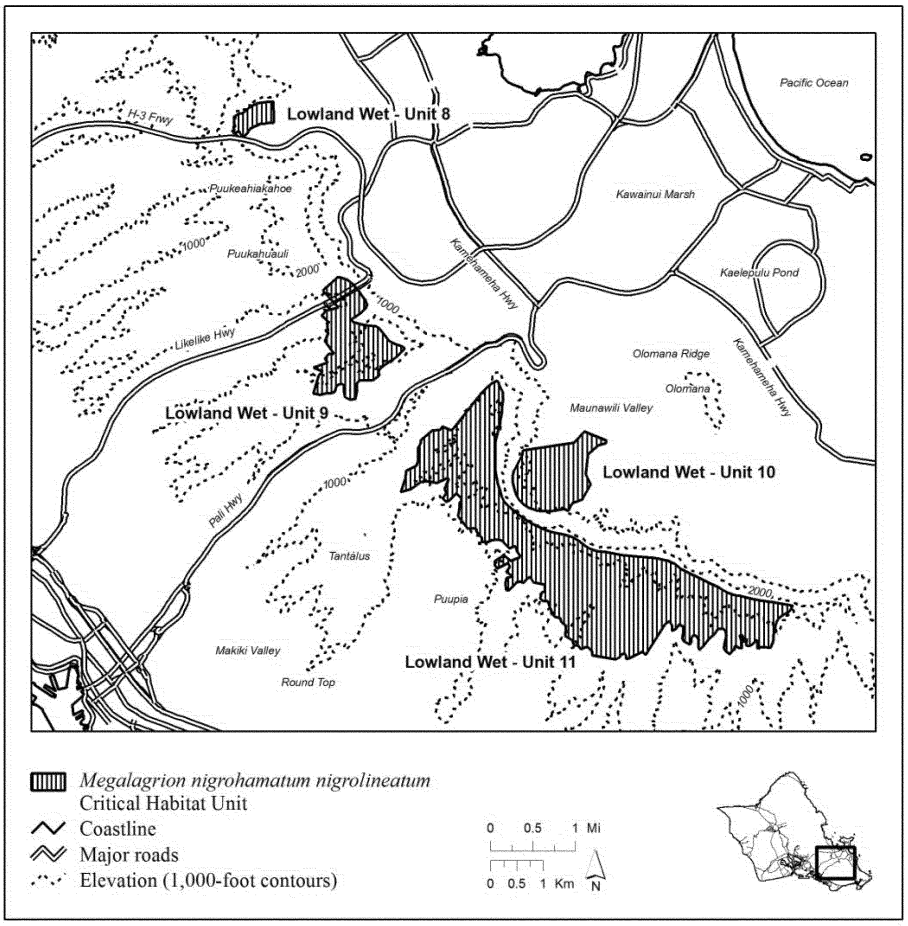
(8) *Megalagrion nigrohamatum nigrolineatum*—Unit 5—Lowland Wet, Honolulu County, Hawaii (124 ac; 50 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 6—Lowland Wet, Honolulu County, Hawaii (123 ac; 50 ha); and *Megalagrion nigrohamatum nigrolineatum*—Unit 7—Lowland Wet, Honolulu County, Hawaii (53 ac; 21 ha). These units are critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 5—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 6—Lowland Wet, and *Megalagrion nigrohamatum nigrolineatum*—Unit 7—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 5, Unit 6 and Unit 7



(9) *Megalagrion nigrohamatum nigrolineatum*—Unit 8—Lowland Wet, Honolulu County, Hawaii (75 ac; 30 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 9—Lowland Wet, Honolulu County, Hawaii (478 ac; 193 ha); *Megalagrion nigrohamatum nigrolineatum*—Unit 10—Lowland Wet, Honolulu County, Hawaii (407 ac; 165 ha); and *Megalagrion nigrohamatum nigrolineatum*—Unit 11—Lowland Wet, Honolulu County, Hawaii (2,507 ac; 1,014 ha). These units are critical habitat for the blackline Hawaiian damselfly, *Megalagrion nigrohamatum nigrolineatum*. Map of *Megalagrion nigrohamatum nigrolineatum*—Unit 8—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 9—Lowland Wet, *Megalagrion nigrohamatum nigrolineatum*—Unit 10—Lowland Wet, and *Megalagrion nigrohamatum nigrolineatum*—Unit 11—Lowland Wet follows:

Megalagrion nigrohamatum nigrolineatum
Lowland Wet
Unit 8, Unit 9, Unit 10 and Unit 11



CRIMSON HAWAIIAN DAMSELFLY (*Megalagrion leptodemas*)

(1) Critical habitat units are depicted for Honolulu County, Hawaii, on the maps below.

(2) *Primary constituent elements.*

(i) In units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11, the primary constituent elements of critical habitat for the crimson Hawaiian damselfly are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma, Metrosideros, Myrsine, Pisonia, Psychotria.*

(E) Subcanopy: *Cibotium, Claoxylon, Kadua, Melicope.*

(F) Understory: *Alyxia, Cyrtandra, Dicranopteris, Diplazium, Machaerina, Microlepia.*

(G) Perennial streams.

(H) Slow reaches of streams or ponds.

(ii) In units 12, 13, and 14, the primary constituent elements of critical habitat for the crimson Hawaiian damselfly are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia, Cheirodendron, Leptecophylla, Metrosideros.*

(F) Understory: Ferns, Bryophytes, Coprosma, Dubautia, Kadua, Peperomia.

(G) Perennial streams.

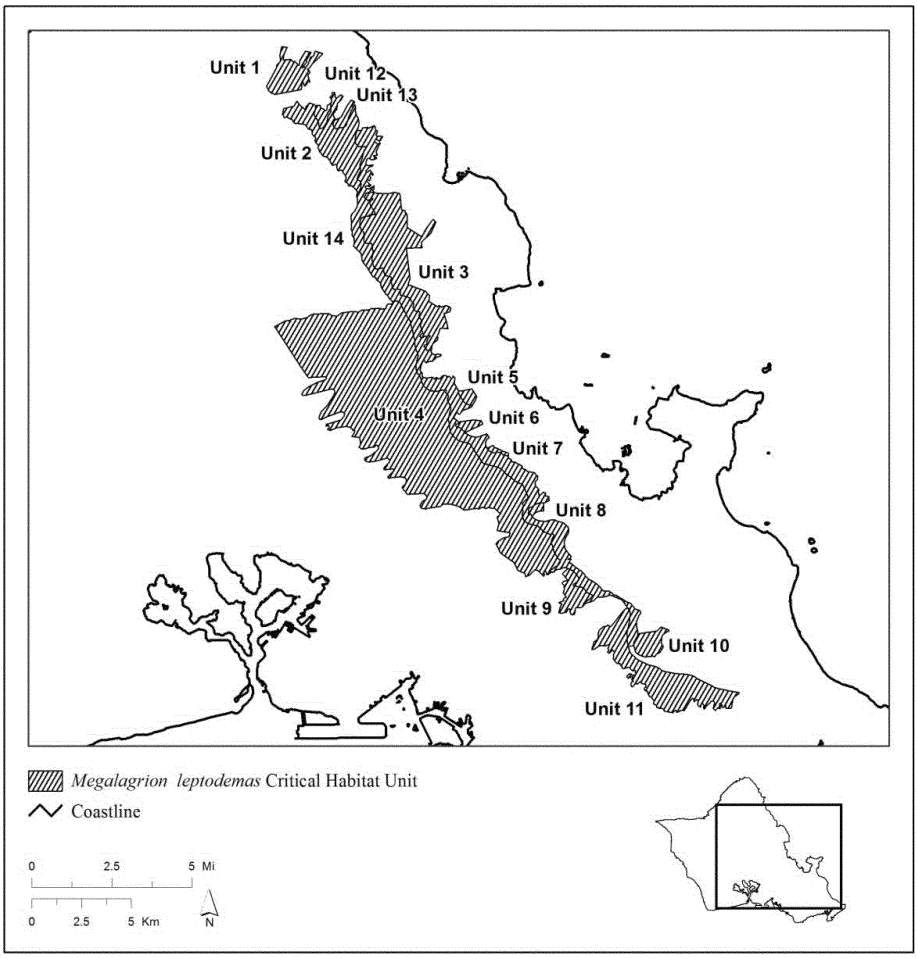
(H) Slow reaches of streams or ponds.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing trails, campgrounds and their immediate surrounding landscaped area, scenic lookouts, remote helicopter landing sites, and existing fences are not included in the critical habitat designation. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

(4) *Critical habitat maps.* Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83). The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/pacificislands*; at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2010–0043; and at the field office responsible for the designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

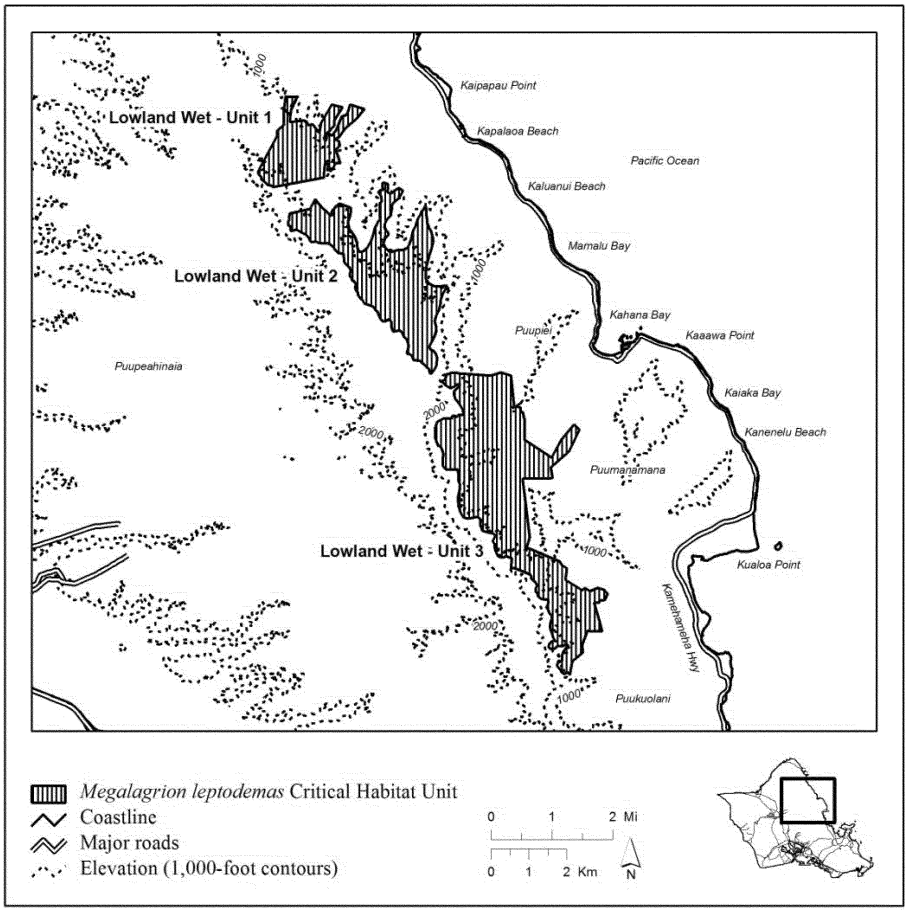
(5) Index map of critical habitat units for the crimson Hawaiian damselfly (*Megalagrion leptodemas*) follows:

Map 1
***Megalagrion leptodemas*–Index Map**



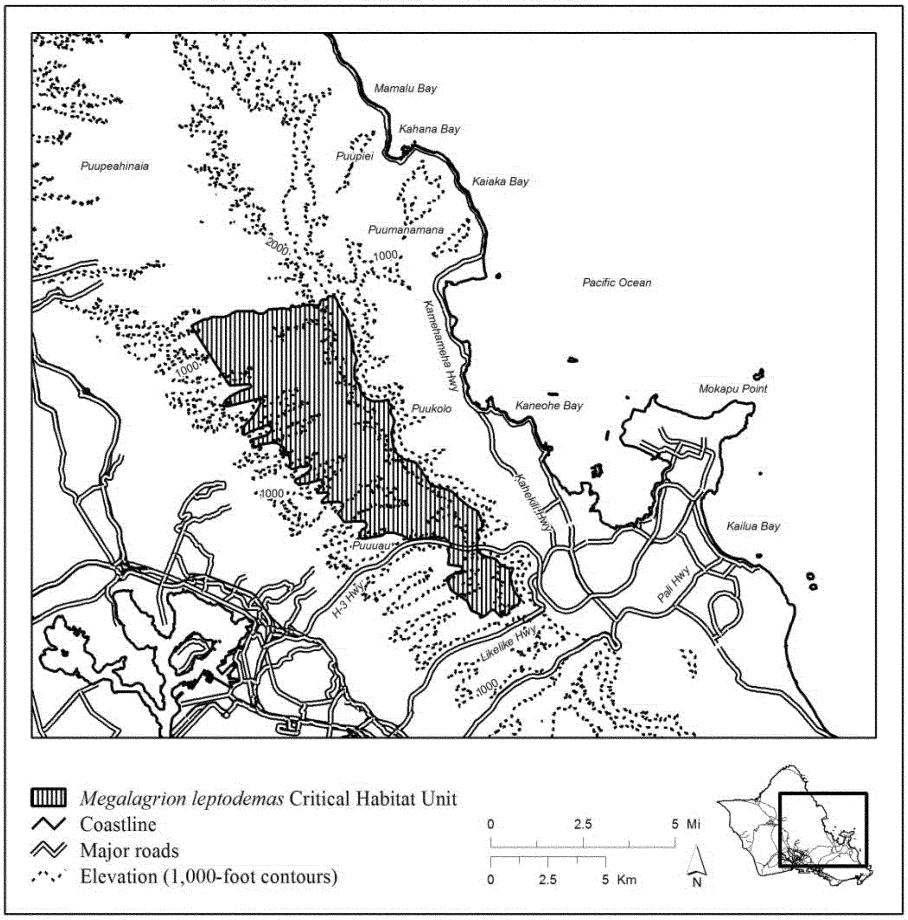
(6) *Megalagrion leptodemas*—Unit 1—Lowland Wet, Honolulu County, Hawaii (790 ac; 320 ha); *Megalagrion leptodemas*—Unit 2—Lowland Wet, Honolulu County, Hawaii (1,787ac; 723 ha); and *Megalagrion leptodemas*—Unit 3—Lowland Wet, Honolulu County, Hawaii (3,041 ac; 1,231 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 1—Lowland Wet, *Megalagrion leptodemas*—Unit 2—Lowland Wet, and *Megalagrion leptodemas*—Unit 3—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 1, Unit 2 and Unit 3



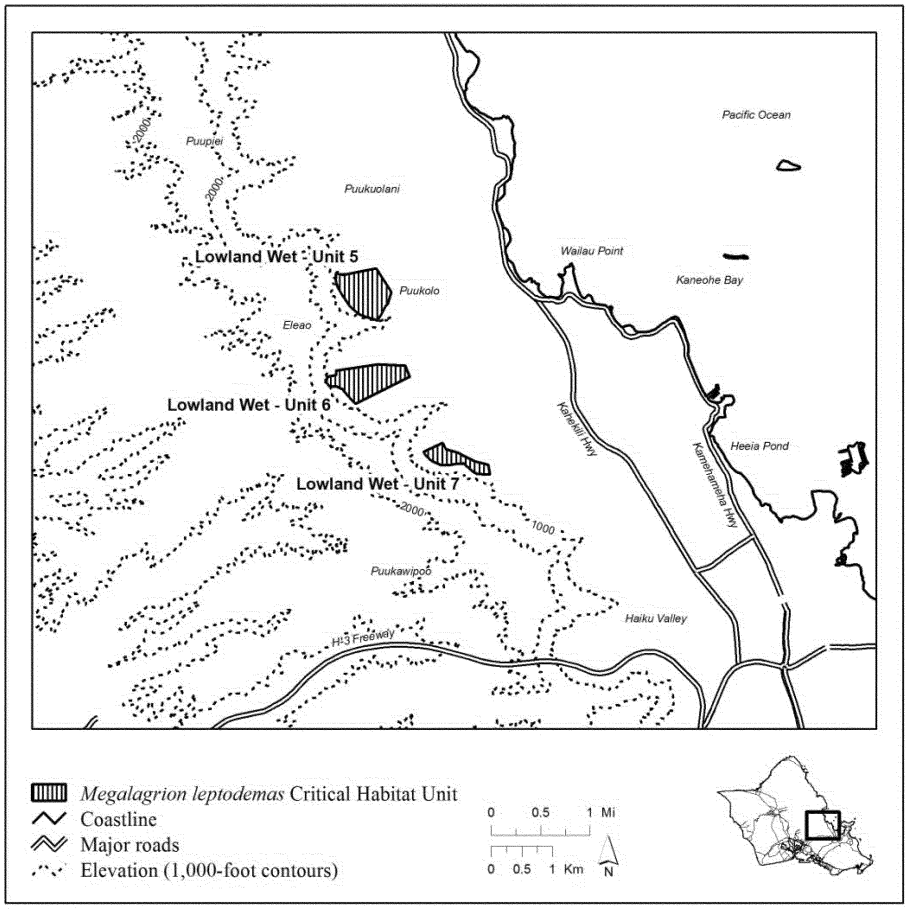
(7) *Megalagrion leptodemas*—Unit 4—Lowland Wet, Honolulu County, Hawaii (15,728 ac; 6,365 ha). This unit is critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 4—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 4



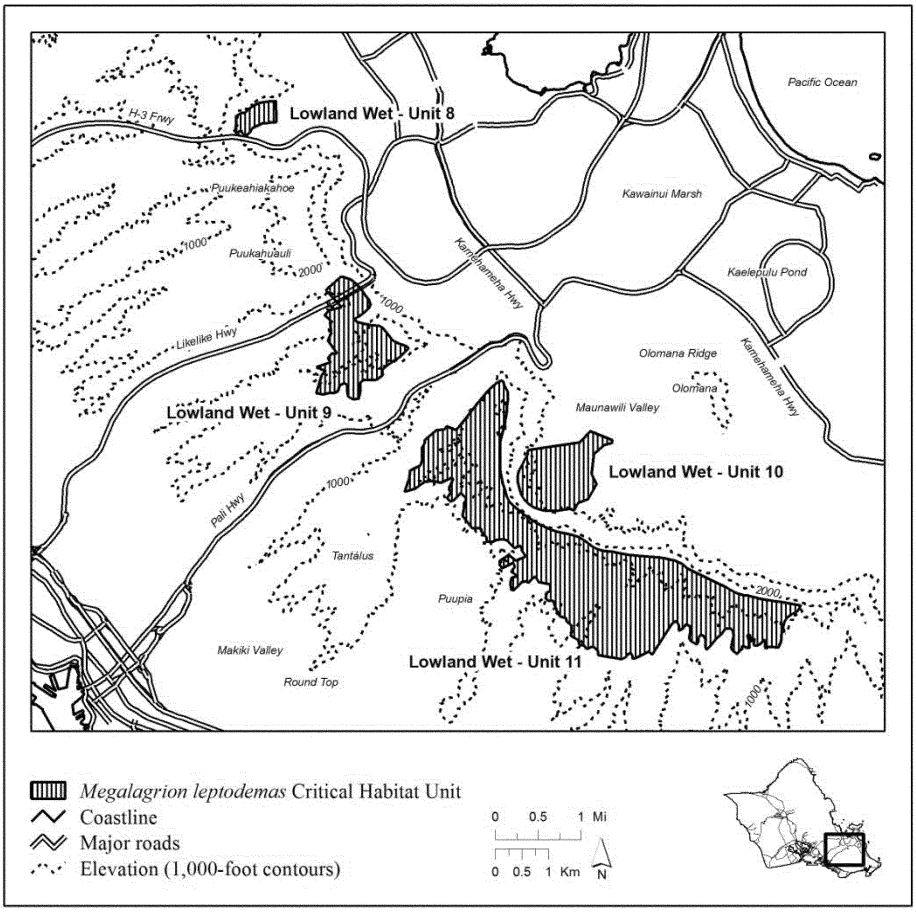
(8) *Megalagrion leptodemas*—Unit 5—Lowland Wet, Honolulu County, Hawaii (124 ac; 50 ha); *Megalagrion leptodemas*—Unit 6—Lowland Wet, Honolulu County, Hawaii (123 ac; 50 ha); and *Megalagrion leptodemas*—Unit 7—Lowland Wet, Honolulu County, Hawaii (53 ac; 21 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 5—Lowland Wet, *Megalagrion leptodemas*—Unit 6—Lowland Wet, and *Megalagrion leptodemas*—Unit 7—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 5, Unit 6 and Unit 7



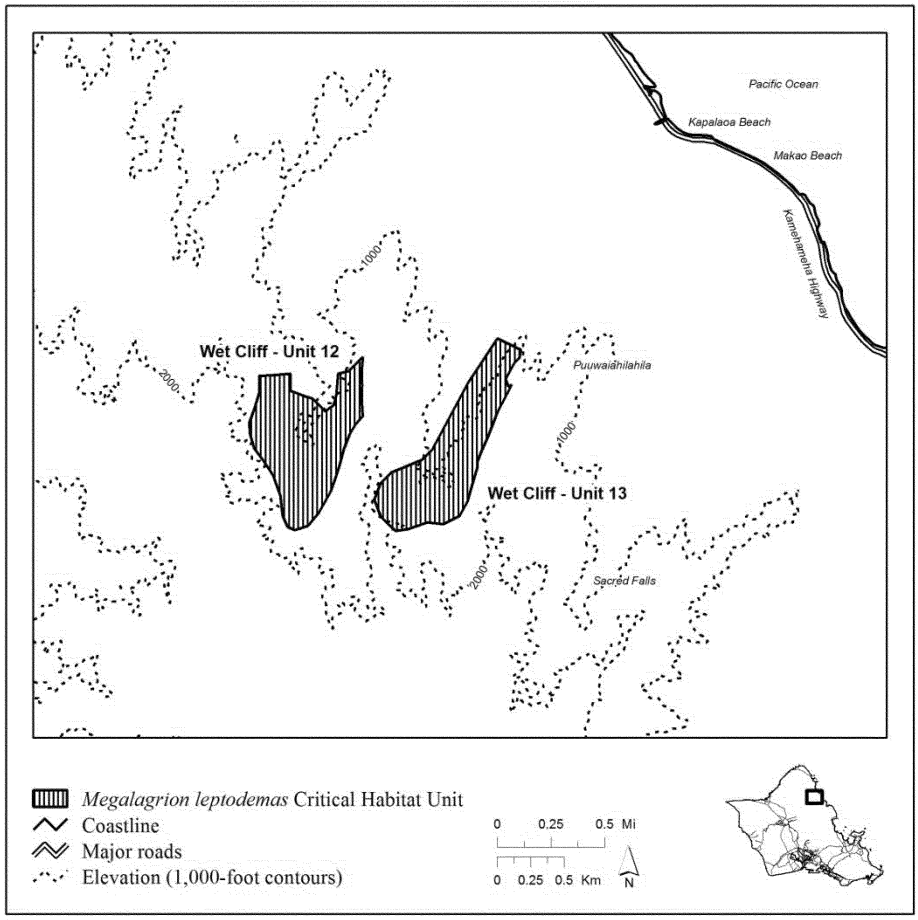
(9) *Megalagrion leptodemas*—Unit 8—Lowland Wet, Honolulu County, Hawaii (75 ac; 30 ha); *Megalagrion leptodemas*—Unit 9—Lowland Wet, Honolulu County, Hawaii (478 ac; 193 ha); *Megalagrion leptodemas*—Unit 10—Lowland Wet, Honolulu County, Hawaii (407 ac; 165 ha); and *Megalagrion leptodemas*—Unit 11—Lowland Wet, Honolulu County, Hawaii (2,507 ac; 1,014 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 8—Lowland Wet, *Megalagrion leptodemas*—Unit 9—Lowland Wet, *Megalagrion leptodemas*—Unit 10—Lowland Wet, and *Megalagrion leptodemas*—Unit 11—Lowland Wet follows:

Megalagrion leptodemas
Lowland Wet
Unit 8, Unit 9, Unit 10 and Unit 11



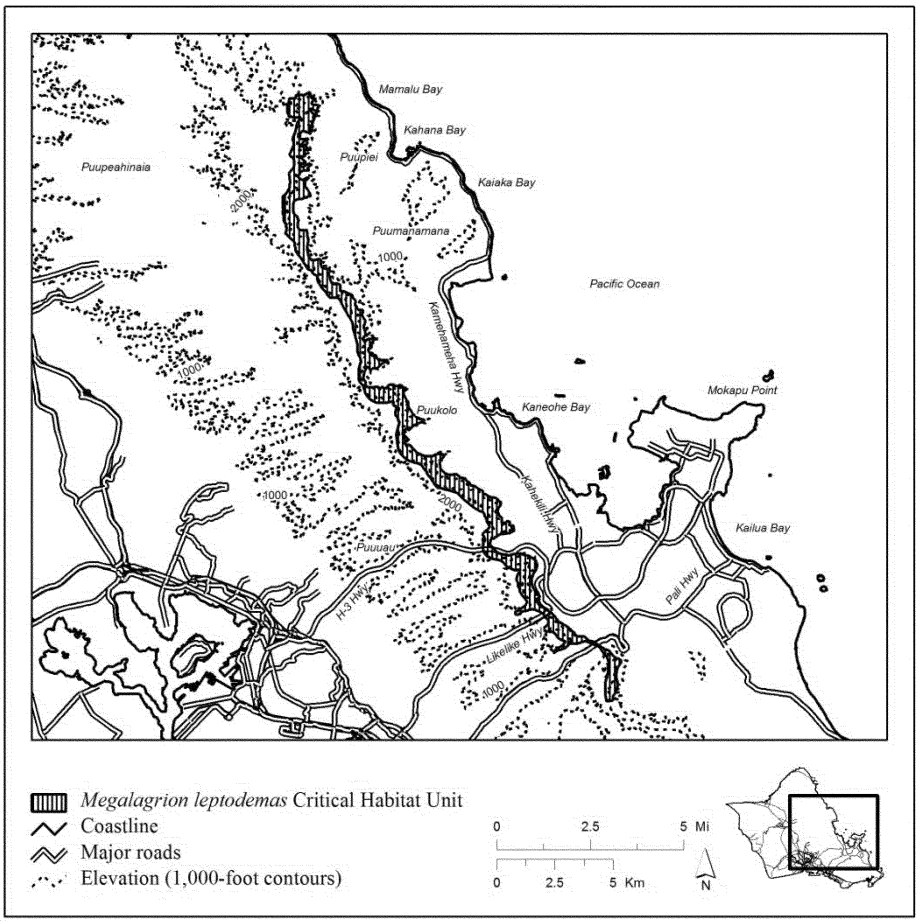
(10) *Megalagrion leptodemas*—Unit 12—Wet Cliff, Honolulu County, Hawaii (151 ac; 61 ha) and *Megalagrion leptodemas*—Unit 13—Wet Cliff, Honolulu County, Hawaii (144 ac; 58 ha). These units are critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 12—Wet Cliff and *Megalagrion* —Unit 13—Wet Cliff follows:

Megalagrion leptodemas
Wet Cliff
Unit 12 and Unit 13



(11) *Megalagrion leptodemas*—Unit 14—Wet Cliff, Honolulu County, Hawaii (4,649 ac; 1,881 ha). This unit is critical habitat for the crimson Hawaiian damselfly, *Megalagrion leptodemas*. Map of *Megalagrion leptodemas*—Unit 14—Wet Cliff follows:

Megalagrion leptodemas
Wet Cliff
Unit 14



OCEANIC HAWAIIAN DAMSELFLY (*Megalagrion oceanicum*)

(1) Critical habitat units are depicted for Honolulu County, Hawaii, on the maps below.

(2) *Primary constituent elements.*

(i) In unit 1, the primary constituent elements of critical habitat for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(G) Perennial streams.

(H) Swift-flowing sections and riffles of streams.

(ii) In units 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12, the primary constituent elements of critical habitat for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma, Metrosideros, Myrsine, Pisonia, Psychotria.*

(E) Subcanopy: *Cibotium, Claoxylon, Kadua, Melicope.*

(F) Understory: *Alyxia, Cyrtandra, Dicranopteris, Diplazium, Machaerina, Microlepia.*

(G) Perennial streams.

(H) Swift-flowing sections and riffles of streams.

(iii) In units 13, 14, and 15, the primary constituent elements of critical habitat for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia, Cheirodendron, Leptecophylla, Metrosideros.*

(F) Understory: Ferns, Bryophytes, *Coprosma, Dubautia, Kadua, Peperomia.*

(G) Perennial streams.

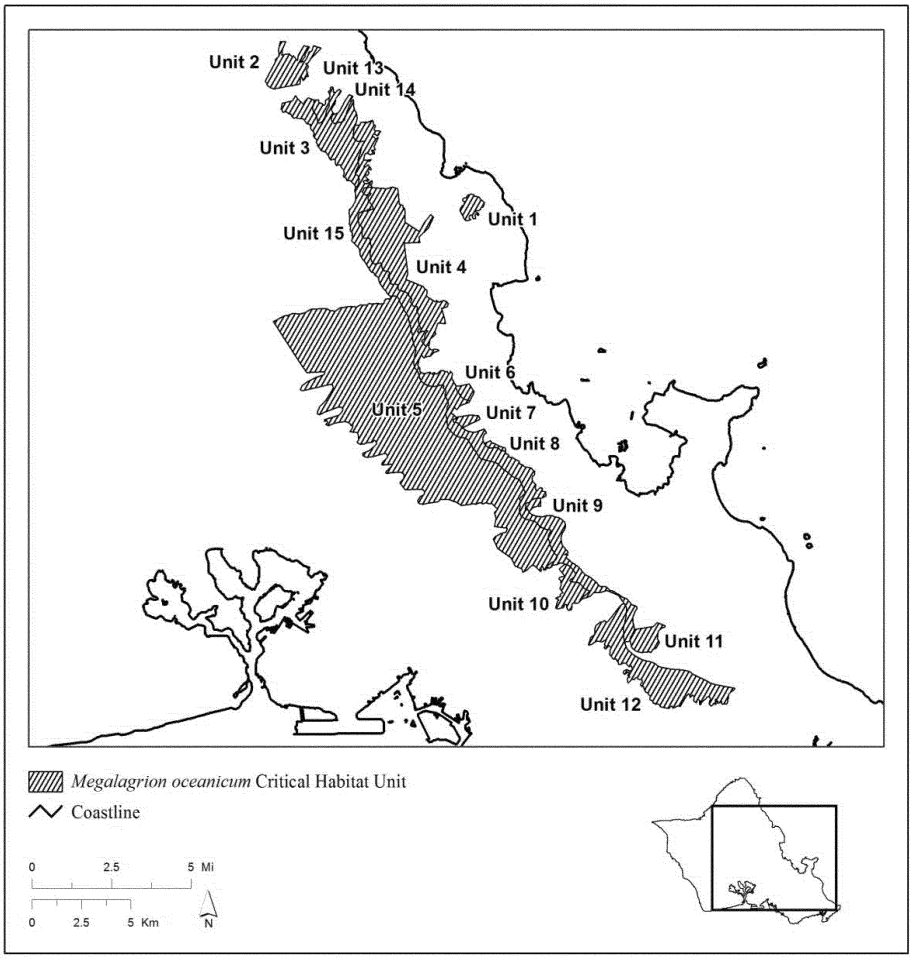
(H) Swift-flowing sections and riffles of streams.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing trails, campgrounds and their immediate surrounding landscaped area, scenic lookouts, remote helicopter landing sites, and existing fences are not included in the critical habitat designation. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical and biological features in adjacent critical habitat.

(4) *Critical habitat maps.* Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83). The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, *http://www.fws.gov/pacificislands*; at *http://www.regulations.gov* at Docket No. FWS–R1–ES–2010–0043; and at the field office responsible for the designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

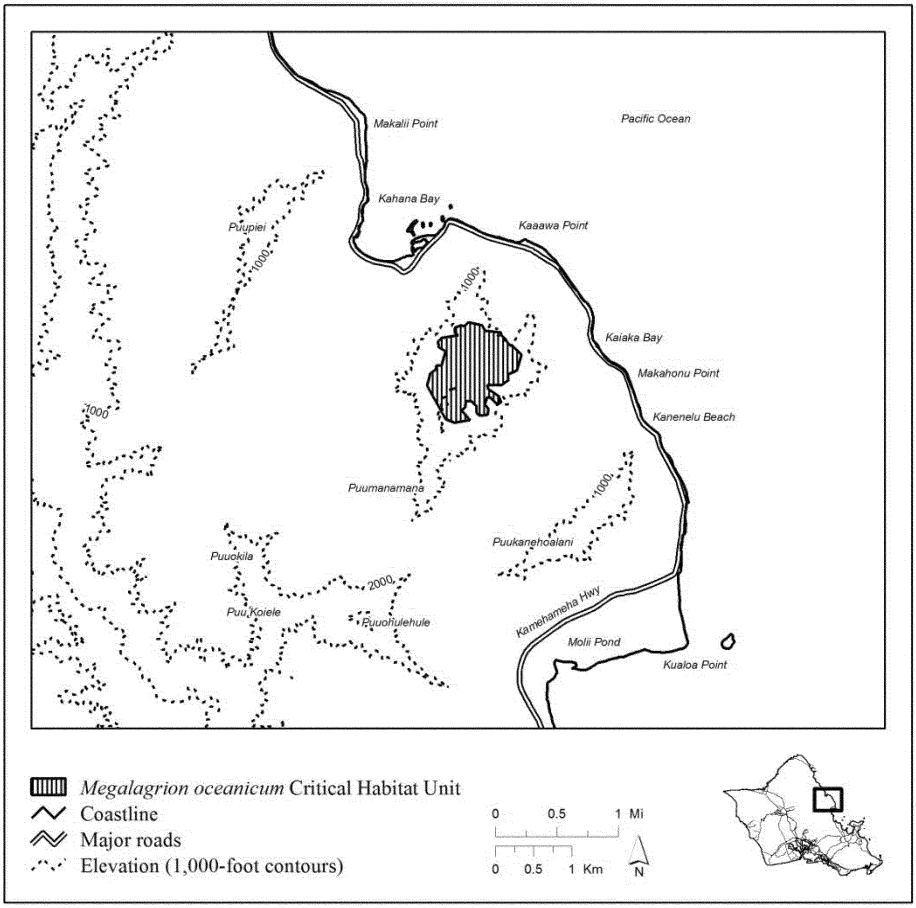
(5) Index map of critical habitat units for the oceanic Hawaiian damselfly (*Megalagrion oceanicum*) follows:

Map 1
***Megalagrion oceanicum*–Index Map**



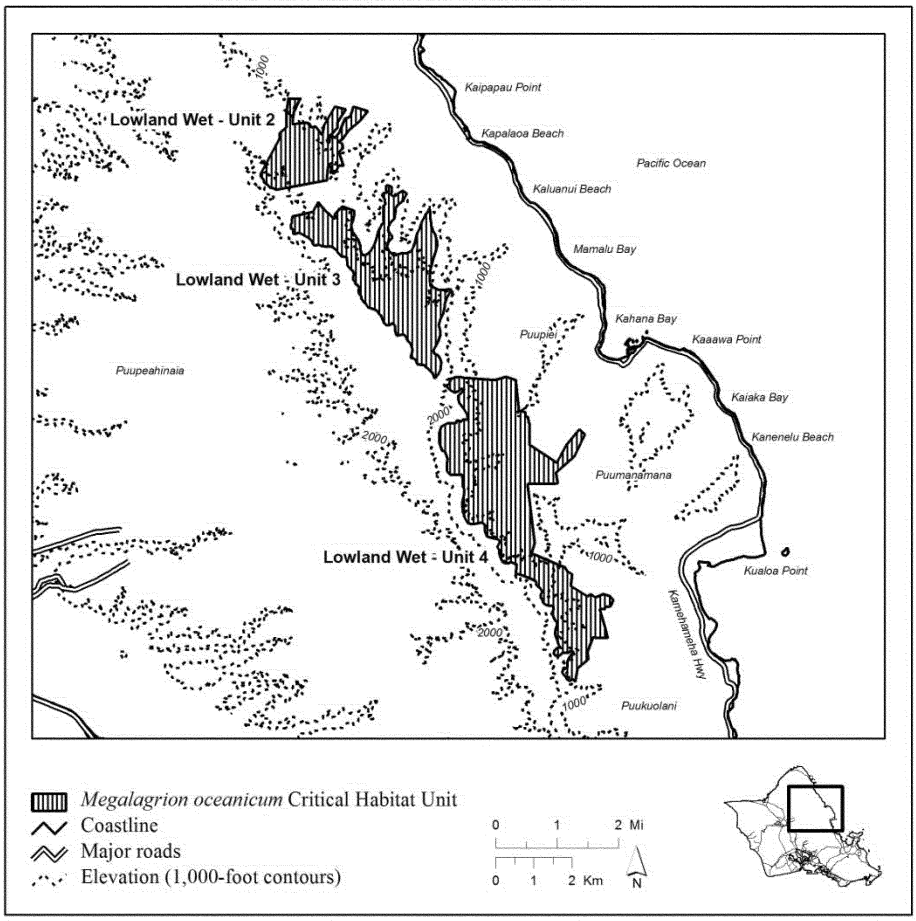
(6) *Megalagrion oceanicum*—Unit 1—Lowland Mesic, Honolulu County, Hawaii (247 ac; 100 ha). This unit is critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 1—Lowland Mesic (Map 2) follows:

Megalagrion oceanicum
Lowland Mesic
Unit 1



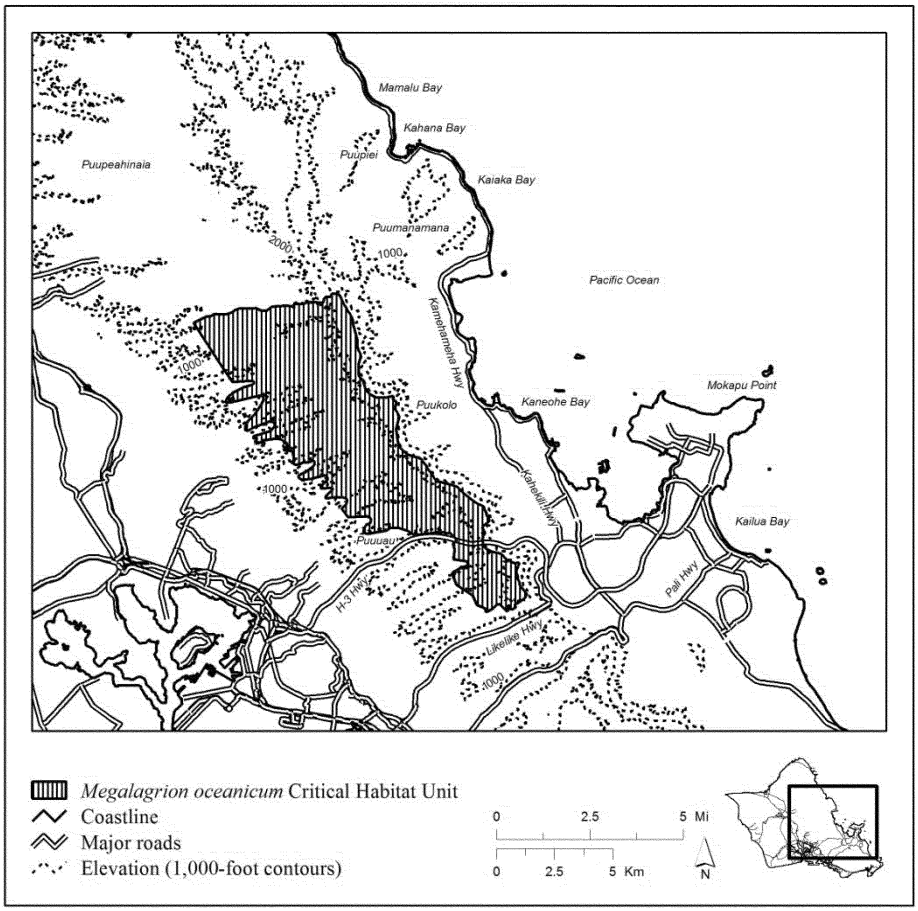
(7) *Megalagrion oceanicum*—Unit 2—Lowland Wet, Honolulu County, Hawaii (790 ac; 320 ha); *Megalagrion oceanicum*—Unit 3—Lowland Wet, Honolulu County, Hawaii (1,787 ac; 723 ha); and *Megalagrion oceanicum*—Unit 4—Lowland Wet, Honolulu County, Hawaii (3,041 ac; 1,231 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 2—Lowland Wet, *Megalagrion oceanicum*—Unit 3—Lowland Wet, and *Megalagrion oceanicum*—Unit 4—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 2, Unit 3 and Unit 4



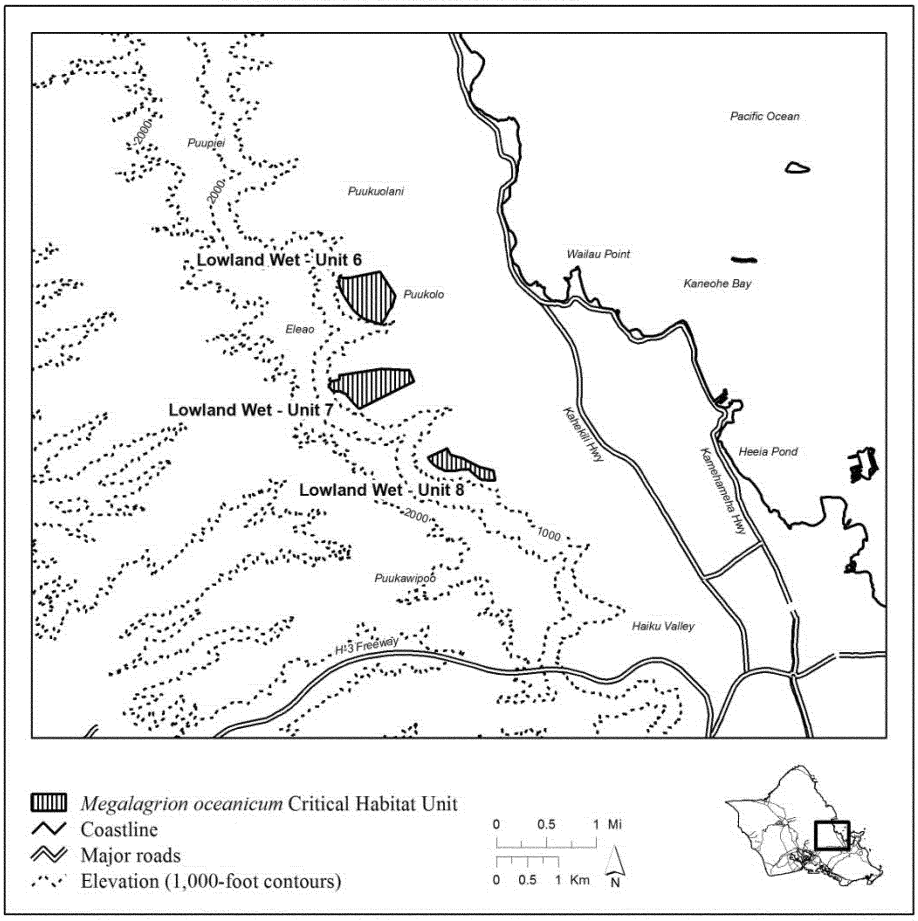
(8) *Megalagrion oceanicum*—Unit 5—Lowland Wet, Honolulu County, Hawaii (15,728 ac; 6,365 ha). This unit is critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 5—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 5



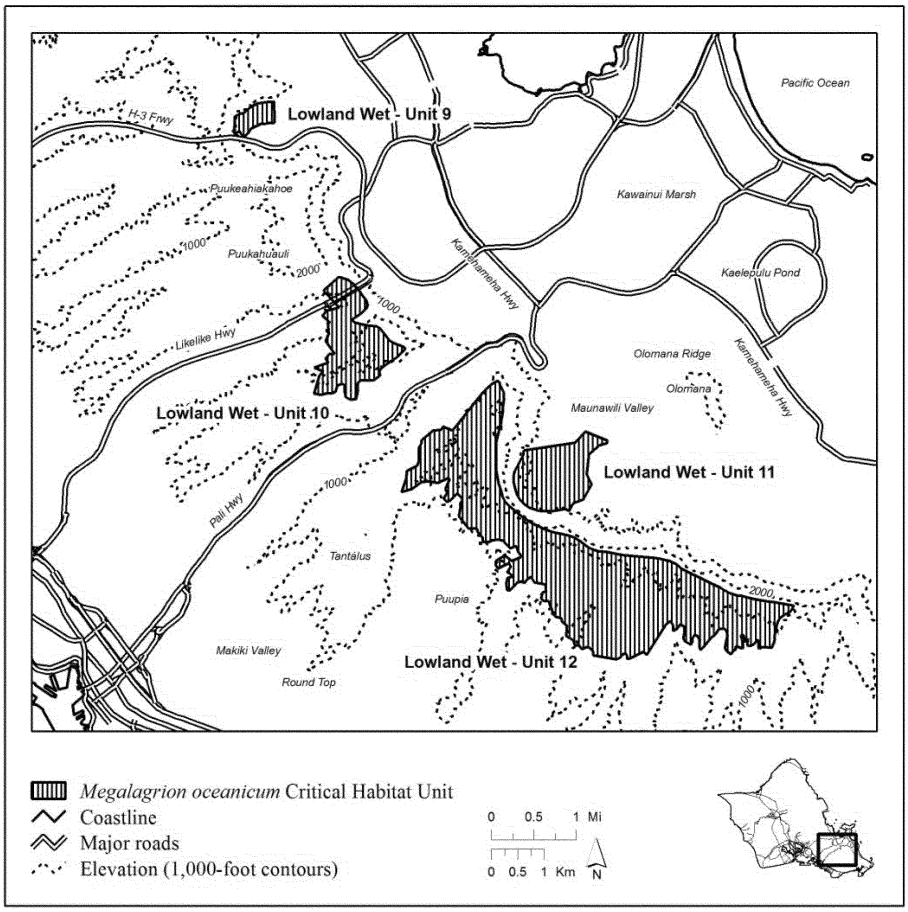
(9) *Megalagrion oceanicum*—Unit 6—Lowland Wet, Honolulu County, Hawaii (124 ac; 50 ha); *Megalagrion oceanicum*—Unit 7—Lowland Wet, Honolulu County, Hawaii (123 ac; 50 ha); and *Megalagrion oceanicum*—Unit 8—Lowland Wet, Honolulu County, Hawaii (53 ac; 21 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 6—Lowland Wet, *Megalagrion oceanicum*—Unit 7—Lowland Wet, and *Megalagrion oceanicum*—Unit 8—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 6, Unit 7 and Unit 8



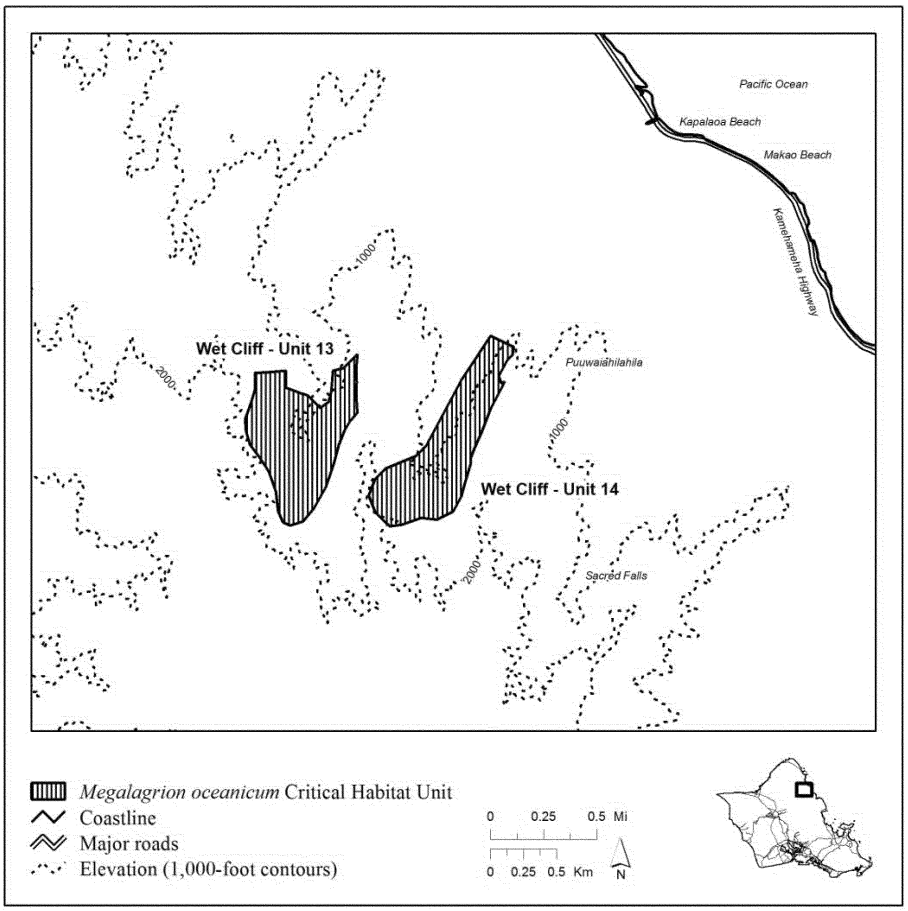
(10) *Megalagrion oceanicum*—Unit 9—Lowland Wet, Honolulu County, Hawaii (75 ac; 30 ha); *Megalagrion oceanicum*—Unit 10—Lowland Wet, Honolulu County, Hawaii (478 ac; 193 ha); *Megalagrion oceanicum*—Unit 11—Lowland Wet, Honolulu County, Hawaii (407 ac; 165 ha); and *Megalagrion oceanicum*—Unit 12—Lowland Wet, Honolulu County, Hawaii (2,507 ac; 1,014 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 9—Lowland Wet, *Megalagrion oceanicum*—Unit 10—Lowland Wet, *Megalagrion oceanicum*—Unit 11—Lowland Wet, and *Megalagrion oceanicum*—Unit 12—Lowland Wet follows:

Megalagrion oceanicum
Lowland Wet
Unit 9, Unit 10, Unit 11 and Unit 12



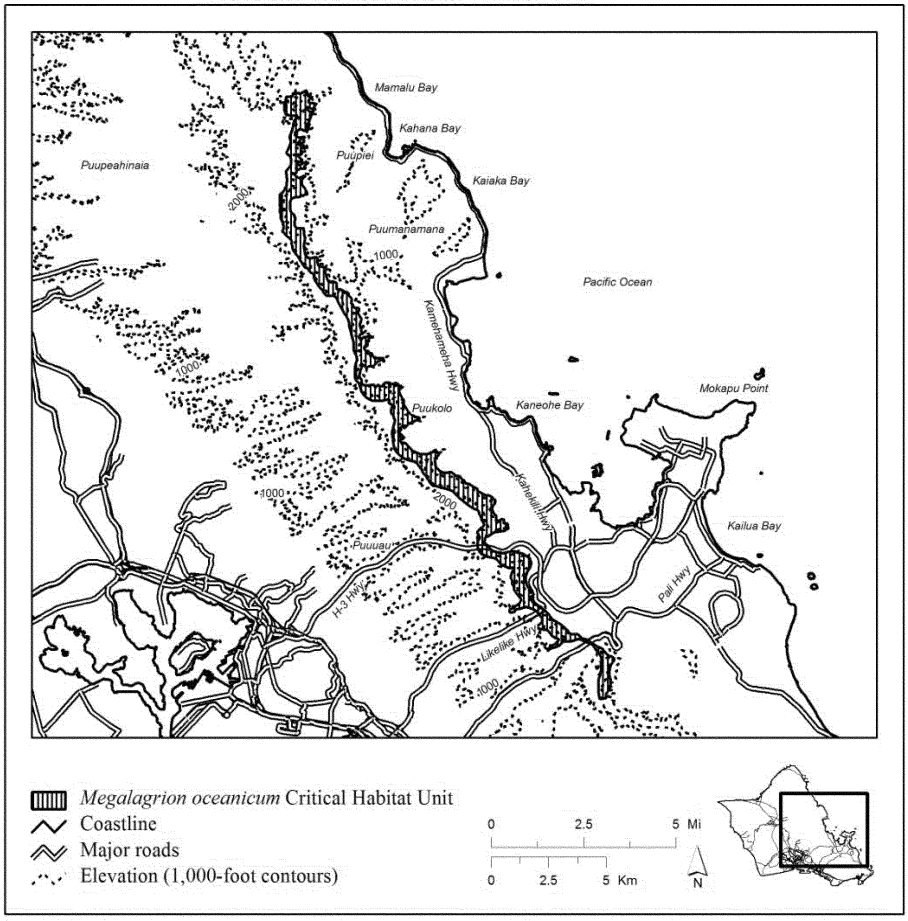
(11) *Megalagrion oceanicum*—Unit 13—Wet Cliff, Honolulu County, Hawaii (151 ac; 61 ha) and *Megalagrion oceanicum*—Unit 14—Wet Cliff, Honolulu County, Hawaii (144 ac; 58 ha). These units are critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 13—Wet Cliff and *Megalagrion oceanicum*—Unit 14—Wet Cliff follows:

Megalagrion oceanicum
Wet Cliff
Unit 13 and Unit 14



(12) *Megalagrion oceanicum*—Unit 15—Wet Cliff, Honolulu County, Hawaii (4,649 ac; 1,881 ha). This unit is critical habitat for the oceanic Hawaiian damselfly, *Megalagrion oceanicum*. Map of *Megalagrion oceanicum*—Unit 15—Wet Cliff follows:

Megalagrion oceanicum
Wet Cliff
Unit 15



HINE'S EMERALD DRAGONFLY (*Somatochlora hineana*)

(1) Critical habitat units are depicted for Cook, DuPage, and Will Counties in Illinois; Alpena, Mackinac, and Presque Isle Counties in Michigan; Crawford, Dent, Iron, Phelps, Reynolds, Ripley, Washington, and Wayne Counties in Missouri; and Door and Ozaukee Counties in Wisconsin, on the maps below.

(2) The primary constituent elements of critical habitat for the Hine's emerald dragonfly are:

(i) For egg deposition and larval growth and development:

(A) Organic soils (histosols, or with organic surface horizon) overlying calcareous substrate (predominantly dolomite and limestone bedrock);

(B) Calcareous water from intermittent seeps and springs and associated shallow, small, slow-flowing streamlet channels, rivulets, and/or sheet flow within fens;

(C) Emergent herbaceous and woody vegetation for emergence facilitation and refugia;

(D) Occupied burrows maintained by crayfish for refugia; and

(E) Prey base of aquatic macroinvertebrates, including mayflies, aquatic isopods, caddisflies, midge larvae, and aquatic worms.

(ii) For adult foraging, reproduction, dispersal, and refugia necessary for roosting, for resting, for adult females to escape from male harassment, and for predator avoidance (especially during the vulnerable teneral stage):

(A) Natural plant communities near the breeding/larval habitat which may include fen, marsh, sedge meadow, dolomite prairie, and the fringe (up to 328 ft (100 m)) of bordering shrubby and forested areas with open corridors for movement and dispersal; and

(B) Prey base of small, flying insect species (e.g., dipterans).

(3) Critical habitat does not include human-made structures existing on the effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, lawns, old fields, hay meadows, fallow crop fields, manicured lawns, pastures, piers and docks, aqueducts, airports, and roads, and the land on which such structures are located. We define ''old field'' here as cleared areas that were formerly forested and may have been used as crop or pasture land that currently support a mixture of native and nonnative herbs and low shrubs. ''Fallow field'' is defined as a formerly plowed field that has been left unseeded for a season or more and is presently uncultivated. In addition, critical habitat does not include open-water areas (*i.e.*, areas beyond the zone of emergent vegetation) of lakes and ponds.

(4) *Critical habitat map units*. Data layers defining map units were created on a base of USGS 7.5' quadrangles, and critical habitat units were then mapped using Geographical Information Systems, Universal Transverse Mercator (UTM) coordinates. Critical habitat units are described using the public land survey system (township (T), range (R) and section (Sec.)).

(5) NOTE: Index map of critical habitat units (Index map) follows:

(6) Illinois Units 1 through 7, Cook, DuPage, and Will Counties, Illinois.

(i) Illinois Unit 1: Will County. Located in T36N, R10E, Sec. 22, Sec. 27, SE1/4 NE1/4 Sec. 28, NE1/4 SE1/4 Sec. 28, NW1/4 NW1/4 Sec. 34 of the Joliet 7.5' USGS topographic quadrangle. Land south of Illinois State Route 7, east of Illinois State Route 53, and west of the Des Plaines River.

(ii) Illinois Unit 2: Will County. Located in T36N, R10E, Sec. 3, NW1/4 E1/2 Sec. 10, E1/2 Sec. 15 of the Romeoville and Joliet 7.5' USGS topographic quadrangles. Land east of Illinois State Route 53, and west of the Des Plaines River.

(iii) Illinois Unit 3: Will County. Located in T37N, R10E, SW1/4 Sec. 26, NW1/4 SE1/4 Sec. 26, E1/2 Sec. 34, W1/2 NW 1/4 Sec. 35 of the Romeoville 7.5' USGS topographic quadrangle. Land west and north of the Des Plaines River and north of East Romeoville Road.

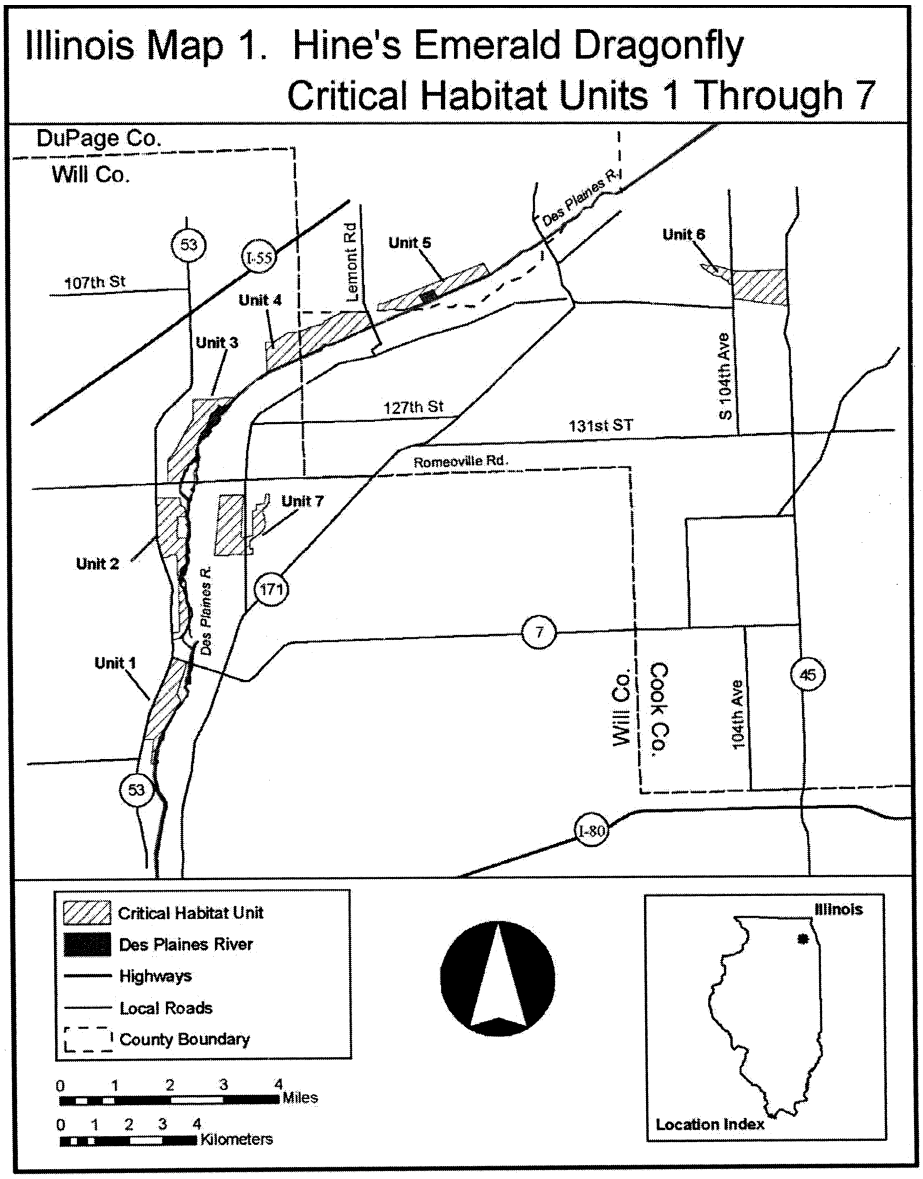
(iv) Illinois Unit 4: Will and Cook Counties. Located in T37N, R10E, S1/2 NE1/4 Sec. 24, W1/2 SW1/4 Sec. 24, SE1/4 Sec. 24 and T37N, R11E, SW1/4 SW1/4 Sec. 17, Sec. 19, NW1/4 Sec. 20 of the Romeoville 7.5' USGS topographic quadrangle. Land to the south of Bluff Road, west of Lemont Road, and north of the Des Plaines River.

(v) Illinois Unit 5: DuPage County. Located in T37N, R11E, NW1/4 Sec. 15, NW1/4 SW1/4 Sec. 15, S1/2 NE1/4 Sec. 16, SW1/4 Sec. 16, N1/2 SE1/4 Sec. 16, SE1/4 Sec. 17 of the Sag Bridge 7.5' USGS topographic quadrangle. Land to the north of the Des Plaines River.

(vi) Illinois Unit 6: Cook County. Located in T37N, R12E, S1/2 Sec. 16, S1/2 NE1/4 Sec. 17, N1/2 SE1/4 Sec. 17, N1/2 Sec. 21 of the Sag Bridge and Palos Park 7.5' USGS topographic quadrangles. Land to the north of the Calumet Sag Channel, south of 107th Street, and east of U.S. Route 45.

(vii) Illinois Unit 7: Will County. Located in T36N, R10E, W1/2 Sec. 1, Sec. 2, N1/2 Sec. 11 of the Romeoville and Joliet 7.5' USGS topographic quadrangles. Land east of the Illinois and Michigan Canal.

(viii) NOTE: Map of Illinois Units 1 through 7 (Illinois Map 1) follows:



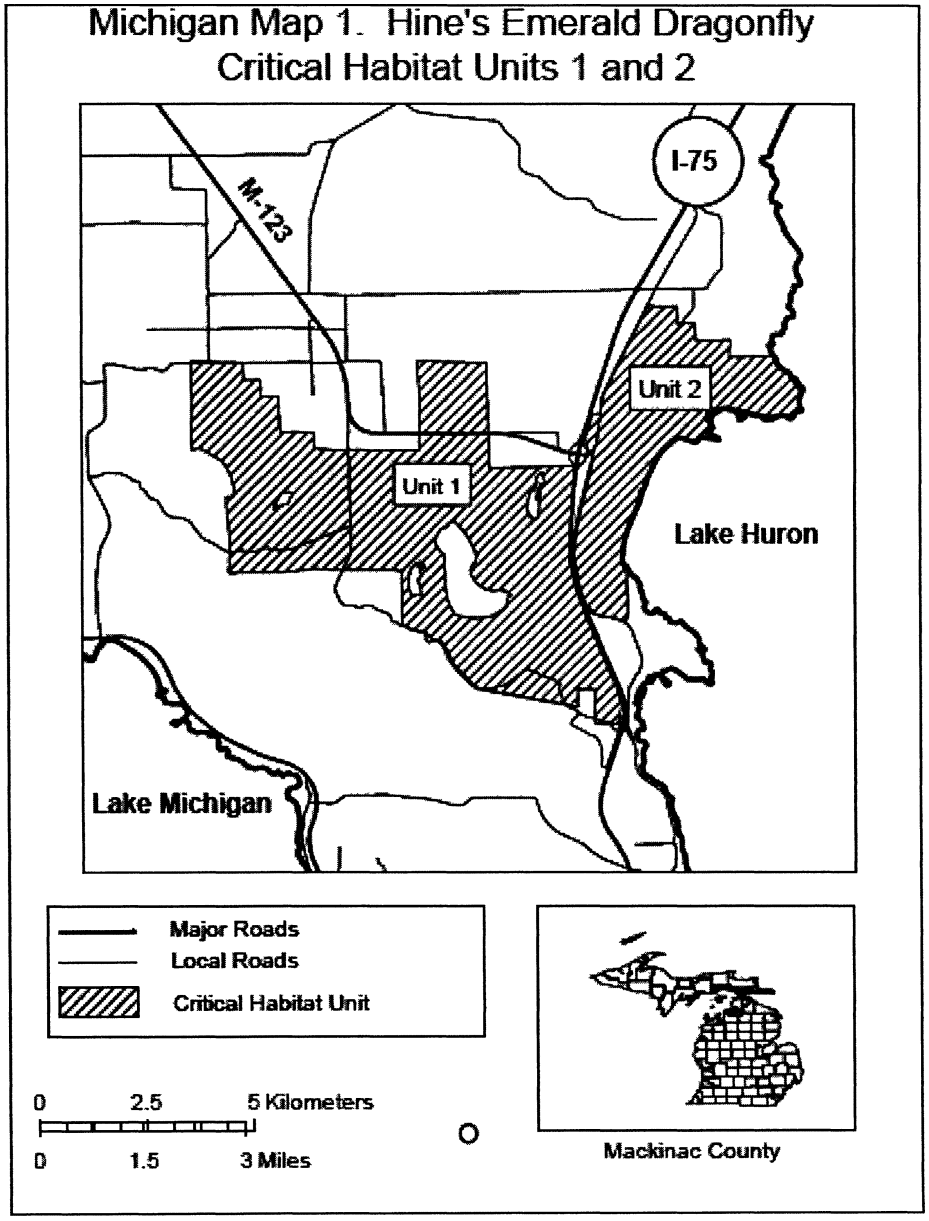
(7) Michigan Units 1 and 2, Mackinac County, Michigan.

(i) Michigan Unit 1: Mackinac County. The unit is located approximately 2 miles north of the village of St. Ignace. The unit contains all of T41N, R4W, Secs. 3, 6, 8, 9, 10, 11, 14, 15, 16, 23; portions of T41N, R4W, Secs. 4, 7, 17, 18, 22, 24, 25, 26, 27; and T41N, R5W, Secs. 1 and 12 of the Moran and Evergreen Shores 7.5' USGS topographic quadrangles. The unit is west of I-75, east of Brevort Lake, and north of Castle Rock Road.

(ii) Michigan Unit 2: Mackinac County. The unit is located approximately 2 miles north of the village of St. Ignace. The unit contains all of T41N, R3W, Sec. 6; portions of

T41N, R4W, Secs. 1, 12, 13, 24; portions of T41N, R3W, Secs. 4, 5, 7; and portions of T42N, R3W, Sec. 31 of the Evergreen Shores 7.5' USGS topographic quadrangle. The unit is west of Lake Huron and east of I-75.

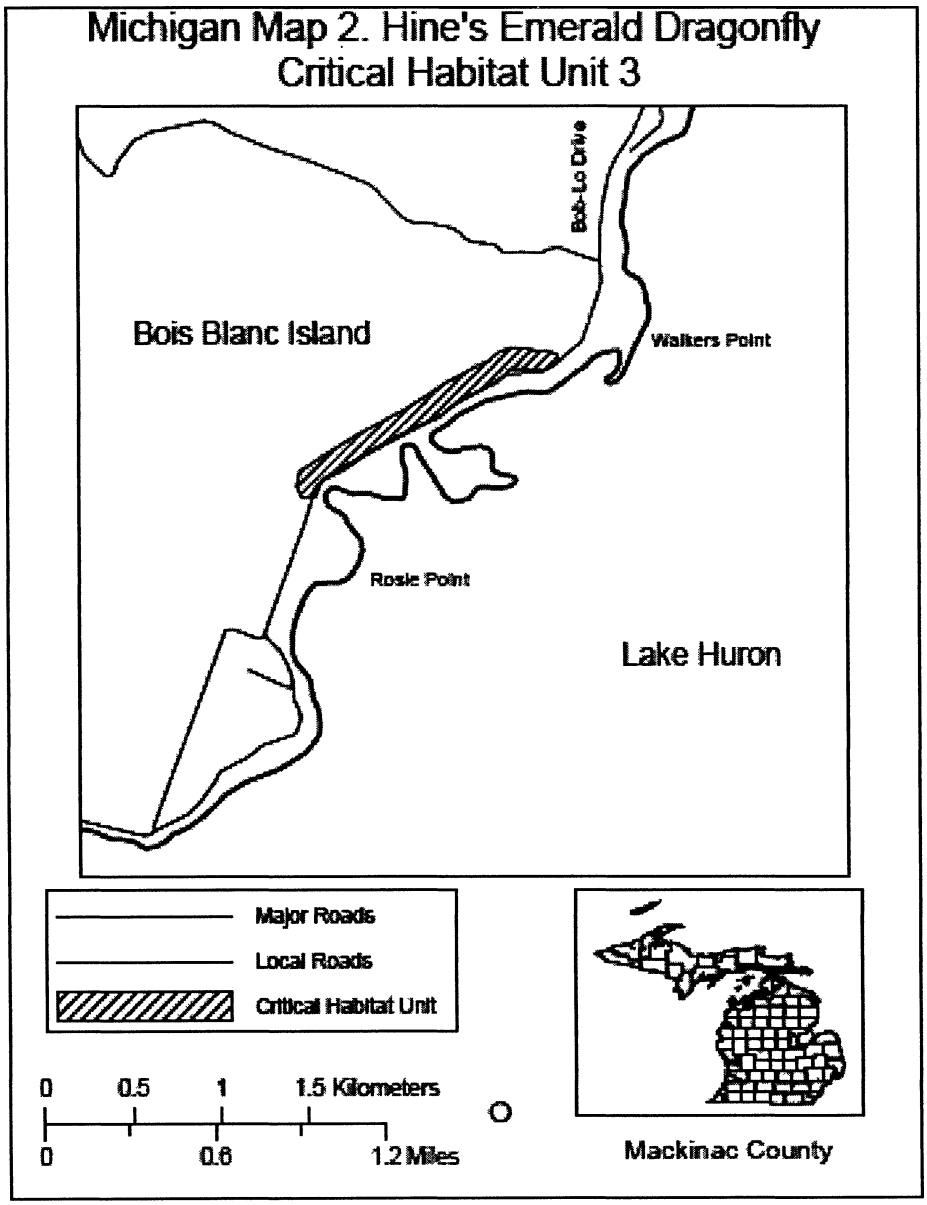
(iii) NOTE: Map of Michigan Units 1 and 2 (Michigan Map 1) follows:



(8) Michigan Unit 3, Mackinac County, Michigan.

(i) Michigan Unit 3: Mackinac County. Located on the east end of Bois Blanc Island. Bois Blanc Island has not adopted an addressing system using the public land survey system. The unit is located in Government Lots 25 and 26 of the Cheboygan and McRae Bay 7.5' USGS topographic quadrangles. The unit extends from approximately Walker's Point south to Rosie Point on the west side of Bob-Lo Drive. It extends from the road approximately 328 ft (100 m) to the west.

