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Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Limnanthes floccosa* ssp. *grandiflora* (Large-Flowered Woolly Meadowfoam) and *Lomatium cookii* (Cook's Lomatium); Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R1–ES–2009–0046]
[MO 92210–0–0009 B4]

RIN 1018–AW21

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Limnanthes floccosa* ssp. *grandiflora* (Large-Flowered Woolly Meadowfoam) and *Lomatium cookii* (Cook's Lomatium)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for two plants, *Limnanthes floccosa* ssp. *grandiflora* (large-flowered woolly meadowfoam) and *Lomatium cookii* (Cook's lomatium, Cook's desert parsley) under the Endangered Species Act of 1973, as amended (Act). We are designating 2,363 hectares (ha) (5,840 acres (ac)) in Jackson County, Oregon, as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and 2,545 ha (6,289 ac) in Jackson and Josephine Counties, Oregon, as critical habitat for *Lomatium cookii*. Excluding overlapping critical habitat units for the two species, a total of approximately 4,018 ha (9,930 ac) located in Jackson and Josephine Counties, Oregon, fall within the boundaries of the critical habitat designation.

DATES: This final rule becomes effective on August 20, 2010.

ADDRESSES: This final rule and final economic analysis are available on the Internet at *http://www.regulations.gov; maps of critical habitat are* available at *http://criticalhabitat.fws.gov*. Supporting documentation we used in preparing this final rule is available for public inspection, by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Ave., Portland, OR 97266; telephone 503–231–6179; facsimile 503–231–6195.

FOR FURTHER INFORMATION CONTACT: Paul Henson, State Supervisor, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266 (telephone 503–231–6179; facsimile 503–231–6195). If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

It is our intent to discuss only those topics directly relevant to the development and designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* in this final rule. For additional detailed information on the taxonomy, biology, and ecology of these species, please refer to the final listing rule published in the **Federal Register** on November 7, 2002 (67 FR 68004), and the Draft Recovery Plan for Listed Species of the Rogue Valley Vernal Pool and Illinois River Valley Wet Meadow Ecosystems (USFWS 2006, pp. II-1 to II-17). Information on the associated draft economic analysis for the proposed rule to designate critical habitat was published in the **Federal Register** on January 12, 2010 (75 FR 1568).

Species Description, Life History, Distribution, Ecology, and Habitat

Limnanthes floccosa ssp. *grandiflora*, commonly known as large-flowered woolly meadowfoam, and *Lomatium cookii*, commonly known as Cook's lomatium or Cook's desert parsley, are endemic to seasonal wetland habitats of southwestern Oregon. *Limnanthes floccosa* ssp. *grandiflora* is restricted to Jackson County in the Rogue River Valley, where it co-occurs with *Lomatium cookii* in several areas near White City in an area known as the Agate Desert (ONHP 1997, p. 3; Huddleston 2001, p. 11). *Lomatium cookii* occurs in two disjunct locations: (1) In the Rogue River Valley, near the towns of Medford, White City, and Eagle Point; and (2) in the Illinois River Valley of Josephine County near the towns of Selma, Cave Junction, and O'Brien (ONHDB 1994, p. 5). The two locations are separated by approximately 48 kilometers (km) (30 miles (mi)).

Limnanthes floccosa ssp. *grandiflora* and *Lomatium cookii* are both associated with the remaining relatively undisturbed vernal pool–mounded prairie habitat in the Middle Rogue River Basin's Agate Desert (Environmental Science Associates (ESA) 2007, p. 2-1; ONHP 1997, p. 3). Relative to the pools, the plants often occur in pool margins, or less often on both mound tops and depression bottoms of drier vernal pools.

The substrate underlying the vernal pool topography in the Middle Rogue River Valley is primarily a Pleistocene outwash alluvium (mud, silt, and sand deposited by flowing water) deposited in what has become a deep bench or terrace above the current floodplain (Elliot and Sammons 1996). The alluvium is composed of a matrix of gravels and clay, which creates a hardpan or duripan layer (mineral soil horizons relatively impervious to water). During fall and winter rains, water collects in shallow depressions of the vernal pool–mounded prairie habitat. Downward percolation of water is prevented by the presence of the duripan layer located from 0.18 to 0.75 meters (m) (0.6 to 2.5 feet (ft)) below the soil surface (Keeley and Zedler 1998, p. 2; Huddleston 2001, pp. 14–15). In areas north and northwest of Medford, the vicinity of White City, and north along low-elevation plains, *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* occur on alluvial soils, primarily mapped as Agate-Winlo complex soils, but may also be found on mapped Coker clay and Provig-Agate complex soils with 0 to 3 percent slopes. *Limnanthes floccosa* ssp. *grandiflora* also occasionally occurs on soils mapped as Carney clay and Winlo, very gravelly loam in vernal pool habitat north of White City (USDA 2006b).

In the Rogue River Valley, the two plants are associated with microhabitats occupied by mostly annual native forbs and graminoids (grass-like plants), including *Alopecurus saccatus* (Pacific foxtail), *Deschampsia danthonioides* (slender hairgrass), *Eryngium petiolatum* (Oregon coyote thistle), *Trifolium depauperatum* (poverty clover), *Myosurus minimus* (tiny mouse-tail), *Navarretia leucocephala* ssp. *leucocephala* (white-head navarretia), *Lasthenia californica* (California goldfields), *Phlox gracilis* (slender phlox), *Plagiobothrys bracteatus* (bracted popcornflower), and *Triteleia hyacinthina* (white brodiaea) (OSU 2007); USFWS 2006, p. II-6).

Native bunchgrass communities that historically occurred in the Rogue River Valley and supported *Lomatium cookii* habitat included *Achnatherum lemmonii* (Lemmon's needlegrass), *Festuca roemeri* var. *klamathensis* (Klamath Roemer's fescue), and *Poa secunda* (rough bluegrass). The vernal pool habitat occupied by *Limnanthes floccosa* ssp. *grandiflora* in the Rogue River Valley ranges from 372 to 469 m (1,220 to 1,540 ft) in elevation (Huddleston 2001, p. 11; USGS 2002). The vernal pool habitat occupied by *Lomatium cookii* in the same basin area ranges from 372 to 411 m (1,220 to 1,350 ft) in elevation (Huddleston 2001, p. 11; USGS 2009).

The habitats occupied by *Lomatium cookii* in the Illinois River Valley are more complex than those in the Rogue River Valley in both soil composition and soil depth. *Lomatium cookii* occurs on 17 mapped soil types in the Illinois

River Valley. The majority of *Lomatium cookii* occurrences in the Illinois River Valley are found on Brockman clay loam, Josephine gravelly loam, and Pollard loam (USDA 2008). Unlike the Middle Rogue River Basin soils, many of the *Lomatium cookii*-occupied soil types originate from stream-fed alluvium covering sedimentary or ultramafic rocks (ONHDB 1994, pp. 9–10). Ultramafic rock is the parent material for serpentine rock formations, once the rock has undergone excessive heat and pressure through geologic processes. The soils derived from serpentine rock give rise to unusual and rare associations of endemic plants that are tolerant of extremely toxic soil conditions. Serpentine rock is low in calcium and silica, low in many plant nutrients, and high in iron and magnesium (Brady *et al.* 2005, p. 246). Pollard loam and Speaker-Josephine gravelly loam soils originate from non-ultramafic sources, while Brockman soil and most others types originate from ultramafic parent material (Silvernail and Meinke 2008, pp. 9–10).

Habitat occupied by *Lomatium cookii* in the Illinois River Valley includes seasonally wet grassland meadows, flats and slopes in mixed oak-conifer and oak-madrone forested meadows, streambanks, roadside edges, or forest openings. Such habitats are dominated by native grasses, including: *Danthonia californica* (California oatgrass), *Poa secunda, Deschampsia cespitosa* (tufted hairgrass), *Festuca roemeri* var. *klamathensis, Achnatherum lemmonii*, and *Deschampsia danthonioides*. Native forbs include *Camassia* spp. (camas), *Ranunculus occidentalis* (western buttercup), and *Limnanthes gracilis* var. *gracilis* (slender meadowfoam) (ONHDB 1994, p. 9). The seasonally wet meadows occupied by *Lomatium cookii* in the Illinois River Valley usually occur as part of bottomland *Quercus garryana–Quercus kelloggii–Pinus ponderosa* (Oregon white oak–California black oak–ponderosa pine) savannas. *Lomatium cookii* also occurs in shrubby habitat composed of *Ceanothus cuneatus* (wedge-leaf buckbrush) and *Arctostaphylos viscida* (whiteleaf manzanita). Widely spaced, large pine trees are characteristic of the open meadow habitat with mixed pine and oak woodlands occurring along seasonal creeks.

Lomatium cookii populations are generally found in areas that still have relatively intact habitat components, although remnant populations are often found in areas with or adjacent to mining, agricultural development, residential or commercial development, and grazing activities (Oregon Natural Heritage Information Center (ONHIC) database 2008).

Land uses associated with the largest, more contiguous populations of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* are vernal pool habitats managed specifically for conservation or managed using compatible agricultural practices. Actions conducive to large population sizes of either of the two species may include prescribed burns, controlled grazing practices, or regular mowing. The Rogue Valley International–Medford Airport is an example of an area that is mowed regularly to meet Federal Aviation Authority (FAA) safety requirements and that supports a large and prolific *Lomatium cookii* population that extends over 2.3 ha (7 ac) (R. Russell, pers. comm. 2004; S. Friedman, pers. obs. 2009). Within grazed properties, small, isolated patches of *Limnanthes floccosa* ssp. *grandiflora* often continue to persist, perhaps due to suppression of the thatch layer from invasive, nonnative grasses (Meyers 2008, pp. 1–48; Wildlands, Inc. 2008, p. 1; Borgias 2004, p. 42).

Sites occupied by *Lomatium cookii* that receive no management continue to support plant populations, but monitoring suggests that some of those populations are declining (Kaye and Thorpe 2008, pp. 16–25). For example, Borgias (2004, p. 34) observed that, after several years without grazing or fire at The Nature Conservancy's Agate Desert Preserve, thatch accumulated and recruitment of young *Lomatium cookii* declined due to the increases of nonnative annual grasses. In the Illinois River Valley, other reports indicate that vegetative succession, herbivory by voles (*Microtus* spp.), or both, may be the cause of declining populations (Kaye and Thorpe 2008, pp. 16–25).

Threats

Threats to *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* in the Rogue River Valley include habitat impacts resulting from: residential, urban, and commercial development; aggregate and mineral mining; agricultural development (including leveling, ditching, tilling, and stock pond construction or water impoundments); road construction and maintenance; off-road vehicle (ORV) use that affects surface hydrology; vandalism (related to ORV use); incompatible grazing practices; and encroachment by nonnative plants (67 FR 68004, November 7, 2002).

The habitat impacts resulting from residential, urban, agricultural, mining, and commercial development resulted in an approximately 60 percent loss of the vernal pool landscape in the Rogue River Valley due to building construction, removal of habitat, altered hydrology, or altered topography (ONHP 1997, pp. 14–15; Wille and Petersen 2006, p. 1993).

Ground-disturbing activities, such as development, mining, road construction and maintenance, or ORV use, can damage the clay pan layer and allow soil moisture to drain from the vernal pools or wet meadow habitats that the plants depend on for reproduction and survival. Incompatible agricultural practices, including some timber management and crop management, can alter hydrology, directly affect plants with equipment, allow nonnative thatch to accumulate due to excessive grazing rest, and stifle plant growth, or indirectly affect plants as a result of road construction. Road construction can fragment populations, alter hydrology, or cover plants with fill material, resulting in degradation of habitat and direct loss of plants.

The effects of gold mining operations threaten approximately 10 percent of the federally owned portion of *Lomatium cookii* habitat in the Illinois River Valley, and if existing mining claims on Bureau of Land Management (BLM) lands are pursued, habitat damage would increase beyond 20 percent. The effects of mining activities can result in direct habitat loss for the species and limit recovery. Indirect effects from mining operations could also occur due to off-site activities such as road construction, which are likely to alter hydrologic cycles at *Lomatium cookii* habitat sites. These changes could cause seasonally saturated soils to drain and could impede seed germination or lead to death of seedlings and mature plants (67 FR 68004, November 7, 2002). However, remnant patches of *Lomatium cookii* do occasionally persist near mining sites.

Under the Federal Land Policy and Management Act (43 U.S.C. 1701 *et seq.*) and the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), the BLM requires permits and public review for "Plan Level" mining activities (greater than 5 ac (2 ha)) on Federal lands. The Code of Federal Regulations (43 CFR 3590) allows Federal agencies to deny a permit which could result in irreparable damages to significant resources (including endangered and threatened species) that cannot be mitigated. Several *Lomatium cookii* occurrences and suitable habitat occur on BLM Areas of Critical Environmental Concern (ACECs). There are several ACECs where we are designating critical habitat for *Lomatium cookii*, including:

Rough and Ready, French Flat, and portions of the new proposed Waldo Takilma ACEC. Any proposed mining actions in an ACEC requires a "Plan Level" operation plan, which receives public input through the NEPA process.

Vandalism in the form of intentional disregard or dismantling of signage or fencing intended to protect certain wetland areas from unauthorized ORV use, and subsequent damage resulting from that use, can result in negative effects on the hydrology of the habitat for the two plant species (for example, by penetrating the duripan layer, resulting in drainage).

The effect of grazing on suitable habitat depends on how the grazing is managed. There is conflicting information showing that certain grazing practices can affect native plant species' richness (Marty 2004, p. 1629). Marty's (2004, pp. 1629-1630) study indicates that wet season grazing resulted in a decrease of native forb species at vernal pool edge habitat, the habitat typically occupied by *Limnanthes floccosa* ssp. *grandiflora*. However, the study goes on to mention that continuous grazing was reported to increase species' richness and native plant cover in this edge habitat. In a grazing report prepared for the Service, Borgias (2004, p. 34) mentions that at one site in Jackson County, year-round cattle and horse grazing is practiced, and it appears to allow survival and even proliferation of *Lomatium cookii*. In their study of 17 to 25 sites, Hayes and Holl (2003 p. 1697) indicate the number of native forb species was greater in ungrazed sites than grazed sites. Brock (1987, p. 30) contends that historical grazing practices fragmented and extirpated *Lomatium cookii* throughout much of the Rogue River Valley, based on his observations of the dominance of nonnative annual grasses in the area and the disparate occurrences of *Lomatium cookii* patches. There appear to be instances where some grazing practices can have both beneficial and negative impacts on suitable habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

Examples of incompatible grazing practices could include wet season grazing (Marty 2004, p. 1629), particularly during the plants' flowering and fruiting season, or grazing at such high density of livestock (ONHDB 1994, p. 11) that all grass and forbs are grazed to a height that prevents reproduction. Water diversion and water impoundment, when used in conjunction with livestock management (making water available for livestock), can also eliminate habitat for the two plant species.

In the Illinois River Valley, herbivory by voles has resulted in mortality of individual plants, as well as an indirect decrease in reproduction for several *Lomatium cookii* occurrences (Kaye and Thorpe 2009, p. 31).

Limnanthes floccosa ssp. *grandiflora* and *Lomatium cookii* are also threatened by encroachment of nonnative annual herbs, including *Centaurea solstitialis* (yellow starthistle) and *Cardaria draba* (hoary cress), which may competitively exclude the two native species. Nonnative annual grasses, namely *Hordeum marinum* ssp. *gussoneanum* (Mediterranean barley) and *Taeniantherum caput-medusae* (medusahead), are also contributing to the degradation of the native plant community. *Hordeum marinum* ssp. *gussoneanum* encroaches on microhabitats occupied by both species, but *T. caput-medusae* occurs on adjacent upland mound habitats, occasionally interfering with *Lomatium cookii* germination and growth with its thatch output. Reproduction of both *Lomatium cookii* and *Limnanthes floccosa* spp. *grandiflora* is impaired by the presence of introduced annual grasses, as seeds of both native species are not able to germinate under the dense thatch produced by nonnative annual grasses. Recently introduced nonnative, invasive plants that have the potential to threaten *Lomatium cookii* in the Illinois River Valley are *Alyssum murale* (yellowtuft) and *A. corsicum* (alisso di Corsica). These two plants were recently introduced to meadow habitat with serpentine-dervied soils as part of an experiment to test their ability to accumulate nickel (ODA and USFS 2008, pp. 1–3). The plants tend to outcompete some native plants and persist over time (ODA and USFS 2008, pp. 1–3). The plants were declared noxious weeds by the Oregon Department of Agriculture (ODA) and are illegal to plant in Oregon.

Threats to *Lomatium cookii* in the Illinois River Valley include the habitat impacts resulting from aggregate and mineral mining, residential and urban development, timber harvesting practices, road construction and maintenance, ground disturbance by ORV use that affects surface hydrology, garbage dumping, succession of native woody vegetation due to fire suppression, incompatible grazing practices, and herbivory by voles. The dumping of garbage, especially such large items as old appliances, can directly affect populations by crushing or smothering them. Succession of native woody vegetation, although a natural process, is normally discouraged by fire. In the Illinois River Valley, the longer fire return intervals due to fire suppression have led to the encroachment of native woody vegetation (trees and shrubs) into the wet meadow habitats occupied by *Lomatium cookii*. Such native woody plants include *Ceanothus cuneatus* (buckbrush), *Pinus ponderosa* (Ponderosa pine), *Pinus jeffreyi* (Jeffrey pine), *Pseudotsuga menziesii* (Douglas-fir), and *Toxicodendron diversiloba* (poison oak). The succession of these species in *Lomatium cookii* habitat can isolate the species into small refuge pockets or cause widespread reduction of habitat suitability by reducing light availability (over-shading), limiting water and nutrient availability, fragmenting populations, and limiting space to grow.

Individuals of *Lomatium cookii* growing in more shaded conditions, such as when surrounded by shrubs, tend to be smaller and less robust than plants growing in more open areas in association with lower growing grasses and forbs (ONHIC 2008). At four protected locations in the Rogue and Illinois River Valleys, long-term monitoring indicates that *Lomatium cookii* populations experienced declines (D. Borgias, pers. comm. 2006; Kaye and Thorpe 2008, pp. 16–25). The causes are not specifically known but appear to be due to encroachment and over-shading from the natural succession of vegetation or increases in vole activity. At two of the declining *Lomatium cookii* populations, located at the French Flat ACEC, the Medford District of the BLM is planning to arrest this decline by reducing shrub and tree encroachment (S. Fritts, pers. comm. 2009). At two *Lomatium cookii* populations located on The Nature Conservancy's Agate Desert Preserve and Whetstone Savanna Preserve, planting of native bunchgrass, mowing, and grazing are being considered to address declining plant numbers (D. Borgias, pers. comm. 2009).

Previous Federal Actions

We listed *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* as endangered on November 7, 2002 (67 FR 68004). For a discussion of additional information on previous Federal actions concerning *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*, please refer to the final listing rule for the two species (67 FR 68004; November 7, 2002).The recovery needs of these two species are addressed in the Draft Recovery Plan for Listed Species of the Rogue Valley Vernal Pool and Illinois River Valley Wet Meadow Ecosystems, published in 2006 (USFWS 2006).

On December 19, 2007, the Center for Biological Diversity filed a complaint

against the Service (*Center for Biological Diversity* v. *Kempthorne, et al.*, 07-CV-2378 IEG, (S.D. CA)) for failure to designate critical habitat for four plant species, including *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* (the other two species occur in different parts of the country). On April 11, 2008, the U.S. District Court for the Southern District of California entered an order approving a stipulated settlement of the parties requiring the Service to determine whether designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* is prudent, and if so, to submit a proposed rule for the designation of critical habitat to the **Federal Register** on or before July 15, 2009. The settlement also required the Service to submit a final rule designating critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* to the **Federal Register** on or before July 15, 2010.

We affirmed that designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* is prudent, and we published a proposal to designate critical habitat for the two plant species in the **Federal Register** on July 28, 2009 (74 FR 37314). We accepted public comments on this proposal for 60 days, ending September 28, 2009. On January 12, 2010 (75 FR 1568), we announced the reopening of the public comment period for an additional 30 days (ending February 11, 2010); the availability of a draft economic analysis and amended required determinations section of the proposal; and a public hearing on February 2, 2010, in Medford, Oregon. We invited the public to review and comment on any of the above actions associated with the proposed critical habitat designation at the scheduled public hearing or in writing (75 FR 1568).

In 2003, we designated critical habitat for the endangered vernal pool fairy shrimp (*Branchinecta lynchi*) in California and the Rogue River Valley of Oregon (68 FR 46683; August 6, 2003). The designated vernal pool fairy shrimp critical habitat in Oregon overlaps with approximately 1,964 ha (4,853 ac) of suitable habitat for *Limnanthes floccosa* ssp. *grandiflora* and 734 ha (1,815 ac) of suitable habitat for *Lomatium cookii* (68 FR 46683). The vernal pool fairy shrimp critical habitat designation resulted in additional regulatory review for habitats occupied by both *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* in most of Jackson County due to the similarity and location of the vernal pool–mounded prairie habitat shared by these three species. In this final rule, we will note where designated critical habitat for the vernal pool fairy shrimp overlaps with that designated for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii.*

This final rule completes our obligations under the April 11, 2008, settlement agreement regarding *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

Summary of Comments and Recommendations

We requested written comments from the public on the proposed designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* during two comment periods. The first comment period, associated with the publication of the proposed rule, opened July 28, 2009 (74 FR 37314), and closed September 28, 2009. The second comment period, associated with the availability of the draft economic analysis, opened January 12, 2010 (75 FR 1568), and closed February 11, 2010. During the comment periods, we received two requests for a public hearing. Section 4(b)(5)(E) of the Act requires that we hold one public hearing on a proposed regulation if any person files a request for such a hearing within 45 days after the date of publication of a proposed rule. In response to these requests, we held a public hearing in Medford, Oregon, on February 2, 2010. We also contacted appropriate Federal, State, County, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule to designate critical habitat for these species and the associated draft economic analysis.

During the first comment period (July 28 – September 28, 2009), we received five comment letters directly addressing the proposed critical habitat designation. During the second comment period (January 12 – February 11, 2010), we received six comment letters addressing the proposed critical habitat designation or the draft economic analysis. During the February 2, 2010, public hearing, one individual provided comment on the designation of critical habitat for *Lomatium cookii*. All substantive information provided during both comment periods has either been incorporated directly into this final determination or is addressed below. Comments we received are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from three knowledgeable individuals with scientific expertise including familiarity with the species, the geographic region in which the species occur, and conservation biology principles pertinent to the species. We received responses from all three peer reviewers.

We reviewed all comments we received from peer reviewers for substantive issues and new information regarding critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. The peer reviewers generally concurred with our methods and conclusions, indicating the Service had used the most current scientific information available; had accurately described the species, their habitat requirements, the primary constituent elements (PCEs) for the species, the reasons for their decline, and threats to their habitat; and had done a thorough job of delineating critical habitat using the best available scientific information. Peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

(1) *Comment*: All three peer reviewers and several other commenters pointed out that *Lomatium cookii* populations are, in fact, found in habitat subject to mining, agricultural development, residential or commercial development, or grazing activities.

Our Response: We agree that remnant *Lomatium cookii* populations can and do occur in areas subject to mining, agricultural development, residential or commercial development, or grazing activities. We revised the language in this rule to clarify this point.

(2) *Comment*: One peer reviewer suggested that critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* should include all population areas discovered after the 2002 final listing because all populations that are currently known, not just those found within 3 years of listing, were almost certainly present at the time of listing. The peer reviewer commented that dispersal (for both species) is very limited and successful establishment after dispersal is likely to be infrequent. Therefore, designation of all known populations as critical habitat is warranted.

Our Response: We concur that dispersal and establishment of the two species are infrequent and limited, such that, at this time, a recently documented population most likely existed at the time of the November 2002 final listing.

We include in critical habitat units only *Limnanthes floccosa* ssp.

grandiflora and *Lomatium cookii* populations and habitat areas that provide the physical or biological features essential for their conservation and that require special management considerations or protection. We do not include several populations within critical habitat units because those populations do not meet our selection criteria. For example, populations that have fewer than 10 individuals or that occur in areas that we determined lack the PCEs are not included in the critical habitat designation. We also revised some critical habitat units to incorporate new detailed information provided in the comments we received; these comments provided information on areas not considered in the proposed rule that may support the PCEs, as well as areas included in the proposed designation that may not support the PCEs for the species. All such information was ground-truthed, verified, and incorporated into this final rule, as appropriate.

(3) *Comment*: Two peer reviewers pointed out that the proposed rule suggests that mining is not considered a significant threat for *Lomatium cookii* when in fact it should be considered the greatest threat in Josephine County.

Our Response: We agree that mining should be considered one of the prominent threats to *Lomatium cookii*, especially in Josephine County. We clarified the information in the **Background** section and the Special Management Considerations section of this rule to reflect this.

(4) *Comment*: One peer reviewer pointed out that incompatible grazing was not clearly defined and disagreed with an example provided in the proposed rule of an incompatible grazing practice whereby: "Heavy grazing, especially from October through April, would be an example of incompatible grazing."

Our Response: In the **Background** section of this rule we further defined "incompatible grazing practices" to address this concern, citing ONHDB (1994, p. 11). We revised examples of incompatible grazing to include flooding or grading of vernal pools to make water available for livestock, and further elaborated on grazing practices that may have both positive and negative effects on critical habitat for the two plant species. We also recognize that lack of grazing can have both negative and positive effects on habitats supporting *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

(5) *Comment*: One peer reviewer provided additional information about proposed Unit RV4 and commented that some of the inferences describing the habitat conditions were not well substantiated. For example, the reviewer indicated that the south part of the unit has been leveled, not grazed, and this more likely was the reason why *Limnanthes floccosa* ssp. *grandiflora* was not present in this area.

Our Response: We revised the description of Unit RV4 to suggest the leveled habitat within the unit could have been one of the reasons why *Limnanthes floccosa* ssp. *grandiflora* was not present in the area. The unit is still occupied by the species both north and south of the leveled area and still functions as critical habitat due to the underlying hardpan (see *Criteria Used To Identify Critical Habitat,* below).

(6) *Comment*: One peer reviewer provided information about an area near Unit RV9, currently unoccupied by *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii,* and suggested it be included in the critical habitat designation because the habitat appears to provide the habitat conditions necessary to support the species.

Our Response: We appreciate the suggestion; however, the Act allows for areas that were not occupied by the species at the time of listing to be designated as critical habitat only if they are considered essential to the conservation of the species. We have no information indicating that this area has ever been occupied by the species. Furthermore, based on ground truthing and aerial photo interpretation, the site does not appear to have the habitat conditions necessary to support the two species, and therefore does not meet the critical habitat selection criteria.

(7) *Comment*: One peer reviewer and a commenter suggested that we should expand critical habitat units to include the adjoining up-gradient slopes that deliver water seasonally. They suggest the wet hydrology habitat occupied by *Lomatium cookii* in the Illinois River Valley is dependent on overland flow and through-flow from the adjacent up-gradient slopes, although the degree to which this hydrology is needed is not quantified.

Our Response: Not all the upland slopes adjacent to the Illinois River Valley critical habitat units do not meet our selection criteria (see *Criteria Used to Identify Critical Habitat*, below); therefore, we did not include all of these features in this rule. Some of the critical habitat units in the Illinois River Valley do include some sloped, unoccupied habitat adjacent to occurrences, but this is intended to include habitat that we consider essential for species conservation. Any Federal actions that would occur on the adjacent slopes of designated critical habitat may have direct or indirect effects on critical habitat, and therefore could trigger consultation under section 7 of the Act.

(8) *Comment*: A peer reviewer pointed out that in the proposed rule the habitat description in the **Background** section incorrectly implies that annual grasslands are the natural habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. The reviewer stated that native perennial bunchgrass communities, including such species as *Achnatherum lemmonii, Festuca roemeri* var. *klamathensis*, and *Poa secunda,* are the natural habitat for these two species in Jackson County's Agate Desert (Rogue River Valley). The reviewer's opinion is that livestock grazing has largely eradicated these grasses and has facilitated the invasion of nonnative annual grasses and forbs, so if habitat was restored to native grasses, grazing would not be helpful.

Our Response: We revised some of the background information to reflect that the current typical grassland habitat occupying almost all of the upland areas in Jackson County's Agate Desert is composed of nonnative annual grasses. We point out that grazing can be an excellent tool for management of these grasses, but would not be an appropriate tool for management in native bunchgrass habitat.

Public Comments

(9) *Comment*: One commenter stated that the Service didn't propose designation of large portions of the two plants' occupied ranges and many areas where one or both of these plant species are known to occur. The commenter points out that the proposed critical habitat units are too small and disjointed to offer meaningful protection of these wetland habitats.

Our Response: We identified critical habitat units that met our selection criteria for critical habitat (USFWS 2009). To the best of our knowledge, we included only areas that provide the physical or biological features essential to the conservation of the species and that require special management considerations or protection. We did not include many areas of developed, previously modified, or unsuitable habitat that do not support, or would not contribute to, the species' continued existence or recovery (see *Criteria Used To Identify Critical Habitat*, below).

(10) *Comment*: One commenter stated that there is a discrepancy between the recovery core areas that the Draft Recovery Plan for Listed Species of the Rogue Valley Vernal Pool and Illinois River Valley Wet Meadow Ecosystems deemed appropriate for recovery of the

two species and the critical habitat units delineated in the proposed rule.

Our Response: Since the publication of the draft recovery plan in 2006 (USFWS 2006), we received additional information about the critical habitat areas from recent ground surveys, updated aerial photographic imagery, and recent development activities on the landscape. The critical habitat units designated in this rule are very similar to the proposed recovery core areas. However, in the Illinois River Valley, five areas that were suggested as priority 3 core areas in the recovery plan are not included in the designated critical habitat because they do not support any occurrences of the listed plants and because, on closer inspection, we determined that these areas do not meet our selection criteria for critical habitat.

(11) *Comment*: A commenter claimed that the statement in the proposed rule (74 FR 37334; July 28, 2009) that the Service "will consider for exclusion under section 4(b)(2) of the Act any existing management plans located within proposed critical habitat units" is inconsistent with the letter and intent of the Act and that the Service's implementing regulations consider special management considerations important to the preservation of critical habitat.

Our Response: The Secretary's authority to consider exclusions under section 4(b)(2) of the Act is separate from the statutory requirement under section 3(5)(A) of the Act that we designate critical habitat by identifying those specific areas on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection. As described in the *Criteria Used to Identify Critical Habitat* section of this final rule, we are designating critical habitat in areas occupied by the species at the time it was listed, that provide the physical or biological features essential to their conservation, and which may require special management considerations or protection. We did not receive any management plans from any public or private entities for consideration of exclusion based on section 4(b)(2) of the Act, and did not exclude any habitat from the designation based on section 4(b)(2) of the Act.