(ii) NOTE: Map of Michigan Unit 3 (Michigan Map 2) follows:

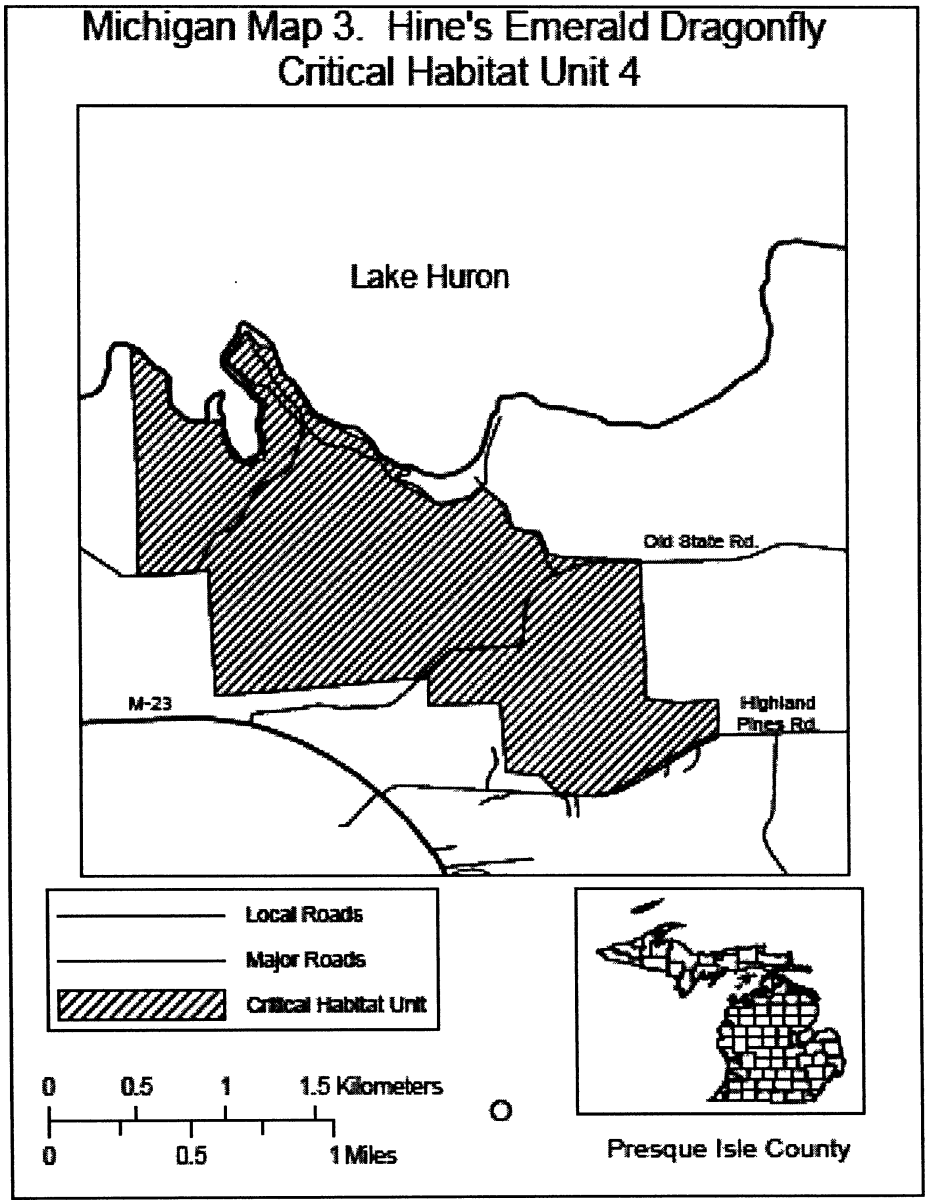


(9) Michigan Unit 4, Presque Isle County, Michigan.

(i) Michigan Unit 4: Presque Isle County. Located approximately 12 miles southeast of the village of Rogers City. The unit contains all of T34N, R7E, SW1/4 SW1/4 Sec. 14, SW1/4 NW1/4 Sec. 15, NE1/4 SW1/4 Sec. 15, NW1/4 SE1/4 Sec. 15, NW1/4 SW1/4 Sec. 15, SE1/4 SE1/4 Sec. 15, NW1/4 NE1/4 Sec. 16, NE1/4 NW1/4 Sec. 16, SE1/4 NE1/4 Sec. 16, and NW1/4 NW1/4 Sec. 23. It also contains portions of T34N, R7E, all 1/4 sections in Secs. 15, all 1/4 sections in Sec. 16, SE1/4 and SW1/4 Sec. 9, SW1/

4 Sec. 10, SW1/4 Sec. 14, NE1/4 Sec. 22, NW1/4 and NE1/4 Sec. 23 of the Thompson's Harbor 7.5' USGS topographic quadrangle. The northern boundary of the unit is Lake Huron and the southern boundary is north of M-23.

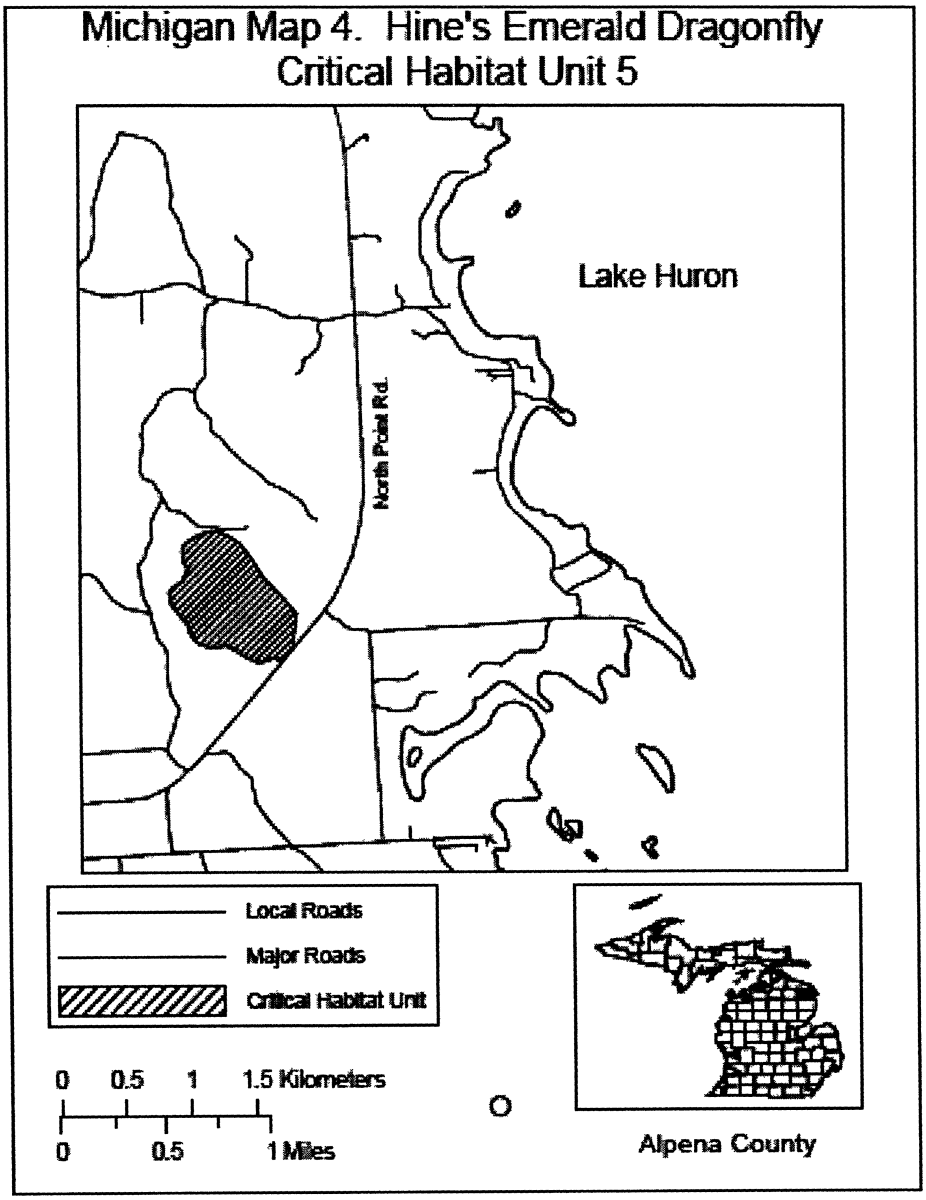
(ii) NOTE: Map of Michigan Unit 4 (Michigan Map 3) follows:



(10) Michigan Unit 5, Alpena County, Michigan.

(i) Michigan Unit 5: Alpena County. Located approximately 9 miles northeast of the village of Alpena. The unit contains all of T31N, R9E, SE1/4 SW1/4 Sec 9. It also contains portions of T31N, R9E, NW1/4 SW1/4 Sec. 9, NE1/4 SW1/4 Sec. 9, SW1/4 SW1/4 Sec. 9, SW1/4 SE1/4 Sec 9; and portions of T31N, R9E, NE1/4 NW1/4 Sec. 16, NW1/4 NE1/4 Sec. 16, NW1/4 NW1/4 Sec. 16 of the 7.5' USGS topographic quadrangle North Point 7.5′ USGS topographic quadrangle. North Point Road is east of the area.

(ii) NOTE: Map of Michigan Unit 5 (Michigan Map 4) follows:

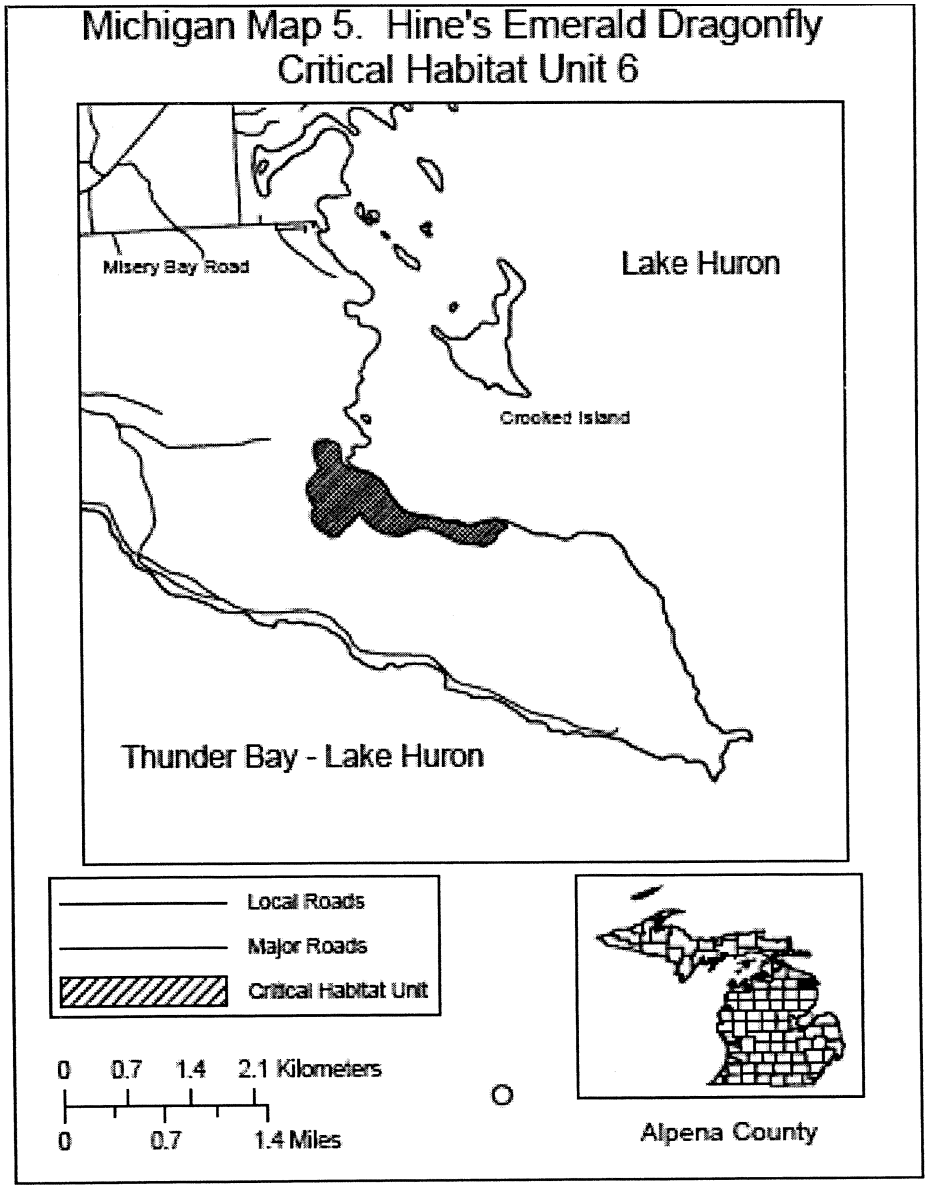


(11) Michigan Unit 6, Alpena County, Michigan.

(i) Michigan Unit 6: Alpena County. Located approximately 5 miles east of the village of Alpena. The unit contains all of T31N, R9E, SW1/4 SE1/4 Sec. 27. It also contains portions of T31N, R9E, NW1/4 SE1/4 Sec. 27, NE1/4 SW1/4 Sec. 27, SE1/4 SW1/4 Sec. 27, SE1/4 SE1/4 Sec. 27; portions of T31N, R9E, NE1/4 NW1/4 Sec. 34, NW1/4 NE1/4 Sec. 34, NE1/4 NE1/4 Sec. 34; and portions of T31N, R9E, NW1/4 NW1/4 Sec. 35, NE1/4 NW1/4, NW1/4 NE1/

4 Sec. 35 of the North Point 7.5' USGS topographic quadrangle. Lake Huron is the east boundary of the unit.

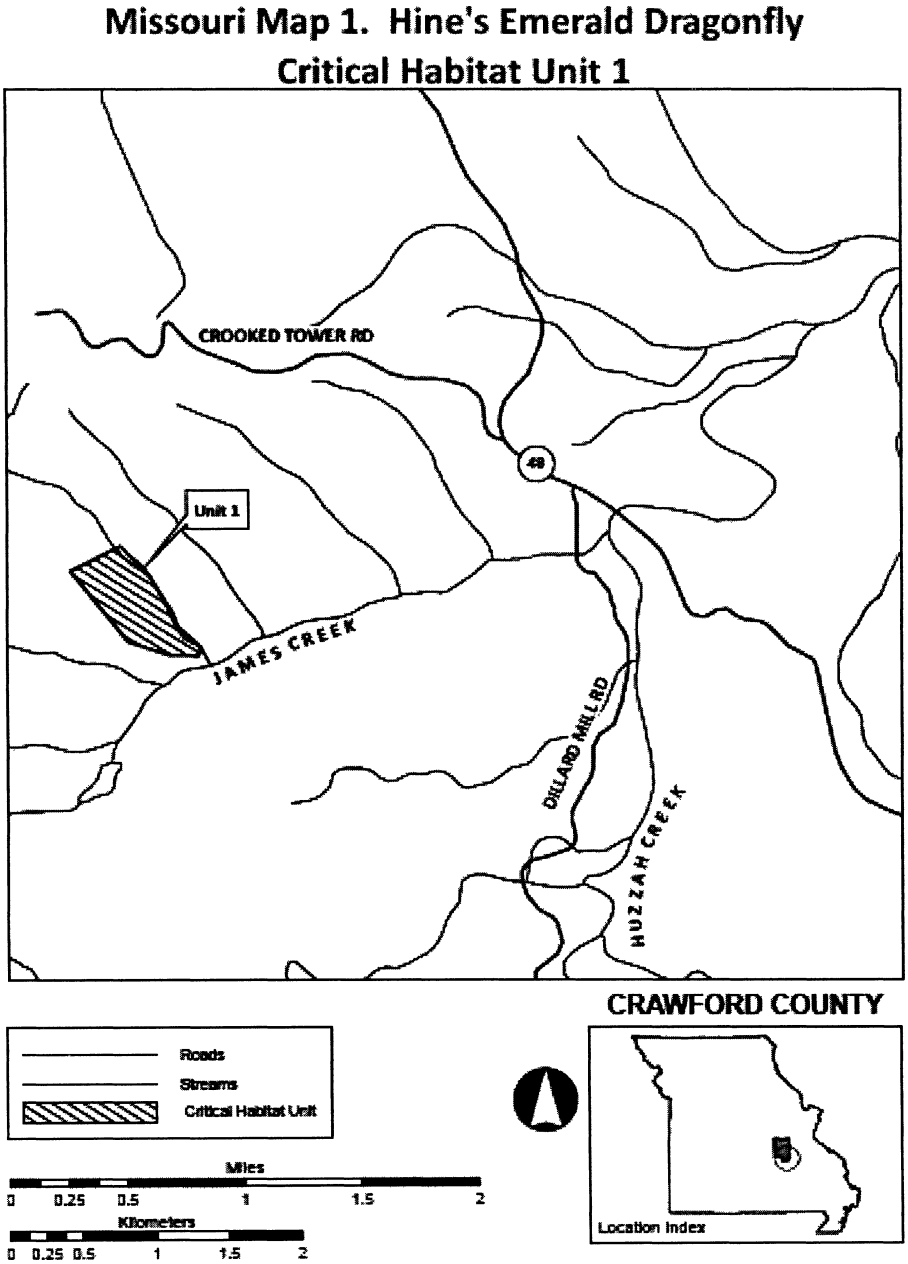
(ii) NOTE: Map of Michigan Unit 6 (Michigan Map 5) follows:



(12) Missouri Unit 1, Crawford County, Missouri.

(i) Missouri Unit 1: Crawford County. Located in T35N, R3W, Secs. 22 and 23 of the Viburnum West 7.5' USGS topographic quadrangle. Missouri Unit 1 is associated with James Creek and is located approximately 1.5 miles west of Billard, Missouri.

(ii) NOTE: Map of Missouri Unit 1 (Missouri Map 1) follows:



(13) Missouri Units 2a and 4, Dent County, Missouri.

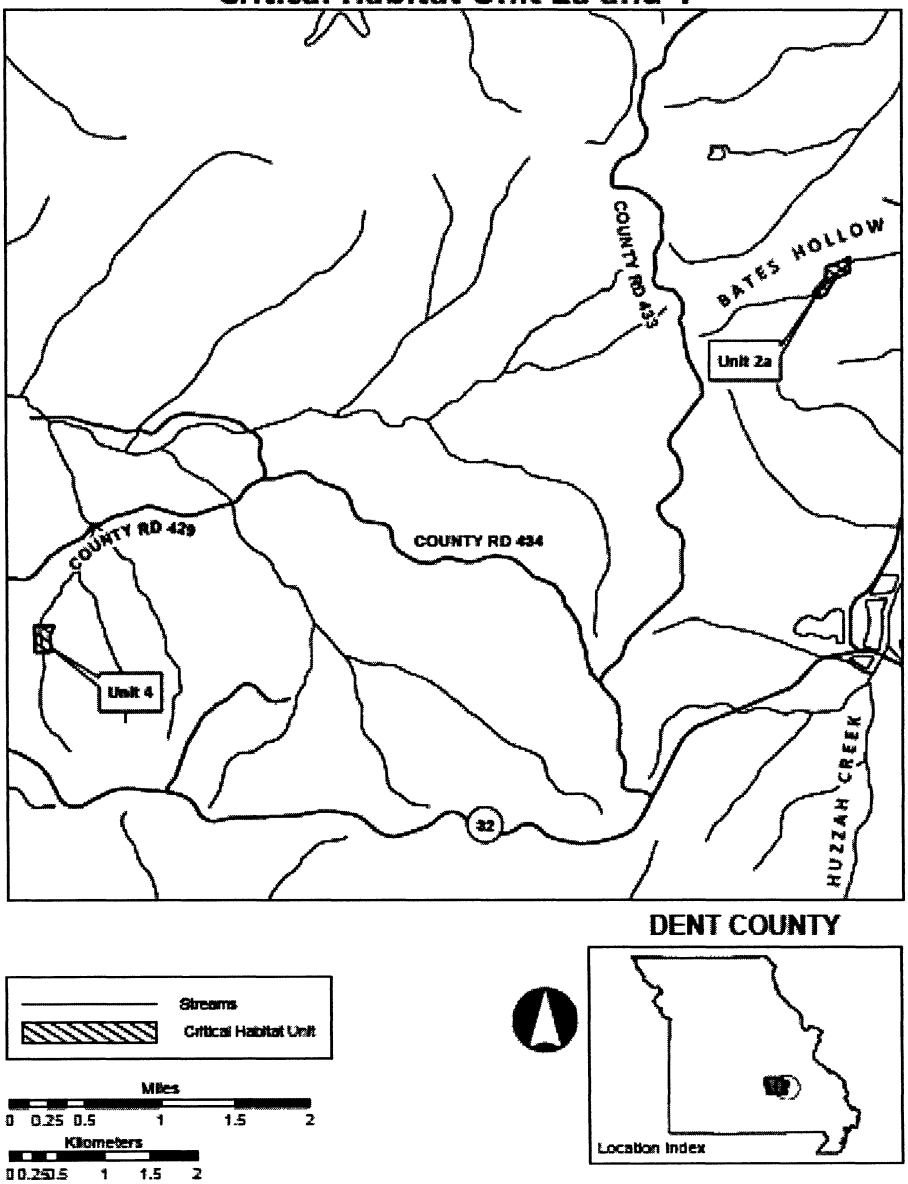
(i) Missouri Unit 2a: Dent County. Located in T34N, R3W, Secs. 3 and 4 of the Howes Mill Spring 7.5' USGS topographic quadrangle. Missouri Unit 2a is associated with an unnamed tributary to West Fork Huzzah Creek and is located approximately 2.5 air

miles north of the village of Howes Mill, Missouri adjacent to county road 438.

(ii) Missouri Unit 4: Dent County. Located in T34N, R4W, Secs. 15 and 22 of the Howes Mill Spring 7.5' USGS topographic quadrangle. Missouri Unit 4 is associated with a tributary of Hutchins Creek in Fortune Hollow and is located approximately 1 mile east of the juncture of Highway 72 and Route MM.

(iii) NOTE: Map of Missouri Units 2a and 4 (Missouri Map 2) follows:

Missouri Map 2. Hine's Emerald Dragonfly Critical Habitat Unit 2a and 4

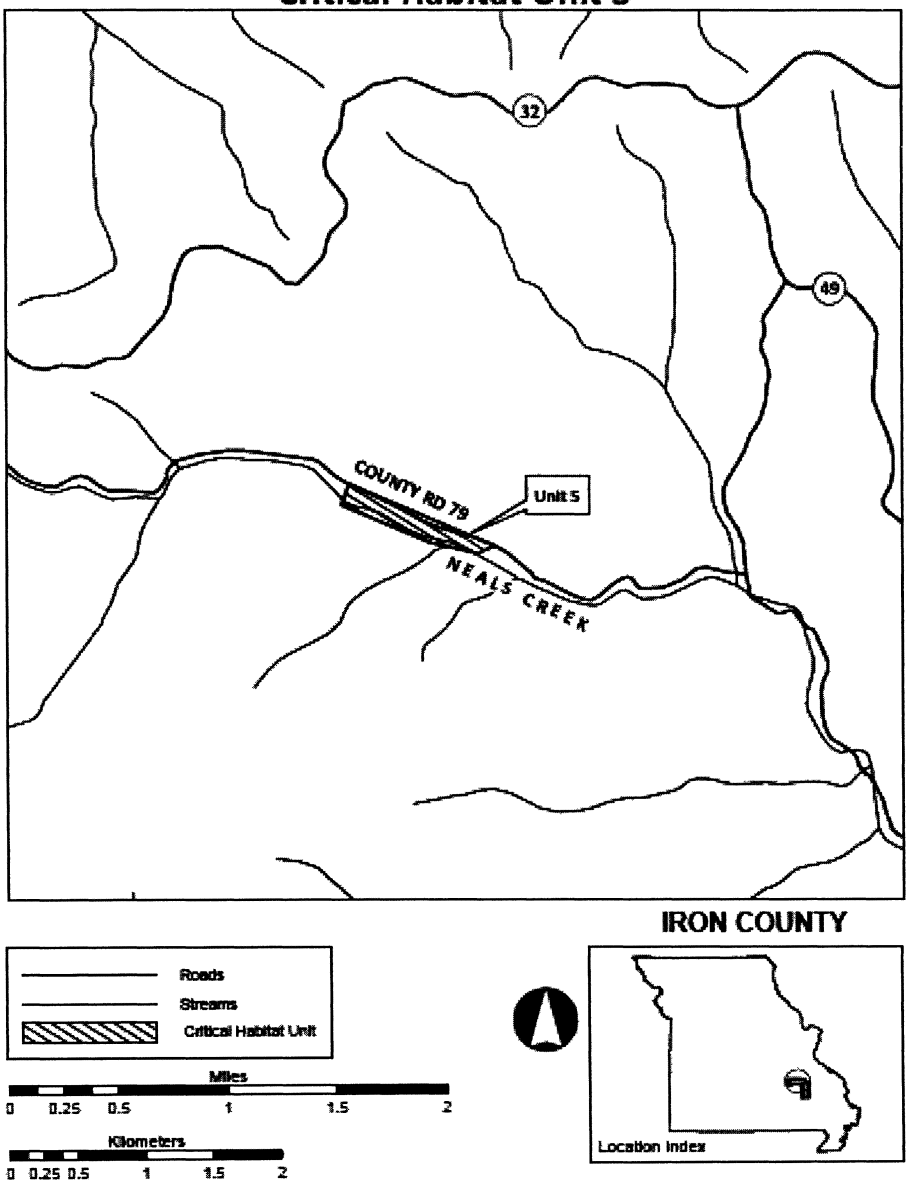


(14) Missouri Unit 5, Iron County, Missouri.

(i) Missouri Unit 5: Iron County. Located in T34N, R1W, Sec. 17of the Viburnum East 7.5' USGS topographic quadrangle. Missouri Unit 5 is located adjacent to Neals Creek and Neals Creek Road, approximately 2.5 miles southeast of Bixby.

(ii) NOTE: Map of Missouri Unit 5 (Missouri Map 3) follows:

Missouri Map 3. Hine's Emerald Dragonfly Critical Habitat Unit 5

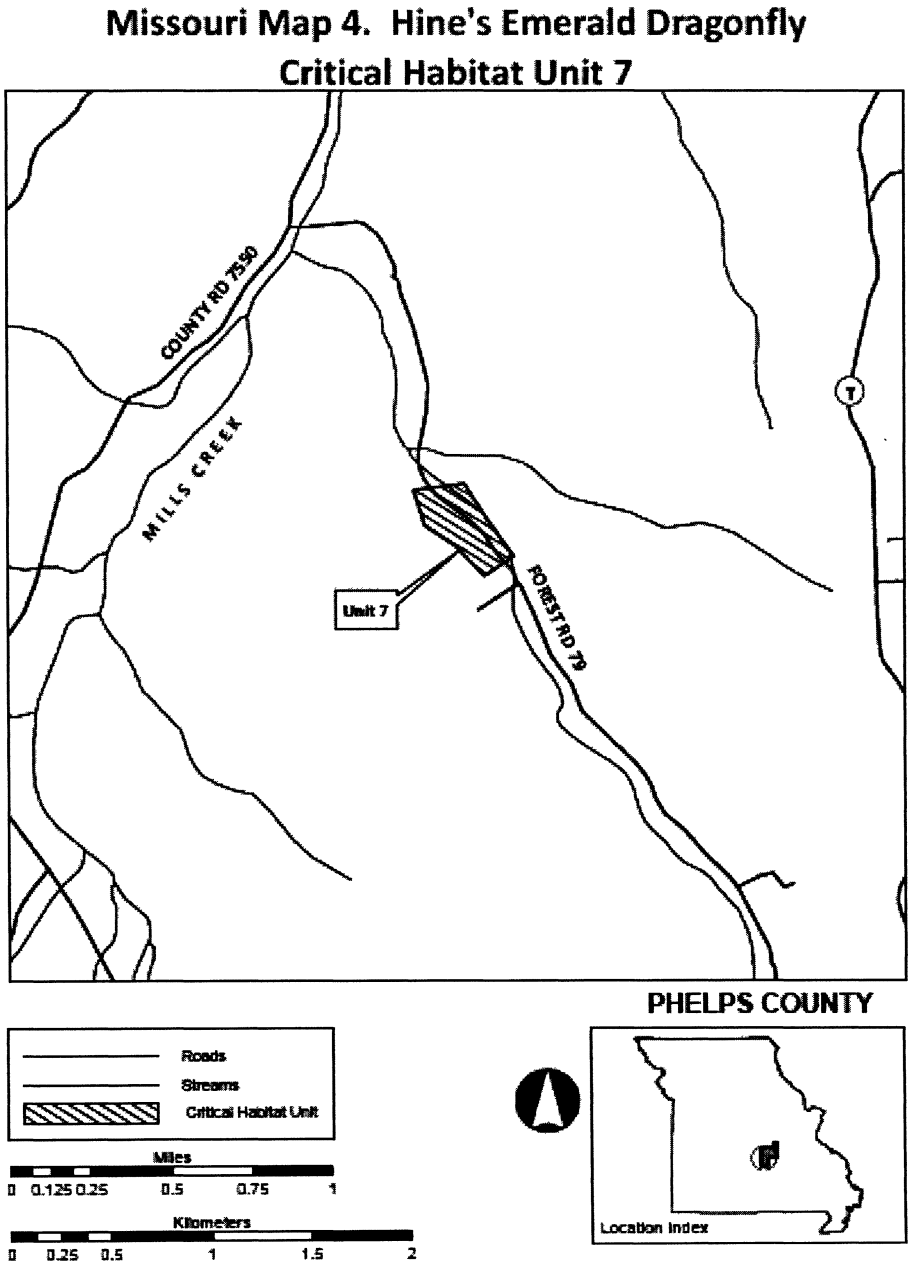


(15) Missouri Unit 7, Phelps County, Missouri.

(i) Missouri Unit 7: Phelps County. Located in T36N, R9W, Sec. 9 of the Kaintuck Hollow 7.5' USGS topographic quadrangle. Missouri Unit 7 is associated with Kaintuck Hollow and a tributary of Mill Creek, and is located

approximately 4 miles south southwest of the town of Newburg.

(ii) NOTE: Map of Missouri Unit 7 (Missouri Map 4) follows:



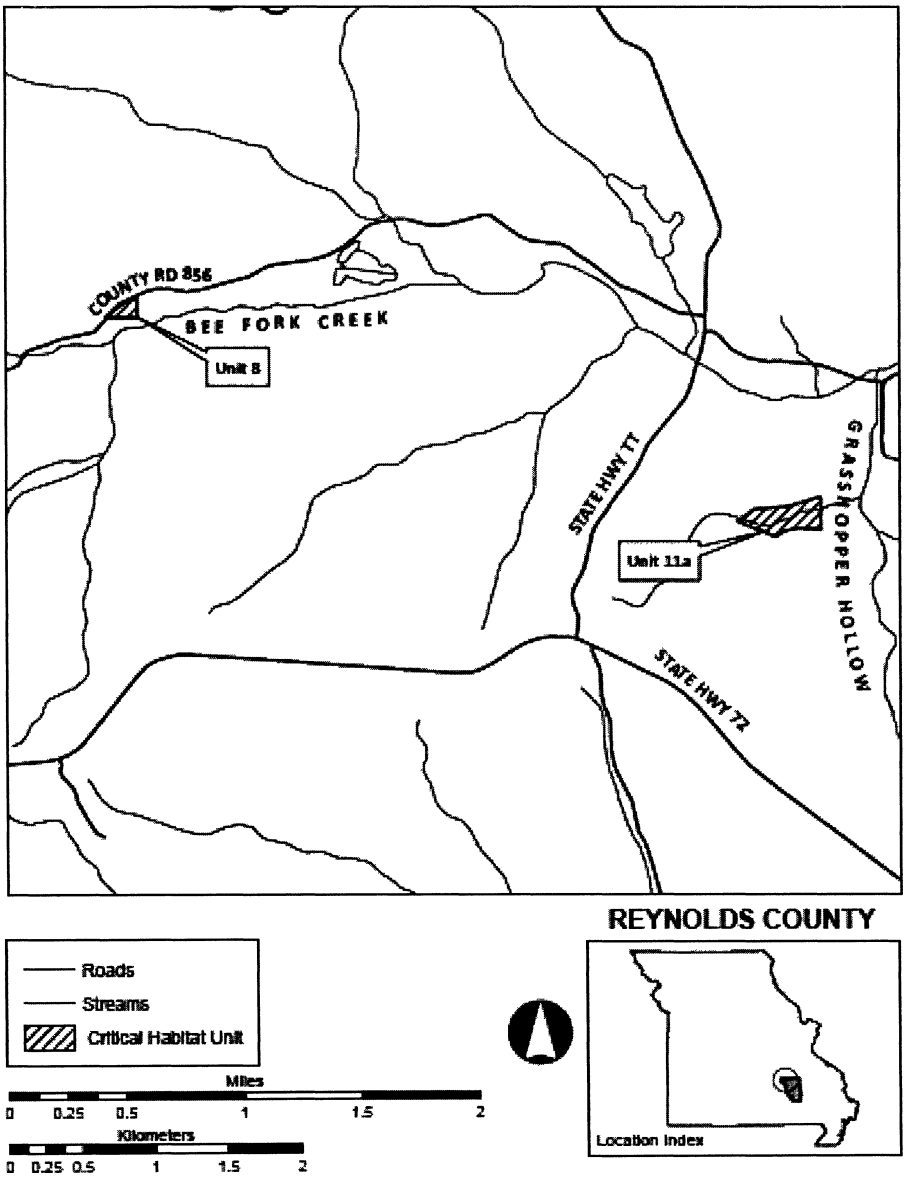
(16) Missouri Units 8and 11a, Reynolds County, Missouri.

(i) Missouri Unit 8: Reynolds County. Located in T32N, R2W, Sec. 22, southeast 1/4, southwest 1/4 of the Bunker 7.5' USGS topographic quadrangle. Missouri Unit 8 is adjacent to Bee Fork Creek and is located approximately 3 miles east of Bunker.

(ii) Missouri Unit 11a: Reynolds County. Located in T32N, R1W, Sec. 30 of the Corridon 7.5' USGS topographic quadrangle. Missouri Unit 11 is located approximately 1 mile east of the intersection of Route TT and Highway 72, extending north to the Bee Fork Church on County Road 854.

(iii) NOTE: Map of Missouri Units 8 and 11a (Missouri Map 5) follows:

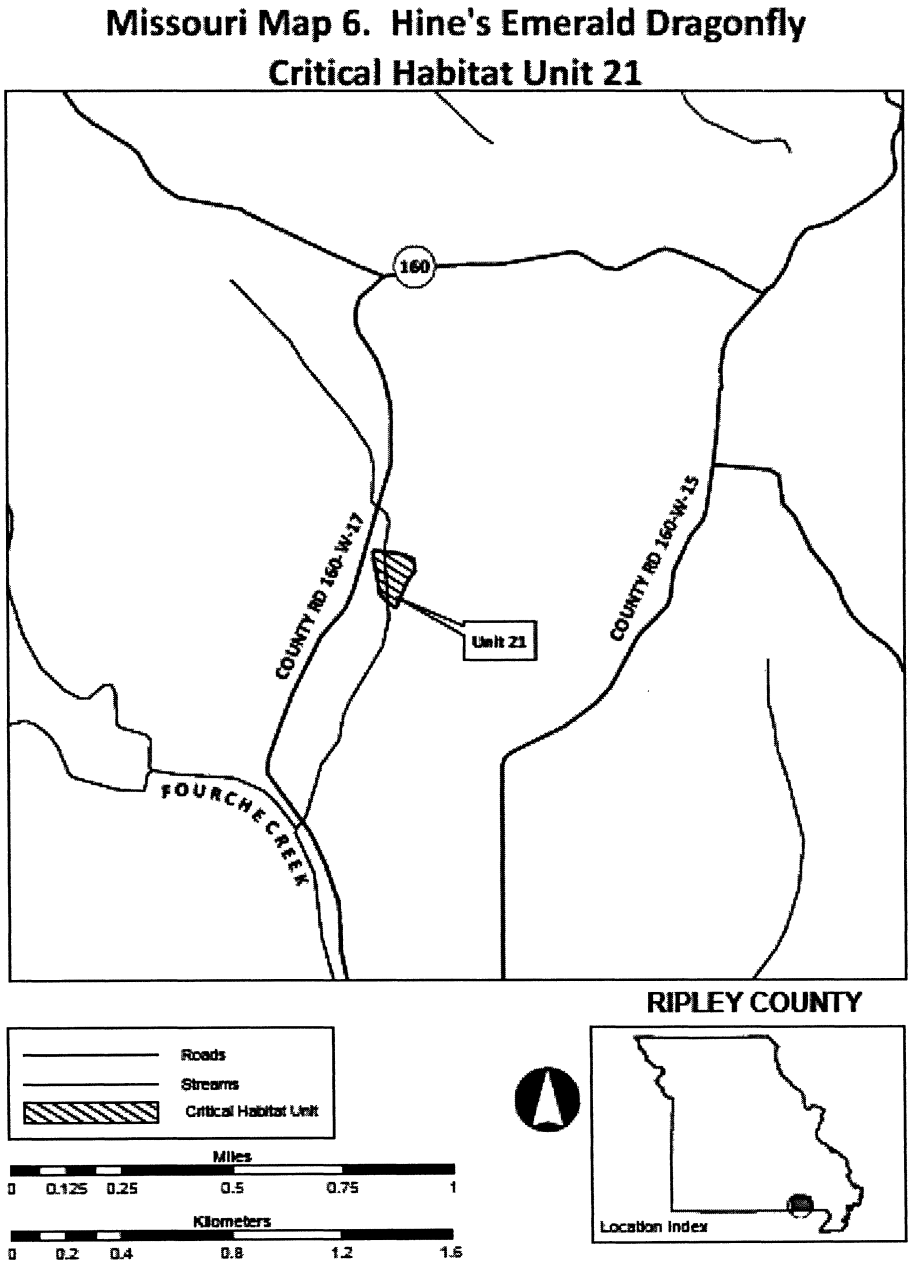
Missouri Map 5. Hine's Emerald Dragonfly Critical Habitat Units 8 and 11a



(17) Missouri Unit 21, Ripley County, Missouri.

(i) Missouri Unit 21: Ripley County. Located in T23N, R1W, Sec. 23 of the Bardley 7.5' USGS topographic quadrangle. Missouri Unit 21 is associated with an unnamed tributary of Fourche Creek and is located approximately 12 miles west of Doniphan.

(ii) NOTE: Map of Missouri Unit 21 (Missouri Map 6) follows:



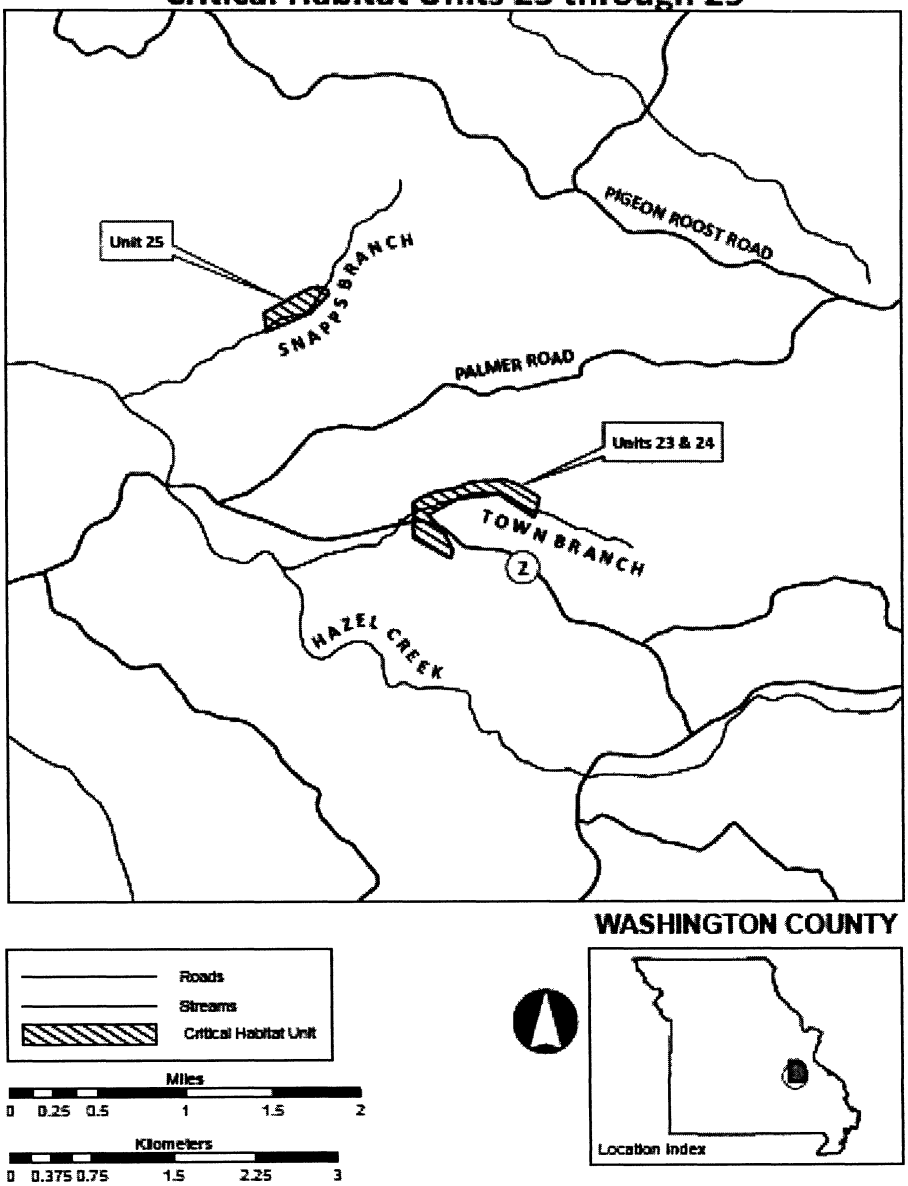
(18) Missouri Units 23 through 25, Washington County, Missouri.

(i) Missouri Units 23 and 24: Washington County. Located in T36N, R1W, Sec. 13 of the Palmer 7.5' USGS topographic quadrangle. Missouri Units 23 and 24 comprise the Towns Branch and Welker Fen complex and are located near the town of Palmer.

(ii) Missouri Unit 25: Washington County. Located in T36N, R1W, Secs. 2 and 11 of the Courtois 7.5' USGS topographic quadrangle. Missouri Unit 25 is associated with a tributary of Hazel Creek and is located approximately 1.5 miles northwest of the town of Palmer.

(iii) NOTE: Map of Missouri Units 23 through 25 (Missouri Map 7) follows:

Missouri Map 7. Hine's Emerald Dragonfly Critical Habitat Units 23 through 25

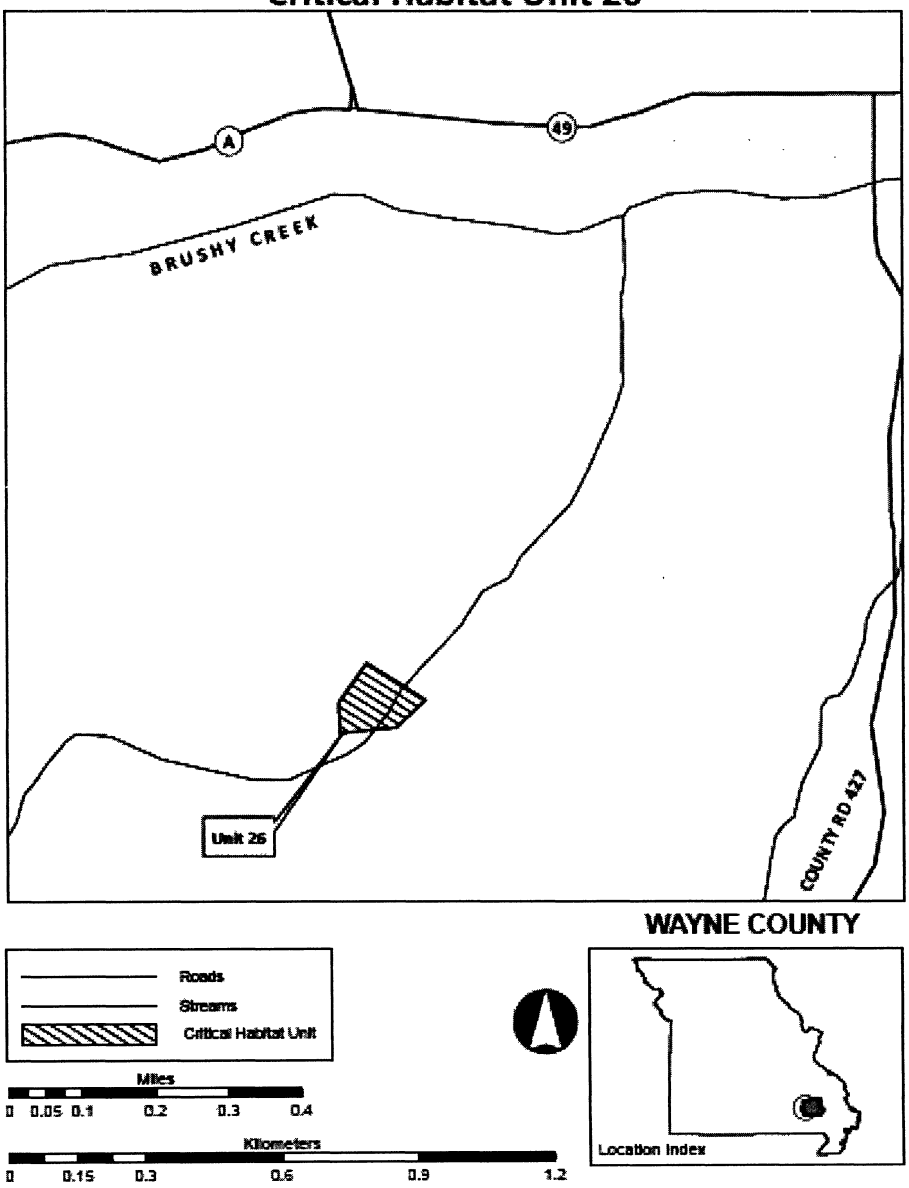


(19) Missouri Unit 26, Wayne County, Missouri

(i) Missouri Unit 26: Wayne County. Located in T27N, R4E, Sec. 33 of the Ellsinore 7.5' USGS topographic quadrangle. Missouri Unit 26 is located near Williamsville and is associated with Brushy Creek.

(ii) NOTE: Map of Missouri Unit 26 (Missouri Map 8) follows:

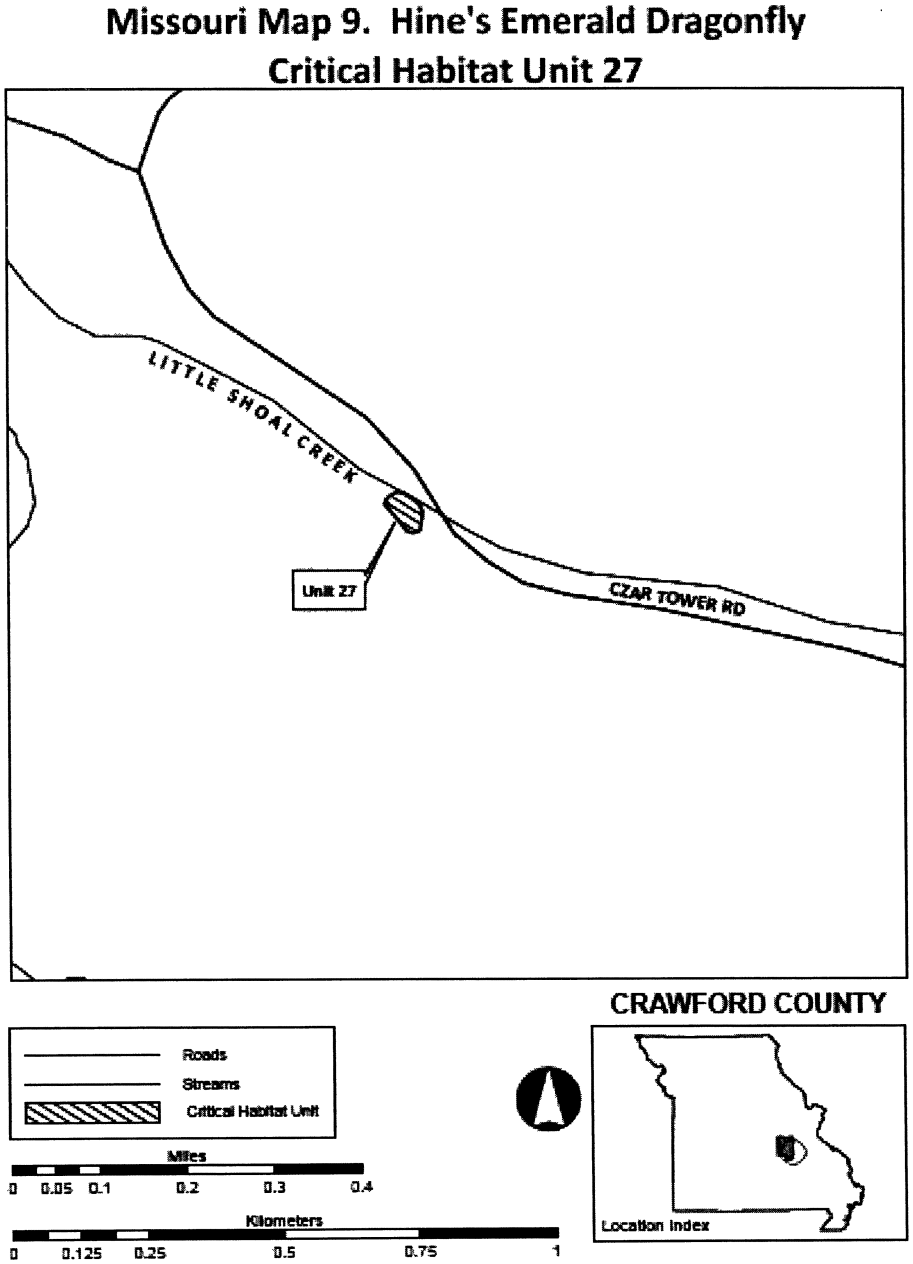
Missouri Map 8. Hine's Emerald Dragonfly Critical Habitat Unit 26



(20) Missouri Unit 27, Crawford County, Missouri.

(i) Missouri Unit 27: Crawford County. Located on the Courtois quadrangle in Township 36 north, Range 2 west, section 14, northeast 1/4, southwest 1/4, northwest 1/4.

(ii) NOTE: Map of Missouri Unit 27 (Missouri Map 9) follows:

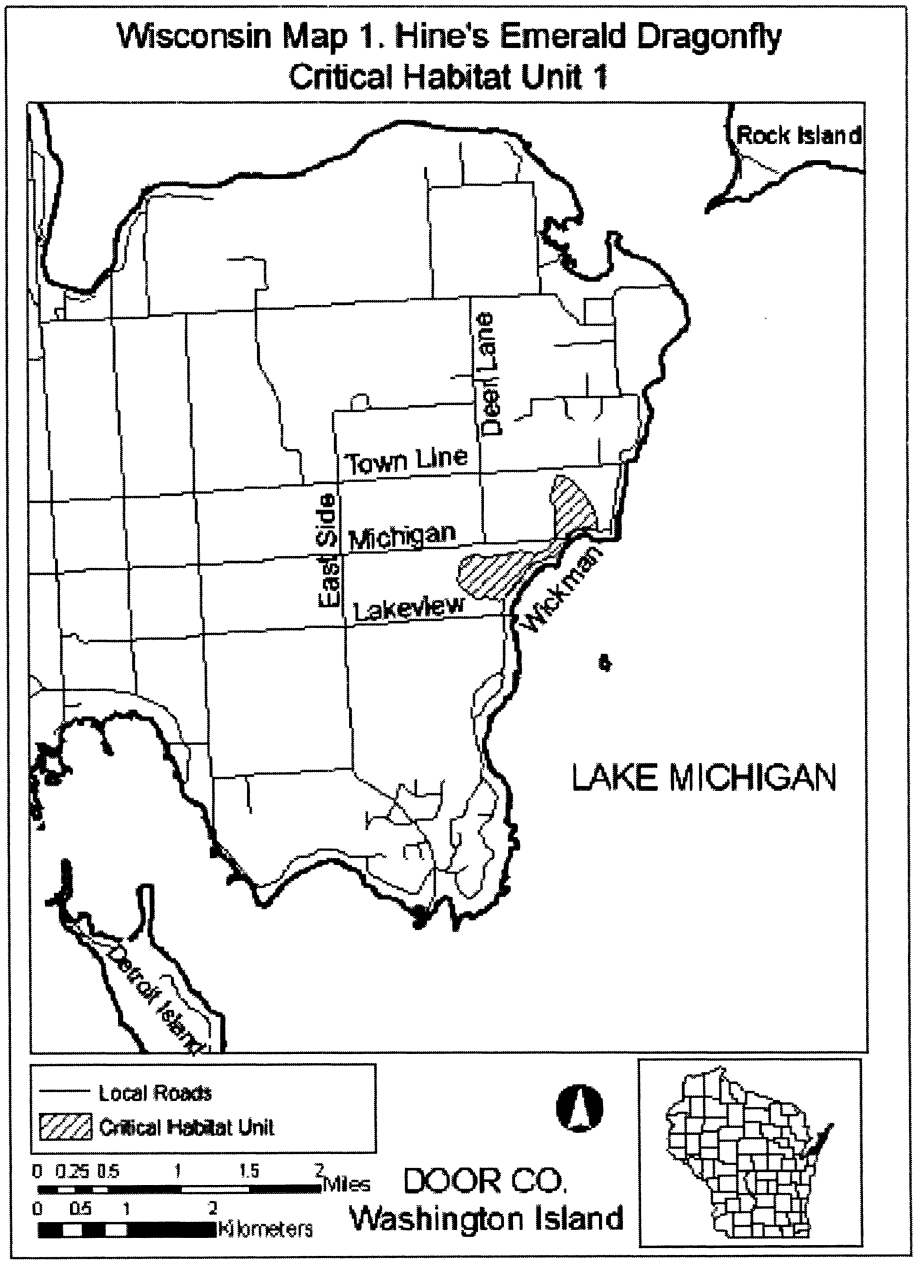


(21) Wisconsin Unit 1, Door County, Wisconsin.

(i) Wisconsin Unit 1: Washington Island, Door County. Located in T33N, R30E, W1/2 and NE1/4 Sec. 4, SE1/4 Sec. 5 of Washington Island SE and Washington Island NE 7.5' USGS topographic quadrangles. Lands included are located adjacent to and west of

Wickman Road, south of Town Line Road, East of Deer Lane and East Side Roads, north of Lake View Road and include Big Marsh and Little Marsh.

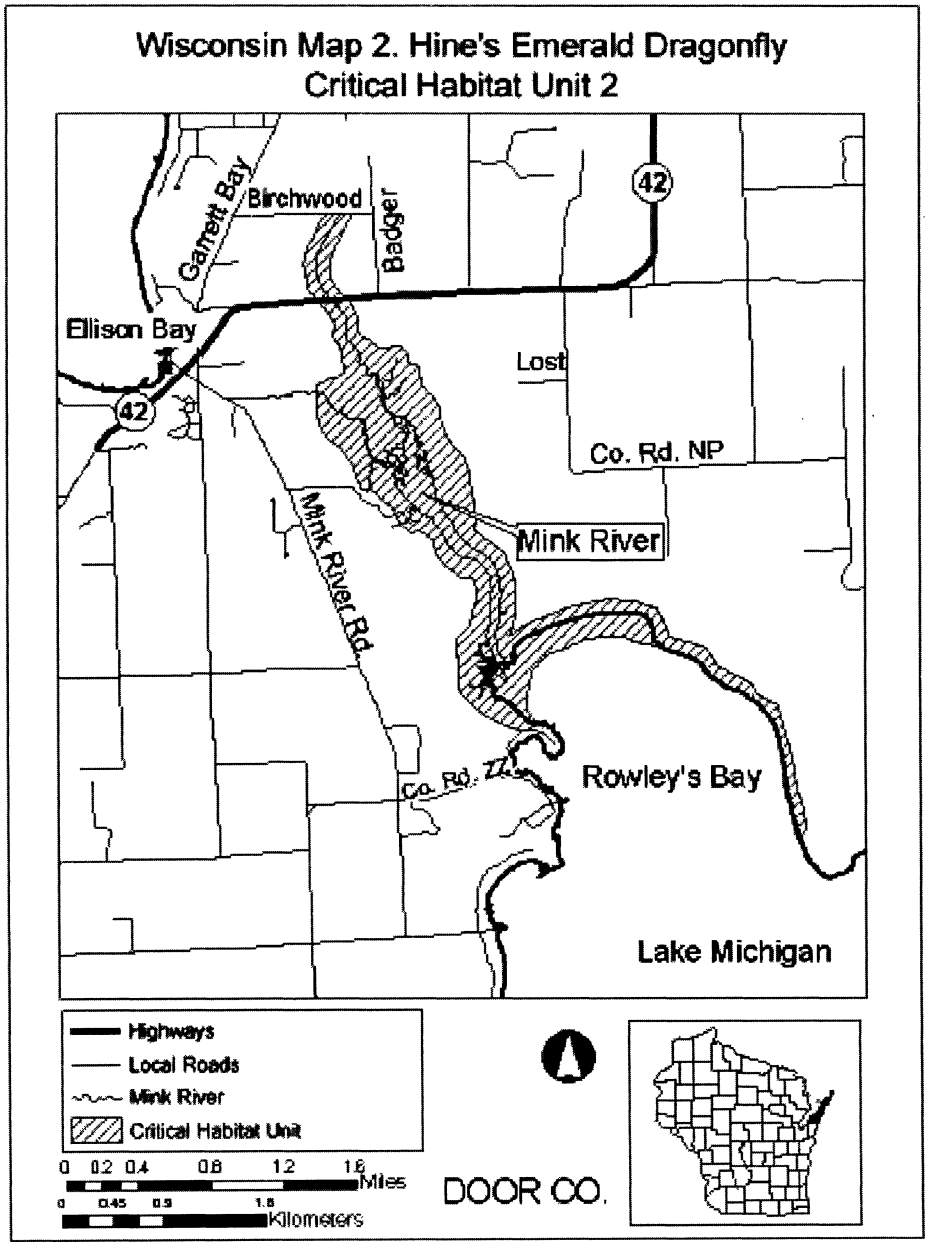
(ii) NOTE: Map of Wisconsin Unit 1 (Wisconsin Map 1) follows



(22) Wisconsin Unit 2, Door County, Wisconsin.

(i) Wisconsin Unit 2: Door County. Located in T32N, R28E, SE 1/4 Sec. 11, NW 1/4 Sec. 13, NE1/4 Sec. 14 of the Ellison Bay 7.5' USGS topographic quadrangle, and in T32N, R28E, W1/2 Sec. 13, E 1/2 Sec. 14, NE1/4 Sec. 23, portions of each 1/4 of Sec. 24, N1/2 Sec. 25, and T32N, R29E, S1/2 Sec. 19, W1/2 Sec. 29, NE1/4 Sec. 30 of Sister Bay 7.5' USGS topographic quadrangle. Lands included are located east of the Village of Ellison Bay, south of Garrett Bay Road and Mink River Roads, North of County Road ZZ, west of Badger Road, County Road NP and Juice Mill Road, and includes the Mink River.

(ii) NOTE: Map of Wisconsin Unit 2 (Wisconsin Map 2) follows:



(23) Wisconsin Units 3 through 7, Door County, Wisconsin.

(i) Wisconsin Unit 3: Door County. Located in T31N R28E, S 1/2 S10, NE 1/4 S15 of Sister Bay 7.5' USGS topographic quadrangle. Lands included are located south of County Road ZZ, north of North Bay (Lake Michigan), west of North Bay Road, east of Old Stage Road and about two miles east of the

Village of Sister Bay and include a portion of Three-Springs Creek.

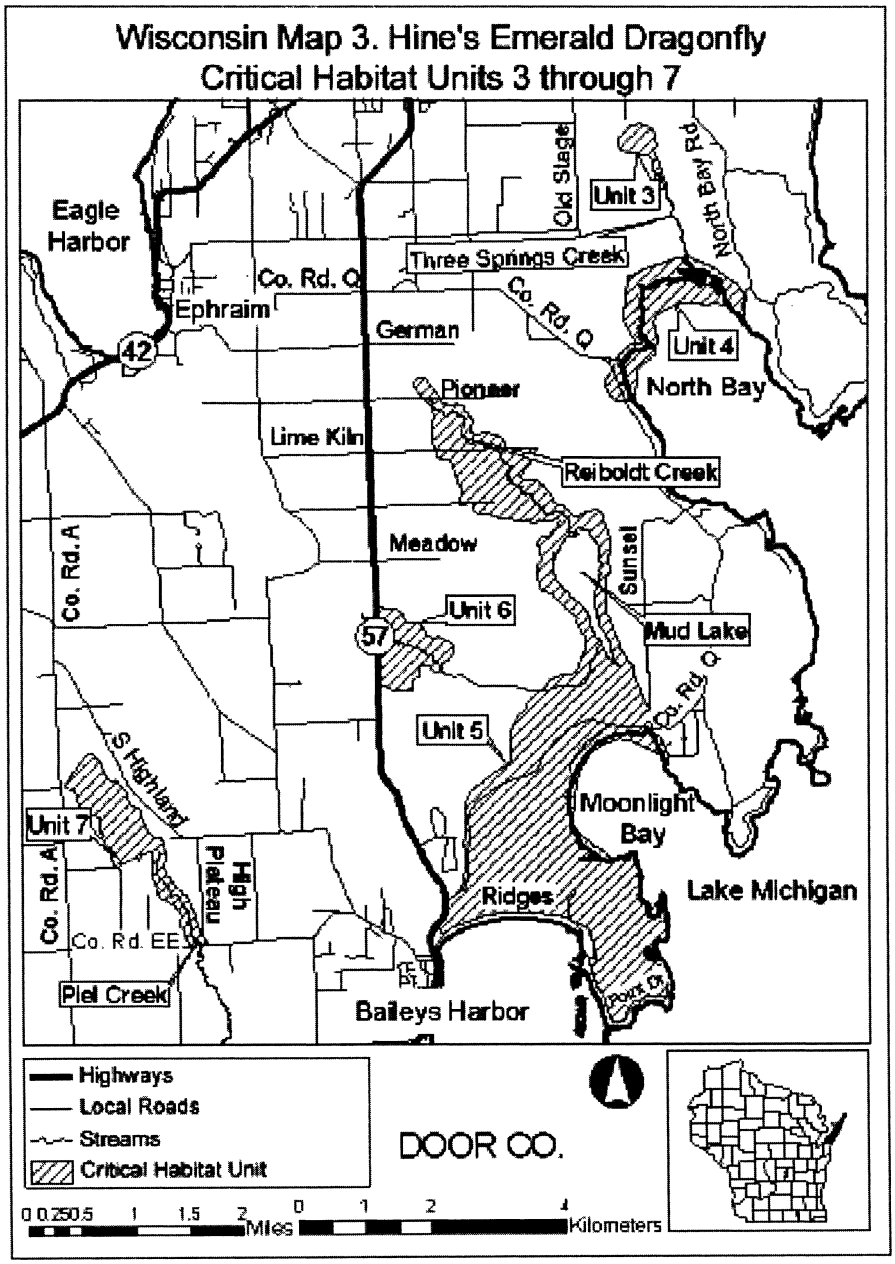
(ii) Wisconsin Unit 4: Door County. Located in T31N, R28E, SW1/4 and S1/2 Sec. 15, portions of each 1/4 of Sec. 22, and N1/2 of Sec. 23 of the Sister Bay 7.5' USGS topographic quadrangle. Lands are located along the north and northwest sides of North Bay (Lake Michigan).

(iii) Wisconsin Unit 5: Door County. Located in T31N, R28E, S1/2 Sec. 20, E1/2 Sec. 29, NW1/4 and S1/2 Sec. 28, N1/2 and SE1/4 Sec. 33, and W1/2 Sec. 34. It also is located in T30N, R28E, W1/2 Sec. 3, E1/2 and SW1/4 Sec. 4, SE1/4 Sec. 8, Sec. 9, N1/2 Sec. 10, W1/2 and SE 1/4 Sec.15, Sec. 16, and Sec. 17 of the Baileys Harbor East, and Sister Bay 7.5' USGS topographic quadrangles. Lands located south of German Road, east of State Highway 57, west of North Bay Drive, Sunset Drive and Moonlight Bay (Lake Michigan), north of Ridges Road and Point Drive and include Mud Lake and Reiboldt Creek.

(iv) Wisconsin Unit 6: Door County. Located in T30N, R28E, portions of each 1/4 of Sec. 5 of the Baileys Harbor East 7.5' USGS topographic quadrangle and Baileys Harbor West 7.5' USGS topographic quadrangle. Lands are located about 2 1/4 miles north of the Town of Baileys Harbor, east of State Highway 57, south of Meadow Road and are associated with an unnamed stream.

(v) Wisconsin Unit 7: Door County. Located in T30N, R27E, Sec. 11, SW1/4 Sec. 13, and N1/2 and SE 1/4 Sec. 14 of the Baileys Harbor West 7.5' USGS topographic quadrangle. Lands are located north of County Road EE, east of County Road A and west of South Highland and High Plateau Roads, about two miles northeast of Town of Baileys Harbor and are associated with the headwaters of Piel Creek.

(vi) NOTE: Map of Wisconsin Units 3 through 7 (Wisconsin Map 3) follows:


Wisconsin Map 3. Hine's Emerald Dragonfly
Critical Habitat Units 3 through 7
Eagle Harbor
Ephraim
42
Co. Rd. Q
Three Springs Creek
Old Stage
Unit 3
North Bay Rd.
Co. Rd. Q
German
Unit 4
North Bay
Pioneer
Lime Kiln
Reiboldt Creek
Meadow
Sunset
Co. Rd. A
Unit 6
57
Mud Lake
Co. Rd. Q
Unit 5
S Highland
Moonlight Bay
Unit 7
Co. Rd. A
High Plateau
Ridges
Lake Michigan
Co. Rd. EE
Piel Creek
Baileys Harbor
Highways
Local Roads
Streams
Critical Habitat Unit
DOOR CO.
0 0.25 0.5 1 1.5 2 Miles
0 1 2 4 Kilometers

(24) Wisconsin Unit 8, Door County, Wisconsin.

(i) Wisconsin Unit 8: Door County. Located in T28N, R27E, S1/2 Sec. 16, N1/2 Sec. 21 of the Jacksonport 7.5' USGS topographic quadrangle. Lands are located east of Bechtel Road, South of Whitefish Bay Road, west of Glidden Drive and include Arbter Lake.

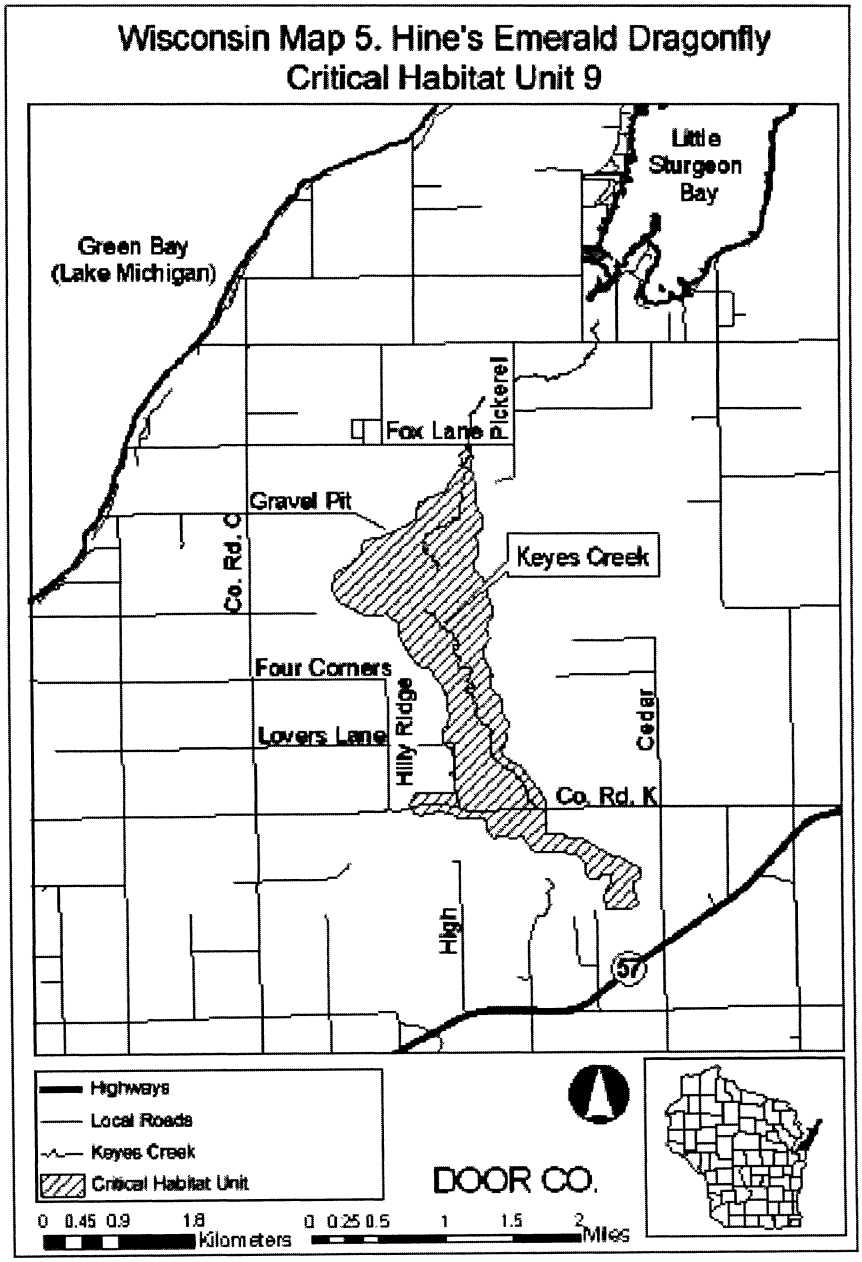
(ii) NOTE: Map of Wisconsin Unit 8 (Wisconsin Map 4) follows:

(25) Wisconsin Unit 9, Door County, Wisconsin.

(i) Wisconsin Unit 9: Door County, Wisconsin. Located in T27N, R24E, SE1/4 Sec.16, E1/2 Sec. 20, portions of each 1/4 of Secs. 21, 28 and 33, NW1/4 and S1/2 Sec. 34. Also located in T26N, R24E, NW1/4 Sec. 3 of the Little Sturgeon 7.5' USGS topographic quadrangle.

Lands are located west of Pickeral Road and Cedar Lane, north of State Highway 57, east of Hilly Ridge Road and County Road C, south of Fox Lane Road, about 1.5 miles southwest of Little Sturgeon Bay (Lake Michigan) and include portions of Keyes Creek and associated wetlands.

(ii) NOTE: Map of Wisconsin Unit 9 (Wisconsin Map 5) follows:

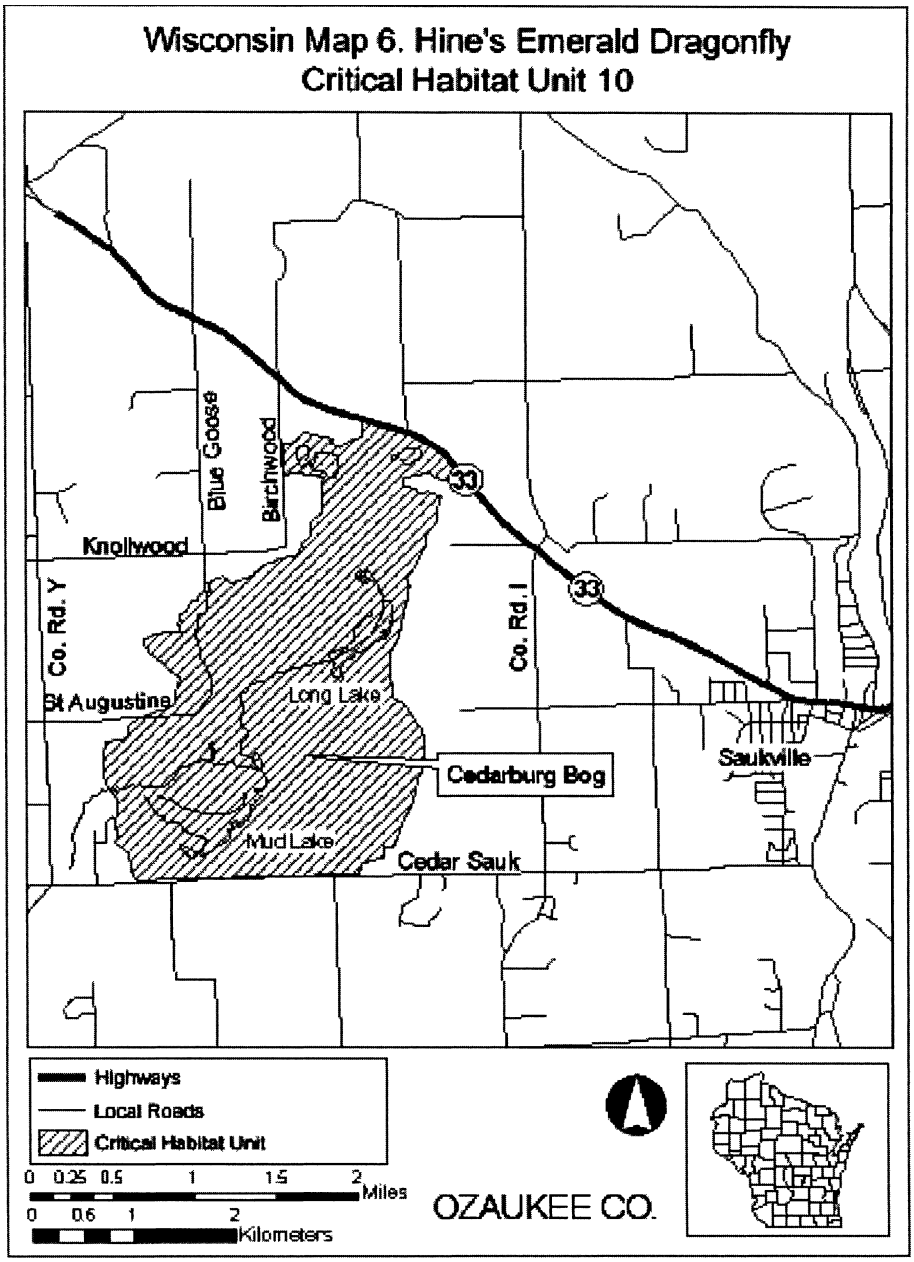


(26) Wisconsin Unit 10, Ozaukee County, Wisconsin.

(i) Wisconsin Unit 10: Ozaukee County. Located in T11N, R21E, E1/2 of Sec. 20, portions of each 1/4 of Sec. 21, W1/2 Sec. 28, Sec. 29, E1/2 Sec. 30, E1/2 and portions of NW1/4 and SW1/4 Sec. 31, Sec. 32, and W1/2 Sec. 33 of the Cedarburg, Five Corners, Newburg, and Port

Washington West 7.5' USGS topographic quadrangles. Lands are located south of State Highway 33, east of County Road Y and Birchwood Road, north of Cedar Sauk Road about 2 miles west of Saukville, and includes the majority of Cedarburg Bog.

(ii) NOTE: Map of Wisconsin Unit 10 (Wisconsin Map 6) follows:

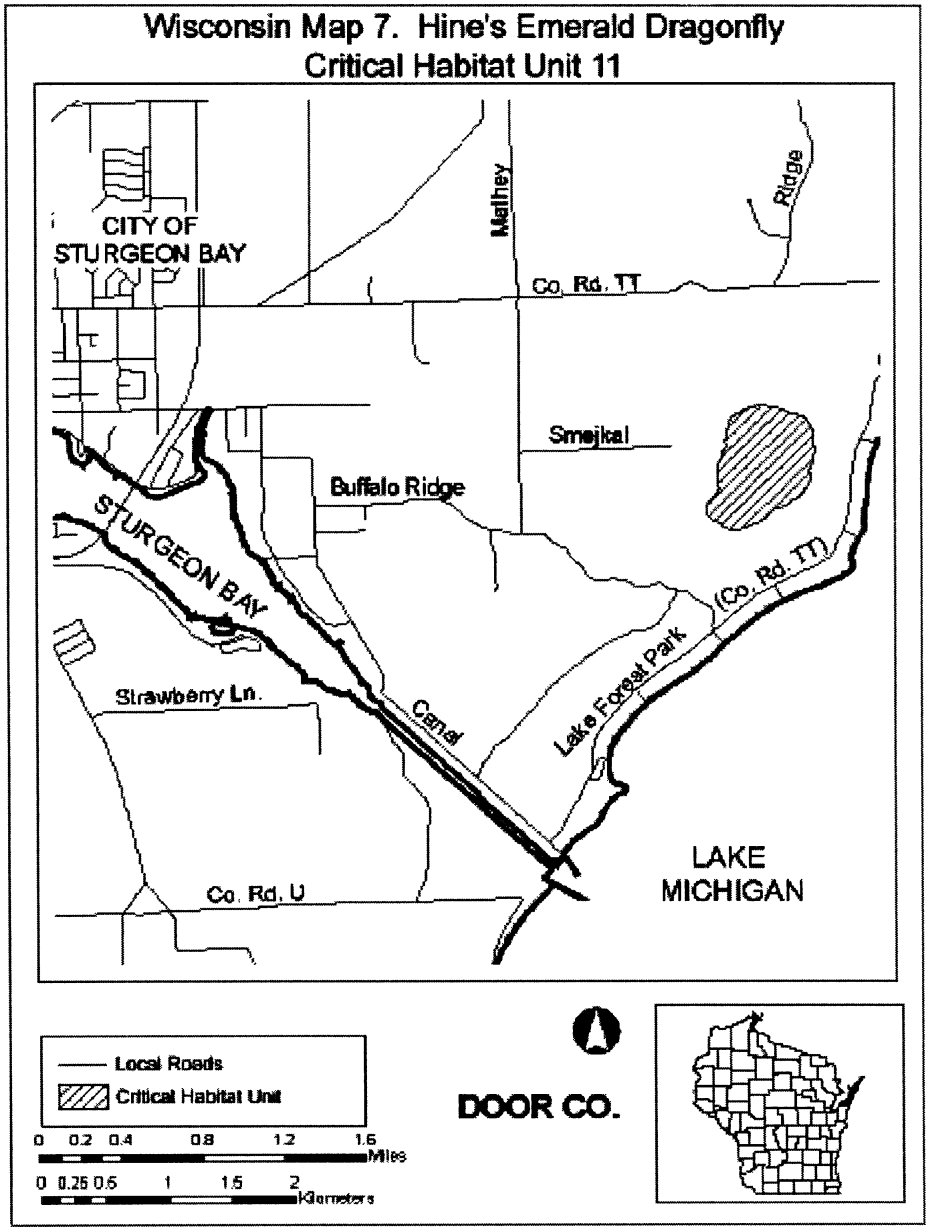


(27) Wisconsin Unit 11, Door County, Wisconsin.

(i) Wisconsin Unit 11: Door County. Located in T27N, R26E, SE 1/4 Sec. 11, Sec. 12, NW 1/4 Sec. 13, and NE 1/4 Sec. 14 of the Sturgeon Bay East 7.5' USGS topographic quadrangle. Lands are located south of County

Road TT, east of Mathey Road, north of Buffalo Ridge Trail, west of Lake Forest Park Road (also County Road TT), about 11/2 miles west of the City of Sturgeon Bay, and include portions of Kellner's Fen.

(ii) NOTE: Map of Wisconsin Unit 11 (Wisconsin Map 7) follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila aglaia*)

(1) Critical habitat units are depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila aglaia* are:

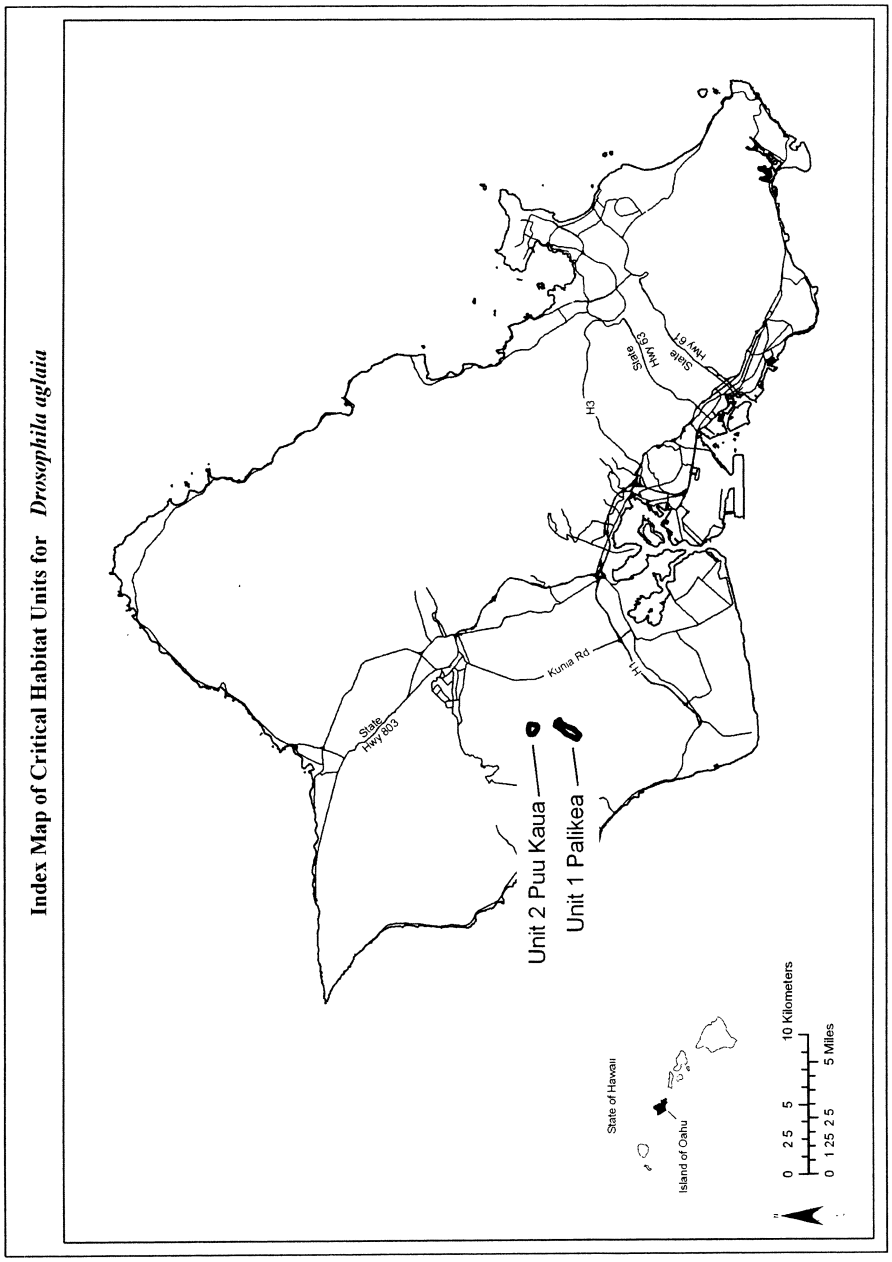
(i) Dry to mesic, lowland, *Diospyros* sp., ohia and koa forest between the elevations of 1,865–2,985 ft (568–910 m); and

(ii) The larval host plant *Urera glabra*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila aglaia* follows:

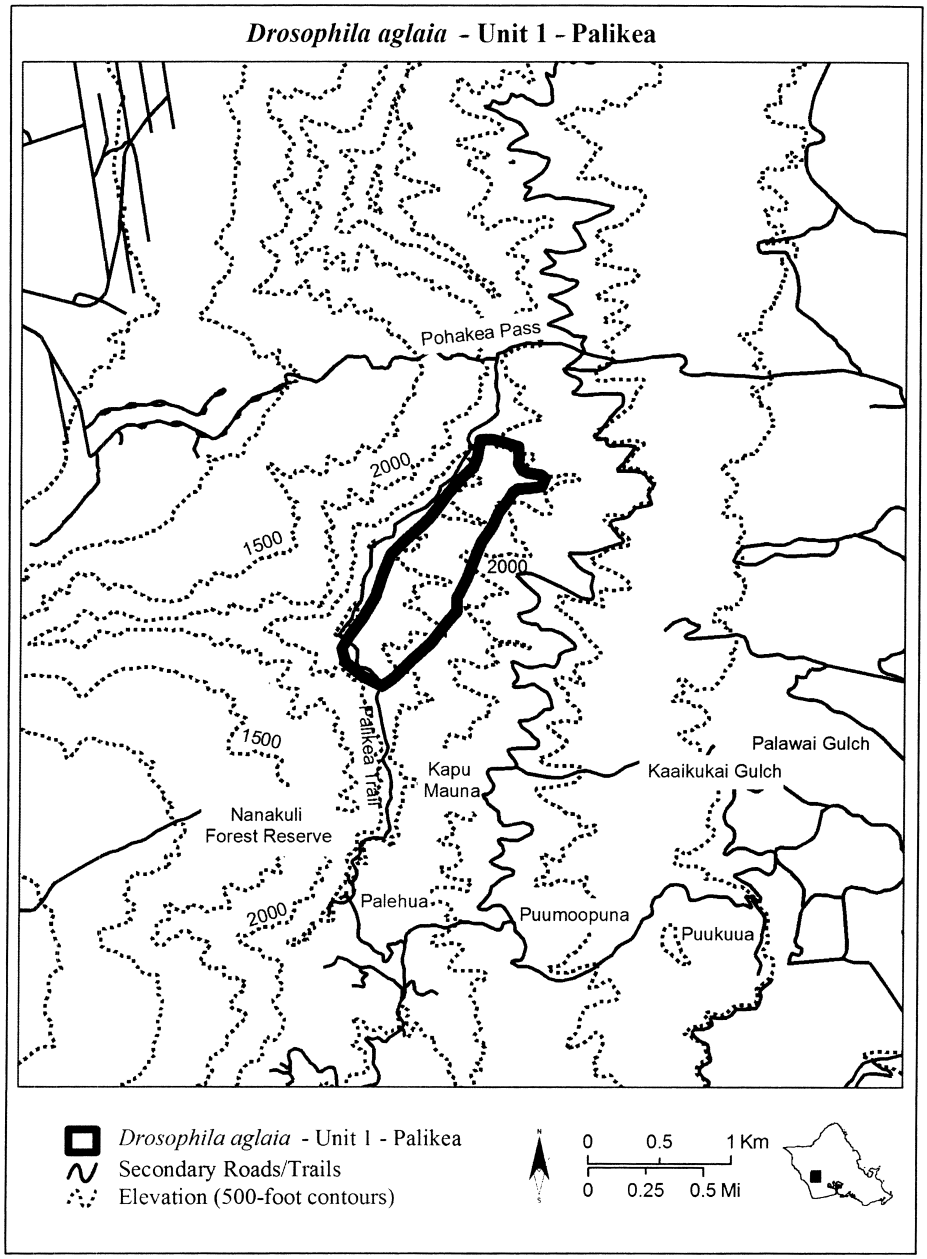


(6) *Drosophila aglaia*—Unit 1—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila aglaia*—Unit 1—Palikea follows:



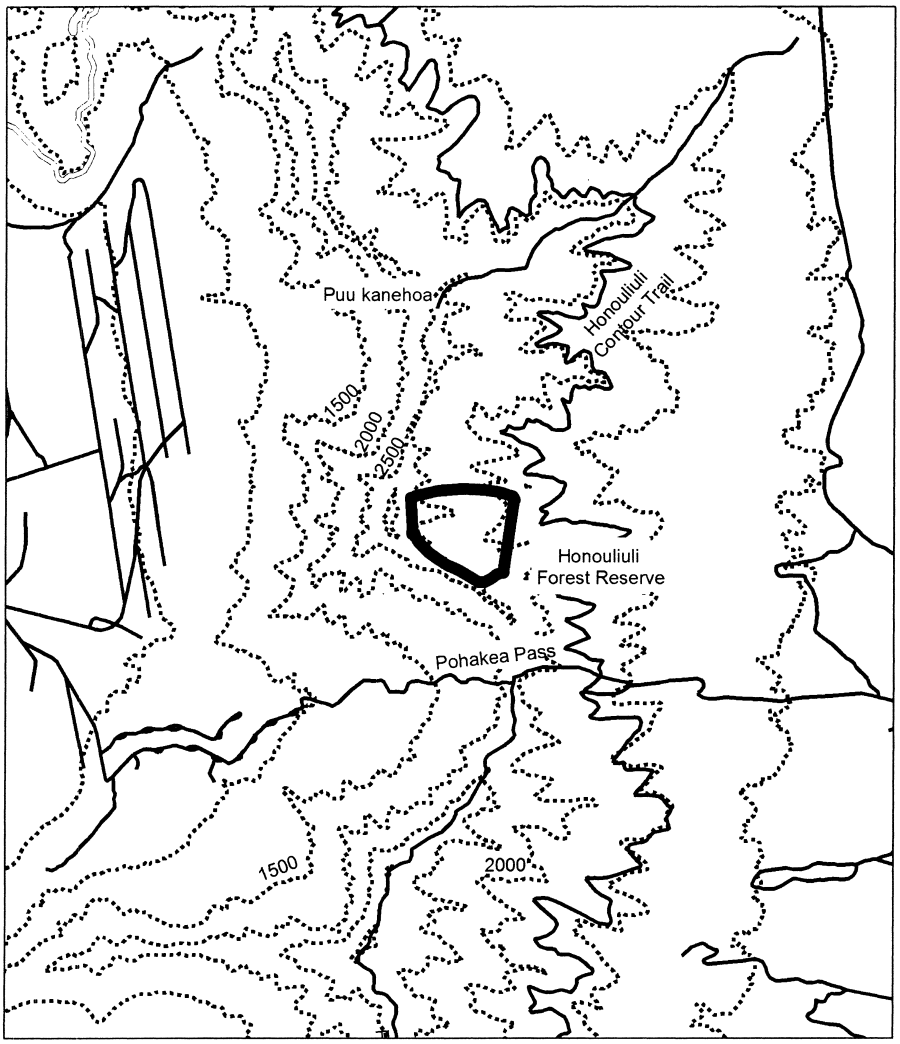
(7) *Drosophila aglaia*—Unit 2—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila aglaia*—Unit 2—Puu Kaua follows:

Drosophila aglaia - Unit 2 - Puu Kaua



Drosophila aglaia - Unit 2 - Puu Kaua
Secondary Roads/Trails
Elevation (500-foot contours)

N
0 0.5 1 Km
0 0.25 0.5 Mi

HAWAIIAN PICTURE-WING FLY (*Drosophila differens*)

(1) Critical habitat is depicted for County of Maui, island of Molokai, Hawaii, on the map below.

(2) The primary constituent elements of critical habitat for *Drosophila differens* are:

(i) Wet, montane, ohia forest between the elevations of 3,645–4,495 ft (1,111–1,370 m); and

(ii) The larval host plants *Clermontia arborescens* ssp. *waihiae*, *C. granidiflora* ssp. *munroi*, *C. oblongifolia* ssp. *brevipes*, *C. kakeana*, and *C. pallida*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

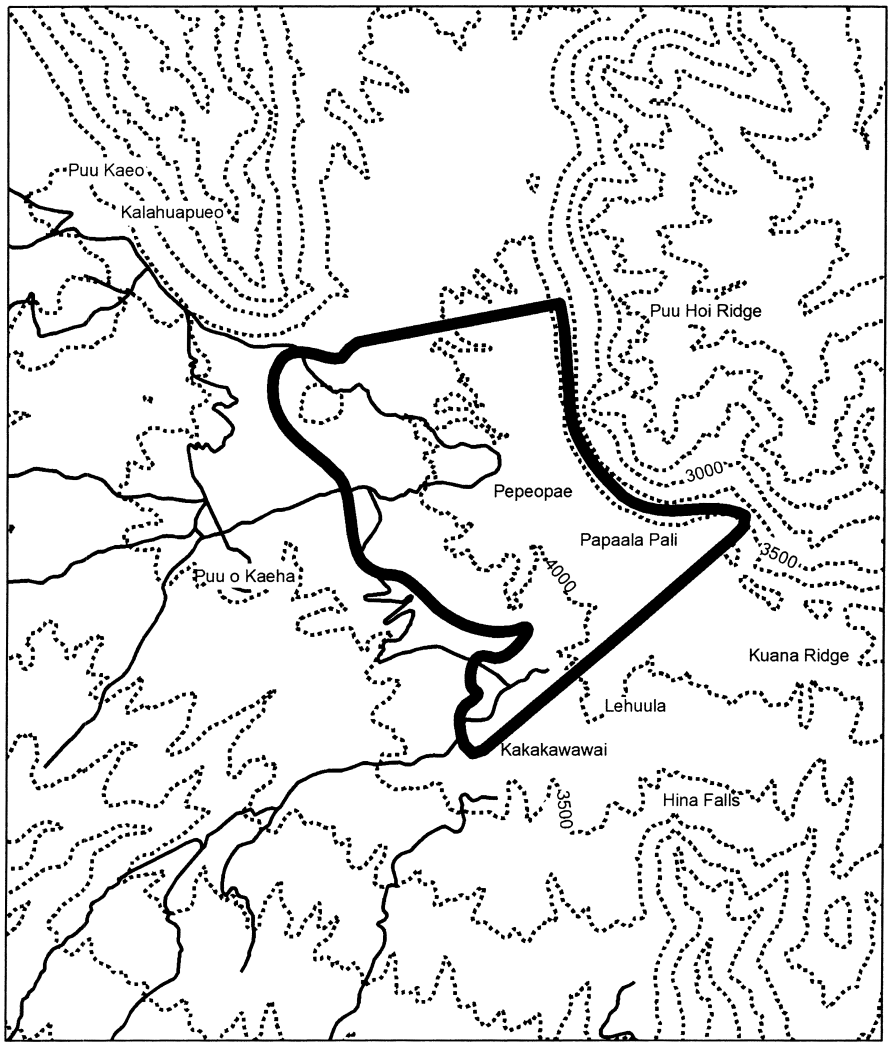
(4) Critical habitat map unit. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) *Drosophila differens*—Unit 1—Puu Kolekole, Maui County, island of Molokai, Hawaii.

(i) Land bounded by the following coordinates: 718527, 2337536; 718533, 2337451; 718538, 2337370; 718543, 2337298; 718547, 2337236; 718551, 2337182; 718555, 2337138; 718560, 2337098; 718571, 2337055; 718586, 2337010; 718607, 2336962; 718632, 2336912; 718662, 2336860; 718698, 2336807; 718739, 2336754; 718784, 2336700; 718835, 2336646; 718892, 2336593; 718958, 2336551; 719034, 2336520; 719119, 2336502; 719215, 2336497; 719320, 2336503; 719420, 2336509; 719506, 2336508; 719579, 2336500; 719639, 2336484; 719685, 2336462; 719675, 2336394; 719613, 2336327; 718980, 2335781; 718332, 2335236; 718002, 2334953; 717930, 2334932; 717877, 2334988; 717855, 2335060; 717846, 2335123; 717848, 2335175; 717862, 2335217; 717888, 2335249; 717921, 2335272; 717946, 2335291; 717961, 2335308; 717965, 2335322; 717958, 2335333; 717942, 2335342; 717928, 2335356; 717919, 2335377; 717915, 2335404; 717916, 2335438; 717923, 2335478; 717935, 2335515; 717952, 2335542; 717974, 2335558; 718001, 2335564; 718034, 2335559; 718070, 2335550; 718107, 2335553; 718144, 2335567; 718182, 2335593; 718221, 2335630; 718257, 2335675; 718280, 2335710; 718286, 2335733; 718277, 2335745; 718253, 2335744; 718213, 2335731; 718166, 2335721; 718115, 2335717; 718060, 2335719; 718001, 2335728; 717937, 2335742; 717873, 2335764; 717812, 2335793; 717753, 2335829; 717697, 2335873; 717643, 2335924; 717591, 2335977; 717543, 2336020; 717499, 2336052; 717458, 2336073; 717420, 2336083; 717385, 2336085; 717351, 2336089; 717319, 2336098; 717288, 2336110; 717258, 2336127; 717230, 2336148; 717204, 2336180; 717183, 2336223; 717165, 2336280; 717151, 2336348; 717140, 2336429; 717130, 2336510; 717118, 2336579; 717103, 2336636; 717085, 2336680; 717065, 2336713; 717041, 2336739; 717009, 2336769; 716968, 2336806; 716919, 2336847; 716862, 2336894; 716800, 2336946; 716745, 2337000; 716702, 2337055; 716669, 2337112; 716647, 2337171; 716635, 2337231; 716632, 2337289; 716634, 2337341; 716644, 2337388; 716660, 2337430; 716683, 2337468; 716713, 2337497; 716751, 2337516; 716797, 2337523; 716850, 2337520; 716912, 2337507; 716976, 2337488; 717031, 2337481; 717077, 2337486; 717126, 2337542; 717183, 2337585; 718403, 2337817; 718484, 2337833; 718487, 2337824; 718499, 2337760; 718510, 2337691; 718519, 2337616.

(ii) NOTE: Map of *Drosophila differens*—Unit 1—Puu Kolekole follows:

Drosophila differens - Unit 1 - Puu Kolekole



Drosophila differens - Unit 1 - Puu Kolekole
Secondary Roads/Trails
Elevation (500-foot contours)

0 0.5 1 Km
0 0.25 0.5 Mi

HAWAIIAN PICTURE-WING FLY (*Drosophila hemipeza*)

(1) Critical habitat units are depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for Drosophila hemipeza are:

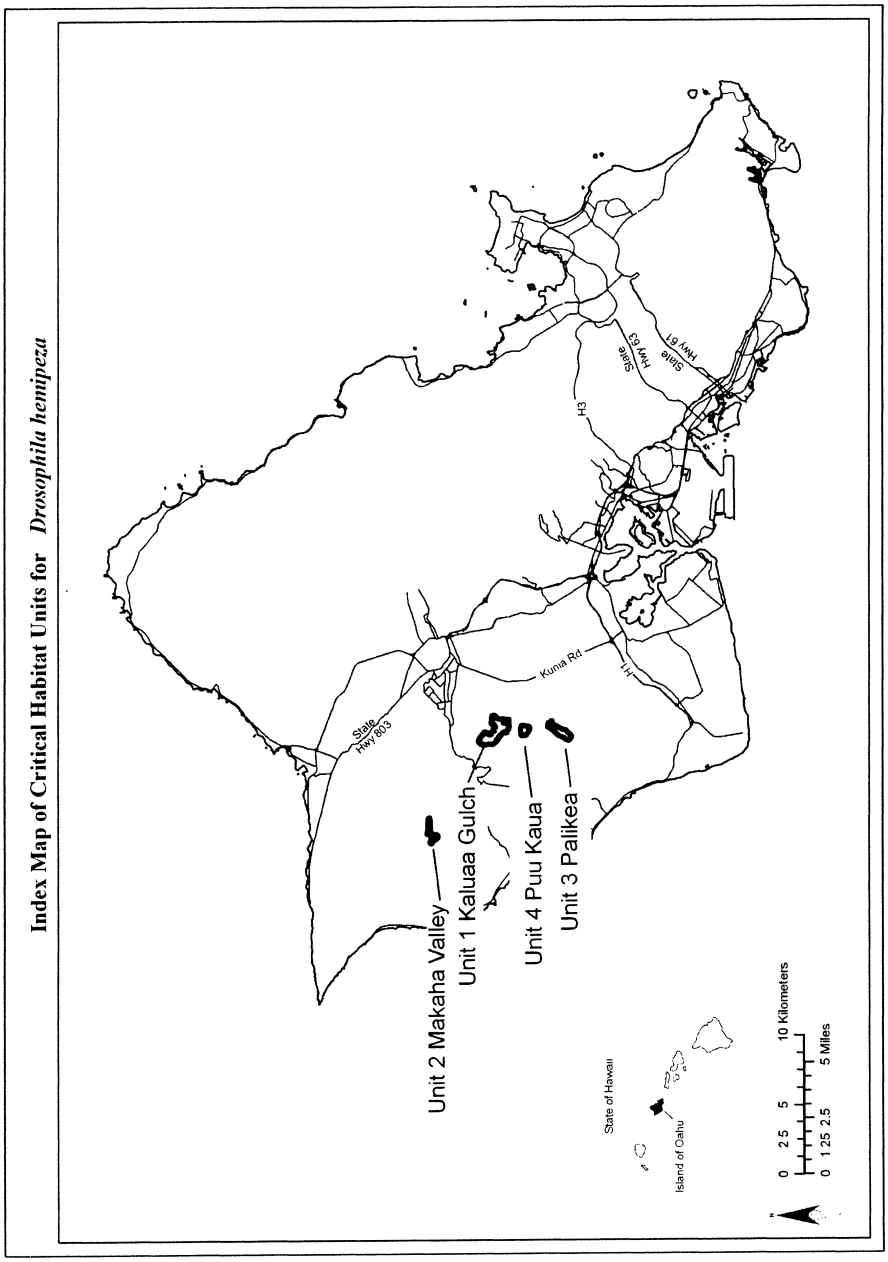
(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–3,005 ft (524–916 m); and

(ii) The larval host plants *Cyanea angustifolia*, *C. calycina*, *C. grimesiana* ssp. *grimesiana*, *C. grimesiana* ssp. *obatae*, *C. membranacea*, *C. pinnatifida*, *C. superba* ssp. *superba*, *Lobelia hypoleuca*, *L. niihauensis*, *L. yuccoides*, and *Urera kaalae*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila hemipeza* follows:

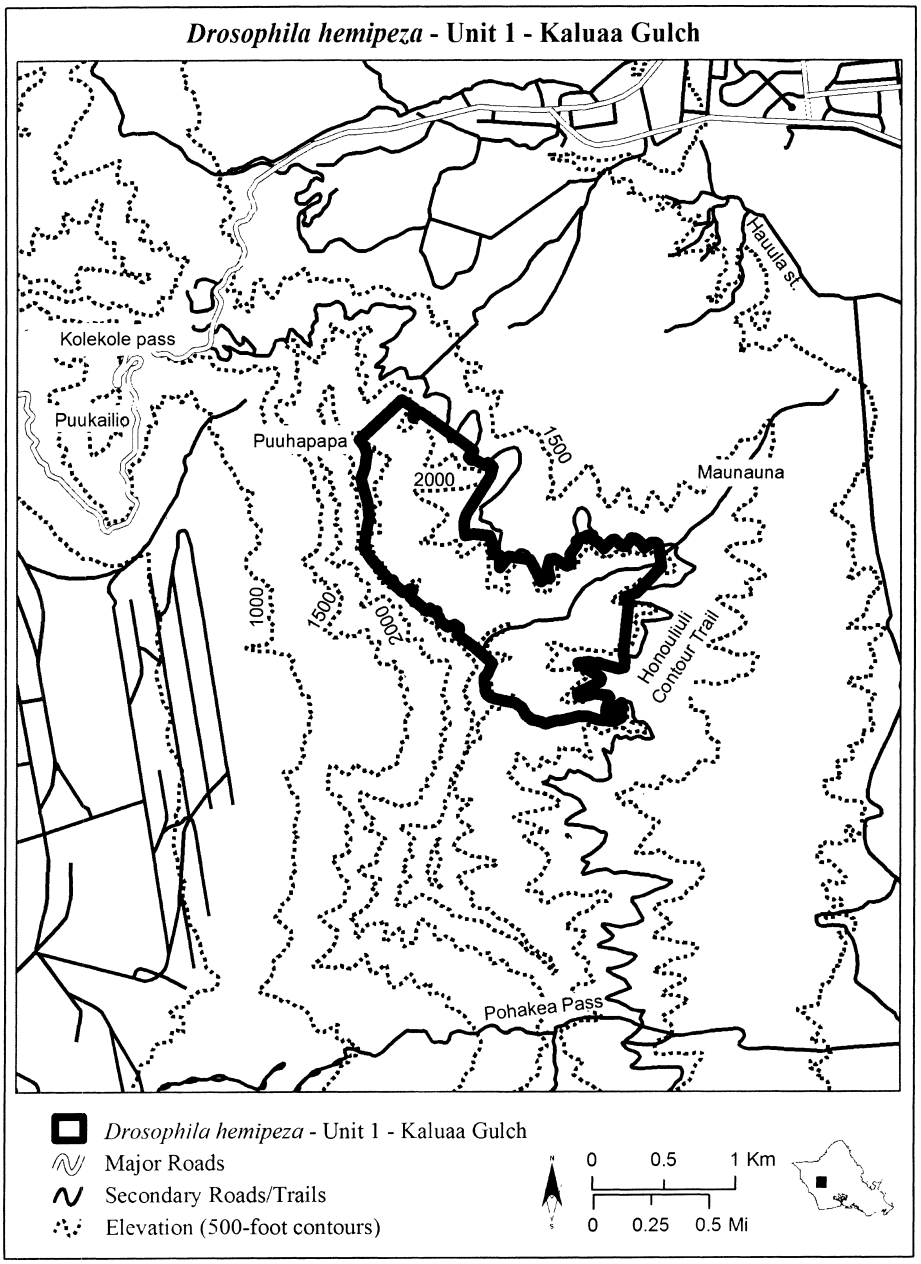


(6) *Drosophila hemipeza*—Unit 1—Kaluaa Gulch, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593240, 2374436; 593231, 2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676,

2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632, 2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999, 2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 1—Kaluaa Gulch follows:

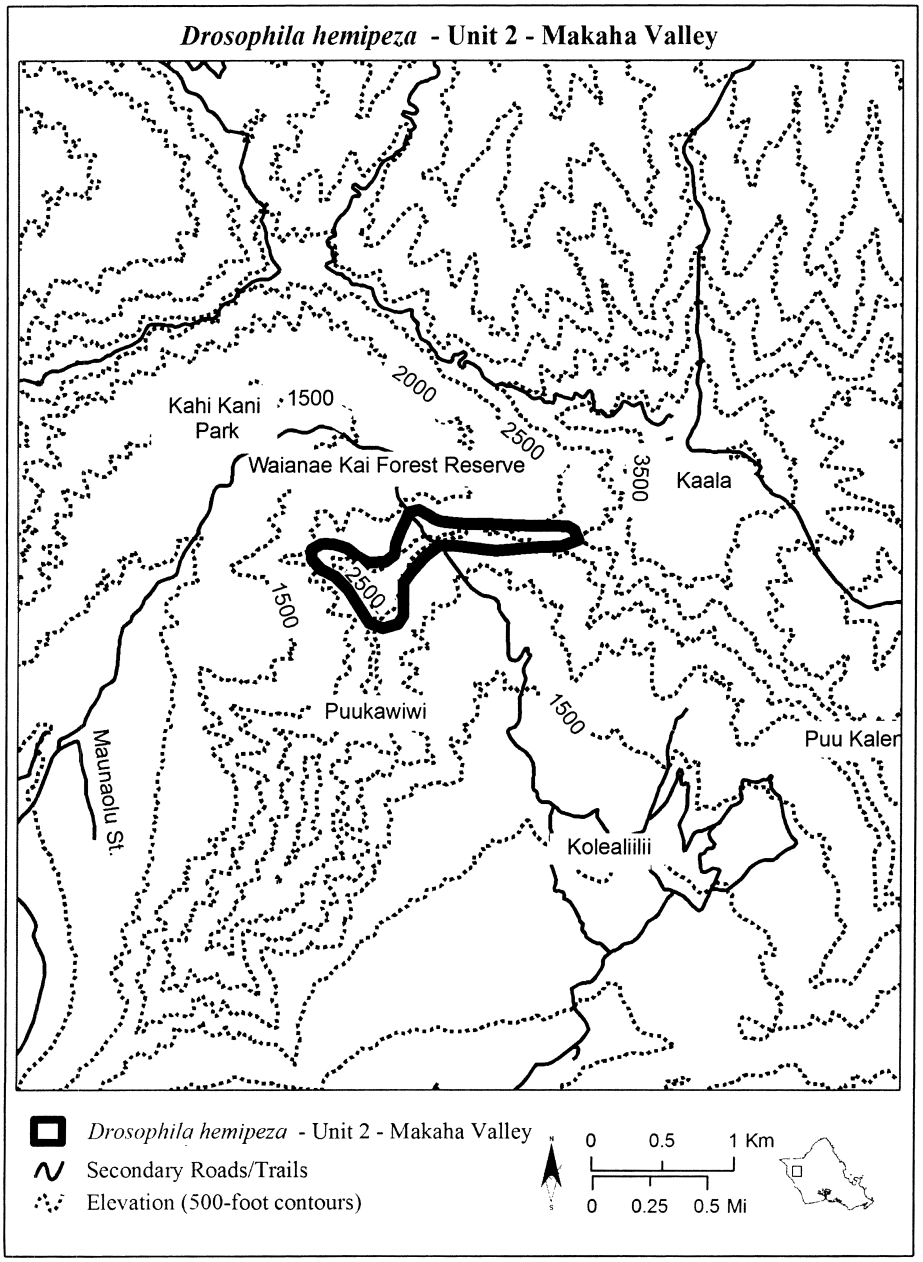


(7) *Drosophila hemipeza*—Unit 2—Makaha Valley, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 586712, 2378108; 586877, 2378091; 587049, 2378091; 587173, 2378087; 587333, 2378079; 587506, 2378079; 587592, 2378075; 587641, 2378046; 587641,

2378038; 587666, 2377980; 587543, 2377935; 587399, 2377931; 587243, 2377919; 587090, 2377906; 586794, 2377943; 586696, 2377943; 586597, 2377869; 586507, 2377767; 586449, 2377684; 586449, 2377458; 586408, 2377397; 586305, 2377368; 586206, 2377405; 586054, 2377643; 585968, 2377726; 585869, 2377775; 585803, 2377849; 585803, 2377915; 585869, 2377952; 585894, 2377956; 585956, 2377952; 586050, 2377923; 586120, 2377869; 586194, 2377824; 586317, 2377828; 586383, 2377878; 586391, 2377956; 586420, 2378034; 586461, 2378116; 586482, 2378174; 586552, 2378190; 586630, 2378149; 586655, 2378128.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 2—Makaha Valley follows:

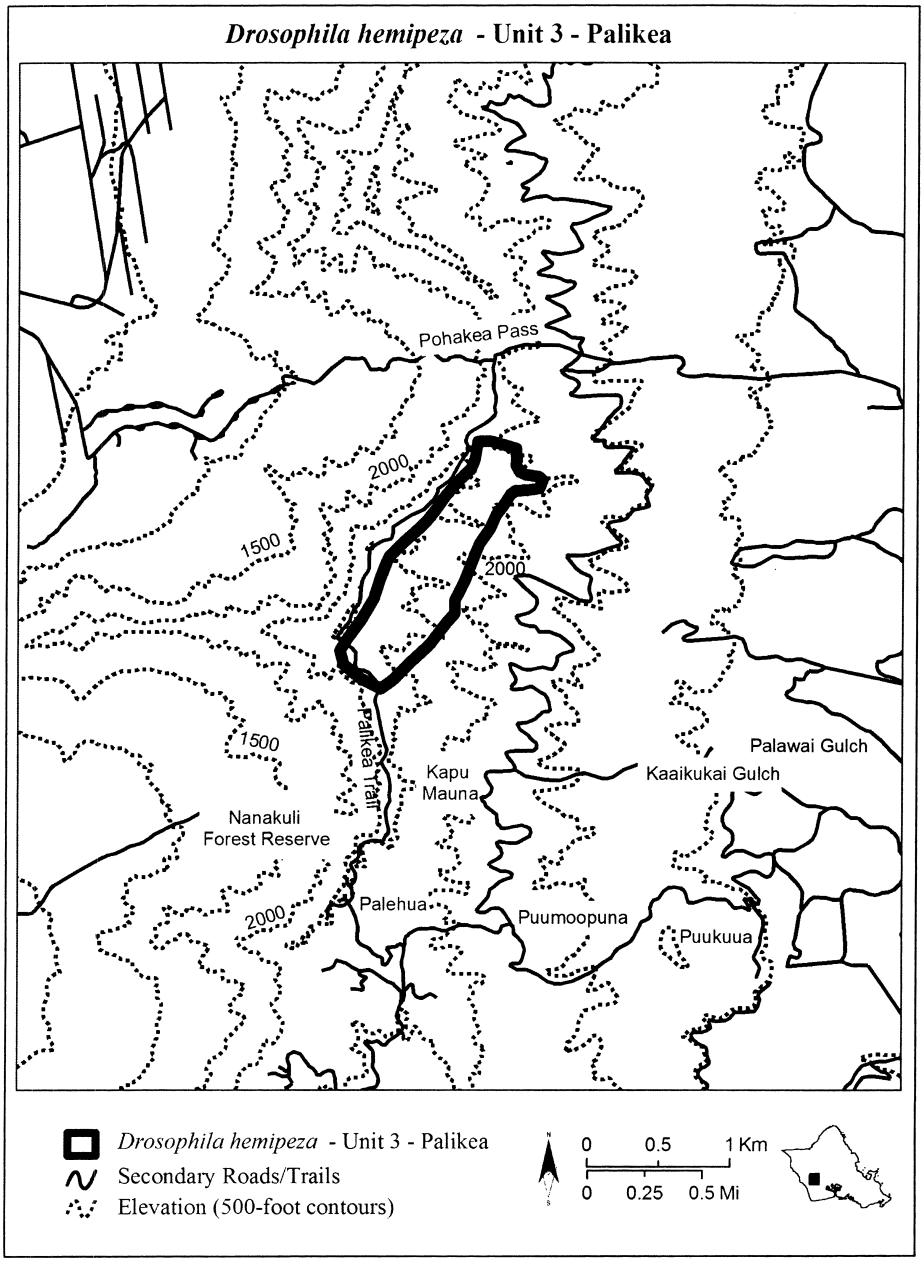


(8) *Drosophila hemipeza*—Unit 3—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 3—Palikea follows:



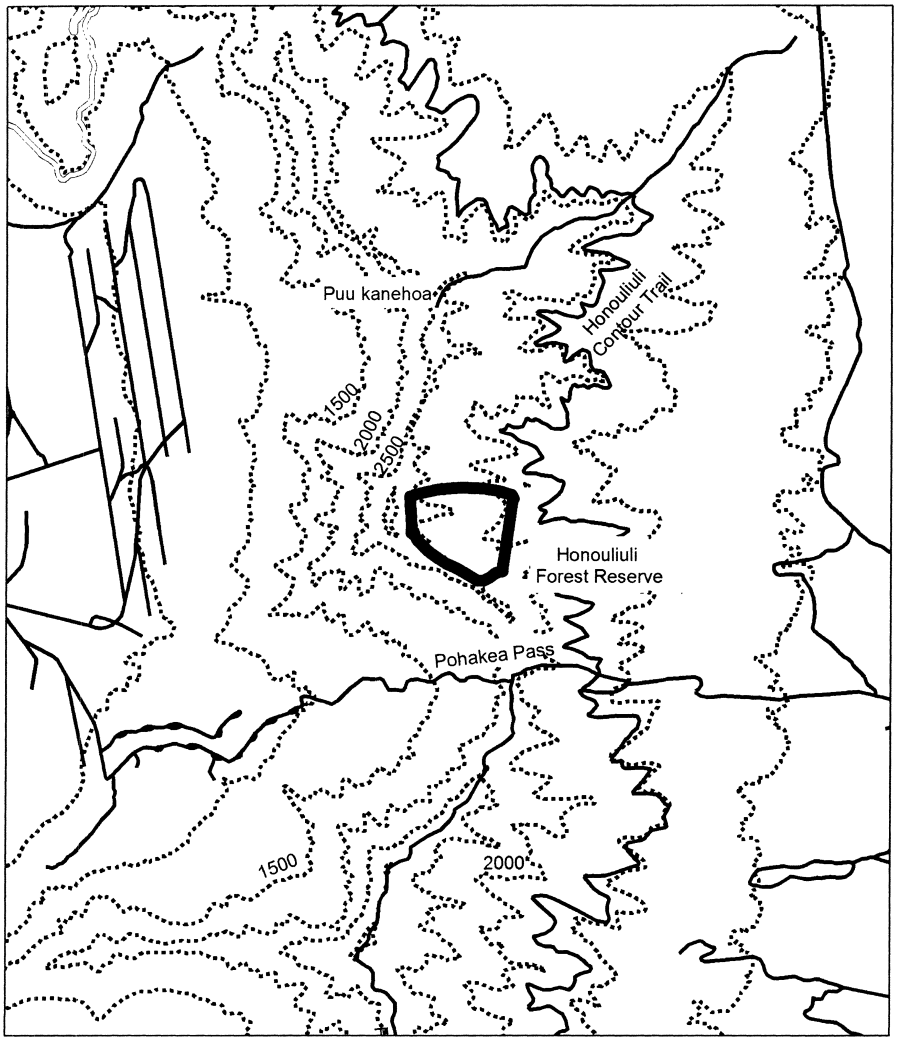
(9) *Drosophila hemipeza*—Unit 4—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila hemipeza*—Unit 4—Puu Kaua follows:

Drosophila hemipeza - Unit 4 - Puu Kaua



Drosophila hemipeza - Unit 4 - Puu Kaua
Secondary Roads/Trails
Elevation (500-foot contours)

N
0 0.5 1 Km
0 0.25 0.5 Mi

HAWAIIAN PICTURE-WING FLY (*Drosophila heteroneura*)

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila heteroneura* are:

(i) Mesic to wet, montane, ohia and koa forest between the elevations of 2,908–5,755 ft (908–1,754 m); and

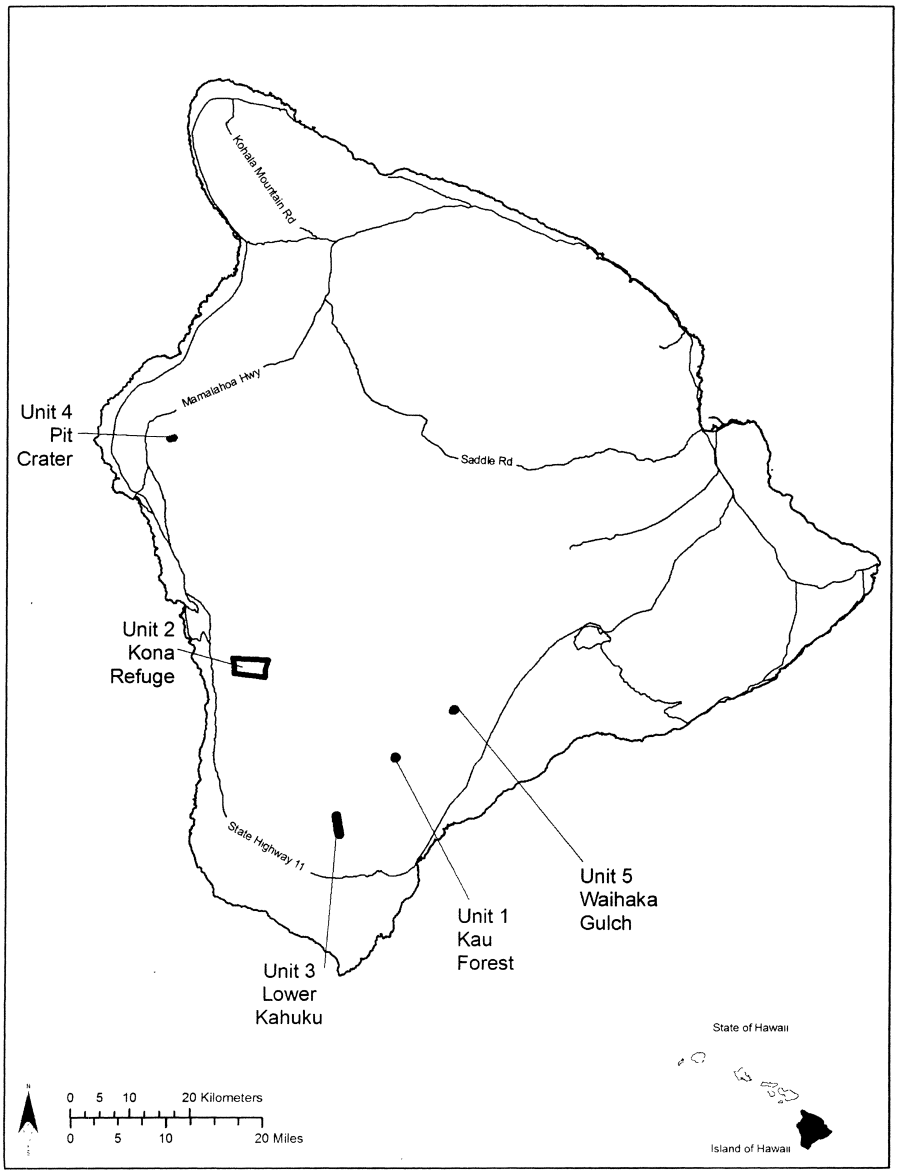
(ii) The larval host plants *Cheirodendron trigynum* ssp. *trigynum*, *Clermontia clermontioides*, *C. clermontioides ssp. rockiana*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, and *Delissea parviflora*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila heteroneura* follows:

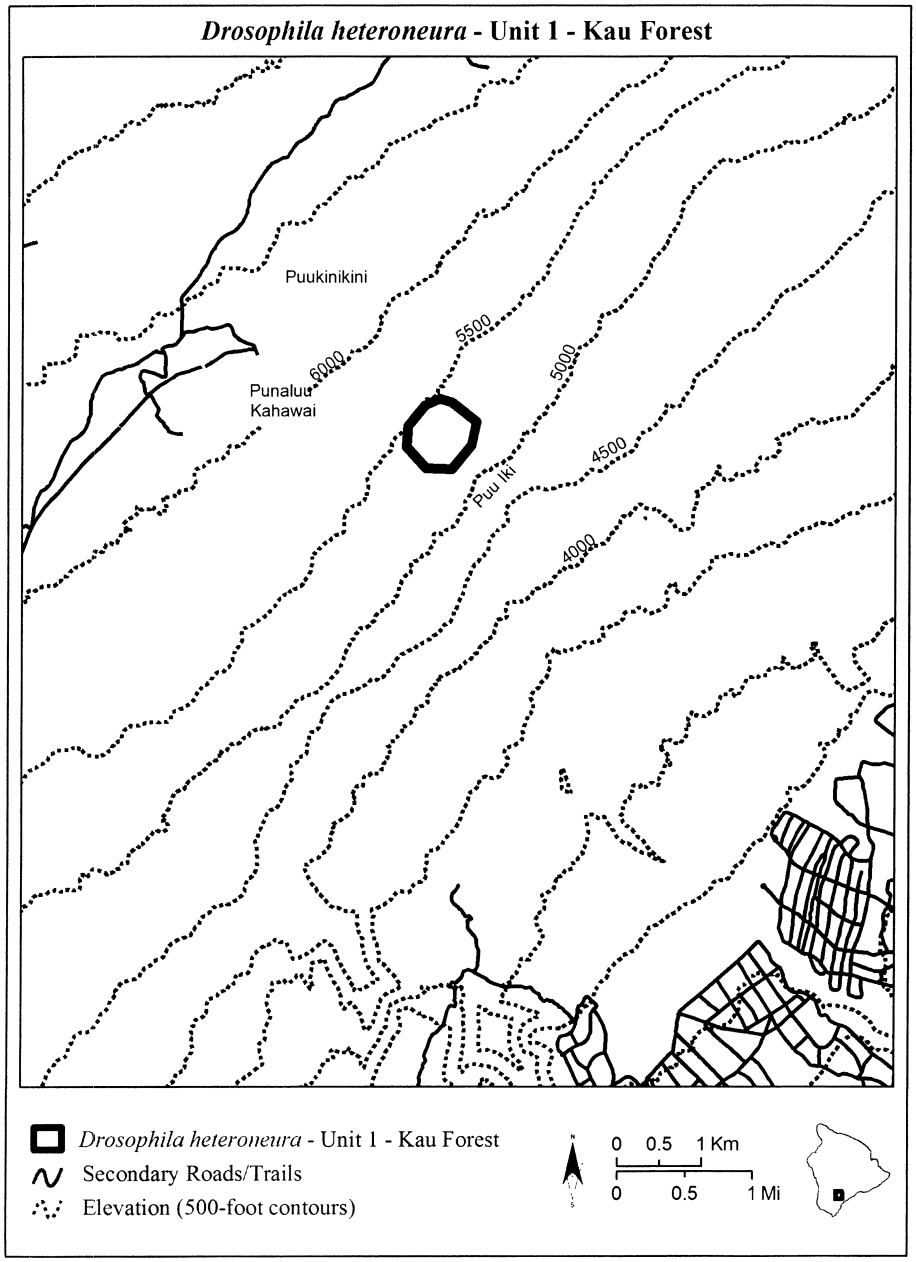
Index Map of Critical Habitat Units for *Drosophila heteroneura*



(6) *Drosophila heteroneura*—Unit 1—Kau Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 859357, 2130685; 859117, 2130401; 858810, 2130412; 858577, 2130667; 858596, 2130918; 858800, 2131167; 858976, 2131240; 859117, 2131196; 859416, 2130970.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 1—Kau Forest follows:

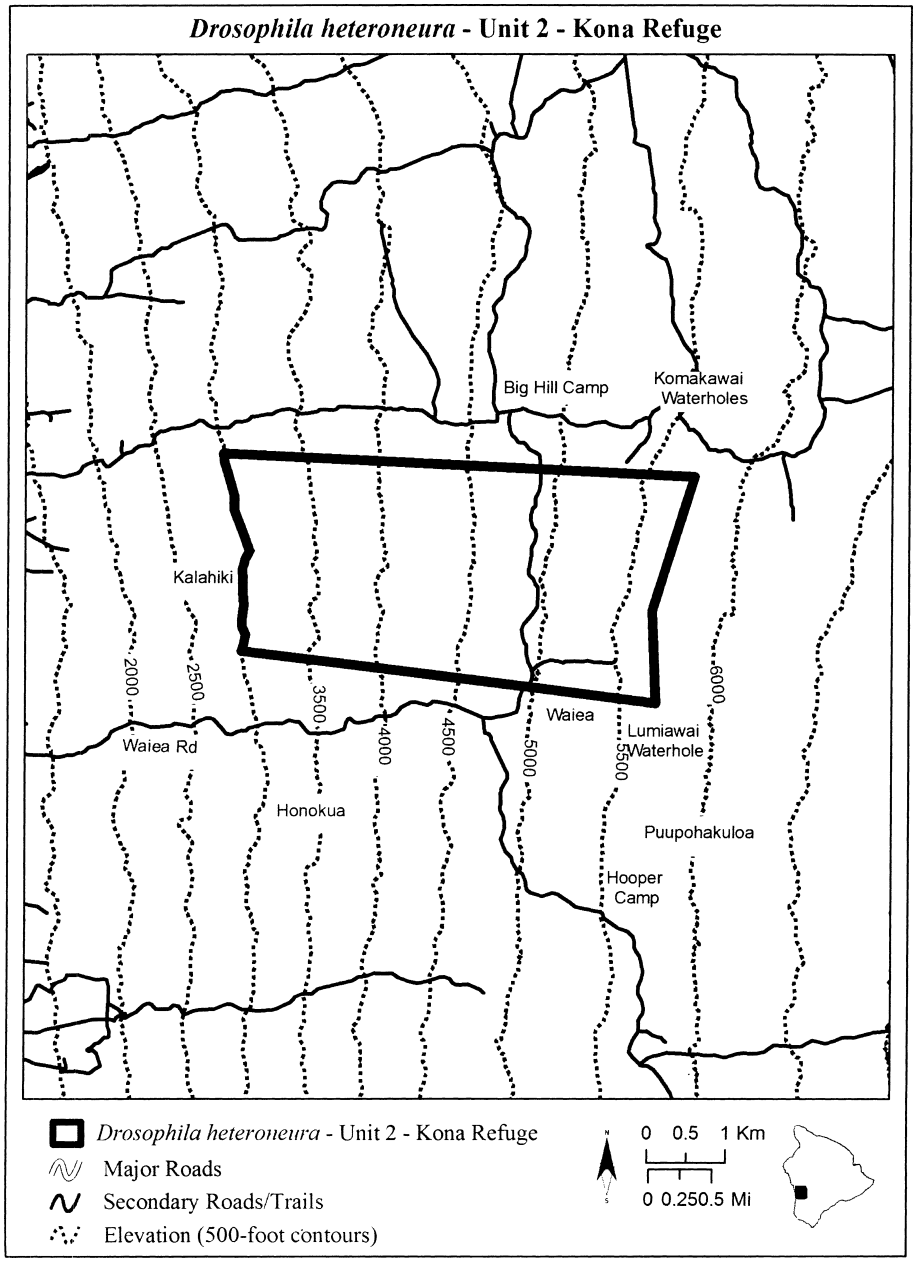


(7) *Drosophila heteroneura*—Unit 2—Kona Refuge, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 836880, 2145492; 836927, 2144316; 836473, 2144373; 835378, 2144516; 831663, 2144980; 31685, 2145029; 831718, 2145184; 831669, 2145289; 831669,

2145387; 831694, 2145557; 31685, 2145727; 831685, 2145882; 831677, 2146020; 831710, 2146149; 831767, 2146247; 31685, 2146482; 831572, 2146766; 831572, 2146953; 831515, 2147156; 831442, 2147391; 31438, 2147486; 837419, 2147183.

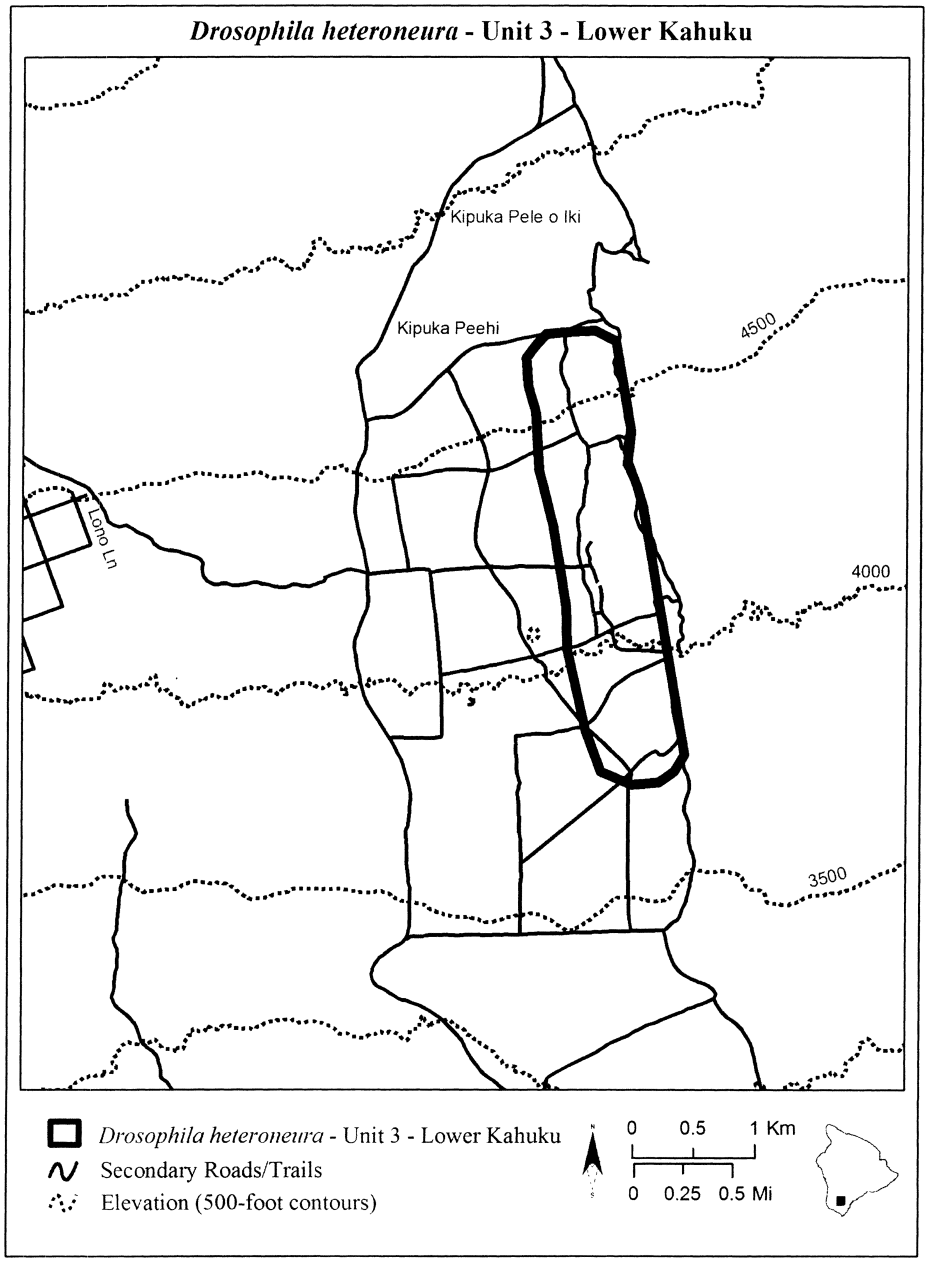
(ii) NOTE: Map of *Drosophila heteroneura*—Unit 2—Kona Refuge follows:



(8) *Drosophila heteroneura*—Unit 3—Lower Kahuku, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 849578, 2119874; 849925, 2117860; 849842, 2117726; 849716, 2117636; 849492, 2117618; 49240, 2117726; 849114, 2118058; 848962, 2118723; 848953, 2119065; 848845, 2119720; 48728, 2120187; 848701, 2120646; 848638, 2120870; 848620, 2121095; 848692, 2121194; 48782, 2121292; 849007, 2121310; 849177, 2121319; 849350, 2121233; 849475, 2120505; 49474, 2120484; 849447, 2120250; 849528, 2120044.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 3—Lower Kahuku follows:

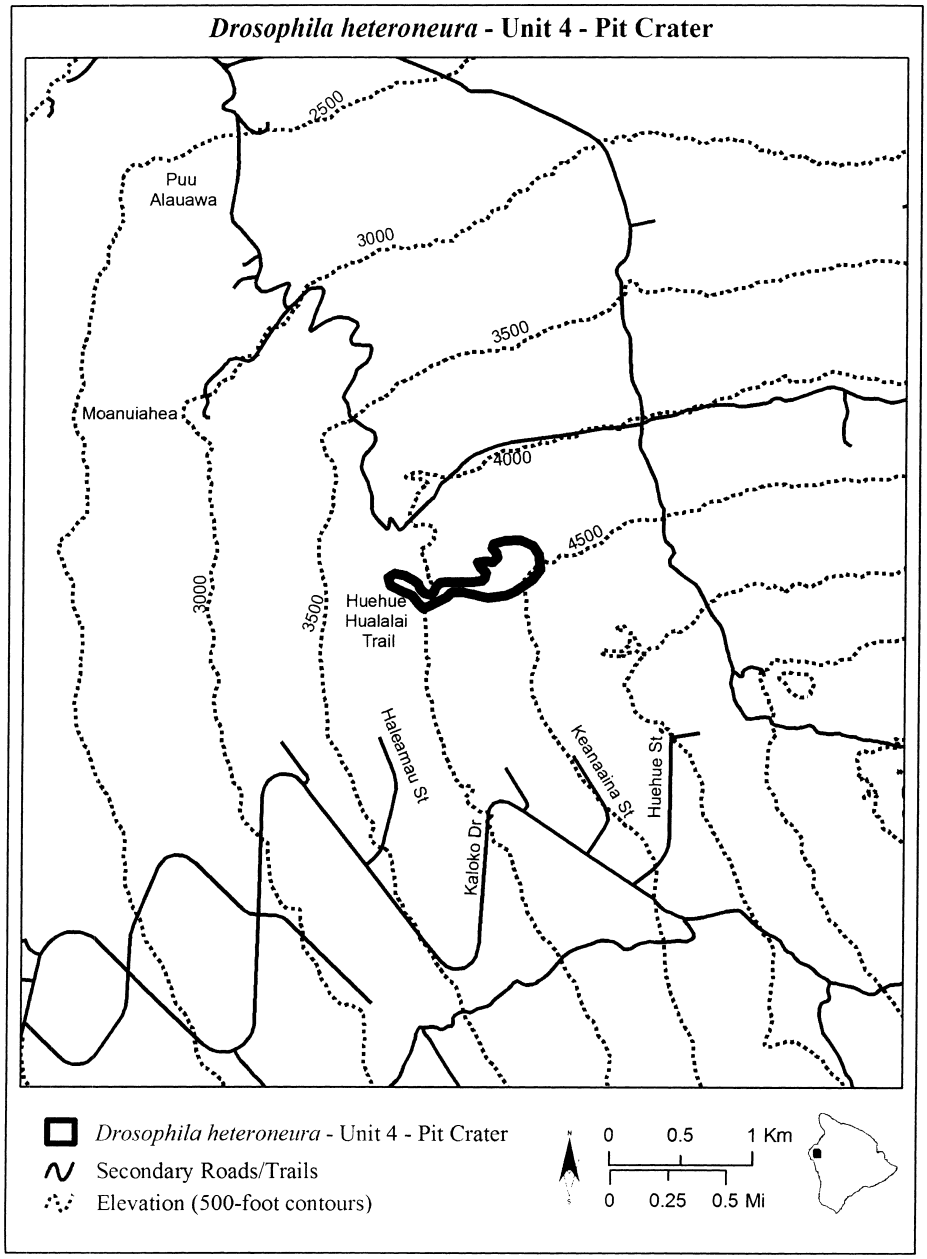


(9) *Drosophila heteroneura*—Unit 4—Pit Crater, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 821660, 2184453; 821670, 2184348; 821617, 2184279; 821490, 2184191; 821428, 2184164; 821304, 2184150; 821131, 2184187; 821052, 2184187; 821012, 2184150; 820889, 2184086; 820850, 2184076; 820824, 2184102; 820778, 2184164; 820705, 2184193; 820626,

2184233; 820610, 2184289; 820657, 2184318; 820673, 2184316; 820707, 2184310; 820723, 2184306; 820747, 2184293; 820790, 2184269; 820818, 2184247; 820832, 2184215; 820861, 2184180; 820905, 2184168; 820929, 2184191; 820939, 2184221; 820974, 2184255; 821024, 2184261; 821109, 2184261; 821206, 2184261; 821264, 2184269; 821282, 2184285; 821292, 2184322; 821254, 2184360; 821232, 2184396; 821276, 2184404; 821341, 2184400; 821369, 2184431; 821363, 2184463; 821333, 2184499; 821345, 2184528; 821426, 2184550; 821531, 2184554; 821619, 2184513.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 4—Pit Crater follows:

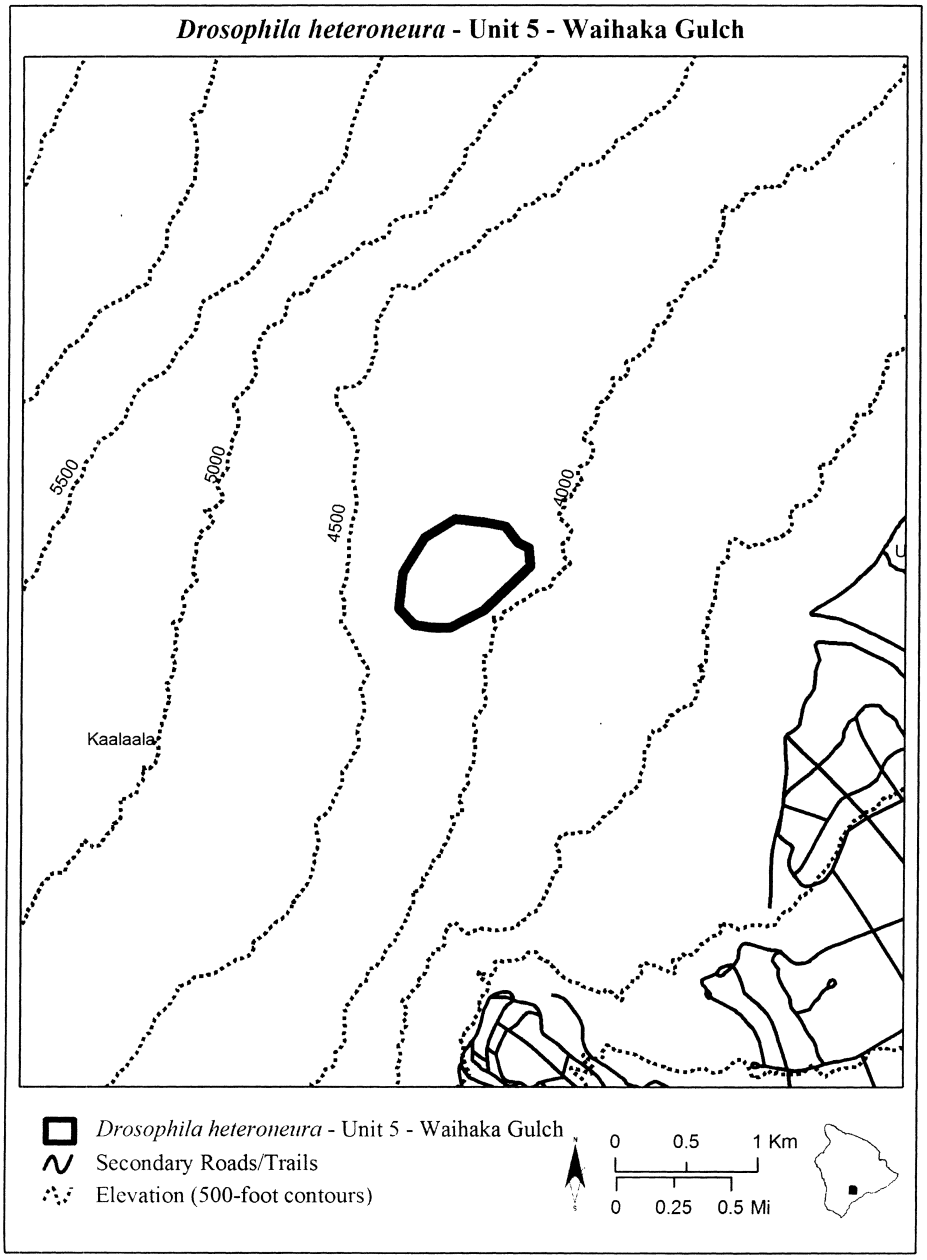


(10) *Drosophila heteroneura*—Unit 5—Waihaka Gulch, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 868924, 2138585; 868686, 2138463; 868564, 2138464; 868434, 2138482; 868325, 2138598; 868350, 2138841; 868378, 2138886; 868503, 2139088; 868720,

2139220; 868946, 2139193; 869076, 2139167; 869160, 2139055; 869238, 2139018; 869248, 2138892.