(12) *Comment*: A commenter asserted that the proposed rule constitutes a major Federal action with serious impacts on the human environment in the Rogue and Illinois River Valleys. As such, the commenter felt that the Service is required under NEPA to prepare a complete Environmental Impact Statement to analyze the possible effects and outcomes of designating critical habitat for the two species.

Our Response: Outside the jurisdiction of the Tenth Circuit Court of Appeals, it is the Service's position that we do not need to prepare environmental analyses as defined by NEPA in connection with the designation of critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244), and our position was upheld in the Ninth Circuit Court of Appeals (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 516 U.S. 1042 (1996)).

(13) *Comment*: A commenter indicated that a portion of the commenter's property is already developed, some of which is recent, and the commenter is planning to expand development of a water treatment facility on their property. The commenter requested that the Service exclude portions of the property planned for development from critical habitat designation.

Our Response: We carefully inspected updated aerial imagery and identified the recently developed area. We also conducted a site visit to the property to determine if the area in question provides the PCEs for either *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*. We determined that suitable habitat was present on the property; however, upon closer inspection, we deemed it appropriate to modify the boundaries of Subunit RV6A to remove developed areas and a small area on the property that did not provide the PCEs. We are not able to eliminate areas that currently provide the PCEs for the species from critical habitat on the basis of anticipated future development, nor do such plans form the basis for an exclusion from critical habitat under the provisions of the Act. The total amount of designated critical habitat in the subunit decreased from 507 ha (759 ac) to 263 ha (650 ac).

(14) *Comment*: One commenter indicated that *Lomatium cookii* was improperly listed as endangered because it occurs on over 4,452 ha (11,000 ac) in the Illinois River Valley. The commenter suggested this indicates that the plant is flourishing and not in danger of extinction.

Our Response: Technically, the listing status of the species is outside the scope of this rulemaking. However, *Lomatium cookii* was determined to have endangered status in the 2002 final listing rule (67 FR 68004) because it occurs in a limited geographic range with few known occurrences, occupying a total of 108 ha (266 ac) overall or 61 ha (150 ac) in the Illinois River Valley, and because it is threatened by destruction of its specialized habitat due to the effects of industrial and residential development, road and powerline construction and maintenance, agricultural conversion, certain grazing practices, off-road vehicle use, and competition with nonnative plants. The units included in the critical habitat designation include occupied sites that provide the PCEs and that met our selection criteria for size, connectivity, and other biological considerations. The critical habitat units represent habitat complexes, or functional ecosystem units, occupied by the species and that provide the PCEs essential for its conservation. In such habitat complexes, such as vernal pool-mounded prairie complex or a wet meadow or mixed conifer forest complex, *Lomatium cookii* may use different parts of its habitat over time depending on vegetation succession states, including areas that might be intermittently occupied or unoccupied when the abundance of the species oscillates such that parts of its habitat are not used during low population phases. We are designating 1,621 ha (4,007 ac) of critical habitat for *Lomatium cookii* in the Illinois Valley in this rule. This habitat includes areas presently occupied by the species as well as surrounding areas that contribute to the ecosystem function essential to the conservation of the species. The species does not fully occupy an area of 4,452 ha (11,000 ac) in the Illinois River Valley, as indicated by the commenter.

(15) *Comment*: *Lomatium cookii* is not closely associated with serpentine soils and in fact grows well in non-serpentine-derived soils.

Our Response: We only documented *Lomatium cookii* on a few locations with serpentine-derived soils in the Illinois River Valley. We agree that *Lomatium cookii* is not restricted to serpentine soils. In Jackson County, none of the *Lomatium cookii* occurrences are on serpentine soils. We clarify in the **Background** section of this rule that *Lomatium cookii* can occur in soil types other than serpentine-derived soils in the Illinois River Valley.

(16) *Comment*: One commenter mentioned that surface disturbances do not pose a threat to *Lomatium cookii* because plant populations are healthier in disturbed ground such as wheel ruts, road cuts, recently graded areas, and mine tailings.

Our Response: We are aware that *Lomatium cookii* has an ability to

persist in disturbed sites, such as graveled roadsides and wheel ruts, likely owing to its long tap root. However large-scale mining and development activities can completely remove or alter *Lomatium cookii* suitable habitat by removing large amounts of soil. We are not aware of *Lomatium cookii* occurring in mine tailings, but it would not be surprising provided the tailings were relatively shallow. We have no documentation of *Lomatium cookii* colonizing newly disturbed areas and surmise that *Lomatium cookii* occurred at the recently graded areas prior to the work.

(17) *Comment*: One commenter said that the *Lomatium cookii* occurrences in Unit IV12 are nonnative and suggested that because they are found in both historical and recent placed mine tailings, it can be inferred that the plants did not originate at this site.

Our Response: We have no evidence to suggest that the *Lomatium cookii* occurrences in Unit IV12 are not naturally occurring. Regardless, under section 3(5)(A) of the Act, the designation of critical habitat is not limited to sites that historically supported the species, but applies to geographic areas occupied at the time of listing or those that may have been unoccupied but are considered essential to the conservation of the species. Our information suggests that the geographic areas designated as critical habitat in Unit IV12 were occupied at the time of listing. We reviewed long-term *Lomatium cookii* monitoring reports from BLM land in Unit IV12 (Thorpe and Kaye 2009), which suggest these are well-established populations. *Lomatium cookii* only occurs in limited areas in Jackson and Josephine Counties, and populations appear to be dwindling in many of these locations.

(18) *Comment*: One commenter objected to the assertion that *Alyssum murale* (yellowtuft) and *Alyssum corsicum* (alisso di Corsica) pose a threat to *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. The commenter stated that there has never been proof that the two *Alyssum* species can impact the two plant species.

Our Response: Our proposed rule identified these two nonnative *Alyssum* species as potential threats to *Lomatium cookii*. According to the joint Forest Service (FS) and Oregon Department of Agriculture (ODA) 2008 assessment, the two *Alyssum* species appear to have escaped from various planted locations and are vigorously colonizing new areas within the Illinois River Valley on serpentine-derived soils. The authors of the report conclude that the dense concentrations of these invasive plants threaten to encroach upon and displace *Lomatium cookii* in the Illinois River Valley (ODA and USFS 2008, pp. 1–3). The ODA has determined that the *Alyssum* species are noxious weeds; therefore they can no longer be legally planted in Oregon. We consider the two *Alyssum* species to pose a general threat to *Lomatium cookii* in the Illinois River Valley.

Comments by Federal Agencies

(19) *Comment*: The BLM commented that the **Background** section of our rule should clearly state that vernal pool fairy shrimp critical habitat units only overlie critical habitat units designated for *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* in Jackson County.

Our Response: We clarified in the **Background** section of this rule that vernal pool fairy shrimp critical habitat only overlies the *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* critical habitat units in Jackson County.

(20) *Comment*: The BLM pointed out that the PCE section describing the habitat characteristics for *Lomatium cookii* in the Illinois River Valley leaves out some suitable habitat types, in addition to wet meadows that occur in that area. The BLM suggests the description should also include mixed evergreen oak-madrone (*Quercus-Arbutus*), higher shrub cover, and sites in very small openings, road edges, and old road beds.

Our Response: We revised the PCEs and included additional habitat descriptions for the Illinois River Valley based on the BLM suggestions, ground-truthing, and inspection of updated aerial photography. We do not include old road beds or graveled roadsides as one of the PCEs for the species because we do not consider these features to be essential to the conservation of the species.

(21) *Comment*: BLM mentioned that the proposed rule appeared to describe the minimum size of critical habitat units as at least 12 ha (30 ac). However, they point out that a few populations of the two plant species that occur in patches less than 1 ac (0.4 ha) in size were included in the proposed critical habitat, seemingly in violation of our minimum size criterion. BLM suggested we clarify our description of the critical habitat units to explain that they represent a functional habitat complex, with some areas that are occupied and others that are presently unoccupied but still provide the essential physical or biological features required for the conservation of the species.

Our Response: We agree with BLM's comment, and attempted to clarify in this rule that critical habitat boundaries are not drawn narrowly around present occurrences of the species, but are intended to encompass functional habitat complexes that support the species (that is, provide the PCEs). In our selection criteria, we determined that an isolated 8-ha (20-ac) area of habitat (where "isolated" is defined as meaning the next area of appropriate habitat is greater than 1 km (0.6 mi) away) that is occupied by one of the plant species is the minimum area we will designate as a critical habitat unit for both the Rogue River Valley and the Illinois River Valley. This criterion is based on historical evidence (ONHIC 2008) that isolated habitats do not provide a hydrologically and ecologically functional system of vernal pool-mounded prairie, streams, or slopes and wooded systems that surround and maintain seasonally wet alluvial meadows. Many small patches of plants less than 0.4 ha (1 ac) in size may occur within a single critical habitat unit, but in our selection process, we included areas of habitat between these patches that provide the PCEs for the species, considering them collectively as a complex. We expect plant occurrences could occur anywhere within the hydrologically and ecologically functional system of habitat provided within such a complex within a critical habitat unit.

(22) *Comment*: BLM suggests that in the Special Management Considerations or Protections section of our rule we include a description of mining regulations on Federal lands in the Illinois River Valley.

Our Response: We revised the **Background** and Special Management Considerations or Protections sections of this rule to include more information about mining rules, operational plan requirements, and the extra regulatory requirements at BLM ACECs.

(23) *Comment*: BLM recommends that in the *Criteria Used to Identify Critical Habitat* section of our rule we provide a citation or rationale for why *Lomatium cookii* populations with fewer than 10 individuals should not be included in the critical habitat designation.

Our Response: Our selection criteria specified that areas with fewer than 10 individual plants that are isolated (1 km (0.6 mi) distance from the next area of appropriate habitat) would not meet the definition of critical habitat because such areas do not provide the physical or biological features essential to the conservation of the species. We based this selection criterion on plant record evidence that *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* plant occurrences below the 10-individual threshold appear to become extirpated

over time due to lack of habitat quality, available habitat space, or proximity to developmental activity (ONHIC 2008).

(24) *Comment*: The BLM pointed out that the majority of occurrences of *Lomatium cookii* occur on Federal lands in the Illinois River Valley (Josephine County). They indicated that 33 sites, or 70 percent of the total number of known sites, occur on BLM lands. However, only 20 percent of the proposed critical habitat occurs on Federal lands. BLM provided maps suggesting areas in the Illinois River Valley where critical habitat boundaries could be revised to include additional suitable habitat for *Lomatium cookii* on BLM lands and to remove areas with unsuitable habitat on private lands in the following critical habitat units: IV3, IV4, IV5, IV11, IV13, and IV14.

Our Response: We reviewed new aerial photos and performed ground truthing in the BLM-managed areas proposed by BLM for inclusion in final *Lomatium cookii* critical habitat units in Josephine County, Oregon. We agree that some of these areas contain the physical or biological features essential for the conservation of *Lomatium cookii*. Out of the recommended areas, we determined 265 ha (654 ac) of these additional BLM lands contain the essential physical or biological features for *Lomatium cookii* and require special management or protection, and thus meet the definition of critical habitat. As these lands meet the selection criteria for critical habitat as described in our original proposal, and all fall within currently described critical habitat units, we consider the addition of these Federal lands to be within the scope of the original proposed critical habitat designation. In addition, we determined that including a portion of these areas within the critical habitat designation will not impact any timber sales, grazing leases, active mining claims, or other activities on these Federal lands, and will not alter the economic analysis of the proposed designation. The new areas recommended for inclusion in the designation by the BLM are all either designated as ACECs or proposed as ACECs. The information provided by the BLM further allowed us to refine the proposed critical habitat units and remove areas of private lands that do not provide the physical or biological features essential to the conservation of *Lomatium cookii* from the final designation. Therefore, upon the recommendation of the BLM, we increased the area of critical habitat in units IV3, IV4, IV5, IV11, and IV13 to include additional BLM lands in the *Lomatium cookii* critical habitat designation.

(25) *Comment*: BLM suggests that Table 1 in the proposed rule and the critical habitat unit descriptions include occurrences of the two listed species. Also, the agency suggests our critical habitat discussion should describe which occurrences are on private, city, county, State, or Federal lands.

Our Response: We provided more information in this rule regarding each of the occurrences and whether they occur on private, city, county, State, or Federal lands, but did not revise Tables 3–6 in an effort to maintain clarity.

Comments Related to the Economic Analysis

(26) *Comment*: One commenter stated that the impacts to Jackson County associated with the Medford Airport runway expansion project in 2015 should be quantified as incremental impacts due to the designation of critical habitat. This commenter suggested the runway expansion would not affect the known *Lomatium cookii* population located within the Airport and therefore mitigation would only be undertaken to offset impacts to critical habitat.

Our Response: As described on pages 3-1 and 3-2 of the final economic analysis, all proposed critical habitat in Jackson County is vernal pool habitat over which the U.S. Army Corps of Engineers (USACE) maintains jurisdiction. As such, any development project within vernal pool habitat in Jackson County must meet the USACE requirements for a section 404 permit under the Clean Water Act (33 U.S.C. 1251 *et seq.*); this requirement is in effect regardless of critical habitat designation.

The final economic analysis concludes that conservation efforts taken to avoid adverse impacts to vernal pool habitat, as required by the USACE, will also benefit *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. Furthermore, the incremental impacts identified in the final economic analysis arose solely from administrative costs associated with the additional effort to address adverse modification during future section 7 consultations.

Minimization and mitigation conservation efforts undertaken under section 404 of the Clean Water Act are not expected to change following the designation of critical habitat. The economic analysis quantifies the impacts of conservation and mitigation efforts for a section 404 permit associated with the planned expansion of the Medford airport, and appropriately assigns these impacts to the baseline, as they would be required for the 404 permit even absent the designation of critical habitat. As described in section 3.4 of the final economic analysis, the Service considers the baseline conservation afforded the plants due to the USACE 404 permit mitigation requirements sufficient to avoid destruction or adverse modifications of critical habitat. Thus, the Service does not anticipate recommending additional conservation actions following the designation of critical habitat, and incremental impacts are limited to administrative costs of consultation to address adverse modification.

(27) *Comment*: One commenter asserted that the potential effects of critical habitat designation on phytomining operations, or extraction of minerals from propagated plant material, should be considered in the economic analysis. The commenter mentioned that phytomining is beneficial to *Lomatium cookii* because it reduces competing grasses.

Our Response: We did not include a discussion of the phytomining practice in the proposed rule because this practice is not known to be in operation within any of the proposed Illinois River Valley critical habitat units. The two native grasses that are associated with *Lomatium cookii* habitat in the Illinois River Valley (*Deschampsia cespitosa* and *Danthonia californica*) do not cause competition problems for the species. In addition, *Lomatium cookii* often occurs in non-serpentine derived soils that would not be desirable for phytomining operations.

Section 6.6.3 of the final economic analysis describes phytomining operations in the vicinity of the proposed critical habitat. The two species used in phytomining operations (*Alyssum murale* and *Alyssum corsicum*) were listed as State noxious weeds by the Oregon Department of Agriculture in 2009, resulting in a Statewide prohibition against their import into Oregon and their transport, sale, and propagation. Under current State regulation, phytomining activities are prohibited Statewide, including within the designated critical habitat area. The designation of critical habitat is therefore not expected to affect phytomining operations.

Summary of Changes from Proposed Rule

In preparing this critical habitat designation for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*, we reviewed and considered all comments received on the proposed designation of critical habitat published on July 28, 2009 (74 FR 37314), and comments on the draft economic analysis we made

available on January 12, 2010 (75 FR 1568). As a result of all comments we received on the proposed rule and the draft economic analysis, we made changes to our proposed designation. These changes are summarized as follows:

- In Jackson County, we adjusted the boundaries of some of the proposed critical habitat units to remove those areas that we determined do not provide the PCEs to either *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*, resulting in reduced area in seven of the units (RV2, RV3, RV4, RV6, RV7, RV8, and RV9). The final critical habitat designation in Jackson County represents a reduction of 198 ha (487 ac) for *Limnanthes floccosa* ssp. *grandiflora* and a reduction of 122 ha (307 ac) for *Lomatium cookii* from what we proposed.
- In Josephine County, we removed those areas from the proposed critical habitat units that we determined do not provide the PCEs to *Lomatium cookii*, resulting in a reduction in size in five of the units (IV1, IV2, IV6, IV8, and IV12). We included additional areas that we determined provide the PCEs for *Lomatium cookii*, resulting in the expansion of five of the units (IV3, IV4, IV5, IV11, and IV13); all area increases are entirely on Federal (BLM) lands. As mentioned in our response to Comment 24, the additional specific areas on BLM lands meets the selection criteria for critical habitat as described in our proposed rule, and the additional area falls within currently described critical habitat units; therefore, we consider the addition of these Federal lands to be within the scope of the proposed critical habitat designation. Through discussions with BLM and information provided by BLM, we determined that including a portion of these areas within the critical habitat designation will not impact any timber sales, grazing leases, active mining claims, or other activities on BLM lands, and will not alter the economic analysis of the proposed designation. The new areas recommended for inclusion in the designation by the BLM are all either designated as ACECs or proposed as ACECs.

We eliminated Unit IV14, proposed critical habitat for *Lomatium cookii*, from the designation for two reasons: First, because we determined from BLM documentation that the habitat was not occupied by *Lomatium cookii*; second, after review of updated aerial photography and a recent site visit to the proposed unit, we found the habitat features do not meet our selection criteria. We incorporated one small portion of proposed Unit IV14 that does provide the PCEs for *Lomatium cookii* into Unit IV13. The final critical habitat designation for *Lomatium cookii* in Josephine County thus represents a reduction of 208 ha (514 ac) from what we proposed.

We are finalizing the following final critical habitat designation in accordance with section 4(b)(2) of the Act.

TABLE 1—FINAL RULE CRITICAL HABITAT UNIT CHANGES IN HECTARES (ACRES) FOR *Limnanthes floccosa* SSP. *grandiflora* IN JACKSON COUNTY (TOTALS ARE ROUNDED).

Units	Proposed rule ha (ac)	Final rule ha (ac)	Change ha (ac)
RV1	8 (20)	8 (20)	.....
RV2	84 (207)	69 (169)	- 15 (38)
RV3	539 (1,331)	490 (1,210)	- 49 (121)
RV4	245 (605)	243 (600)	- 2 (5)
RV5	49 (122)	49 (122)	.....
RV6	848 (2,095)	740 (1,829)	- 108 (266)
RV7	426 (1,053)	421 (1,039)	- 5 (14)
RV8	362 (896)	344 (850)	- 18 (46)
Total	2,561 (6,327)	2,363 (5,840)	- 198 (487)

TABLE 2—FINAL RULE CRITICAL HABITAT UNIT CHANGES IN HECTARES (ACRES) FOR *Lomatium cookii* IN JACKSON COUNTY (TOTALS ARE ROUNDED).

Units	Proposed rule ha (ac)	Final rule ha (ac)	Change ha (ac)
RV6	608 (1,503)	546 (1,349)	- 62 (154)
RV8	362 (895.5)	344 (850)	- 18 (45.5)
RV9	76 (190)	34 (83)	- 42 (107)
Total	1,046 (2,589)	924 (2,282)	- 122 (307)

TABLE 3—FINAL RULE CRITICAL HABITAT UNIT CHANGES IN HECTARES (ACRES) FOR *Lomatium cookii* IN JOSEPHINE COUNTY (TOTALS ARE ROUNDED).

Units	Proposed listing ha (ac)	Final listing ha (ac)	Change ha (ac)
IV1	53 (132)	35 (85)	- 18 (47)
IV2	39 (97)	28 (70)	- 11 (27)
IV3	105 (260)	152 (374)	+ 47 (114)
IV4	69 (170)	83 (204)	+ 14 (37)
IV5	158 (391)	165 (407)	+ 7 (16)
IV6	209 (516)	182 (449)	- 27 (67)
IV7	55 (136)	55 (136)	.....
IV8	348 (859)	234 (579)	- 114 (280)
IV9	12 (30)	12 (30)	.....
IV10	45 (110)	45 (110)	.....
IV11	61 (152)	118 (292)	+ 57 (140)
IV12	617 (1,524)	492 (1,216)	- 125 (308)
IV13	18 (45)	22 (54)	+ 4 (9)
IV14	40 (100)	0 (0)	- 40 (100)
Total	1,829 (4,521)	1,621 (4,007)	- 208 (514)

Critical Habitat

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided under the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner seeks or requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, Federal action agency's and the applicant's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, the habitat within the geographical area occupied by the species at the time it was listed must contain the physical or biological features essential to the conservation of the species, and be included only if those features may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the physical or biological features laid out in the appropriate quantity and spatial arrangement for the conservation of the species). Under the Act and regulations at 50 CFR 424.12, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed only when we determine that those areas are essential for the conservation of the species and that designation limited to those areas occupied at the time of listing would be inadequate to ensure the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific and commercial data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for

Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be required for recovery of the species.

Areas that are important to the conservation of the species, but are outside the critical habitat designation, will continue to be subject to conservation actions we implement under section 7(a)(1) of the Act. Areas that support populations are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time these planning efforts calls for a different outcome.

Physical and Biological Features

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied at the time of listing to designate as critical habitat, we consider the physical or biological features essential to the conservation of the species that may require special management considerations or protection. These include, but are not limited to:

(1) Space for individual and population growth, and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, rearing (or development) of offspring, germination, or seed dispersal; and

(5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

The appropriate quantity and spatial arrangement of the principal biological or physical features within the defined area essential to the conservation of the species comprise the "primary constituent elements" (PCEs) of critical habitat. As defined by our implementing regulations at 50 CFR 424.12(b)), these primary constituent elements may include, but are not limited to, features such as roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetlands or drylands, water quality and quantity, host species or plant pollinators, geological formations, vegetation types, tides, and specific soil types.

We derived the specific PCEs required for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* from the biological needs of the species as described in the proposed rule to designate critical habitat published in the **Federal Register** on July 28, 2009 (74 FR 37314), the **Background** section of this final rule, and the information presented below. Additional information can also be found in the final listing rule published in the **Federal Register** on November 7, 2002 (67 FR 68004) and the Draft Recovery Plan for Listed Species of the Rogue Valley Vernal Pool and Illinois River Valley Wet Meadow Ecosystems (USFWS 2006, pp. II-1 to II-17).

Limnanthes floccosa ssp. *grandiflora* and *Lomatium cookii* are both found in the vernal pool-mounded prairie and other ephemeral wetland habitats of the Rogue River Valley. However, *Lomatium cookii* is also found in an area characterized by very different physical or biological features in the Illinois River Valley, where it is found in seasonally wet meadows and openings in mixed-conifer forest. Because of this difference in the physical or biological features used by *Lomatium cookii* in these two different areas, we organized the PCEs by geographic area and present them separately for each of the plant species in the Rogue River Valley and the Illinois River Valley.

Rogue River Valley

Space for Individual and Population Growth, Germination, and Seed Dispersal

In the Rogue River Valley, *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* both occur on vernal pool–mounded prairie and other ephemeral wetland habitats underlain by relatively undisturbed subsoils subject to periodic inundation (Borgias 2004, pp. 17–20; ONHDB 1994, pp. 9–10). In the Rogue River Valley, both species occur primarily in an area known as the Agate Desert, in low-gradient mounded habitat that supports a mosaic of low-growing native grasses and forbs and an absence of dense canopy vegetation. The pools typically fill during the winter rains and retain a wetted perimeter until late April. In years with higher than average winter rainfall, more depressions fill, and individual pools that are separate in dry years may merge together (Borgias 2004, p. 32). The dominant native grasses and forbs associated with vernal pool–mounded prairie habitat occupied by *Limnanthes floccosa.* ssp. *grandiflora* and *Lomatium cookii* include: *Alopecurus saccatus, Deschampsia danthonioides*, *Eryngium petiolatum, Lasthenia californica, Myosurus minimus, Navarretia leucocephala* ssp. *leucocephala, Phlox gracilis*, *Plagiobothrys bracteatus*, *Trifolium depauperatum*, and *Triteleia hyacinthina*. In the Rogue River Valley, vernal pool–mounded prairie habitats occupied by *Lomatium cookii*, range from 372 to 411 m (1,220 to 1,350 ft) in elevation. In the same habitat, *Limnanthes floccosa* ssp. *grandiflora* occurrences range from 372 to 469 m (1,220 to 1,540 ft) in elevation (USGS 2002).

These specific habitats and hydrological regimes provide the conditions essential for the growth and survival of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* and for the successful production, germination, and dispersal of seeds.

Slope

In the Rogue River Valley, *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* occur almost exclusively on low-gradient and flat terrains, not typically exceeding 3 percent slope (USDA 2006b). In the Rogue River Valley, they occur predominately in Agate-Winlo complex soils mapped at 0 to 3 percent slope.

Water and Nutritional or Physiological Requirements

Vernal pools typically become inundated or saturated during winter rains and hold water for sufficient lengths of time for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* to germinate, grow, and reproduce. Periodically, this geographic area may experience drought, and rainfall may be insufficient to fill pools. The composition of the plant community can vary from year to year depending on the timing and amount of annual rainfall and the type of land management on the site (Borgias 2004, p. 16). The vernal pools and wet meadow soils where the two plants occur are dry during the summer but become saturated with water in the winter and spring nearly every year. The water regime is important for the sustenance of the two plants and for their ability to germinate, persist, and grow in wet conditions during the winter months.

Vernal pool habitats, ephemeral swales, seasonally wet meadows, and streamside habitats occupied by *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* in the Rogue River Valley can be characterized as seasonal wetlands. The habitats are dominated by mostly obligate or facultative wetland vegetation. The *Lomatium cookii* occurrences at Rough and Ready Creek, the Rogue Valley International–Medford Airport, and a potentially introduced population at Woodcock Creek are clearly not wetlands but appear to have high clay content in the soil (Kagan 1994, p. 10; Silvernail and Meinke 2008, p. 31). The meadows at these sites may have enough of a clay component so that they would be seasonally wet (ONHDB 1994, p. 10).

The moisture and other nutritional or physiological requirements afforded by these sites provide the essential requirements for the growth, germination, reproduction, and successful seed dispersal of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii.*

Soil

The soil types in the Agate Desert of the Rogue River Valley typically occupied by both *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* are Agate–Winlo or Provig–Agate soils. Soils from *Lomatium cookii* habitat in the Rogue River Valley had higher concentrations of calcium, nitrogen, phosphorus, potassium, manganese, iron, and boron relative to soils utilized by the species in the Illinois River Valley. Soils from the two population centers had similar pH, cation exchange capacity, and percent sand, silt, or clay content (Silvernail and Meinke 2008, p. 30).

Habitats Protected from Disturbance

Protection from Development

In the Rogue River Valley, disturbance in the form of development is a major factor in the loss or degradation of habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii.* Residential or commercial development can directly eliminate or fragment essential habitat for both species, causing declines in distribution and numbers. Agricultural development, such as ripping (a form of deep tilling that potentially undermines the hardpan layer of the soil), water diversion, and water impoundment can also eliminate habitat for the two plant species. Development can indirectly cause increases in nonnative plants in the habitat, in turn decreasing pollinators, habitat for pollinator species, and seed production of many native vernal pool plants (Thorp and Leong 1998, pp. 169–179). *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* face immediate threats from urban and commercial development in the expanding Medford and White City metropolitan areas in the Rogue River Valley. Protected habitat is therefore of crucial importance for the growth and dispersal of these two species.

Based on aerial imagery and ONHIC information, isolated habitat areas (at least 0.6 mi (1 km) from the next nearest area of appropriate habitat) that appear to provide sufficient area for plant populations to expand, in conjunction with continuous non-fragmented *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* occupied habitat, were typically greater than 8 ha (20 ac). Habitat areas of this minimum size provide protection from adjacent development and weed sources and contained intact hydrology (USDA 2009). This is also the size of the smallest isolated vernal pool–mounded prairie area that is known to support *Limnanthes floccosa* ssp. *grandiflora* (ONHIC 2008). Furthermore, based on aerial imagery, habitat areas that appeared to provide sufficient protection and continuous, non-fragmented habitat covered at least 8 ha (20 ac).

Protection from Invasive, Nonnative Plants

Invasive, nonnative species and their subsequent thatch may overtake *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* and reduce space available for both listed plants' growth (Borgias 2004, p. 45); therefore, the listed plants require microhabitats free of exotic or native invasive competitors. In the Rogue River Valley, invasive, nonnative plants or their thatch layers that compromise survival of the two listed species include: *Centaurea solstitialis, Cardaria draba, Hordeum marinum* ssp. *gussoneanum*, and *Taeniantherum caput-medusae* (medusahead).

Illinois River Valley

Space for Individual and Population Growth, Germination, and Seed Dispersal

In the Illinois River Valley, *Lomatium cookii* occurs partially in alluvial meadows underlain by relatively undisturbed, ultramafic soils subject to winter inundation from rainfall, seasonal flooding, and overland drainage (ONHDB 1994, pp. 9–10). *Lomatium cookii* has also been found in mixed-conifer forest openings on slopes and along roadside edges in shrubby habitat where the soil is not subject to prolonged inundation. The seasonally wet meadows, occurring within *Quercus garryana-Quercus kelloggii-Pinus ponderosa* forest openings, are dominated by native grasses and forbs including*: Achnatherum lemmonii, Camassia* spp., *Danthonia californica, Deschampsia cespitosa*, *Festuca roemeri, Poa secunda*, *Ranunculus occidentalis*, and *Limnanthes gracilis* var. *gracilis* (ONHDB 1994, p. 9). Widely spaced, large pine trees are characteristic of the open meadow habitat with some mixed pine and oak woodlands occurring along seasonal creeks. In addition, *Arbutus menziesii, Arctostaphylos viscida,* and *Ceanothus cuneatus* are components of the shrubby plant community. In the Illinois River Valley area, *Lomatium cookii* can be found from 383 to 488 m (1,256 to 1,600 ft) in elevation (USGS 2009).

Slope

Most Illinois River Valley *Lomatium cookii* occurrences are found on a variety of soils that range from 0 to 8 percent slope (ONHIC 2008; USDA 2008). However, a few of the *Lomatium cookii* sites in the Illinois River Valley

are on terrains with soils mapped up to 40 percent slope (ONHIC 2008).

Water and Nutritional or Physiological Requirements

A portion of *Lomatium cookii* habitat in the Illinois River Valley typically becomes inundated or saturated during winter rains enabling the plant to germinate, grow, and reproduce; other habitat areas in sloped, mixed conifer habitats do not become inundated, but receive sufficient moisture from rainfall to maintain conditions that support the species. Rainfall in the Illinois River Valley averages 152 centimeters (60 inches) per year. Periodically, this geographic area may experience extreme droughts. The composition of the plant community can vary from year to year depending on the timing and amount of annual rainfall and the type of land management on the site (ONHDB 1994, p. 9).