(ii) NOTE: Map of *Drosophila heteroneura*—Unit 5—Waihaka Gulch follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila montgomeryi*)

(1) Critical habitat units are depicted for County of Honolulu, Oahu, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila montgomeryi* are:

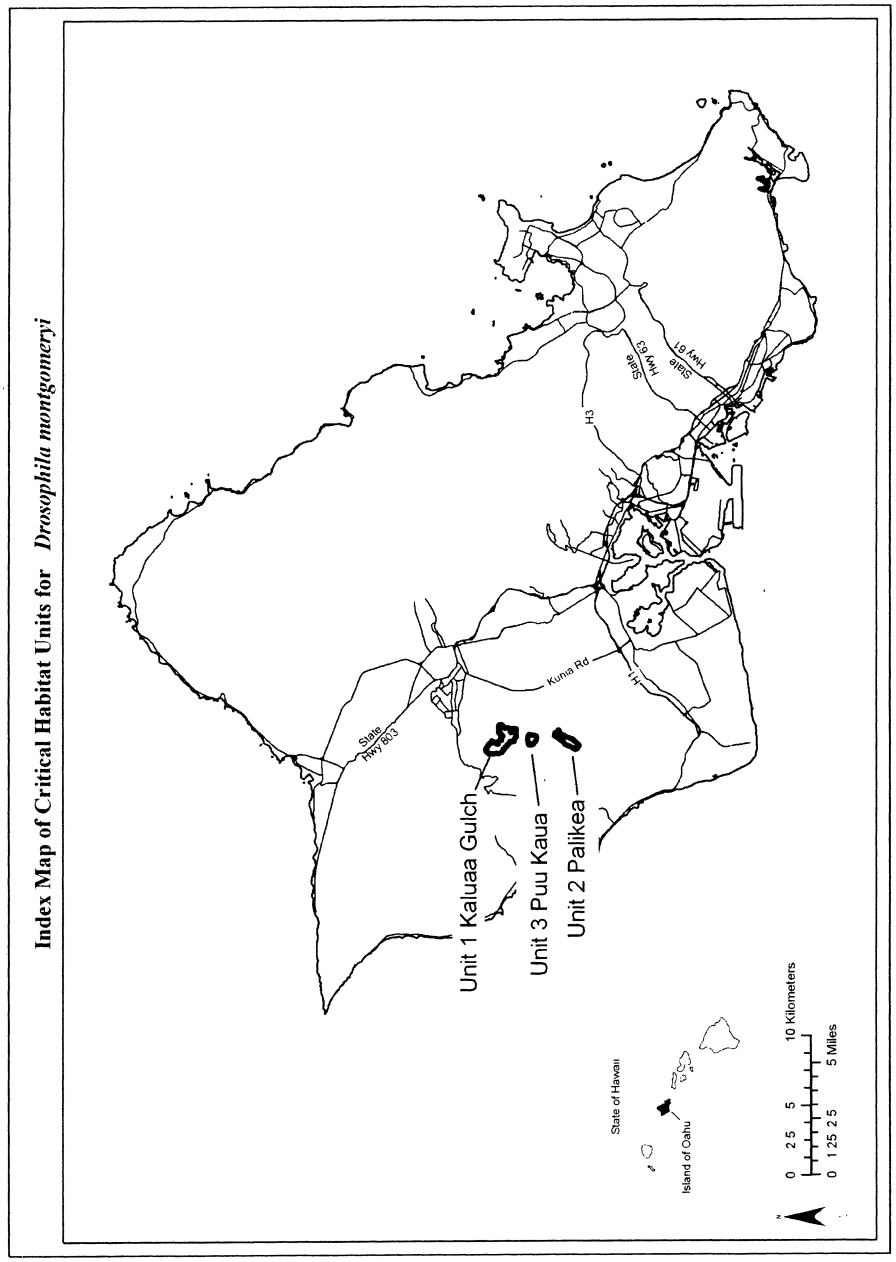
(i) Mesic, lowland, diverse ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and

(ii) The larval host plant *Urera kaalae*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila montgomeryi* follows:

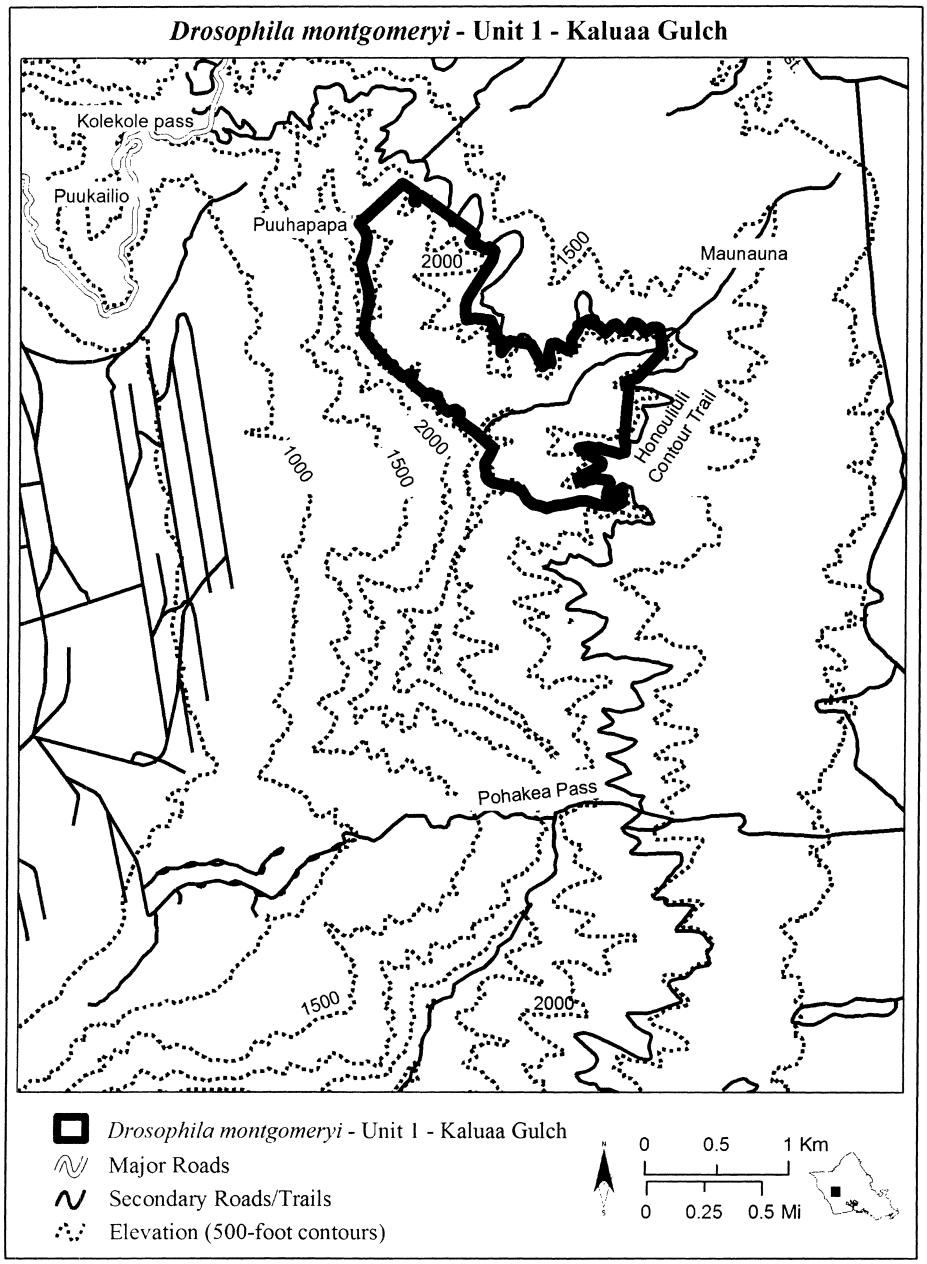


(6) *Drosophila montgomeryi*—Unit 1—Kaluaa Gulch, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593240, 2374436; 593231, 2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676,

2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632, 2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999, 2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

(ii) NOTE: Map of *Drosophila montgomery*—Unit 1—Kaluaa Gulch follows:

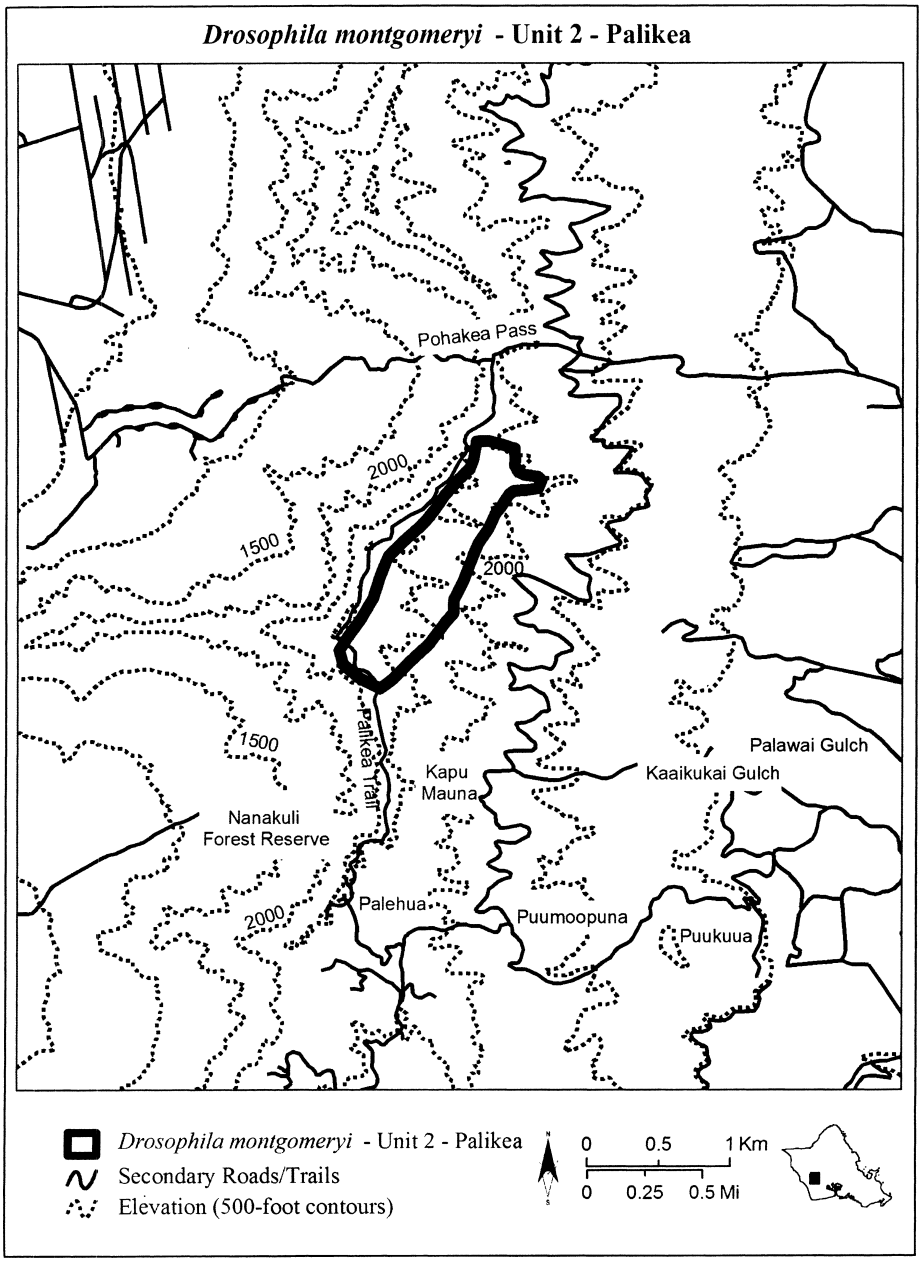


(7) *Drosophila montgomeryi*—Unit 2—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila montgomeryi*—Unit 2—Palikea follows:

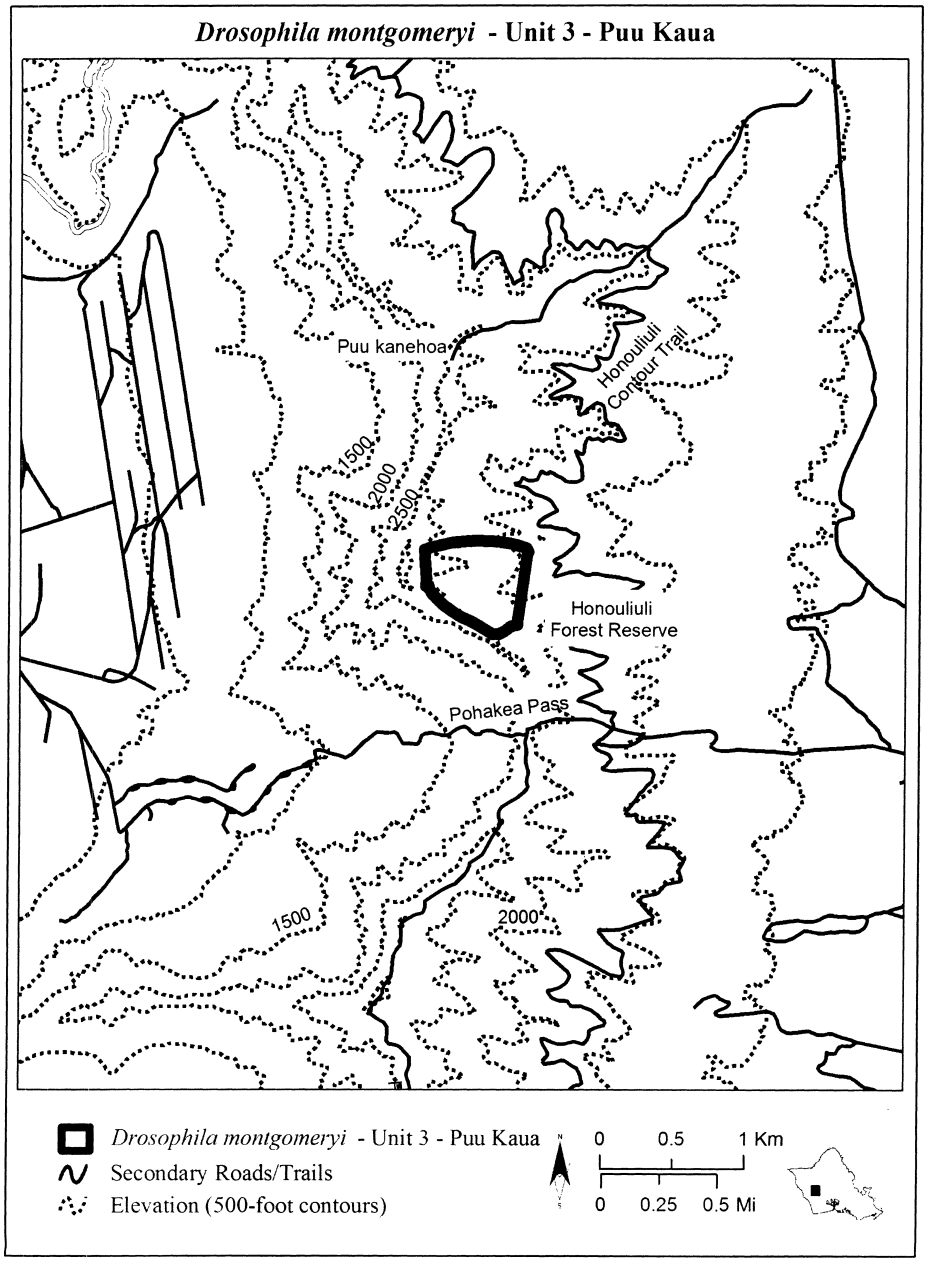


(8) *Drosophila montgomeryi*—Unit 3—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila montgomeryi*—Unit 3—Puu Kaua follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila mulli*)

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila mulli* are:

(i) Wet, montane, ohia forest between the elevations of 1,955–3,250 ft (596–1,093 m); and

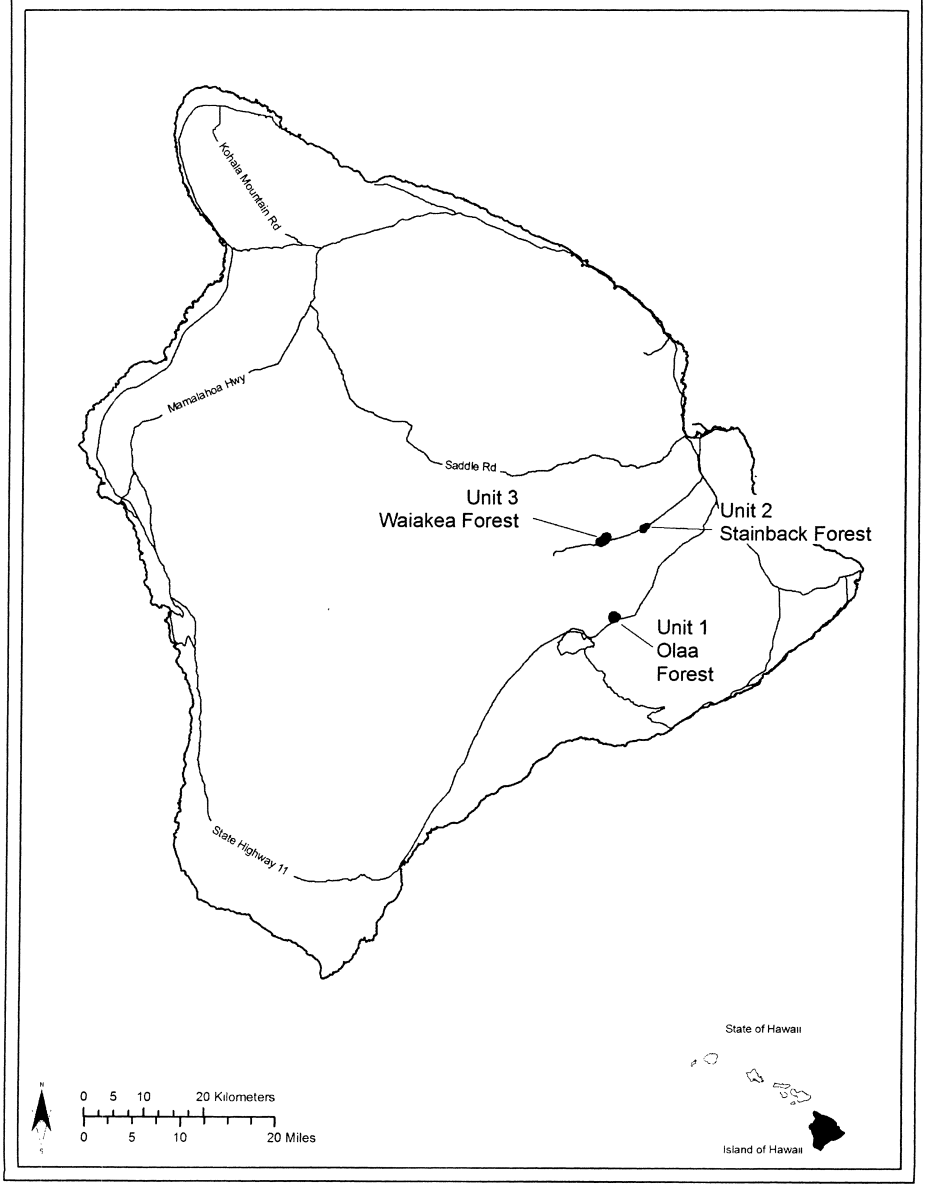
(ii) The larval host plant *Pritchardia beccariana*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila mulli* follows:

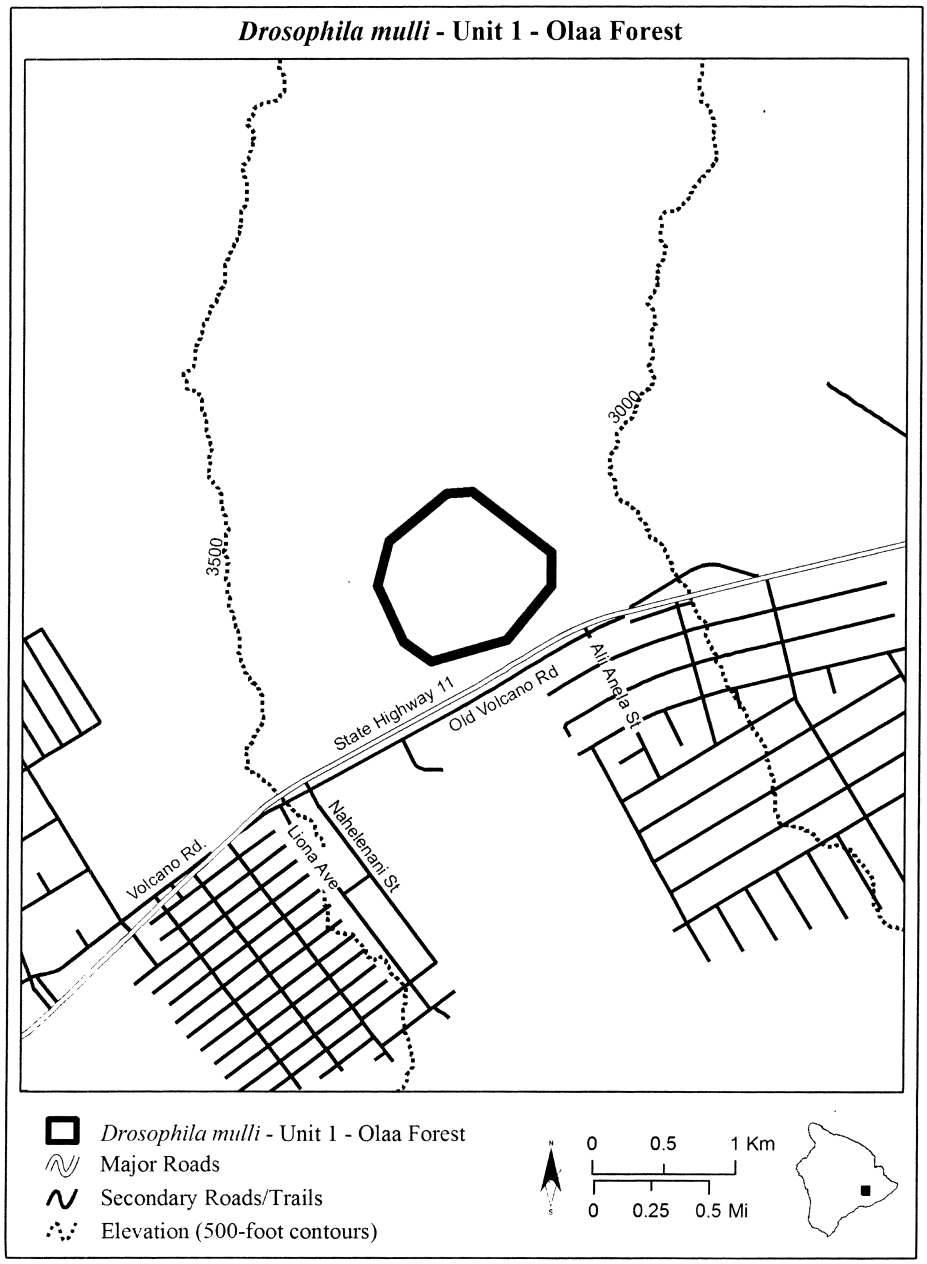
Index Map of Critical Habitat Units for *Drosophila mulli*



(6) *Drosophila mulli*—Unit 1—Olaa Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 898754, 2154890; 898225, 2154740; 898030, 2154878; 897846, 2155268; 897927, 2155578; 898328, 2155910; 898508, 2155922; 899064, 2155498; 899064, 2155268.

(ii) NOTE: Map of *Drosophila mulli*—Unit 1—Olaa Forest follows:

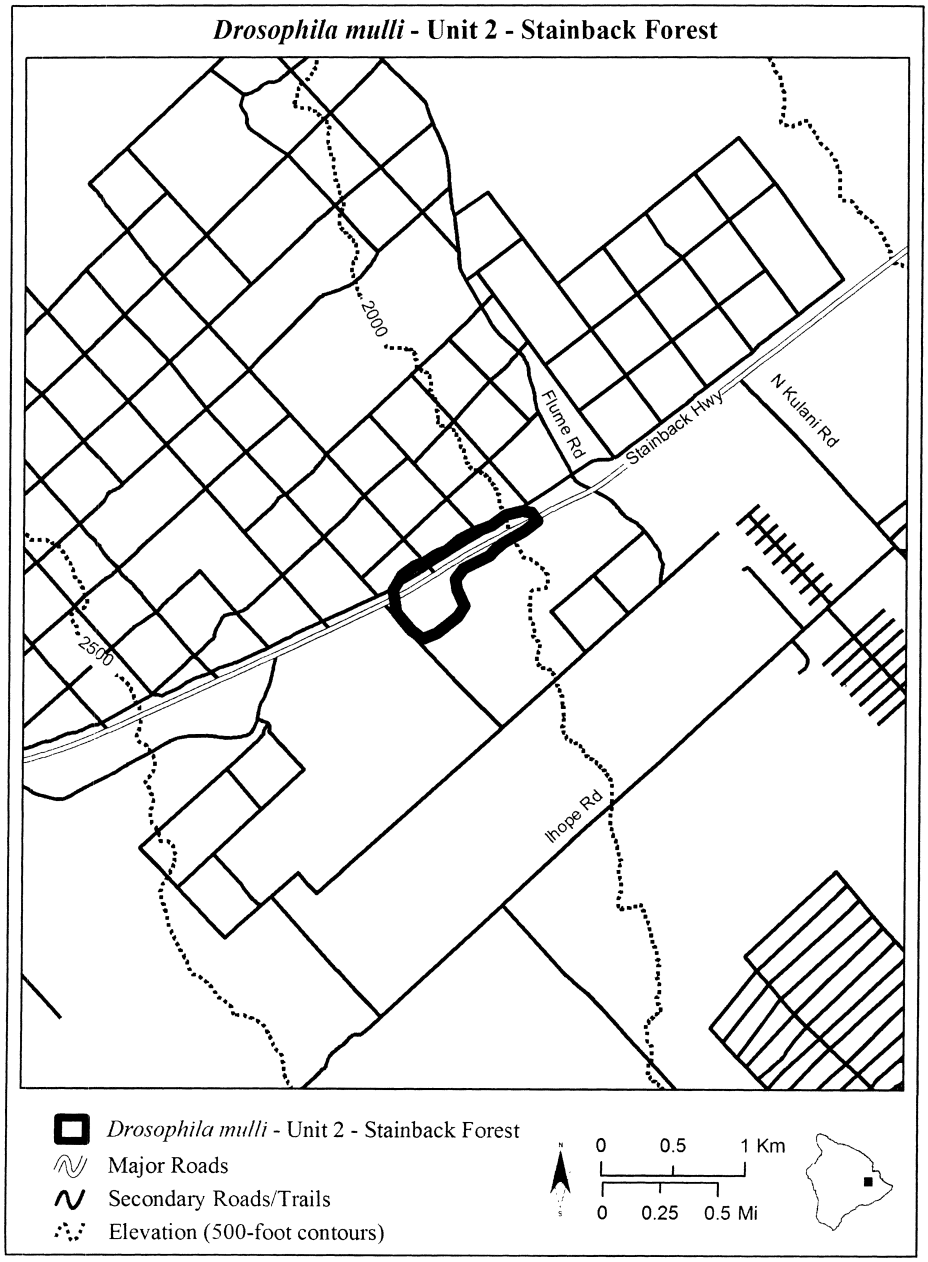


(7) *Drosophila mulli*—Unit 2—Stainback Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 903259, 2169945; 903159, 2169907; 903080, 2169965; 902974, 2170089; 902953, 2170247; 903012, 2170346; 903101, 2170415; 903166, 2170439; 903245,

2170490; 903324, 2170521; 903420, 2170603; 903509, 2170651; 903636, 2170699; 903732, 2170771; 903849, 2170799; 903914, 2170789; 903955, 2170730; 903869, 2170662; 903866, 2170658; 903718, 2170579; 903653, 2170521; 903622, 2170487; 903441, 2170394; 903386, 2170322; 903399, 2170250; 903451, 2170133; 903403, 2170058.

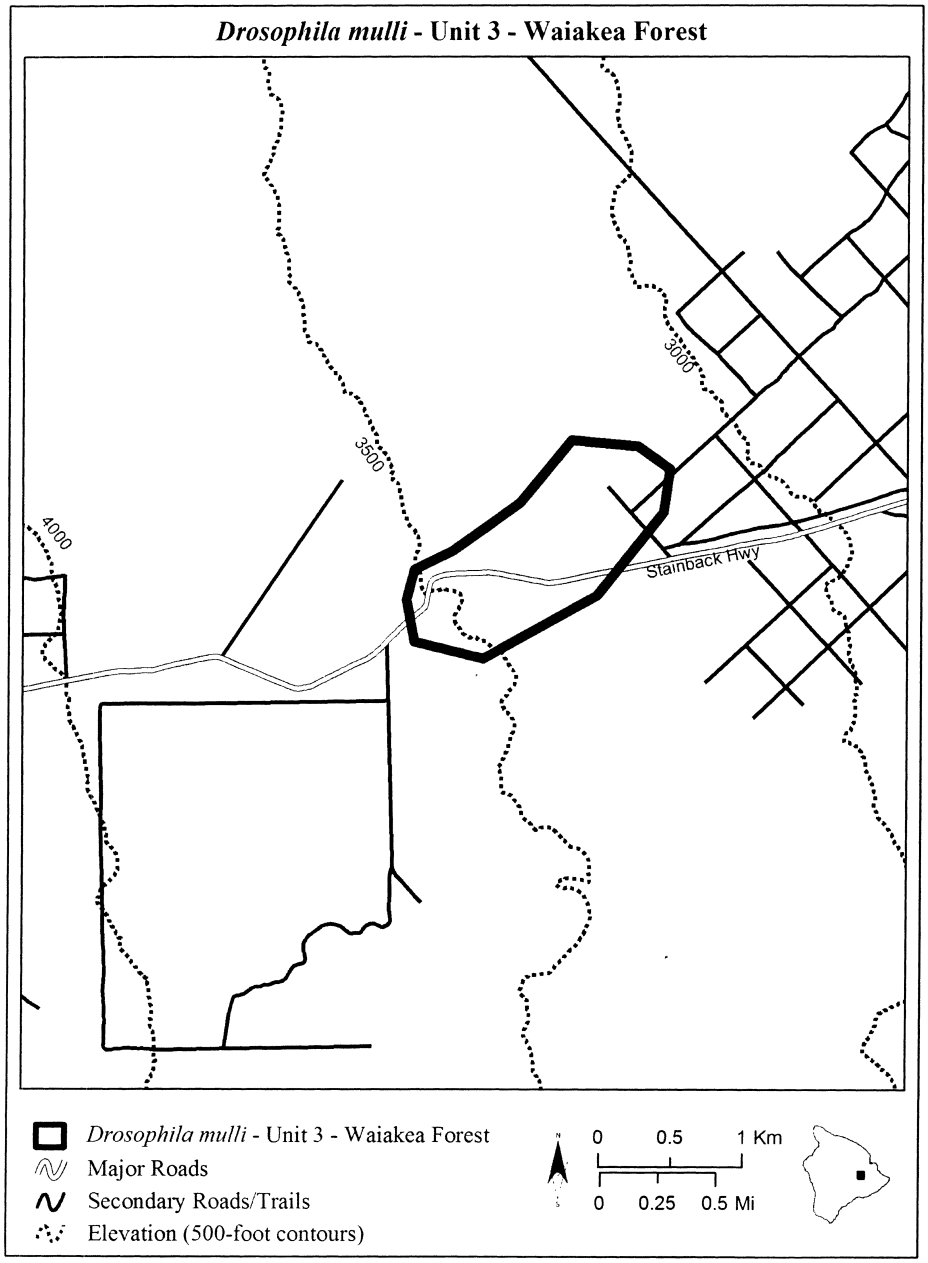
(ii) NOTE: Map of *Drosophila mulli*—Unit 2—Stainback Forest follows:



(8) *Drosophila mulli*—Unit 3—Waiakea Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 897021, 2168026; 896225, 2167587; 895745, 2167704; 895687, 2167996; 895745, 2168207; 896014, 2168335; 896480, 2168668; 896841, 2169108; 897302, 2169068; 897522, 2168908; 897482, 2168607.

(ii) NOTE: Map of *Drosophila mulli*—Unit 3—Waiakea Forest follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila musaphilia*)

(1) Critical habitat is depicted for County of Kauai, island of Kauai, Hawaii, on the map below.

(2) The primary constituent elements of critical habitat for *Drosophila musaphilia* are:

(i) Mesic, montane, ohia and koa forest between the elevations of 3,310–3,740 ft (1,009–1,128 m); and

(ii) The larval host plant *Acacia koa*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

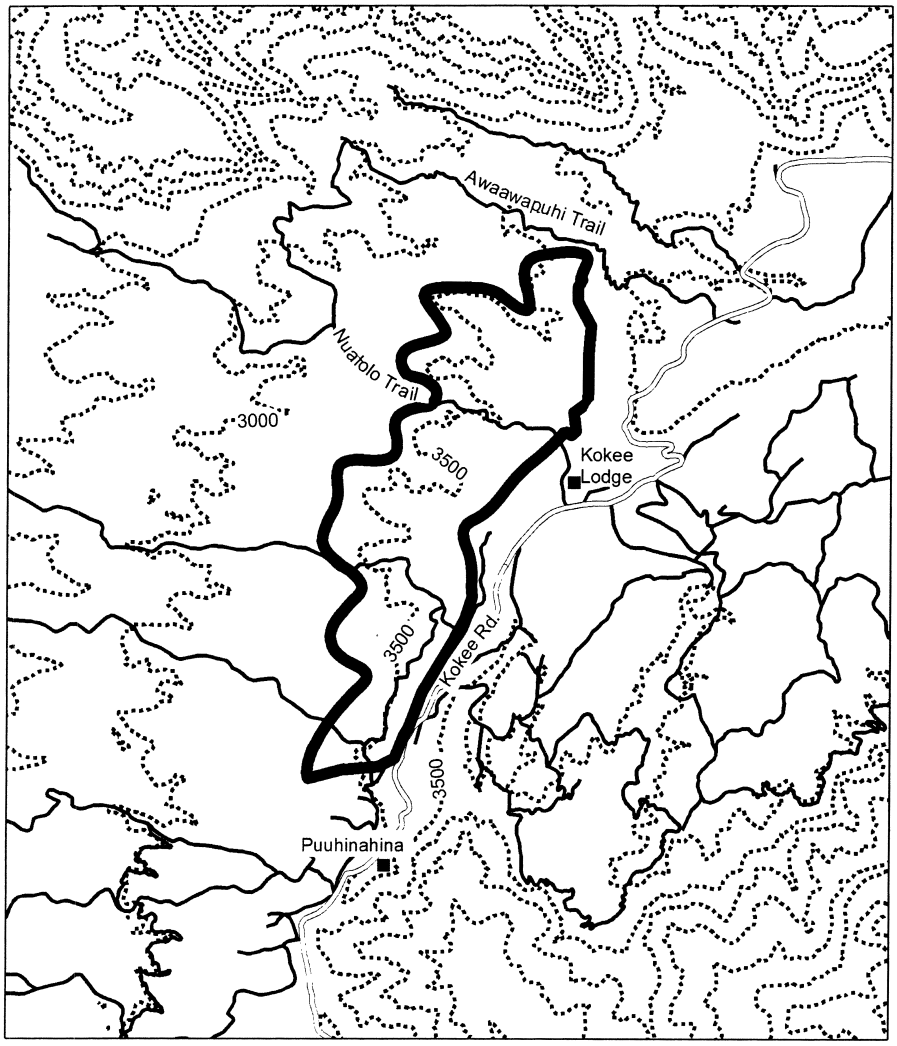
(4) Critical habitat map unit. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) *Drosophila musaphilia*—Unit 1—Kokee, Kauai County, island of Kauai, Hawaii.

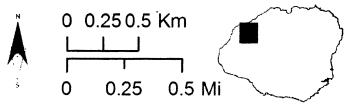
(i) Land bounded by the following coordinates: 432035, 2448683; 432126, 2448510; 432111, 2448312; 432111, 2448119; 432106, 2447977; 432010, 2447906; 432025, 2447779; 431992, 2447749; 431962, 2447768; 431938, 2447766; 431926, 2447752; 431895, 2447719; 431861, 2447686; 431825, 2447651; 431786, 2447616; 431745, 2447581; 431701, 2447544; 431658, 2447505; 431616, 2447462; 431575, 2447417; 431535, 2447368; 431496, 2447318; 431457, 2447271; 431418, 2447231; 431379, 2447198; 431339, 2447172; 431299, 2447153; 431267, 2447131; 431247, 2447103; 431239, 2447068; 431244, 2447027; 431260, 2446979; 431278, 2446930; 431292, 2446881; 431300, 2446834; 431303, 2446788; 431302, 2446743; 431300, 2446700; 431301, 2446659; 431306, 2446621; 431252, 2446466; 431186, 2446345; 431181, 2446332; 430955, 2445963; 430860, 2445709; 430831, 2445664; 430760, 2445497; 430648, 2445441; 430416, 2445421; 430405, 2445422; 430396, 2445420; 430159, 2445358; 430153, 2445371; 430148, 2445402; 430150, 2445437; 430157, 2445475; 430170, 2445517; 430188, 2445562; 430212, 2445610; 430240, 2445660; 430270, 2445707; 430302, 2445754; 430335, 2445799; 430371, 2445842; 430407, 2445883; 430441, 2445921; 430474, 2445956; 430506, 2445988; 430535, 2446017; 430559, 2446044; 430567, 2446070; 430558, 2446095; 430533, 2446120; 430492, 2446144; 430441, 2446167; 430398, 2446193; 430363, 2446221; 430337, 2446252; 430320, 2446284; 430311, 2446319; 430309, 2446353; 430315, 2446388; 430327, 2446423; 430347, 2446457; 430373, 2446492; 430401, 2446525; 430430, 2446558; 430459, 2446589; 430489, 2446619; 430518, 2446649; 430531, 2446681; 430524, 2446716; 430497, 2446755; 430451, 2446797; 430387, 2446842; 430330, 2446887; 430288, 2446930; 430262, 2446971; 430250, 2447010; 430253, 2447047; 430263, 2447083; 430274, 2447118; 430288, 2447153; 430304, 2447187; 430323, 2447220; 430339, 2447254; 430350, 2447291; 430356, 2447331; 430358, 2447373; 430354, 2447418; 430351, 2447461; 430354, 2447496; 430361, 2447524; 430374, 2447545; 430392, 2447558; 430416, 2447567; 430445, 2447573; 430479, 2447576; 430518, 2447577; 430563, 2447574; 430609, 2447572; 430649, 2447573; 430684, 2447578; 430714, 2447587; 430737, 2447599; 430755, 2447616; 430767, 2447639; 430772, 2447667; 430772, 2447701; 430766, 2447740; 430756, 2447783; 430755, 2447821; 430762, 2447853; 430778, 2447879; 430802, 2447900; 430834, 2447916; 430864, 2447928; 430893, 2447937; 430920, 2447943; 430945, 2447947; 430968, 2447947; 430989, 2447952; 431007, 2447961; 431022, 2447974; 431035, 2447992; 431045, 2448014; 431049, 2448036; 431046, 2448057; 431036, 2448077; 431019, 2448096; 430996, 2448113; 430971, 2448128; 430946, 2448140; 430921, 2448149; 430896, 2448155; 430871, 2448158; 430849, 2448165; 430830, 2448179; 430815, 2448200; 430804, 2448228; 430796, 2448263; 430799, 2448299; 430816, 2448330; 430848, 2448356; 430894, 2448377; 430956, 2448393; 431018, 2448407; 431064, 2448423; 431094, 2448440; 431109, 2448459; 431107, 2448479; 431094, 2448502; 431076, 2448530; 431054, 2448563; 431027, 2448601; 430996, 2448643; 430967, 2448687; 430957, 2448722; 430966, 2448749; 430994, 2448766; 431042, 2448775; 431103, 2448778; 431162, 2448779; 431218, 2448779; 431269, 2448779; 431317, 2448777; 431361, 2448775; 431403, 2448767; 431443, 2448754; 431480, 2448736; 431515, 2448712; 431548, 2448685; 431579, 2448661; 431607, 2448643; 431633, 2448630; 431657, 2448622; 431678, 2448620; 431692, 2448631; 431697, 2448656; 431694, 2448695; 431683, 2448749; 431665, 2448816; 431657, 2448878; 431666, 2448928; 431692, 2448967; 431735, 2448994; 431795, 2449009; 431857, 2449019; 431913, 2449024; 431963, 2449027; 432008, 2449026; 432046, 2449022; 432076, 2449012; 432094, 2448996; 432100, 2448974; 432095, 2448945; 432078, 2448910; 432060, 2448872; 432053, 2448837; 432063, 2448834; 432035, 2448784.

(ii) NOTE: Map of *Drosophila musaphilia*—Unit 1—Kokee follows:

Drosophila musaphilia - Unit 1 - Kokee



Drosophila musaphilia - Unit 1 - Kokee
Major Roads
Secondary Roads/Trails
Elevation (500-foot contours)



HAWAIIAN PICTURE-WING FLY (*Drosophila neoclavisetae*)

(1) Critical habitat is depicted for County of Maui, island of Maui, Hawaii, on the map below.

(2) The primary constituent elements of critical habitat for *Drosophila neoclavisetae* are:

(i) Wet, montane, ohia forest between the elevations of 3,405–4,590 ft (1,036–1,399 m); and

(ii) The larval host plants *Cyanea kunthiana* and *C. macrostegia* ssp. *macrostegia*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

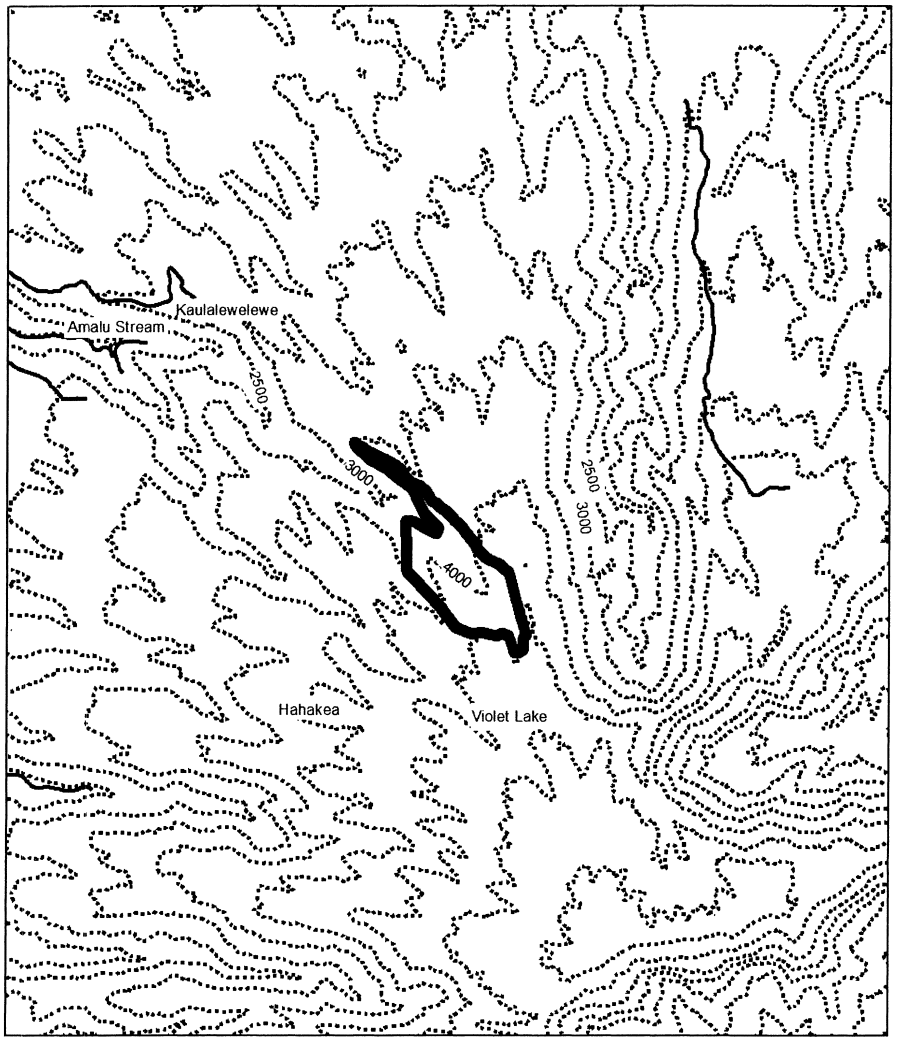
(4) Critical habitat map unit. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) *Drosophila neoclavisetae*—Unit 1—Puu Kukui, Maui County, island of Maui, Hawaii.

(i) Land bounded by the following coordinates: 749957, 2315007; 750017, 2314927; 750054, 2314874; 750054, 2314874; 750070, 2314854; 750070, 2314854; 750070, 2314853; 750070, 2314853; 750095, 2314828; 750095, 2314828; 750095, 2314828; 750118, 2314807; 750118, 2314807; 750118, 2314806; 750119, 2314806; 750119, 2314806; 750137, 2314795; 750137, 2314795; 750137, 2314795; 750137, 2314795; 750138, 2314795; 750138, 2314795; 750172, 2314783; 750197, 2314770; 750214, 2314760; 750222, 2314756; 750222, 2314756; 750222, 2314756; 750231, 2314751; 750244, 2314735; 750244, 2314735; 750244, 2314735; 750245, 2314735; 750263, 2314718; 750263, 2314718; 750263, 2314718; 750283, 2314702; 750381, 2314361; 750381, 2314360; 750421, 2314232; 750421, 2314232; 750421, 2314232; 750421, 2314231; 750421, 2314231; 750421, 2314231; 750422, 2314231; 750422, 2314230; 750422, 2314230; 750402, 2314210; 750397, 2314126; 750357, 2314098; 750329, 2314098; 750312, 2314143; 750290, 2314227; 750239, 2314244; 750194, 2314227; 750133, 2314238; 750076, 2314255; 750009, 2314238; 749958, 2314259; 749885, 2314289; 749773, 2314435; 749721, 2314492; 749520, 2314710; 749515, 2314969; 749509, 2315036; 749509, 2315093; 749565, 2315087; 749649, 2315036; 749739, 2314991; 749756, 2315031; 749655, 2315132; 749599, 2315244; 749554, 2315340; 749458, 2315407; 749368, 2315480; 749254, 2315543; 749183, 2315602; 749145, 2315636; 749117, 2315676; 749125, 2315679; 749125, 2315679; 749125, 2315679; 749125, 2315679; 749125, 2315678; 749125, 2315678; 749126, 2315678; 749126, 2315678; 749126, 2315677; 749138, 2315668; 749138, 2315668; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749186, 2315637; 749203, 2315624; 749221, 2315611; 749221, 2315611; 749221, 2315611; 749222, 2315611; 749222, 2315611; 749222, 2315611; 749243, 2315602; 749331, 2315566; 749351, 2315553; 749351, 2315553; 749383, 2315533; 749383, 2315533; 749383, 2315533; 749403, 2315522; 749419, 2315511; 749468, 2315475; 749476, 2315462; 749483, 2315449; 749483, 2315449; 749484, 2315449; 749484, 2315449; 749498, 2315429; 749498, 2315429; 749498, 2315428; 749522, 2315400; 749522, 2315400; 749522, 2315400; 749522, 2315400; 749523, 2315399; 749523, 2315399; 749523, 2315399; 749548, 2315382; 749548, 2315382; 749548, 2315382; 749570, 2315370; 749570, 2315370; 749570, 2315370; 749616, 2315349; 749626, 2315340; 749626, 2315340; 749627, 2315340; 749650, 2315324; 749664, 2315305; 749675, 2315287; 749679, 2315278; 749679, 2315278; 749679, 2315278; 749679, 2315278; 749680, 2315278; 749698, 2315255; 749698, 2315254; 749698, 2315254; 749718, 2315234; 749718, 2315234; 749718, 2315234; 749718, 2315233; 749718, 2315233; 749734, 2315222; 749779, 2315184; 749779, 2315184; 749780, 2315183; 749780, 2315183; 749780, 2315183; 749802, 2315170; 749831, 2315145; 749872, 2315096; 749872, 2315096; 749872, 2315096; 749872, 2315096; 749873, 2315095; 749873, 2315095; 749886, 2315085; 749931, 2315044; 749957, 2315008.

(ii) NOTE: Map of *Drosophila neoclavisetae*—Unit 1—Puu Kukui follows:

Drosophila neoclavisetae - Unit 1 - Puu Kukui



Drosophila neoclavisetae - Unit 1 - Puu Kukui
Secondary Roads/Trails
Elevation (500-foot contours)

0 0.5 1 Km
0 0.25 0.5 Mi

HAWAIIAN PICTURE-WING FLY (*Drosophila obatai*)

(1) Critical habitat is depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for Drosophila obatai are:

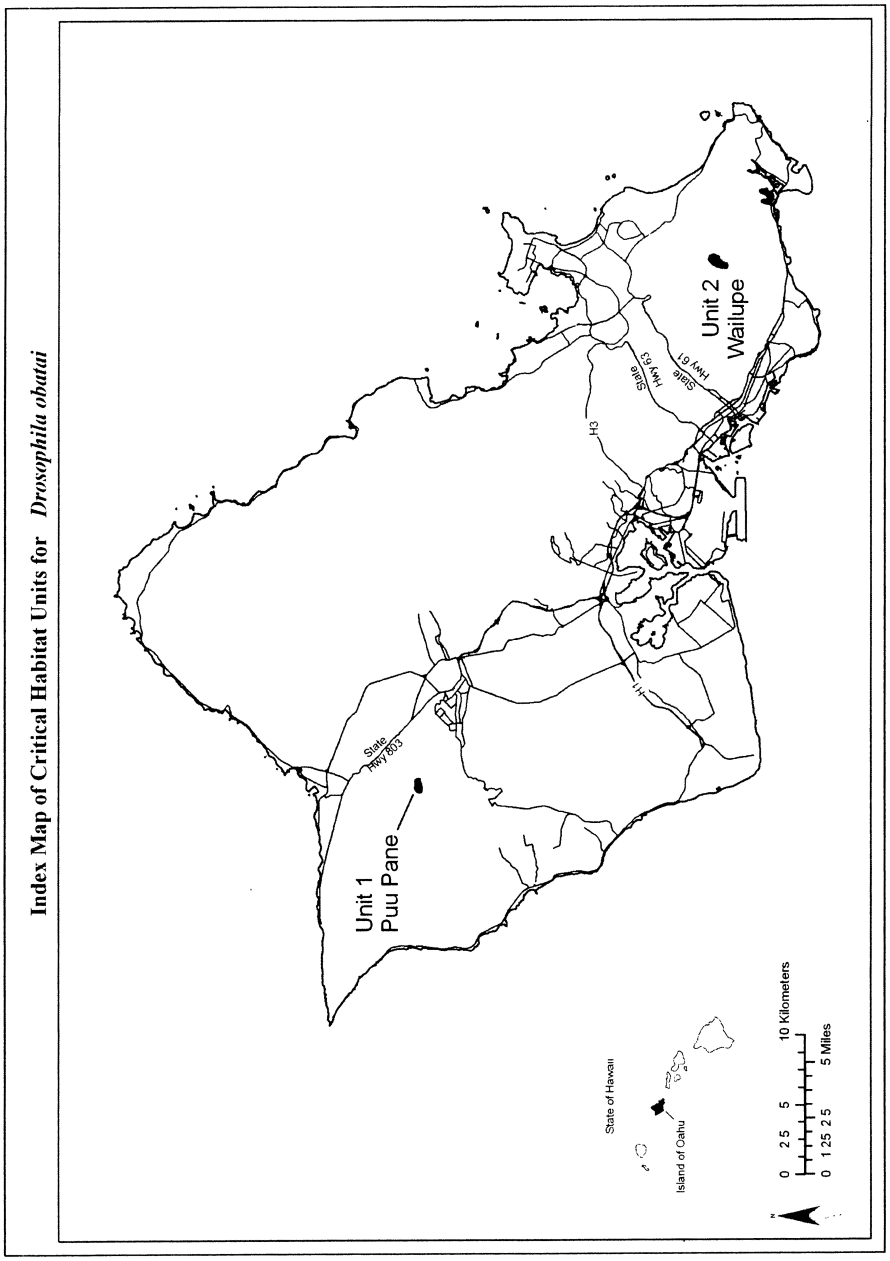
(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,475–2,535 ft (450–773 m); and

(ii) The larval host plant *Pleomele forbesii*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of the critical habitat units for *Drosophila obatai* follows:

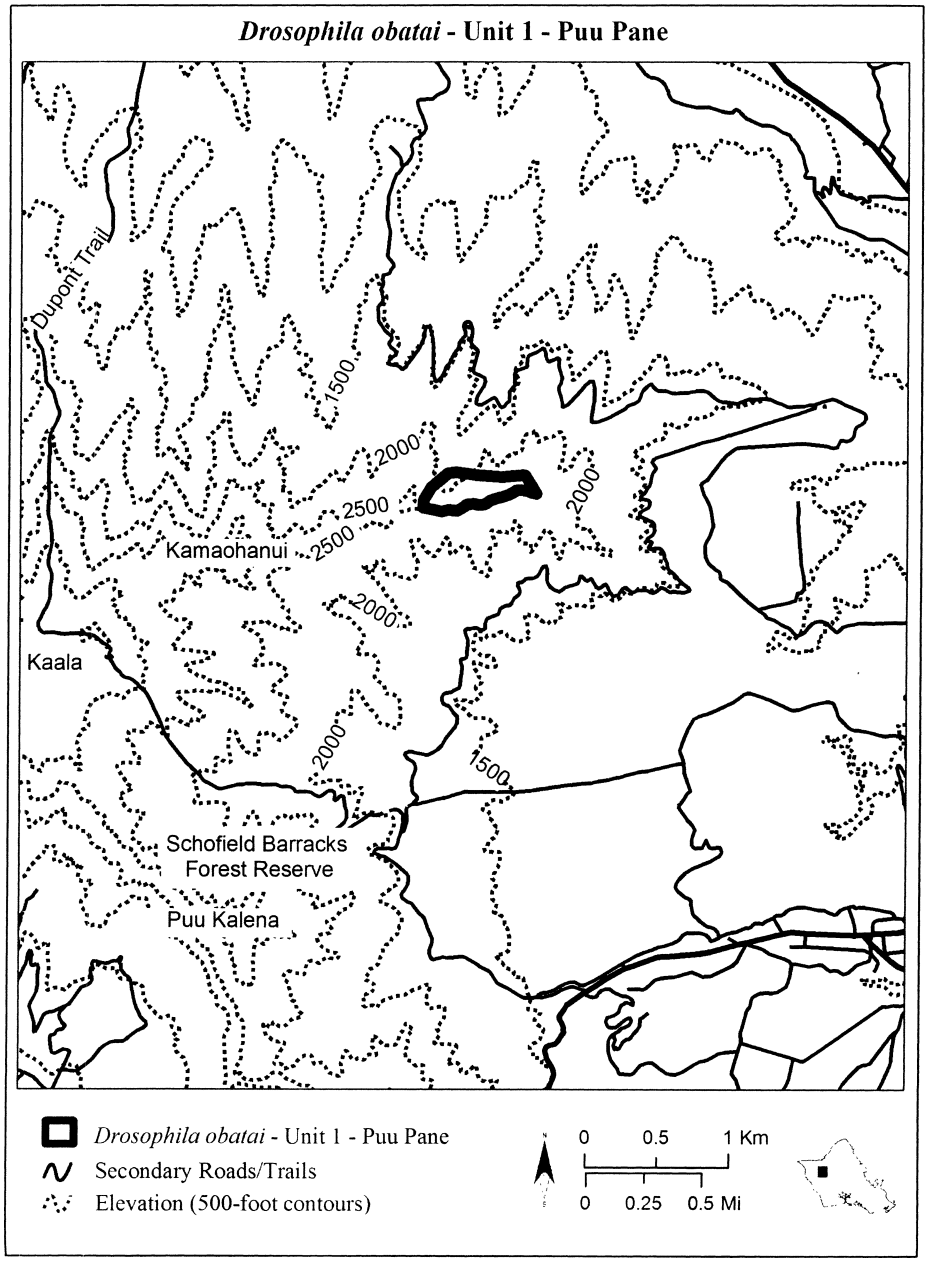


(6) *Drosophila obatai*—Unit 1—Puu Pane, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 591489, 2379704; 591662, 2379690; 591807, 2379704; 591822, 2379699; 591901, 2379571; 591871, 2379579; 591830, 2379596; 591830, 2379596; 591830,

2379596; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591791, 2379600; 591791, 2379600; 591791, 2379601; 591791, 2379600; 591791, 2379600; 591791, 2379600; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591741, 2379583; 591741, 2379583; 591710, 2379565; 591672, 2379554; 591672, 2379554; 591635, 2379542; 591614, 2379537; 591614, 2379537; 591614, 2379537; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591545, 2379500; 591523, 2379495; 591496, 2379495; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591432, 2379498; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591405, 2379487; 591405, 2379487; 591405, 2379487; 591405, 2379486; 591405, 2379486; 591405, 2379486; 591403, 2379483; 591354, 2379454; 591283, 2379460; 591240, 2379449; 591113, 2379474; 591116, 2379531; 591169, 2379618; 591284, 2379716; 591345, 2379723.

(ii) NOTE: Map of *Drosophila obatai*—Unit 1—Puu Pane follows:



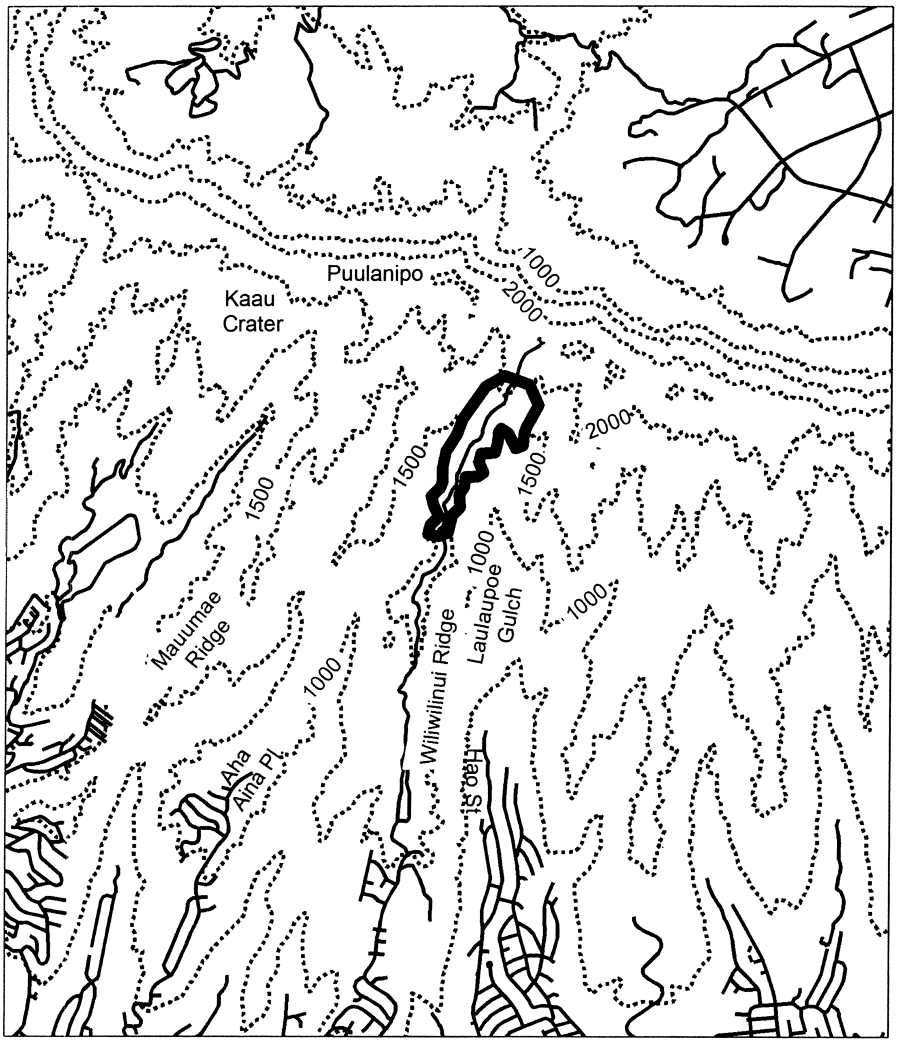
(7) *Drosophila obatai*—Unit 2—Wailupe, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 629222, 2358352; 629208, 2358307; 629199, 2358225; 629147, 2358205; 629100, 2358307; 629048, 2358343; 629028, 2358316; 629023, 2358250; 629005,

2358174; 628908, 2358169; 628890, 2358110; 628922, 2358034; 628883, 2358011; 628795, 2358007; 628791, 2357939; 628753, 2357885; 628759, 2357799; 628705, 2357743; 628676, 2357619; 628606, 2357592; 628536, 2357607; 628552, 2357673; 628610, 2357731; 628574, 2357806; 628559, 2357874; 628619, 2357932; 628637, 2357973; 628635, 2358074; 628660, 2358185; 628735, 2358298; 628775, 2358411; 628936, 2358634; 629070, 2358711; 629243, 2358647; 629307, 2358506.

(ii) NOTE: Map of *Drosophila obatai*—Unit 2—Wailupe follows:

Drosophila obatai - Unit 2 - Wailupe



Drosophila obatai - Unit 2 - Wailupe
Secondary Roads/Trails
Elevation (500-foot contours)

0 0.5 1 Km
0 0.25 0.5 Mi

HAWAIIAN PICTURE-WING FLY (*Drosophila ochrobasis*)

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila ochrobasis* are:

(i) Mesic to wet, montane, ohia, koa, and *Cheirodendron* sp. forest between the elevations of 3,850–5,390 ft (1,173–1,643 m); and

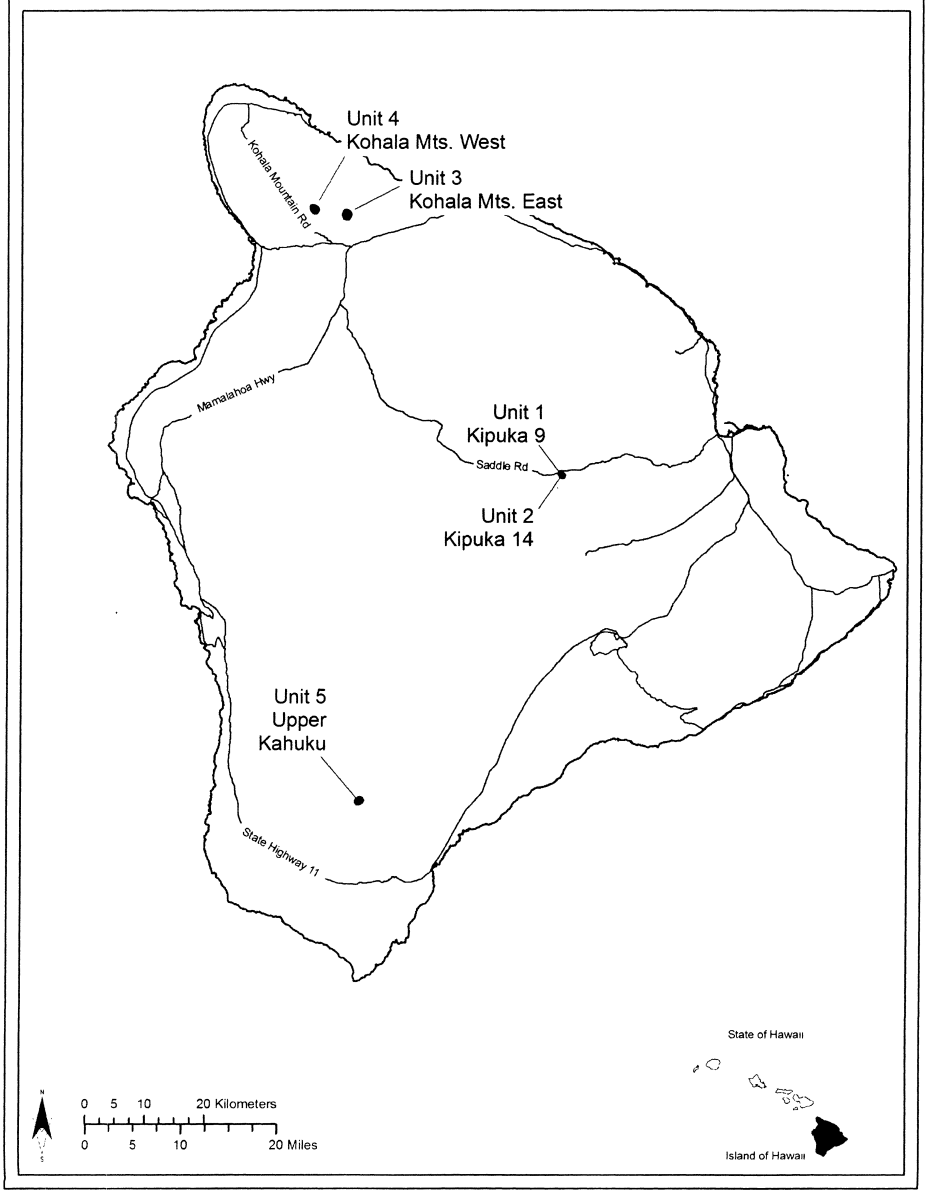
(ii) The larval host plants *Clermontia calophylla*, *C. clermontioides*, *C. clermontioides ssp. rockiana*, *C. drepanomorpha*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, *C. waimeae*, *Marattia douglasii*, *Myrsine lanaiensis*, *M. lessertiana*, and *M. sandwicensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila ochrobasis* follows:

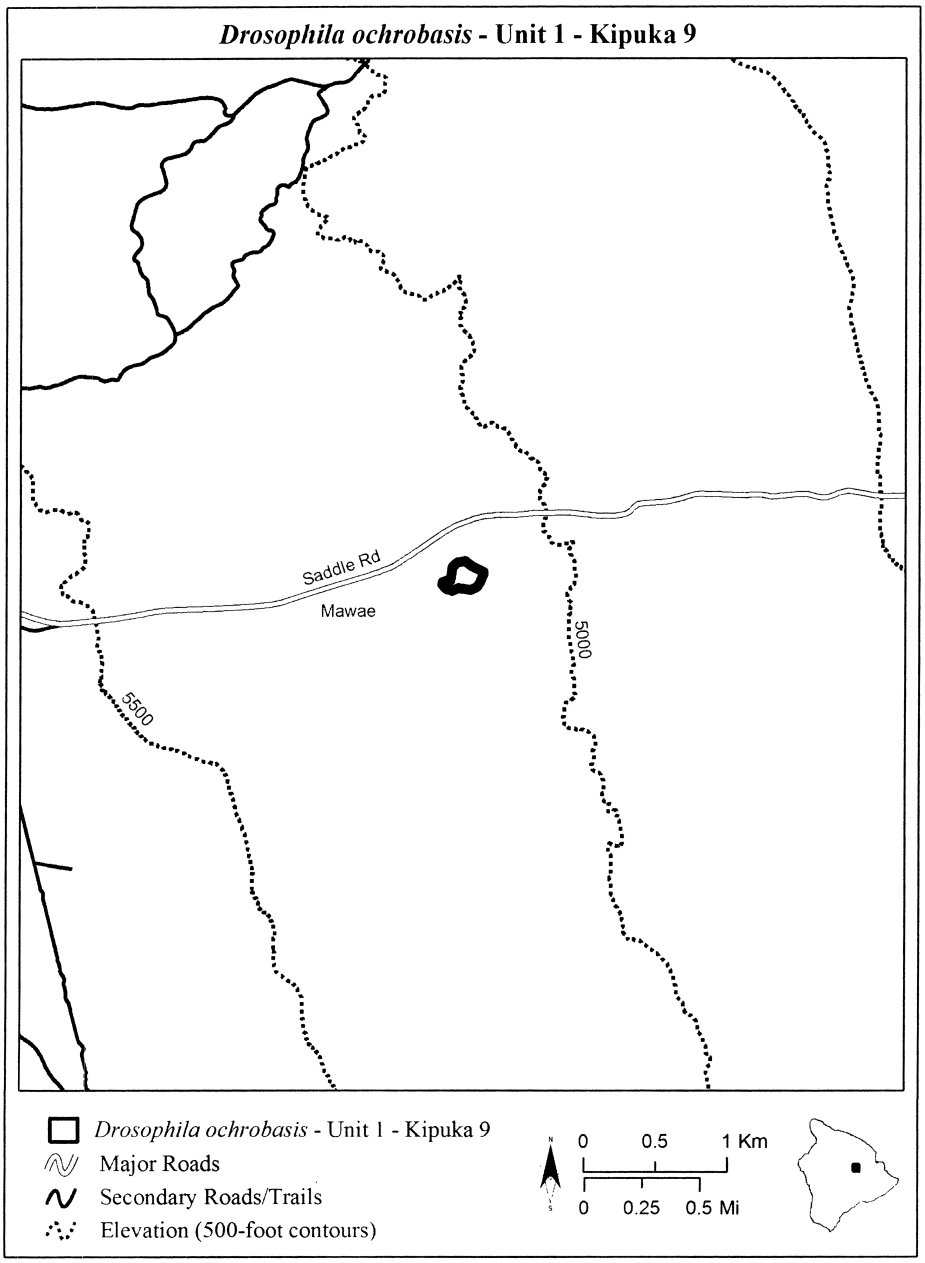
Index Map of Critical Habitat Units for *Drosophila ochrobasis*



(6) *Drosophila ochrobasis*—Unit 1—Kipuka 9, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 884112, 2179392; 884090, 2179333; 884069, 2179303; 884023, 2179281; 883971, 2179292; 883936, 2179295; 883896, 2179273; 883855, 2179287; 883825, 2179319; 883828, 2179335; 883861, 2179349; 883869, 2179346; 883885, 2179346; 883888, 2179373; 883893, 2179409; 883896, 2179441; 883934, 2179473; 883985, 2179484; 884036, 2179444; 884112, 2179409.

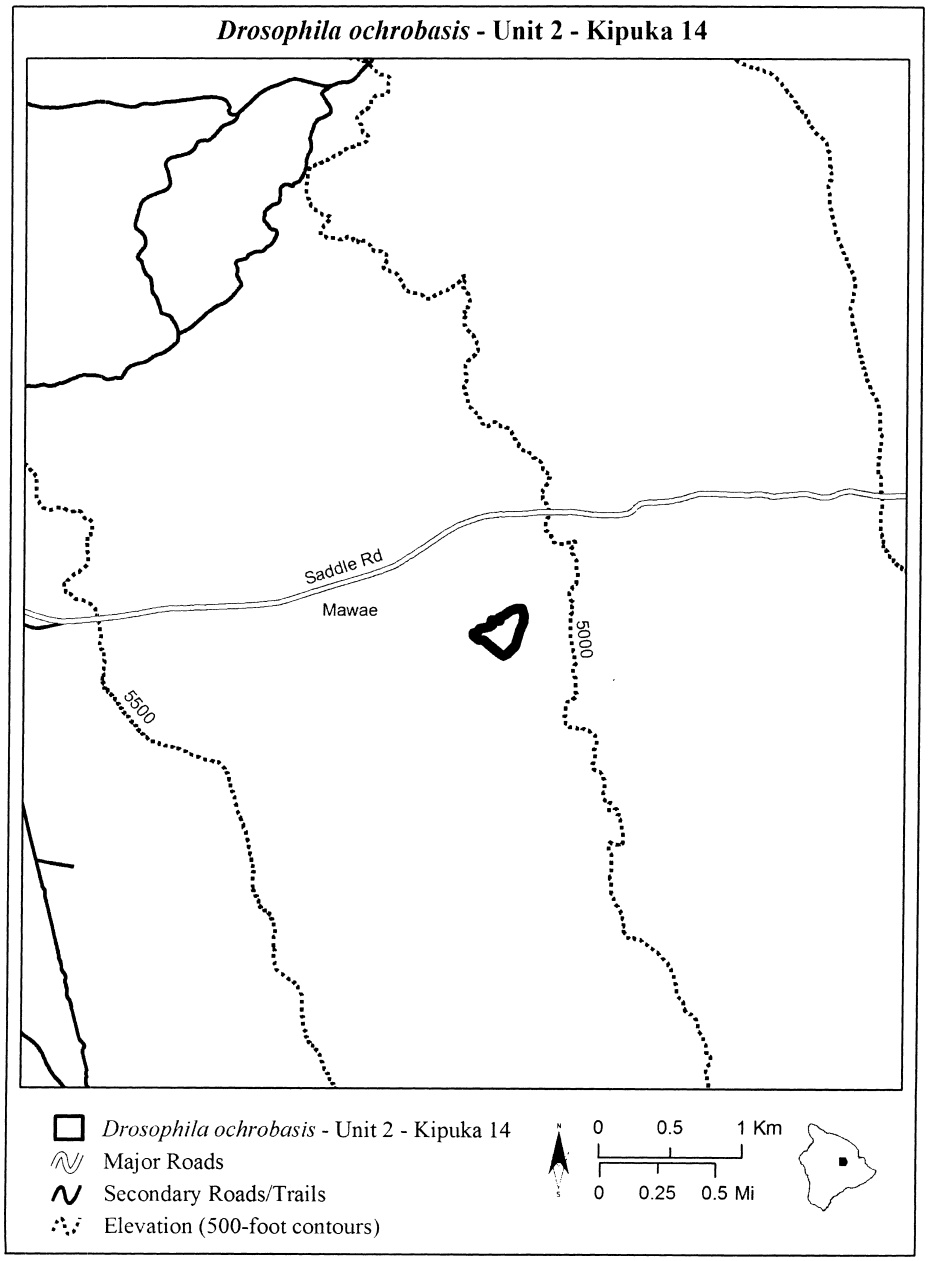
(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 1—Kipuka 9 follows:



(7) *Drosophila ochrobasis*—Unit 2—Kipuka 14, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 884379, 2179103; 884375, 2179051; 884351, 2178992; 884320, 2178889; 884264, 2178832; 884236, 2178818; 884211, 2178834; 884141, 2178891; 884099, 2178924; 884064, 2178929; 884026, 2178959; 884026, 2178976; 884052, 2178983; 884071, 2179008; 884101, 2179013; 884137, 2179021; 884160, 2179035; 884148, 2179051; 884151, 2179065; 884210, 2179063; 884208, 2179084; 884242, 2179101; 884280, 2179131; 884323, 2179146; 884365, 2179146.

(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 2—Kipuka 14 follows:

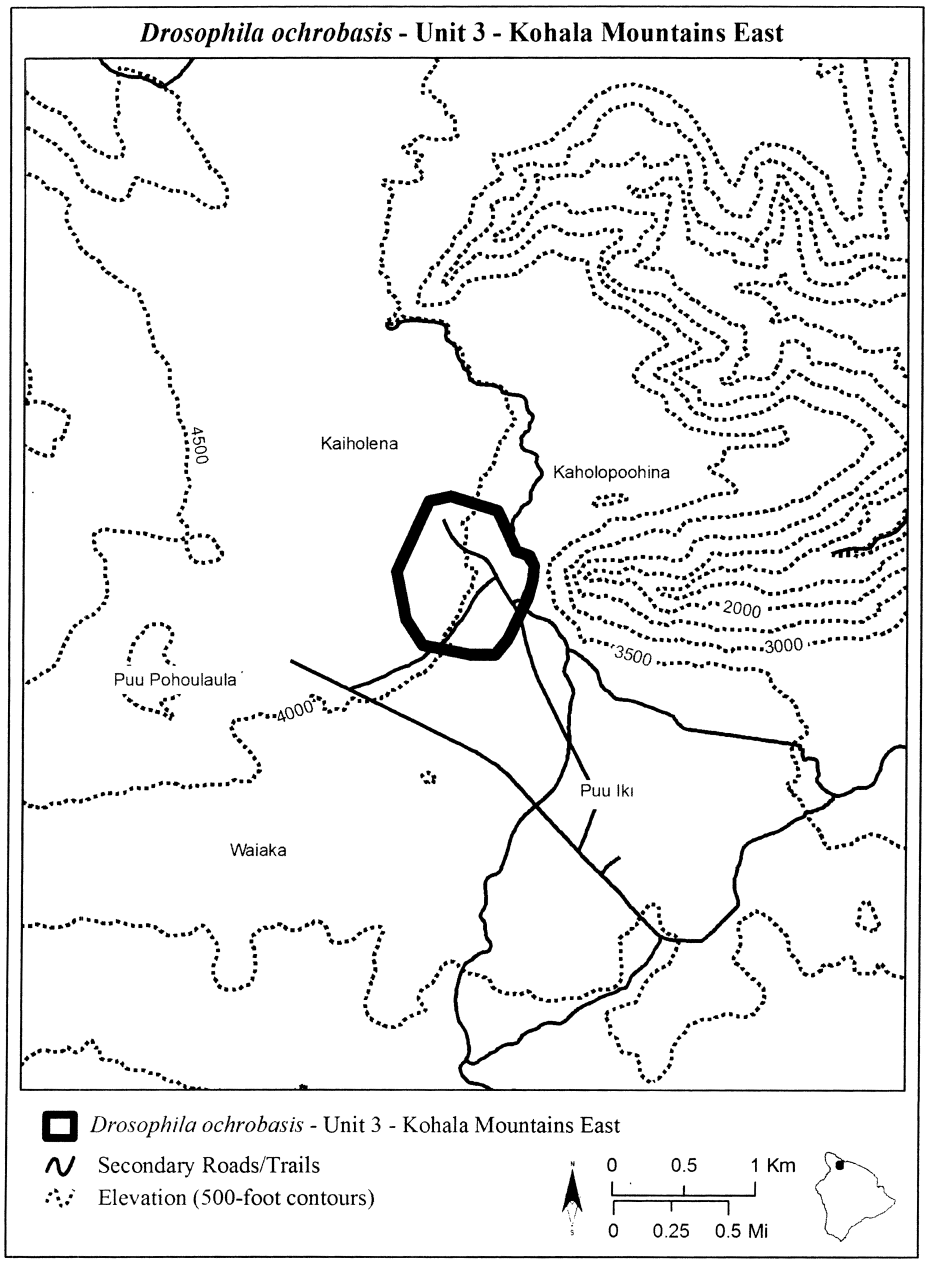


(8) *Drosophila ochrobasis*—Unit 3—Kohala Mountains East, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 848091, 2222077; 847912, 2222077; 847578, 2222142; 847461, 2222323; 847396, 2222654; 847508, 2222900; 847620, 2223146; 847773, 2223179; 848104,

2223079; 848172, 2222934; 848235, 2222798; 848327, 2222764; 848361, 2222693; 848350, 2222595; 848317, 2222476; 848177, 2222184.

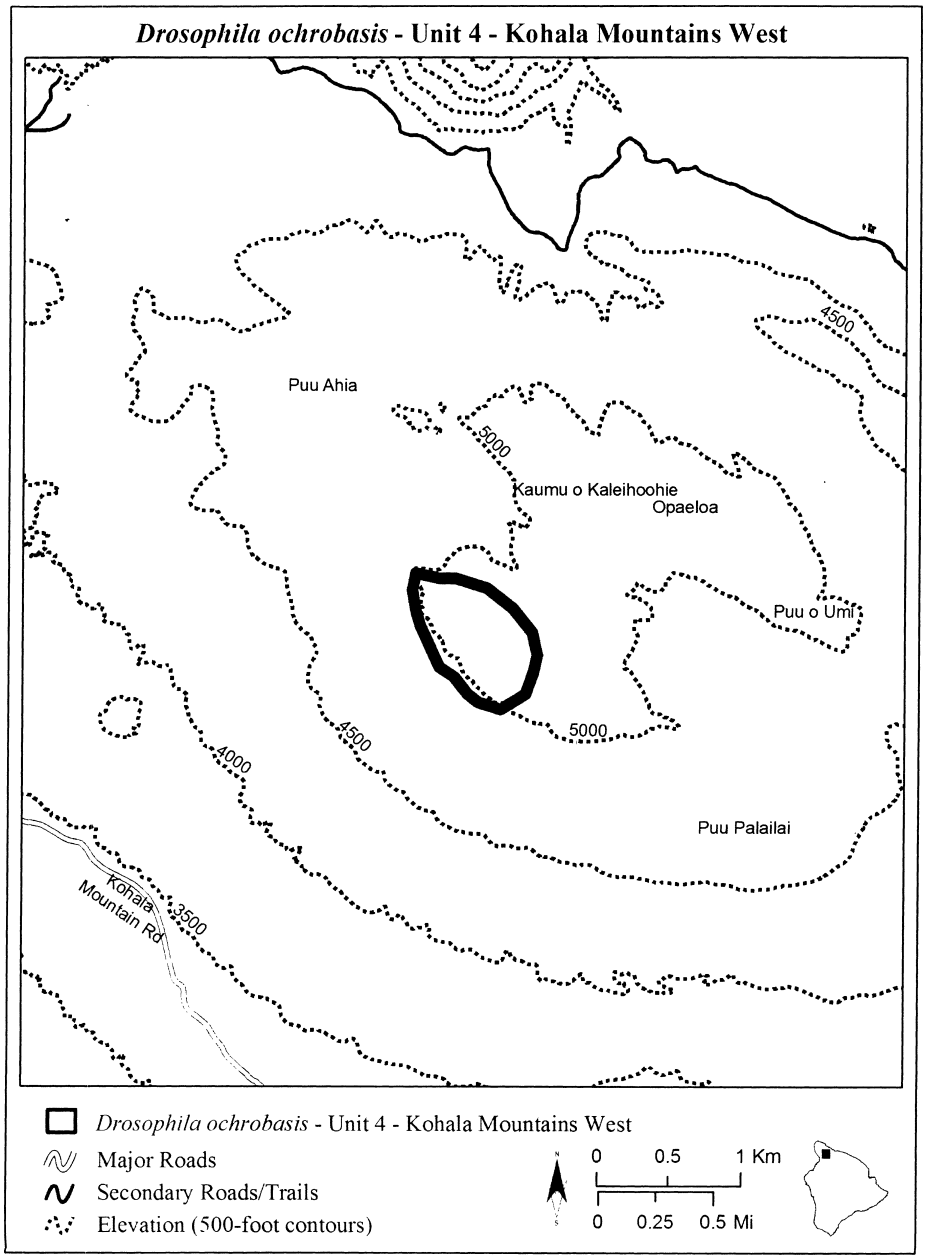
(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 3—Kohala Mountains East follows:



(9) *Drosophila ochrobasis*—Unit 4—Kohala Mountains West, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 841990, 2224000; 842156, 2223966; 842268, 2223966; 842486, 2223897; 842666, 2223757; 842803, 2223586; 842840, 2223426; 842812, 2223314; 842758, 2223157; 842584, 2223047; 842430, 2223096; 842355, 2223157; 842260, 2223278; 842154, 2223345; 842020, 2223634; 841988, 2223746; 841967, 2223882.

(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 4—Kohala Mountains West follows:

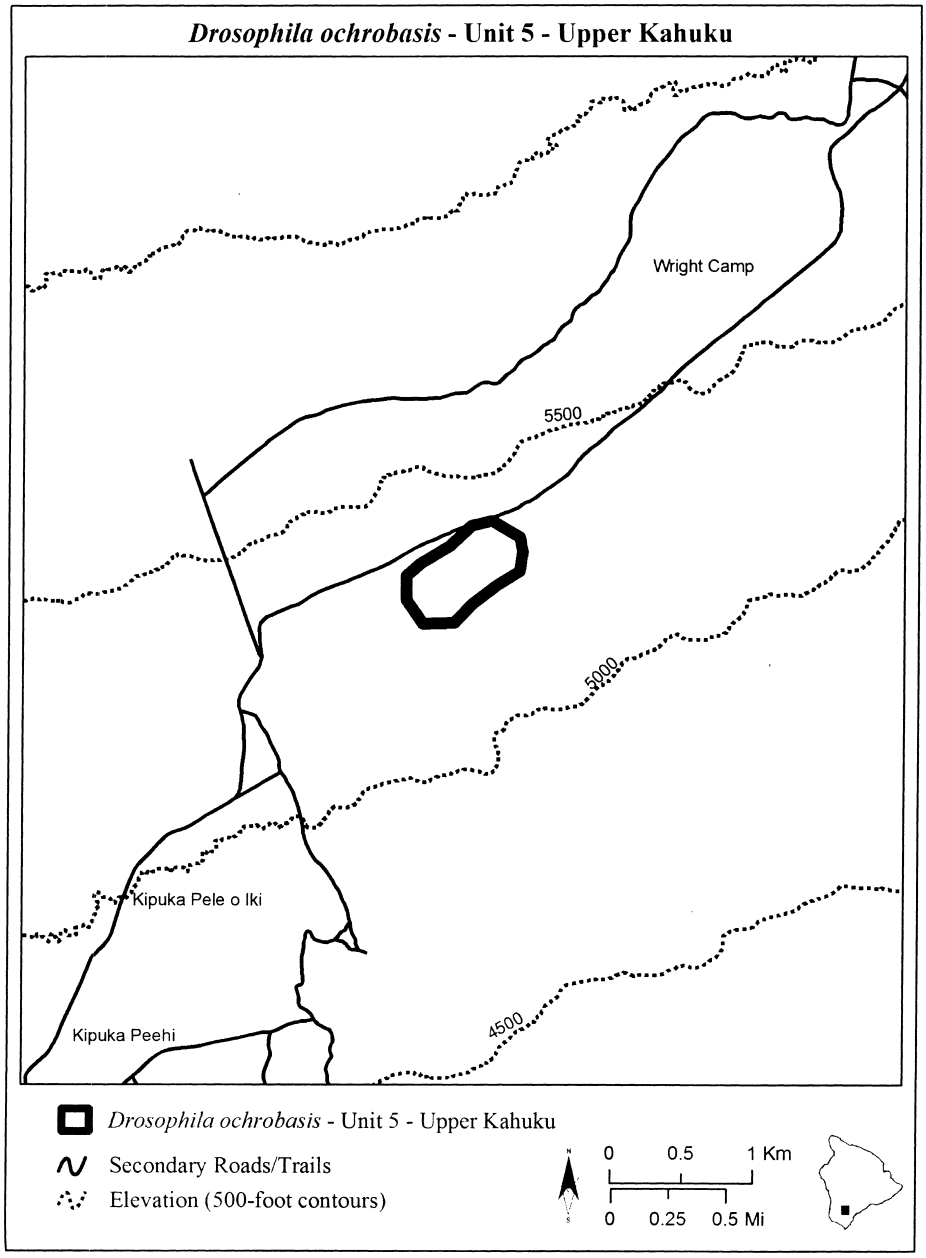


(10) *Drosophila ochrobasis*—Unit 5—Upper Kahuku, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 850211, 2124185; 849989, 2124179; 849874, 2124347; 849874, 2124516; 849975, 2124603; 850177, 2124724; 850332, 2124866; 850474, 2124900; 850589,

2124832; 850669, 2124785; 850690, 2124684; 850669, 2124549; 850508, 2124448; 850339, 2124320.

(ii) NOTE: Map of *Drosophila ochrobasis*—Unit 5—Upper Kahuku follows:



HAWAIIAN PICTURE-WING FLY (*Drosophila sharpi*)

(1) Critical habitat units are depicted for Kauai County, Hawaii, on the maps below.

(2) Primary constituent elements.

(i) In units 1, 2, and 3, the primary constituent elements of critical habitat for Hawaiian picture-wing fly (*Drosophila sharpi*) are:

(A) Elevation: 3,000 to 5,243 ft (914 to 1,598 m).

(B) Annual precipitation: 50 to 75 inches (127 to 190 centimeters).

(C) Substrate: Weathered aa lava flows, rocky mucks, thin silty loams, deep volcanic ash soils.

(D) Canopy: *Acacia, Metrosideros, Psychotria, Tetraplasandra, Zanthoxylum.*

(E) Subcanopy: *Cheirodendron, Coprosma, Kadua, Ilex, Myoporum, Myrsine.*

(F) Understory: *Bidens, Dryopteris, Leptecophylla, Poa, Scaevola, Sophora.*

(G) Larval host plants (*Cheirodendron* sp., *Tetraplasandra* sp.).

(ii) In units 4, 5, and 6, the primary constituent elements of critical habitat for Hawaiian picture-wing fly (*Drosophila sharpi*) are:

(A) Elevation: 3,000 to 5,243 ft (914 to 1,598 m).

(B) Annual precipitation: Greater than 75 inches (190 centimeters).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia, Charpentiera, Cheirodendron, Metrosideros.*

(E) Subcanopy: *Broussaisia, Cibotium, Eurya, Ilex, Myrsine.*

(F) Understory: Ferns, *Carex, Coprosma, Leptecophylla, Oreobolus, Rhynchospora, Vaccinium.*

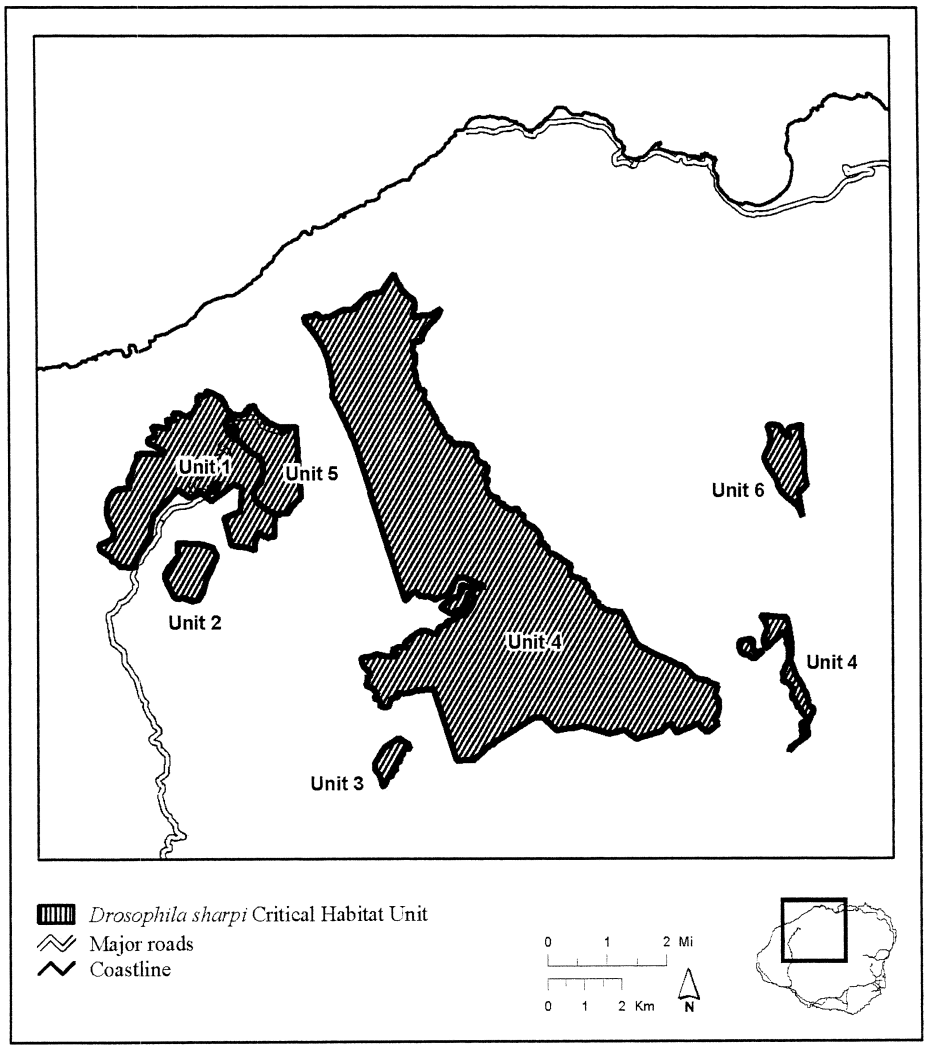
(G) Larval host plants (*Cheirodendron* sp., *Tetraplasandra* sp.).

(3) Manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, existing on the effective date of this rule do not contain one or more of the primary constituent elements.

(4) Critical habitat maps. Maps were created in GIS, with coordinates in UTM Zone 4 with units in meters using North American datum of 1983 (NAD 83).

(5) Index map of critical habitat units for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

Map 1
Drosophila sharpi–Index Map

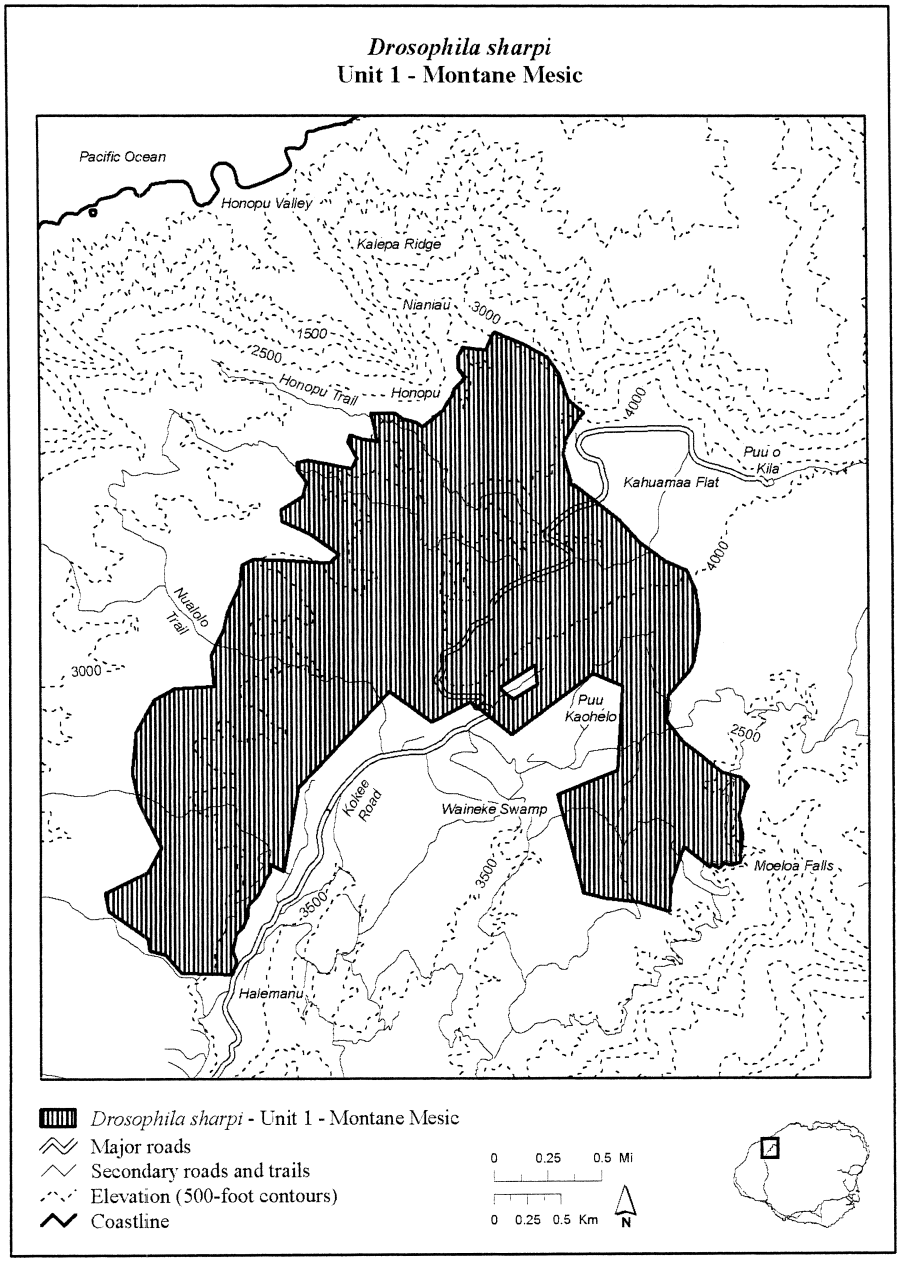


(6) Unit 1–Montane Mesic, Kauai County, Hawaii.

(i) Unit 1–Montane Mesic consists of 2,422.6 ac (980.4 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 430107, 2447429; 430242, 2447664; 430073, 2447126; 430793, 2448310; 430124, 2446907; 430393, 2447748; 430690, 2447765; 430671, 2447997; 430764, 2448188; 430886, 2448507; 430903, 2448664; 430985, 2448705; 431560, 2448675; 431414, 2448890; 430291, 2446570; 431058, 2446300; 431200, 2449070; 431362, 2449169; 431171, 2448699; 430854, 2445930; 432530, 2450196; 431391, 2449273; 431323, 2447013; 431211, 2446394; 431101, 2446447; 431112, 2446394; 431069, 2446331; 431007, 2446203; 430944, 2446145; 430902, 2445976; 430191, 2446386; 430826, 2445805; 430857, 2445727; 430824, 2445631; 430442, 2445640; 430323, 2445779; 430204, 2445809; 430191, 2445898; 429898, 2446100; 429871, 2446234; 430939, 2446061; 432796, 2450365; 432504, 2449961; 432579, 2450036;

432552, 2450080; 432551, 2450083; 432001, 2447726; 432534, 2450174; 431629, 2448739; 432565, 2450262; 432531, 2450116; 432740, 2450249; 432441, 2449848; 432808, 2450383; 432882, 2450351; 432904, 2450341; 432827, 2447751; 432932, 2447668; 433014, 2447717; 433109, 2447775; 433094, 2447922; 432560, 2450267; 431875, 2449780; 431322, 2449418; 431403, 2449436; 431727, 2449372; 431769, 2449447; 431705, 2449569; 431720, 2449620; 431805, 2449591; 431919, 2449578; 432498, 2449952; 431904, 2449665; 432486, 2449909; 432046, 2449781; 432052, 2449783; 432113, 2449740; 432217, 2449712; 432251, 2449685; 432259, 2449679; 432344, 2449744; 432419, 2449806; 431322, 2449372; 431905, 2449660; 434486, 2447126; 434073, 2448685; 434228, 2448620; 434292, 2448479; 434318, 2448298; 434279, 2447951; 434163, 2447783; 434086, 2447693; 434073, 2447500; 434623, 2446526; 434357, 2447229; 433545, 2449136; 434627, 2447088; 434686, 2447020; 434682, 2447017; 434657, 2446977; 434652, 2446933; 434612, 2446807; 434641, 2446663; 434631, 2446528; 434202, 2447345; 433399, 2449709; 431205, 2448983; 432073, 2447674; 433046, 2450280; 433196, 2450196; 433287, 2450063; 433353, 2449880; 433467, 2449787; 433429, 2449741; 433880, 2448827; 433407, 2449708; 433725, 2448994; 433401, 2449697; 433339, 2449600; 433313, 2449484; 433339, 2449381; 433368, 2449293; 433368, 2449292; 433369, 2449255; 433389, 2449256; 434254, 2447886; 433408, 2449708; 433527, 2447856; 434086, 2446095; 433862, 2446165; 433606, 2446193; 433449, 2446235; 433397, 2446440; 433257, 2446958; 433577, 2447086; 433706, 2447138; 434090, 2446098; 433562, 2447841; 432639, 2447624; 432918, 2447407; 432672, 2447598; 434620, 2446512; 432609, 2447647; 434318, 2448182; 432195, 2447587; 432136, 2447629; 432133, 2447631; 432081, 2447668; 433746, 2447766; 434500, 2446448; 432320, 2447497; 434103, 2446297; 434618, 2446459; 434582, 2446443; 434558, 2446439; 434514, 2446449; 434471, 2446422; 434457, 2446416; 434447, 2446420; 434392, 2446421; 434423, 2446441; 434416, 2446441; 434625, 2446467; 434201, 2446573; 434403, 2446435; 434628, 2446479; 434400, 2446429; 434434, 2446428; 434386, 2446429; 434533, 2446441.

(ii) Map of Unit 1–Montane Mesic for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

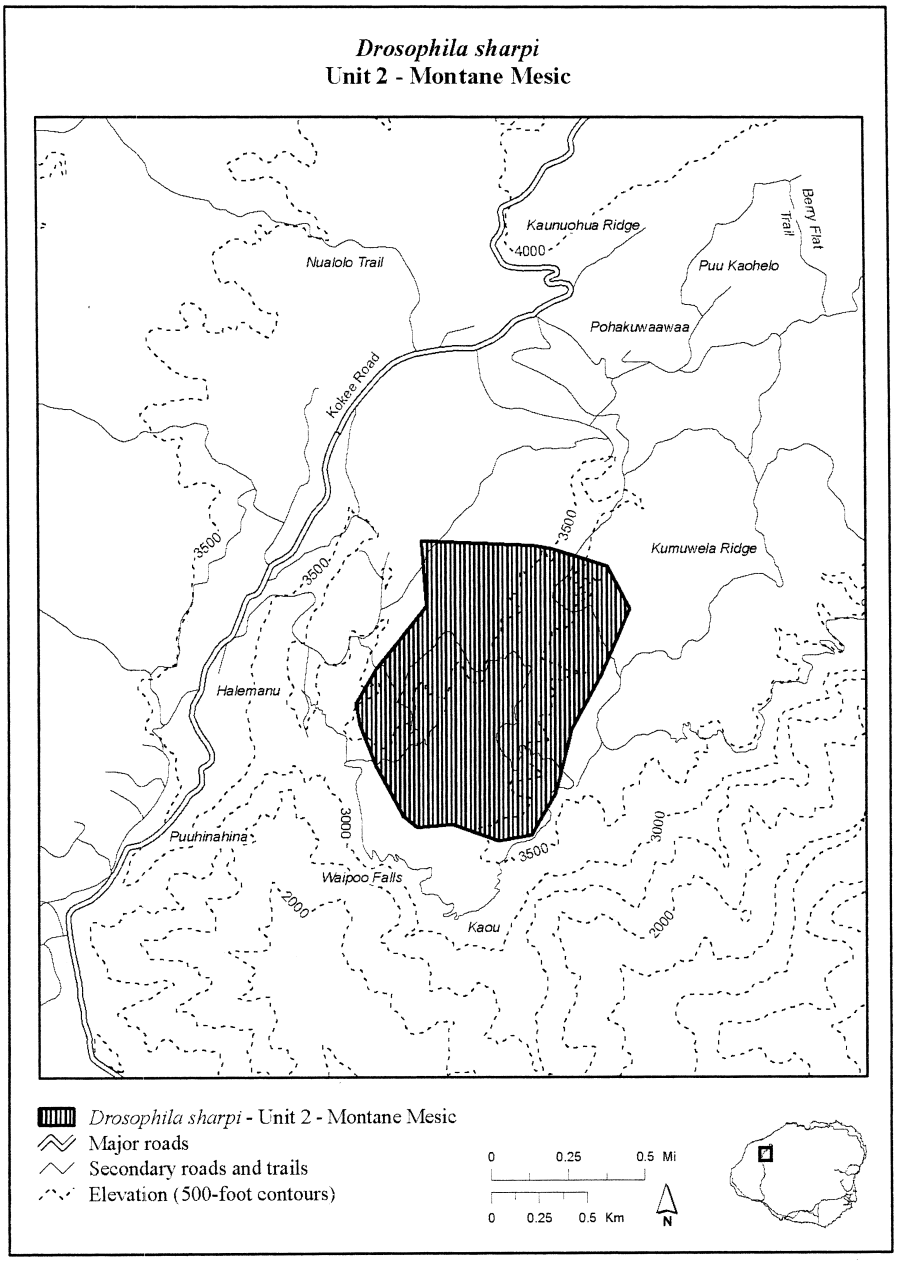


(7) Unit 2–Montane Mesic, Kauai County, Hawaii.

(i) Unit 2–Montane Mesic consists of 375.6 ac (152.0 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 431975, 2446280; 432559, 2446255; 432659, 2446240; 432948, 2446150; 433067, 2445928; 432758, 2445304; 432001, 2445941; 431873, 2444849;

432912, 2445580; 432674, 2444970; 431626, 2445435; 431730, 2445114; 431950, 2444792; 432135, 2444807; 432377, 2444722; 432548, 2444752; 431645, 2445326; 431736, 2445617.

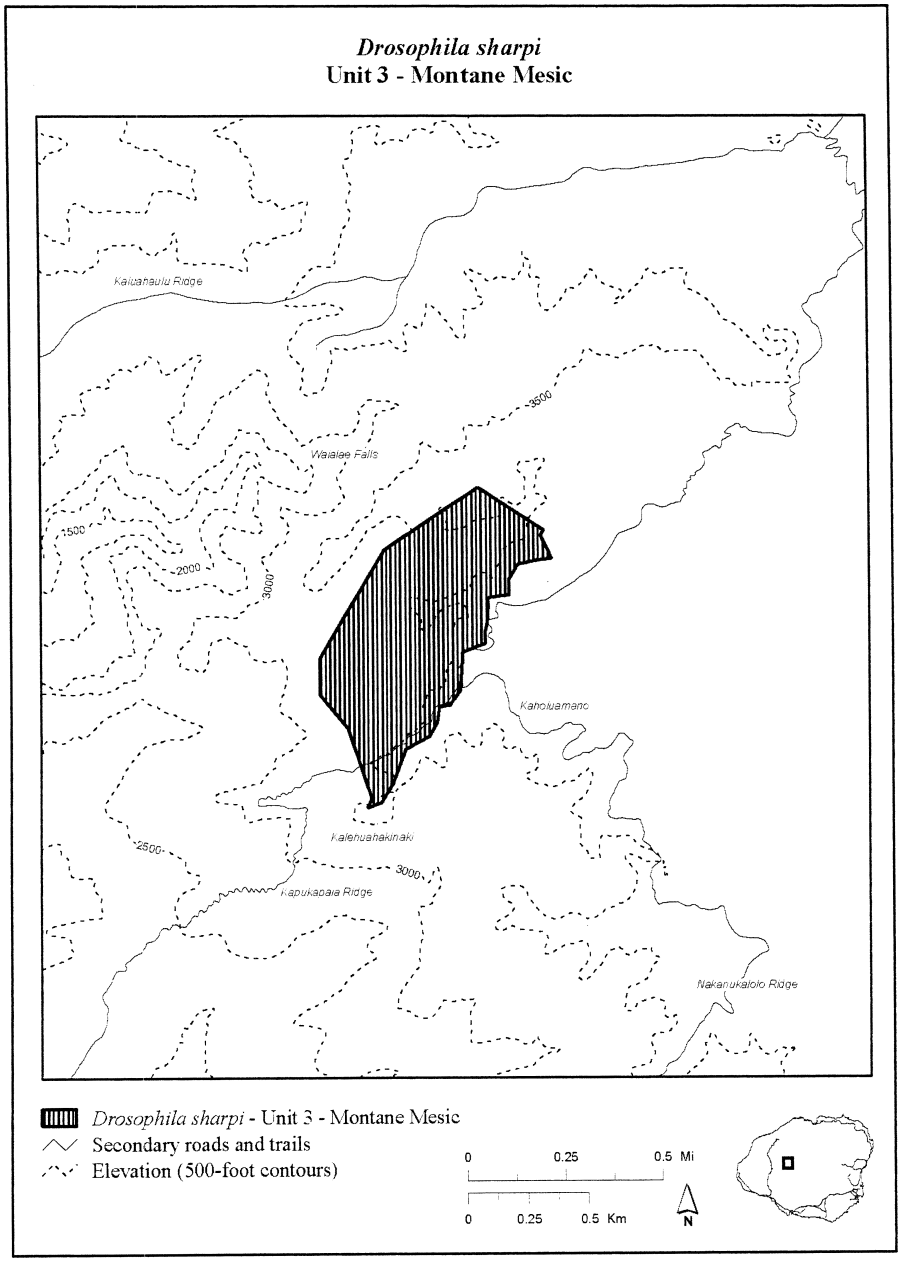
(ii) Map of Unit 2–Montane Mesic for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



(8) Unit 3–Montane Mesic, Kauai County, Hawaii.

(i) Unit 3–Montane Mesic consists of 138.5 ac (56.0 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 438012, 2440389; 438014, 2440437; 438023, 2440484; 438111, 2440652; 438112, 2440588; 437817, 2440071; 438028, 2440577; 437922, 2440355; 437336, 2440335; 437912, 2440201; 437827, 2440132; 437785, 2440013; 437687, 2439960; 437636, 2439819; 437870, 2440140; 437545, 2439761; 438149, 2440714; 437529, 2439721; 437987, 2441027; 437450, 2440047; 437335, 2440180; 437335, 2440329; 438159, 2440914; 438249, 2440857; 438253, 2440854; 438243, 2440830; 438287, 2440738; 437602, 2440771; 438227, 2440730; 437586, 2439743.

(ii) Map of Unit 3–Montane Mesic for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



(9) Unit 4–Montane Wet, Kauai County, Hawaii.

(i) Unit 4–Montane Wet consists of 13,055.0 ac (5,283.2 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 448638, 2440764; 448601, 2440679; 448606, 2440704; 448612, 2440722; 448615, 2440731; 448619, 2440740; 448630, 2440759; 448650, 2440769;

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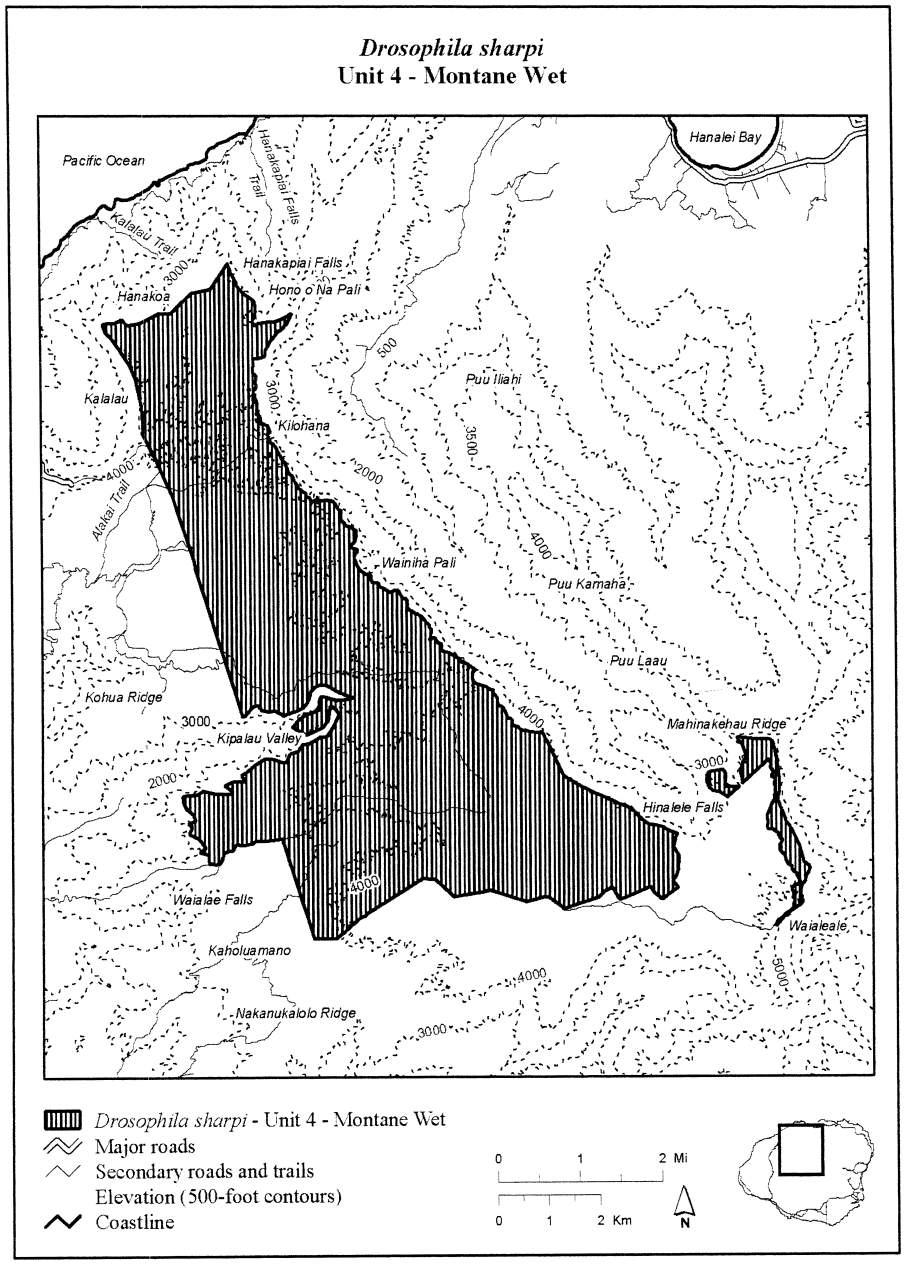
(ii) Map of Unit 4–Montane Wet for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



(10) Unit 5–Montane Wet, Kauai County, Hawaii.

(i) Unit 5–Montane Wet consists of 789.9 ac (319.7 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 433436, 2449707; 433445, 2449707; 433444, 2449707; 433443, 2449707; 433458, 2449707; 433436, 2449707; 433426, 2449707; 433408, 2449708; 433429,

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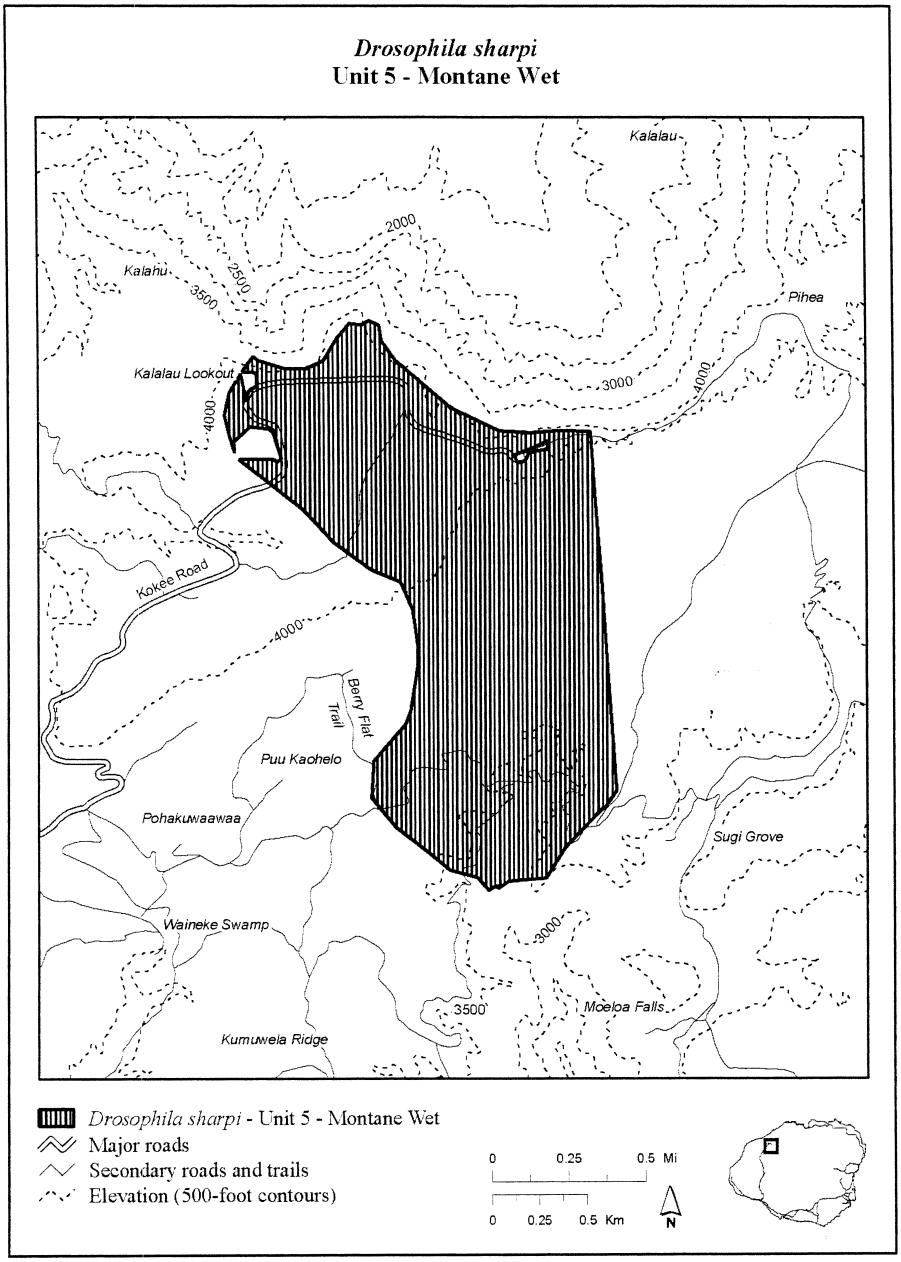
(ii) Map of Unit 5–Montane Wet for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:



(11) Unit 6–Montane Wet, Kauai County, Hawaii.

(i) Unit 6–Montane Wet consists of 413.5 ac (167.3 ha) and includes land bounded by the following UTM Zone 4, NAD83 coordinates (E, N): 448516, 2447525; 447976, 2448470; 448042, 2448338; 448133, 2448200; 448235, 2448042; 448834, 2447273; 448288, 2447915; 448412, 2447653; 448669,

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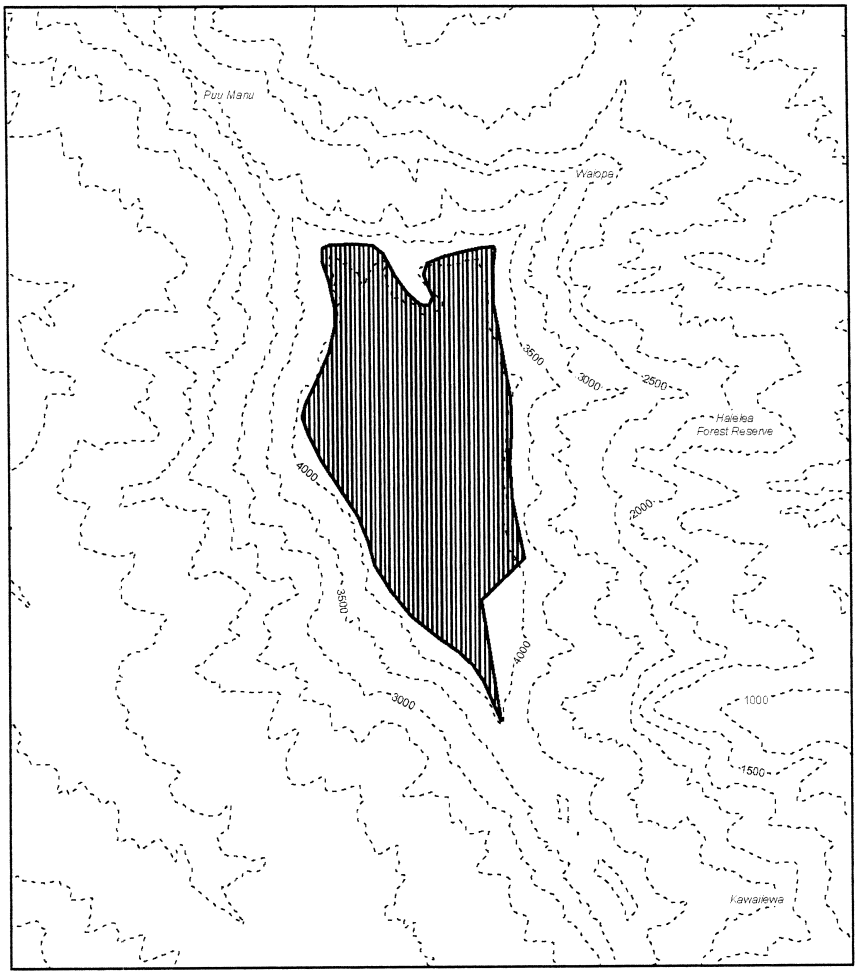
(ii) Map of Unit 6–Montane Wet for Hawaiian picture-wing fly (*Drosophila sharpi*) follows:

Drosophila sharpi
Unit 6 - Montane Wet



Drosophila sharpi - Unit 6 - Montane Wet
Elevation (500-foot contours)

0 0.25 0.5 Mi
0 0.25 0.5 Km
N

HAWAIIAN PICTURE-WING FLY (*Drosophila substenoptera*)

(1) Critical habitat is depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila substenoptera* are:

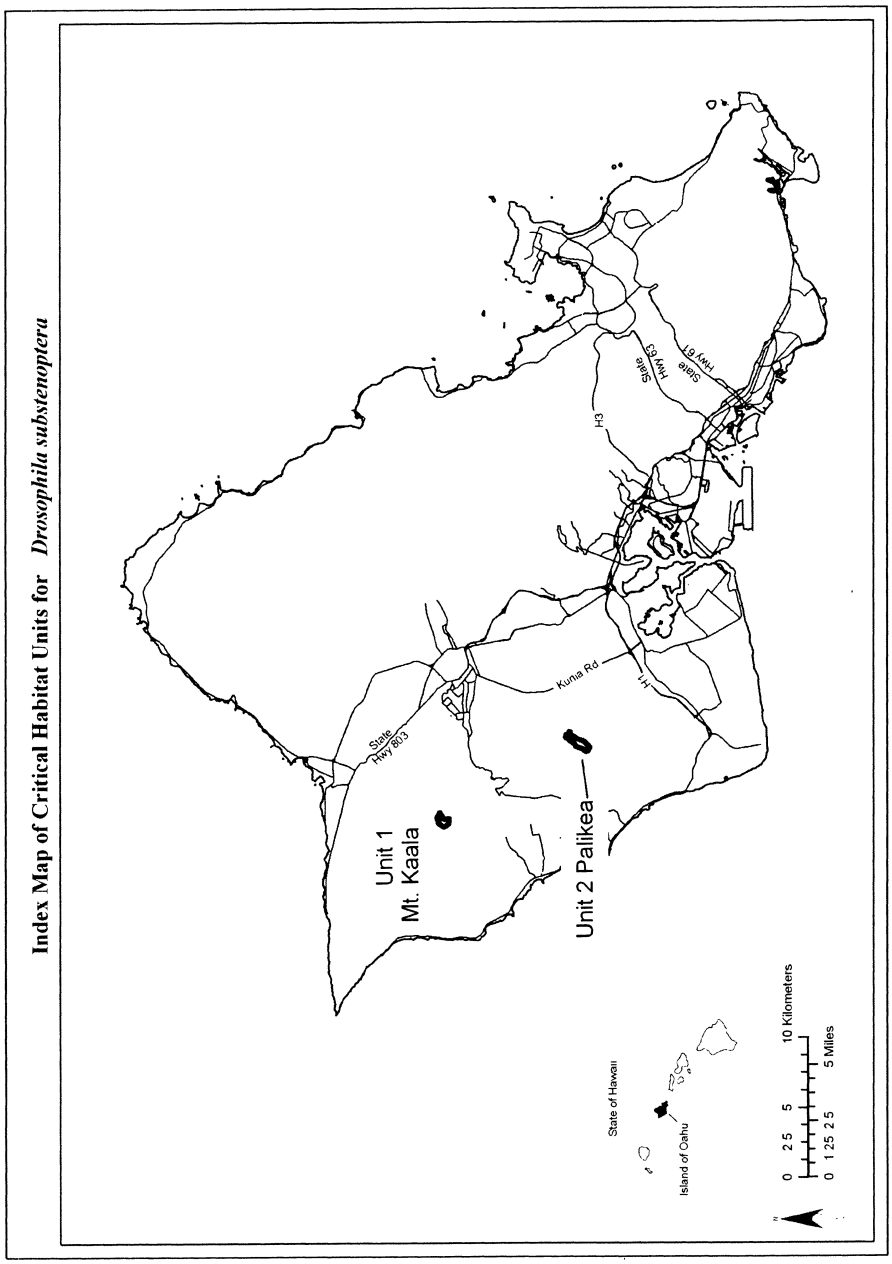
(i) Mesic to wet, lowland to montane, ohia and koa forest between the elevations of 1,920–4,030 ft (585–1,228 m); and

(ii) The larval host plants *Cheirodendron platyphyllum* ssp. *platyphyllum*, C. *trigynum* ssp. *trigynum*, *Tetraplasandra kavaiensis*, and *T. oahuensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila substenoptera* follows:

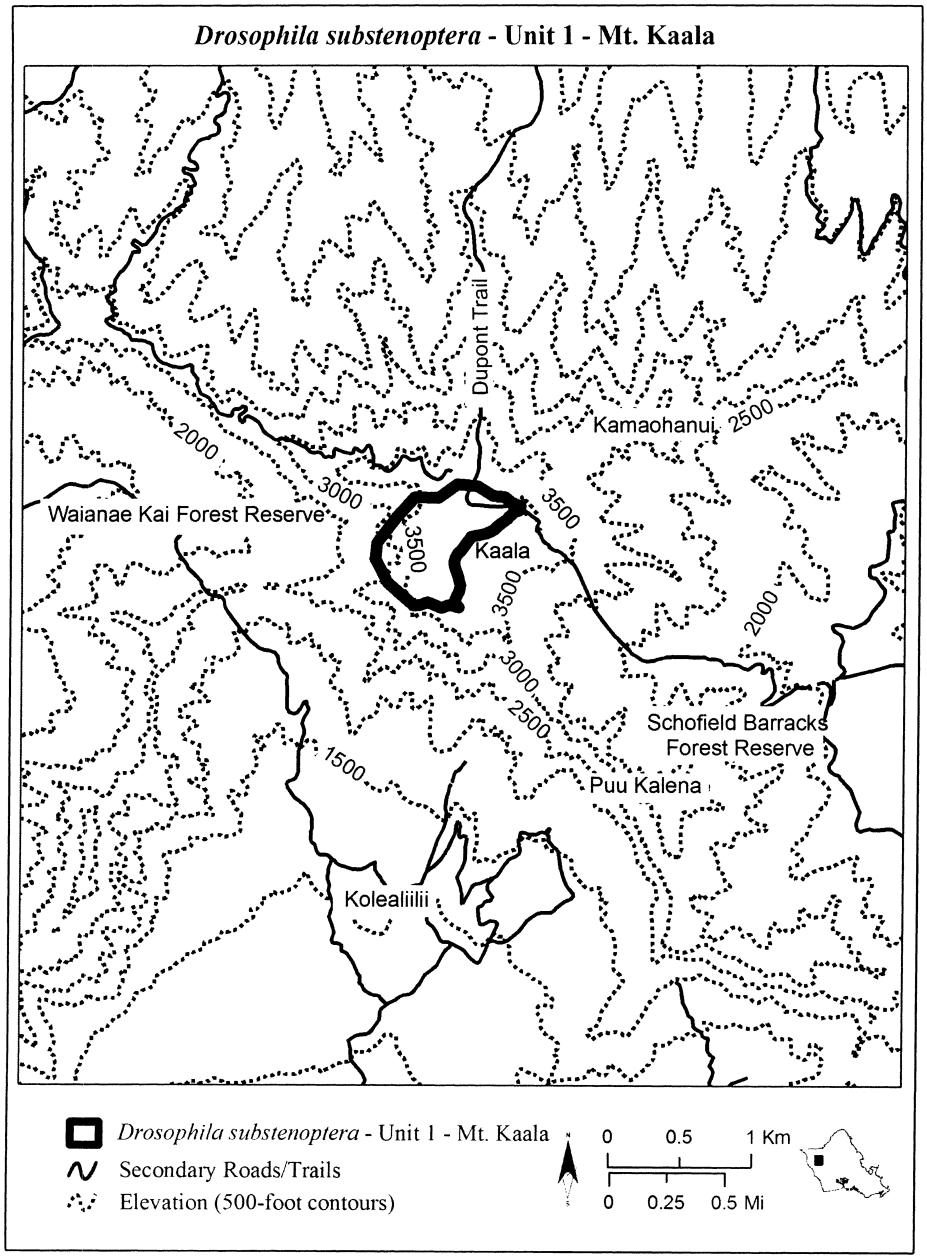


(6) *Drosophila substenoptera*—Unit 1—Mt. Kaala, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 588692, 2378661; 588740, 2378622; 588806, 2378595; 588799, 2378573; 588790, 2378564; 588785, 2378562; 588776, 2378565; 588776, 2378565; 588776,

2378565; 588776, 2378565; 588776, 2378565; 588776, 2378565; 588776, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588766, 2378566; 588765, 2378566; 588765, 2378566; 588765, 2378566; 588753, 2378551; 588731, 2378529; 588722, 2378520; 588722, 2378520; 588722, 2378520; 588714, 2378509; 588660, 2378470; 588660, 2378470; 588660, 2378470; 588660, 2378470; 588617, 2378429; 588584, 2378412; 588563, 2378405; 588530, 2378398; 588530, 2378398; 588484, 2378387; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588466, 2378384; 588459, 2378380; 588459, 2378380; 588459, 2378380; 588459, 2378380; 588459, 2378379; 588459, 2378379; 588459, 2378379; 588459, 2378379; 588395, 2378293; 588361, 2378254; 588361, 2378254; 588361, 2378254; 588361, 2378254; 588361, 2378254; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588349, 2378234; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378210; 588344, 2378186; 588344, 2378186; 588344, 2378186; 588344, 2378186; 588349, 2378161; 588349, 2378161; 588349, 2378161; 588349, 2378161; 588373, 2378097; 588385, 2378041; 588384, 2378026; 588380, 2378003; 588364, 2377972; 588364, 2377972; 588364, 2377972; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588351, 2377941; 588354, 2377924; 588354, 2377924; 588354, 2377923; 588354, 2377923; 588354, 2377923; 588362, 2377904; 588362, 2377904; 588362, 2377904; 588362, 2377904; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588369, 2377893; 588376, 2377888; 588308, 2377906; 588255, 2377885; 588156, 2377924; 588103, 2377905; 588064, 2377903; 587879, 2378062; 587792, 2378228; 587806, 2378342; 587939, 2378515; 588067, 2378659; 588232, 2378655; 588363, 2378748; 588503, 2378737; 588614, 2378668.

(ii) NOTE: Map of *Drosophila substenoptera*—Unit 1—Mt. Kaala follows:



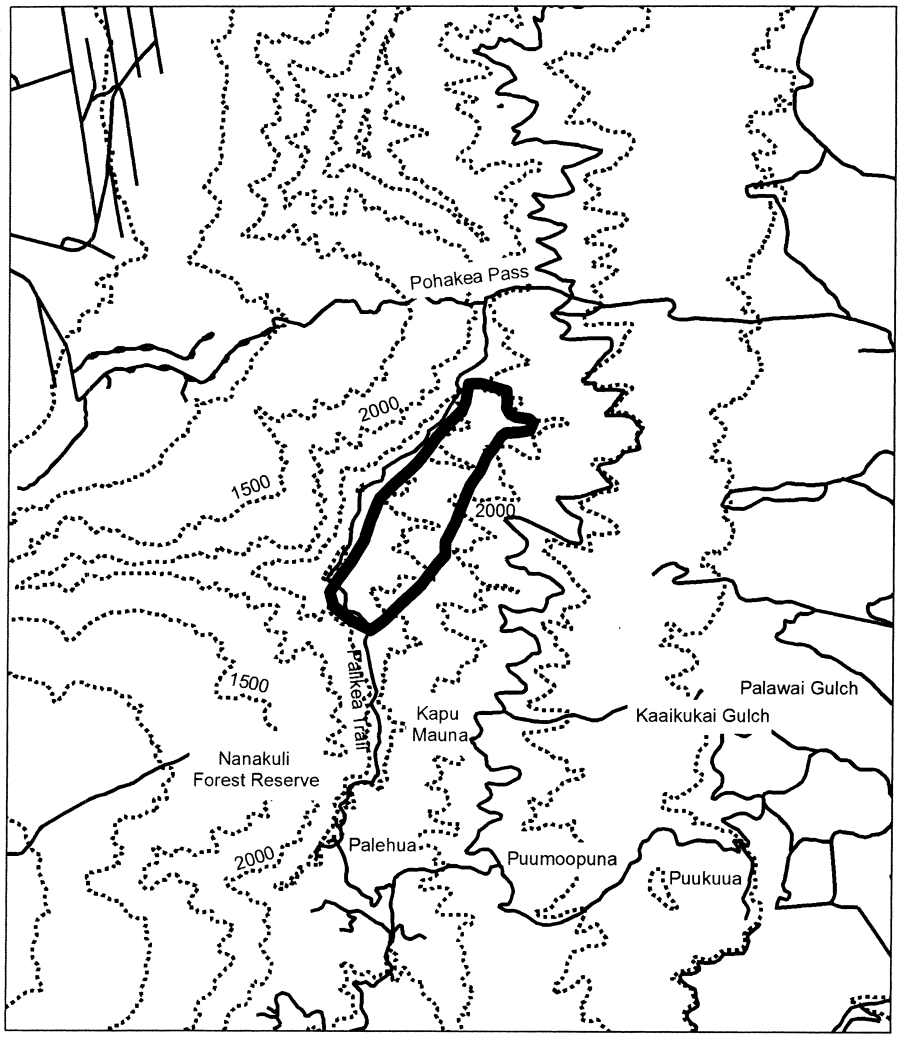
(7) *Drosophila substenoptera*—Unit 2—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila substenoptera*—Unit 2—Palikea follows:

Drosophila substenoptera - Unit 2 - Palikea



Drosophila substenoptera - Unit 2 - Palikea
Secondary Roads/Trails
Elevation (500-foot contours)

0 0.5 1 Km
0 0.25 0.5 Mi

HAWAIIAN PICTURE-WING FLY (*Drosophila tarphytrichia*)

(1) Critical habitat units are depicted for County of Honolulu, island of Oahu, Hawaii, on the maps below.