Soil

Soils in the Illinois River Valley occupied by *Lomatium cookii* may include Abegg gravelly loam, Brockman clay loam, Copsey clay, Cornutt–Dubakel complex, Dumps, Eightlar extremely stony clay, Evans loam, Foehlin gravelly loam, Josephine gravelly loam, Kerby loam, Newberg fine sandy loam, Pearsoll–Rock outcrop complex, Pollard loam, Riverwash, Speaker–Josephine gravelly loam, Takilma cobbly loam, or Takilma Variant extremely cobbly loam. The majority of *Lomatium cookii* occurrences in the Illinois River Valley are found on Brockman clay loam, Josephine gravelly loam, and Pollard loam (USDA 2008). In a soil analysis conducted by Silvernail and Meinke (2008, p. 30), samples from ultramafic *Lomatium cookii* habitat in the Illinois River Valley had high concentrations of magnesium, nickel, chromium, cobalt, zinc, and copper and a high percent magnesium saturation.

Habitats Protected from Disturbance

Protection from Development

Mining (and its associated habitat impacts) is the major threat in the Illinois River Valley for *Lomatium cookii*. Mining activities can result in the loss or degradation of habitat for this plant. Residential or commercial development is not as widespread or prevalent in the Illinois River Valley as in the Rogue River Valley, but they can directly eliminate or fragment essential habitat for the plant, causing declines in distribution and numbers. Development can indirectly cause increases in nonnative plants in the habitat, in turn decreasing pollinators, habitat for pollinator species, and seed production of many native vernal pool plants (Thorp and Leong 1998, pp. 169–179). Protected habitat is therefore of crucial importance for the growth and dispersal of *Lomatium cookii*.

Based on aerial imagery and ONHIC information, isolated habitat areas that appear to provide sufficient protection and continuous, non-fragmented *Lomatium cookii* habitat covered at least 8 ha (20 ac). Isolated habitat areas of this minimum size provide protection from adjacent development and weed sources and contained intact hydrology. We did not identify any isolated areas for critical habitat units smaller than this size in the Illinois River Valley.

Protection from Invasive, Nonnative Plants

The encroachment of nonnative plants contributes to the degradation of habitat and can affect *Lomatium cookii* through competitive exclusion; grasses in particular may hinder germination or growth of the plant by the production of a dense thatch layer. *Lomatium cookii* requires habitats free of exotic or invasive plant competitors. In the Illinois River Valley, common introduced grasses in the grazed pastures in and around *Lomatium cookii* habitat include: *Bromus* sp. (brome), *Festuca arundinacea* (tall fescue), *Dactylis glomerata* (orchard grass), *Taeniantherum caput-medusae,* and *Poa pratensis* (Kentucky bluegrass). In addition, the recently introduced nonnative, invasive species *Alyssum murale* and *A. corsicum* threaten *Lomatium cookii* in this area (ODA and FS 2008, pp. 1–3).

Primary Constituent Elements for Limnanthes floccosa *ssp.* grandiflora *and* Lomatium cookii

Under the Act and its implementing regulations, we are required to identify the known physical or biological features, or PCEs, essential to the conservation of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*, which may require special management considerations or protection. All areas designated as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* were occupied at the time of listing, are within the species' historical geographic range, and provide sufficient PCEs to support at least one life-history function.

Limnanthes floccosa ssp. *grandiflora*

Based on our current knowledge of the life history, biology, and ecology of the species and the characteristics of the habitat necessary to sustain the essential life history functions of the species, we determined that the PCEs for *Limnanthes floccosa* ssp. *grandiflora* critical habitat are:

(1) Vernal pools or ephemeral wetlands and the adjacent upland margins of these depressions that hold water for a sufficient length of time to sustain *Limnanthes floccosa* ssp. *grandiflora* germination, growth, and reproduction, occurring in the Rogue River Valley vernal pool landscape (ONHP 1997, p. 3). These vernal pools or ephemeral wetlands are seasonally inundated during wet years but do not necessarily fill with water every year due to natural variability in rainfall, and support native plant populations. Areas of sufficient size and quality are likely to have the following characteristics:

- Elevations from 372 to 469 m (1,220 to 1,540 ft);
- Associated dominant native plants including, but not limited to: *Alopecurus saccatus, Deschampsia danthonioides*, *Eryngium petiolatum, Lasthenia californica, Myosurus minimus*, *Navarretia leucocephala* ssp. *leucocephala, Phlox gracilis, Plagiobothrys bracteatus*, *Trifolium depauperatum*, and *Triteleia hyacinthina.*
- A minimum area of 8 ha (20 ac) to provide intact hydrology and protection from development and weed sources.

(2) The hydrologically and ecologically functional system of interconnected pools, ephemeral wetlands, or depressions within a matrix of surrounding uplands that together form vernal pool complexes within the greater watershed. The associated features may include the pool basin or depressions; an intact hardpan subsoil underlying the surface soils up to 0.75 m (2.5 ft) in depth; and surrounding uplands, including mound topography and other geographic and edaphic features, that support these systems of hydrologically interconnected pools and other ephemeral wetlands (which may vary in extent depending on site-specific characteristics of pool size and depth, soil type, and hardpan depth).

(3) Silt, loam, and clay soils that are of alluvial origin, with a 0 to 3 percent slope, primarily classified as Agate–Winlo complex soils, but also including Coker clay, Carney clay, Provig–Agate complex soils, and Winlo very gravelly loam soils.

(4) No or negligible presence of competitive, nonnative, invasive plant species. Negligible is defined for the purpose of this rulemaking as a minimal level of nonnative plant species that

will still allow *Limnanthes floccosa* ssp. *grandiflora* to continue to survive and recover.

The need for space for individual and population growth, germination, seed dispersal, and reproduction is provided by PCEs 1 and 4; the need for soil moisture for growth, germination, reproduction, and seed dispersal is provided by PCE 2 (but not necessarily every year); the need for other nutritional or physiological requirements for the species is met by PCE 3; habitat free from disturbance that allows for sufficient reproduction and survival opportunities is provided by PCEs 1 and 4. All of the above described PCEs do not have to occur simultaneously within a unit for the unit to constitute critical habitat for *Limnanthes floccosa* ssp. *grandiflora.*

Lomatium cookii

Based on our current knowledge of the life history, biology, and ecology of *Lomatium cookii* and the characteristics of the habitat necessary to sustain the essential life history functions of the species, we determined that the PCEs for the species' critical habitat are:

(1) **In the Rogue River Valley**:

(A) Vernal pools and ephemeral wetlands and depths and the adjacent upland margins of these depressions that hold water for a sufficient length of time to sustain *Lomatium cookii* germination, growth, and reproduction. These vernal pools or ephemeral wetlands support native plant populations and are seasonally inundated during wet years but do not necessarily fill with water every year due to natural variability in rainfall. Areas of sufficient size and quality are likely to have the following characteristics:

- Elevations from 372 to 411 m (1,220 to 1,350 ft);
- Associated dominant native plants including, but not limited to: *Alopecurus saccatus, Achnatherum lemmonii*, *Deschampsia danthonioides, Eryngium petiolatum, Lasthenia californica, Myosurus minimus*, *Navarretia leucocephala* ssp. *leucocephala, Phlox gracilis, Plagiobothrys bracteatus*, *Trifolium depauperatum*, and *Triteleia hyacinthina*; and
- A minimum area of 8 ha (20 ac) to provide intact hydrology and protection from development and weed sources.

(B) The hydrologically and ecologically functional system of interconnected pools or ephemeral wetlands or depressions within a matrix of surrounding uplands that together form vernal pool complexes within the greater watershed. The associated features may include the pool basin and ephemeral wetlands; an intact hardpan subsoil underlying the surface soils up to 0.75 m (2.5 ft) in depth; and surrounding uplands, including mound topography and other geographic and edaphic features that support systems of hydrologically interconnected pools and other ephemeral wetlands (which may vary in extent depending on site-specific characteristics of pool size and depth, soil type, and hardpan depth).

(C) Silt, loam, and clay soils that are of ultramafic and nonultramafic alluvial origin, with a 0 to 3 percent slope, classified as Agate–Winlo or Provig–Agate soils.

(D) No or negligible presence of competitive, nonnative invasive plant species. Negligible is defined for the purpose of this rulemaking as a minimal level of nonnative plant species that will still allow *Lomatium cookii* to continue to survive and recover.

(2) **In the Illinois River Valley:**

(A) Wet meadows in oak and pine forests, sloped mixed-conifer openings, and shrubby plant communities that are seasonally inundated and support native plant populations. Areas of sufficient size and quality are likely to have the following characteristics:

- Elevations from 383 to 488 m (1,256 to 1,600 ft);
- Associated dominant native plants including, but not limited to: *Achnatherum lemmonii, Arbutus menziesii, Arctostaphylos viscida, Camassia* spp., *Ceanothus cuneatus*, *Danthonia californica, Deschampsia cespitosa*, *Festuca roemeri* var. *klamathensis, Poa secunda*, *Ranunculus occidentalis*, and *Limnanthes gracilis* var. *gracilis*;
- Occurrence primarily in bottomland *Quercus garryana–Quercus kelloggii–Pinus ponderosa* (Oregon white oak–California black oak–ponderosa pine) forest openings along seasonal creeks; and
- A minimum area of 8 ha (20 ac) to provide intact hydrology and protection from development and weed sources.

(B) The hydrologically and ecologically functional system of streams, slopes, and wooded systems that surround and maintain seasonally wet alluvial meadows underlain by relatively undisturbed ultramafic soils within the greater watershed.

(C) Silt, loam, and clay soils that are of ultramafic and nonultramafic alluvial origin, with a 0 to 40 percent slope, classified as Abegg gravelly loam, Brockman clay loam, Copsey clay, Cornutt–Dubakel complex, Dumps, Eightlar extremely stony clay, Evans loam, Foehlin gravelly loam, Josephine gravelly loam, Kerby loam, Newberg fine sandy loam, Pearsoll–Rock outcrop complex, Pollard loam, Riverwash, Speaker–Josephine gravelly loam, Takilma cobbly loam, or Takilma Variant extremely cobbly loam.

(D) No or negligible presence of competitive, nonnative invasive plant species. Negligible is defined for the purpose of this rulemaking as a minimal level of nonnative plant species that will still allow *Lomatium cookii* to continue to survive and recover.

The need for space for individual and population growth, germination, seed dispersal, and reproduction is provided by PCEs 1(A), 2(A), 1(D), and 2(D); the need for soil moisture for growth, germination, reproduction, and seed dispersal is provided by PCEs 1(B) and 2(B)(but not necessarily every year); the need for other nutritional or physiological requirements for the species is provided by PCE 1(C) and 2(C); the need for habitat free from disturbance that allows for sufficient reproduction and survival opportunities is provided by PCEs 1(A), 2(A), 1(D), and 2(D). All of the above described PCEs do not have to occur simultaneously within a unit for the unit to constitute critical habitat for *Lomatium cookii*.

With this designation of critical habitat, we intend to conserve the physical or biological features that are essential to the conservation of these species, through the identification of the appropriate quantity and spatial arrangement of the PCEs sufficient to support the life history functions of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. Each of the areas designated as critical habitat contain the PCEs in the appropriate quantity and spatial arrangement essential to the conservation of the species and provide for one or more of the life history functions of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. As stated above, all of the PCEs described above do not have to occur simultaneously within a unit for the unit to constitute critical habitat.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain the features that are essential to the conservation of the species and that may require special management considerations or protection. All areas we are designating as critical habitat

require some level of management to address current and future threats to *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*, to maintain or enhance the physical or biological features essential to their conservation, and to ensure the recovery and survival of these species.

The major threats to the PCEs in the areas identified as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* include: development on private lands; mining activities; ground disturbance that affects surface hydrology, including ORV use and road construction or maintenance activities; incompatible agricultural and grazing practices; garbage dumping; the succession of meadow habitat to forested habitat due to fire suppression; and encroachment and displacement by nonnative plants. Herbivory by voles may also affect *Lomatium cookii* in the Illinois River Valley. In all of the units in Jackson County, special management is needed to reduce or eradicate the threats posed by development, habitat fragmentation, ground disturbance that affects surface hydrology, and incompatible grazing practices. In all of the units in Josephine County, special management is needed to reduce or eradicate the threats posed by development, ORV use, mining activities, garbage dumping, and woody vegetative succession. Please refer to the unit descriptions in the *Critical Habitat Designation* section for further discussion of special management considerations or protection of the PCEs related to geographically specific threats to *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

In addition, for all units, special management is needed to control and monitor the encroachment of nonnative, invasive plant species to maintain intact vernal pool–mounded prairies and wet meadow ecosystems such that they can continue to support populations of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

Special management considerations or protection of the vernal pool–mounded prairies and wet meadow habitats that may be needed to support reproduction and growth of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* include: controlled burning and vegetation clearing to maintain early seral stages (early stages of plant succession in the progression toward a climax community); control of nonnative, invasive plant species; grazing management; the re-establishment of hydrology; re-seeding with native plants; monitoring; and protection from development (Borgias 2004, pp. 47–53; ONHDB 1994, pp. 13–20).

Criteria Used To Identify Critical Habitat

As required by section 4(b) of the Act, we used the best scientific data available to designate critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. We reviewed available information that pertains to the habitat requirements of these species to determine those areas that contain the physical or biological features essential to the conservation of the species. Important sources of information included, but were not limited to, the proposed rule to designate critical habitat for these species (74 FR 37314); the proposed (65 FR 30941; May 15, 2000) and final (67 FR 68004; November 7, 2002) rules to list these species; the draft recovery plan (USFWS 2006); data contained in reports prepared for or by the U.S. Bureau of Land Management (BLM) (1999 through 2008), the Oregon Department of Agriculture's (ODA) Native Plant Conservation Program (2007-2008), and The Nature Conservancy (TNC) (1998 through 2008); discussions with species experts including ODA, BLM, ONHIC, and TNC staff; data and information presented in academic research theses; data provided by ONHIC; Oregon State University herbarium records; and data submitted during section 7 consultations. Additionally, we used regional Geographic Information System (GIS) shape files for area calculations and mapping, such as United States Department of Agriculture (USDA) National Agriculture Imagery Program aerial imagery (USDA 2009), USDA soil maps, and United States Geological Survey (USGS) contour maps (USDA 2006a, 2006b, 2008; USGS 2002, 2009). We are not currently designating as critical habitat any areas outside the geographical range presently occupied by either *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*, because the draft recovery plan indicates that recovery can be attained within the present range of each species (USFWS 2006). Our regulations stipulate that critical habitat shall be designated outside the areas (range) presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species (50 CFR 424.12(e)).

The steps we used in identifying critical habitat are as follows:

(1) Our initial step was to determine, in accordance with section 3(5)(A)(i) of the Act and regulations in 50 CFR 424.12, the physical or biological habitat features essential to the conservation of the species and which may require special management considerations or protection, as explained in the previous section.

(2) We identified areas occupied by *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* at the time of listing. Occupancy status was determined using occurrence data from the ONHIC database (ONHIC 2008), Medford BLM records (BLM 2005), a recent *Limnanthes floccosa* ssp. *grandiflora* status report (Meyers 2008, pp. 1–65), Service staff reports, data in reports submitted during section 7 consultations and by biologists holding section 10(a)(1)(A) recovery permits, research published in peer-reviewed articles, research presented in academic theses and agency reports, regional GIS coverages, and the OSU herbarium record database (OSU 2007). We determined occupancy at the time of listing by comparing survey and collection information and descriptions of occupied areas in the final listing rule published in the **Federal Register** on November 7, 2002 (67 FR 68004). At the time of the 2002 listing, 15 occurrences (sites) were known for *Limnanthes floccosa* ssp. *grandiflora* and 36 occurrences (sites) were known for *Lomatium cookii* (67 FR 68004).

Since the final listing rule was published, we learned of additional areas that we determined were occupied at the time of listing. Two such areas were known at the time of listing, but at that time the species were thought to have been extirpated from those sites. First identified in 1937, the two areas had no exact location information (OSU 2007). Attempts were made to relocate the occurrences, but these attempts were unsuccessful. However, in 2005, the two areas were again found and each was occupied by a large number of *Lomatium cookii* plants (C. Shohet, pers. comm. 2005). In addition, two other sites occupied by *Lomatium cookii* were identified after the listing. Although we were not aware of these occupied areas at the time of listing, we determined that they were extant at the time due to limited infrequent dispersal and establishment abilities by the plants (T. Kaye, pers. comm. 2010).

Although various new occurrences have been identified since the time of listing in 2002, only four occurrences of *Lomatium cookii* correspond to new areas identified between the time of listing in 2002 and the year 2009 that we consider to have been occupied at the time of listing. Currently, we know of 22 documented occurrences of *Limnanthes floccosa* ssp. *grandiflora* and 37 documented occurrences of

Lomatium cookii that correspond to a total of 24 areas we consider to have been occupied at the time of listing. Note that multiple occurrences may comprise a single occupied area; hence, there will be a greater number of occurrences than of occupied areas.

(3) We then considered areas identified as priority 1 and 2 recovery core areas in the draft recovery plan for the two species (USFWS 2006) to determine which areas contain the PCEs in the amount and spatial configuration essential to the conservation of the species. We incorporated most areas identified as priority 1 and 2 recovery areas in the draft recovery plan into this final designation. The one exception is a site at the Medford Airport that was identified as a recovery area for *Limnanthes floccosa* ssp. *grandiflora* in the draft recovery plan, but that did not meet the size and quality criteria for critical habitat, as described below, and thus is not included in this final designation. In addition, the occurrence has not been relocated for many years and is most likely extirpated.

(4) We removed any nonfunctional vernal pool–mounded prairie or meadow habitat that was developed or degraded (not likely to contain PCEs) to ensure critical habitat contains features essential to the conservation of each of the species (USDA 2006; ESA 2007, pp. 3-2 to 3-11). We also did not consider some isolated areas (at least 0.6 mi (1 km) distant from the next nearest area of appropriate habitat) of vernal pool–mounded prairie or meadow, or mixed conifer areas containing 10 or fewer reported individuals, as we observed that occurrences of this size have a tendency to become extirpated due to: (i) Lack of suitable habitat features (PCEs), (ii) lack of habitat area, or (iii) proximity to development activities. We reviewed occurrence information from ONHIC (2008) to substantiate this observation.

We considered occurrences of such small size as not likely to occur in habitats that provide the physical or biological features necessary to support populations capable of persisting for the long term; thus, such areas would not be essential to the conservation of either of the two species.

(5) As a final step, we considered whether each of the areas identified may need special management considerations or protections. Our consideration of this factor is presented below.

Based on these criteria, we are designating 24 units as critical habitat for the two species: 8 for *Limnanthes floccosa* ssp. *grandiflora* and 16 for *Lomatium cookii*. Two of the 24 units are shared by both species. After applying the above criteria, we mapped the critical habitat unit boundaries at each of these 24 areas. We created maps using aerial imagery, 7.5 minute topographic maps, and GIS contour data. We used publicly available satellite imagery, for example, from the National Agriculture Imagery Program (USDA 2009) to assist in identifying areas that would provide the essential physical or biological features for the species, using digital habitat signatures.

In addition, based on aerial imagery, when determining critical habitat boundaries in this final rule we made every effort to avoid including developed areas such as buildings, paved areas, and other structures that lack the features essential to the conservation of *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*. We combined the polygons generated by our mapping based on the criteria described above with information from aerial photos to determine the final critical habitat unit boundaries of each site. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this final rule have been excluded by text in the rule and are not included for designation as critical habitat. Therefore, Federal actions limited to these areas would not trigger section 7 consultation with respect to critical habitat and the requirement of no destruction or adverse modification, unless they may affect the species, or features essential to the conservation of the species, or both, in adjacent critical habitat.

We are designating as critical habitat lands that we determined were occupied at the time of listing and contain sufficient PCEs to support life history functions essential for the conservation of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. We are designating 24 units of critical habitat based on sufficient PCEs being present to support the life processes of the species. Some units may contain all of the PCEs and support multiple life processes, and some units may contain only a subset of the PCEs necessary to support the species' use of the habitat.

Critical Habitat Designation

We determined that 24 units totaling approximately 4,018 ha (9,930 ac) meet our definition of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*, including land under Federal, State, county, municipal, and private ownership. We are designating 8 units of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and 16 units for *Lomatium cookii*; two of these units, White City and Whetstone Creek in Jackson County, contain habitat for both species (see Tables 4, 5, 6, and 7,and unit descriptions below). The critical habitat areas described below constitute our best assessment at this time of areas that meet the definition of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. We determined that all areas designated as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* were occupied at the time of listing and most are, we believe, currently occupied as well (recent survey information was not available for all sites).

The areas designated as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* are: (1) Unit RV1—Shady Cove; (2) Unit RV2—Hammel Road; (3) Unit RV3A, B, C, and D—North Eagle Point; (4) Unit RV4—Rogue Plains; (5) Unit RV5—Table Rock Terrace; (6) Unit RV6A, B, C, D, E, F, G, and H—White City; (7) Unit RV7— Agate Lake; and (8) Unit RV8—Whetstone Creek. Units coded with "RV" are in the Rogue River Valley, Jackson County.

The areas designated as critical habitat for *Lomatium cookii* are: (1) Unit RV6A, F, G, and H—White City; (2) Unit RV8—Whetstone Creek; (3) Unit RV9A and B—Medford Airport; (4) Unit IV1A and B—Anderson Creek; (5) Unit IV2—Draper Creek; (6) Unit IV3—Reeves Creek North; (7) Unit IV4—Reeves Creek East; (8) Unit IV5—Reeves Creek South; (9) Unit IV6A and B—Laurel Road; (10) Unit IV7—Illinois River Forks State Park; (11) Unit IV8—Woodcock Mountain; (12) Unit IV9—Riverwash; (13) Unit IV10—French Flat North; (14) Unit IV11—Rough and Ready Creek; (15) Unit IV12—French Flat Middle; and (16) Unit IV13—Indian Hill. Units coded with "IV" are in the Illinois River Valley, Josephine County.

The approximate area, land ownership, and occupancy status of each designated critical habitat unit are shown in Tables 4, 5, and 6. Portions of units or entire units roughly correspond to the recovery core areas for each species as identified in the 2006 draft recovery plan (USFWS 2006). The recovery core areas were selected based on occurrence records and habitat identified through ground surveys, aerial imagery, topography features, and soil layers. The information in the draft recovery plan is now somewhat dated; therefore more current information resulting from this evaluation may have led to some adjustments of recovery

areas that were recommended in the 2006 draft recovery plan. As described above, we assessed all areas we are designating as critical habitat to ensure that they provide the requisite PCEs essential to the conservation of the species as defined in this final rule.

We present brief descriptions of all critical habitat units for *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*, below.

Area 1: Jackson County, Oregon

In Jackson County, we are designating eight critical habitat units for *Limnanthes floccosa* ssp. *grandiflora* and three critical habitat units for *Lomatium cookii*. The Jackson County units occur approximately 58 km (30 mi) east of the nearest unit for *Lomatium cookii* species in Josephine County. All critical habitat units in Jackson County are located within the Middle Rogue River Basin or "Agate Desert." Two units, White City and Whetstone Creek, are occupied by both species. Please see the Index Maps in the **Regulation Promulgation** section of this rule for the location of all critical habitat units.

Unit RV1: Shady Cove

Unit RV1 consists of approximately 8 ha (20 ac) of intact vernal pool–mounded prairie and was occupied by *Limnanthes floccosa* ssp. *grandiflora* at the time of listing (ONHIC 2008). We have no current information regarding the status of this population, but consider the plant to be extant within the unit, as we have no information indicating that any activities occurred that likely would result in extirpation. Unit RV1 contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and was identified in the draft recovery plan as the Shady Cove recovery core area (USFWS 2006, pp. IV-12–IV-13). This unit is not designated as vernal pool fairy shrimp critical habitat. It parallels a 430-m (1,411-ft) stretch of Highway 62 and is located 460 m (1,500 ft) west of Highway 62. The unit is 0.8 km (0.5 mi) south of Shady Cove, 1.3 km (0.8 mi) northeast of Takelma Park, and is 122 m (400 ft) east of the Rogue River. The unit occurs on privately owned land. Aerial imagery indicates that the unit is composed of intact vernal pool–mounded prairie habitat (USDA 2006).

ONHIC database records do not mention any ongoing threats to the *Limnanthes floccosa* ssp. *grandiflora* population within the unit; however, the occurrence information mentions that the adjacent habitat to the south has been leveled, indicating that agricultural development occurs nearby (ONHIC 2008). The unit occurs in an area of predominantly agricultural and grazing use (Borgias 2004, p. 8). We are not aware of any conservation agreements or management plans to conserve *Limnanthes floccosa* ssp. *grandiflora* habitat within this unit. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit RV1 due to threats from agricultural development, potential incompatible grazing practices, and the encroachment of invasive, nonnative plant species.

Unit RV2A, B, C, and D: Hammel Road

Unit RV2 consists of approximately 69 ha (169 ac) of intact vernal pool–mounded prairie. The unit is currently occupied by *Limnanthes floccosa* ssp. *grandiflora* and was occupied at the time of listing (ONHIC 2008). This critical habitat unit contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and was identified as the Staley Road recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). This unit is also designated as vernal pool fairy shrimp critical habitat and overlaps vernal pool fairy shrimp critical habitat subunit 1A (North Agate Desert Unit) (71 FR 7117; February 10, 2006). It is located on privately owned land, 1.2 km (0.75 mi) northeast of the confluence of Reese Creek and the Rogue River, 1.3 km (0.8 mi) west of Highway 62, and 430 m (1,400 ft) east of the Rogue River.

A recent observation indicates that approximately 1,500 *Limnanthes floccosa* ssp. *grandiflora* are present on the unit (Meyers 2008, p. 6). Aerial imagery and field observations indicate that the unit is comprised of intact vernal pool–mounded prairie habitat (USDA 2006a; Meyers 2008, p. 6).

ONHIC database (2008) records indicate that light grazing occurs within this unit, and the grazing practices appear to have been compatible with the survival of *Limnanthes floccosa* ssp. *grandiflora* over the past 13 years. We are not aware of any conservation agreements or plans to protect *Limnanthes floccosa* ssp. *grandiflora* habitat within this unit. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit RV2 due to threats from agricultural development, potential incompatible grazing practices, and the encroachment of invasive, nonnative, annual plant species.

Unit RV3A, B, C, and D: North Eagle Point

Unit RV3 consists of four subunits totaling 490 ha (1,210 ac) of intact vernal pool habitat that is currently occupied by *Limnanthes floccosa* ssp. *grandiflora* and was occupied at the time of listing (ONHIC 2008). This critical habitat unit contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and was identified as the North Eagle Point recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). Unit RV3 is also designated as vernal pool fairy shrimp critical habitat and overlaps vernal pool fairy shrimp critical habitat subunits 1B, D, and G (North Agate Desert Unit) (71 FR 7117; February 10, 2006). The unit is located on privately owned land southwest of Mosser Mountain and northeast of Long Mountain. The four subunits loosely follow a 6.9 km (4.3 mi) stretch of Hog Creek beginning at its origin. Originating 3.8 km (2.4 mi) east of Highway 62 in subunit RV3D, Hog Creek runs through RV3C, crosses Highway 62, flows between RV3B (located 100 m (328 ft) west of Highway 62) and RV3A (located 600 m (1,970 ft) west of Highway 62), before emptying into the Rogue River after 2.4 km (1.5 mi). Subunit RV3A is located 560 m (1,837 ft) southeast of the confluence of Reese Creek and the Rogue River. Subunit RV3B is located 100 m (328 ft) west of Highway 62 at the intersection of Ball Road and extends along an 835 m (2,740 ft) stretch of Hog Creek. Subunit RV3C is located 2 km (1.2 mi) north of Eagle Point and extends 2.6 km (1.6 mi) south of the junction of Ball Road and Reese Creek Road. Subunit RV3D is located 3.2 km (2 mi) east of Long Mountain and is 2.4 km (1.5 mi) southeast of the junction of Highway 62 and Ball Road. It extends along a 1.8 km (1.1 mi) stretch of Hog Creek.

ONHIC Element Occurrence data accounts for two 1,000-plant *Limnanthes floccosa* ssp. *grandiflora* populations within this unit, one growing in an area of intact vernal pool–mounded prairie habitat and one in an atypical swale habitat alongside a fence. An additional 500 *Limnanthes floccosa* ssp. *grandiflora* plants growing in intact vernal pool–mounded prairie habitat on a separate property within the unit were reported by Wildlands, Inc. (Wildlands, Inc. 2008, p. 3). Aerial imagery indicates that the unit contains a significant amount of intact vernal pool–mounded prairie habitat (USDA 2006a).

Some habitat in this unit has been degraded by cattle grazing practices and agricultural development (Wildlands, Inc. 2008, p. 1). The entire unit occurs

in an area of predominant agricultural and grazing use (Borgias 2004, p. 8). Livestock caused significant damage to large vernal pools within the unit by soil compaction and mound and pool topography alteration (Oregon Natural Heritage Program (ONHP) 1997, p. 16). In addition, vernal pool hydrology has been compromised in some portions of the unit by water impoundment, causing water to permanently fill some vernal pools in several areas (Southern Oregon Land Conservancy 2008, p. 3). In addition, nonnative, invasive, annual grasses colonized large portions of the unit and threaten to encroach on *Limnanthes floccosa* ssp. *grandiflora* populations (Southern Oregon Land Conservancy 2008, p. 4).

There are established protective measures to conserve *Limnanthes floccosa* ssp. *grandiflora* and the habitat of the threatened vernal pool fairy shrimp on two private properties within this unit. Long-term management plans are in development for both of the properties to protect and restore vernal pool–mounded prairie function; these plans will cover approximately 20 percent of the land in the unit. Monitoring and improved grazing management are currently taking place on the two properties to further conserve *Limnanthes floccosa* ssp. *grandiflora* habitat (M. Young, pers. comm. 2009; Southern Oregon Land Conservancy 2008, p. 6). Other special management considerations or protection on other properties within the unit may be required to restore, protect, and maintain the PCEs supported by Unit RV3 due to threats from agricultural development, potential incompatible grazing practices, and the encroachment of invasive, nonnative, annual grasses.

Unit RV4: Rogue Plains

Unit RV4 consists of 243 ha (600 ac) of vernal pool–mounded prairie habitat, 36 ha (88 ac) of which are leveled. The critical habitat unit is currently occupied by *Limnanthes floccosa* ssp. *grandiflora* and was occupied at the time of listing (ONHIC 2008; Meyers 2008, p. 10). This critical habitat unit contains all of the PCEs for *Limnanthes floccosa ssp. grandiflora* and was identified as the Rogue Plains recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). Unit RV4 is also designated as critical habitat for vernal pool fairy shrimp and overlaps vernal pool fairy shrimp critical habitat subunits 1C, E, and F (North Agate Desert Unit) (71 FR 7117; February 10, 2006). The vast majority of this unit occurs on privately owned land located 122 m (400 ft) southeast of the junction of Highway 234 and Modoc Road. It extends 2 km (1.2 mi) south along Modoc Road from the intersection, is located 1.4 km (0.87 mi) southwest of Dodge Bridge, and is 1.0 km (0.6 mi) northwest of Rattlesnake Rapids on the Rogue River.

A recent *Limnanthes floccosa* ssp. *grandiflora* survey report within Unit RV4 describes a robust 5,000-plant population occurring at the privately owned "Rogue River Plains Preserve" (Meyers 2008, p. 10). The report also describes a *Limnanthes floccosa* ssp. *grandiflora* occurrence from which the species appears to have been extirpated (Meyers 2008, pp. 10, 55). For the most part, aerial imagery and field observations indicate that the unit is composed of about 84 percent intact vernal pool–mounded prairie habitat (USDA 2006a; Meyers 2008, p. 6).

Some habitat within this unit appears to be degraded or destroyed (Meyers 2008, p. 55); however, the winter and spring grazing presently occurring at the Rogue River Plains Preserve property appears to be compatible with the survival of *Limnanthes floccosa* ssp. *grandiflora* (Borgias 2004, p. 42).

Threats facing vernal-pool mounded prairie habitat in this unit are agricultural development and the encroachment of invasive, nonnative, annual grasses. A conservation easement, held by TNC and placed on the privately owned Rogue River Plains Preserve property, permits TNC to manage grazing on the property, and withdraws development and agricultural development rights. Other special management considerations or protection on other properties within the unit may be needed to restore, protect, and maintain the PCEs supported by Unit RV4 due to threats from agricultural development and the encroachment of invasive, nonnative, annual grasses.

Unit RV5: Table Rock Terrace

Unit RV5 includes 49 ha (122 ac) of intact vernal pool–mounded prairie habitat that has been occupied by the species since the time of listing (ONHIC 2008, USDA 2006a). Although a survey conducted on a portion of the unit in 2008 did not confirm presence of *Limnanthes floccosa* ssp. *grandiflora* plants (Meyers 2008, p. 59), a more recent survey verified the continued occupation of the unit by *Limnanthes floccosa* ssp. *grandiflora* (S. Friedman 2009, pers. obs.). This critical habitat unit contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and was identified as the Table Rock Terrace recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). This unit is not designated as vernal pool fairy shrimp critical habitat. Unit RV5 is located on privately owned land 670 m (2,200 ft) north of the junction of Modoc and Antioc Roads, is 1.4 km (0.9 mi) east of Upper Table Rock, and is 650 m (2,300 ft) west of the Rogue River. This unit follows along an 800-m (2,600-ft) stretch of Modoc Road to the east of the unit and a 700-m (2,300-ft) stretch of Antioc Road west of the unit.

Threats facing vernal-pool mounded prairie habitat in this unit may include agricultural development, incompatible grazing practices, and the encroachment of invasive, nonnative, annual grasses. Other special management considerations or protection within the unit may be needed to restore, protect, and maintain the PCEs supported by Unit RV5 due to these threats.

Unit RV6A, B, C, D, E, F, G, and H: White City

Unit RV6 consists of eight subunits that generally encompass the perimeter of White City. Subunits A through H are designated as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and include 740 ha (1,829 ac). Subunits A, F, G, and H are designated as critical habitat for *Lomatium cookii* and include 546 ha (1,349 ac). This 740-ha (1,829-ac) unit includes intact vernal pool–mounded prairie and swale habitats that were occupied by the two species at the time of listing; both species presently occur within some or all of the subunits. This critical habitat unit contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* and was identified as the Agate Desert recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). Unit RV6 is also designated as vernal pool fairy shrimp critical habitat and overlaps vernal pool fairy shrimp critical habitat subunits 2A, B, C, D, and E and 3A and B (White City East and West Units) (71 FR 7117; February 10, 2006). The unit occurs on State, county, municipal, and privately owned lands. It is located around White City, is 1.6 km (1.0 mi) southwest of Eagle Point, and is 440 m (1,444 ft) southeast of the confluence of the Rogue River and Little Butte Creek. Subunit RV6A is located north of Whetstone Creek and is 500 m (1,200 ft) west of the junction of Highway 62 and Antelope Road. Subunits RV6B, RV6C, RV6D, and RV6E are located north of Avenue G in White City, south of Little Butte Creek, and 670 m (2,200 ft) southwest of Antelope Creek. Subunits RV6F and RV6G are located approximately 500 feet west of Dry Creek and are east of Highway 62 in White City. Subunit RV6H is located

north of Whetstone Creek and south of Antelope Road. Subunit RV6H roughly encircles the Hoover Ponds, east of Highway 62, and is 850 m (2,790 ft) east of subunit RV6A. The land in this unit is 29 percent State-owned, 6 percent county-owned, 10 percent municipally owned, and 55 percent privately owned.

This unit includes approximately 90 percent intact vernal pool–mounded prairie habitat. The Nature Conservancy manages a 22-ha (54-ac) parcel within this unit to conserve vernal pool–mounded prairie habitat and has recently developed an assessment and prioritization guide for the restoration and enhancement of vernal pool function across 86 ha (213 ac) of habitat owned by the ODFW Denman Wildlife Area. A mitigation site owned by Jackson County School District Number 9 protects 9.5 ha (24 ac) of intact vernal pool–mounded prairie habitat with one of the largest known populations of *Limnanthes floccosa* ssp. *grandiflora*. The City of Medford also leases 88 ha (217 ac) of vernal pool–mounded prairie for cattle grazing on some less intact vernal-pool mounded prairie habitat. In addition, the Oregon Department of Transportation (ODOT) manages two locations as roadside special management areas for the protection of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

Threats facing vernal pool–mounded prairie habitat in this unit include urban and commercial development, agricultural development, incompatible grazing practices, and the encroachment of invasive, nonnative, annual grasses. The Nature Conservancy and Jackson County School District Number 9 conduct prescribed burns, seeded with native plants, and erected signs and fences to control encroachment of nonnative, invasive plants, discourage recreational ORV use, and restore native plant communities (Borgias 2004, p. 22; USFWS 2006, pp. I-18–I-21). The ODFW assessment and prioritization guide includes such actions as removing nonnative bunch grasses and restoring hydrologic flow by eliminating old road beds (Borgias *et al.* 2009, pp. 16-22). These actions will be implemented or scheduled as funding becomes available. Other special management considerations or protection within the unit may be needed to restore, protect, and maintain the PCEs supported by Unit RV6 due to the described threats within the units.

Unit RV7: Agate Lake

Unit RV7 consists of 421 ha (1,039 ac) of intact vernal pool–mounded prairie and swale habitat; the unit is currently occupied by *Limnanthes floccosa* ssp. *grandiflora* and was occupied at the time of listing (Meyers 2008, p. 45). This critical habitat unit contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and was identified as the Agate Lake recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). Unit RV7 is designated as critical habitat for vernal pool fairy shrimp and overlaps vernal pool fairy shrimp critical habitat subunit 2B (White City East Unit) (71 FR 7117; February 10, 2006). The unit occurs on federally and privately owned land located 500 m (1,640 ft) east of the Agate Reservoir, along a 5.4-km (3.4-mi) stretch roughly parallel and between Dry Creek and Antelope Creek, is 330 m (1,080 ft) north of Tater Hill, and is 1.4 km (0.9 mi) southeast of the confluence of Dry Creek and Antelope Creek. The land in this unit is approximately 10 percent federally owned and 90 percent privately owned.

The U.S. Bureau of Reclamation (BOR) completed a management plan for 38 ha (94 ac) of slightly degraded vernal pool–mounded prairie habitat within this unit. The BOR established protective measures to conserve vernal pool–mounded prairie habitat, and finalized a long-term management plan to protect and restore vernal pool–mounded prairie function (BOR 2006, p. 1-1). Previous to 2008, *Limnanthes floccosa* ssp. *grandiflora* had not been reported in the unit since 1965. In 2008, a 300-plant population of *Limnanthes floccosa* ssp. *grandiflora* was observed in recently restored vernal pool–mounded prairie habitat on Federal land within the unit (Meyers 2008, p. 45).

The PCEs in this unit are threatened by invasion of nonnative, herbaceous annuals; trash dumping; activities associated with fire management (fire-line construction); vandalism; unauthorized ORV use; and incompatible grazing practices (ONHDB 1994, p. 11; Borgias 2004, p. 42). Therefore, special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit RV7 due to these threats.

Unit RV8: Whetstone Creek

Unit RV8 consists of 344 ha (850 ac) of intact vernal pool–mounded prairie and swale habitat that was occupied by *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* at the time of listing; both species continue to occur within the unit (ONHIC 2008; Meyers 2008, p. 20). This critical habitat unit contains all of the PCEs for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* and was identified as the Whetstone Creek recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). Unit RV8 is designated as critical habitat for vernal pool fairy shrimp and overlaps vernal pool fairy shrimp critical habitat subunit 3C (White City West Unit) (71 FR 7117; February 10, 2006). The unit occurs on State, County, municipal, and privately owned land located just west of White City. The unit is located approximately 1.4 km (0.9 mi) southeast of the confluence of the Rogue River and Whetstone Creek, 2.2 km (1.4 mi) southwest of Tou Velle State Park, and 2.9 km southeast of the confluence of Bear Creek and the Rogue River. The unit roughly parallels a 2.6-km (1.6-mi) stretch of Whetstone Creek to the south. The land in this unit is 9 percent State owned, 10 percent municipally owned, and 81 percent privately owned.

This unit includes highly intact vernal-pool mounded prairie habitat with partial protection by city regulation and private conservation easements. This is the only unit that includes a shrub and tree component within vernal pool–mounded prairie habitat. The Nature Conservancy manages a 58-ha (144-ac) parcel within this unit occupied by both *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. One of the primary purposes of the preserve is to conserve vernal pool–mounded prairie habitat. The Nature Conservancy recently developed a management plan to restore and enhance vernal pool function across a 32-ha (80-ac), neighboring property owned by ODOT that also occurs within the unit. The City of Medford leases 36 ha (96 ac) of vernal pool–mounded prairie habitat within the unit for grazing.

The PCEs in this unit are threatened by invasion of nonnative, herbaceous annuals; incompatible agricultural development; aggregate mining; unauthorized ORV use; and incompatible grazing practices (ONHDB 1994, p. 11; Borgias 2004, p. 42). Therefore, special management considerations or protection on other properties within the unit may be required to restore, protect, and maintain the PCEs supported by Unit RV8 due to the threats mentioned above.

Unit RV9A, B, C, D, and E: Medford Airport

Unit RV9 consists of the five subunits: RV9A through E. *Lomatium cookii* was known from this unit since before the time it was listed (ONHIC 2008). Unit RV9 includes 34 ha (83 ac) of slightly degraded vernal pool–mounded prairie habitat. No areas within this unit are designated as vernal pool fairy shrimp critical habitat, nor does the occurrence

meet the minimum population size criteria to be designated as critical habitat for *Limnanthes floccosa* ssp. *grandiflora* (Meyers 2008, p 48). However, this critical habitat unit does contain all of the PCEs for *Lomatium cookii* and meets all other critical habitat criteria for the species. This unit is identified as the Rogue Airfield recovery core area in the draft recovery plan (USFWS 2006, pp. IV-12–IV-13). The five subunits of RV9 are located mostly within the Rogue Valley International–Medford Airport, approximately 2 km (1.2 mi) west of Coker Butte and 1.5 km (0.9 mi) northeast of Bear Creek. Subunit RV9A is located 1.4 km (0.9 mi) north of the Rogue Valley International–Medford Airport and is 300 m (980 ft) east of the junction of Vilas Road and Table Rock Road. Subunits RV9B through E are located between Upton Slough and Bear Creek, 2 mi southeast of the junction of Vilas Road and Table Rock Road, and 1.7 km northeast of the junction of Interstate 5 and Highway 62. The land in this unit is 93 percent county-owned and 7 percent privately owned.

This unit includes one of the most extensive and densest populations of *Lomatium cookii* within its range. The Rogue Valley International–Medford Airport is managed to meet FAA safety requirements. The property is completely fenced-in to exclude people and large animals and is periodically mowed to keep vegetation low and reduce use by large birds and other wildlife. The security fencing and regular mowing is compatible with *Lomatium cookii* growth, reproduction, and germination and has enabled a robust population to become established. Other properties not included in the airport security zone are within the City of Medford urban growth boundary and are likely to become commercially developed.

Threats facing the vernal pool–mounded prairie habitat in this unit are potential airport and commercial development. Construction of a new runway that could be placed across the densest population of *Lomatium cookii* is suggested in the long-term plan for the airport (Rogue Valley International–Medford Airport 2001, pp. 5-2–5-4; 6-4–6-6). Special management considerations or protection within the unit may be needed to conserve and maintain the PCEs supported by Unit RV9 due to this threat.

Area 2: Josephine County, Oregon

In Josephine County, we are designating 13 critical habitat units for *Lomatium cookii*. The Josephine County units occur approximately 58 km (30 mi) west of the nearest unit for this species in Jackson County. None of the Josephine County units are designated as critical habitat for the vernal pool fairy shrimp in Oregon. Please see the Index Maps in the **Regulation Promulgation** section of this rule for the location of all critical habitat units.

Unit IV1A and B: Anderson Creek

Unit IV1 consists of two subunits (A and B) totaling 35 ha (85 ac) of intact wet meadow and mixed conifer habitat that is currently occupied and was occupied by the species at the time of listing (ONHDB 1994, pp. 9–10; OSU 2008). Unit IV1 contains all the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the Anderson Creek recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located on 66 percent privately owned and 44 percent federally owned land, 3.5 km (2.2 mi) north of Selma, 14 km (8.8 mi) north of Cave Junction, along a 1.0-km (0.6-mi) stretch of Anderson Creek and Highway 199, 2.0 km (1.2 mi) southwest of Hays Hill Summit, and 1.7 km (1.0 mi) northwest of the junction of Draper Valley Road and Indian Creek Road.

The two occurrences of *Lomatium cookii* in this unit are the most northern known occurrences of the species in the Illinois River Valley. Recent surveys located two populations in this unit, one with 135 plants and one with 1,000 plants. The two populations were reported as growing in open, grassy meadows (C. Shohet, pers. comm. 2005). Aerial imagery suggests the habitat in this unit is relatively intact wet meadow (USDA 2006a).

Potential threats to the *Lomatium cookii* habitat in this unit include incompatible grazing practices, agricultural development, alterations in hydrology due to timber production, native and noxious weed encroachment, and woody vegetation succession as the result of fire suppression (J. Kagan, pers. comm. 2009; C. Shohet, pers. comm. 2005). Grazing is a common agricultural practice in the area (J. Kagan, pers. comm. 2009), but depending on management within this unit, it may be incompatible with growth, reproduction, and germination of the species. We are not aware of any conservation agreements or management plans to conserve critical habitat within this unit. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV1 due to threats from agricultural development, potential incompatible grazing practices, and woody vegetative succession due to decreased fire return intervals.

Unit IV2: Draper Creek

Unit IV2 consists of 28 ha (70 ac) of intact wet meadow habitat, was occupied by *Lomatium cookii* at the time of listing (ONHDB 1994, p. 5; OSU 2008), and continues to be occupied by the species. Unit IV2 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the Draper Creek recovery core area (USFWS 2006, pp. IV-11, IV-14). It is located on privately owned land 2.7 km (1.7 mi) northeast of Selma, 13.5 km (8.4 mi) north of Cave Junction, along a 900-m (2,900-ft) stretch of Draper Creek, located 800 m (2,600 ft) east of Anderson Creek. The unit is 800 m (2,600 ft) north-northwest of the confluence of Draper Creek and Davis Creek and is 200 m (650 ft) southeast of the junction of Draper Valley Road and Indian Creek Road.

According to a recent survey report, this unit includes relatively intact wet meadow habitat associated with Draper Creek. A recent survey located a 400-plant *Lomatium cookii* population here, reported as growing in an open, grassy meadow (C. Shohet, pers. comm. 2005). The *Lomatium cookii* occurrence in this unit is among the most northern known occurrences for this species in the Illinois River Valley. Aerial imagery suggests the habitat in this unit may be reverting to oak and conifer succession in some areas (USDA 2006a).

Potential threats to the *Lomatium cookii* habitat in this unit include incompatible grazing practices, agricultural development, alterations in hydrology due to timber production, native and noxious weed encroachment, and woody vegetation succession (C. Shohet, pers. comm. 2005). Grazing is a common agricultural practice in the area (J. Kagan, pers. comm. 2009), but depending on management within the unit, it may be incompatible with growth, reproduction, and germination of the species. No conservation agreements or protections are established within this unit, and we are not aware of any conservation plans to conserve critical habitat within this unit. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV2 due to threats from agricultural development, incompatible grazing practices, and woody vegetative succession due to increased fire return intervals.

Unit IV3: Reeves Creek North

Unit IV3 consists of 152 ha (374 ac) of oak and pine forests, mixed-conifer, and understory shrub habitat. *Lomatium*

cookii occupied this unit at the time of listing and continues to be found here (ONHIC 2008). Based on comments we received from BLM, we added 47 ha (114 ac) of Federal (BLM) land to this unit that were not included in the July 28, 2009, proposed rule (74 FR 37314). Unit IV3 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the Reeves Creek West recovery core area (USFWS 2006, pp. IV-11, IV-14). This unit is located on Federal and privately owned land, 4.5 km (2.8 mi) south of Selma, 6.0 km (3.75 mi) north of Cave Junction, and 1.1 km (0.7 mi) northeast of Sauers Flat. The unit is located 1.4 km (0.9 mi) east of the confluence between Reeves Creek and the Illinois River and extends along a 2.0 km (1.2 mi) stretch of Reeves Creek, beginning 800 m (2,600 ft) northeast of the junction of Highway 199 and Reeves Creek Road. The land in this unit is 74 percent federally owned and 26 percent privately owned.

The habitat in this unit is primarily threatened by road maintenance, woody vegetation succession, and garbage dumping. Road maintenance often fragments populations and can directly affect plants. Woody vegetative succession can impact *Lomatium cookii* populations in this unit by over-shading. Due to this threat, the plants observed in this unit occur in smaller numbers, grow in more limited areas, and appear to be more fragmented compared to other Illinois River Valley populations (ONHIC 2008). Garbage dumping also directly impacts plants and can fragment habitats. Timber harvesting and its associated impacts (road construction, alteration of hydrology) occur in this unit periodically and could affect *Lomatium cookii* populations in the next few years. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV3 due to threats from woody vegetation succession, impacts associated with timber harvesting activities, garbage dumping, and road maintenance.

Unit IV4: Reeves Creek East

Unit IV4 consists of 83 ha (204 ac) of intact mixed confer and understory shrub habitat and has been occupied by *Lomatium cookii* since the time of listing (ONHIC 2008). Based on comments we received from BLM, we added 14 ha (37 ac) of Federal (BLM) land to this unit that were not included in the July 28, 2009, proposed rule (74 FR 37314). Unit IV4 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the Reeves Creek East recovery core area (USFWS 2006, pp. IV-11, IV-14). This unit is located on Federal and privately owned land, 6.2 km (3.9 mi) south of Selma, and 5.3 km (3.3 mi) northwest of Cave Junction. It occurs along a 500-m (1,640-ft) stretch of Reeves Creek located 700 m (2,300 ft) southeast of Unit IV3. The land in this unit is 70 percent federally owned and 30 percent privately owned.

The understory shrub and mixed conifer habitat in this unit is primarily threatened by activities associated with timber harvesting practices, road maintenance, garbage dumping, and ORV use. The single *Lomatium cookii* population known from this unit is described as fragmented by a road cut. Portions of the habitat in this unit are also threatened by early seral forest succession (ONHIC 2008). As with the previous unit, plants observed in this unit occur in smaller numbers and grow in more limited areas compared to other Illinois River Valley populations, and the populations appear to be more fragmented. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV4 due to threats from road construction, impacts associated with timber harvesting, woody vegetative succession, and ORV use.

Unit IV5: Reeves Creek South

Unit IV5 consists of 165 ha (407 ac) of intact sloped mixed conifer and understory shrub habitat. This unit was occupied by *Lomatium cookii* at the time of listing, and the species continues to be found there (ONHIC 2008). Based on comments we received from BLM, we added 7 ha (16 ac) of Federal (BLM) land to this unit that were not included in the July 28, 2009, proposed rule (74 FR 37314). Unit IV5 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the Reeves Creek West recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located on both Federal and private land roughly parallel to Highway 199 for 2.5 km (1.6 mi), which is 500 m (1,640 ft) west of the unit. The unit is located 1.6 km (1.0 mi) north of Cave Junction, 1 km (0.6 mi) southeast of Sauers Flat, 0.8 km (0.5 mi) east of Kerby, and 1.2 km (0.7 mi) east of the confluence between Holton Creek and the Illinois River. The land in this unit is 95 percent federally owned and 5 percent privately owned.

The habitat in this unit is primarily threatened by vegetative succession. Impacts associated with timber harvesting, road maintenance, garbage dumping, and ORV use are threats that could affect the habitat within this unit within the next few years. The *Lomatium cookii* population in this unit is described as a fairly modest-sized population, with numbers up to 300 plants. The population in this unit is threatened by fragmentation due to woody vegetation succession. The population is somewhat scattered around open mixed conifer patches dispersed within a young forest (ONHIC 2008). Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV5 due to threats from road construction, impacts associated with timber harvesting, woody vegetative succession, and ORV use.

Unit IV6A and B: Laurel Road

Unit IV6 consists of two subunits (A and B) totaling 182 ha (449 ac) of intact wet meadow habitat that was occupied by *Lomatium cookii* at the time of listing (ONHIC 2008); the species continues to be found there. Unit IV6 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the Laurel Road recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located west and alongside of the base of Lime Rock, 1.2 km (0.7 mi) east of the city of Cave Junction, and follows along Highway 46 for 1.5 km (0.9 mi). Subunit IV6A is located 1.3 km (0.8 mi) west of Lime Rock summit and 1.0 km (0.6 mi) east of the junction of Laurel Road and Highway 199, and is roughly parallel to Highway 199 for 1.3 km (0.8 mi), which lies approximately 1.0 km (0.6 mi) west of the subunit. Subunit IV6B is 2.7 km (1.7 mi) east of the confluence of the east and west forks of the Illinois River and from the intersection of Holland Loop Road and Highway 46; it extends approximately 1.8 km (1.1 mi) to the northeast and 2.7 km (1.7 mi) to the north. The land in this unit is over 99 percent privately owned, with less than 1 percent owned by the State.

Unit IV6 is open meadow and roadside habitat at the base of Lime Rock. Highway 46 crosses one of the populations and gravel was spread on the population at a pull-out. This population continues to thrive and even grows up through the gravel. J. Kagan described the population as occurring at the bottom of a small hill derived of ultramafic alluvium (ONHDB 1994, p. 9). The two populations in the unit are some of the most robust populations in the Illinois River Valley. However, the *Lomatium cookii* population has been monitored since April 2003, and after several years of population size increases, the population has recently

declined. The specific cause of the decline is not known.

The primary threats to the habitat in this unit are periodic roadside disturbance and rural development. Roadside disturbance caused by some illegal heavy equipment entry, vehicle traffic, and ODOT maintenance has occurred periodically along the roadside portion of this site. These impacts have affected the population in the last few years. ODOT manages the population closely and has been able to minimize impacts caused by road repairs. The impacts caused by a commercial development could compromise the PCEs in this area. Nonnative invasive plants are present along the roadside, but are sparse, perhaps due to the serpentine soil influences that are present at this site.

Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV6 due to threats from rural development, roadside maintenance, and roadside disturbance.

Unit IV7: Illinois River Forks State Park

Unit IV7 consists of 55 ha (136 ac) of intact wet meadow habitat. *Lomatium cookii* has been known from this unit since the time of listing (ONHIC 2008). Unit IV7 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the River Forks State Park recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located 500 m (1640 ft) west of the city of Cave Junction, is 600 m (1,970 ft) southeast of Pomeroy Dam, and is 230 m (750 ft) east of the confluence of the east and west forks of the Illinois River. The unit occurs along a 2.8-km (1.7-mi) reach of the West Fork Illinois River. The unit occurs on 25 percent Federal, 44 percent State, and 31 percent privately owned land.

This unit is partially managed by the Oregon Parks and Recreation Department (OPRD). The OPRD manages both the Federal and State property and a management plan is currently in development to protect and conserve the habitat that supports *Lomatium cookii*. Recent monitoring by Service staff (2008) observed a relatively robust population spread out alongside streamside meadow habitat (Service database 2008).

The primary threats to the habitat in this unit are natural woody vegetative succession and rural development. Agricultural development, incompatible grazing practices, garbage dumping, and invasive, nonnative, annual plant species are also potential threats. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV7 due to the threats described above.

Unit IV8: Woodcock Mountain

Unit IV8 consists of 234 ha (579 ac) of intact wet meadow habitat. *Lomatium cookii* was known from this unit at the time of listing and continues to occur there (ONHIC 2008). Unit IV8 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as part of the Rough and Ready Creek recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located on Federal and privately owned land, 2.4 km (1.5 mi) southwest of the city of Cave Junction and 5.3 km (3.3 mi) north of O'Brien. It is also 0.14 km (0.09 mi) west of the confluence of Woodcock Creek and the West Fork Illinois River. It also occurs along a 3.3-km (2.0-mi) stretch of West Side Road. Unit IV7 is 0.4 km (0.25 mi) west of Highway 199 and roughly parallels the highway for 5.0 km (3.1 mi). This unit occurs on 1 percent Federal and 99 percent privately owned land.

This unit contains abundant intact wet meadow habitat and includes several populations of *Lomatium cookii*, one of which may include more than 5,000 plants. The habitat occupied by the species is typical moist grassland dominated by the native bunch grasses *Danthonia californica* and *Deschampsia cespitosa*. A 39-ha (97-ac) private property that occurs within the unit is under a conservation easement. Threats that face the PCEs in this unit include woody vegetative succession; rural development; garbage dumping; competition from nonnative, invasive plant species; and incompatible agricultural development. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV8 due to these threats and potentially from incompatible grazing practices.

Unit IV9: Riverwash

Unit IV9 consists of 12 ha (30 ac) of intact wet meadow and streambank habitat. *Lomatium cookii* has been known from this unit since the time of listing (ONHIC 2008). Unit IV9 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as part of the Rough and Ready Creek recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located 4.2 km (2.6 mi) south of Cave Junction and 6.1 km (3.8 mi) north-northeast of O'Brien. It is located along the east bend of the West Fork Illinois River, 0.7 km (0.43 mi) south (upstream) of the confluence between Woodcock Creek and the West Fork Illinois River. The land in the unit is 34 percent federally owned, 5 percent State owned, and 61 percent privately owned.

This unit includes the Danna Lytjen Special Management Area, a property of ODOT. It has been monitored by ODOT periodically since the time it was discovered (D. Sharp, pers. comm. 2009). The population within this unit is small (fewer than 50 plants) and occurs in wet meadow habitat alongside a ditch. The primary threats to habitat in this unit are periodic roadside maintenance, garbage dumping, vegetative succession, occasional roadside disturbance, and rural development. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV9 due to threats from agricultural development, incompatible grazing practices, occasional roadside activities, vegetative succession, and rural development.

Unit IV10: French Flat North

Unit IV10 consists of 45 ha (110 ac) of intact wet meadow habitat. *Lomatium cookii* has been known from this unit since the time of listing (ONHIC 2008). Unit IV10 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as part of the Rough and Ready Creek recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located 3.7 km (2.3 mi) south of Cave Junction, 0.9 km (0.6 mi) north of the intersection of Sherrier Drive and Raintree Drive, and 1.7 km (1.1 mi) southwest of the confluence of Althouse Creek and the East Fork Illinois River. It also parallels a 0.3-km (0.19-mi) stretch of Rockydale Road. The land in this unit is under 22 percent Federal ownership and 78 percent private ownership. A portion of this unit occurs on BLM-managed land (Kaye and Thorpe 2008, p. 1).

The two *Lomatium cookii* populations in this unit occur in open mixed oak–conifer habitat. Aerial imagery suggests that the wet meadow habitat is fragmented, may be slowly degrading, and may require some management to maintain early seral stage vegetation (USDA 2006a). The primary threats to the PCEs in this unit are rural development and vegetative succession.

Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV10 due to threats from rural development, garbage dumping, competition from nonnative plant species, and woody vegetative succession.

Unit IV11: Rough and Ready Creek

Unit IV11 consists of 118 ha (292 ac) of intact wet meadow habitat. *Lomatium cookii* has been known from this unit since the time of listing (ONHIC 2008). Based on comments we received from BLM, we added 57 ha (140 ac) of Federal (BLM) land to this unit that were not included in the July 28, 2009, proposed rule (74 FR 37314). Unit IV11 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as part of the Rough and Ready Creek recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit roughly follows along and is adjacent to a 1.9-km (1.2-mi) stretch of Airport Drive, and is located 3 km (1.9 mi) north of O'Brien, 0.9 km (0.6 mi) west of the Rough and Ready Forest Wayside State Park, and 122 m (400 ft) east of the confluence of the Illinois River and Rough and Ready Creek. The land in this unit is 74 percent federally owned and 26 percent privately owned.

A grouping of *Lomatium cookii* patches has been monitored within this unit for over 10 years (Kaye and Thorpe 2008, p. 26). Although the population is not considered to be large, it is stable and appears to be resilient to various ORV threats and alterations in hydrology.

Threats present at this unit include disturbance or destruction from ORVs; nonnative, invasive forbs; alteration in hydrology caused by roadside maintenance; garbage dumping; competition from invasive, nonnative plant species; and natural succession. Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV11 due to these threats.

Unit IV12: French Flat Middle

Unit IV12 consists of 492 ha (1,216 ac) of intact wet meadow habitat. The unit has been occupied by *Lomatium cookii* since the time of listing. Unit IV12 contains all of the PCEs for *Lomatium cookii* and is identified in the draft recovery plan as the French Flat recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is located 4.5 km (2.8 mi) east of Cave Junction, 3.7 km (2.3 mi) northeast of O'Brien, 140 m (460 ft) north of Esterly Lakes, 1.4 km (0.9 mi) northeast of Indian Hill, and 0.3 km (0.2 mi) east of the confluence of Rough and Ready Creek and the West Fork Illinois River. It also follows along a 1.6-km (1.0-mi) stretch of Rockydale Road. Land within the unit is under 48 percent Federal ownership and 52 percent private ownership.