(2) The primary constituent elements of critical habitat for *Drosophila tarphytrichia* are:

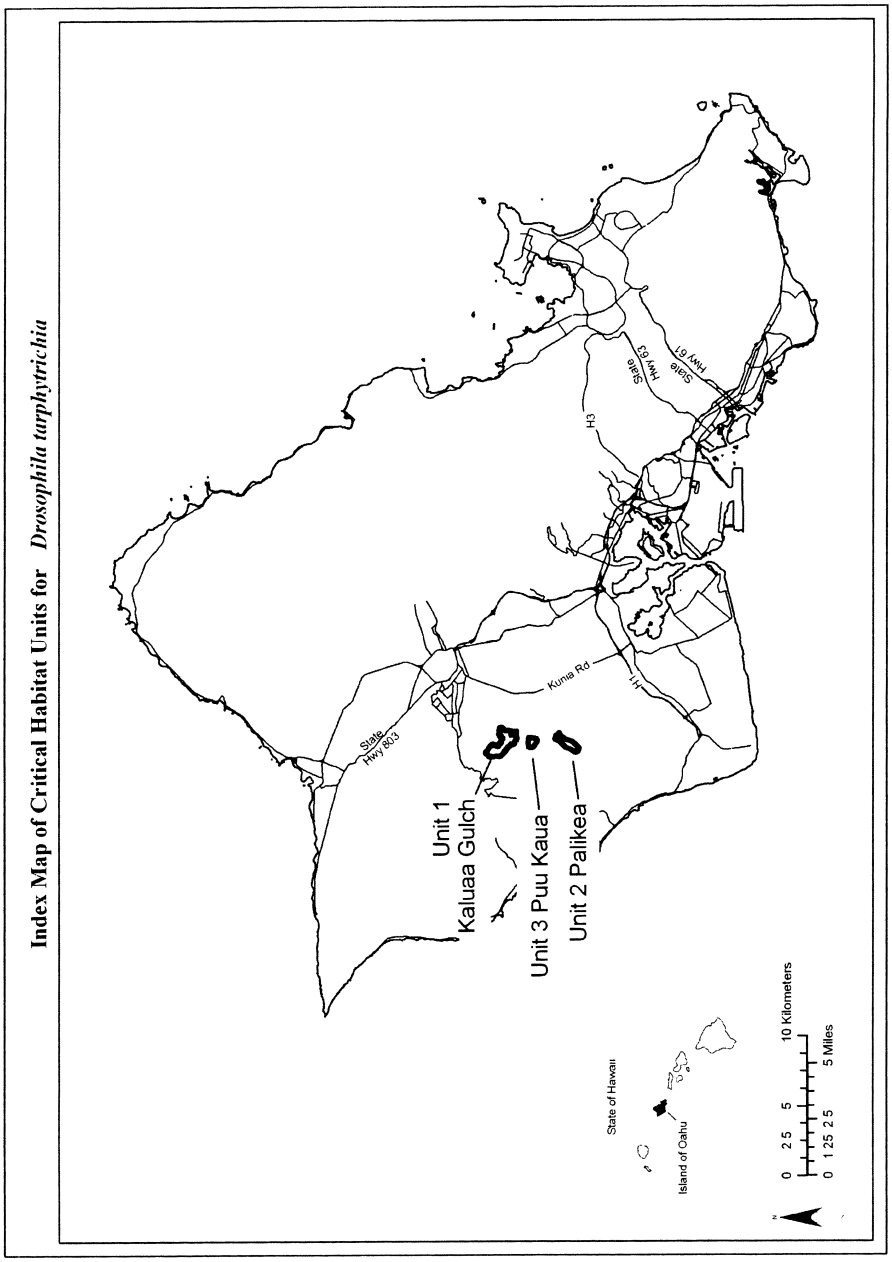
(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and

(ii) The larval host plant *Charpentiera obovata*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) NOTE: Index map of critical habitat units for *Drosophila tarphytrichia* follows:

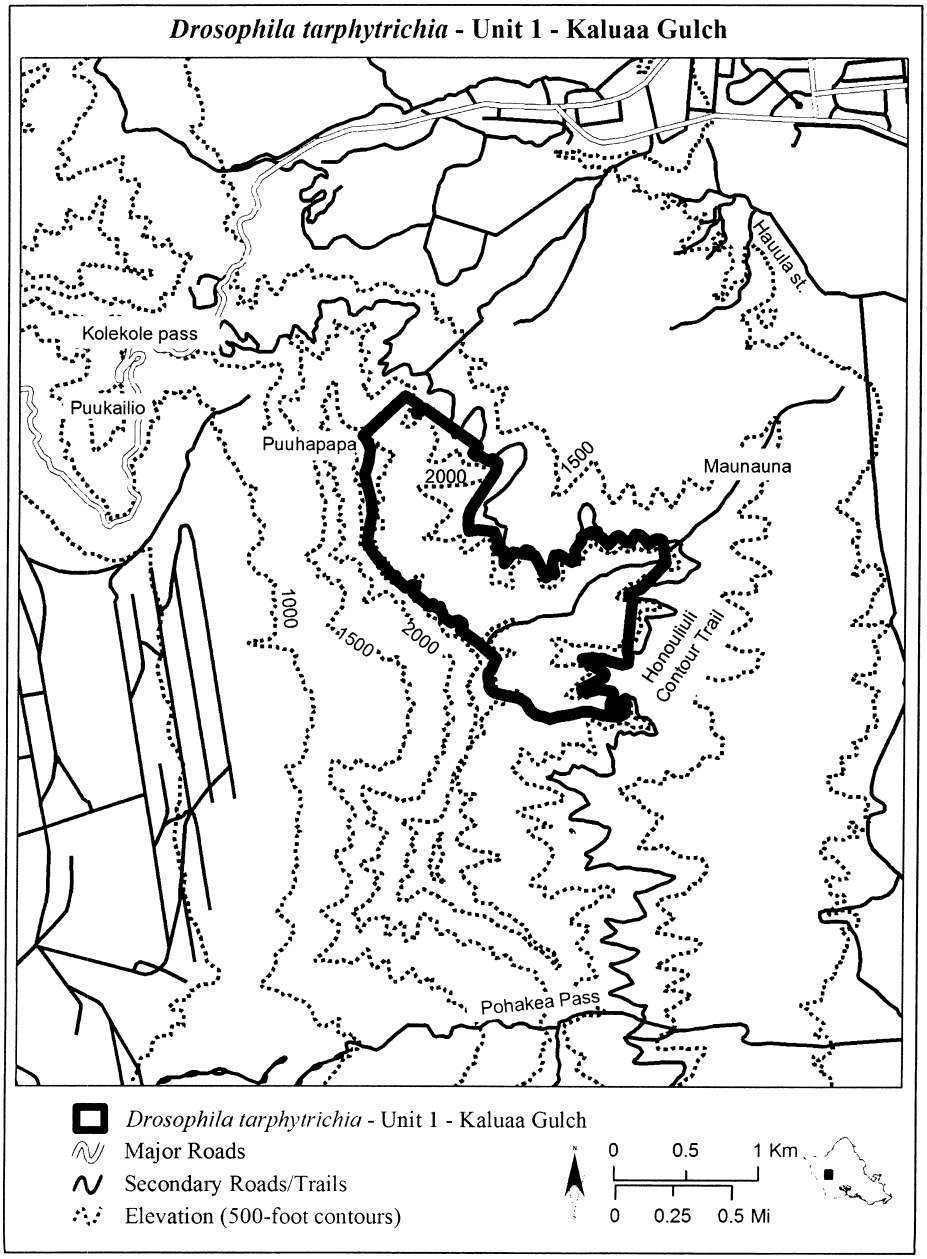


(6) *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593240, 2374436; 593231, 2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676,

2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632, 2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999, 2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

(ii) NOTE: Map of *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch follows:

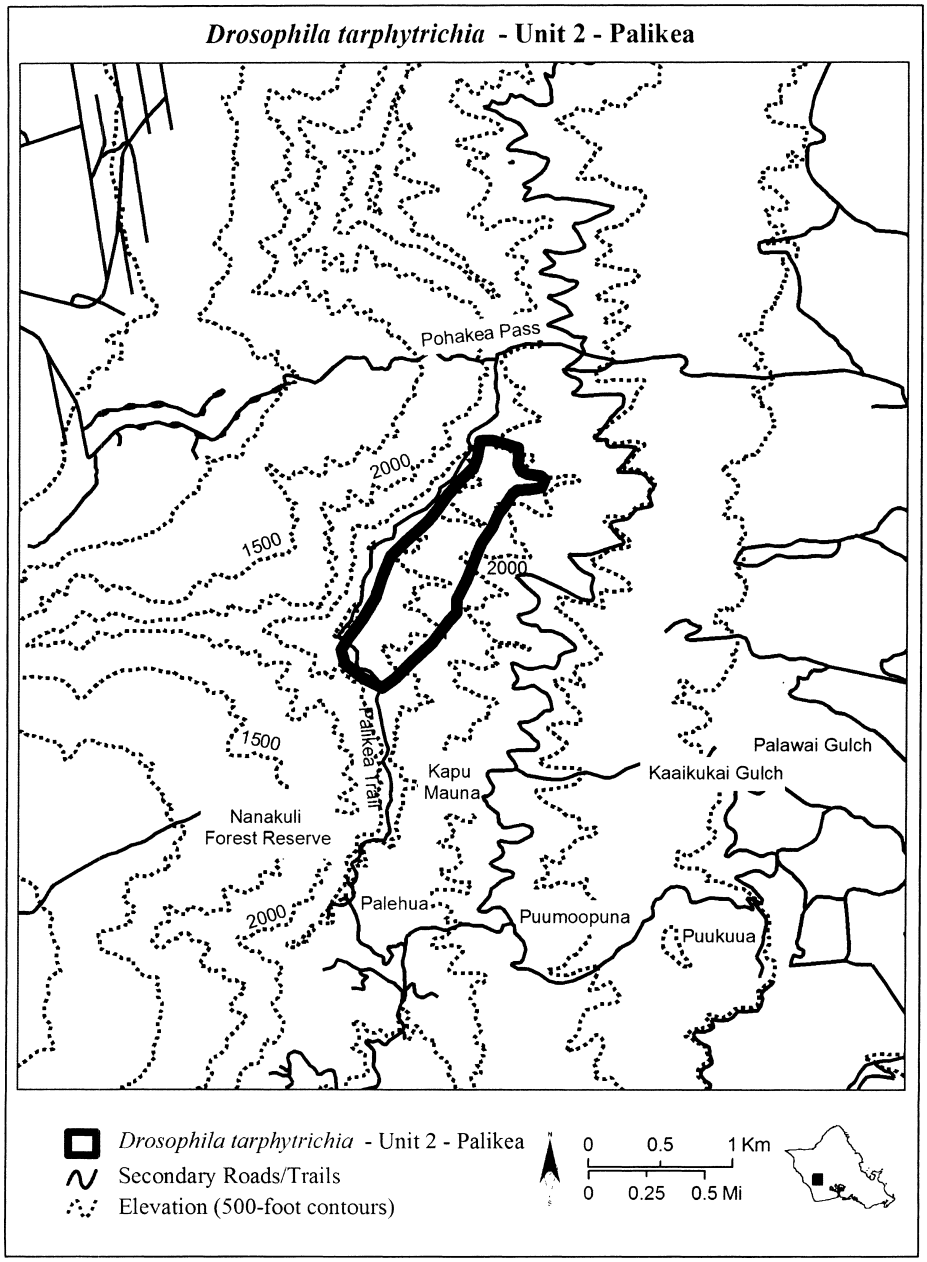


(7) *Drosophila tarphytrichia*—Unit 2—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399,

2368425; 593448, 2368578; 593505, 2368716; 593622, 2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559, 2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) NOTE: Map of *Drosophila tarphytrichia*—Unit 2—Palikea follows:



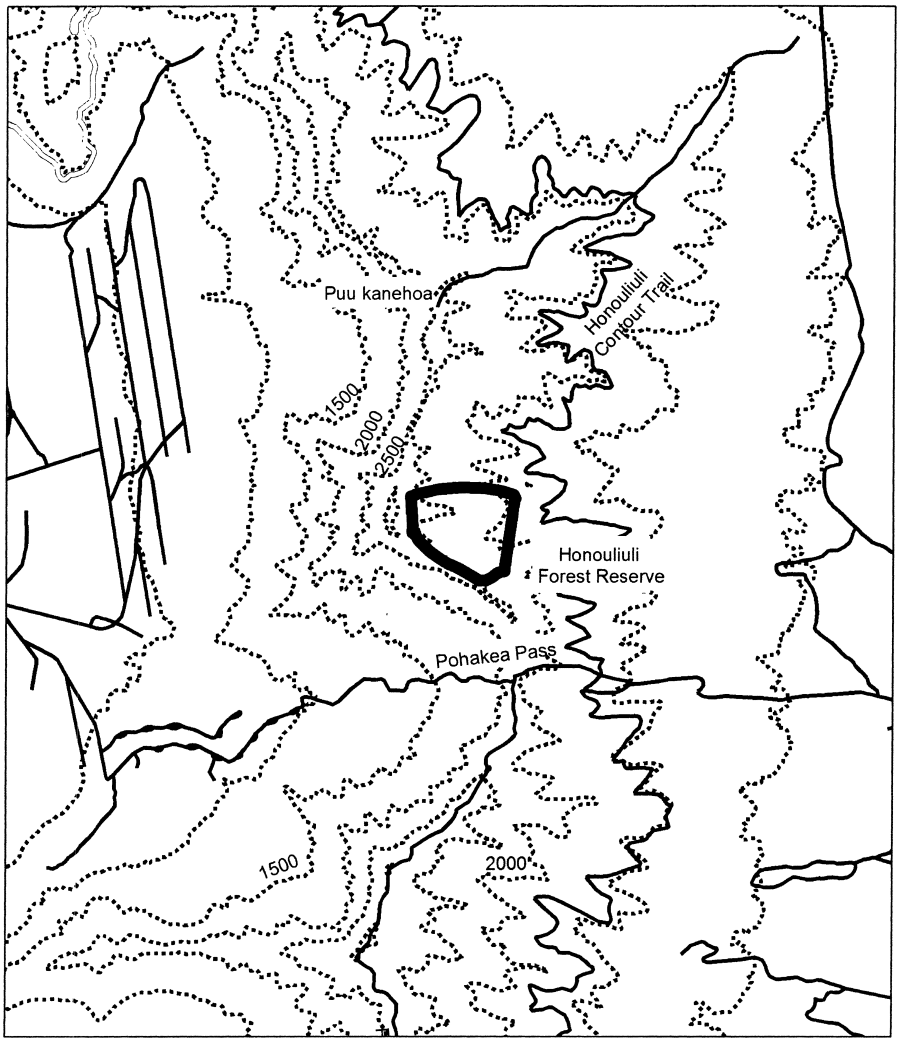
(8) *Drosophila tarphytrichia*—Unit 3—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852,

2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) NOTE: Map of *Drosophila tarphytrichia*—Unit 3—Puu Kaua follows:

Drosophila tarphytrichia - Unit 3 - Puu Kaua

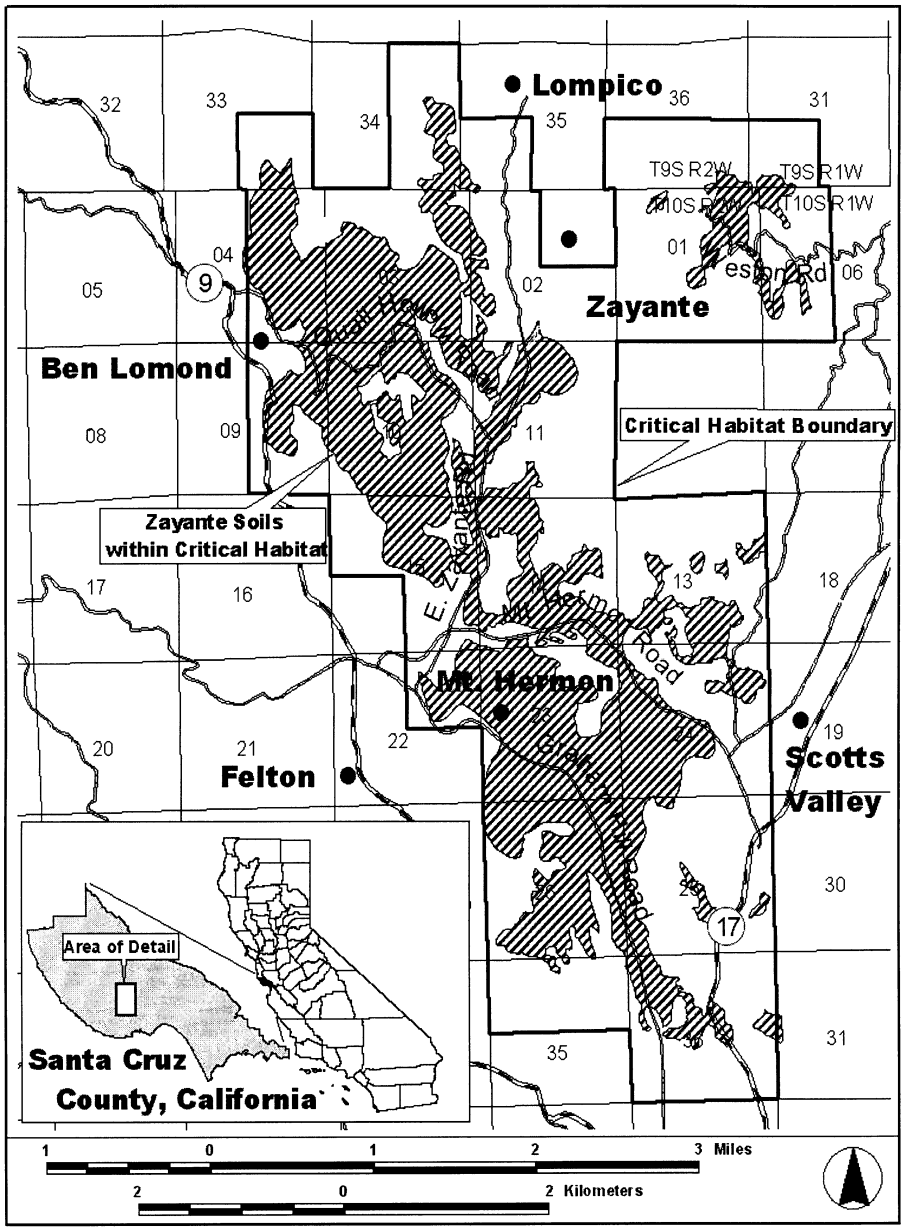


Drosophila tarphytrichia - Unit 3 - Puu Kaua
Secondary Roads/Trails
Elevation (500-foot contours)

0 0.5 1 Km
0 0.25 0.5 Mi

ZAYANTE BAND-WINGED GRASSHOPPER
(*Trimerotropis infantilis*)

1. The unit of critical habitat is depicted for Santa Cruz County, California, on the map below.



2. Within this area, the primary constituent elements for the Zayante band-winged grasshopper are those physical and biological elements that provide conditions that are essential for the primary biological needs of thermoregulation, foraging, sheltering, reproduction, and dispersal. The primary constituent elements are—(a) the presence of Zayante soils, (b) the occurrence of Zayante sand hills habitat and the associated plant species, and (c) certain microhabitat conditions, including areas that receive large amounts of sunlight, widely scattered tree and shrub cover, bare or sparsely vegetated ground, and loose sand. Zayante sand hills habitat is characterized by plant species associated with ponderosa pine sand parkland and/or silverleaf manzanita mixed chaparral. Plant species that may occur within the boundaries include, but are not limited to—ponderosa pine (*Pinus ponderosa*), silver-leafed manzanita (*Arctostaphylos silvicola*), California lilac (*Ceonothus* sp.), *Adenostoma* sp., yerba santa (*Eriodictyon* sp.), sandwort (*Minuartia* sp.), pussypaws (*Calyptridium umbellatum*), Ben Lomond spineflower (*Erysimum teretifolium*), monkeyflower (*Mimulus rattanii*), miniature lupine (*Lupinis bicolor*), gilia (*Gilia tenuiflora*), California aster (*Lessingia filaginifolia*), Ben Lomond buckwheat (*Eriogonum nudum* ssp. *decurrens*), and Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*).

3. Critical habitat does not include existing developed sites consisting of buildings, roads, aquaducts, railroads, airports, paved areas, and similar features and structures.

Santa Cruz County, California. Boundaries are based upon the Public Land Survey System. Within the historical boundaries of the Land Grants of Zayanta, San Augustin, La Carbonera, and Canada Del Rincon En El Rio San Lorenzo De Santa Cruz, boundaries are based upon section lines that are extensions to the Public Land Survey System developed by the California Department of Forestry and obtained by the Service from the State of California's Stephen P. Teale Data Center. Township and Range numbering is derived from the Mount Diablo Base and Meridian. The following lands located within Santa Cruz County are being proposed for critical habitat: T.9 S., R.1 W., SE¼ sec. 31; T.9 S., R.2 W., SE¼ sec. 33, E½ sec. 34, SW¼ sec. 35, S½ sec. 3; T.10 S., R1 W., W½ sec. 6; T.10 S., R.2 W., sec. 1, S½ NW¼ sec. 2, sec. 3, W½ sec. 4, W½ sec. 9, sec. 10, sec. 11, sec. 13, sec. 14, N½ SE¼ sec. 15, NE¼ sec. 22, secs. 23–26, N½ sec. 35, sec. 36, excluding all lands covered under the Revised Habitat Conservation Plan for the Quail Hollow Quarry and the Habitat Conservation Plan for the Hanson Aggregates' Felton Plant.

BLACKBURN'S SPHINX MOTH (*Manduca blackburni*)

(1) Critical habitat units are depicted for the Hawaiian islands of Maui, Kahoolawe, Hawaii, and Molokai on the maps below.

(2) The primary constituent elements of critical habitat for Blackburn's sphinx moth include specific habitat components identified as essential for the primary biological needs of foraging, sheltering, maturation, dispersal, breeding, and egg-laying.

(i) Based on our current knowledge of the species, the primary constituent elements required by Blackburn's sphinx moth larvae for foraging and maturation are two larval host plant species in the endemic genus *Nothocestrum* (*N. breviflorum* and *N. latifolium*) and the habitats that support these plants, *i.e.*, dry and mesic habitats between the elevations of sea level and 1,525 m (5,000 ft) that receive between 25 and 250 cm (10 and 100 in) of annual precipitation.

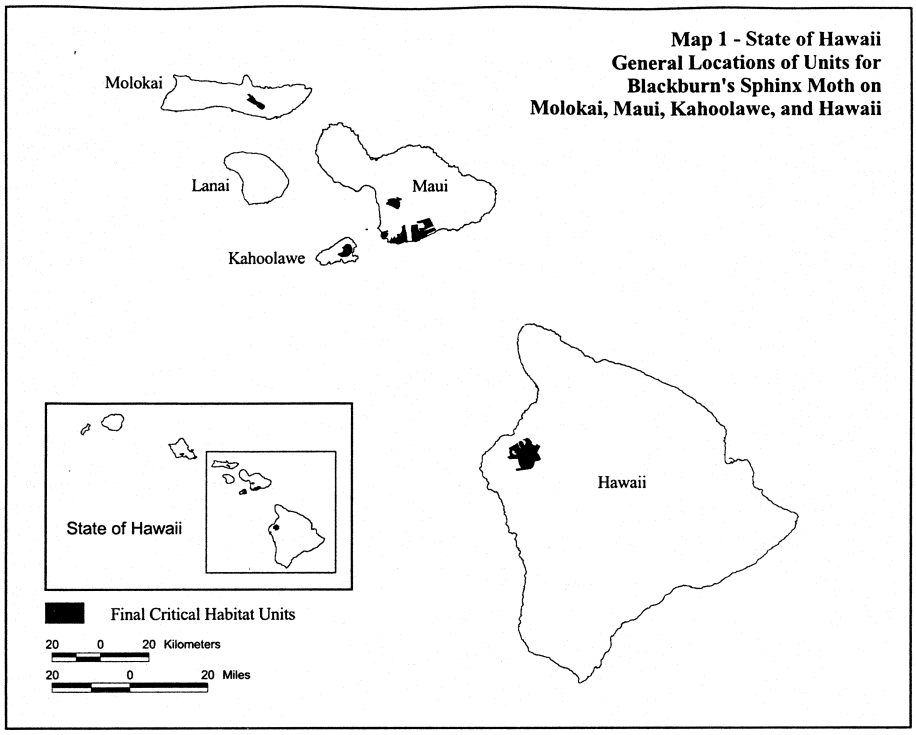
(ii) Based on our current knowledge of the species, the primary constituent elements required by Blackburn's sphinx moth adults for foraging, sheltering, dispersal, breeding, and egg production are native nectar-supplying plants, including, but not limited to, *Ipomoea* spp., *Capparis sandwichiana*, and *Plumbago zeylanica*, and the habitats that support these plants, *i.e.*, dry and mesic habitats between the elevations of sea level and 1,525 m (5,000 ft) that receive between 25 and 250 cm (10 and 100 in) of annual precipitation.

(3) Existing manmade features and structures within the boundaries of the mapped areas do not contain one or more of the primary constituent elements described for the species in paragraph (2) of this section, and therefore, are not included in the critical habitat designations. These features include, but are not limited to: buildings; roads; aqueducts and other water system features such as pumping stations, irrigation ditches, pipelines, siphons, tunnels, water tanks, gauging stations (section in a stream channel equipped with facilities for obtaining streamflow data), intakes, and wells; telecommunications towers and associated structures and equipment; electrical power transmission lines and associated rights-of-way; radars; telemetry antennas; missile launch sites; arboreta and gardens; heiau (indigenous places of worship or shrines); airports; other paved areas; lawns; and other rural residential landscaped areas.

(4) Critical habitat units are described below. Coordinates are in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following index map shows the general locations of the 9 critical habitat units designated on the islands of Hawaii, Kahoolawe, Maui, and Molokai.

(i) NOTE:Map 1—State of Hawaii General Locations of Units for Blackburn's Sphinx

Moth on Molokai, Maui, Kahoolawe, and Hawaii follows:



(ii) Unit 1: Island of Maui, Puu O Kali (1,604 ha; 3,965 ac):

(A) Unit 1 consists of the following 38 boundary points: Start at 770230, 2293671; 769969, 2293640; 769876, 2293794; 769523, 2293779; 769444, 2293784; 769146, 2293904; 769358, 2294451; 769492, 2294471; 769569, 2294563; 770123, 2294379; 770384, 2294317; 770707, 2294517; 770169, 2294794; 769629, 2295149; 769732, 2295410; 770032, 2295219; 769985, 2295371; 770360, 2295328; 769892, 2295671; 770362, 2295705; 770578, 2295954; 771492, 2296086; 772138, 2296102; 772522, 2296179; 772876, 2295933; 773384, 2295733; 773324, 2296764; 775265, 2296040; 775041, 2295484; 774484, 2295757; 774033, 2294844; 774654, 2294538; 774448, 2294006; 774392, 2292779; 773825, 2291760; 772032, 2292639; 770772, 2293255; 770524, 2293353; return to starting point.

(B) NOTE: Unit 1 is depicted below on Map 2—Units 1, 2, 3, and 4—Island of Maui.

(iii) Unit 2: Island of Maui, Cape Kinau (603 ha; 1,490 ac):

(A) Unit 2 consists of the following 36 boundary points: 769419, 2281688; 769716, 2281856; 769854, 2281648; 769726, 2281351; 769548, 2281173; 769433, 2280683; 769312, 2280406; 769251, 2280342; 769175, 2280353; 769073, 2280442; 768954, 2280466; 768791, 2280406; 768658, 2280329; 768621, 2280282; 768645, 2279874; 768737, 2279820; 767046, 2281800; 767136, 2281768; 767208, 2281837; 767139, 2281940; 767151, 2281994; 767136, 2282020; 767607, 2282308; 767710, 2282266; 767837, 2282318; 767857, 2282291; 768160, 2282410; 769380, 2282944; 769746, 2282588; 769429, 2282400; 769103, 2282123; 768598, 2281510; 768687, 2281391; 768737, 2281399; 768836, 2281460. 768738, 2279820. Coast.

(B) NOTE: Unit 2 is depicted below on Map 2—Units 1, 2, 3, and 4—Island of Maui.

(iv) Unit 3: Island of Maui, Kanaio (2,420 ha; 5,981 ac):

(A) Unit 3 consists of the following 45 boundary points: 777366, 2282219; 777421, 2281595; 777453, 2281235; 777531, 2280334; 777588, 2279661; 777719, 2278166; 770402, 2278173; 770445, 2278268; 770936, 2279194; 771208, 2279714; 771289, 2279691; 771211, 2279314; 771211, 2278906; 771368, 2278922; 771525, 2279173; 771854, 2279424; 772011, 2279707; 772231, 2279974; 772357, 2280335; 772451, 2280445; 772514, 2280351; 772561, 2280068; 772687,

2279848; 772938, 2279801; 773221, 2279817; 773425, 2280021; 773676, 2280335; 773676, 2280665; 773888, 2280993; 773606, 2281355; 774253, 2281430; 774897, 2280433; 775340, 2281119; 774662, 2281499; 775105, 2281701; 775435, 2282376; 775590, 2284264; 776004, 2284678; 776020, 2285055; 776484, 2284998; 776553, 2285169; 776691, 2285141; 776878, 2283402; 777021, 2282206; 777227, 2278017. Coast.

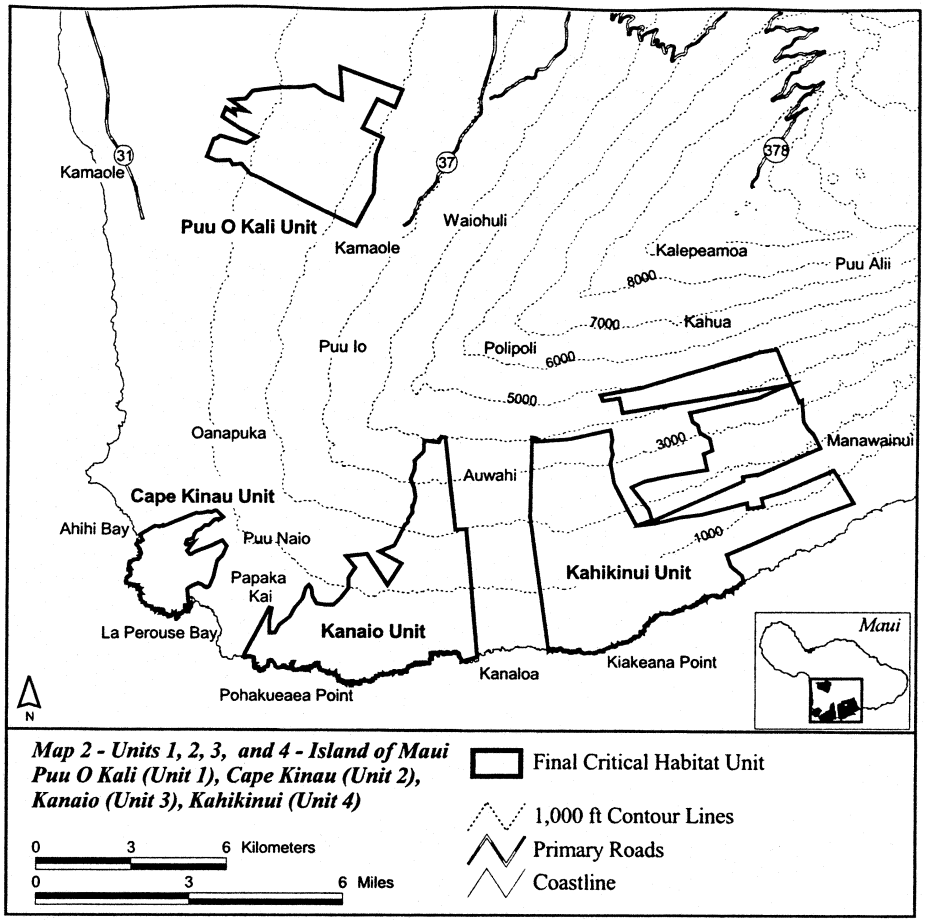
(B) Unit excludes an area (1 ha; 2 ac) consisting of the following 6 boundary points: 771887, 2277914; 771944, 2277910; 771986, 2277995; 771948, 2277989; 771909, 2277980; 771870, 2277975.

(C) NOTE: Unit 3 is depicted below on Map 2—Units 1, 2, 3, and 4—Island of Maui.

(v) Unit 4: Island of Maui, Kahikinui (4,799 ha; 11,859 ac):

(A) Unit 4 consists of the following 79 boundary points: 786068, 2283893; 786089, 2283760; 782956, 2282353; 783312, 2282399; 784167, 2282606; 784764, 2282682; 785521, 2282878; 786198, 2283068; 786227, 2282882; 786706, 2282953; 786657, 2283206; 787388, 2283424; 787555, 2283500; 788907, 2284087; 789388, 2283321; 789534, 2283053; 788185, 2282559; 786399, 2281761; 785563, 2281400; 785715, 2281039; 786057, 2280754; 786112, 2280548; 779950, 2278500; 779720, 2280135; 779703, 2280237; 779617, 2280887; 779412, 2282307; 779402, 2282377; 779372, 2282585; 779368, 2282602; 779376, 2282933; 779427, 2285142; 779549, 2285133; 779550, 2285007; 780604, 2285092; 781898, 2285373; 781956, 2285061; 781923, 2284848; 781966, 2284607; 781902, 2284320; 782032, 2283672; 782491, 2282783; 782731, 2282340; 783230, 2282514; 783112, 2282850; 782587, 2283565; 782996, 2283744; 783721, 2283912; 784941, 2284106; 784823, 2284611; 785088, 2284724; 785012, 2285109; 784719, 2285271; 784639, 2285526; 784482, 2285613; 784385, 2285910; 786498, 2286367; 787288, 2286710; 787415, 2286765; 787506, 2286804; 787311, 2286772; 782285, 2285909; 782162, 2286366; 781651, 2286291; 781569, 2286457; 782827, 2286695; 786589, 2287817; 787091, 2287913; 787800, 2286248; 787893, 2286297; 787957, 2285636; 788105, 2285388; 788261, 2285257; 788481, 2284803; 788363, 2284742; 786517, 2283943; 786510, 2283966; 786068, 2283893; 779965, 2278394. Coast.

(B) NOTE: Unit 4 is depicted on Map 2—Units 1, 2, 3, and 4—Island of Maui, which follows:



(vi) Unit 5: Island of Maui, Kanaha Pond (56 ha; 139 ac):

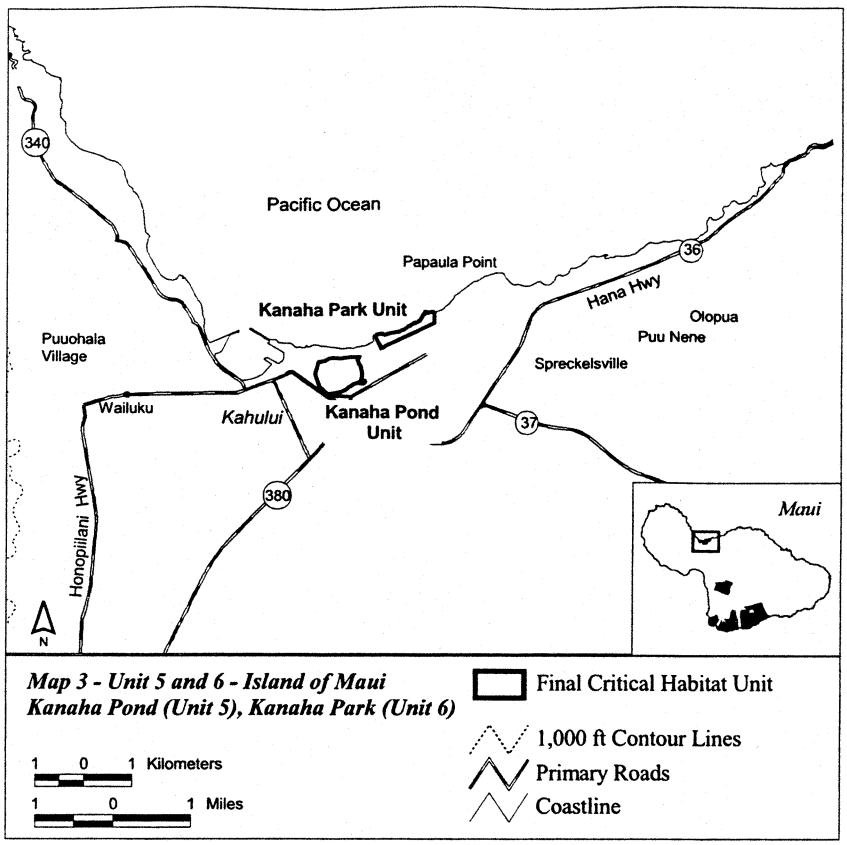
(A) Unit 5 consists of the following 35 boundary points: Start at 764695, 2312624; 764849, 2312615; 765062, 2312636; 765174, 2312639; 765226, 2312636; 765201, 2312573; 765221, 2312534; 765223, 2312502; 765259, 2312452; 765291, 2312304; 765287, 2312260; 765291, 2312223; 765281, 2312190; 765356, 2312144; 765352, 2312121; 765325, 2312090; 765284, 2312093; 765213, 2312118; 765183, 2312109; 765157, 2312091; 765106, 2312075; 765069, 2312044; 765036, 2312036; 764954, 2311971; 764872, 2311927; 764845, 2311912; 764588, 2311880; 764530, 2311946; 764474, 2311988; 764424, 2312038; 764390, 2312140; 764336, 2312293; 764397, 2312539; 764542, 2312565; 764615, 2312613; return to starting point.

(B) NOTE: Unit 5 is depicted below on Map 3—Units 5 and 6—Island of Maui.

(vii) Unit 6: Island of Maui, Kanaha Park (25 ha; 62 ac):

(A) Unit 6 consists of the following 7 boundary points: 766783, 2313583; 766781, 2313351; 766330, 2313141; 765776, 2312874; 765717, 2312838; 765689, 2312823; 765557, 2313073. Coast.

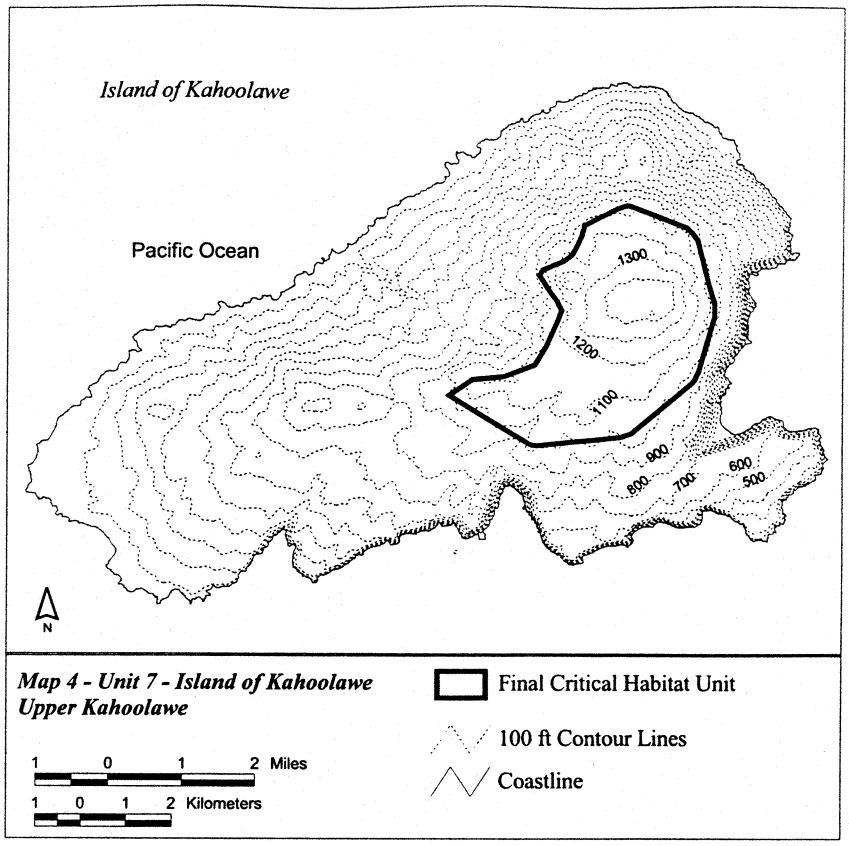
(B) NOTE: Unit 6 is depicted on Map 3—Units 5 and 6—Island of Maui, which follows:



(viii) Unit 7: Island of Kahoolawe, Upper Kahoolawe (1,721 ha; 4,252 ac):

(A) Unit 7 consists of the following 39 boundary points: Start at 751848, 2276600; 751944, 2276801; 752021, 2277051; 752708, 2277402; 752817, 2277444; 752922, 2277482; 753039, 2277468; 754266, 2276996; 754390, 2276868; 754486, 2276715; 754758, 2275711; 754871, 2275319; 754880, 2275141; 754868, 2275021; 754822, 2274844; 754523, 2273789; 754438, 2273635; 754364, 2273546; 754213, 2273418; 753057, 2272446; 752825, 2272362; 750995, 2272184; 750869, 2272206; 750787, 2272247; 749069, 2273302; 749575, 2273659; 750287, 2273729; 750943, 2273970; 751205, 2274403; 751431, 2274927; 751475, 2275037; 751531, 2275180; 751447, 2275330; 751428, 2275366; 751291, 2275543; 751032, 2275938; 751109, 2276062; 751570, 2276254; 751752, 2276408; return to starting point.

(B) NOTE: Unit 7 is depicted on Map 4—Unit 7—Island of Kahoolawe, which follows:



(ix) Unit 8: Island of Hawaii, Puuwaawaa—Hualalai (9,954 ha; 24,598 ac):

(A) Unit 8 consists of the following 449 boundary points: Start at 193748, 2193379; 193979, 2193518; 194022, 2193428; 194091, 2193386; 194109, 2193303; 194145, 2193281; 194185, 2193225; 194212, 2193188; 194225, 2193213; 194201, 2193260; 194232, 2193325; 194227, 2193356; 194266, 2193381; 194290, 2193366; 194306, 2193379; 194301, 2193431; 194281, 2193478; 194292, 2193504; 194286, 2193538; 194291, 2193598; 194328, 2193648; 194331, 2193666; 194320, 2193710; 194969, 2194077; 195027, 2194069; 195065, 2194098; 195121, 2194107; 195172, 2194152; 195231, 2194087; 195235, 2194013; 195256, 2193957; 195324, 2193909; 195378, 2193840; 195441, 2193804; 195564, 2193455; 195558, 2193407; 195590, 2193322; 195588, 2193245; 195641, 2193182; 195659, 2193134; 195645, 2193064; 195682, 2192983; 195722, 2192963; 195793, 2192836; 195838, 2192773; 195829, 2192664; 195844, 2192499; 195907, 2192445; 196009, 2192213; 196079, 2192144; 196061, 2192063; 196077, 2191999; 196121, 2191888; 196184, 2191891; 196196, 2191837; 196250, 2191837; 196287, 2191749; 196280, 2191681; 196331, 2191672; 196361, 2191560; 196379, 2191428; 196414, 2191446; 196473, 2191524; 196497, 2191624; 196494, 2191708; 196593, 2191768; 196656, 2191837; 196644, 2191885; 196593, 2192093; 196576, 2192195; 196596, 2192288; 196581, 2192409; 196566, 2192451; 196506, 2192484; 196397, 2192655; 196367, 2192770; 196427, 2192764; 196452, 2192703; 196581, 2192577; 196614, 2192547; 196623, 2192577; 196605, 2192634; 196608, 2192685; 196679, 2192667; 196749, 2192610; 196804, 2192476; 196831, 2192436; 196879, 2192403; 196885, 2192466; 196815, 2192586; 196717, 2192687; 196614, 2192809; 196241, 2193037; 196094, 2193227; 196003, 2193494; 195985, 2193759; 196088, 2193858; 195949, 2194099; 195958, 2194379; 195865, 2194469; 195811, 2194559; 196050, 2194687; 196076, 2194653; 196055, 2194610; 196109, 2194511; 196184, 2194505; 196223, 2194361; 196256, 2194337; 196322, 2194285; 196334, 2194171; 196370, 2194174; 196348, 2194291; 196379, 2194331; 196367, 2194427; 196363, 2194508; 196372, 2194578; 196427, 2194610; 196385, 2194670; 196314, 2194718; 196304, 2194841; 196831, 2195161; 196944, 2195021; 196930, 2194959; 197092, 2194830; 197104, 2194773; 197179, 2194752; 197273, 2194622; 197279, 2194550; 197361, 2194467; 197477, 2194325; 197573, 2194252; 197613, 2194177; 197654, 2194115;

197640, 2194033; 197654, 2193943; 197697, 2193753; 197750, 2193692; 197778, 2193488; 197871, 2193374; 197922, 2193401; 197995, 2193392; 198304, 2193109; 198362, 2193103; 198518, 2192944; 198584, 2192854; 198620, 2192761; 198680, 2192715; 198716, 2192658; 198731, 2192586; 198801, 2192589; 198879, 2192547; 198921, 2192493; 199051, 2192352; 199101, 2192412; 199177, 2192324; 199171, 2192201; 199246, 2192141; 199252, 2192243; 199294, 2192252; 199303, 2192291; 199225, 2192348; 199243, 2192397; 199186, 2192439; 199156, 2192529; 199084, 2192566; 199047, 2192643; 198948, 2192736; 198956, 2192786; 198949, 2192835; 198931, 2192888; 198913, 2192924; 198819, 2192954; 198760, 2192979; 198741, 2193028; 198777, 2193070; 198746, 2193098; 198718, 2193126; 198730, 2193180; 198683, 2193290; 198609, 2193325; 198679, 2193472; 198648, 2193542; 198669, 2193598; 198623, 2193633; 198602, 2193685; 198553, 2193675; 198480, 2193748; 198442, 2193839; 198494, 2193857; 198550, 2193860; 198819, 2193594; 198819, 2193514; 198882, 2193479; 198872, 2193388; 198872, 2193252; 198861, 2193199; 198844, 2193143; 198935, 2193063; 198981, 2193027; 199010, 2192968; 199103, 2193492; 199103, 2193552; 199015, 2193608; 198931, 2193619; 198910, 2193717; 198753, 2193867; 198735, 2193951; 198805, 2193972; 198889, 2193941; 198942, 2193853; 199005, 2193794; 199050, 2193829; 199001, 2193880; 199029, 2193930; 199092, 2193962; 199110, 2194004; 199025, 2194133; 199012, 2194241; 198896, 2194308; 198861, 2194399; 198799, 2194485; 198862, 2194479; 198938, 2194378; 199015, 2194329; 198987, 2194392; 198934, 2194434; 198931, 2194472; 198798, 2194560; 198795, 2194672; 198749, 2194749; 198623, 2194860; 198553, 2194937; 198550, 2195004; 198637, 2195060; 198683, 2195074; 198746, 2195175; 198714, 2195256; 198707, 2195340; 198588, 2195399; 198497, 2195417; 198402, 2195429; 198344, 2195490; 198302, 2195511; 198274, 2195563; 198179, 2195584; 198172, 2195658; 198127, 2195703; 198641, 2195878; 198662, 2195829; 198714, 2195780; 198732, 2195665; 198809, 2195633; 198970, 2195626; 199047, 2195549; 199075, 2195469; 199141, 2195427; 199087, 2195235; 199101, 2195127; 199124, 2194955; 199208, 2194840; 199267, 2194675; 199270, 2194567; 199260, 2194504; 199263, 2194437; 199310, 2194460; 199347, 2194479; 199306, 2194541; 199326, 2194591; 199424, 2194595; 199508, 2194525; 199522, 2194441; 199582, 2194392; 199598, 2194329; 199643, 2194295; 199662, 2194406; 199599, 2194462; 199596, 2194588; 199515, 2194853; 199368, 2195011; 199260, 2195319; 199312, 2195434; 199235, 2195476; 199274, 2195696; 199169, 2195847; 199138, 2195938; 199071, 2196039; 199663, 2196234; 199977, 2195921; 200985, 2194989; 201320, 2194454; 201268, 2194305; 201289, 2194176; 201150, 2193708; 201809, 2193212; 202487, 2192751; 202713, 2192557; 202794, 2192559; 203007, 2192869; 203088, 2192979; 203136, 2192967; 203139, 2192921; 203197, 2192911; 203224, 2192943; 203218, 2192991; 203264, 2193014; 203275, 2193130; 203278, 2193165; 203253, 2193224; 203277, 2193250; 203296, 2193248; 203321, 2193200; 203355, 2193261; 203340, 2193353; 203398, 2193434; 203487, 2193372; 203534, 2193296; 203580, 2193267; 203611, 2193247; 203631, 2193197; 203661, 2193126; 203650, 2193032; 203644, 2192994; 203649, 2192943; 203665, 2192930; 203692, 2192935; 203681, 2193005; 203695, 2193038; 203743, 2193045; 203751, 2193024; 203738, 2192991; 203747, 2192970; 203800, 2192948; 203810, 2192905; 203819, 2192867; 203833, 2192838; 203878, 2192830; 203916, 2192790; 203944, 2192724; 203935, 2192680; 203951, 2192655; 203968, 2192628; 203952, 2192587; 203978, 2192535; 203975, 2192477; 203992, 2192466; 204025, 2192444; 204044, 2192404; 204086, 2192392; 204133, 2192395; 204170, 2192417; 204186, 2192474; 204162, 2192528; 204130, 2192602; 204129, 2192641; 204081, 2192714; 204046, 2192717; 204022, 2192755; 204021, 2192835; 204057, 2192840; 204076, 2192827; 204105, 2192829; 204151, 2192846; 204218, 2192835; 204283, 2192808; 204311, 2192754; 204327, 2192655; 204350, 2192684; 204434, 2192709; 204459, 2192700; 204478, 2192684; 204469, 2192614; 204482, 2192593; 204485, 2192570; 204478, 2192547; 204485, 2192512; 204523, 2192529; 204540, 2192511; 204553, 2192479; 204294, 2191977; 203325, 2189871; 203670, 2189403; 203884, 2188867; 203876, 2188804; 204461, 2186966; 204241, 2186814; 203491, 2186573; 202905, 2186615; 201914, 2186332; 201935, 2186229; 201876, 2186192; 201969, 2186029; 201914, 2185947; 201962, 2185871; 201921, 2185754; 201866, 2185830; 201776, 2185816; 201838, 2185534; 201270, 2183971; 200424, 2183478; 194641, 2182859; 194391, 2182952; 194378, 2183030; 194326, 2183157; 194456, 2183246; 194375, 2183319; 194389, 2183392; 194641, 2183400; 195006, 2183522; 195441, 2183574; 195719, 2183591; 196066, 2183591; 196362, 2183670; 196372, 2183812; 195923, 2185051; 195805, 2185370; 195527, 2186175; 195324, 2186794; 195333, 2187189; 195544, 2187388; 195515, 2187690; 195450, 2187775; 193517, 2187814; 192035, 2187735; 191436, 2188145; 191395, 2188201; 191330, 2188228; 191183, 2188413; 191053, 2188549; 192020, 2188888; 192202, 2189030; 192137, 2189101; 192046, 2189432; 191945, 2189652; 191926, 2189817; 192000, 2189918; 191994, 2190055; 192009, 2190194; 191926, 2190322; 191954, 2190387; 191972, 2190616; 191961, 2190800; 191953, 2190938; 191917, 2191094; 191981, 2191296; 191943, 2191461; 191923, 2191548; 191871, 2191672; 191850, 2191864; 191834, 2192269; return to starting point.

(B) This unit excludes three areas:

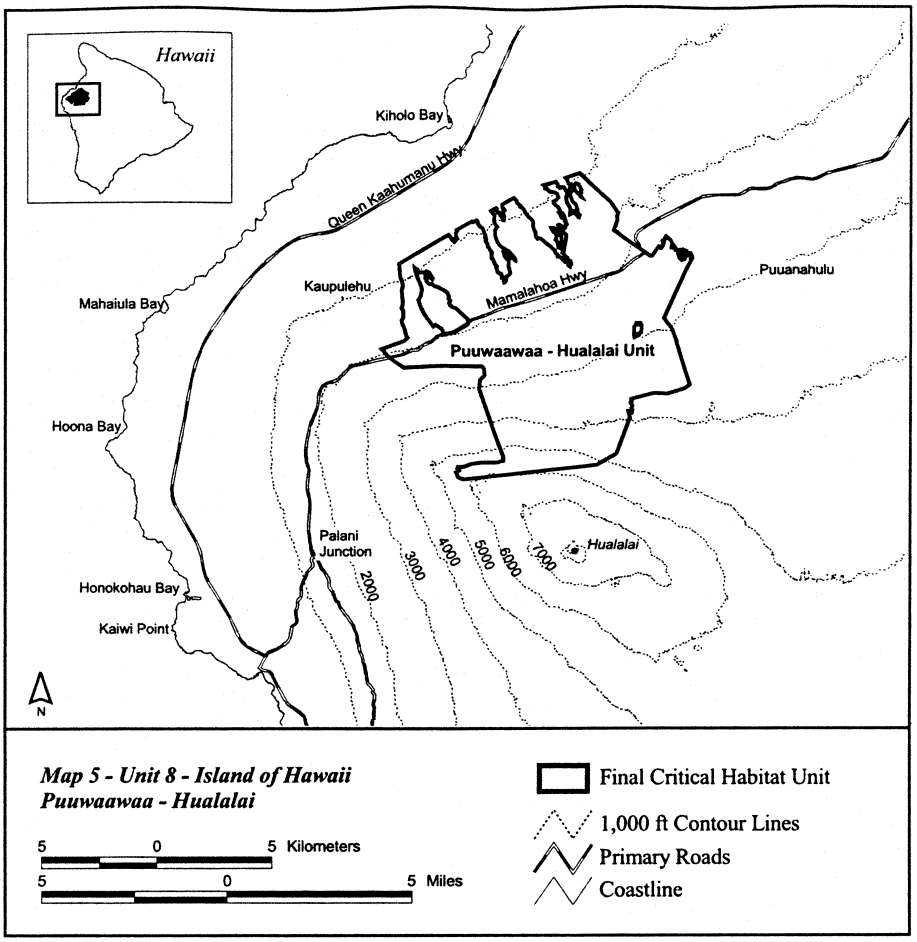
(*1*) Unit excludes an area (292 ha; 723 ac) consisting of the following 53 boundary points: Start at 194866, 2189663; 194567, 2189462; 194355, 2189326; 194325, 2189306; 194187, 2189261; 193786, 2189183; 193790, 2189211; 193677, 2189413; 193430, 2189605; 193325, 2189528; 192941, 2190012; 192773, 2190361; 192668, 2190673; 192763, 2190854; 192807, 2191149; 192721, 2191436; 192600, 2191671; 192527, 2191928; 192513, 2192089; 192642, 2191999; 192658, 2191915; 192697, 2191881; 192913, 2191886; 193004, 2191923; 193133, 2191855; 193180, 2191784; 193280, 2191621; 193278, 2191563; 193175, 2191653; 193109, 2191763; 193075, 2191789; 192949, 2191779; 192960, 2191622; 193028, 2191556; 193012, 2191490; 193102, 2191393; 193291, 2191346; 193364, 2191272; 193540, 2191230; 193782, 2191099; 193918, 2190994; 193958, 2190933; 193989, 2190799; 193984, 2190718; 194048, 2190643; 194008, 2190547; 194039, 2190466; 194149, 2190358; 194304, 2190298; 194449, 2190177; 194695, 2189967; 194808, 2189833; 194848, 2189683; return to starting point.

(*2*) Unit excludes an area (15 ha; 38 ac) consisting of the following 12 boundary points: Start at 202034, 2189562; 202141, 2189566; 202153, 2189649; 202308, 2189645; 202298, 2189564; 202339, 2189548; 202329, 2189219; 202193, 2189187; 202230,

2189088; 202042, 2189024; 202020, 2189151; 202024, 2189554; return to starting point.

(*3*) Unit excludes an area (11 ha; 28 ac) consisting of the following 23 boundary points: Start at 199447, 2195793; 199533, 2195796; 199635, 2195736; 199639, 2195696; 199701, 2195643; 199708, 2195591; 199713, 2195537; 199743, 2195499; 199737, 2195444; 199746, 2195368; 199725, 2195312; 199732, 2195273; 199753, 2195207; 199772, 2195162; 199732, 2195181; 199706, 2195245; 199646, 2195283; 199615, 2195345; 199573, 2195368; 199509, 2195416; 199449, 2195478; 199437, 2195611; 199430, 2195734; return to starting point.

(C) NOTE: Unit 8 is depicted on Map 5–Unit 8—Island of Hawaii, which follows:



(x) Unit 9: Island of Molokai, Kamoko Flats—Puukolekole (1,256 ha; 3,105 ac):

(A) Unit 9 consists of the following 170 boundary points: Start at 713960, 2337883; 713787, 2337815; 713641, 2337737; 713587, 2337686; 713542, 2337635; 713525, 2337608; 713514, 2337604; 713488, 2337574; 713275, 2337497; 713260, 2337442; 713302, 2337415; 713444, 2337400; 713651, 2337482; 713677, 2337507; 713828, 2337580; 713834, 2337585; 713841, 2337587; 713989, 2337659; 714006, 2337664; 714030, 2337681; 714036, 2337674; 714090, 2337691; 714150, 2337601; 714065, 2337490; 714169, 2337531; 714182, 2337553; 714217, 2337500; 714313, 2337356; 714267, 2337327; 713658, 2336950; 713641, 2336937; 713639, 2336938; 713638, 2336937; 713592, 2336909; 713171, 2337020; 713128, 2337025; 713101, 2337039; 712948, 2337083; 712768, 2337134; 712739, 2337127; 712714, 2337150; 712707, 2337152; 712647, 2337156;

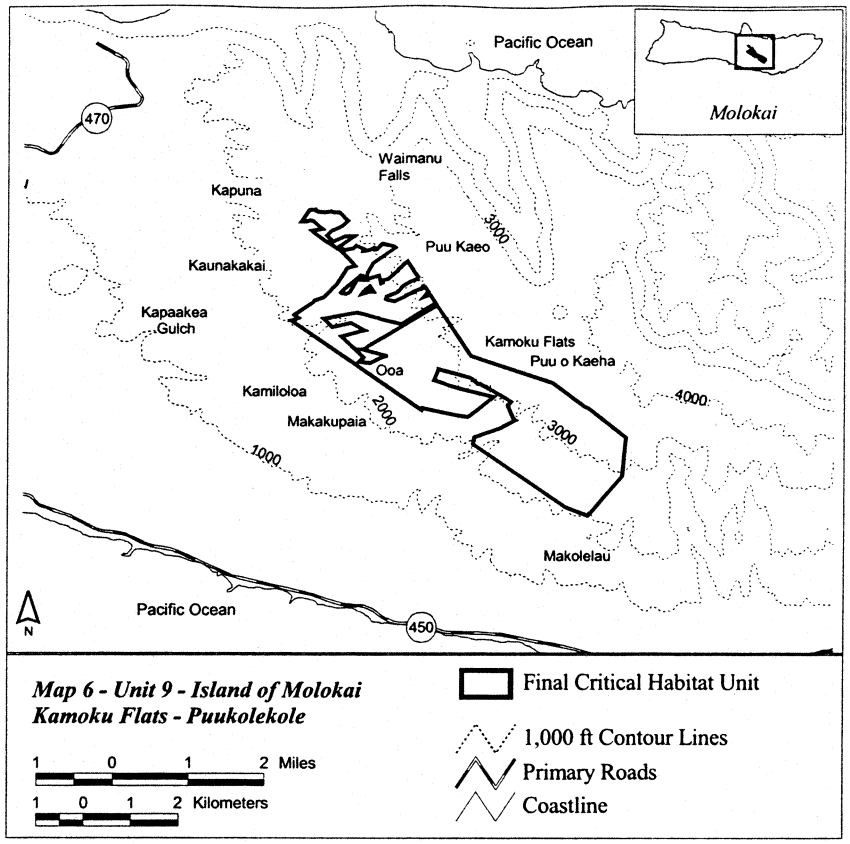
711929, 2337023; 712115, 2336844; 712527, 2336930; 712811, 2336772; 712314, 2336653; 712783, 2336203; 712700, 2336108; 712785, 2336093; 712927, 2336085; 713147, 2336184; 713257, 2336224; 713265, 2336238; 712778, 2336365; 712783, 2336372; 712923, 2336457; 713217, 2336633; 714333, 2337309; 714341, 2337313; 715056, 2336242; 715073, 2336232; 716805, 2335668; 717490, 2335146; 717565, 2335112; 718350, 2334490; 718276, 2333666; 717554, 2332806; 717447, 2332851; 717080, 2333001; 716796, 2333195; 715114, 2334345; 715139, 2334491; 715684, 2334688; 716000, 2334857; 715980, 2334880; 715849, 2335177; 715914, 2335254; 715842, 2335306; 715274, 2335635; 715213, 2335636; 715076, 2335749; 715046, 2335773; 714377, 2335948; 714372, 2335938; 714373, 2335938; 714280, 2335711; 714494, 2335653; 714617, 2335594; 714901, 2335519; 715544, 2335359; 715547, 2335358; 715174, 2335053; 715005, 2334932; 714716, 2334982; 714205, 2335078; 714040, 2335127; 714024, 2335088; 711244, 2336986; 711354, 2337009; 711401, 2337037; 711322, 2337112; 711727, 2337380; 711733, 2337403; 711948, 2337483; 712220, 2337776; 712433, 2338103; 712602, 2338152; 712517, 2338265; 712284, 2338486; 711968, 2338683; 711759, 2338845; 711681, 2338900; 711900, 2338941; 711710, 2339118; 711642, 2339123; 711579, 2339096; 711465, 2339097; 711625, 2339356; 711763, 2339365; 711777, 2339323; 711817, 2339308; 711969, 2339303; 712089, 2339324; 712130, 2339297; 712272, 2339304; 712447, 2339115; 712346, 2339007; 712231, 2338953; 712098, 2338911; 712002, 2338805; 712132, 2338664; 712392, 2338783; 712579, 2338783; 712421, 2338675; 712279, 2338579; 712353, 2338489; 712568, 2338528; 712635, 2338591; 712780, 2338508; 712777, 2338472; 712895, 2338488; 713001, 2338534; 713003, 2338502; 713072, 2338512; 713177, 2338629; 713424, 2338561; 713452, 2338533; 712978, 2338207; 712867, 2337997; 712845, 2337873; 713121, 2337952; 713150, 2337771; 713181, 2337784; 713184, 2337801; 713189, 2337803; 713196, 2337826; 713191, 2337829; 713197, 2337831; 713204, 2337853; 713303, 2337864; 713482, 2338023; 713503, 2338044; 713520, 2338067; 713525, 2338081; 713557, 2338108; 713664, 2338205; 713713, 2338254; 713731, 2338228; return to starting point.

(B) This unit excludes two areas:

(*1*) Unit excludes an area (2 ha; 4 ac) consisting of the following 5 boundary points: Start at 712804, 2337632; 712923, 2337724; 712990, 2337608; 712917, 2337600; 712748, 2337553; return to starting point.

(*2*) Unit excludes an area (5 ha; 13 ac) consisting of the following 10 boundary points: Start at 712742, 2337968; 712839, 2337857; 712748, 2337850; 712646, 2337870; 712632, 2337823; 712481, 2337590; 712425, 2337550; 712313, 2337564; 712299, 2337574; 712360, 2337661; return to starting point.

(C) NOTE: Unit 9 is depicted on Map 6–Unit 9–Island of Molokai, which follows:

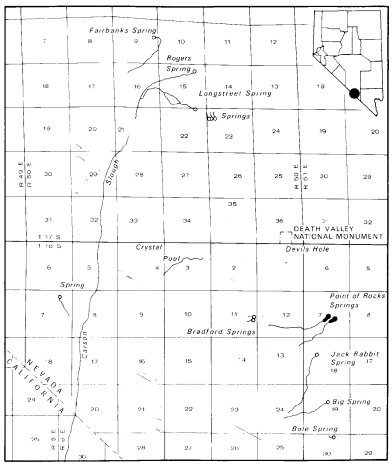


ASH MEADOWS NAUCORID (*Ambrysus amargosus*)

Nevada, Nye County, Point of Rocks Springs and their immediate outflows in SE¼ sec. 7, T18S, R51E.

Known primary constituent elements include flowing warm water over rock and gravel substrate.

NOTE: Map follows:



LAGUNA MOUNTAINS SKIPPER (*Pyrgus ruralis lagunae*)

(1) Critical habitat units are depicted for San Diego County, California, on the maps below.

(2) The primary constituent elements of critical habitat for the Laguna Mountains skipper are the habitat components that provide:

(i) The hostplants, *Horkelia clevelandii* or *Potentilla glandulosa*, which are needed for reproduction, in meadows or forest openings.

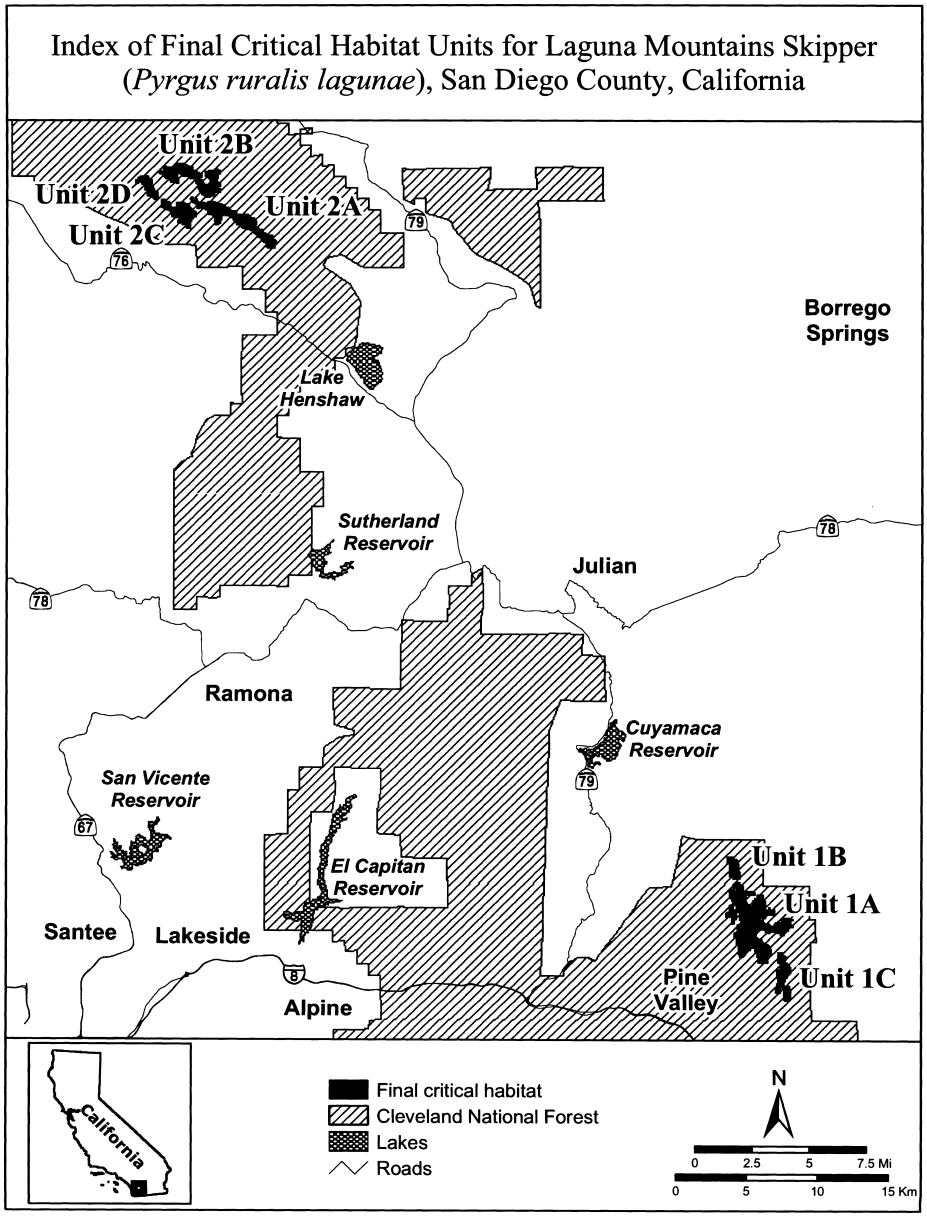
(ii) Nectar sources suitable for feeding by adult Laguna Mountains skipper, including *Lasthenia* spp., *Pentachaeta aurea*, *Ranunculus* spp., and *Sidalcea* spp., found in woodlands or meadows.

(iii) Wet soil or standing water associated with features such as seeps, springs, or creeks where water and minerals are obtained during the adult flight season.

(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) Data layers defining map units were created on a base of USGS 1:24,000 quadrangle maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) NOTE: Map 1 (index map) follows:



(6) Unit 1: Laguna Mountain, San Diego County, California. From USGS 1:24,000 quadrangle maps Monument Peak and Mount Laguna.

(i) Subunit 1A: lands bounded by the following UTM NAD27 coordinates (E,N): 551900, 3635400; 551900, 3635600; 551800, 3635600; 551800, 3635300; 552000, 3635300; 552000, 3634900; 551800, 3634900; 551800, 3635000; 551600, 3635000; 551600, 3634900; 551400, 3634900; 551400, 3635300; 551300, 3635300; 551300, 3635600; 551200, 3635600; 551200, 3635700; 551100, 3635700; 551100, 3636000; 551000,

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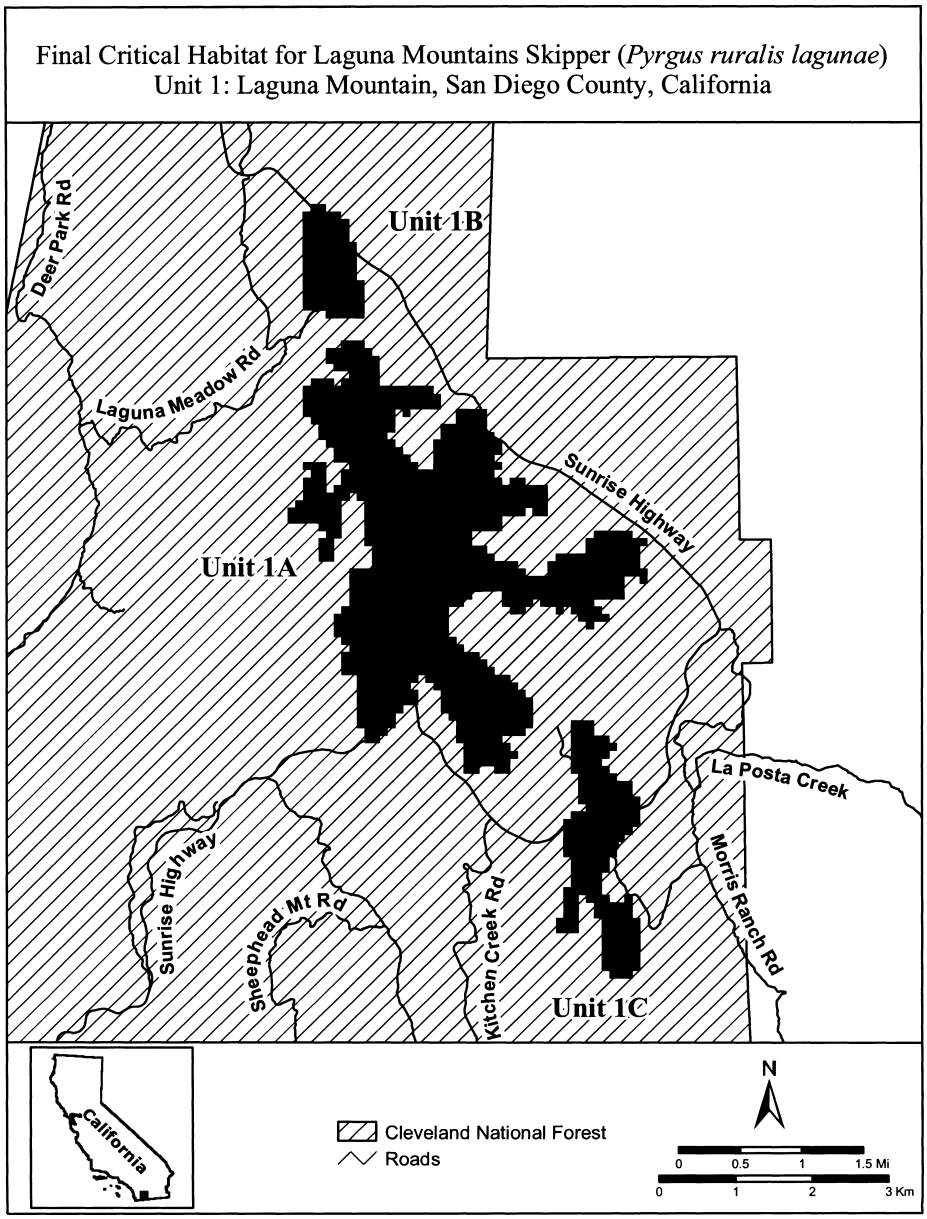
(ii) Subunit 1B: lands bounded by the following UTM NAD27 coordinates (E,N): 549300, 3642300; 549400, 3642300; 549400, 3642400; 549600, 3642400; 549600, 3642300; 549800, 3642300; 549800, 3642200; 549900, 3642200; 549900, 3641900; 550000, 3641900; 550000, 3641400; 550100, 3641400; 550100, 3640900; 549600, 3640900; 549600, 3641000; 549300, 3641000; 549300, 3642300.

(iii) Subunit 1C: lands bounded by the following UTM NAD27 coordinates (E,N): 553000, 3634400; 553000, 3634500; 552900, 3634500; 552900, 3634900; 552800, 3634900; 552800, 3635600; 553100, 3635600; 553100, 3635400; 553300, 3635400; 553300, 3635300; 553400, 3635300; 553400, 3635200; 553300, 3635200; 553300, 3635100; 553200, 3635100; 553200, 3635000; 553300, 3635000; 553300, 3634900; 553400, 3634900; 553400, 3634800; 553600, 3634800; 553600, 3634600; 553700, 3634600; 553700, 3634200; 553600, 3634200; 553600, 3634100; 553500, 3634100; 553500, 3634000; 553400, 3634000; 553400, 3633800; 553300, 3633800; 553300, 3633600; 553200, 3633600; 553200, 3633300; 553300, 3633300; 553300, 3633200; 553500, 3633200; 553500, 3633300; 553600, 3633300; 553600, 3633000; 553700, 3633000; 553700, 3632300; 553600, 3632300; 553600, 3632200; 553300, 3632200; 553300, 3632300; 553200, 3632300; 553200, 3633000; 553100, 3633000; 553100, 3633200; 553000, 3633200; 553000, 3633300; 552900, 3633300; 552900, 3632800; 552600, 3632800; 552600, 3633000; 552700, 3633000; 552700, 3633400; 552800, 3633400; 552800, 3633800; 552700, 3633800; 552700, 3634300; 552800, 3634300; 552800, 3634400; 553000, 3634400.

(iv) NOTE: Map of Unit 1 (Map 2, Subunits 1A, 1B, and 1C) follows:



(7) Unit 2: Palomar Mountain, San Diego County, California. From USGS 1:24,000 quadrangle maps Boucher Hill and Palomar Observatory.

(i) Subunit 2A: lands bounded by the following UTM NAD27 coordinates (E, N): 511300, 3689300; 511400, 3689300; 511400, 3689200; 511600, 3689200; 511600, 3689100; 511700, 3689100; 511700, 3689000; 511800, 3689000; 511800, 3688900; 512300, 3688900; 512300, 3688800; 512400, 3688800; 512400, 3689000; 512900, 3689000; 512900, 3688900; 513200, 3688900; 513200, 3688800; 513400, 3688800;

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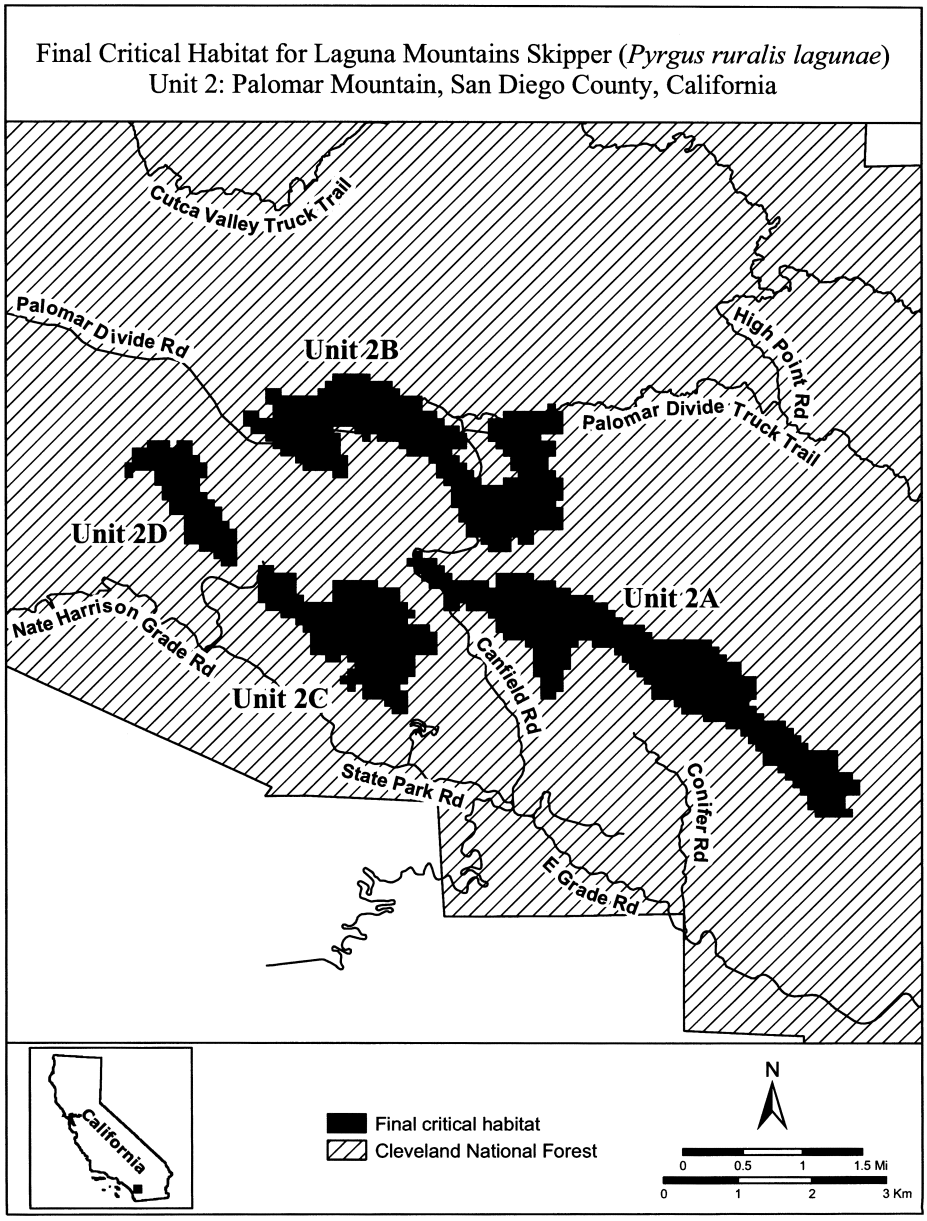
(ii) Subunit 2B: lands bounded by the following UTM NAD27 coordinates (E,N): 513000, 3690900; 513000, 3690800; 513200, 3690800; 513200, 3690600; 513100, 3690600; 513100, 3690400; 513200, 3690400; 513200, 3690300; 513300, 3690300; 513300, 3690000; 513200, 3690000; 513200, 3689900; 513300, 3689900; 513300, 3689600; 512900, 3689600; 512900, 3689400; 512700, 3689400; 512700, 3689500; 512600, 3689500; 512600, 3689300; 512300, 3689300; 512300, 3689400; 512200, 3689400; 512200, 3689500; 512000, 3689500; 512000, 3689700; 511900, 3689700; 511900, 3689900; 511800, 3689900; 511800, 3690200; 511700, 3690200; 511700, 3690300; 511600, 3690300; 511600, 3690500; 511500, 3690500; 511500, 3690600; 511200, 3690600; 511200, 3690700; 511100, 3690700; 511100, 3690800; 510800, 3690800; 510800, 3690900; 510700, 3690900; 510700, 3690800; 510600, 3690800; 510600, 3690900; 510500, 3690900; 510500, 3691000; 510200, 3691000; 510200, 3690900; 510300, 3690900; 510300, 3690600; 510400, 3690600; 510400, 3690300; 510200, 3690300; 510200, 3690400; 509800, 3690400; 509800, 3690500; 509700, 3690500; 509700, 3690600; 509500, 3690600; 509500, 3690700; 509400, 3690700; 509400, 3690800; 509300, 3690800; 509300, 3690900; 509100, 3690900; 509100, 3691000; 509000, 3691000; 509000, 3691200; 509200, 3691200; 509200, 3691100; 509400, 3691100; 509400, 3691300; 509300, 3691300; 509300, 3691500; 509500, 3691500; 509500, 3691400; 510000, 3691400; 510000, 3691500; 510100, 3691500; 510100, 3691600; 510200, 3691600; 510200, 3691700; 510700, 3691700; 510700, 3691600; 511000, 3691600; 511000, 3691500; 511100, 3691500; 511100, 3691400; 511400, 3691400; 511400, 3691200; 511600, 3691200; 511600, 3691100; 511700, 3691100; 511700, 3691000; 511900, 3691000; 511900, 3690900; 512000, 3690900; 512000, 3690700; 511800, 3690700; 511800, 3690600; 511900, 3690600; 511900, 3690500; 512000, 3690500; 512000, 3690400; 512100, 3690400; 512100, 3690300; 512200, 3690300; 512200, 3690200; 512500, 3690200; 512500, 3690300; 512700, 3690300; 512700, 3690400; 512600, 3690400; 512600, 3690600; 512500, 3690600; 512500, 3690700; 512400, 3690700; 512400, 3690800; 512300, 3690800; 512300, 3691100; 512500, 3691100; 512500, 3691200; 513100, 3691200; 513100, 3691300; 513200, 3691300; 513200, 3691200; 513300, 3691200; 513300, 3690900; 513000, 3690900; excluding lands bounded by the following UTM NAD27 coordinates (E,N): 509900, 3691000; 510100, 3691000; 510100, 3690900; 510000, 3690900; 510000, 3690800; 509900, 3690800; 509900, 3691000; and 512800, 3691000; 513000, 3691000; 513000, 3690900; 512800, 3690900; 512800, 3691000.