This unit contains some of the largest areas of intact wet meadow habitat within the Illinois River Valley. Several *Lomatium cookii* populations occur within this unit. Two of the *Lomatium cookii* populations in the unit on BLM land, each in excess of 40,000 individuals, have been closely monitored for over 10 years (Kaye and Thorpe 2008, pp. 16–25). Although the populations are robust and dense compared to other locations, the rate of growth is declining and plants may be slowly succumbing to various naturally caused threats, including woody vegetative succession and vole herbivory (Kaye and Thorpe 2008, pp. 16–25).

Threats commonly observed within this unit are: Illegal ORV use; vandalism (related to ORV use); garbage dumping; mining; woody vegetative succession; substantial rodent (vole) herbivory on *Lomatium cookii* plants; and competition with invasive, nonnative, annual plant species. Therefore, special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV12 due to the threats described above.

Unit IV13: Indian Hill

We are designating Unit IV13 as critical habitat for *Lomatium cookii*. This unit consists of 22 ha (54 ac) of intact wet meadow habitat. It has been occupied by *Lomatium cookii* since the time of listing. Based on comments we received from BLM, we added 4 ha (9 ac) of Federal (BLM) land to this unit that was not included in the July 28, 2009, proposed rule (74 FR 37314). Unit IV13 contains all of the PCEs for *Lomatium cookii*, and is identified in the draft recovery plan as the Indian Hill recovery core area (USFWS 2006, pp. IV-11, IV-14). The unit is adjacent to and lies east of a 0.9-km (0.6-mi) reach of the West Fork Illinois River, located approximately 0.3 km (0.2) south (upstream) of the confluence of Rough and Ready Creek and the West Fork Illinois River. The unit is 1.8 km (1.1 mi) northeast of O'Brien and is 0.35 km (0.2 mi) northwest of Indian Hill. The land within this unit is 86 percent federally owned and 14 percent privately owned.

This unit contains a comma-shaped wet meadow supporting one *Lomatium cookii* population in excess of 9,000 plants. *Lomatium cookii* has been closely monitored in this unit for over 10 years (Kaye and Thorpe 2008, p. 28). Although succession of woody vegetation, garbage dumping, nonnative invasive plant species, and herbivory by voles occur on the unit, population monitoring indicates the population is currently stable.

Special management considerations or protection may be required to restore, protect, and maintain the PCEs supported by Unit IV13 due to threats from natural woody vegetative succession and vole herbivory.

Tables 4 and 5 provide a summary of the approximate area (ha and ac) of units in Jackson County by Federal, State, county, municipal, and private ownership that we determined meet the definition of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. Table 6 provides a summary of the approximate area (ha and ac) of units for *Lomatium cookii* in Josephine County by Federal, State, and private ownership that we determined meet the definition of critical habitat. Table 7 provides a summary of the total critical habitat area designated for both *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* in Jackson and Josephine Counties; this total therefore does not include those areas of critical habitat designated for *Lomatium cookii* that overlap areas designated for *Limnanthes floccosa* ssp. *grandiflora* (that is, Units RV6A, F, G, H, and RV8).

TABLE 4—CRITICAL HABITAT UNITS AND OWNERSHIP IN HECTARES (ACRES) FOR *Limnanthes floccosa* SSP. *grandiflora* IN JACKSON COUNTY, OREGON (TOTALS MAY NOT SUM EXACTLY DUE TO ROUNDING).

Critical Habitat Unit	Private ha (ac)	Municipal ha (ac)	County ha (ac)	State ha (ac)	Federal ha (ac)	Total Area ha (ac)	Population Status
Shady Cove (RV1)	8 (20)	.....	.....	.....	.....	8 (20)	Occupied at time of listing and believed to be currently occupied (no recent surveys)

TABLE 4—CRITICAL HABITAT UNITS AND OWNERSHIP IN HECTARES (ACRES) FOR *Limnanthes floccosa* SSP. *grandiflora* IN JACKSON COUNTY, OREGON (TOTALS MAY NOT SUM EXACTLY DUE TO ROUNDING).—Continued

Critical Habitat Unit	Private ha (ac)	Municipal ha (ac)	County ha (ac)	State ha (ac)	Federal ha (ac)	Total Area ha (ac)	Population Status
Hammel Road (RV2A–D)	69 (169)	.....	.....	.....	.....	69(169)	Occupied at time of listing and currently occupied
North Eagle Point (RV3A–D)	490 (1,210)	.....	.....	.....	.....	490(1,210)	Occupied at time of listing and currently occupied
Rogue Plains (RV4)	242.5 (599)	.....	0.5 (1)	.....	.....	243(600)	Occupied at time of listing and currently occupied
Table Rock Terrace (RV5)	49 (122)	.....	.....	.....	.....	49 (122)	Occupied at time of listing and currently occupied
White City (RV6A–H)	390 (964)	74 (183)	61(151)	215 (531)	.....	740 (1,829)	Occupied at time of listing and currently occupied
Agate Lake (RV7)	392 (969)	.....	.....	.....	29 (70)	421(1,039)	Occupied at time of listing and currently occupied
Whetstone Creek (RV8)	276 (682)	35 (85)	0.5(1)	33 (81)	.....	344 (850)	Occupied at time of listing and currently occupied
Total Area	1,916 (4,736)	109 (268)	62 (153)	248 (612)	29 (71)	2,363 (5,840)	

TABLE 5—CRITICAL HABITAT UNITS AND OWNERSHIP IN HECTARES (ACRES) FOR *Lomatium cookii* IN JACKSON COUNTY, OREGON (TOTALS MAY NOT SUM EXACTLY DUE TO ROUNDING).

Critical Habitat Unit	Private ha (ac)	Municipal ha (ac)	County ha (ac)	State ha (ac)	Federal ha (ac)	Total Area ha (ac)	Population Status
White City (RV6A, F, G, H)*	292 (720)	77 (190)	50(125)	127 (314)	.....	546(1,349)	Occupied at time of listing and currently occupied
Whetstone Creek (RV8)*	277 (685)	35(86.5)	0.2 (0.5)	32 (78)	.....	344(850)	Occupied at time of listing and currently occupied
Medford Airport (RV9A–E)	3 (8)	.....	31 (75)	.....	.....	34 (83)	Occupied at time of listing and currently occupied
Total Area Including Overlapping Units Shared with *Limnanthes floccosa* ssp. *grandiflora*	572 (1,413)	112(277)	81(200)	159 (392)	.....	924(2,282)	
Total Area of Units Occupied Solely by *Lomatium cookii*	3 (8)	.....	31 (75)	.....	.....	34 (83)	

*These units overlap with critical habitat designated for *Limnanthes floccosa* ssp. *grandiflora*, and therefore are not counted toward the total area of critical habitat designated.

TABLE 6—CRITICAL HABITAT UNITS AND OWNERSHIP IN HECTARES (ACRES) FOR *Lomatium cookii* IN JOSEPHINE COUNTY, OREGON (TOTALS MAY NOT SUM EXACTLY DUE TO ROUNDING).

Critical Habitat Unit	Private ha (ac)	Municipal ha (ac)	County ha (ac)	State ha (ac)	Federal ha (ac)	Total Area ha (ac)	Population Status
Anderson Creek (IV1A–B)	23 (56)	.....	.....	.....	12(29)	35 (85)	Occupied at time of listing and currently occupied
Draper Creek (IV2)	28(70)	.....	.....	.....	.....	28(70)	Occupied at time of listing and currently occupied
Reeves Creek North (IV3)	40(100)	.....	.....	.....	112(274)	152 (374)	Occupied at time of listing and currently occupied
Reeves Creek East (IV4)	25(61)	.....	.....	.....	58(143)	83 (204)	Occupied at time of listing and currently occupied
Reeves Creek South (IV5)	8(20)	.....	.....	.....	157(387)	165 (407)	Occupied at time of listing and currently occupied
Laurel Road (IV6A–B)	178 (439)	.....	.....	3.5 (10)	.....	182 (449)	Occupied at time of listing and currently occupied
Illinois River Forks State Park (IV7)	17 (42)	.....	.....	25 (60)	14 (34)	55 (136)	Occupied at time of listing and currently occupied
Woodcock Mountain (IV8)	223(552)	.....	.....	.....	11 (27)	234 (579)	Occupied at time of listing and currently occupied
Riverwash (IV9)	7 (18.3)	.....	.....	0.5 (1.5)	4.5 (12)	12 (30)	Occupied at time of listing and currently occupied
French Flat North (IV10)	35 (86)			.....	10 (25)	45 (110)	Occupied at time of listing and currently occupied
Rough and Ready Creek (IV11)	31 (77)			.....	87(215)	118 (292)	Occupied at time of listing and currently occupied
French Flat Middle (IV12)	254(627)			.....	238(589)	492 (1,216)	Occupied at time of listing and currently occupied
Indian Hill (IV13)	3 (8)			.....	19 (46)	22 (54)	Occupied at time of listing and currently occupied
Total Area	872 (2,153)			29 (72)	723 (1,781)	1,621 (4,006)	

TABLE 7—TOTAL AREA OF CRITICAL HABITAT UNITS AND OWNERSHIP IN HECTARES (ACRES) FOR BOTH *Limnanthes floccosa* SPP. *grandiflora* AND *Lomatium cookii* IN JACKSON AND JOSEPHINE COUNTIES, OREGON (FROM TABLES 4–6; TOTALS MAY NOT SUM EXACTLY DUE TO ROUNDING).

Critical Habitat Units	Private ha (ac)	Municipal ha (ac)	County ha (ac)	State ha (ac)	Federal ha (ac)	Total Area ha (ac)
Limnanthes floccosa spp. *grandiflora* – Jackson County	1,916 (4,736)	109 (268)	62 (153)	248 (612)	29 (71)	2,363 (5,840)
Lomatium cookii – Jackson County (not including areas of overlap with *Limnanthes floccosa* ssp. *grandiflora*)	3 (8)	.....	31 (75)	.....	.....	34 (83)
Lomatium cookii – Josephine County	872 (2,153)	.....	.....	29 (72)	723 (1,781)	1,621(4,006)
Total Area	2,791(6,897)	109(268)	93(228)	277(683)	752(1,852)	4,018(9,930)

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Decisions by the court of appeals for the Fifth and Ninth Circuits invalidated our definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir 2004) and *Sierra Club v. U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain those PCEs that relate to the ability of the area to periodically support the species) to serve its intended conservation role for the species.

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. At the conclusion of this consultation, the Service will issue either:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, but are likely to adversely affect, listed species or critical habitat.

If we issue a biological opinion concluding that a project is likely to result in jeopardy to a listed species or the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable, to avoid these outcomes. We define "reasonable and prudent alternatives" at 50 CFR 402.02 as alternative actions identified during consultation that:

- Can be implemented in a manner consistent with the intended purpose of the action,
- Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,
- Are economically and technologically feasible, and
- Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where a new species is listed or critical habitat is subsequently designated that may be affected and the Federal agency has retained discretionary involvement or control over the action (such discretionary involvement or control over the action is authorized by law). Consequently, some Federal agencies may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Federal activities that may affect *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* or its designated critical habitat require section 7 consultation under the Act. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10 of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or permitted, do not require section 7(a)(2) consultations.

Application of the Jeopardy and Adverse Modification Standards

Jeopardy Standard

Currently, the Service applies an analytical framework for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* jeopardy analyses that relies heavily on the importance of known populations to the species' survival and recovery. The analysis required by

section 7(a)(2) of the Act is focused not only on these populations but also on the habitat conditions necessary to support them.

The jeopardy analysis usually expresses the survival and recovery needs of *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* in a qualitative fashion without making distinctions between what is necessary for survival and what is necessary for recovery. Generally, the jeopardy analysis focuses on the rangewide status of the species, the factors responsible for that condition, and what is necessary for each species to survive and recover. An emphasis is also placed on characterizing the conditions of the species in the area affected by the proposed Federal action and the role of affected populations in the survival and recovery of the species. That context is then used to determine the significance of adverse and beneficial effects of the proposed Federal action and any cumulative effects for purposes of making the jeopardy determination.

Adverse Modification Standard

The key factor related to the adverse modification determination is whether, with implementation of the Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or retain those PCEs that relate to the ability of the area to periodically support the species. Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that appreciably reduces the conservation value of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*. Generally, the conservation role of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* critical habitat units is to support the various life-history needs of the species and provide for the conservation of the species. Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that appreciably reduces the conservation value of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore result in consultation for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* include, but are not limited to:

(1) Actions that would result in ground disturbance to vernal pool–mounded prairie and seasonally wet meadow habitat. Such activities could include, but are not limited to: Residential or recreational development, ORV activity, dispersed recreation, new road construction or widening, existing road maintenance, mining, timber harvest, and incompatible grazing practices (such as grazing during the winter, when pools are wet and most likely to be subjected to disruption of the underlying clay layer). These activities could cause direct loss of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*-occupied areas, and affect vernal pools and wet meadows by damaging or eliminating habitat, altering soil composition due to increased erosion, and increasing densities of nonnative plant species.

In addition, changes in soil composition may lead to changes in the vegetation composition, such as growth of shrub cover resulting in decreased density or vigor of individual *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* plants. These activities may also lead to changes in water flows and inundation periods that would degrade, reduce, or eliminate the habitat necessary for the growth and reproduction of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

(2) Actions that would significantly alter the hydrological regime of the vernal pool–mounded prairie and wet meadow habitat. Such activities could include residential or recreational development adjacent to meadows, ORV activity, dispersed recreation, new road construction or widening, existing road maintenance, mining, and timber harvest. These activities could alter surface soil layers and hydrological regime in a manner that promotes loss of soil matrix components and moisture necessary to support the growth and reproduction of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*.

(3) Actions that would significantly reduce pollination or seed set (reproduction). Such activities could include, but are not limited to, residential or recreational development, and grazing or mowing prior to seed set. These activities could prevent reproduction by reducing the numbers of pollinators, or by removal or destruction of reproductive plant parts.

Exemptions and Exclusions

Application of Section 4(a)(3) of the Act

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an integrated natural resources management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

- An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;
- A statement of goals and priorities;
- A detailed description of management actions to be implemented to provide for these ecological needs; and
- A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Public Law No. 108-136) amended the Endangered Species Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: "The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation."

There are no Department of Defense lands with a completed INRMP within the critical habitat units we are designating. Therefore, we are not exempting lands from this final designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* under section 4(a)(3)(B)(i) of the Act.

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary must designate or make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impacts of specifying

any particular area as critical habitat. The Secretary may exclude an area from critical habitat if it is determined the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless it can be determined, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the legislative history is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

In the following sections, we address a number of general issues that are relevant to the exclusions made in this final rule. In addition, we conducted an economic analysis of the impacts of the proposed critical habitat designation and related factors, which we made available for public review and comment (75 FR 1568; January 12, 2010). Based on public comments we received on that document, the proposed designation itself, and the information in the final economic analysis, the Secretary may exclude from critical habitat additional areas beyond those identified in this assessment under the provisions of section 4(b)(2) of the Act. This is also addressed in our implementing regulations at 50 CFR 424.19.

Exclusions Based on Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. In order to consider economic impacts, we prepared a draft economic analysis, which we made available for public review on January 12, 2010 (75 FR 1568), based on the July 28, 2009, proposed rule (74 FR 37314). We opened a comment period on the draft economic analysis for 30 days, until February 11, 2010, and we received six comments during that comment period. Following the close of the comment period, we developed a final analysis of the potential economic effects of the designation, taking into consideration any new information.

The intent of the final economic analysis is to quantify the economic impacts of all potential conservation efforts for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. Some of these costs will likely be incurred regardless of whether we designate critical habitat (baseline). The economic impact of the final critical habitat designation is analyzed by comparing scenarios both "with critical habitat" and "without critical habitat." The "without critical habitat" scenario represents the baseline for the analysis, considering protections already in place for the species (e.g., under the Federal listing and other Federal, State, and local regulations). The baseline, therefore, represents the costs incurred regardless of whether critical habitat is designated. The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts are those not expected to occur absent the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat above and beyond the baseline costs; these are the costs we consider in the final designation of critical habitat. The analysis looks retrospectively at baseline impacts incurred since the species was listed, and forecasts both baseline and incremental impacts likely to occur with the designation of critical habitat.

The final economic analysis also addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The final economic analysis measures lost economic efficiency associated with residential and commercial development and public projects and activities, such as economic impacts on water management and transportation projects, Federal lands, small entities, and the energy industry. Decision-makers can use this information to assess whether the effects of the designation might unduly burden a particular group or economic sector. Finally, the final economic analysis looks retrospectively at costs that were incurred since November 7, 2002, when we listed *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* under the Act (67 FR 68004), and considers those costs that may occur in the 20 years following the designation of critical habitat, which was determined to be the appropriate period for analysis because limited planning information was available for most activities to forecast activity levels for projects beyond a 20–year timeframe. The final economic analysis quantifies economic impacts of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* conservation efforts associated with development activities.

Total baseline impacts are estimated to be $7.83 million to $157 million, and incremental impacts are estimated to range from $95,200 to $403,000 between 2010 and 2029, applying a 7 percent discount rate. The majority of estimated baseline costs arise from anticipated mitigation for future development activities, which account for 99 percent of the high-end costs estimated in the analysis. Incremental impacts are forecast to be entirely administrative costs of section 7 consultations. We determined that including the additional BLM land portions within the critical habitat designation will not impact any timber sales, grazing leases, active mining claims, or other activities on these Federal lands, and will not alter the economic analysis of the designation.

Our economic analysis did not identify any disproportionate costs that are likely to result from the designation. Consequently, the Secretary has determined not to exercise his discretion to exclude any areas from this designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* based on economic impacts. A copy of the final economic analysis with supporting documents may be obtained by contacting the Oregon Fish and Wildlife Office (see **ADDRESSES**) or for downloading from the Internet at *http://www.regulations.gov.*

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense (DOD) where the designation of critical habitat might present an impact to national security. In preparing this final rule, we determined that no lands within the designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* are owned or managed by the DOD, and, therefore, we anticipate no impact to national security. The Secretary has determined not to exercise his discretion to exclude any areas from this final designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors, including whether landowners developed any habitat conservation plans (HCPs), Safe Harbor Agreements (SHAs), or other resource management plans for the areas proposed for designation, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any Tribal issues,

and consider the government-to-government relationship of the United States with Tribal entities. We also consider any social impacts that might occur because of the designation.

In preparing this final rule, we determined that there are currently no HCPs or SHAs for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. The final designation does not include any Tribal lands or trust resources. Accordingly, the Secretary has determined not to exercise his discretion to exclude any areas under section 4(b)(2) of the Act based on other relevant impacts.

Required Determinations

Regulatory Planning and Review—Executive Order 12866

The Office of Management and Budget (OMB) has determined that this rule is not significant under Executive Order 12866 (E.O. 12866). OMB bases its determination upon the following four criteria:

(1) Whether the rule will have an annual effect of $100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government.

(2) Whether the rule will create inconsistencies with other Federal agencies' actions.

(3) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

(4) Whether the rule raises novel legal or policy issues.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 (5 U.S.C. 801 *et seq.*), whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (such as small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. In this final rule, we are certifying that the critical habitat designation for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

According to the Small Business Administration, small entities include small organizations, such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; as well as small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule, as well as the types of project modifications that may result. In general, the term significant economic impact is meant to apply to a typical small business firm's business operations.

To determine if the critical habitat designation for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* could significantly affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities (e.g., mining, grazing, agriculture, and other activities). We apply the "substantial number" test individually to each industry to determine if certification is appropriate. However, the SBREFA does not explicitly define "substantial number" or "significant economic impact." Consequently, to assess whether a "substantial number" of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in an area. In some circumstances, especially with critical habitat designations of limited extent, we may aggregate across all industries and consider whether the total number of small entities affected is substantial. In estimating the number of small entities potentially affected, we also consider whether their activities have any Federal involvement.

Designation of critical habitat only affects activities authorized, funded, or carried out by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where the species is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they authorize, fund, or carry out that may affect *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii*. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinitiate consultation for ongoing Federal activities (see *Application of the Jeopardy and Adverse Modification Standards* section).

In our final economic analysis of the critical habitat designation, we evaluated the potential economic effects on small entities resulting from conservation actions related to the listing of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* and the designation of critical habitat. The analysis is based on the estimated impacts associated with the rulemaking as described in sections 3 through 7 of the final economic analysis, and evaluated the potential for economic impacts related to development, transportation, and species conservation and management activities. The economic analysis additionally considered the potential economic impacts of the designation on agriculture, grazing, timber harvest, fire management, recreation, and mining, but concluded that these activities were not likely to incur measurable economic impacts; thus they were not considered further.

As discussed in Appendix A, the final economic analysis did not forecast any incremental impacts of the critical habitat designation beyond additional administrative costs associated with considering adverse modification during future section 7 consultations. Small entities may participate in section 7 consultation regarding *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* as a third party (the primary consulting parties being the Service and the Federal action agency), and may spend additional time and effort considering potential critical habitat issues. These incremental administrative costs of consultation potentially borne by third parties formed the subject of the analysis of potential impacts to small entities.

Of the activities addressed in the analysis, only development activities are expected to potentially experience any incremental, administrative consultation costs that may be borne by small entities. These costs may arise when the U.S. Army Corps of Engineers consults with the Service on section 404 permits under the Clean Water Act, with small businesses as third parties. Third parties involved in past development consultations included Jackson County and private developers. The population of Jackson County was approximately 201,000 in 2008; thus, Jackson County exceeds the small governmental jurisdiction population threshold of 50,000 people, and is not considered a small governmental entity. Private developers included local development companies, such as Galpin and Associates, and commercial entities, such as Amy's Kitchen, Inc. Forecast consultations on development projects are expected to include Jackson County agencies, local private developers, and relatively large commercial entities as contained in the consultation history.

To the extent that forecast consultations include Jackson County agencies or large commercial entities, incremental administrative costs will not be borne by small entities. However, a large portion of forecast consultations for development activities are expected to include local private developers, which may be small entities depending on their annual revenues. In the past, development projects within the study area included site preparation such as leveling of land, filling of wetlands, and excavation in addition to building construction. Therefore, land subdivision, which includes excavating land and preparing it for future residential, commercial, and industrial construction, is identified as the most-applicable industry to capture local private developers that may bear incremental administrative costs due to the designation of critical habitat. According to the final economic analysis (pp. A-4 to A-7), expected annual impacts to the land subdivision industry ($1,040 under the low impact scenario and $6,140 under the high impact scenario) are significantly less than the maximum annual revenues that could be generated by a single small land subdivision entity ($7.0 million). Even if all impacts were borne by a single small development company, the estimated annualized impact would represent less than one percent of total annual revenues under both the low and high impact scenarios. Therefore, based on the foregoing analysis, we do not expect this regulation to have a significant impact on any small businesses.

In summary, we considered whether the designation would result in a significant economic impact on a substantial number of small entities. Based on the above reasoning and currently available information, we concluded that this rule will not have a significant economic impact on a substantial number of small businesses, small government jurisdictions, or small organizations. Therefore, we are certifying that the designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* will not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 (E.O. 13211; "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use") on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires Federal agencies to prepare Statements of Energy Effects when undertaking certain actions. OMB has provided guidance for implementing this Executive Order that outlines nine outcomes that may constitute a significant adverse effect when compared to not taking the regulatory action under consideration. The economic analysis finds that none of these criteria are relevant to this analysis. Thus, based on information in the economic analysis, energy-related impacts associated with *Limnanthes floccosa* ssp. *grandiflora* or *Lomatium cookii* conservation activities within critical habitat are not expected. We considered the inclusion of the additional BLM land portions in this analysis as well. We determined that because no energy resources are known in this area and no additional mining leases are present in the additional BLM land portions within the critical habitat designation, energy-related projects will not be impacted on these Federal lands. As such, the designation of critical habitat is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or Tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly affected by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly affected because they receive Federal assistance or participate in a voluntary Federal aid program, the

Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because the final economic analysis indicates that the only incremental impacts that may be borne by small entities are development activities The only third parties identified in the past as having costs associated with formal section 7 consultations related to development are Jackson County and private developers. As the population of Jackson County, at 201,000 in 2008, exceeds the small governmental jurisdiction population threshold of 50,000, it is not considered a small government. Since we determined that no small governments will be affected by this regulation, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

In accordance with E.O. 12630 ("Government Actions and Interference with Constitutionally Protected Private Property Rights"), we analyzed the potential takings implications of designating critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* in a takings implications assessment. Critical habitat designation does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. The takings implications assessment concludes that this designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior policy, we requested information from, and coordinated development of, this critical habitat designation with appropriate State resource agencies in Oregon. The designation of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* would impose no additional restrictions to those currently in place and, therefore, would have little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments because the areas that contain the features essential for the conservation of the species would be more clearly defined, and the primary constituent elements of the habitat necessary to the conservation of the species would be specifically identified. This information would not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Civil Justice Reform—Executive Order 12988

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have issued this final critical habitat designation in accordance with the provisions of the Act. This final rule uses standard property descriptions and identifies the physical or biological features essential to the conservation of the two species within the designated areas to assist the public in understanding the habitat needs of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii.*

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the United States Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA (42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the United States Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), E.O. 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act," we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We determined that there are no Tribal lands that were occupied by the species at the time of listing that contain the features essential for the conservation of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*, and no unoccupied Tribal lands that are essential for the conservation of *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii*. Therefore, we are not designating critical habitat for *Limnanthes floccosa* ssp. *grandiflora* and *Lomatium cookii* on Tribal lands.

References Cited

A complete list of all references cited in this rulemaking is available upon request from the State Supervisor, Oregon Fish and Wildlife Office (see **ADDRESSES**) or from *http://www.regulations.gov.*

Authors

The primary authors of this document are staff members of the Roseburg Field Office of the Oregon Fish and Wildlife Office, Roseburg, Oregon.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

■ Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

■ 1. The authority citation for part 17 continues to read as follows:

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.

■ 2. Amend § 17.12(h) by revising the entries for "*Limnanthes floccosa* ssp. *grandiflora*" and "*Lomatium cookii*" under ''FLOWERING PLANTS'' in the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
*	*	*	*	*	*	*	
Limnanthes floccosa ssp. *grandiflora*	large-flowered woolly meadowfoam	U.S.A. (OR)	Limnanthaceae	E	733	17.96(a)	NA
*	*	*	*	*	*	*	
Lomatium cookii	Cook's lomatium (Cook's desert parsley)	U.S.A. (OR)	Apiaceae	E	733	17.96(a)	NA
*	*	*	*	*	*	*	

* * * * *

■ 3. In § 17.96, amend paragraph (a) by adding an entry for "*Lomatium cookii*" in alphabetical order under Family Apiaceae and by adding an entry for "*Limnanthes floccosa* ssp. *grandiflora*" in alphabetical order under Family Limnanthaceae, to read as follows:

§ 17.96 Critical habitat—plants.

* * * * *

(a) *Flowering plants.*

* * * * *

Family Apiaceae: *Lomatium cookii* (Cook's lomatium, Cook's desert parsley)

(1) Critical habitat units are depicted for Jackson and Josephine Counties, Oregon, on the maps below.

(2) The primary constituent elements of critical habitat for *Lomatium cookii* are the habitat components that provide:

(i) *In the Rogue River Valley*:

(A) Vernal pools and ephemeral wetlands and depths and the adjacent upland margins of these depressions that hold water for a sufficient length of time to sustain *Lomatium cookii* germination, growth, and reproduction. These vernal pools or ephemeral wetlands support native plant populations and are seasonally inundated during wet years but do not necessarily fill with water every year due to natural variability in rainfall. Areas of sufficient size and quality are likely to have the following characteristics:

(*1*) Elevations from 372 to 411 m (1,220 to 1,350 ft);

(*2*) Associated dominant native plants including, but not limited to: *Alopecurus saccatus, Achnatherum lemmonii*, *Deschampsia danthonioides, Eryngium petiolatum, Lasthenia californica, Myosurus minimus*, *Navarretia leucocephala* ssp. *leucocephala, Phlox gracilis, Plagiobothrys bracteatus*, *Trifolium depauperatum*, and *Triteleia hyacinthina*; and

(*3*) A minimum area of 8 ha (20 ac) to provide intact hydrology and protection from development and weed sources.

(B) The hydrologically and ecologically functional system of interconnected pools or ephemeral wetlands or depressions within a matrix of surrounding uplands that together form vernal pool complexes within the greater watershed. The associated features may include the pool basin and ephemeral wetlands; an intact hardpan subsoil underlying the surface soils up to 0.75 m (2.5 ft) in depth; and surrounding uplands, including mound topography and other geographic and edaphic features that support systems of hydrologically interconnected pools and other ephemeral wetlands (which may vary in extent depending on site-specific characteristics of pool size and depth, soil type, and hardpan depth).

(C) Silt, loam, and clay soils that are of ultramafic and nonultramafic alluvial origin, with a 0 to 3 percent slope, classified as Agate–Winlo or Provig–Agate soils.

(D) No or negligible presence of competitive, nonnative invasive plant species. Negligible is defined for the purpose of this rule as a minimal level of nonnative plant species that will still allow *Lomatium cookii* to continue to survive and recover.

(ii) *In the Illinois River Valley*:

(A) Wet meadows in oak and pine forests, sloped mixed-conifer openings, and shrubby plant communities that are seasonally inundated and support native plant populations. Areas of sufficient size and quality are likely to have the following characteristics:

(*1*) Elevations from 383 to 488 m (1,256 to 1,600 ft);

(*2*) Associated dominant native plants including, but not limited to: *Achnatherum lemmonii, Arbutus menziesii, Arctostaphylos viscida, Camassia* spp., *Ceanothus cuneatus*, *Danthonia californica, Deschampsia cespitosa*, *Festuca roemeri* var. *klamathensis, Poa secunda*, *Ranunculus occidentalis*, and *Limnanthes gracilis* var. *gracilis*;

(*3*) Occurrence primarily in bottomland *Quercus garryana–Quercus kelloggii–Pinus ponderosa* (Oregon white oak–California black oak–ponderosa pine) forest openings along seasonal creeks; and

(*4*) A minimum area of 8 ha (20 ac) to provide intact hydrology and protection from development and weed sources.

(B) The hydrologically and ecologically functional system of streams, slopes, and wooded systems that surround and maintain seasonally wet alluvial meadows underlain by relatively undisturbed ultramafic soils within the greater watershed.

(C) Silt, loam, and clay soils that are of ultramafic and nonultramafic alluvial origin, with a 0 to 40 percent slope, classified as Abegg gravelly loam, Brockman clay loam, Copsey clay, Cornutt–Dubakel complex, Dumps, Eightlar extremely stony clay, Evans loam, Foehlin gravelly loam, Josephine gravelly loam, Kerby loam, Newberg fine sandy loam, Pearsoll–Rock outcrop complex, Pollard loam, Riverwash, Speaker–Josephine gravelly loam, Takilma cobbly loam, or Takilma Variant extremely cobbly loam.

(D) No or negligible presence of competitive, nonnative invasive plant species. Negligible is defined for the purpose of this rule as a minimal level of nonnative plant species that will still allow *Lomatium cookii* to continue to survive and recover.

(3) Critical habitat does not include manmade structures (including, but not limited to, 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 and not containing one or more of the primary constituent elements.

(4) *Critical habitat map units*. These critical habitat units were mapped using Universal Transverse Mercator, Zone 10, North American Datum 1983 (UTM NAD 83) coordinates. These coordinates establish the vertices and endpoints of the boundaries of the units.

(5) *Note*: Index map for critical habitat for *Lomatium cookii* in Jackson County, Oregon, follows:

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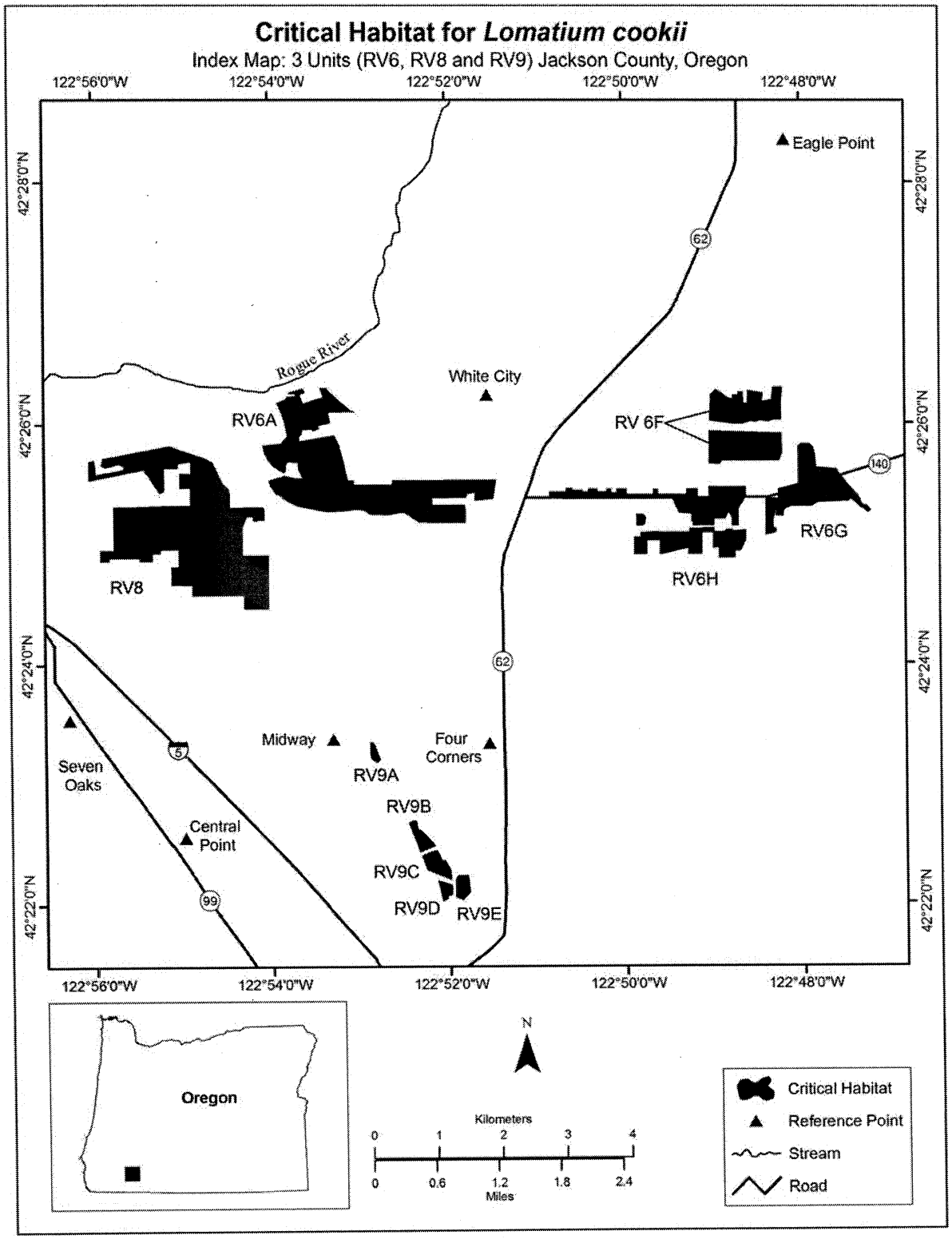

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(6) Unit RV6, subunits A, F, G, and H, for *Lomatium cookii*: White City, Jackson County, Oregon.

(i) Unit RV6, subunits A, F, G, and H for *Lomatium cookii* comprises 546 ha (1,349 ac) of vernal pool–mounded prairie and swale habitats. RV6 is located around White City, is 1.6 km (1.0 mi) southwest of Eagle Point, and is 440 m (1,444 ft) southeast of the confluence of the Rogue River and Little Butte Creek. Subunit RV6A is located north of Whetstone Creek and is 500 m (1,200 ft) west of the junction of Highway 62 and Antelope Road. Subunits RV6F and RV6G are located approximately 500 feet west of Dry Creek and are east of Highway 62 in White City. Subunit RV6H is located north of Whetstone Creek and south of Antelope Road. Subunit RV6H roughly encircles the Hoover Ponds, east of Highway 62, and is 850 m (2790 ft) east of subunit RV6A.

(ii) Subunit RV6A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 508682, 4697061; 508738, 4697064; 508676, 4697188; 508661, 4697304; 508507, 4697315; 508489, 4697306; 508481, 4697273; 508481, 4697211; 508462, 4697147; 508428, 4697153; 508293, 4697240; 508208, 4697334; 508148, 4697450; 508117, 4697568; 508400, 4697602; 508500, 4697715; 508448, 4697967; 508341, 4698225; 508480, 4698284; 508497, 4698326; 508633, 4698334; 508626, 4698363; 508538, 4698365; 508524, 4698385; 508746, 4698450; 508773, 4698387; 508694, 4698359; 508743, 4698216; 509056, 4698316; 509010, 4698453; 509110, 4698452; 509311, 4698259; 509493, 4698102; 509545, 4698084; 509355, 4698084; 509135, 4698080; 509168, 4697920; 508972, 4697870; 509001, 4697835; 508914, 4697794; 508862, 4697823; 508722, 4697808; 508730, 4697736; 508689, 4697721; 508681, 4697635; 508712, 4697641; 509230, 4697727; 509310, 4697563; 509400, 4697202; 509440, 4697029; 509533, 4697025; 509526, 4696971; 510121, 4696967; 510129, 4697025; 511739, 4697040; 511693, 4696746; 511409, 4696723; 511413, 4696842; 511294, 4696824; 511270, 4696771; 510747, 4696759; 510740, 4696651; 511246, 4696655; 511267, 4696562; 511267, 4696383; 511092, 4696381; 510807, 4696379; 510537, 4696388; 510366, 4696504; 510324, 4696533; 510247, 4696540; 510058, 4696498; 509873, 4696508; 509813, 4696504; 509771, 4696523; 509697, 4696568; 509600, 4696585; 509529, 4696583; 509381, 4696564; 509129, 4696552; 508984, 4696573; 508671, 4696641; 508573, 4696683; 508455, 4696744; 508400, 4696802; 508320, 4696828; 508235, 4696956; 508214, 4697027; 508463, 4697104; 508601, 4697067; 508682, 4697061.

(iii) Subunit RV6F. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 516157, 4697446; 516113, 4697319; 515222, 4697324; 515202, 4697271; 515033, 4697285; 515035, 4697791; 516149, 4697751; 516157, 4697446. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 516162, 4698466; 516140, 4698214; 516149, 4697960; 516028, 4697955; 515942, 4697933; 515819, 4697947; 515752, 4697925; 515666, 4697936; 515540, 4697896; 515376, 4697904; 515041, 4697952; 515055, 4698348; 515122, 4698420; 515165, 4698417; 515315, 4698305; 515395, 4698283; 515403, 4698340; 515478, 4698342; 515481, 4698391; 515548, 4698393; 515559, 4698222; 515620, 4698219; 515631, 4698409; 515864, 4698377; 515854, 4698240; 515996, 4698278; 516023, 4698463; 516162, 4698466.

(iv) Subunit RV6G. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 517363, 4696759; 517380, 4696683; 517424, 4696639; 517460, 4696648; 517526, 4696572; 517491, 4696542; 517351, 4696625; 517287, 4696695; 517217, 4696740; 517193, 4696711; 516712, 4696690; 516601, 4696630; 516302, 4696628; 516213, 4696595; 516180, 4696557; 516180, 4696505; 516183, 4696483; 516100, 4696483; 516062, 4696483; 516060, 4696499; 516076, 4696561; 516057, 4696567; 516025, 4696439; 516024, 4696360; 516020, 4696326; 516027, 4696295; 516057, 4696293; 516065, 4696236; 516030, 4696218; 515906, 4696192; 515899, 4696751; 516095, 4696752; 516098, 4696895; 516245, 4696937; 516405, 4696975; 516400, 4697547; 516449, 4697593; 516578, 4697590; 516640, 4697528; 516664, 4697441; 516684, 4697224; 516998, 4697195; 517053, 4697116; 517155, 4696992; 517363, 4696759.

(v) Subunit RV6H. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514039, 4696369; 514010, 4696329; 513917, 4696330; 513916, 4696504; 514016, 4696501; 514032, 4696482; 514055, 4696458; 514039, 4696369. Land bounded by the following UTM Zone 10, NAD83 coordinates: 515596, 4696769; 515482, 4696601; 515485, 4696329; 515383, 4696329; 515379, 4696456; 515331, 4696534; 515282, 4696436; 515109, 4696430; 515109, 4696331; 514782, 4696332; 514786, 4696393; 514755, 4696396; 514759, 4696508; 514563, 4696535; 514455, 4696768; 513944, 4696774; 513856, 4696770; 513517, 4696773; 512576, 4696788; 512574, 4696856; 512830, 4696853; 512830, 4696908; 512922, 4696905; 512920, 4696879; 513081, 4696880; 513080, 4696856; 513180, 4696855; 513180, 4696898; 513307, 4696897; 513306, 4696851; 513454, 4696851; 513453, 4696893; 513530, 4696893; 513530, 4696838; 513609, 4696837; 513609, 4696894; 513759, 4696895; 513759, 4696810; 514173, 4696809; 514173, 4696891; 514244, 4696895; 514244, 4696811; 514555, 4696812; 514683, 4696816; 514681, 4696895; 514857, 4696895; 514855, 4696758; 515028, 4696760; 515027, 4696933; 515599, 4696932; 515599, 4696888; 515599, 4696769; 515596, 4696769. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 515111, 4696236; 515252, 4696236; 515301, 4696272; 515387, 4696272; 515386, 4696252; 515594, 4696267; 515596, 4696108; 515512, 4695943; 515429, 4695944; 515427, 4695837; 515180, 4695837; 515180, 4695990; 515092, 4695990; 515090, 4696228; 514916, 4696225; 514922, 4695895; 514706, 4695899; 514713, 4695991; 514298, 4695895; 514273, 4695897; 514269, 4696102; 514075, 4696098; 514071, 4695895; 513880, 4695899; 513880, 4696153; 513977, 4696151; 513977, 4696227; 514156, 4696236; 514261, 4696239; 514731, 4696231; 514731, 4696288; 515110, 4696301; 515111, 4696236.

(vi) *Note*: Map of Unit RV6 for *Lomatium cookii* follows:

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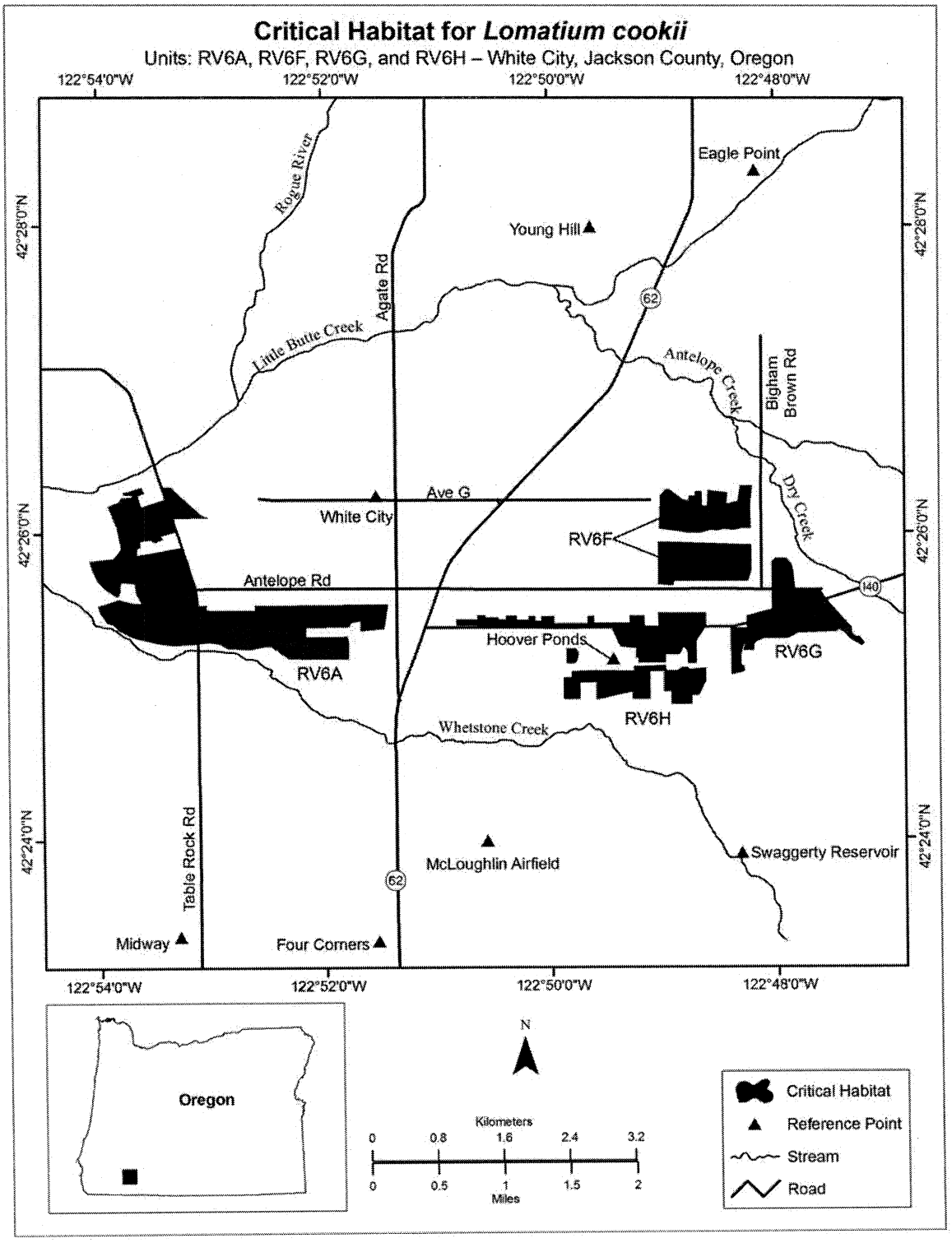

Critical Habitat for Lomatium cookii
Units: RV6A, RV6F, RV6G, and RV6H – White City, Jackson County, Oregon
122°54'0"W
122°52'0"W
122°50'0"W
122°48'0"W
42°28'0"N
42°26'0"N
42°24'0"N
Rogue River
Eagle Point
Young Hill
Agate Rd
Little Butte Creek
Antelope Creek
Bigham Brown Rd
Dry Creek
Ave G
White City
RV6F
Antelope Rd
Hoover Ponds
RV6G
RV6A
RV6H
Whetstone Creek
Table Rock Rd
McLoughlin Airfield
Swaggerty Reservoir
Midway
Four Corners
62
140
Oregon
N
Kilometers
0 0.8 1.6 2.4 3.2
0 0.5 1 1.5 2
Miles
Critical Habitat
Reference Point
Stream
Road

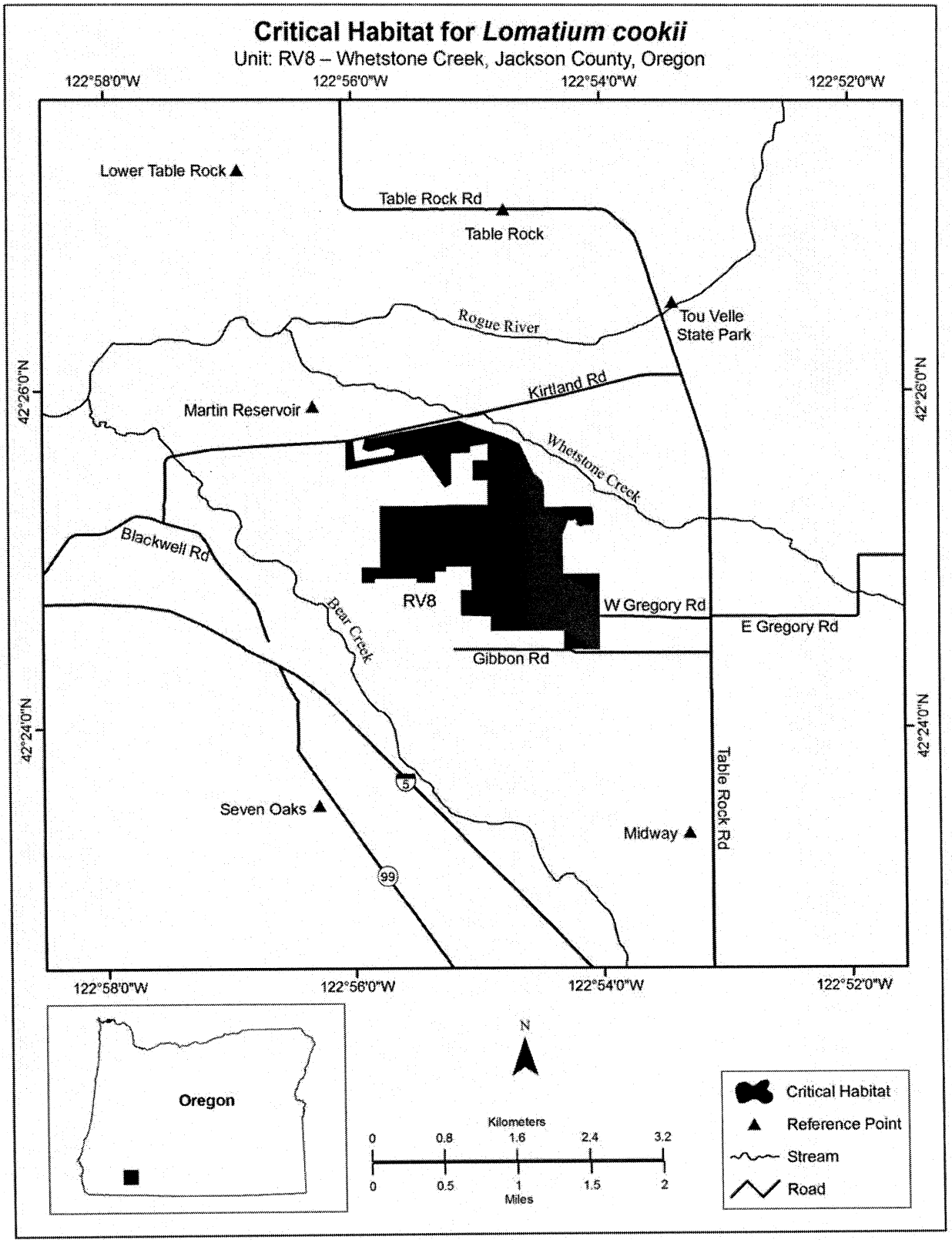
(7) Unit RV8 for *Lomatium cookii*: Whetstone Creek, Jackson County, Oregon.

(i) Unit RV8 for *Lomatium cookii* consists of 344 ha (850 ac) of vernal pool–mounded prairie and swale habitat. Unit RV8 is located approximately 1.4 km (0.9 mi) southeast of the confluence of the Rogue River and Whetstone Creek, 2.2 km (1.4 mi) southwest of Tou Velle State Park, and 2.9 km southeast of the confluence of Bear Creek and the Rogue River. The unit roughly parallels a 2.6-km (1.6-mi) stretch of Whetstone Creek to the south.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates

(E,N): 507195, 4697380; 507335, 4697312; 507411, 4697148; 507489, 4696991; 507579, 4696913; 507601, 4696830; 507604, 4696619; 507801, 4696622; 507961, 4696620; 508057, 4696621; 508104, 4696621; 508124, 4696618; 508138, 4696555; 508140, 4696483; 508140, 4696428; 508089, 4696423; 508033, 4696423; 508008, 4696409; 507958, 4696429; 507973, 4696461; 507944, 4696487; 507916, 4696475; 507860, 4696472; 507797, 4696307; 507804, 4695886; 508202, 4695883; 508202, 4695051; 507814, 4695057; 507820, 4695259; 507012, 4695259; 507015, 4695418; 506686, 4695430; 506686, 4695706; 506801, 4695704; 506794, 4695971; 506517, 4695974; 506517, 4695919; 506390, 4695914; 506389, 4695791; 506199, 4695790; 506198, 4695840; 505725, 4695839; 505725, 4695794; 505589, 4695791; 505586, 4695960; 505787, 4695957; 505792, 4696631; 506152, 4696631; 506531, 4696643; 506981, 4696645; 506986, 4696916; 506820, 4696916; 506824, 4697131; 506986, 4697131; 506988, 4697318; 506789, 4697291; 506787, 4697223; 506578, 4697214; 506578, 4696879; 506509, 4696842; 506262, 4697197; 505415, 4697033; 505412, 4697323; 505491, 4697339; 505512, 4697123; 505945, 4697194; 505959, 4697246; 505876, 4697283; 505669, 4697233; 505601, 4697265; 505627, 4697366; 506667, 4697565; 506868, 4697490; 507015, 4697441; 507195, 4697380.

(iii) *Note*: Map of Unit RV8 for *Lomatium cookii* follows:


Critical Habitat for Lomatium cookii
Unit: RV8 – Whetstone Creek, Jackson County, Oregon
122°58'0"W
122°56'0"W
122°54'0"W
122°52'0"W
42°26'0"N
42°24'0"N
Lower Table Rock
Table Rock Rd
Table Rock
Rogue River
Tou Velle State Park
Kirtland Rd
Martin Reservoir
Whetstone Creek
Blackwell Rd
RV8
W Gregory Rd
E Gregory Rd
Bear Creek
Gibbon Rd
Table Rock Rd
Seven Oaks
Midway
5
99
Oregon
N
Kilometers
0
0.8
1.6
2.4
3.2
0
0.5
1
1.5
2
Miles
Critical Habitat
Reference Point
Stream
Road

(8) Unit RV9, subunits A, B, C, D and E, for *Lomatium cookii*: Medford Airport, Jackson County, Oregon.

(i) Unit RV9, subunits A through E, consists of 34 ha (83 ac) of slightly degraded vernal pool–mounded prairie habitat. The five subunits of RV9 are located mostly within the Rogue Valley International–Medford Airport, approximately 2 km (1.2 mi) west of Coker Butte and 1.5 km (0.9 mi) northeast of Bear Creek. Subunit RV9A is located 1.4 km (0.9 mi) north of the Rogue Valley International–Medford Airport and is 300 m (980 ft) east of the junction of Vilas Road and Table Rock Road. Subunits RV9B through E are located between Upton Slough and Bear Creek, 2 mi (1.2 km) southeast of the junction of Vilas Road and Table Rock Road, and 1.7 km northeast of the junction of Interstate 5 and Highway 62.

(ii) Subunit RV9A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 509758, 4692789; 509752, 4692988; 509793, 4692988; 509805, 4692970; 509823, 4692950; 509906, 4692730; 509892, 4692718; 509856, 4692677; 509772, 4692739; 509758, 4692789.

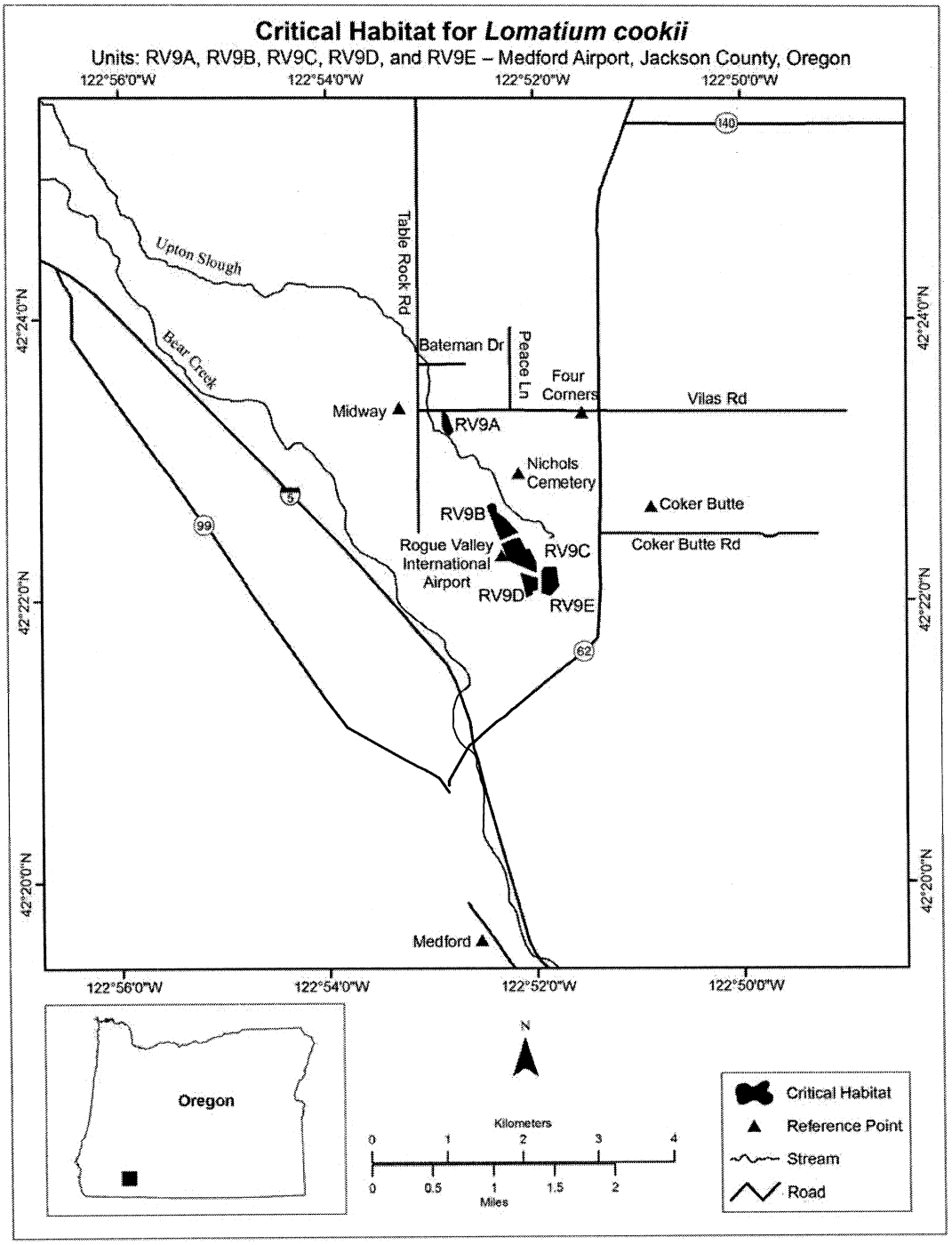
(iii) Subunit RV9B. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 510350, 4691725; 510347, 4691751; 510396, 4691782; 510425, 4691783; 510450, 4691777; 510460, 4691769; 510464, 4691744; 510476, 4691665; 510596, 4691576; 510754, 4691398; 510518, 4691300; 510350, 4691725.

(iv) Subunit RV9C. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 510986, 4691013; 510999, 4690872; 510623, 4691028; 510540, 4691245; 510684, 4691307; 510779, 4691332; 510841, 4691196; 510856, 4691169; 510904, 4691180; 510940, 4691117; 510972, 4691050; 510986, 4691013.

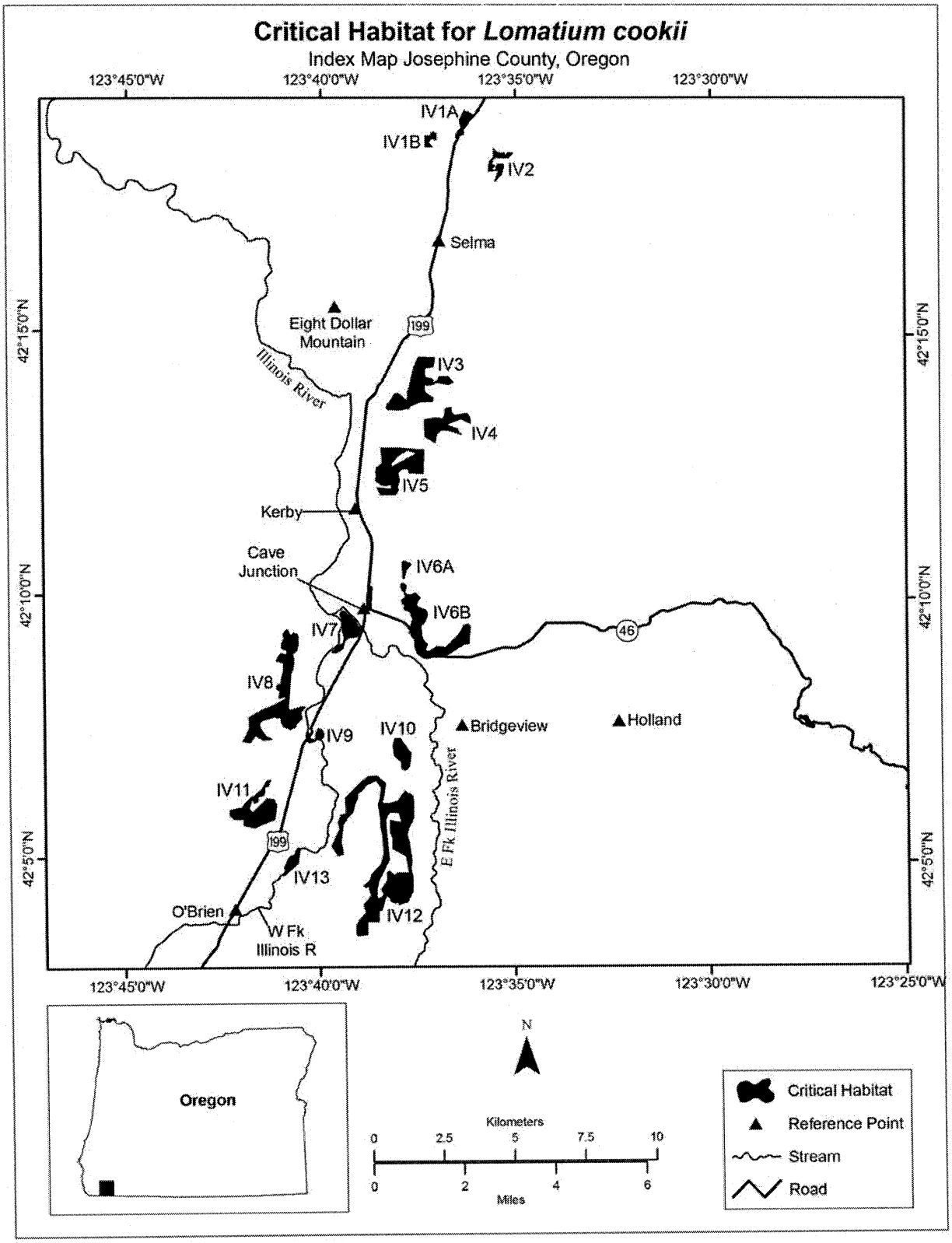
(v) Subunit RV9D. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 510787, 4690863; 511011, 4690792; 511014, 4690640; 510938, 4690621; 510948, 4690581; 510866, 4690542; 510787, 4690863.