(iii) Subunit 2C: lands bounded by the following UTM NAD27 coordinates (E, N): 509200, 3689100; 509400, 3689100; 509400, 3689000; 509700, 3689000; 509700, 3688700; 509800, 3688700; 509800, 3688600; 510200, 3688600; 510200, 3688900; 510800, 3688900; 510800, 3688800; 511100, 3688800; 511100, 3688600; 511200, 3688600; 511200, 3688500; 511300, 3688500; 511300, 3688400; 511200, 3688400; 511200, 3688300; 511500, 3688300; 511500, 3688200; 511600, 3688200; 511600, 3687900; 511300, 3687900; 511300, 3687600; 511200, 3687600; 511200, 3687500; 511100, 3687500; 511100, 3687400; 511200, 3687400; 511200, 3687100; 511000, 3687100; 511000, 3687200; 510900, 3687200; 510900, 3687300; 510600, 3687300; 510600, 3687500; 510500, 3687500; 510500, 3687400; 510400, 3687400; 510400, 3687500; 510300, 3687500; 510300, 3687600; 510400, 3687600; 510400, 3687700; 510500, 3687700; 510500, 3687800; 510400, 3687800; 510400, 3687900; 510300, 3687900; 510300, 3687800; 510100, 3687800; 510100, 3687900; 509900, 3687900; 509900, 3688200; 509800, 3688200; 509800, 3688300; 509700, 3688300; 509700, 3688400; 509500, 3688400; 509500, 3688500; 509300, 3688500; 509300, 3688600; 509200, 3688600; 509200, 3689100.

(iv) Subunit 2D: lands bounded by the following UTM NAD27 coordinates (E,N): 507700, 3690800; 508000, 3690800; 508000, 3690700; 508100, 3690700; 508100, 3690800; 508300, 3690800; 508300, 3690600; 508400, 3690600; 508400, 3690500; 508500, 3690500; 508500, 3690300; 508400, 3690300; 508400, 3690100; 508500, 3690100; 508500, 3690000; 508600, 3690000; 508600, 3689900; 508700, 3689900; 508700, 3689700; 508800, 3689700; 508800, 3689600; 508900, 3689600; 508900, 3689100; 508700, 3689100; 508700, 3689200; 508600, 3689200; 508600, 3689300; 508400, 3689300; 508400, 3689400; 508200, 3689400; 508200, 3689800; 508000, 3689800; 508000, 3690000; 507900, 3690000; 507900, 3690200; 507800, 3690200; 507800, 3690400; 507500, 3690400; 507500, 3690300; 507400,

3690300; 507400, 3690500; 507500, 3690500; 507500, 3690700; 507700, 3690700; 507700, 3690800.

(v) NOTE: Map of Unit 2 (Map 3, Subunits 2A, 2B, 2C, and 2D) follows:



[42 FR 47840, Sept. 22, 1977]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 17.95, see the List of CFR

Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.fdsys.gov*.

EFFECTIVE DATE NOTE: At 78 FR 59584, Sept. 26, 2013, § 17.95(f) was amended by adding entries for ''Fluted Kidneyshell (*Ptychobranchus subtentum*)'' and ''Slabside Pearlymussel (*Pleuronaia dolabelloides*)'' in that order immediately following the entry for Altamaha spinymussel (*Elliptio spinosa*), effective Oct. 28, 2013. For the convenience of the user, the added text is set forth as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(f) *Clams and Snails.*

* * * * *

FLUTED KIDNEYSHELL (PTYCHOBRANCHUS SUBTENTUM)

(1) Critical habitat units are depicted on the maps below for Limestone County, Alabama; Jackson, Laurel, McCreary, Pulaski, Rockcastle, and Wayne Counties, Kentucky; Bedford, Claiborne, Cocke, Fentress, Franklin, Giles, Grainger, Greene, Hamblen, Hancock, Hickman, Humphreys, Jefferson, Knox, Lincoln, Marshall, Maury, Moore, Morgan, Overton, Perry, Pickett, Polk, Scott, and Sevier Counties, Tennessee; and Bland, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wythe Counties, Virginia.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of fluted kidneyshell consist of five components:

(i) Riffle habitats within large, geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of sand, gravel, and cobble with low to moderate amounts of fine sediment and containing flow refugia with low shear stress.

(iii) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found, and connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability for all life stages, and spawning habitat for native fishes.

(iv) Water quality with low levels of pollutants and including a natural temperature regime, pH (between 6.0 to 8.5), oxygen content (not less than 5.0 milligrams/liter), hardness, and turbidity necessary for normal behavior, growth, and viability of all life stages.

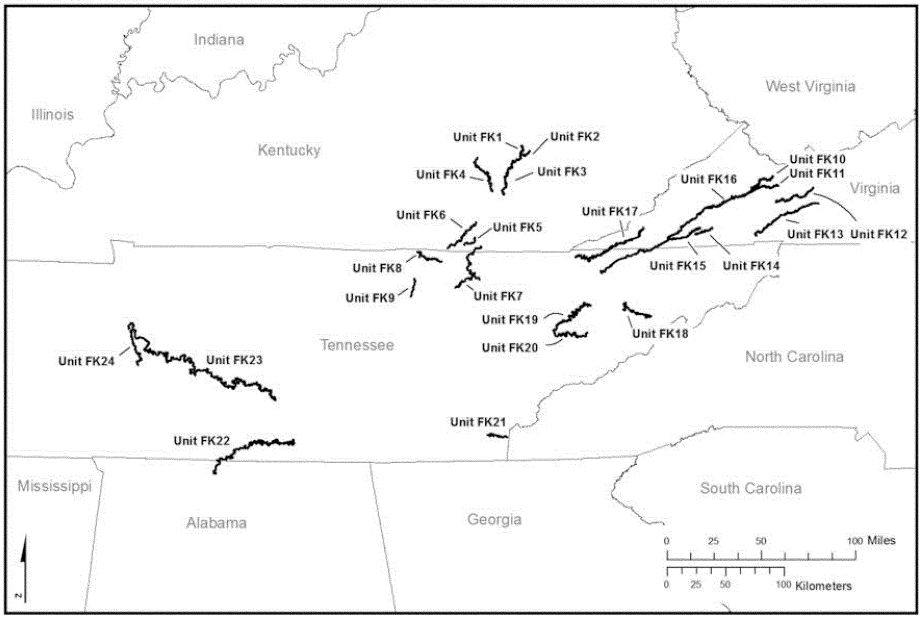
(v) The presence of abundant fish hosts, which may include the barcheek darter, fantail darter, rainbow darter, redline darter, bluebreast darter, dusky darter and banded sculpin, necessary for recruitment of the fluted kidneyshell.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on October 28, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created with USGS National Hydrography Dataset (NHD^+) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. ESRIs ArcGIS 10.0 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was USA Contiguous Albers Equal Area Conic USGS version, NAD 83, meters. The following data sources were referenced to identify features (like roads and streams) used to delineate the upstream and downstream extents of critical habitat units: NHD^+ flowline and waterbody data, 2011 Navteq roads data, USA Topo ESRI online basemap service, DeLorme Atlas and Gazetteers, and USGS 7.5 minute topographic maps. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the field office Internet site (*http://www.fws.gov/cookeville*), at *http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0026, and at the Service's Tennessee Fish and Wildlife Office. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) An overview of critical habitat locations for the fluted kidneyshell in Alabama, Tennessee, Kentucky, and Virginia follows:

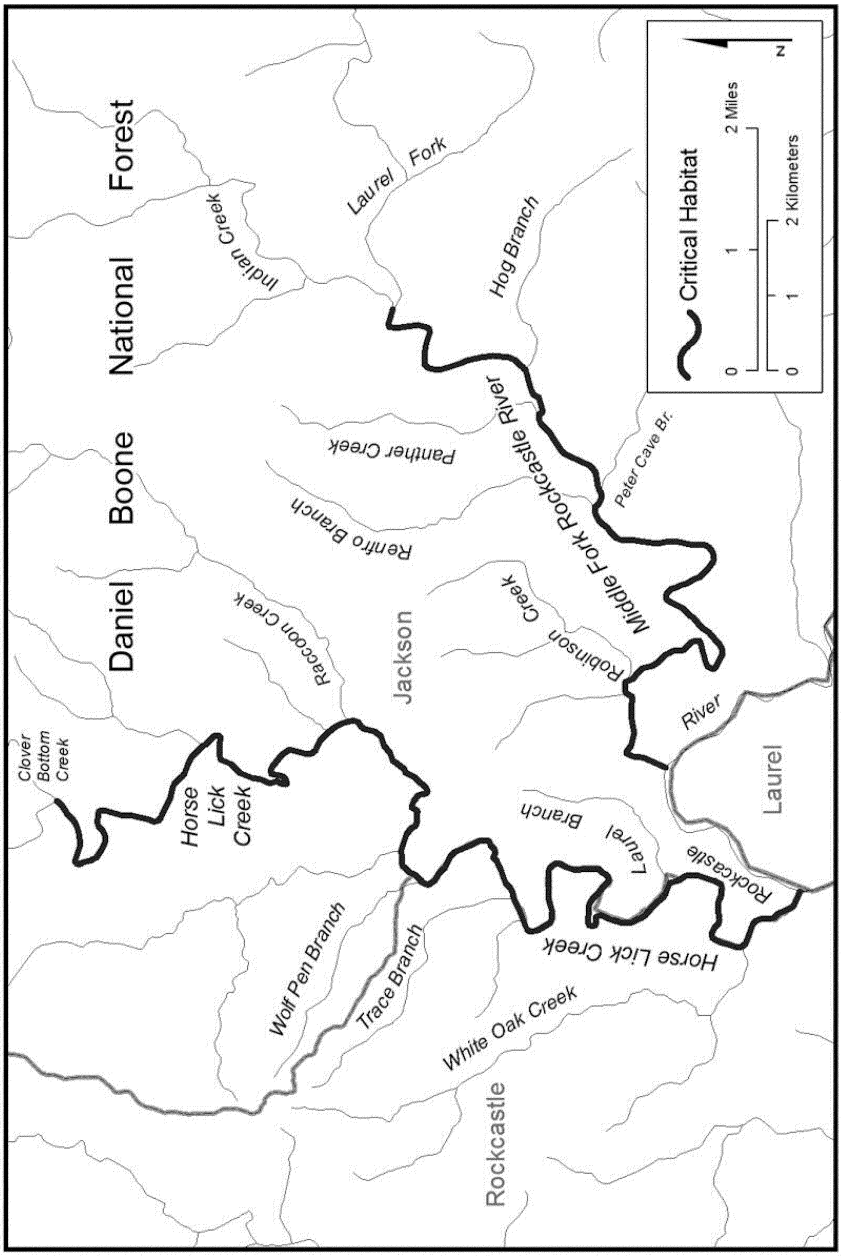
Overview of Critical Habitat Locations for the Fluted Kidneyshell in Alabama, Tennessee, Kentucky, and Virginia



(6) Unit FK1: Horse Lick Creek, Rockcastle and Jackson Counties, Kentucky.

(i) The unit includes approximately 19 river kilometers (rkm) (12 river miles (rmi)) of Horse Lick Creek, in Rockcastle and Jackson Counties, KY. It includes the mainstem of Horse Lick Creek from its confluence with the Rockcastle River (−84.13780, 37.31991) upstream to Clover Bottom Creek (−84.12200, 37.40879).

(ii) Map of Units FK1 and FK2 follows:



(7) Unit FK2: Middle Fork Rockcastle River, Jackson County, Kentucky.

(i) The unit includes 12.5 rkm (7.7 rmi) of the Middle Fork Rockcastle River from its confluence with the Rockcastle River (−84.11895, 37.33581) upstream to its confluence with Indian Creek and Laurel Fork (−84.04897, 37.36765) in Jackson County, KY.

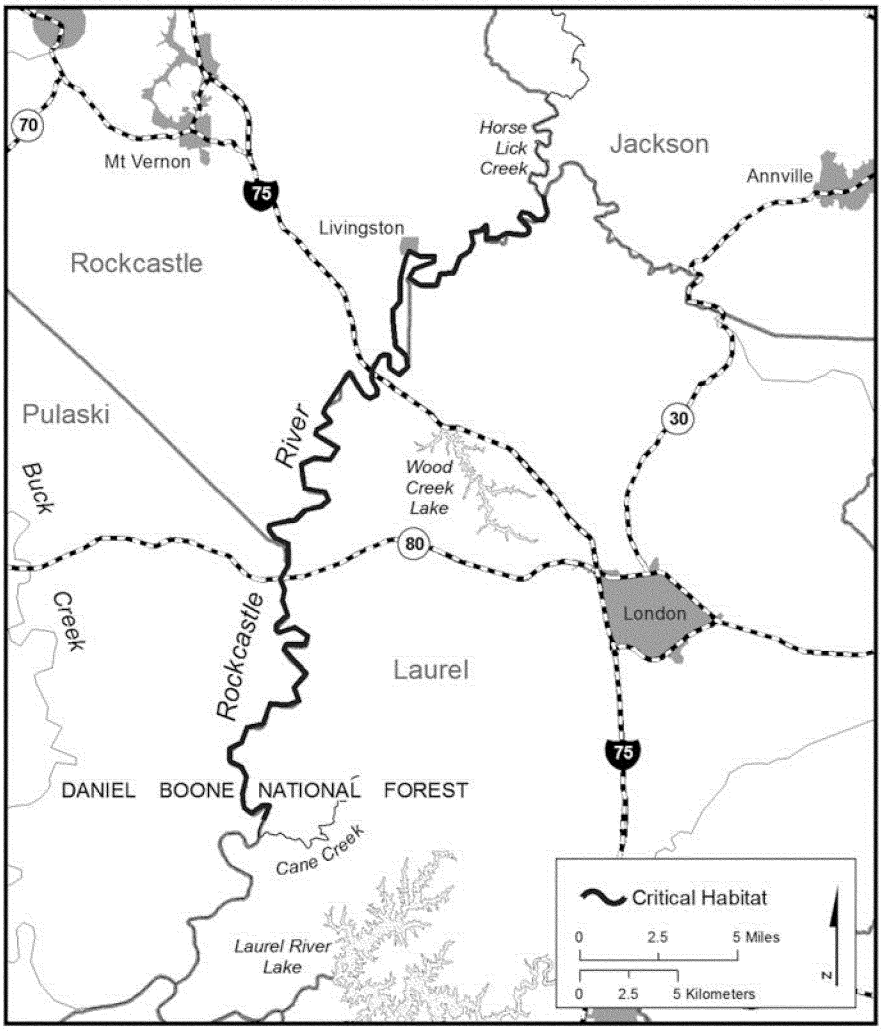
(ii) Map of Units FK1 and FK2 is provided at paragraph (6)(ii) of this entry.

(8) Unit FK3: Rockcastle River, Pulaski, Laurel, and Rockcastle Counties, Kentucky.

(i) The unit includes approximately 70 rkm (43 rmi) of the Rockcastle River from the backwaters of Lake Cumberland near its confluence with Cane Creek along the Laurel and Pulaski County line, KY (−84.30594, 37.03423), upstream to its confluence with Horse Lick Creek along the Laurel and Rockcastle County line, KY (−84.13766, 37.31944).

(ii) Map of Unit FK3 follows:

Unit FK3: Rockcastle River, Fluted Kidneyshell Critical Habitat

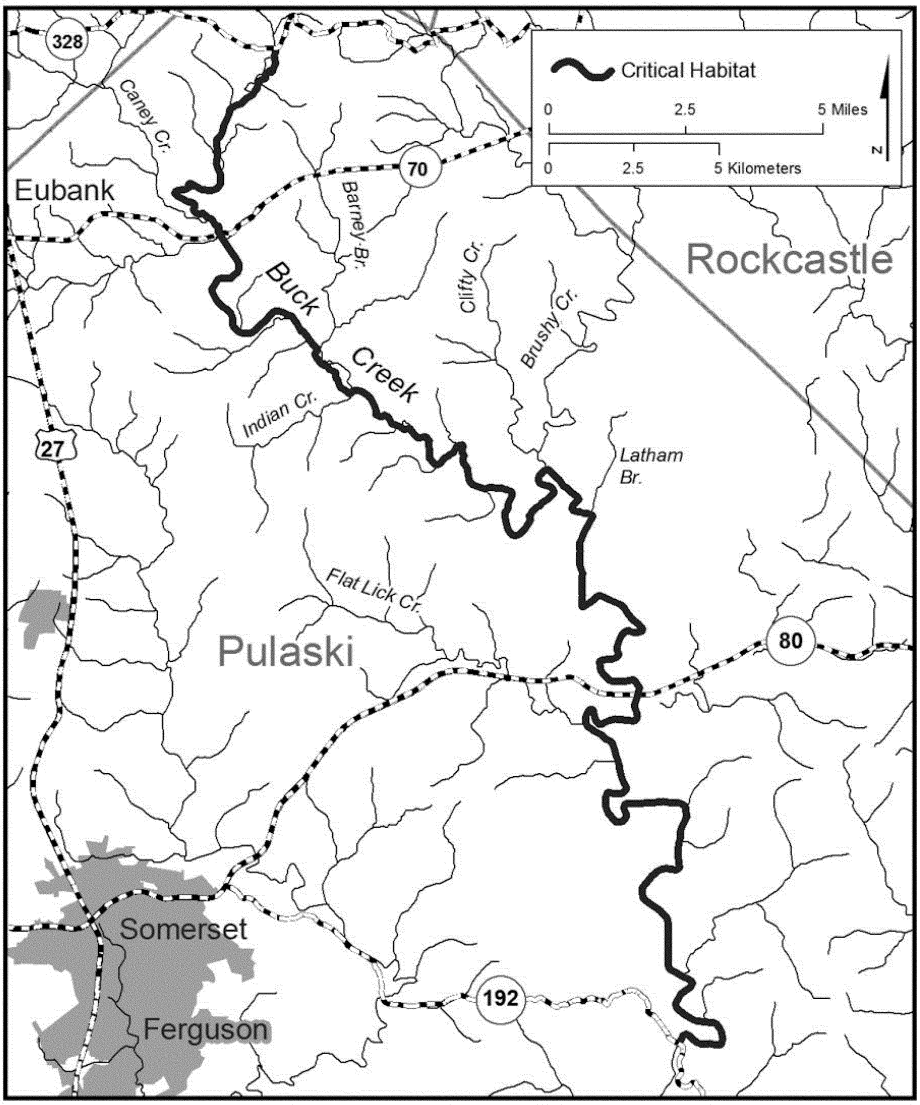


(9) Unit FK4: Buck Creek, Pulaski County, Kentucky.

(i) This unit includes 61 rkm (38 rmi) of Buck Creek from State Route 192 (−84.42681, 37.05977) upstream to Route 328 (−84.55492, 37.32430), Pulaski County, KY.

(ii) Map of Unit FK4 follows:

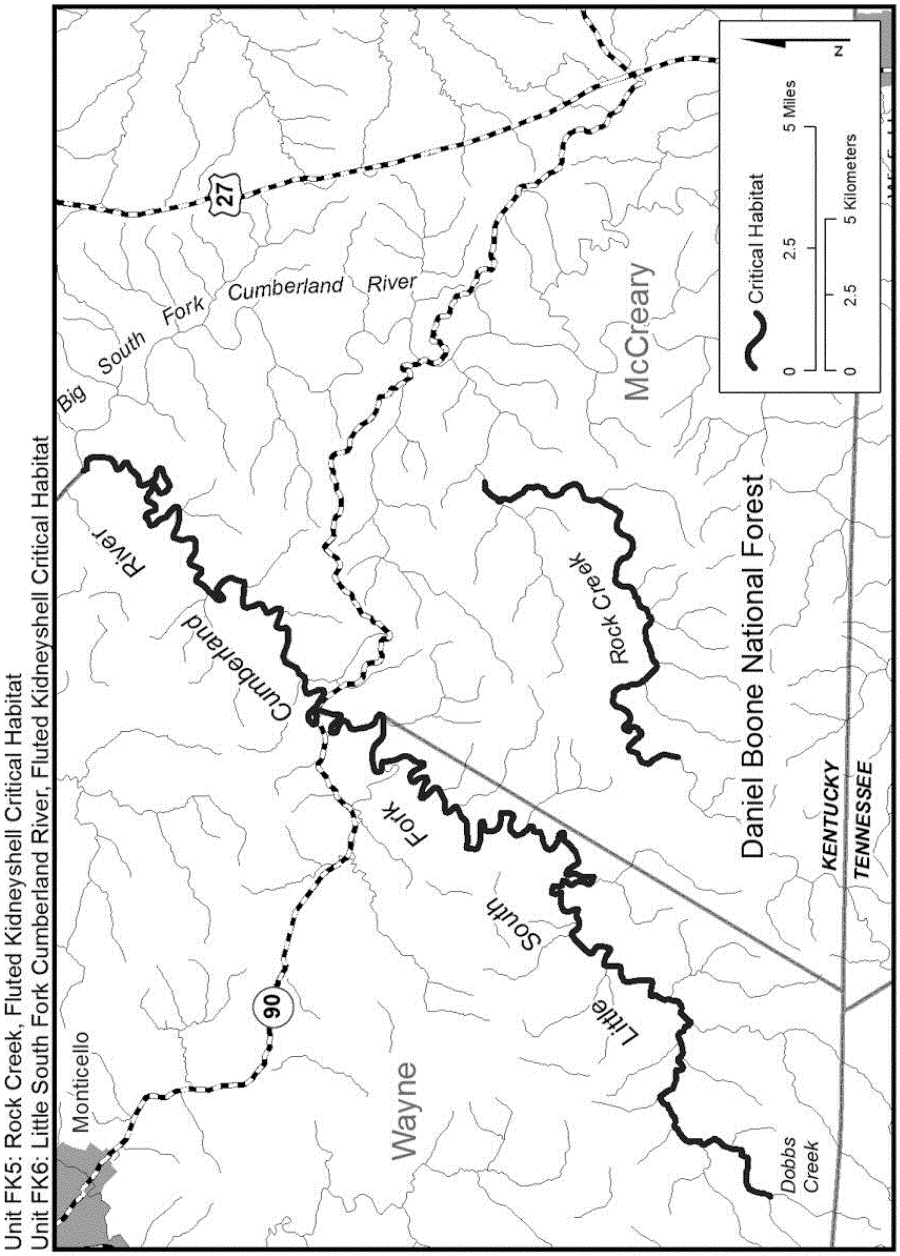
Unit FK4: Buck Creek, Fluted Kidneyshell Critical Habitat



(10) Unit FK5: Rock Creek, McCreary County, Kentucky.

(i) The unit includes approximately 19 rkm (12 rmi) of Rock Creek from its confluence with White Oak Creek (−84.69103, 36.65145) upstream to the low water crossing at rkm 25.6 (rmi 15.9) (−84.58888, 36.70800) in McCreary County, KY.

(ii) Map of Units FK5 and FK6 follows:



(11) Unit FK6: Little South Fork Cumberland River, McCreary and Wayne Counties, Kentucky.

(i) The unit includes 65.5 rkm (40.7 rmi) of the Little South Fork Cumberland River from its confluence with the Big South Fork Cumberland River (−84.58269, 36.82690), where

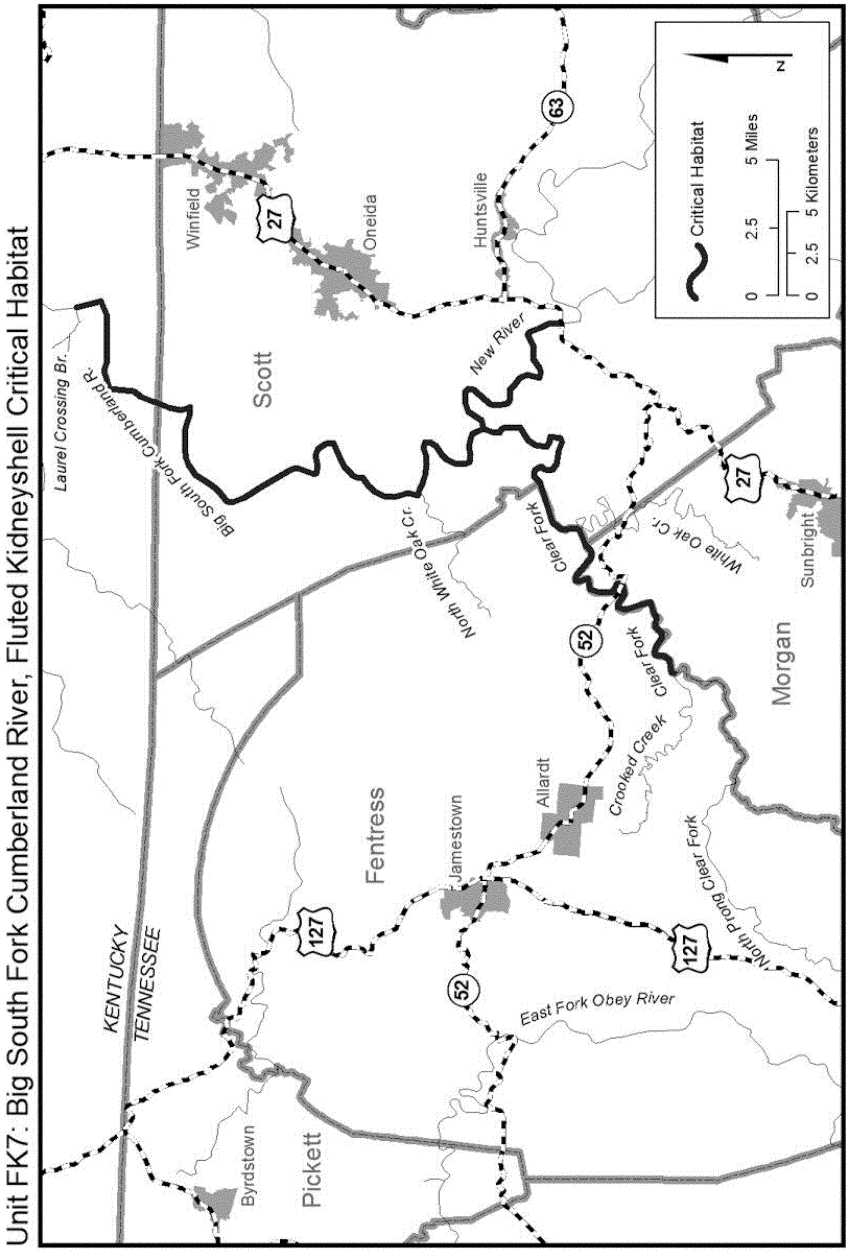
it is the dividing line between Wayne and McCreary Counties, upstream to its confluence with Dobbs Creek (−84.85344, 36.62588) in Wayne County, KY.

(ii) Map of Units FK5 and FK6 is provided at paragraph (10)(ii) of this entry.

(12) Unit FK7: Big South Fork Cumberland River, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky.

(i) The unit includes approximately 45 rkm (28 rmi) of the Big South Fork of the Cumberland River from its confluence with Laurel Crossing Branch downstream of Big Shoals (−84.53642, 36.64114), McCreary County, KY, upstream to its confluence with Clear Fork and New River (−84.62394, 36.42475), Scott County, TN. This unit also includes 32.3 rkm (20.0 rmi) of Clear Fork from its confluence with the Big South Fork and New River (−84.62394, 36.42475) in Scott County, TN, upstream to its confluence with Crooked Creek (−84.78637, 36.32533) along the Fentress and Morgan County line, TN. This unit also includes 14.7 rkm (9.1 rmi) of the New River from its confluence with the Big South Fork (−84.62394, 36.42475) upstream to the Highway 27 Bridge crossing (−84.55290, 36.38279) in Scott County, TN.

(ii) Map of Unit FK7 follows:

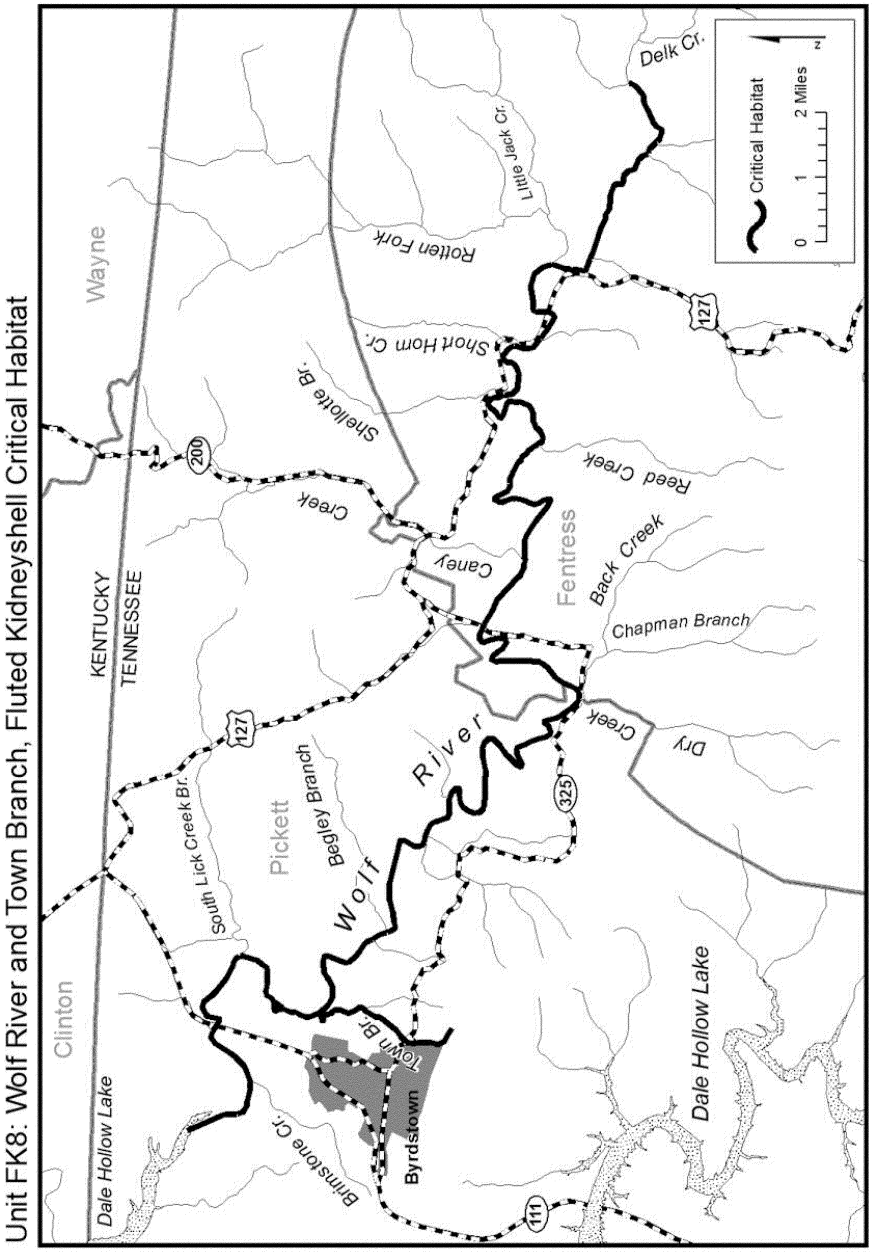


(13) Unit FK8: Wolf River and Town Branch, Pickett and Fentress Counties, Tennessee.

(i) The unit includes 41.0 rkm (25.5 rmi) of the Wolf River from its inundation at Dale Hollow Lake (−85.14414, 36.60670) in Pickett County, TN, upstream to its confluence with

Delk Creek (−84.91064, 36.52784) in Fentress County, TN. This unit also includes 3.4 rkm (2.0 rmi) of Town Branch from its confluence with Wolf River (−85.11787, 36.58321) upstream to its headwaters (−85.12136, 36.55947) in Pickett County, TN.

(ii) Map of Unit FK8 follows:

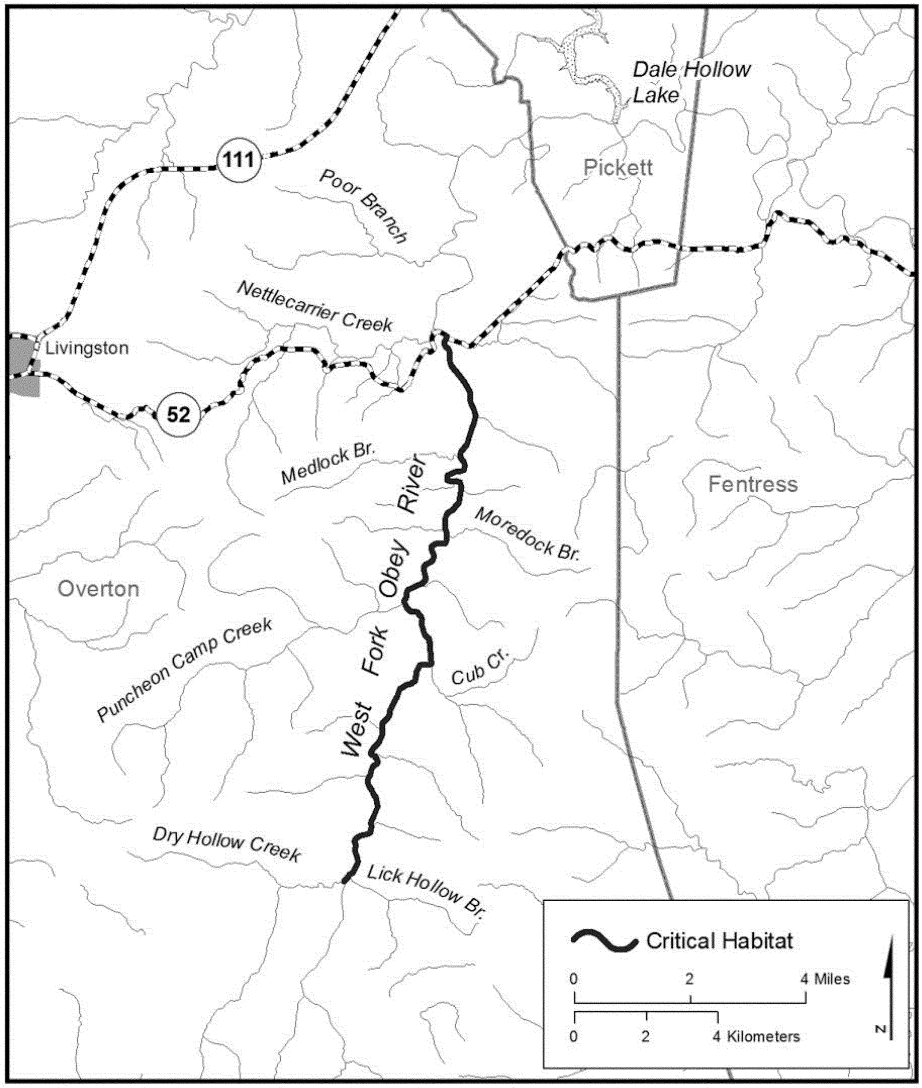


(14) Unit FK9: West Fork Obey River, Overton County, Tennessee.

(i) The unit includes approximately 19 rkm (12 rmi) of the West Fork Obey River from the Highway 52 Bridge crossing (−85.17410, 36.39731) upstream to its confluence with Dry Hollow Creek (−85.20747, 36.25989) in Overton County, TN.

(ii) Map of Unit FK9 follows:

Unit FK9: West Fork Obey River, Fluted Kidneyshell Critical Habitat

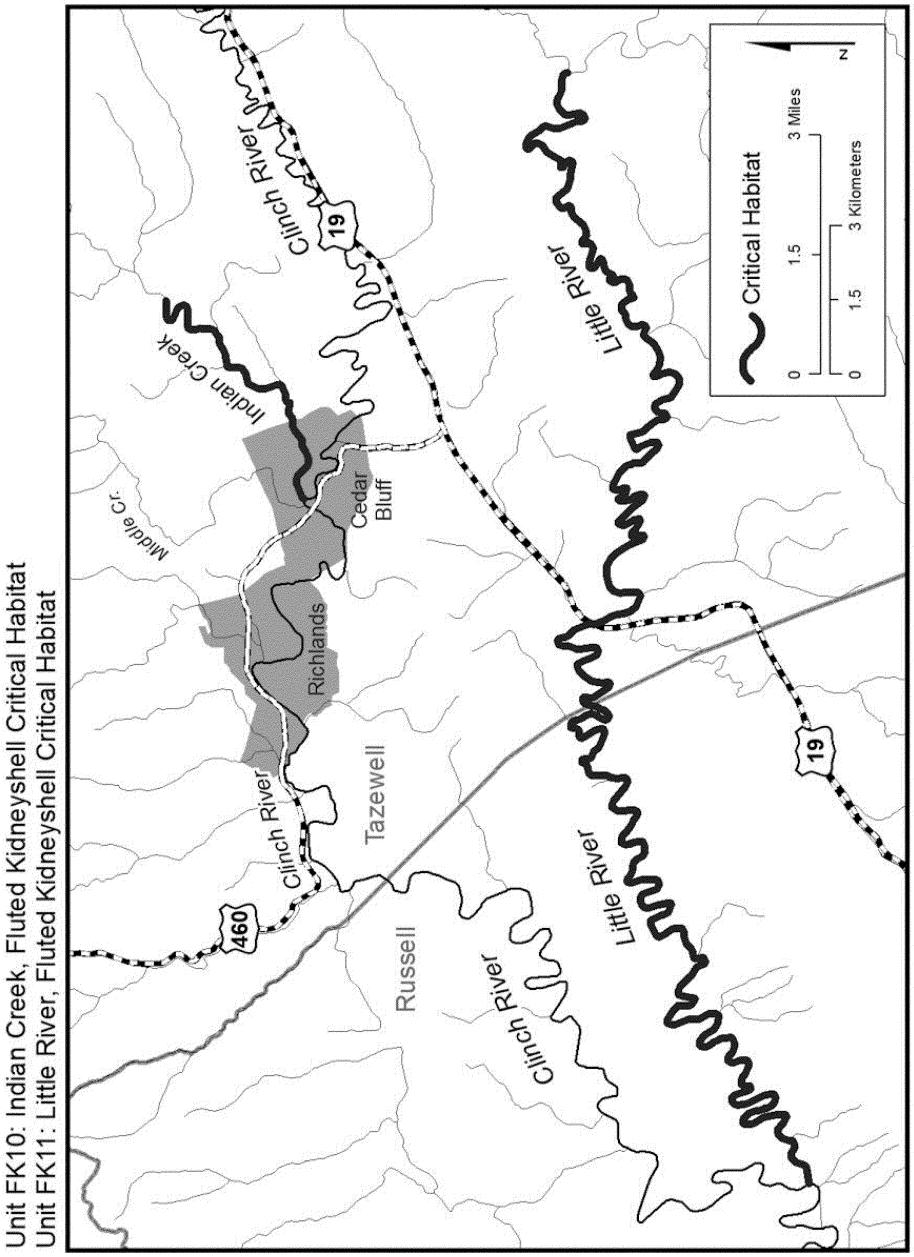


(15) Unit FK10: Indian Creek, Tazewell County, Virginia.

(i) The unit includes 6.7 rkm (4.2 rmi) of Indian Creek from its confluence with the Clinch River (−81.76608, 37.08893) upstream to

the fourth Norfolk Southern Railroad crossing at Van Dyke (−81.71975, 37.11206) in Tazewell County, VA.

(ii) Map of Units FK10 and FK11 follows:



(16) Unit FK11: Little River, Russell and Tazewell Counties, Virginia.

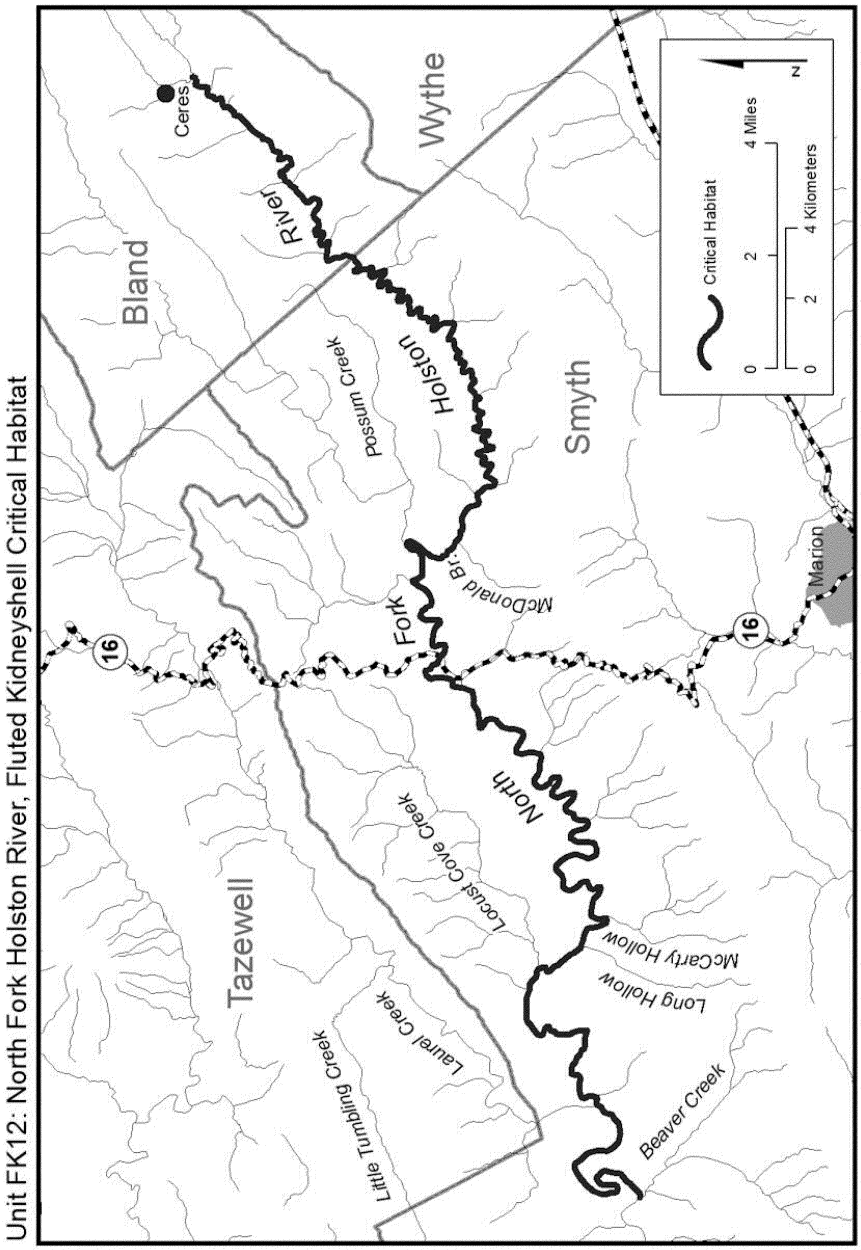
(i) The unit includes approximately 50 rkm (31 rmi) of Little River from its confluence with the Clinch River (−81.92582, 37.00223) in Russell County, VA, upstream to its confluence with Liberty and Maiden Spring Creeks (−81.67240, 37.03760) in Tazewell County, VA.

(ii) Map of Units FK10 and FK11 is provided at paragraph (15)(ii) of this entry.

(17) Unit FK12: North Fork Holston River, Smyth and Bland Counties, Virginia.

(i) The unit includes approximately 67 rkm (42 rmi) of the North Fork Holston River from its confluence with Beaver Creek (−81.70277, 36.90825), upstream of Saltville, in Smyth County, VA, upstream to Ceres (−81.33775, 37.01035), Bland County, VA.

(ii) Map of Unit FK12 follows:

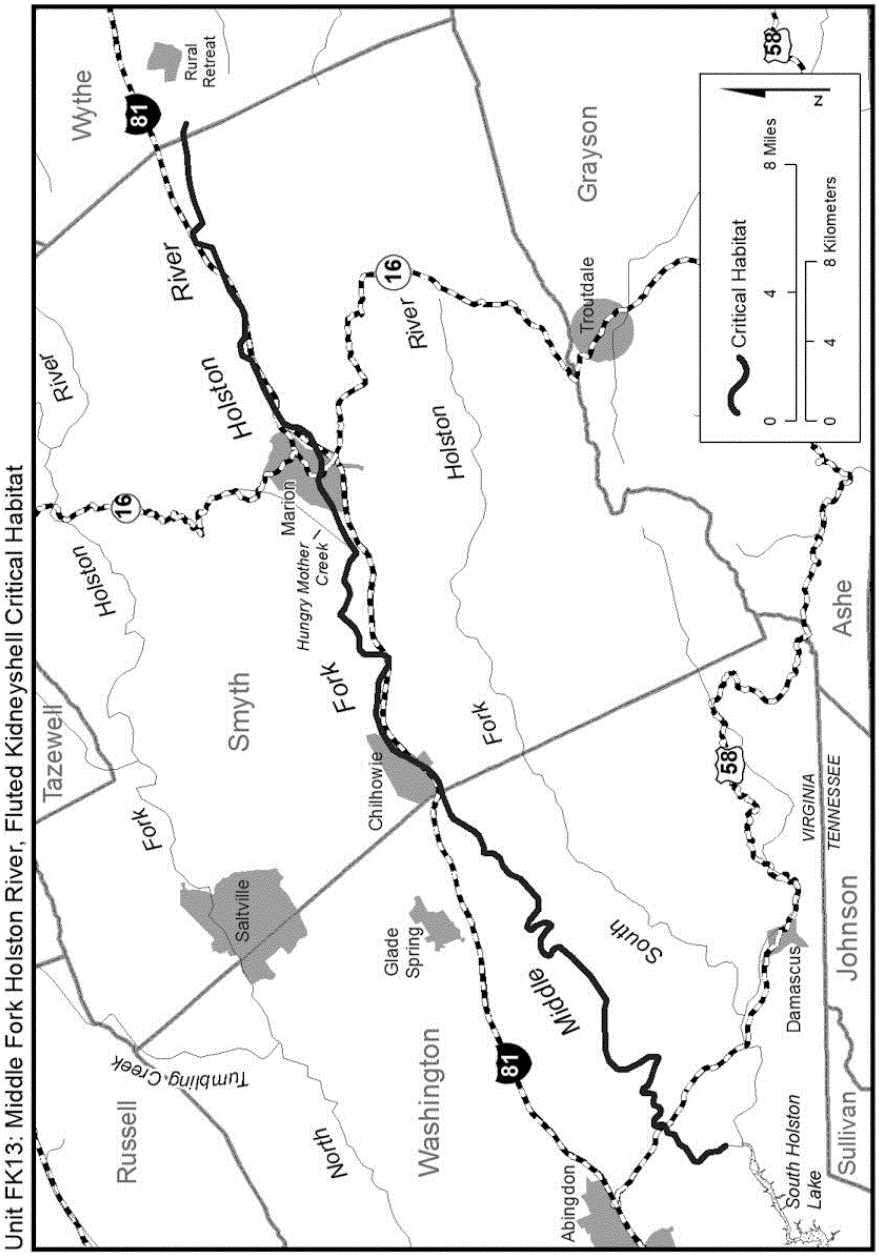


(18) Unit FK13: Middle Fork Holston River, Washington, Smyth, and Wythe Counties, Virginia.

(i) The unit includes approximately 89 rkm (55 rmi) of the Middle Fork Holston River from its inundation at South Holston Lake (−81.90427, 36.66338) in Washington County,

VA, upstream to its headwaters (−81.31345, 36.88666) in Wythe County, VA.

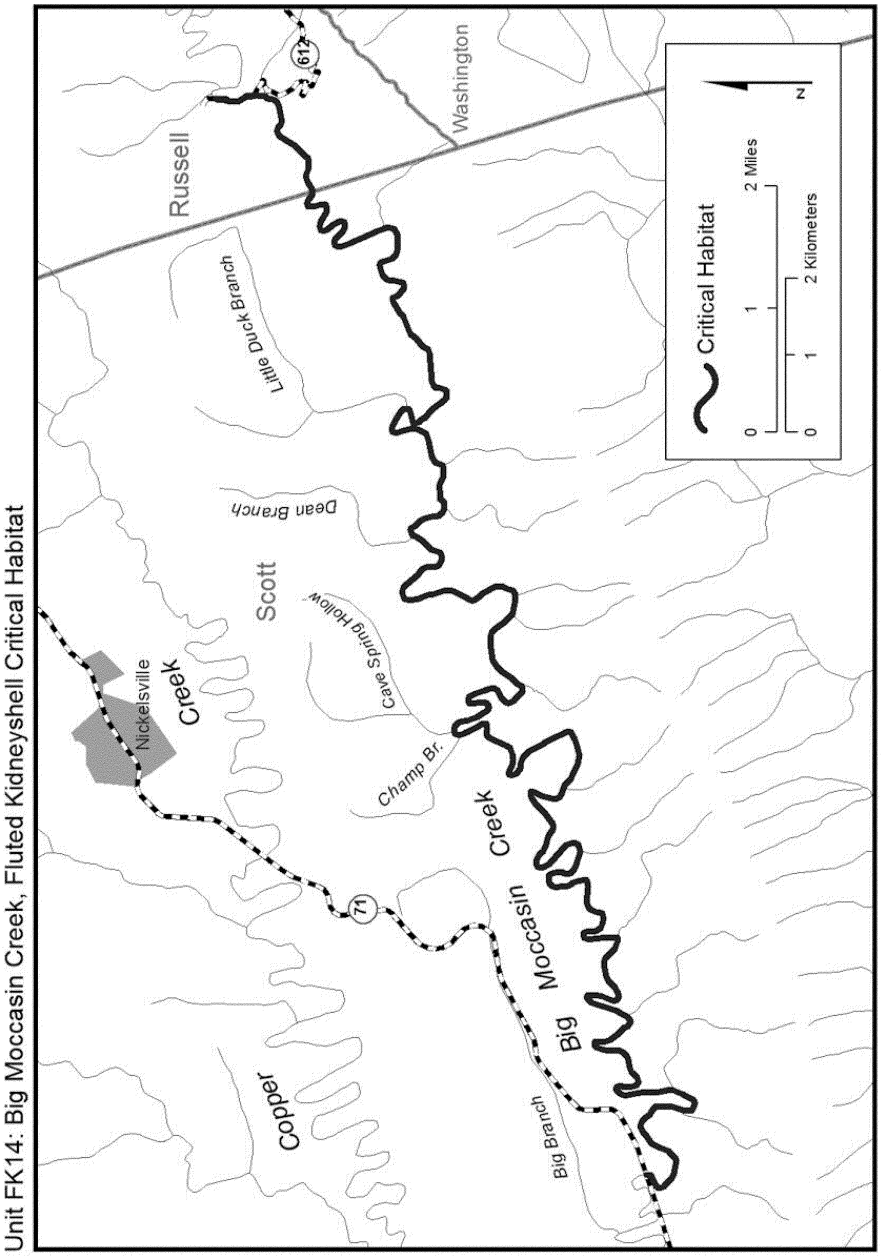
(ii) Map of Unit FK13 follows:



(19) Unit FK14: Big Moccasin Creek, Scott and Russell Counties, Virginia.

(i) The unit includes approximately 33 rkm (21 rmi) of Big Moccasin Creek from the Highway 71 Bridge crossing (−82.48361, 36.69109) in Scott County, VA, upstream to the Route 612 Bridge crossing (−82.32348, 36.73740) near Collinwood in Russell County, VA.

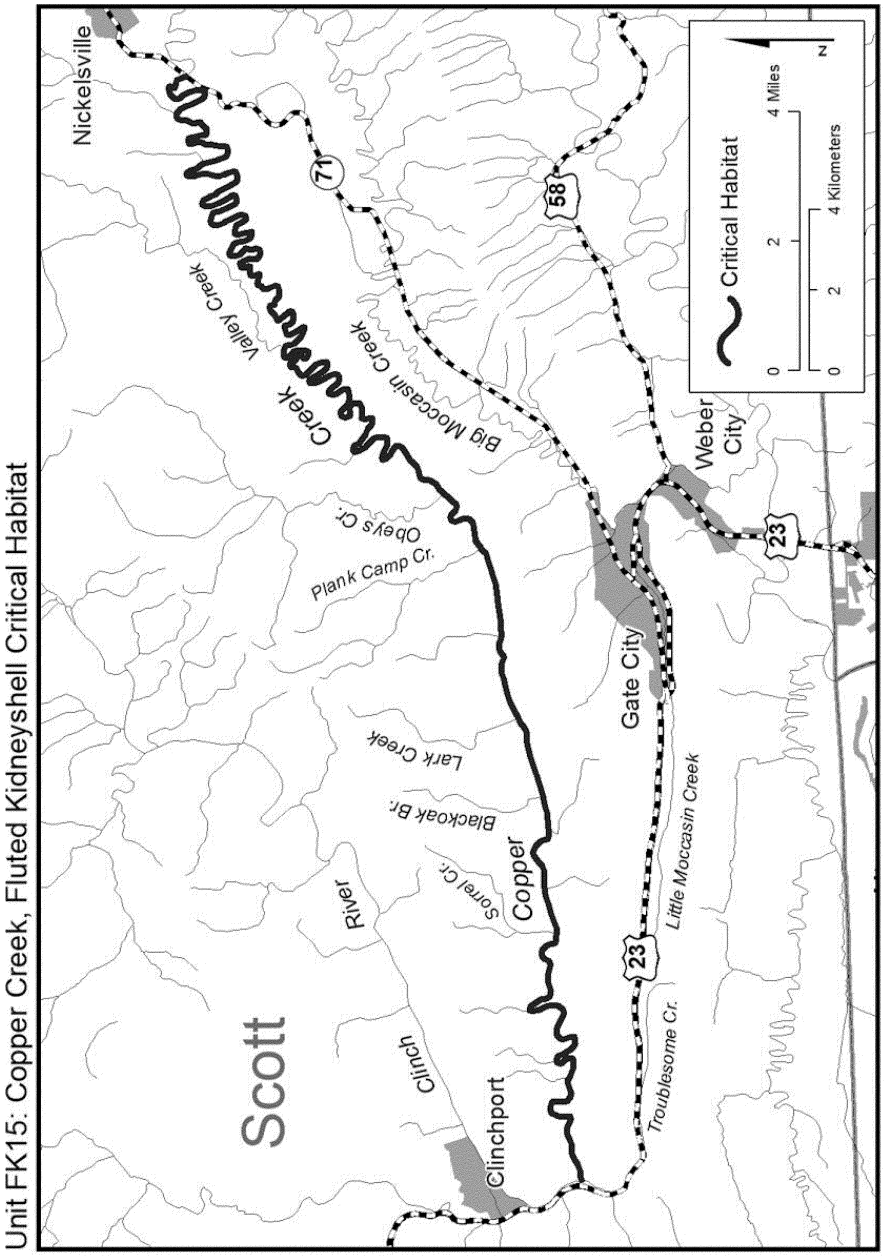
(ii) Map of Unit FK14 follows:



(20) Unit FK15: Copper Creek, Scott County, Virginia.

(i) The unit includes 55.5 rkm (34.5 rmi) of Copper Creek from its confluence with the Clinch River (−82.74538, 36.65544) upstream to the Highway 71 Bridge crossing (−82.43514, 36.73473) in Scott County, VA.

(ii) Map of Unit FK15 follows:

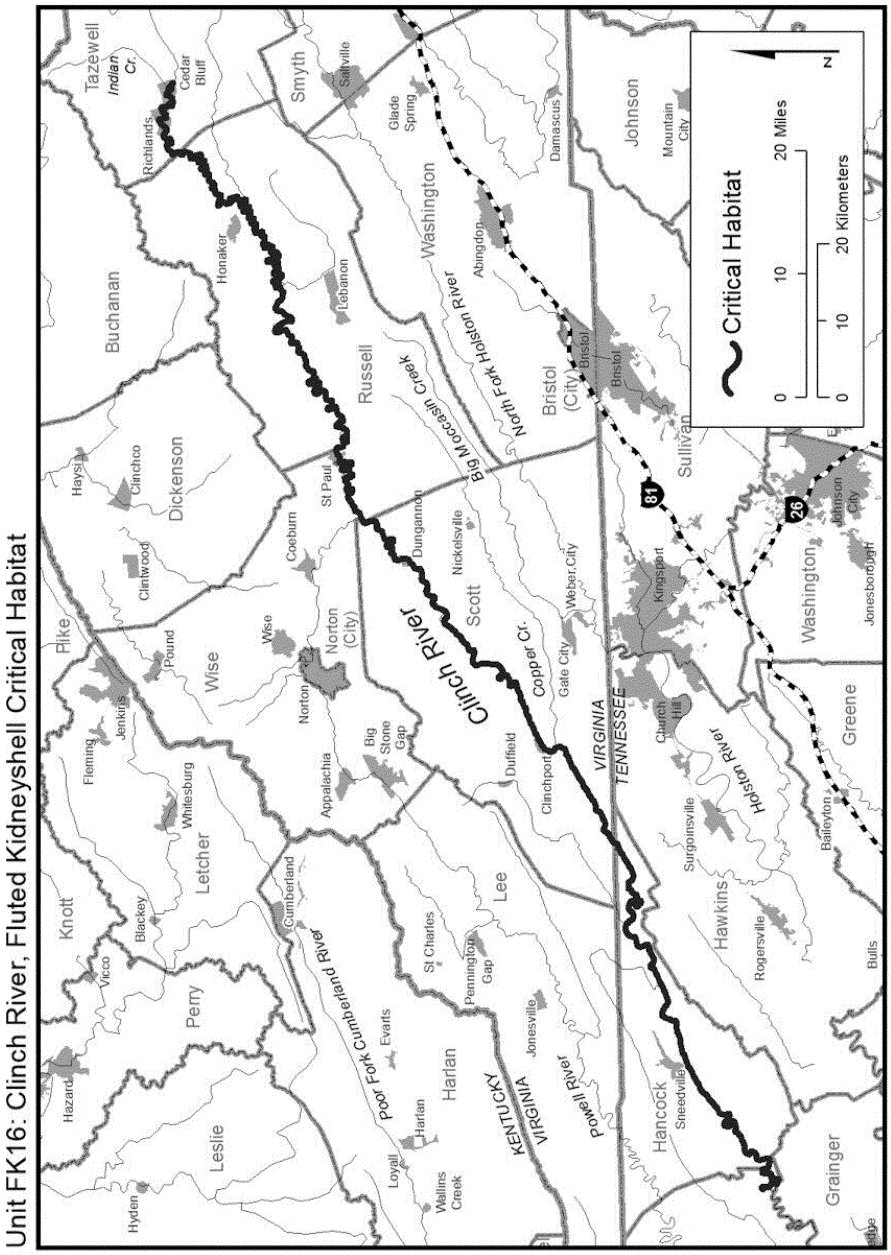


(21) Unit FK16: Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia.

(i) The unit includes approximately 263 rkm (163 rmi) of the Clinch River from rkm 255 (rmi 159) immediately below Grissom Island (−83.40106, 36.43081) in Hancock County,

TN, upstream to its confluence with Indian Creek near Cedar Bluff (−81.74999, 37.07995), Tazewell County, VA.

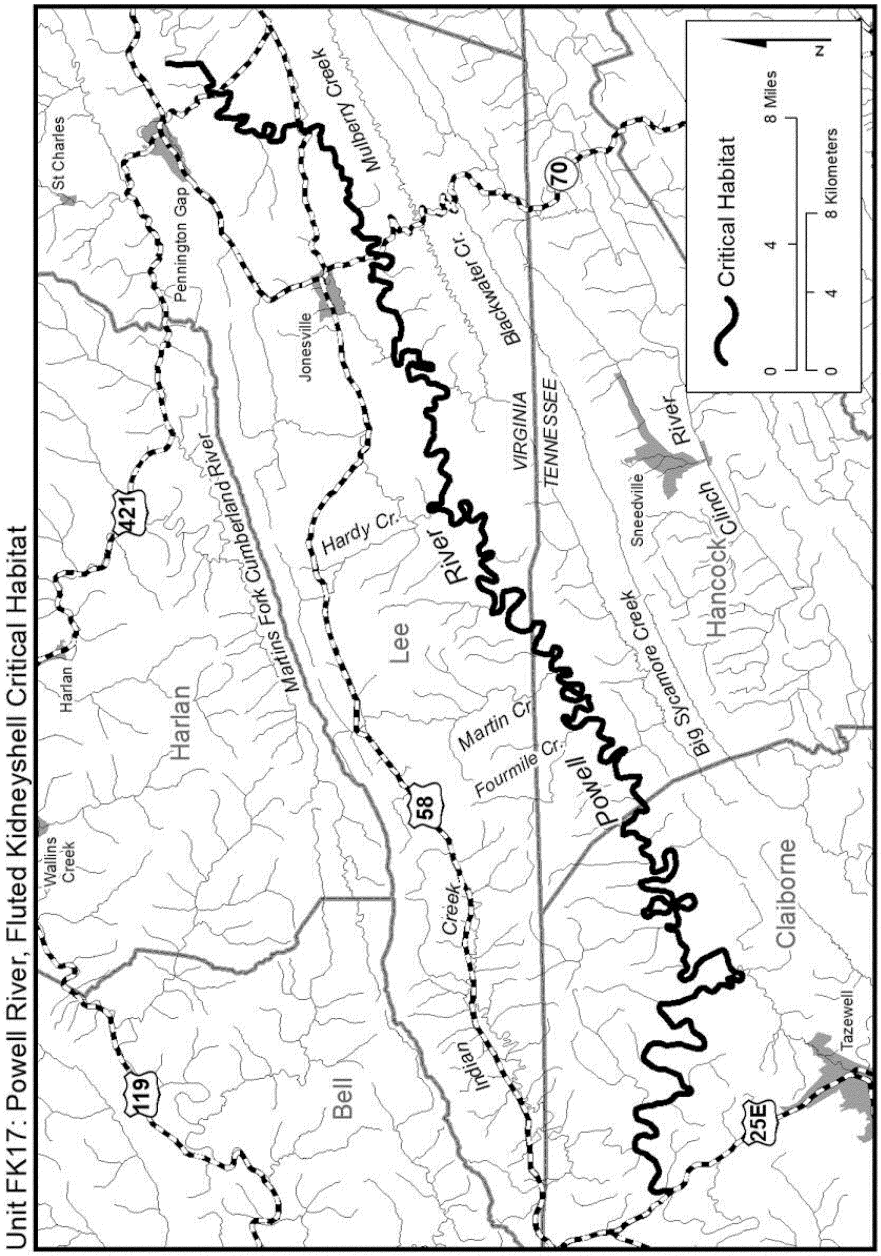
(ii) Map of Unit FK16 follows:



(22) Unit FK17: Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia.

(i) The unit includes approximately 153 rkm (95 rmi) of the Powell River from the U.S. 25E Bridge (−83.63102, 36.54143) in Claiborne County, TN, upstream to rkm 256 (rmi 159) (−82.98111, 36.75730, upstream of Rock Island in the vicinity of Pughs) in Lee County, VA.

(ii) Map of Unit FK17 follows:

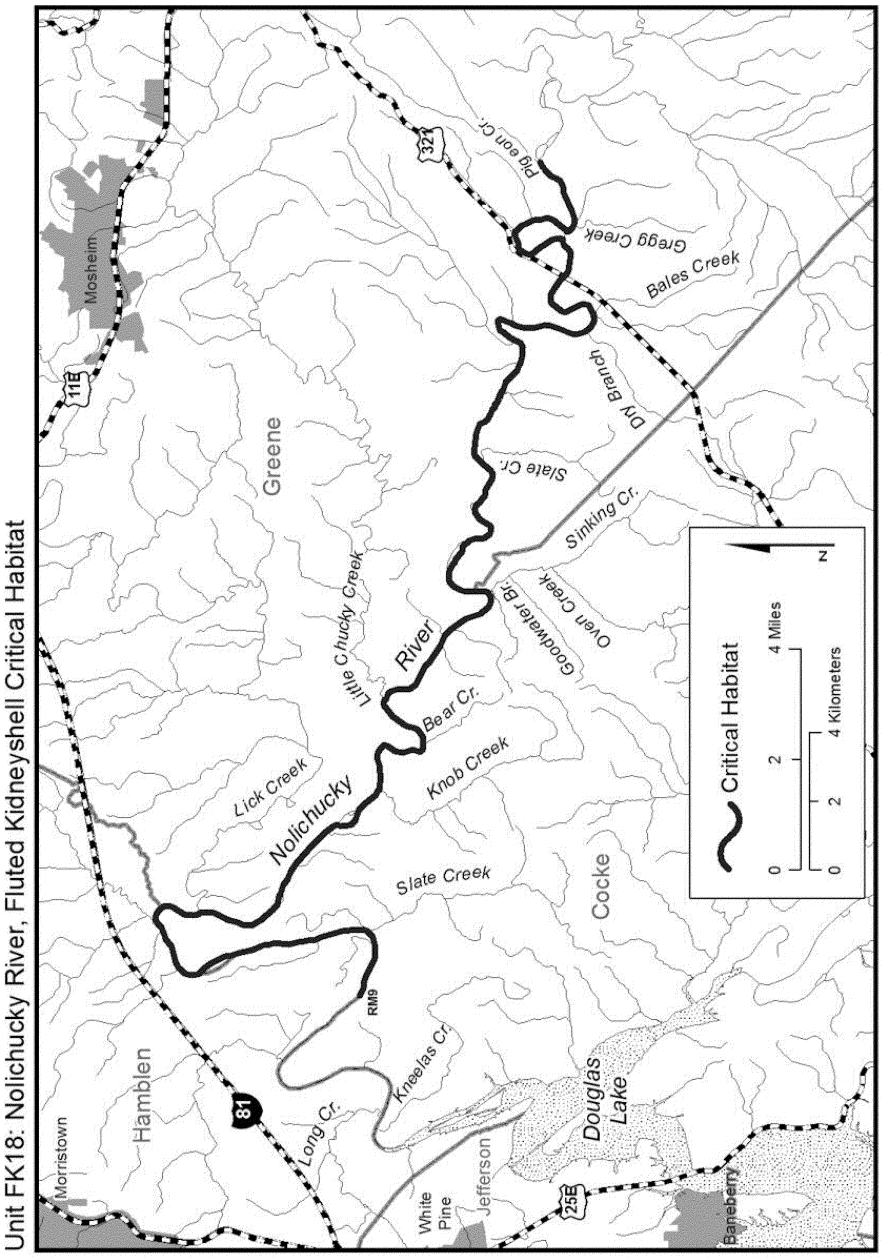


(23) Unit FK18: Nolichucky River, Cocke, Hamblen, and Greene Counties, Tennessee.

(i) The unit includes approximately 52 rkm (32 rmi) of the Nolichucky River from rkm 14 (rmi 9), approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam (−83.19630, 36.12970),

where it divides Hamblen and Cocke Counties, TN, upstream to its confluence with Pigeon Creek, just upstream of the Highway 321 Bridge crossing (−82.92926, 36.07545), in Greene County, TN.

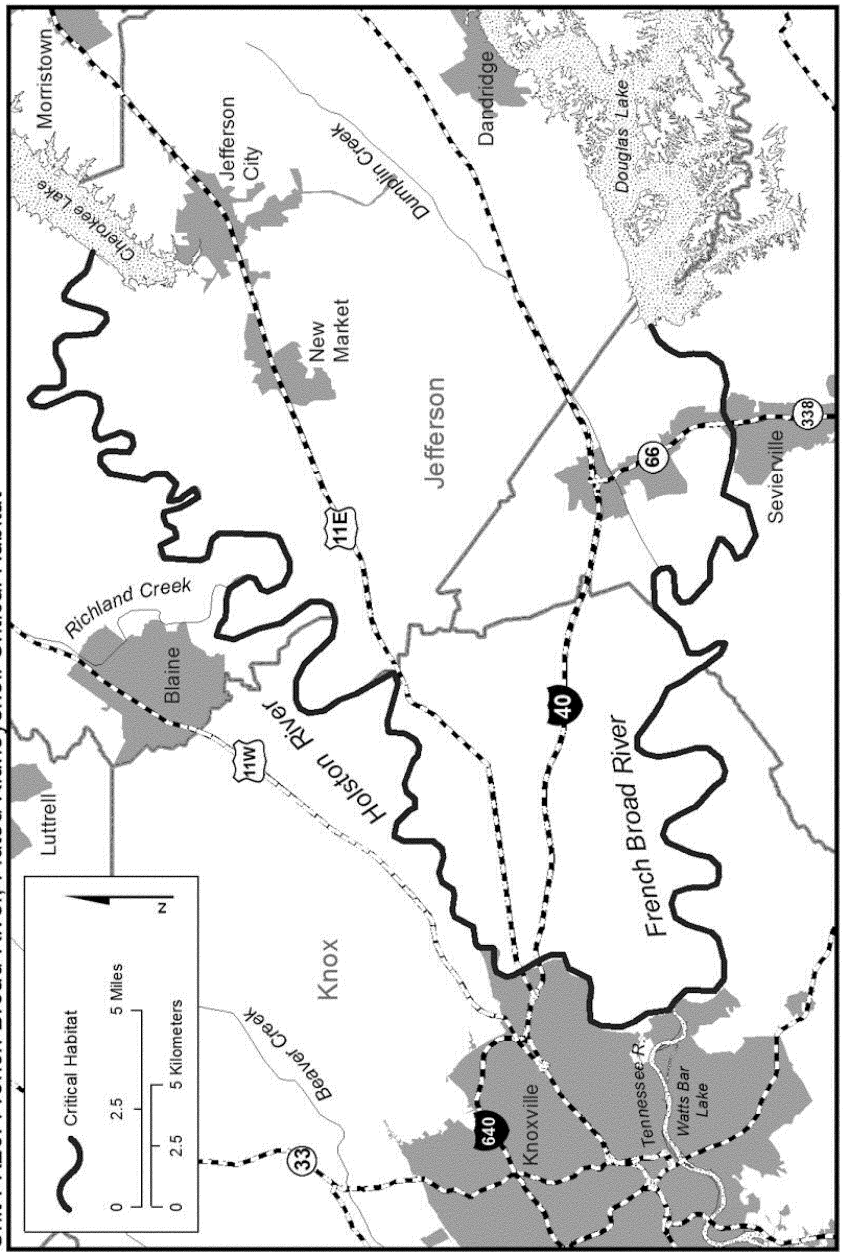
(ii) Map of Unit FK18 follows:



(24) Unit FK19: Holston River, Knox, Grainger, and Jefferson Counties, Tennessee.