(vi) Subunit RV9E. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 511100, 4690937; 511261, 4690939; 511278, 4690807; 511295, 4690692; 511182, 4690560; 511065, 4690602; 511069, 4690886; 511100, 4690937.

(vii) *Note*: Map of Unit RV9 for *Lomatium cookii* follows:


Critical Habitat for Lomatium cookii
Units: RV9A, RV9B, RV9C, RV9D, and RV9E – Medford Airport, Jackson County, Oregon
122°56'0"W
122°54'0"W
122°52'0"W
122°50'0"W
42°24'0"N
42°22'0"N
42°20'0"N
Upton Slough
Bear Creek
Table Rock Rd
Bateman Dr
Peace Ln
Four Corners
Vilas Rd
Midway
RV9A
Nichols Cemetery
Coker Butte
Coker Butte Rd
RV9B
Rogue Valley International Airport
RV9C
RV9D
RV9E
Medford
140
5
99
62
Oregon
N
Kilometers
0 1 2 3 4
0 0.5 1 1.5 2
Miles
Critical Habitat
Reference Point
Stream
Road

(9) *Note*: Index map for critical habitat for *Lomatium cookii* in Josephine County, Oregon, follows:



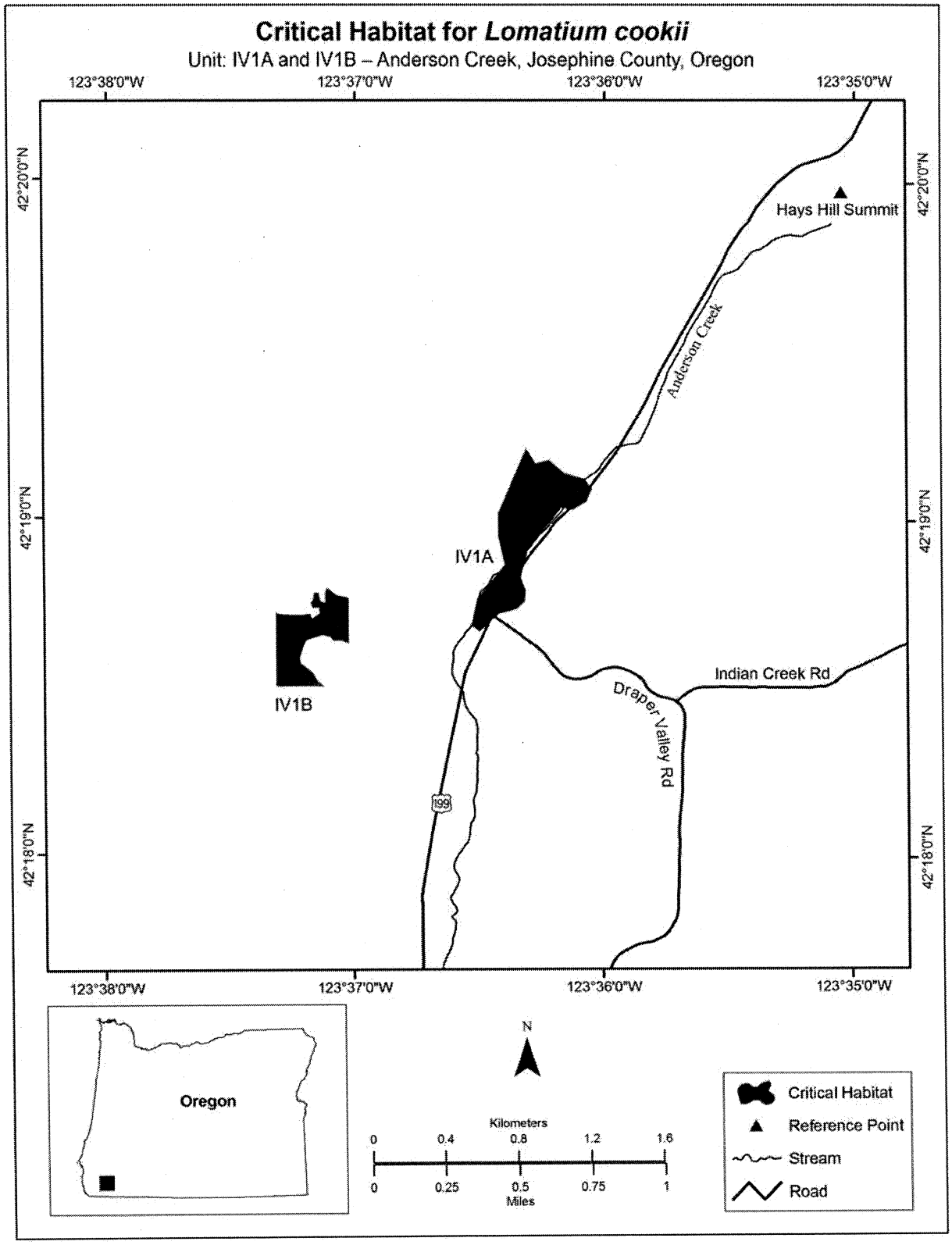
(10) Unit IV1 for *Lomatium cookii*: Anderson Creek, Josephine County, Oregon.

(i) Units IV1A and B comprise 35 ha (85 ac) of wet meadow and sloped mixed conifer habitat. Unit IV1A is located 3.5 km (2.2 mi) north of Selma, and 14 km (8.8 mi) north of Cave Junction; it is along a 1.0-km (0.6-mi) stretch of Anderson Creek and Highway 199, 2.0 km (1.2 mi) southwest of Hays Hill Summit. It is also 1.7 km (1.0 mi) northwest of the junction of Draper Valley Road and Indian Creek Road. Unit IV1B is located 3.5 km (2.2 mi) north of Selma, 3.4 km (2.1 mi) southwest of Hays Hill Summit, and 0.8 km (0.5 mi) west of the junction of Draper Valley Road and Highway 199.

(ii) Subunit IV1A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 450132, 4685506; 450182, 4685423; 450258, 4685440; 450341, 4685369; 450451, 4685337; 450492, 4685286; 450463, 4685214; 450384, 4685168; 450324, 4685180; 450136, 4684939; 450097, 4684797; 450125, 4684724; 450118, 4684663; 450077, 4684623; 449974, 4684595; 449871, 4684503; 449827, 4684535; 449857, 4684682; 450010, 4684867; 449977, 4685017; 449977, 4685154; 450132, 4685506.

(iii) Subunit IV1B. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 449150, 4684684; 449149, 4684605; 449148, 4684439; 449114, 4684455; 449059, 4684456; 449045, 4684474; 449000, 4684486; 448952, 4684470; 448914, 4684459; 448897, 4684429; 448877, 4684363; 448879, 4684332; 448899, 4684317; 448945, 4684277; 448977, 4684227; 449006, 4684202; 448742, 4684203; 448745, 4684608; 448751, 4684601; 448779, 4684597; 448849, 4684594; 448885, 4684594; 448934, 4684599; 448943, 4684575; 448985, 4684603; 448983, 4684633; 448948, 4684633; 448938, 4684658; 448951, 4684678; 448956, 4684717; 448981, 4684714; 448981, 4684699; 448990, 4684669; 449018, 4684661; 449018, 4684685; 449018, 4684717; 449026, 4684742; 449050, 4684727; 449080, 4684701; 449136, 4684690; 449150, 4684684.

(iv) *Note*: Map of Unit IV1 for *Lomatium cookii* follows:

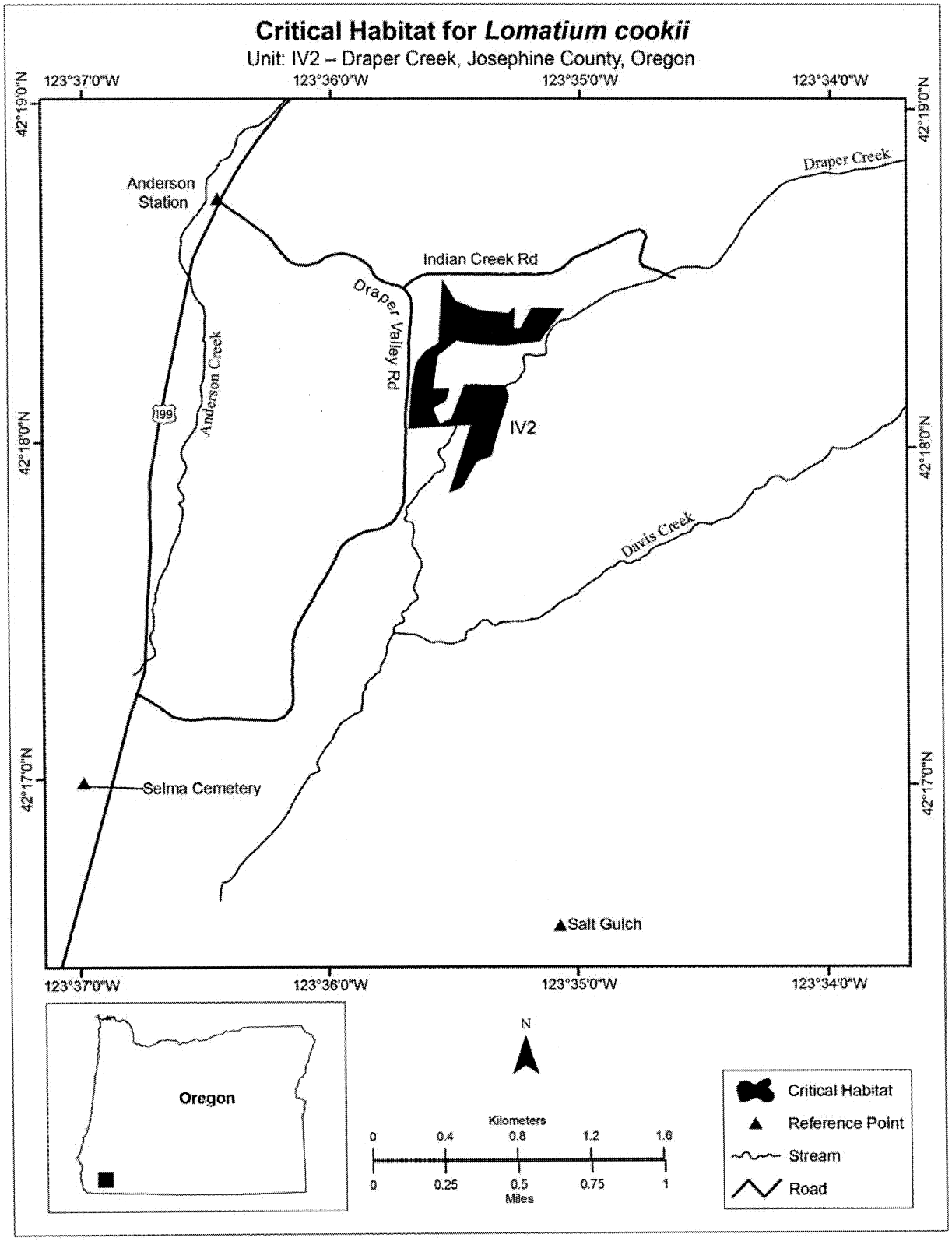

Critical Habitat for *Lomatium cookii*
Unit: IV1A and IV1B – Anderson Creek, Josephine County, Oregon
123°38'0"W
123°37'0"W
123°36'0"W
123°35'0"W
42°20'0"N
42°19'0"N
42°18'0"N
Hays Hill Summit
Anderson Creek
IV1A
IV1B
Indian Creek Rd
Draper Valley Rd
199
Oregon
N
Kilometers
0
0.4
0.8
1.2
1.6
0
0.25
0.5
0.75
1
Miles
Critical Habitat
Reference Point
Stream
Road

(11) Unit IV2 for *Lomatium cookii*: Draper Creek, Josephine County, Oregon.

(i) Unit IV2 is composed of 28 ha (70 ac) of intact wet meadow habitat. It is located 2.7 km (1.7 mi) northeast of Selma and 13.5 km (8.4 mi) north of Cave Junction; it is along a 900-m (2,900-ft) stretch of Draper Creek, and is located 800 m (2,600 ft) east of Anderson Creek. The unit is 800 m (2,600 ft) north-northwest of the confluence of Draper Creek and Davis Creek and is 200 m (650 ft) southeast of the junction of Draper Valley Road and Indian Creek Road.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 451242, 4684043; 451367, 4683993; 451532, 4683974; 451567, 4684008; 451563, 4683891; 451602, 4683895; 451664, 4684005; 451837, 4683999; 451708, 4683823; 451520, 4683799; 451367, 4683807; 451246, 4683828; 451140, 4683742; 451113, 4683558; 451204, 4683559; 451187, 4683497; 451114, 4683457; 451153, 4683370; 451217, 4683399; 451290, 4683586; 451509, 4683580; 451525, 4683544; 451534, 4683523; 451476, 4683336; 451436, 4683194; 451357, 4683165; 451274, 4683025; 451205, 4682997; 451325, 4683367; 450977, 4683347; 450991, 4683498; 450994, 4683565; 451023, 4683703; 451077, 4683769; 451148, 4683813; 451171, 4684155; 451242, 4684043.

(iii) *Note*: Map of Unit IV2 for *Lomatium cookii* follows:

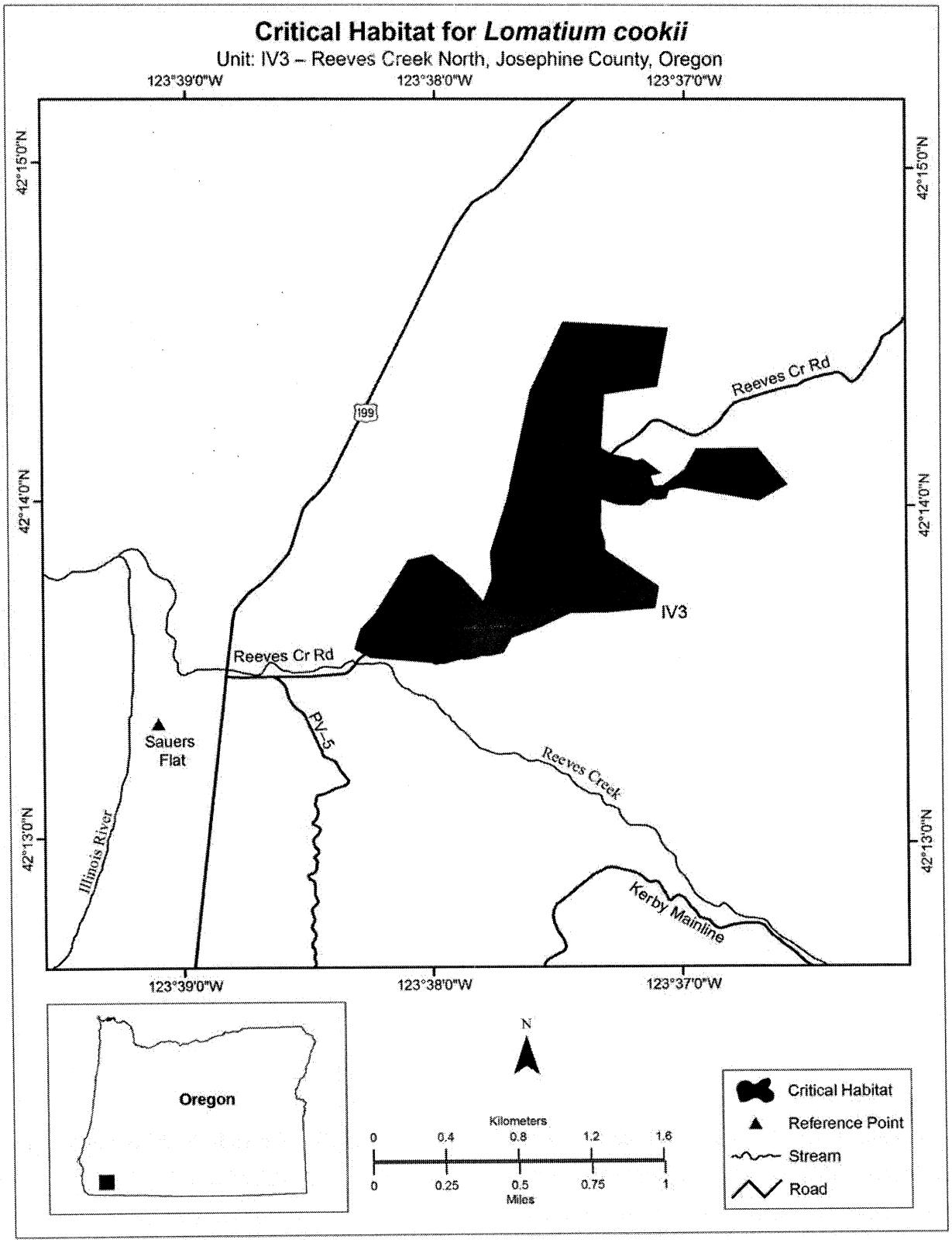

Critical Habitat for *Lomatium cookii*
Unit: IV2 – Draper Creek, Josephine County, Oregon
123°37'0"W
123°36'0"W
123°35'0"W
123°34'0"W
42°19'0"N
42°18'0"N
42°17'0"N
Anderson Station
Draper Creek
Indian Creek Rd
Draper Valley Rd
Anderson Creek
199
IV2
Davis Creek
Selma Cemetery
Salt Gulch
Oregon
N
Kilometers
0
0.4
0.8
1.2
1.6
0
0.25
0.5
0.75
1
Miles
Critical Habitat
Reference Point
Stream
Road

(12) Unit IV3 for *Lomatium cookii*: Reeves Creek North, Josephine County, Oregon.

(i) Unit IV3 consists of 152 ha (374 ac) of sloped, mixed-conifer and shrubby habitat. The unit is located 1.4 km (0.9 mi) east of the confluence between Reeves Creek and the Illinois River and extends along a 2.0-km (1.2-mi) stretch of Reeves Creek, beginning 800 m (2,600 ft) northeast of the junction of Highway 199 and Reeves Creek Road.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 448276, 4676491; 448458, 4676873; 449039, 4676838; 448978, 4676517; 448683, 4676474; 448666, 4676179; 448728, 4676143; 448827, 4676123; 448859, 4676108; 448896, 4676118; 448997, 4676041; 448939, 4676025; 448960, 4675969; 449010, 4675973; 449127, 4676059; 449191, 4676174; 449529, 4676177; 449689, 4675977; 449532, 4675889; 449117, 4675963; 449040, 4675946; 449024, 4675903; 448977, 4675892; 448941, 4675901; 448885, 4675863; 448760, 4675868; 448666, 4675896; 448660, 4675740; 448683, 4675670; 448686, 4675616; 448981, 4675417; 448959, 4675299; 448712, 4675277; 448492, 4675271; 448302, 4675185; 448169, 4675138; 448122, 4675056; 448047, 4675038; 447955, 4675039; 447793, 4674995; 447385, 4675030; 447297, 4675078; 447332, 4675186; 447413, 4675274; 447460, 4675349; 447598, 4675567; 447729, 4675595; 447891, 4675474; 448011, 4675337; 448060, 4675460; 448051, 4675607; 448146, 4675902; 448276, 4676491.

(iii) *Note*: Map of Unit IV3 for *Lomatium cookii* follows:

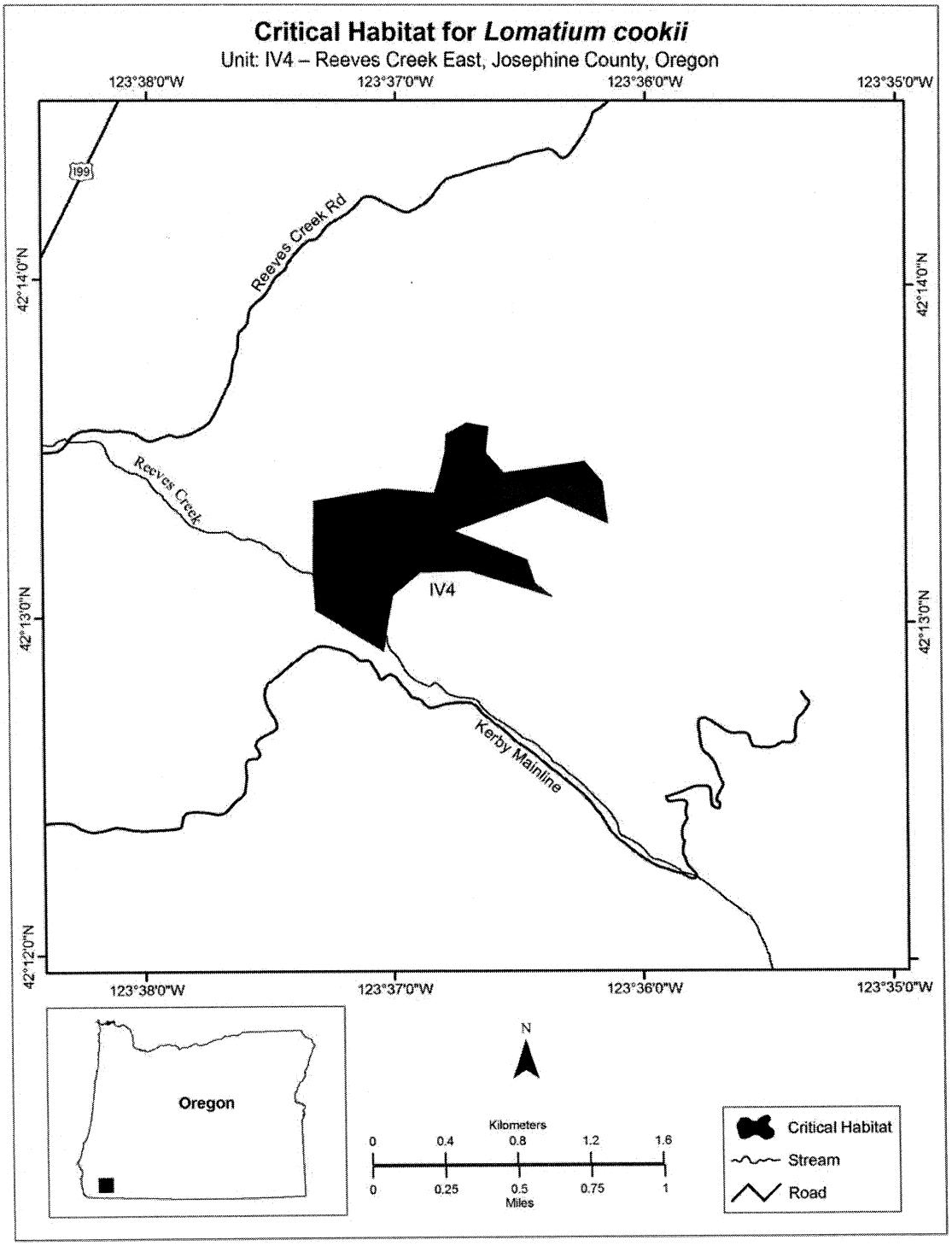

Critical Habitat for *Lomatium cookii*
Unit: IV3 – Reeves Creek North, Josephine County, Oregon
123°39'0"W
123°38'0"W
123°37'0"W
42°15'0"N
42°14'0"N
42°13'0"N
199
Reeves Cr Rd
IV3
Reeves Cr Rd
Sauers Flat
PV-5
Reeves Creek
Illinois River
Kerby Mainline
Oregon
N
Kilometers
0
0.4
0.8
1.2
1.6
0
0.25
0.5
0.75
1
Miles
Critical Habitat
Reference Point
Stream
Road

(13) Unit IV4 for *Lomatium cookii*: Reeves Creek East, Josephine County, Oregon.

(i) Unit IV4 consists of 83 ha (204 ac) of sloped, partially open, mixed-conifer and shrubby habitat. It is located 6.2 km (3.9 mi) south of Selma and 5.3 km (3.3 mi) northwest of Cave Junction. It occurs along a 500-m (1,640-ft) stretch of Reeves Creek located 700 m (2,300 ft) southeast of Unit IV3.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 449612, 4674933; 449711, 4674820; 450157, 4674883; 450256, 4674770; 450285, 4674544; 449952, 4674692; 449433, 4674503; 449839, 4674347; 449880, 4674218; 449973, 4674142; 449517, 4674284; 449245, 4674277; 449095, 4674152; 449070, 4674020; 449043, 4673847; 448669, 4674070; 448655, 4674292; 448663, 4674667; 449056, 4674737; 449325, 4674713; 449352, 4674792; 449385, 4674933; 449392, 4675032; 449506, 4675096; 449626, 4675075; 449612, 4674933.

(iii) *Note*: Map of Unit IV4 for *Lomatium cookii* follows:

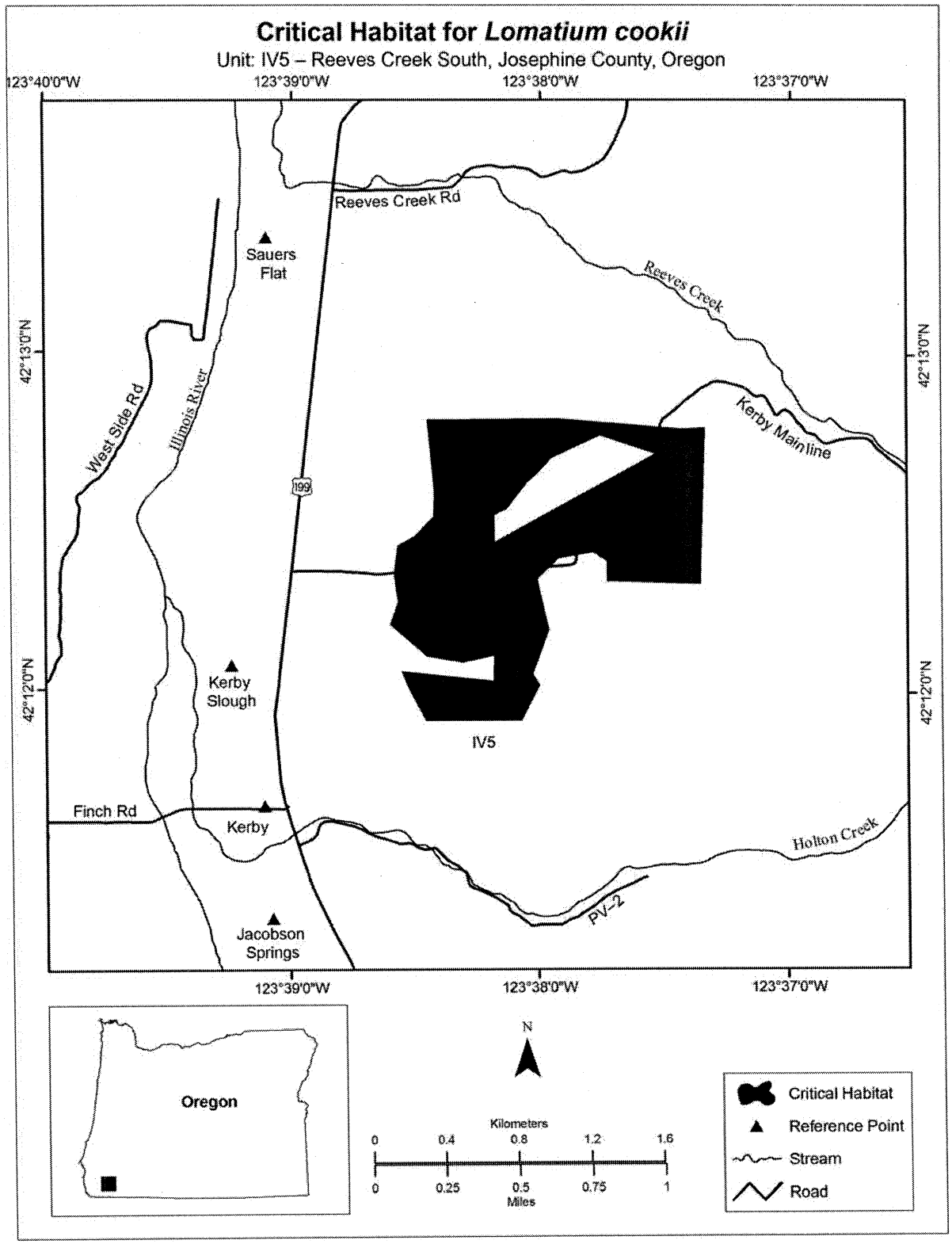


(14) Unit IV5 for *Lomatium cookii*: Reeves Creek South, Josephine County, Oregon.

(i) Unit IV5 consists of 165 ha (407 ac) of sloped, partially open, mixed-conifer and understory shrub habitat. The unit is roughly parallel to Highway 199 for 2.5 km (1.6 mi), which is 500 m (1,640 ft) west of the unit. The unit is located 1.6 km (1.0 mi) north of Cave Junction, 1 km (0.6 mi) southeast of Sauers Flat, 800 m (2,600 ft) east of Kerby, and 1.2 km (0.7 mi) east of the confluence between Holton Creek and the Illinois River.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 447813, 4673676; 448511, 4673617; 448634, 4673624; 448605, 4672768; 448091, 4672785; 448091, 4672895; 448015, 4672943; 447825, 4672913; 447706, 4672798; 447736, 4672665; 447769, 4672517; 447680, 4672274; 447717, 4672211; 447617, 4672018; 447088, 4672018; 446995, 4672190; 446954, 4672289; 447462, 4672237; 447465, 4672320; 447467, 4672377; 447295, 4672338; 447098, 4672373; 446891, 4672547; 446936, 4672673; 446913, 4672828; 446936, 4672982; 447024, 4673030; 447135, 4673141; 447141, 4673266; 447102, 4673670; 447813, 4673676; and excluding land bound by 447470, 4673148; 447474, 4673000; 448289, 4673443; 448361, 4673480; 448056, 4673583; 447789, 4673459; 447703, 4673370; 447653, 4673327; 447540, 4673183; 447470, 4673148.