(i) The unit includes approximately 85 rkm (53 rmi) of the Holston River from its confluence with the French Broad River (−83.84967, 35.95903) in Knox County, TN, upstream to the base of Cherokee Dam at rkm 83.7 (rmi 52.3) (−83.49855, 36.16666) along the Grainger and Jefferson County, TN, line.

(ii) Map of Units FK19 and FK20 follows:



(25) Unit FK20: French Broad River, Knox and Sevier Counties, Tennessee.

(i) The unit includes approximately 56 rkm (35 rmi) of the French Broad River from its confluence with the Holston River (−83.84967, 35.95903) in Knox County, TN, upstream to the base of Douglas Dam at rkm

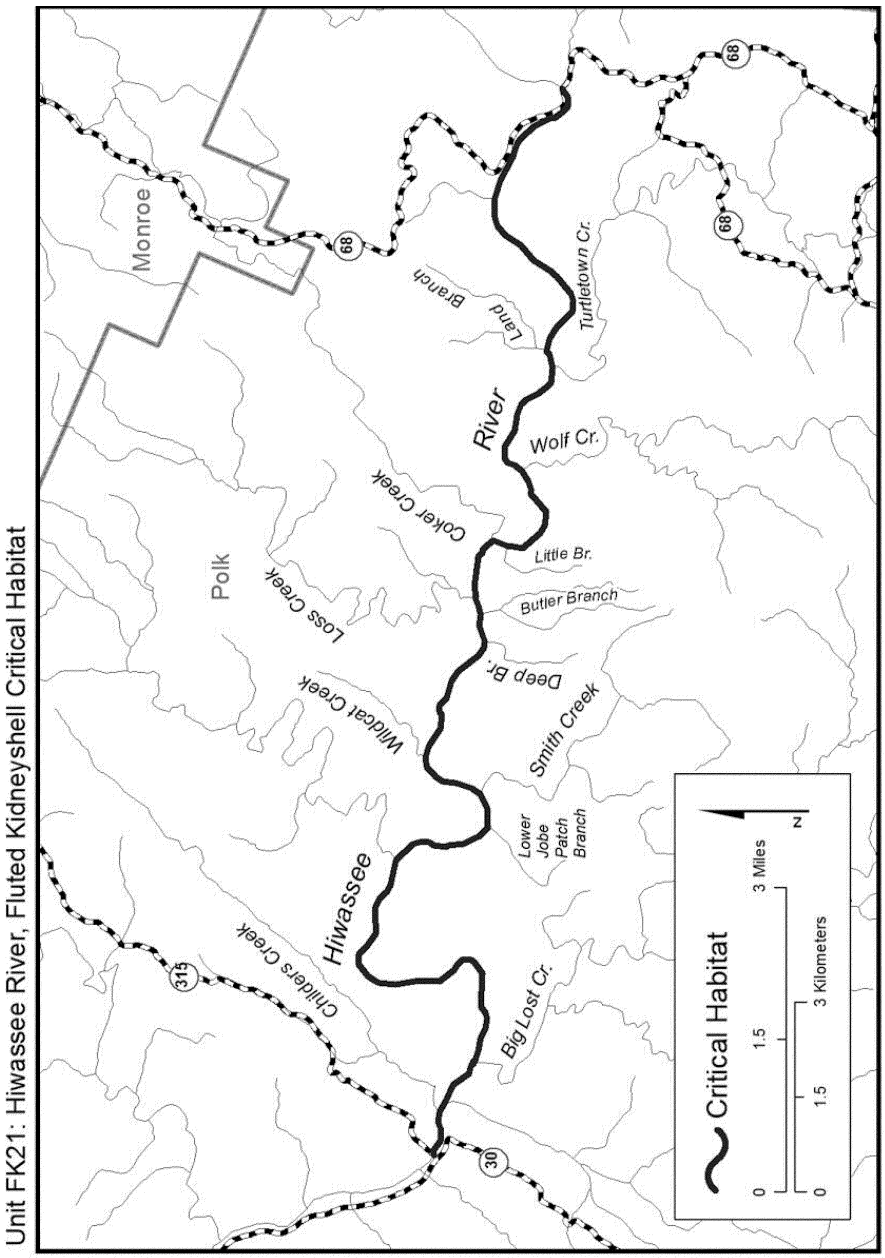
51.7 (rmi 32.3) (−83.53821, 35.96073) in Sevier County, TN.

(ii) Map of Units FK19 and FK20 is provided at paragraph (24)(ii) of this entry.

(26) Unit FK21: Hiwassee River, Polk County, Tennessee.

(i) The unit includes approximately 24 rkm (15 rmi) of the Hiwassee River from the Highway 315 Bridge crossing (−84.50234, 35.18875) upstream to the Highway 68 Bridge crossing (−84.31728, 35.16811) in Polk County, TN.

(ii) Map of Unit FK21 follows:



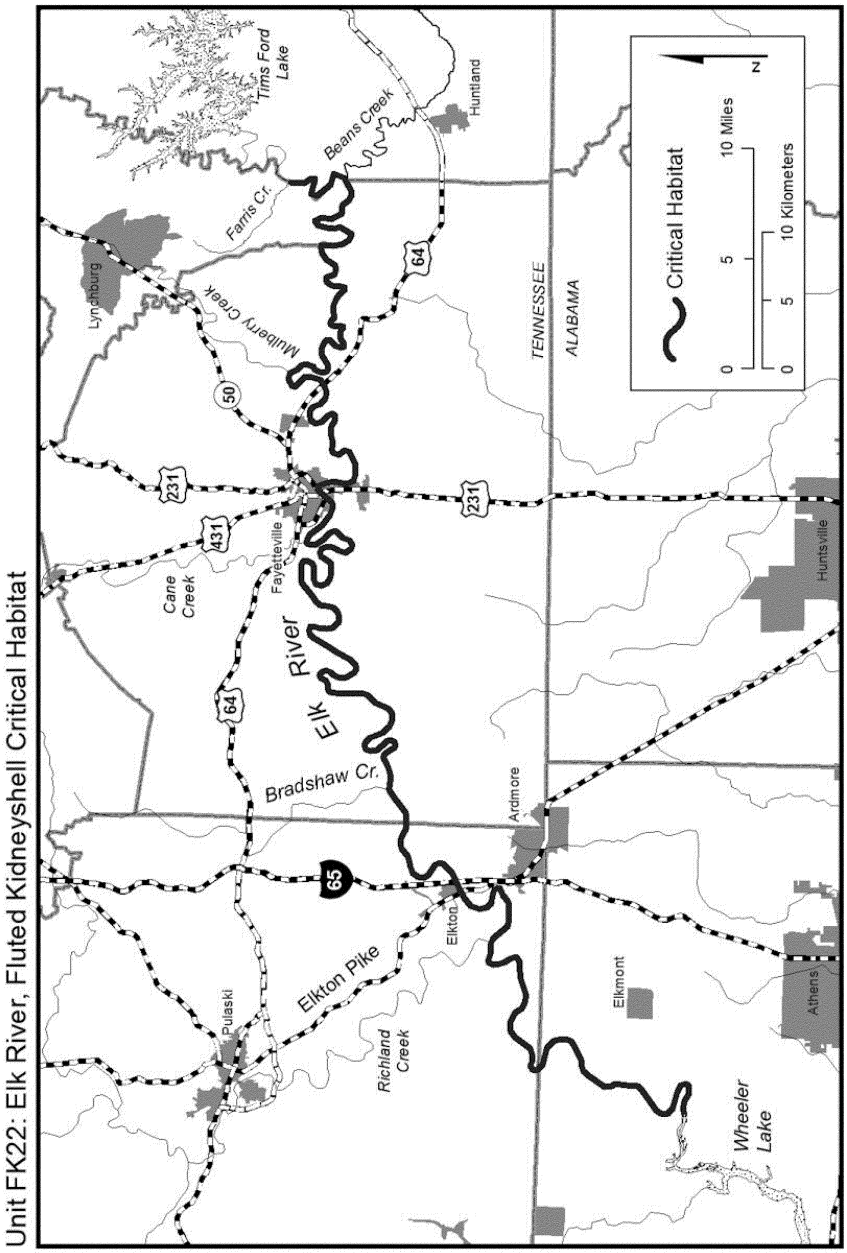
Unit FK21: Hiwassee River, Fluted Kidneyshell Critical Habitat

(27) Unit FK22: Elk River, Limestone County, Alabama, and Giles, Lincoln, Franklin, and Moore Counties, Tennessee.

(i) The unit includes approximately 164 rkm (102 rmi) of the Elk River from its inundation at Wheeler Lake (−87.06503, 34.89788) in Limestone County, AL, upstream to its

confluence with Farris Creek (−86.31996, 35.16288) at the dividing line between Franklin and Moore Counties, TN.

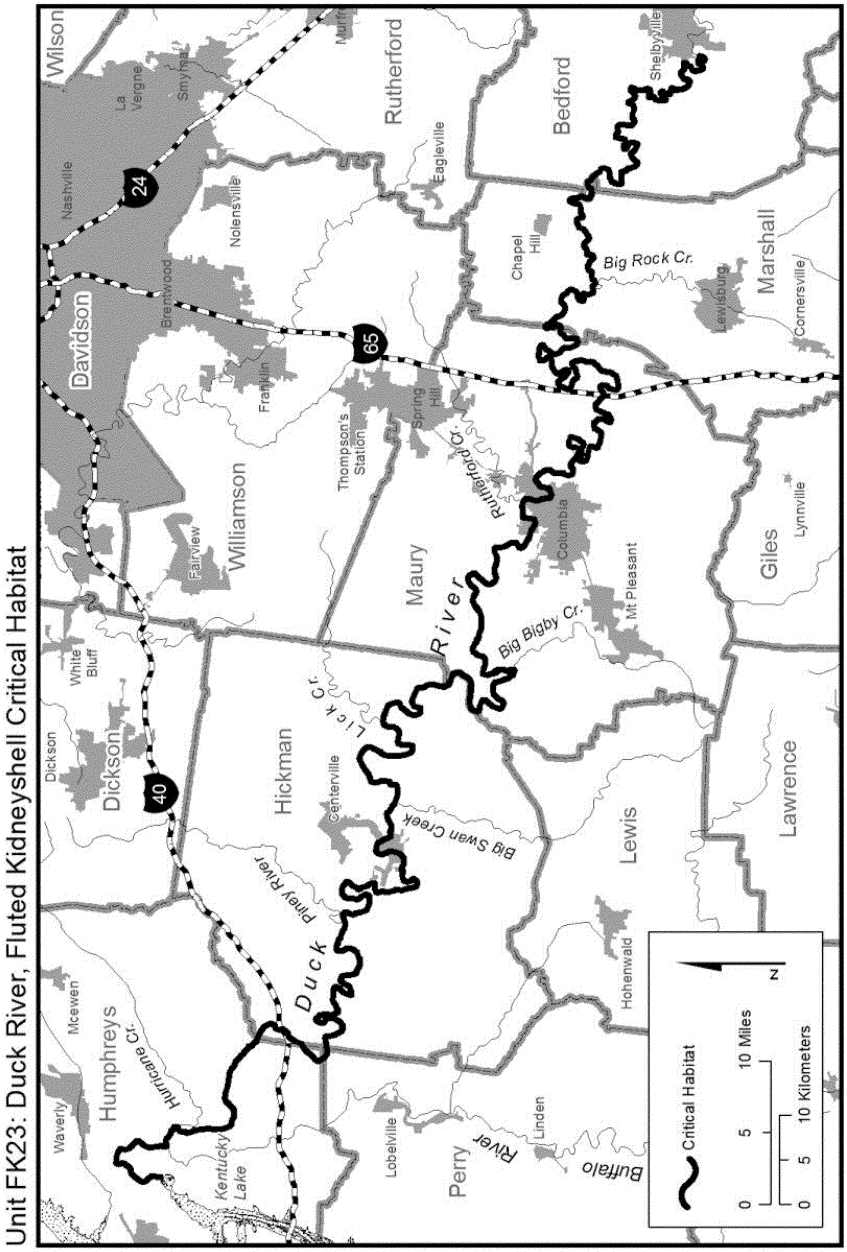
(ii) Map of Unit FK22 follows:



(28) Unit FK23: Duck River, Humphreys, Perry, Hickman, Maury, Marshall, and Bedford Counties, Tennessee.

(i) The unit includes approximately 348 rkm (216 rmi) of the Duck River from its inundation at Kentucky Lake (−87.88011, 36.00244) in Humphreys County, TN, upstream to its confluence with Flat Creek (−86.48778, 35.47209) near Shelbyville in Bedford County, TN.

(ii) Map of Unit FK23 follows:

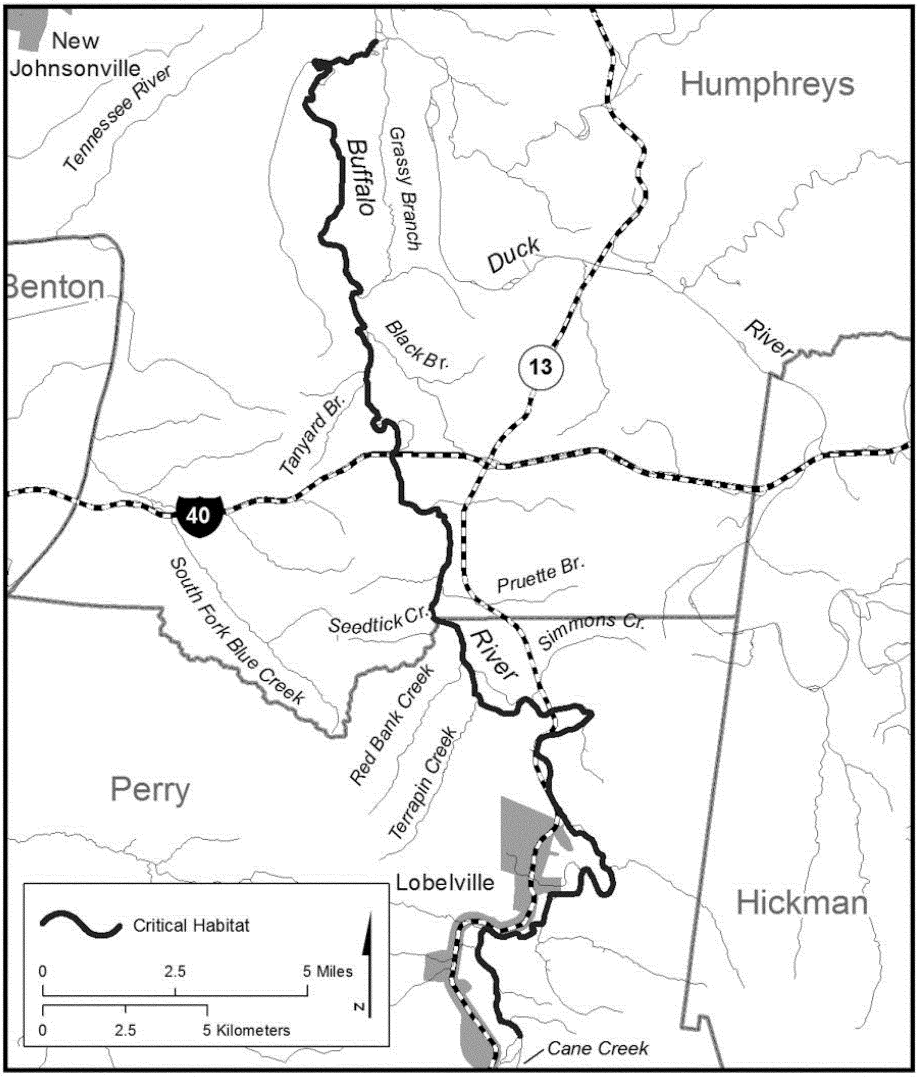


(29) Unit FK24: Buffalo River, Humphreys and Perry Counties, Tennessee.

(i) The unit includes 50 rkm (31 rmi) of the Buffalo River from its confluence with the Duck River (−87.84261, 35.99477) in Humphreys County, TN, upstream to its confluence with Cane Creek (−87.78718, 35.72298) in Perry County, TN.

(ii) Map of Unit FK24 follows:

Unit FK24: Buffalo River, Fluted Kidneyshell Critical Habitat



SLABSIDE PEARLYMUSSEL (*Pleuronaia dolabelloides*)

(1) Critical habitat units are depicted on the maps below for Colbert, Jackson, Limestone, Madison, and Marshall Counties, Alabama; Tishomingo County, Mississippi; Bedford, Bledsoe, Claiborne, Cocke, Franklin, Giles, Greene, Hamblen, Hancock, Hickman, Humphreys, Lincoln, Marion, Marshall, Maury, Moore, Perry, Polk, and Sequatchie

Counties, Tennessee; and Bland, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wythe Counties, Virginia.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of slabside pearlymussel consist of five components:

(i) Riffle habitats within large, geomorphically stable stream channels (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation).

(ii) Stable substrates of sand, gravel, and cobble with low to moderate amounts of fine sediment and containing flow refugia with low shear stress.

(iii) A natural hydrologic flow regime (magnitude, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species is found, and connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for habitat maintenance, food availability for all life stages, and spawning habitat for native fishes.

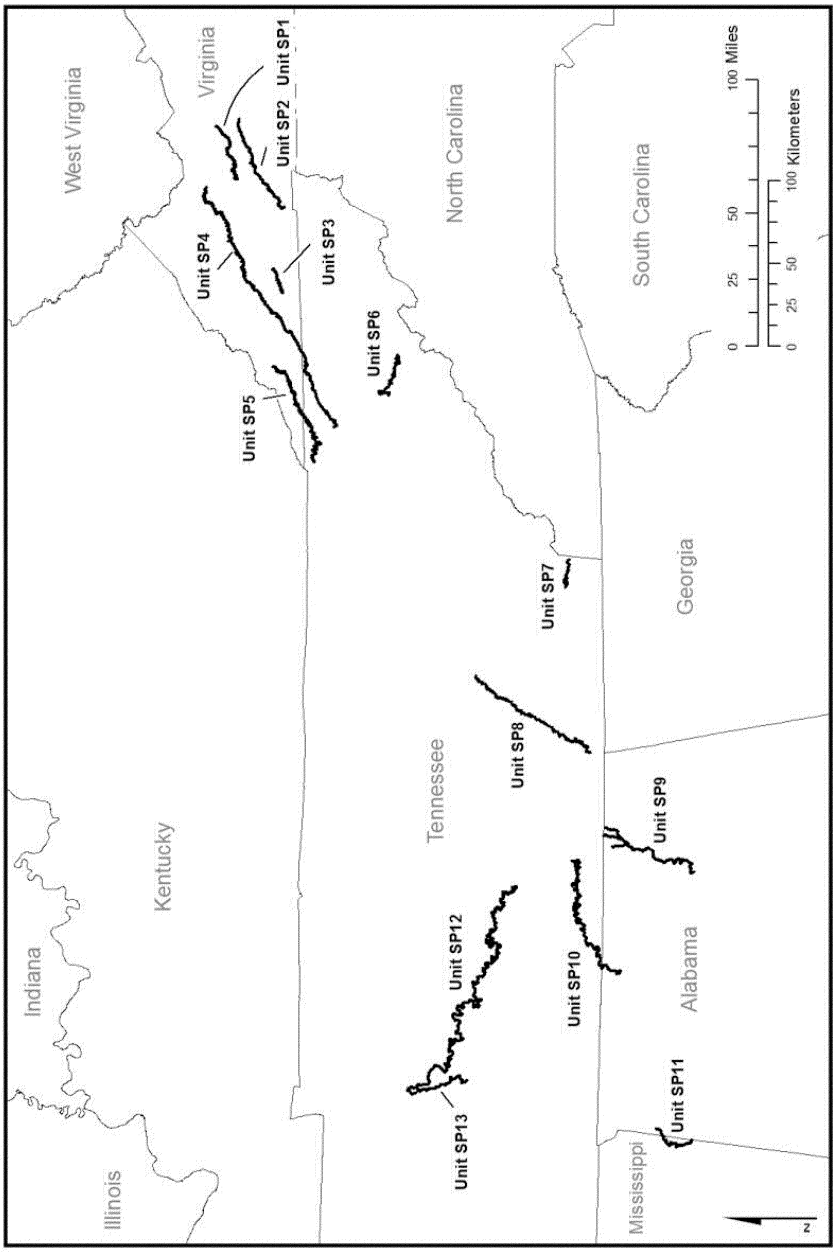
(iv) Water quality with low levels of pollutants and including a natural temperature regime, pH (between 6.0 to 8.5), oxygen content (not less than 5.0 milligrams/liter), hardness, and turbidity necessary for normal behavior, growth, and viability of all life stages.

(v) The presence of abundant fish hosts, which may include the popeye shiner, rosyface shiner, saffron shiner, silver shiner, telescope shiner, Tennessee shiner, whitetail shiner, white shiner, and eastern blacknose dace, necessary for recruitment of the slabside pearlymussel.

(3) Critical habitat does not include man-made structures (such as buildings, aqueducts, dams, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on October 28, 2013.

(4) *Critical habitat map units.* Data layers defining map units were created with USGS National Hydrography Dataset (NHD^+) GIS data. The 1:100,000 river reach (route) files were used to calculate river kilometers and miles. ESRIs ArcGIS 10.0 software was used to determine longitude and latitude coordinates using decimal degrees. The projection used in mapping all units was USA Contiguous Albers Equal Area Conic USGS version, NAD 83, meters. The following data sources were referenced to identify features (like roads and streams) used to delineate the upstream and downstream extents of critical habitat units: NHD^+ flowline and waterbody data, 2011 Navteq roads data, USA Topo ESRI online basemap service, DeLorme Atlas and Gazetteers, and USGS 7.5 minute topographic maps. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the field office Internet site (*http://www.fws.gov/cookeville*), at *http://www.regulations.gov* at Docket No. FWS–R4–ES–2013–0026, and at the Service's Tennessee Fish and Wildlife Office. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) An overview of critical habitat locations for the slabside pearlymussel in Mississippi, Alabama, Tennessee, and Virginia follows:

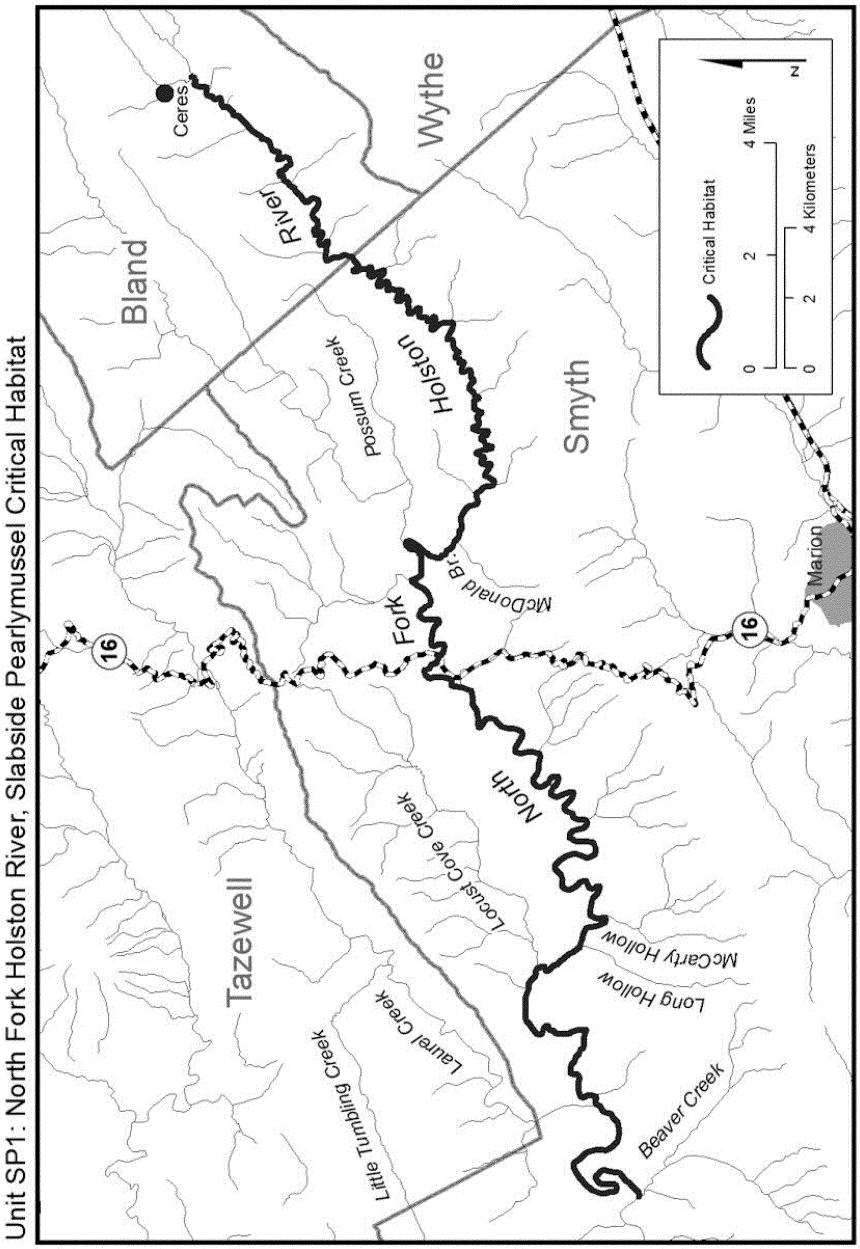


(6) Unit SP1: North Fork Holston River, Smyth and Bland Counties, Virginia.

(i) The unit includes approximately 67 river kilometers (rkm) (42 river miles (rmi)) of the North Fork Holston River from its confluence with Beaver Creek (−81.70277, 36.90825), upstream of Saltville, in Smyth

County, VA, upstream to Ceres (−81.33775, 37.01035), Bland County, VA.

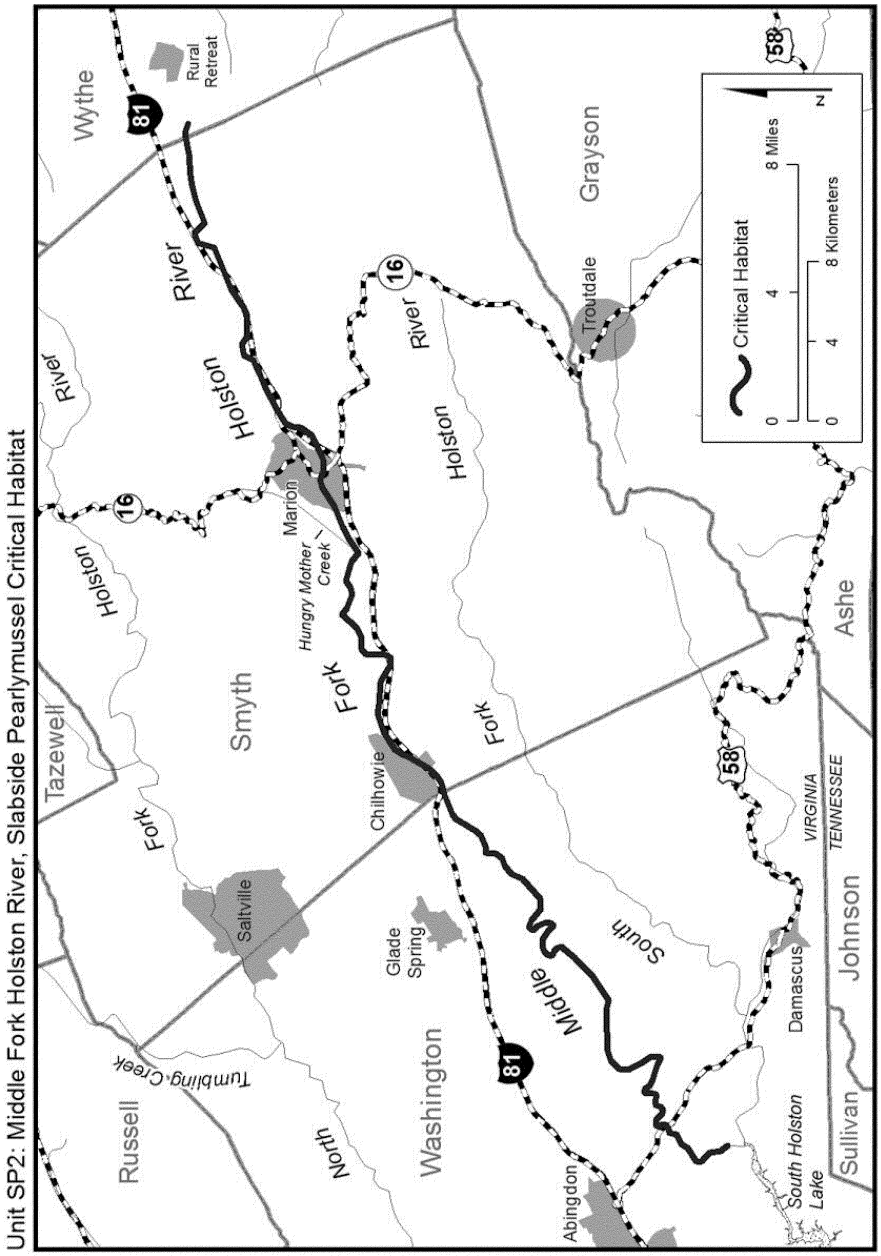
(ii) Map of Unit SP1 follows:



(7) Unit SP2: Middle Fork Holston River, Washington, Smyth, and Wythe Counties, Virginia.

(i) The unit includes approximately 89 rkm (55 rmi) of the Middle Fork Holston River from its inundation at South Holston Lake (−81.90427, 36.66338) in Washington County, VA, upstream to its headwaters (−81.31345, 36.88666) in Wythe County, VA.

(ii) Map of Unit SP2 follows:

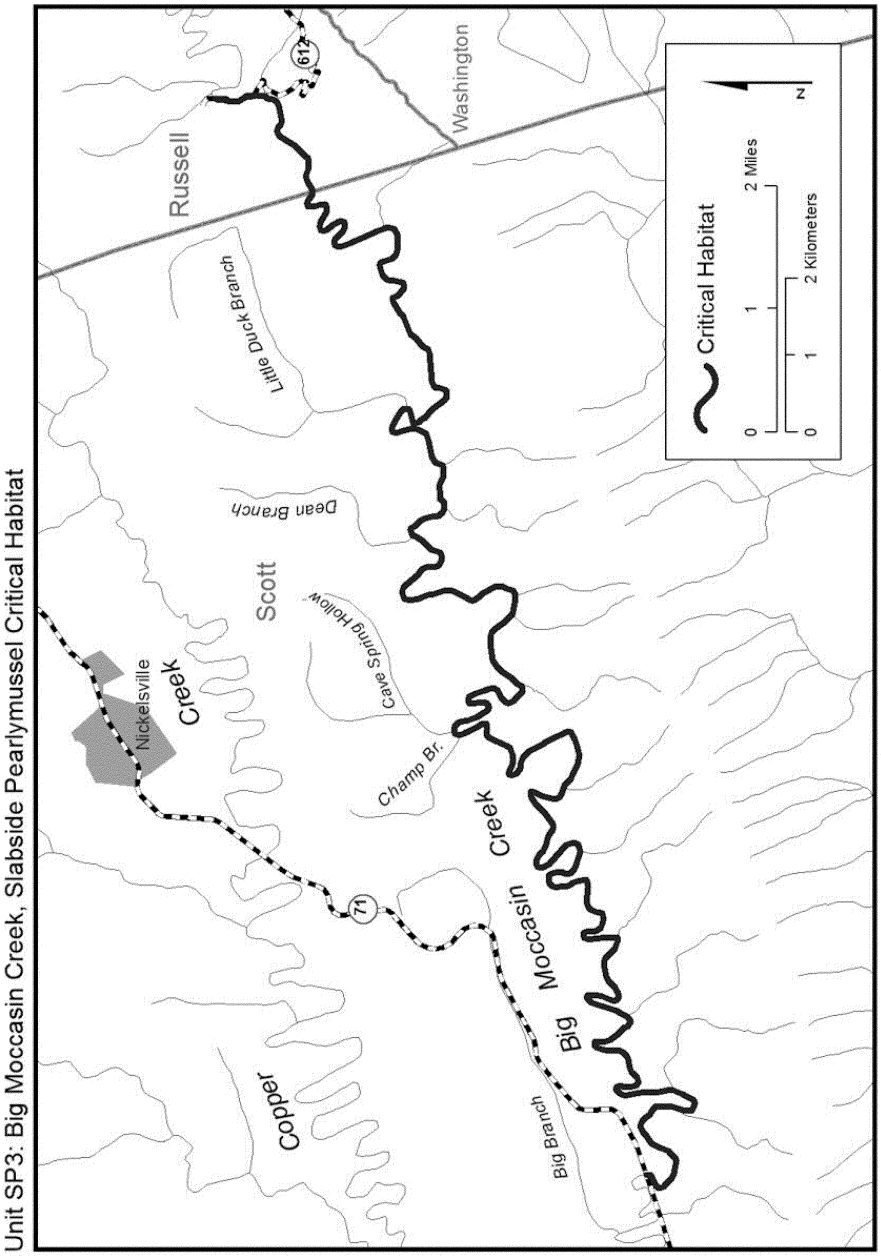


(8) Unit SP3: Big Moccasin Creek, Scott and Russell Counties, Virginia.

(i) The unit includes approximately 33 rkm (21 rmi) of Big Moccasin Creek from the Highway 71 Bridge crossing (−82.48361, 36.69109) in Scott County, VA, upstream to the Route 612 Bridge crossing (−82.32348,

36.73740) near Collinwood in Russell County, VA.

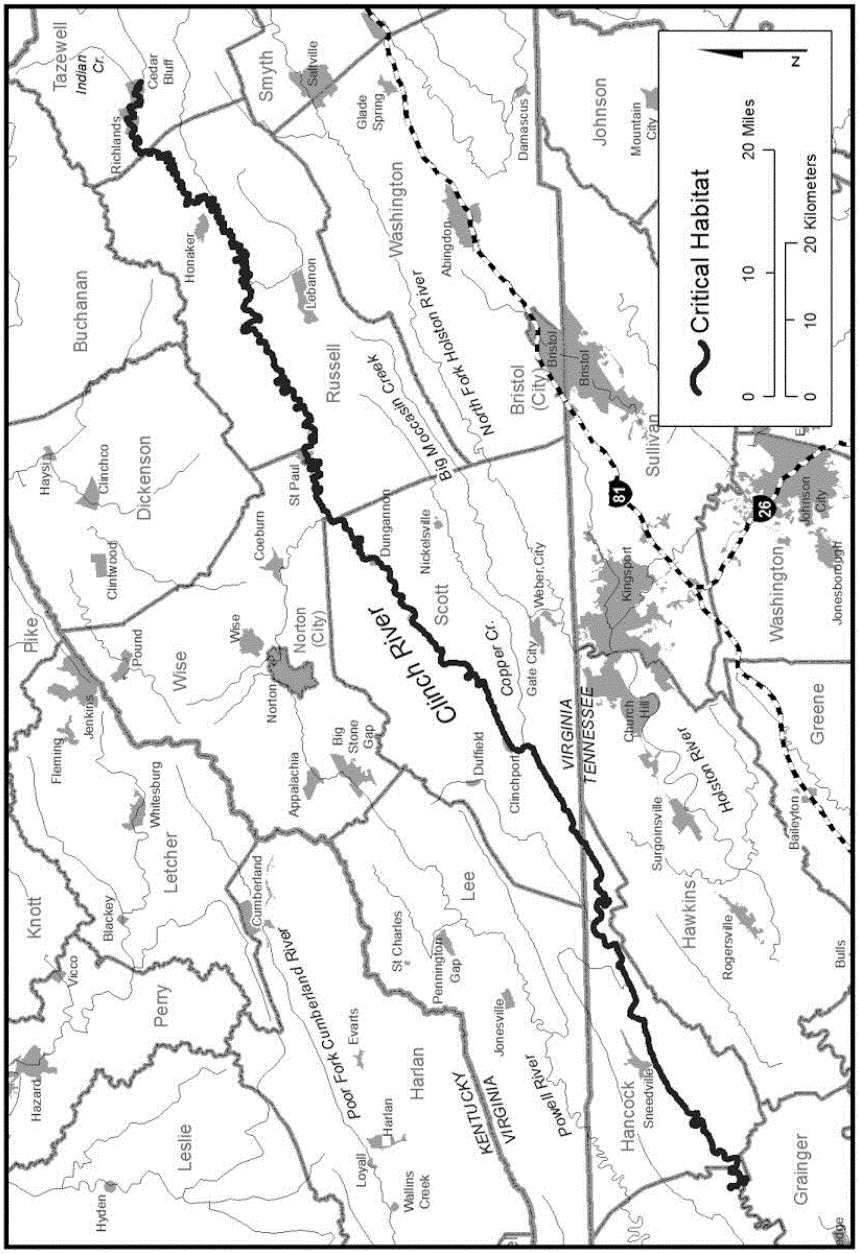
(ii) Map of Unit SP3 follows:



(9) Unit SP4: Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia.

(i) The unit includes approximately 263 rkm (163 rmi) of the Clinch River from rkm 255 (rmi 159) immediately below Grissom Island (−83.40106, 36.43081) in Hancock County, TN, upstream to its confluence with Indian Creek near Cedar Bluff (−81.74999, 37.07995), Tazewell County, VA.

(ii) Map of Unit SP4 follows:



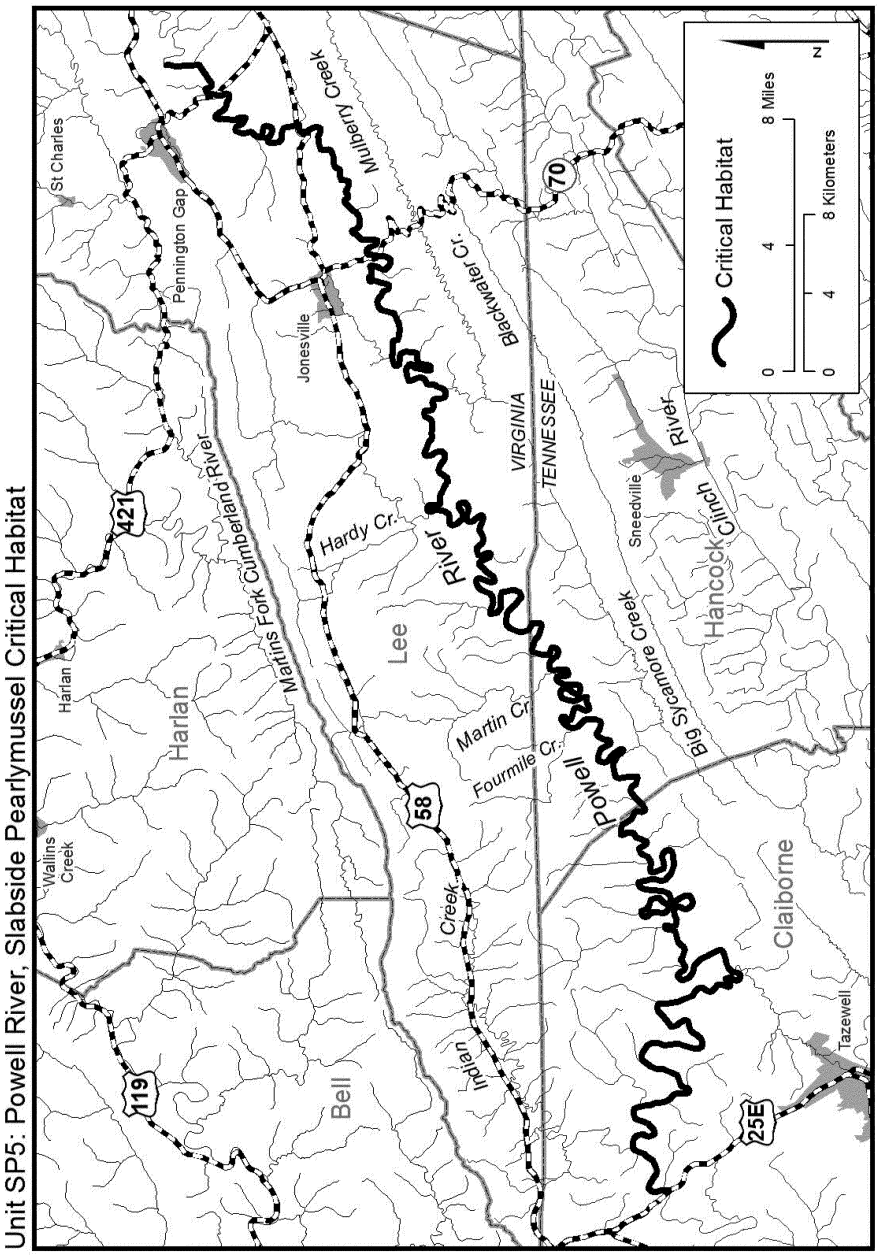
Unit SP4: Clinch River, Slabside Pearlymussel Critical Habitat

(10) Unit SP5: Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia.

(i) The unit includes approximately 153 rkm (95 rmi) of the Powell River from the U.S. 25E Bridge (−83.63102, 36.54143) in Claiborne County, TN, upstream to rkm 256 (rmi

159) (−82.98111, 36.75730, upstream of Rock Island in the vicinity of Pughs) in Lee County, VA.

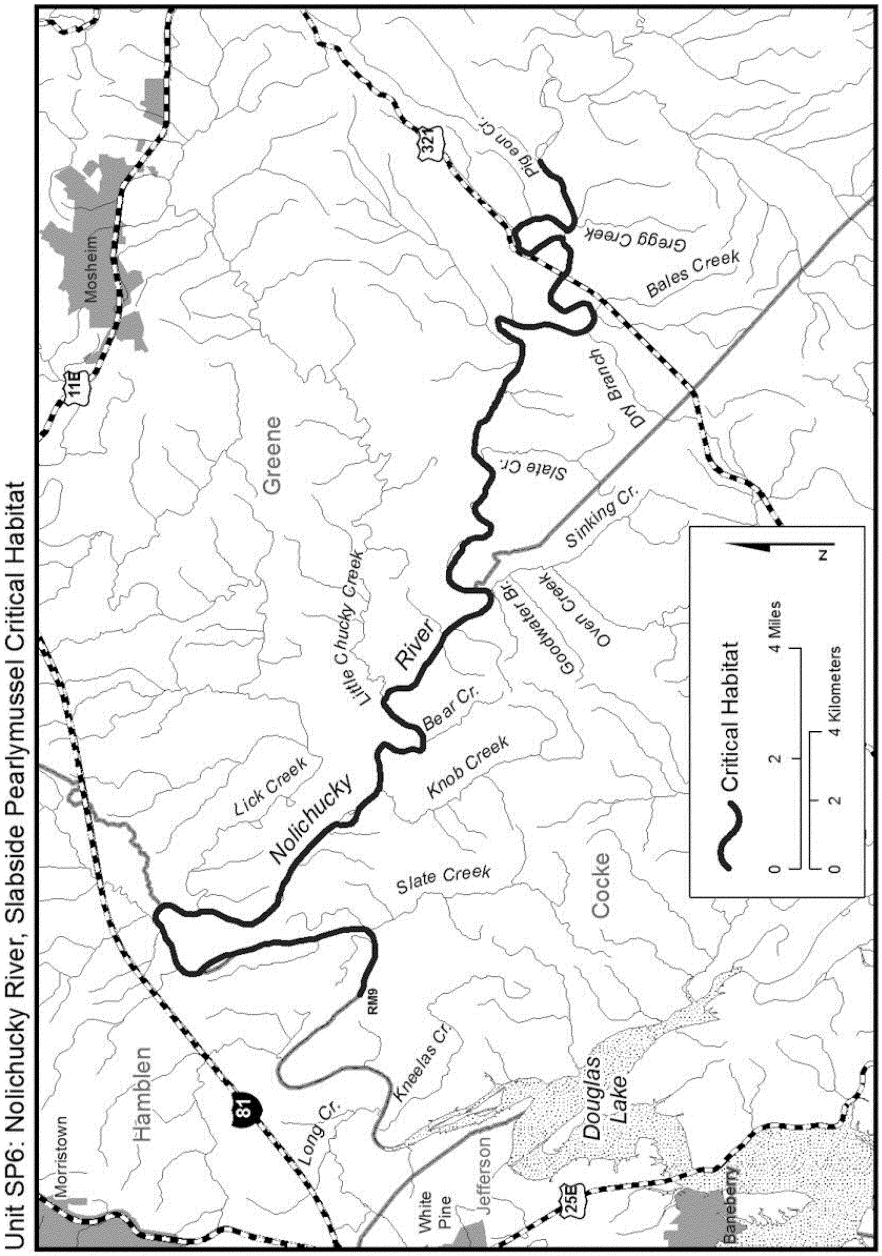
(ii) Map of Unit SP5 follows:



(11) Unit SP6: Nolichucky River, Cocke, Hamblen, and Greene Counties, Tennessee.

(i) The unit includes approximately 52 rkm (32 rmi) of the Nolichucky River from rkm 14 (rmi 9), approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam (−83.19630, 36.12970), where it divides Hamblen and Cocke Counties, TN, upstream to its confluence with Pigeon Creek, just upstream of the Highway 321 Bridge crossing (−82.92926, 36.07545), in Greene County, TN.

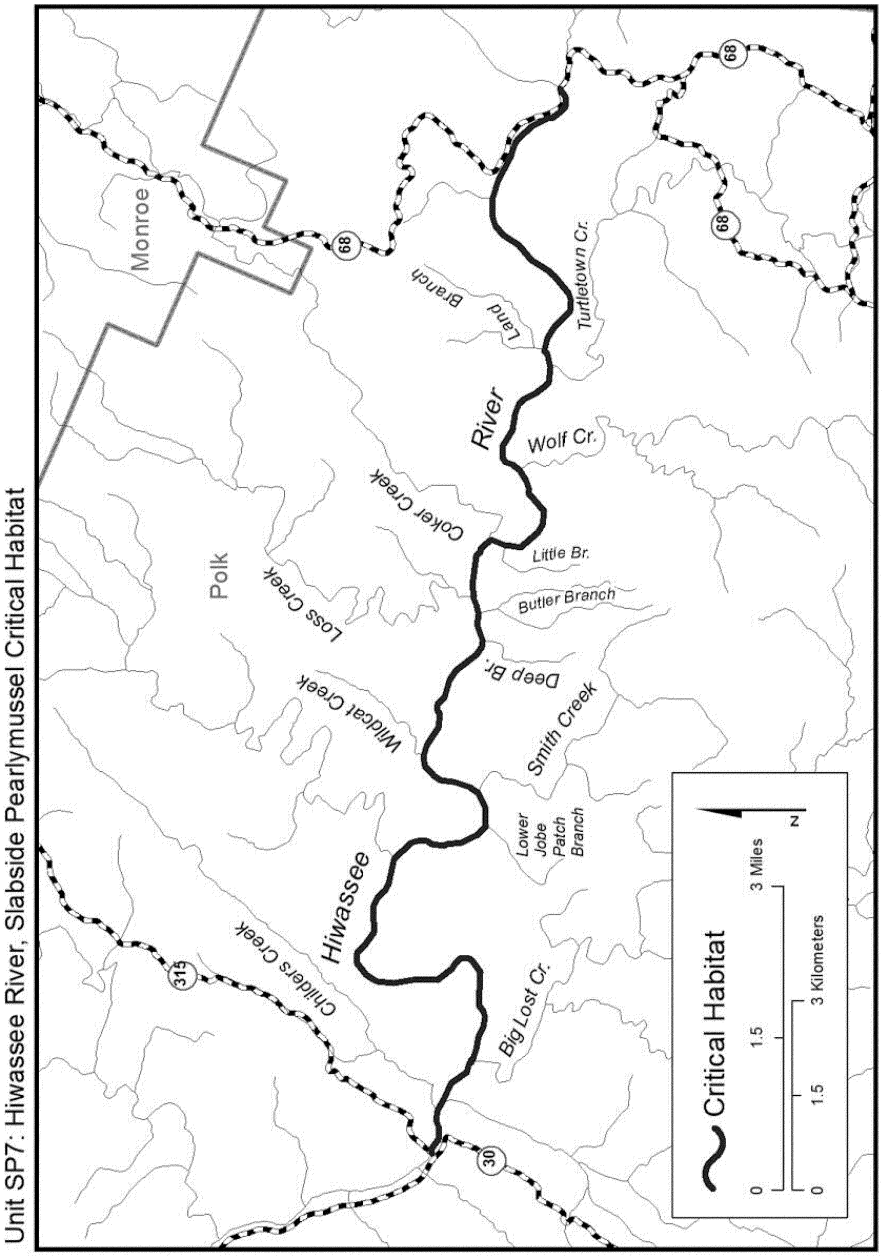
(ii) Map of Unit SP6 follows:



(12) Unit SP7: Hiwassee River, Polk County, Tennessee.

(i) The unit includes approximately 24 rkm (15 rmi) of the Hiwassee River from the Highway 315 Bridge crossing (−84.50234, 35.18875) upstream to the Highway 68 Bridge crossing (−84.31728, 35.16811) in Polk County, TN.

(ii) Map of Unit SP7 follows:



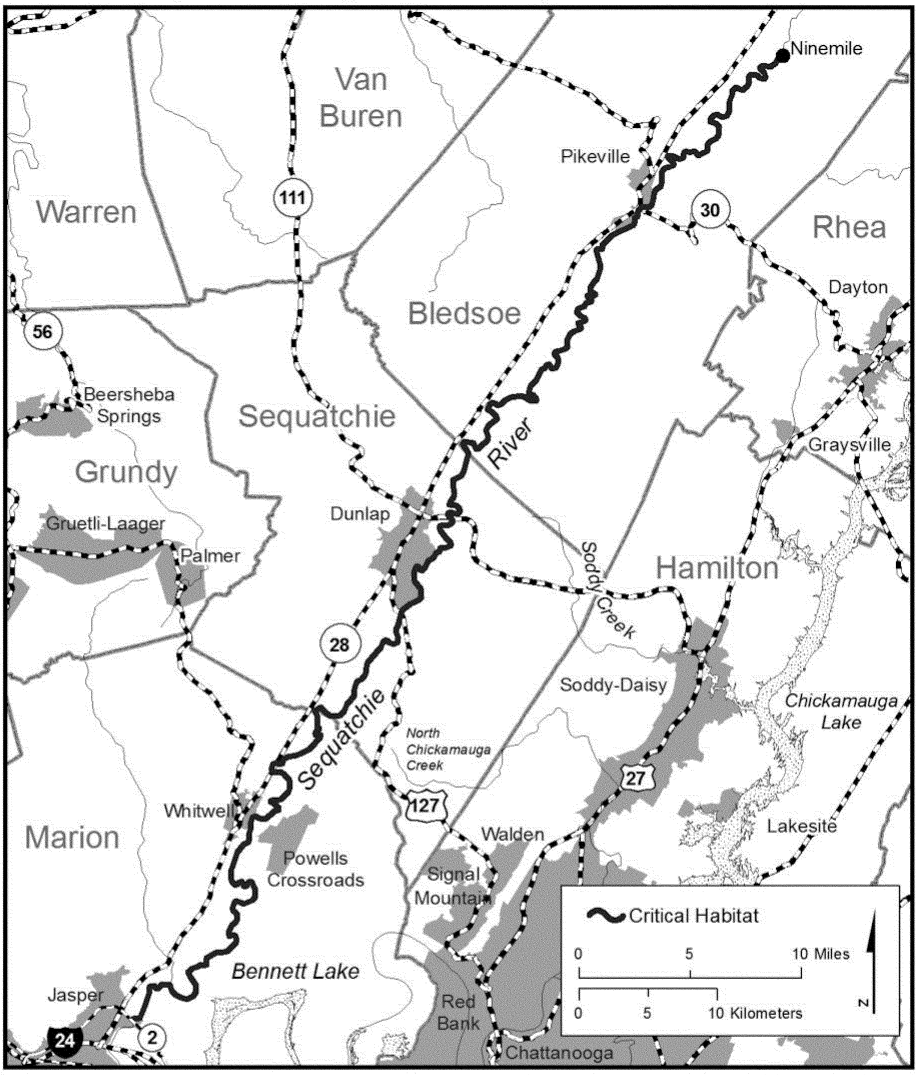
(13) Unit SP8: Sequatchie River, Marion, Sequatchie, and Bledsoe Counties, Tennessee.

(i) The unit includes approximately 151 rkm (94 rmi) of the Sequatchie River from the Highway 41, 64, 72, 2 Bridge crossing (−85.60583, 35.06576) in Marion County, TN,

upstream to the Ninemile Cross Road Bridge crossing (−85.08304, 35.69162) in Bledsoe County, TN.

(ii) Map of Unit SP8 follows:

Unit SP8: Sequatchie River, Slabside Pearlymussel Critical Habitat



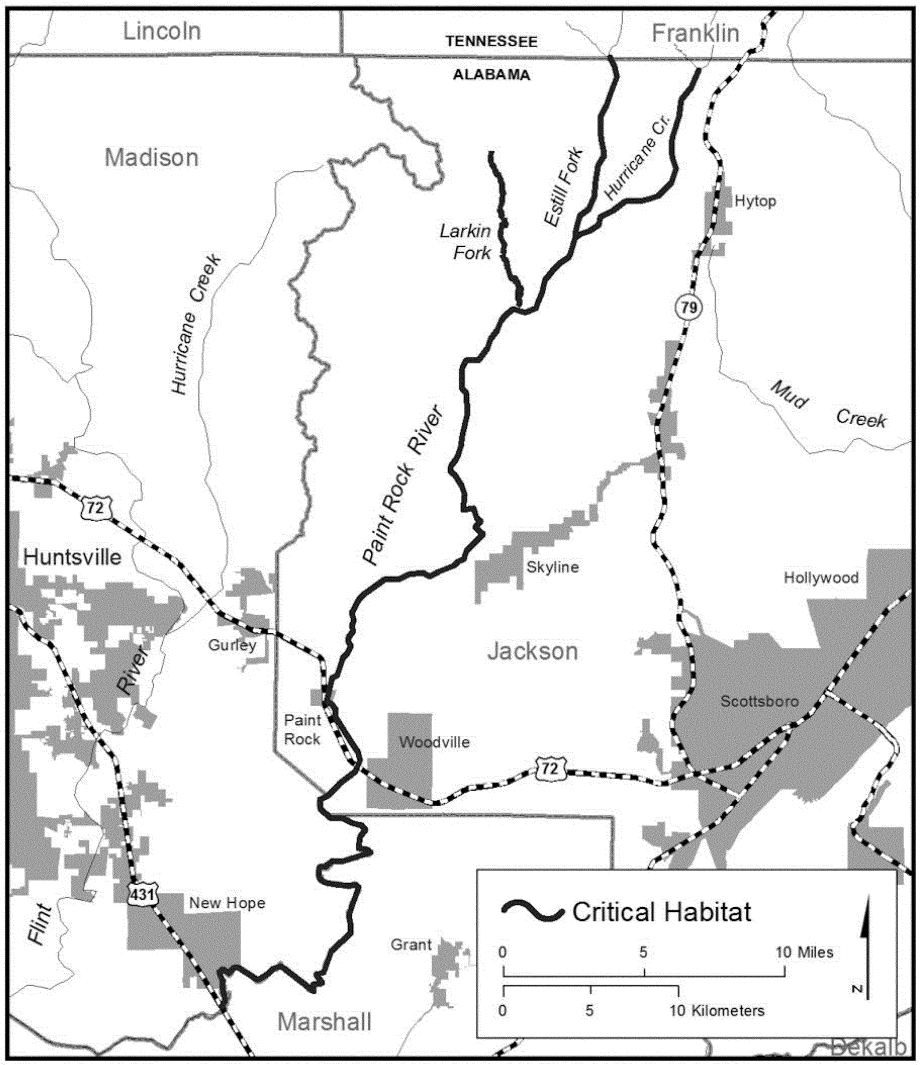
(14) Unit SP9: Paint Rock River, Madison, Marshall, and Jackson Counties, Alabama.

(i) The unit includes approximately 86 rkm (53 rmi) of the Paint Rock River from the Highway 431 Bridge crossing (−86.39109, 34.49926) along the Madison and Marshall County line, AL, upstream to the confluence of Estill Fork and Hurricane Creek in Jackson County, AL (−86.17048, 34.89813). The unit includes approximately 11 rkm (7 rmi) of Larkin Fork from its confluence with the

Paint Rock River (−86.20833, 34.86218) upstream to its confluence with Bear Creek (−86.22512, 34.94205) in Jackson County, AL; approximately 13 rkm (8 rmi) of Estill Fork from its confluence with the Paint Rock River (−86.17048, 34.89813) upstream to its confluence with Bull Run (−86.15283, 34.99118) in Jackson County, AL; and approximately 16 rkm (10 rmi) of Hurricane Creek from its confluence with the Paint Rock River (−86.17048, 34.89813) upstream to its confluence with Turkey Creek (−86.09441, 34.98370) in Jackson County, AL.

(ii) Map of Unit SP9 follows:

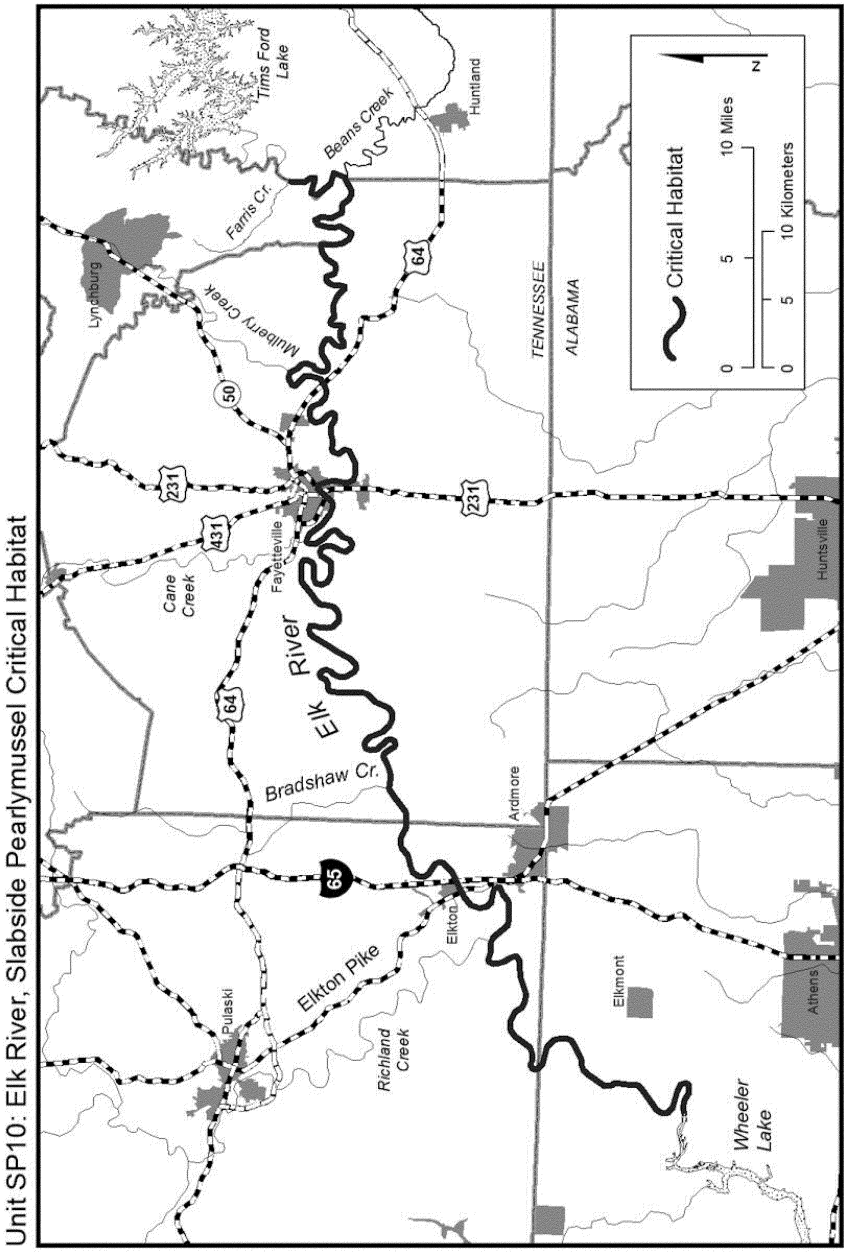
Unit SP9: Paint Rock River, Slabside Pearlymussel Critical Habitat



(15) Unit SP10: Elk River, Limestone County, Alabama, and Giles, Lincoln, Franklin, and Moore Counties, Tennessee.

(i) The unit includes approximately 164 rkm (102 rmi) of the Elk River from its inundation at Wheeler Lake (−87.06503, 34.89788) in Limestone County, AL, upstream to its confluence with Farris Creek (−86.31996, 35.16288) at the dividing line between Franklin and Moore Counties, TN.

(ii) Map of Unit SP10 follows:



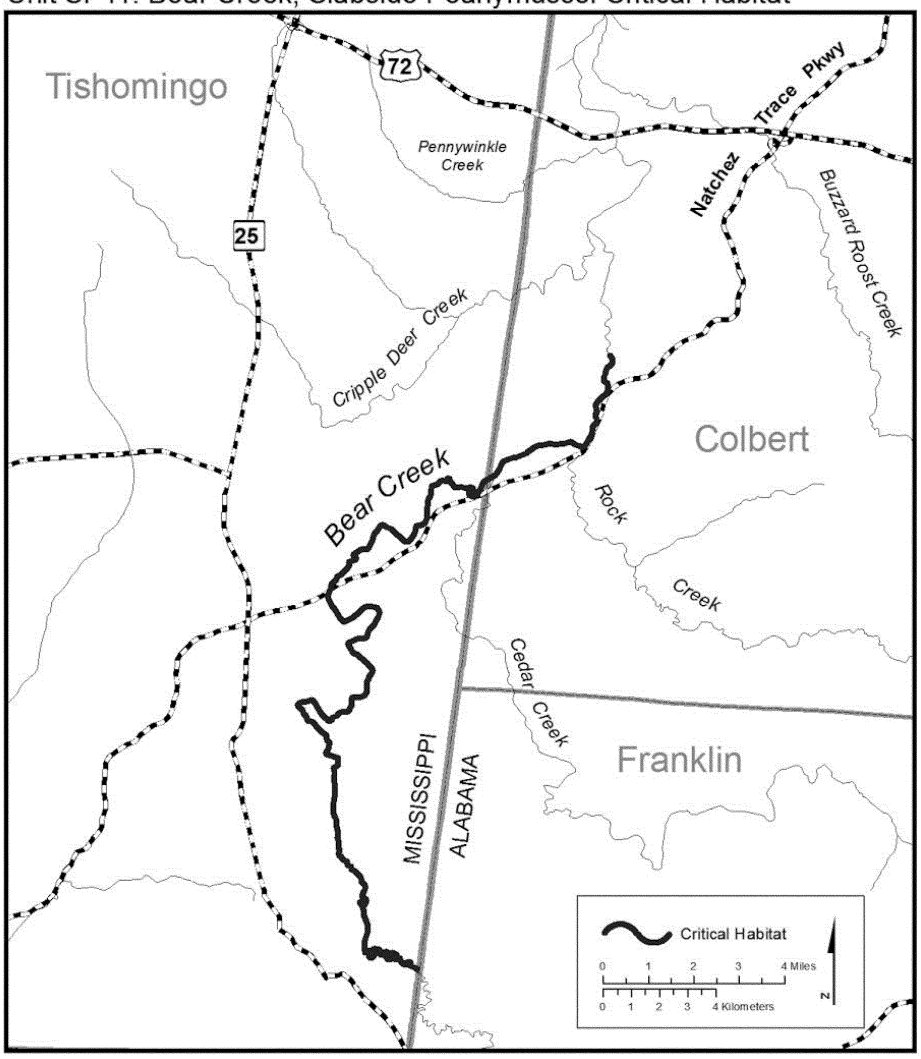
(16) Unit SP11: Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi.

(i) The unit includes approximately 42 rkm (26 rmi) of Bear Creek from its inundation at Pickwick Lake at rkm 37 (rmi 23) (−88.08373, 34.68909) in Colbert County, AL, upstream

through Tishomingo County, MS, and ending at the Mississippi-Alabama State line (−88.15388, 34. 49139).

(ii) Map of Unit SP11 follows:

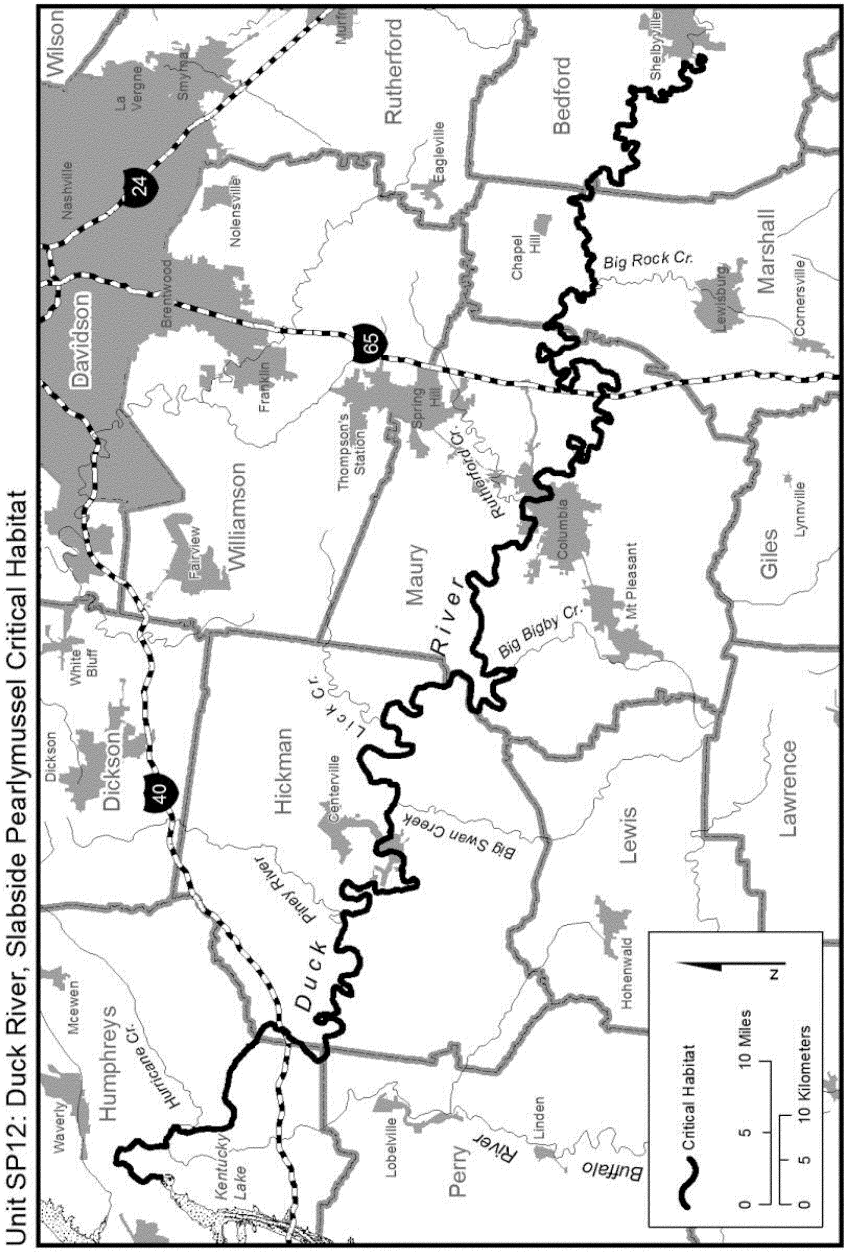
Unit SP11: Bear Creek, Slabside Pearlymussel Critical Habitat



(17) Unit SP12: Duck River, Humphreys, Perry, Hickman, Maury, Marshall, and Bedford Counties, Tennessee.

(i) The unit includes approximately 348 rkm (216 rmi) of the Duck River from its inundation at Kentucky Lake (−87.88011, 36.00244) in Humphreys County, TN, upstream to its confluence with Flat Creek (−86.48778, 35.47209) near Shelbyville in Bedford County, TN.

(ii) Map of Unit SP12 follows:

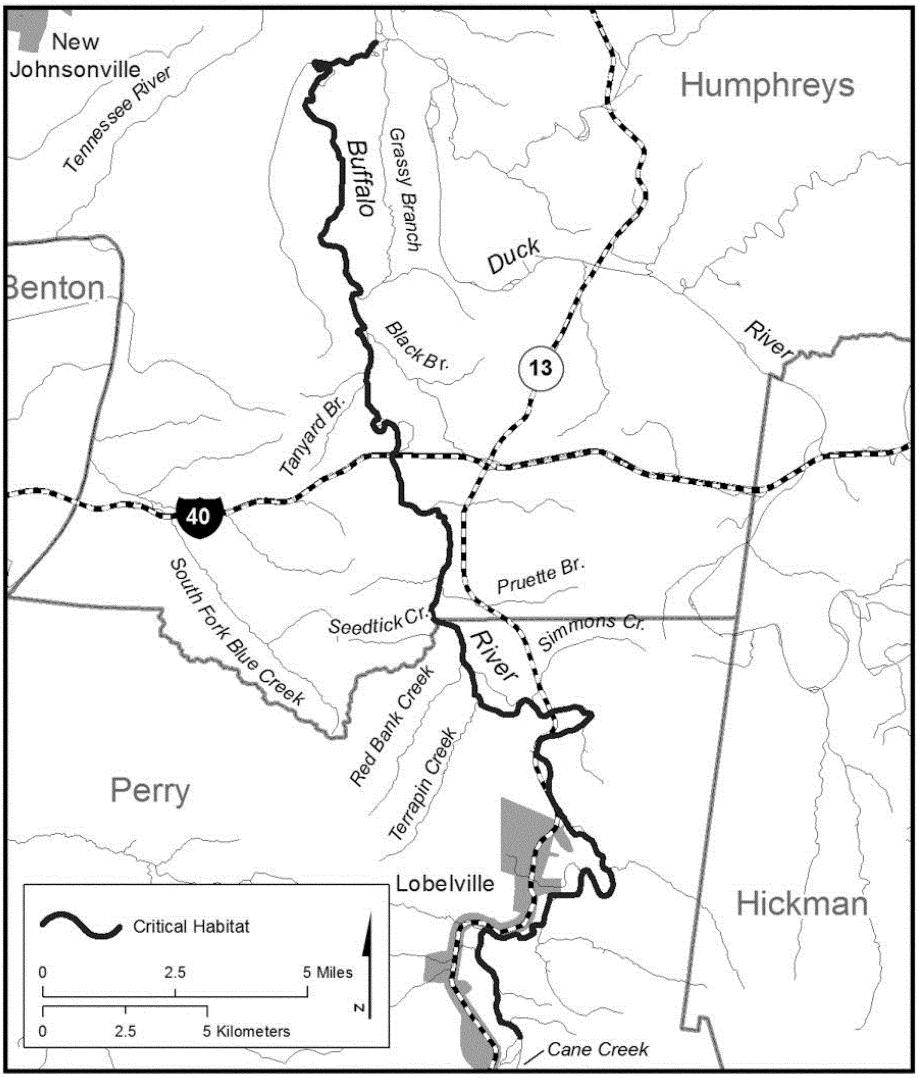


(18) Unit SP13: Buffalo River, Humphreys and Perry Counties, Tennessee.

(i) The unit includes 50 rkm (31 rmi) of the Buffalo River from its confluence with the Duck River (−87.84261, 35.99477) in Humphreys County, TN, upstream to its confluence with Cane Creek (−87.78718, 35.72298) in Perry County, TN.

(ii) Map of Unit SP13 follows:

Unit SP13: Buffalo River, Slabside Pearlymussel Critical Habitat



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