(iii) *Note*: Map of Unit IV5 for *Lomatium cookii* follows:


Critical Habitat for Lomatium cookii
Unit: IV5 – Reeves Creek South, Josephine County, Oregon
123°40'0"W
123°39'0"W
123°38'0"W
123°37'0"W
42°13'0"N
42°12'0"N
Reeves Creek Rd
Sauers Flat
Reeves Creek
West Side Rd
Illinois River
199
Kerby Mainline
Kerby Slough
IV5
Finch Rd
Kerby
Holton Creek
PV-2
Jacobson Springs
Oregon
N
Kilometers
0
0.4
0.8
1.2
1.6
0
0.25
0.5
0.75
1
Miles
Critical Habitat
Reference Point
Stream
Road

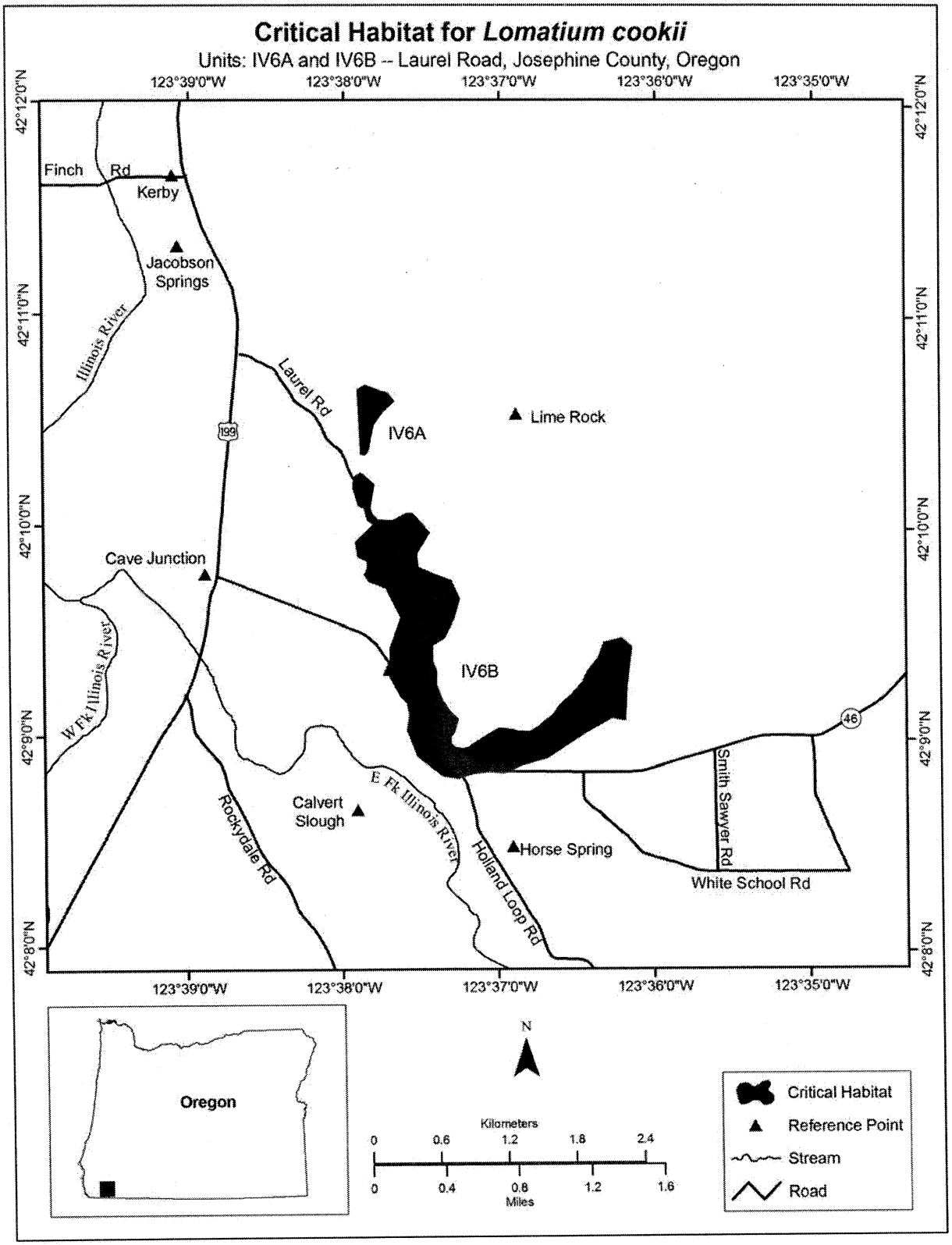
(15) Unit IV6 for *Lomatium cookii*: Laurel Road, Josephine County, Oregon.

(i) Unit IV6 totals 182 ha (449 ac) of intact wet meadow habitat. It is located west and alongside of the base of Lime Rock, 1.2 km (0.7 mi) east of the city of Cave Junction; it follows along Highway 46 for 1.5 km (0.9 mi). Subunit IV6A is located 1.2 km (0.7 mi) west of Lime Rock summit, 1.0 km east of the junction of Laurel Road and Highway 199; it is also roughly parallel to Highway 199 for 1.3 km (0.8 mi). Highway 199 lies approximately 1.0 km (0.6 mi) west of the subunit. Subunit IV6B is 2.7 km (1.7 mi) east of the confluence of the east and west forks of the Illinois River and from the intersection of Holland Loop Road and Highway 46; it extends approximately 1.8 km (1.1 mi) to the northeast and 2.7 km (1.7 mi) to the north.

(ii) Subunit IV6A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 447915, 4669143; 447884, 4669102; 447844, 4669113; 447817, 4669680; 447889, 4669722; 448020, 4669672; 448088, 4669651; 448148, 4669577; 448043, 4669483; 447961, 4669371; 447915, 4669143.

(iii) Subunit IV6B. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 447995, 4668541; 448124, 4668534; 448243, 4668595; 448295, 4668599; 448401, 4668490; 448454, 4668424; 448336, 4668236; 448350, 4668124; 448483, 4668066; 448642, 4668007; 448717, 4667844; 448664, 4667660; 448577, 4667497; 448475, 4667436; 448477, 4667288; 448509, 4667198; 448502, 4667095; 448553, 4666970; 448620, 4666860; 448695, 4666785; 448659, 4666660; 448631, 4666630; 448629, 4666574; 448668, 4666536; 448732, 4666526; 448785, 4666539; 448837, 4666577; 448933, 4666638; 449056, 4666710; 449161, 4666695; 449189, 4666691; 449210, 4666682; 449276, 4666678; 449322, 4666673; 449392, 4666713; 449531, 4666825; 449600, 4666919; 449693, 4666995; 449785, 4667095; 449844, 4667213; 449928, 4667313; 449987, 4667456; 450145, 4667497; 450235, 4667417; 450195, 4667078; 450175, 4666769; 450055, 4666789; 449816, 4666659; 449487, 4666440; 449238, 4666370; 449098, 4666310; 448968, 4666320; 448827, 4666306; 448695, 4666262; 448553, 4666285; 448332, 4666456; 448239, 4666688; 448258, 4666822; 448240, 4666931; 448183, 4666990; 448123, 4667096; 448085, 4667169; 448033, 4667174; 448089, 4667314; 448094, 4667421; 448189, 4667676; 448059, 4667939; 447914, 4667994; 447866, 4668059; 447896, 4668110; 447895, 4668175; 447813, 4668216; 447791, 4668343; 447953, 4668499; 447903, 4668531; 447872, 4668639; 447821, 4668667; 447771, 4668817; 447780, 4668907; 447843, 4668953; 447966, 4668848; 447928, 4668645; 447946, 4668592; 447995, 4668541.

(iv) *Note*: Map of Unit IV6 for *Lomatium cookii* follows:

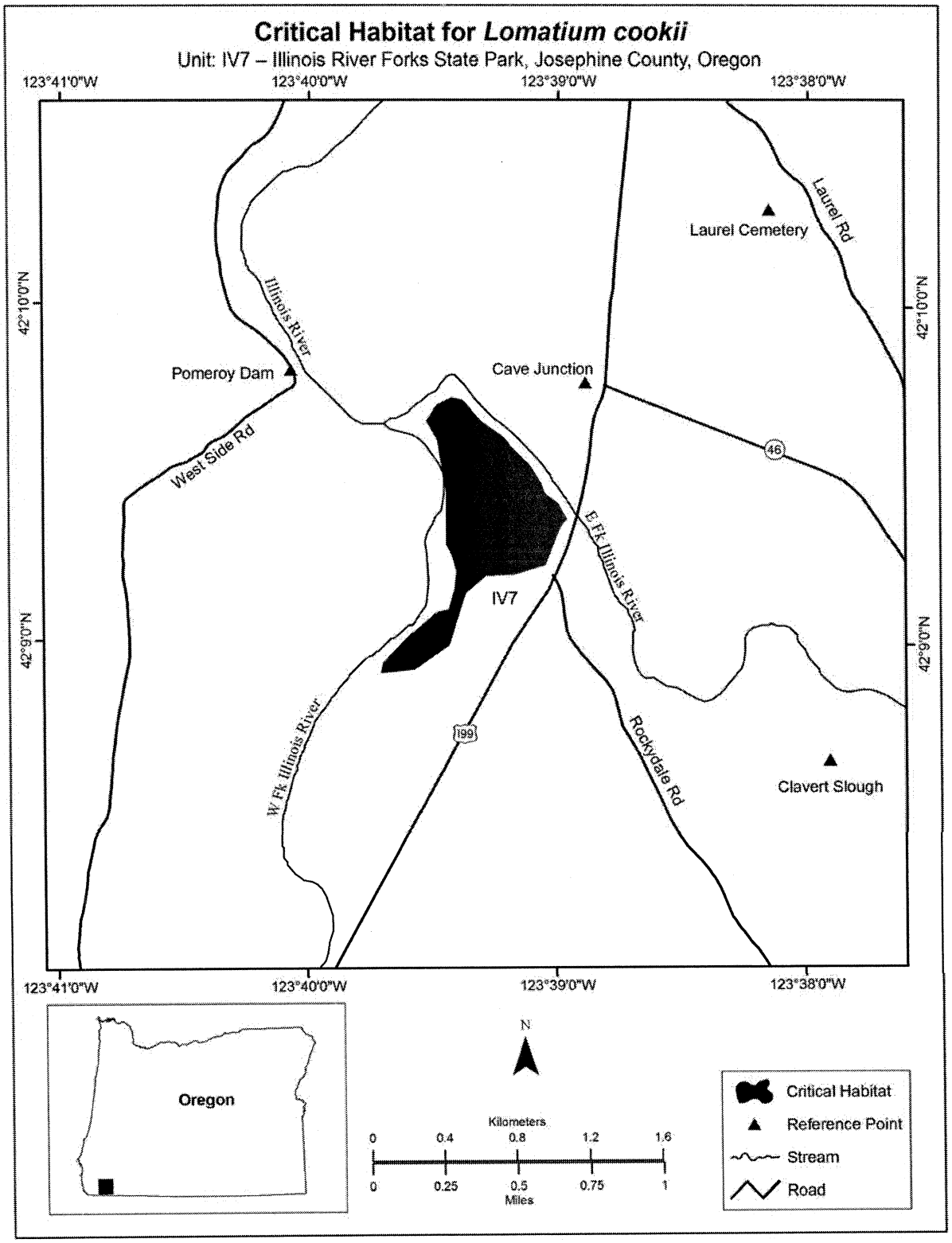

Critical Habitat for Lomatium cookii
Units: IV6A and IV6B -- Laurel Road, Josephine County, Oregon
123°39'0"W
123°38'0"W
123°37'0"W
123°36'0"W
123°35'0"W
42°12'0"N
42°11'0"N
42°10'0"N
42°9'0"N
42°8'0"N
Finch Rd
Kerby
Jacobson Springs
Illinois River
Laurel Rd
199
IV6A
Lime Rock
Cave Junction
W Fk Illinois River
IV6B
46
Smith Sawyer Rd
White School Rd
Calvert Slough
E Fk Illinois River
Rockydale Rd
Horse Spring
Holland Loop Rd
Oregon
N
Kilometers
0 0.6 1.2 1.8 2.4
0 0.4 0.8 1.2 1.6
Miles
Critical Habitat
Reference Point
Stream
Road

(16) Unit IV7 for *Lomatium cookii*: Illinois River Forks State Park, Josephine County, Oregon.

(i) Unit IV7 consists of 55 ha (136 ac) of intact wet meadow habitat. The unit is located 500 m (1,640 ft) west of the city of Cave Junction and 600 m (1,970 ft) southeast of Pomeroy Dam; it is also 230 m (750 ft) east of the confluence of the east and west forks of the Illinois River. The unit occurs along a 2.8-km (1.7-mi) stretch of the West Fork Illinois River.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 445508, 4666492; 445320, 4666474; 445333, 4666529; 445472, 4666674; 445638, 4666805; 445696, 4666819; 445706, 4666849; 445731, 4666940; 445743, 4667030; 445726, 4667090; 445715, 4667125; 445689, 4667176; 445687, 4667211; 445688, 4667332; 445687, 4667475; 445653, 4667666; 445641, 4667749; 445580, 4667858; 445635, 4667943; 445719, 4667985; 445774, 4667973; 445790, 4667964; 445876, 4667862; 446014, 4667763; 446050, 4667715; 446148, 4667618; 446215, 4667513; 446232, 4667463; 446308, 4667402; 446352, 4667318; 446316, 4667270; 446235, 4667064; 446058, 4667012; 445907, 4667006; 445792, 4666909; 445701, 4666625; 445508, 4666492.

(iii) *Note*: Map of Unit IV7 for *Lomatium cookii* follows:

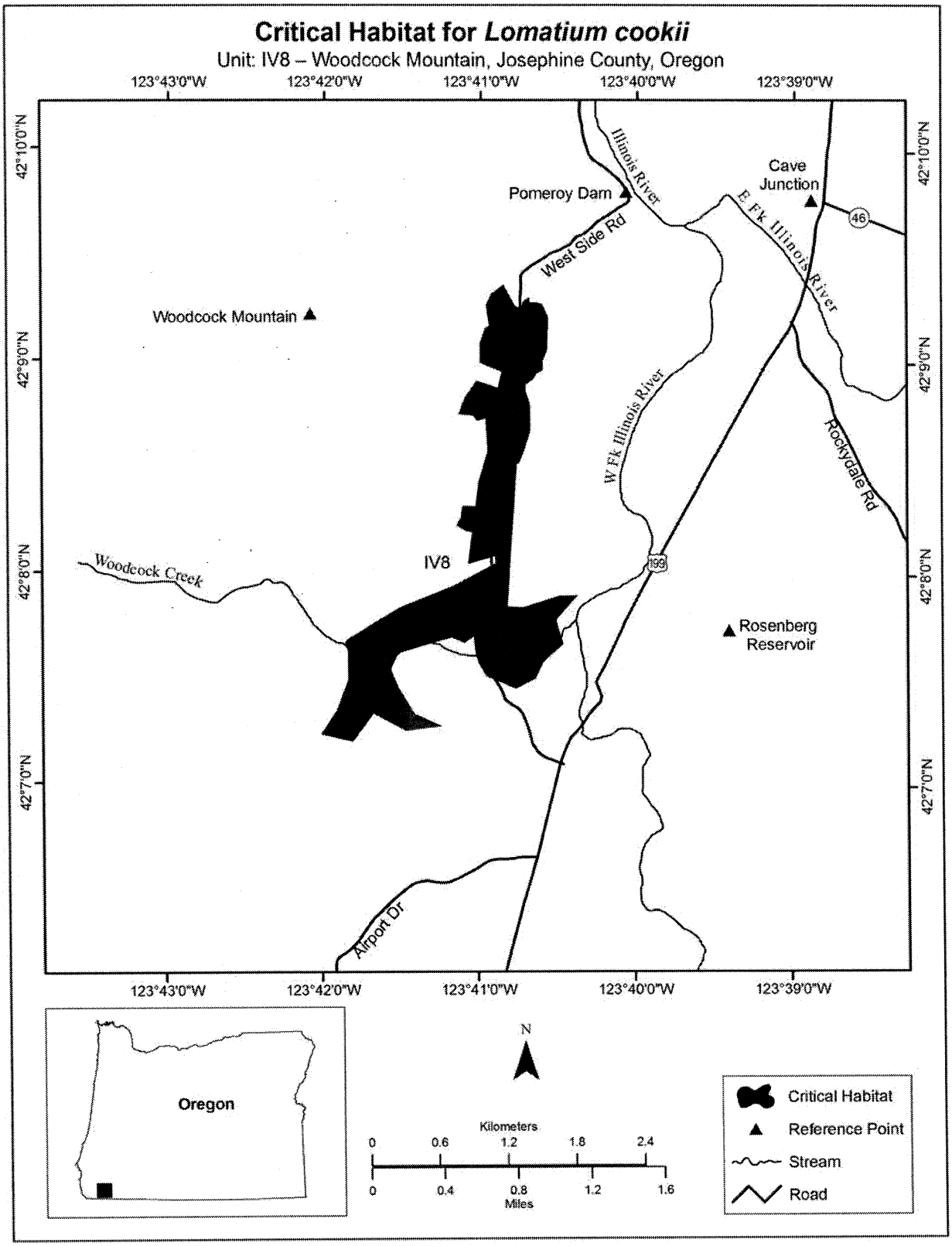

Critical Habitat for Lomatium cookii
Unit: IV7 – Illinois River Forks State Park, Josephine County, Oregon
123°41'0"W
123°40'0"W
123°39'0"W
123°38'0"W
42°10'0"N
42°9'0"N
Laurel Cemetery
Laurel Rd
Illinois River
Pomeroy Dam
Cave Junction
West Side Rd
46
E Fk Illinois River
IV7
W Fk Illinois River
199
Rockydale Rd
Clavert Slough
Oregon
N
Kilometers
0
0.4
0.8
1.2
1.6
0
0.25
0.5
0.75
1
Miles
Critical Habitat
Reference Point
Stream
Road

(17) Unit IV8 for *Lomatium cookii*: Woodcock Mountain, Josephine County, Oregon.

(i) Unit IV8 consists of 234 ha (579 ac) of wet meadow and shrubby habitat. The unit is located 2.4 km (1.5 mi) southwest of the city of Cave Junction, 5.3 km (3.3 mi) north of O'Brien, and 140 m (ft) west of the confluence of Woodcock Creek and the West Fork Illinois River. It occurs along a 3.3-km (2.0-mi) stretch of West Side Road. Unit IV7 is 400 m (ft) west of Highway 199 and roughly parallels the highway for 5.0 km (3.1 mi).

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 443846, 4667157; 443898, 4667120; 443924, 4667187; 443973, 4667221; 443980, 4667180; 444040, 4667176; 444088, 4667165; 444141, 4667053; 444137, 4666930; 444130, 4666762; 444088, 4666665; 444092, 4666591; 444036, 4666561; 444006, 4666509; 443939, 4666464; 443939, 4666400; 443980, 4666270; 443980, 4666244; 443977, 4666054; 443924, 4665878; 443880, 4665770; 443857, 4665769; 443771, 4664523; 443771, 4664523; 443771, 4664523; 443770, 4664521; 443769, 4664516; 443770, 4664521; 443906, 4664511; 444239, 4664616; 444385, 4664613; 444251, 4664468; 444198, 4664401; 444257, 4664194; 444161, 4664104; 444083, 4664031; 444015, 4663890; 443841, 4663800; 443585, 4663911; 443585, 4663913; 443515, 4664031; 443493, 4664113; 443475, 4664263; 443394, 4664207; 443284, 4664253; 443063, 4664194; 442808, 4664117; 442740, 4663972; 442808, 4663811; 442952, 4663582; 443181, 4663471; 442872, 4663436; 442588, 4663587; 442401, 4663342; 442126, 4663405; 442265, 4663615; 442369, 4663881; 442367, 4664125; 442343, 4664212; 442360, 4664236; 442829, 4664515; 443311, 4664707; 443674, 4664901; 443667, 4664967; 443430, 4664902; 443467, 4665175; 443418, 4665182; 443331, 4665232; 443366, 4665300; 443386, 4665399; 443497, 4665400; 443525, 4665616; 443604, 4665877; 443586, 4666169; 443514, 4666146; 443480, 4666191; 443354, 4666208; 443409, 4666348; 443510, 4666494; 443697, 4666430; 443734, 4666576; 443540, 4666654; 443545, 4666707; 443545, 4666830; 443587, 4666949; 443626, 4666975; 443596, 4667154; 443643, 4667252; 443749, 4667333; 443846, 4667157.

(iii) *Note*: Map of Unit IV8 for *Lomatium cookii* follows:

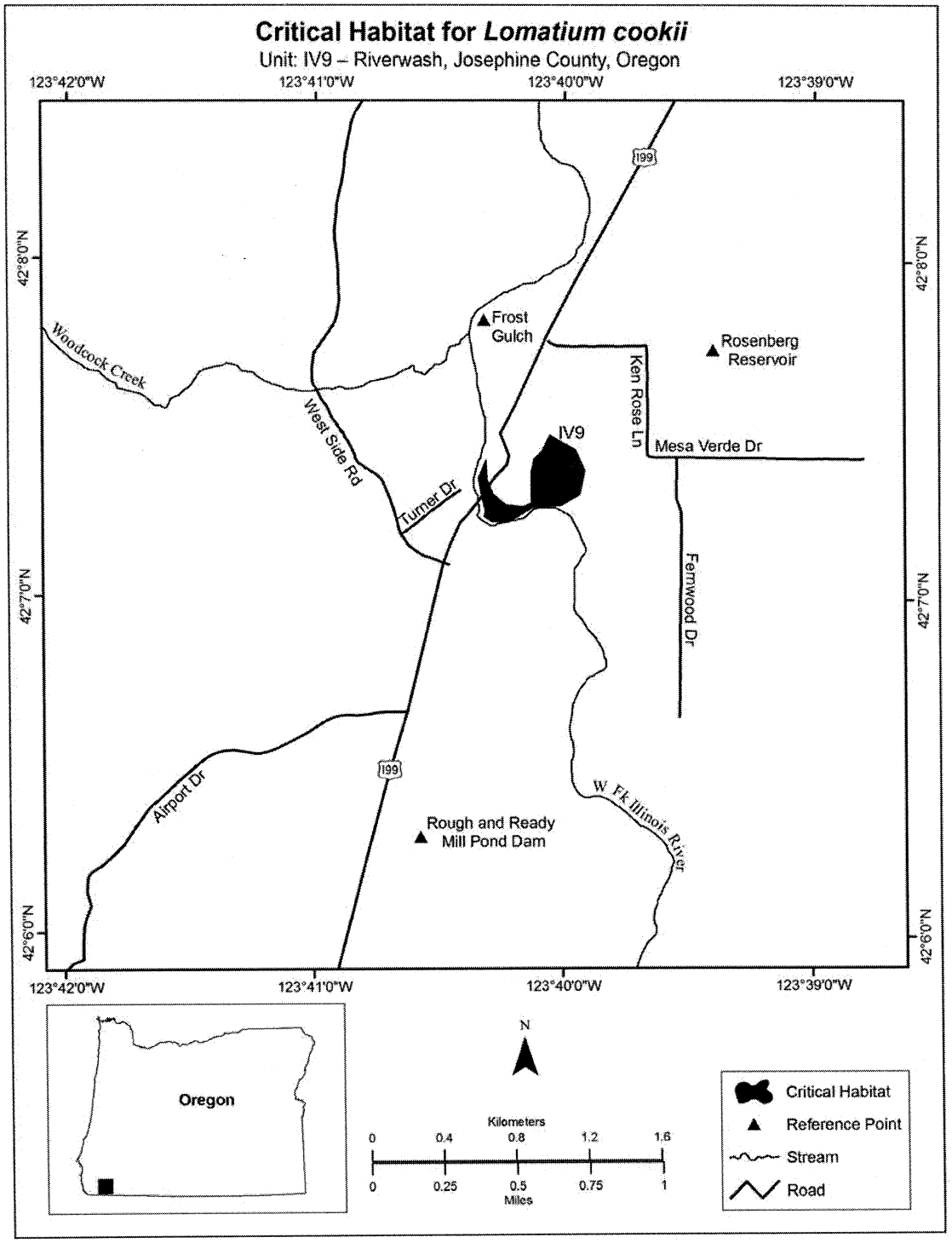

Critical Habitat for Lomatium cookii
Unit: IV8 – Woodcock Mountain, Josephine County, Oregon
123°43'0"W
123°42'0"W
123°41'0"W
123°40'0"W
123°39'0"W
42°10'0"N
42°9'0"N
42°8'0"N
42°7'0"N
Illinois River
Pomeroy Dam
Cave Junction
46
E Fk Illinois River
West Side Rd
Woodcock Mountain
W Fk Illinois River
Rockydale Rd
Woodcock Creek
IV8
199
Rosenberg Reservoir
Airport Dr
Oregon
N
Kilometers
0
0.6
1.2
1.8
2.4
0
0.4
0.8
1.2
1.6
Miles
Critical Habitat
Reference Point
Stream
Road

(18) Unit IV9 for *Lomatium cookii*: Riverwash, Josephine County, Oregon.

(i) Unit IV9 consists of 12 ha (30 ac) of intact wet meadow and streambank habitat. It is located 4.2 km (2.6 mi) south of Cave Junction and 6.1 km (3.8 mi) north-northeast of O'Brien. It is located along the east bend of the West Fork Illinois River, 700 m (2,300 ft) south (upstream) of the confluence between Woodcock Creek and the West Fork Illinois River.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 444883, 4663457; 444724, 4663445; 444595, 4663365; 444497, 4663369; 444452, 4663397; 444459, 4663432; 444435, 4663525; 444421, 4663612; 444466, 4663710; 444473, 4663599; 444484, 4663571; 444508, 4663525; 444542, 4663493; 444575, 4663465; 444670, 4663455; 444715, 4663474; 444715, 4663547; 444715, 4663648; 444729, 4663713; 444771, 4663752; 444819, 4663847; 444962, 4663766; 445015, 4663648; 444987, 4663516; 444883, 4663457.

(iii) *Note*: Map of Unit IV9 for *Lomatium cookii* follows:

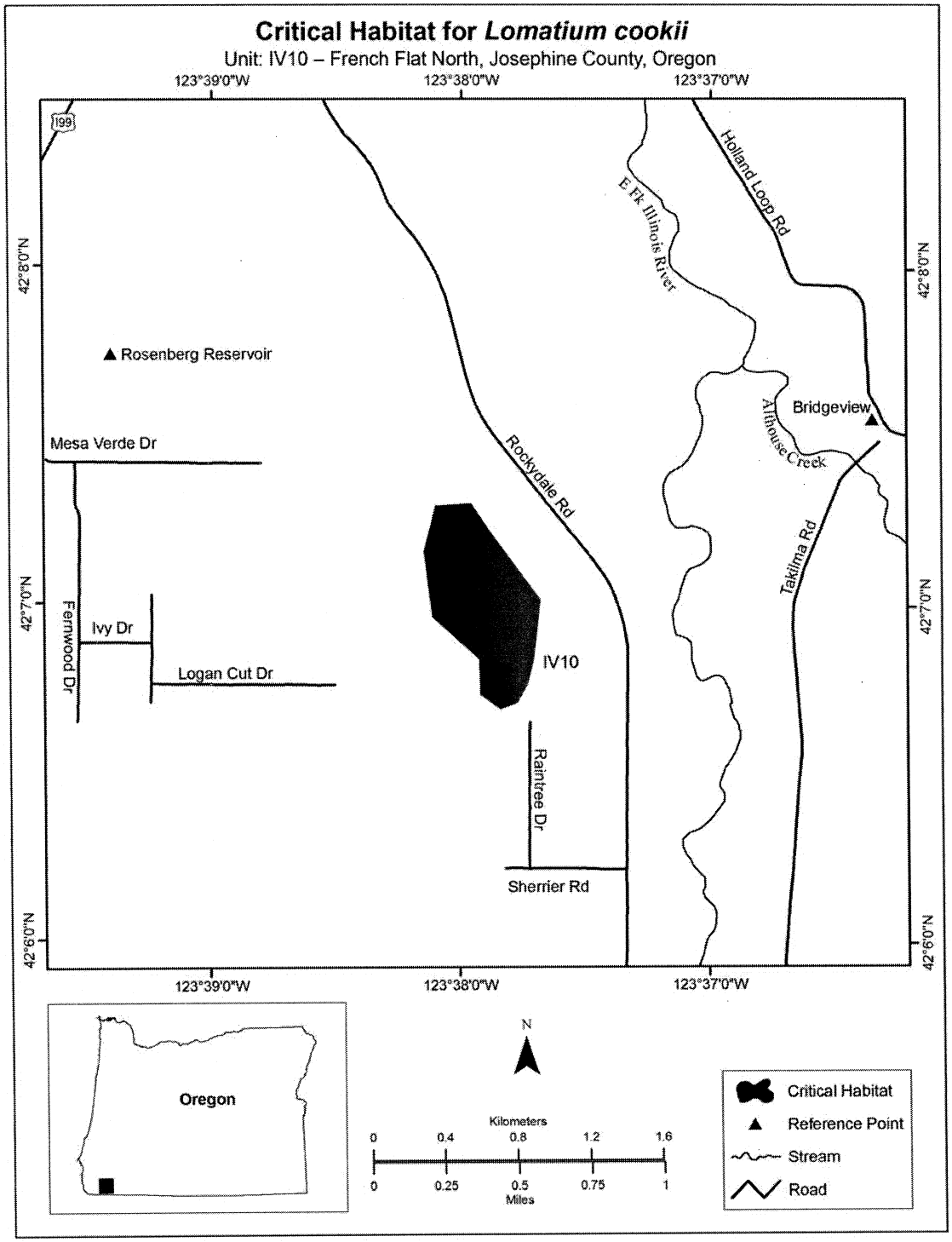


(19) Unit IV10 for *Lomatium cookii*: French Flat North, Josephine County, Oregon.

(i) Unit IV10 consists of 45 ha (110 ac) of intact wet meadow habitat. The unit is located 3.7 km (2.3 mi) south of Cave Junction, 900 m (2,950 ft) north of the intersection of Sherrier Drive and Raintree Drive, and 1.7 km (1.1 mi) southwest of the confluence of Althouse Creek and the East Fork Illinois River. It parallels a 300-m (980-ft) stretch of Rockydale Road.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 447956, 4662384; 447864, 4662351; 447753, 4662432; 447747, 4662626; 447490, 4662860; 447444, 4663221; 447510, 4663470; 447707, 4663483; 447812, 4663325; 448085, 4662952; 448070, 4662820; 448048, 4662620; 448015, 4662488; 447956, 4662384.

(iii) *Note*: Map of Unit IV10 for *Lomatium cookii* follows:

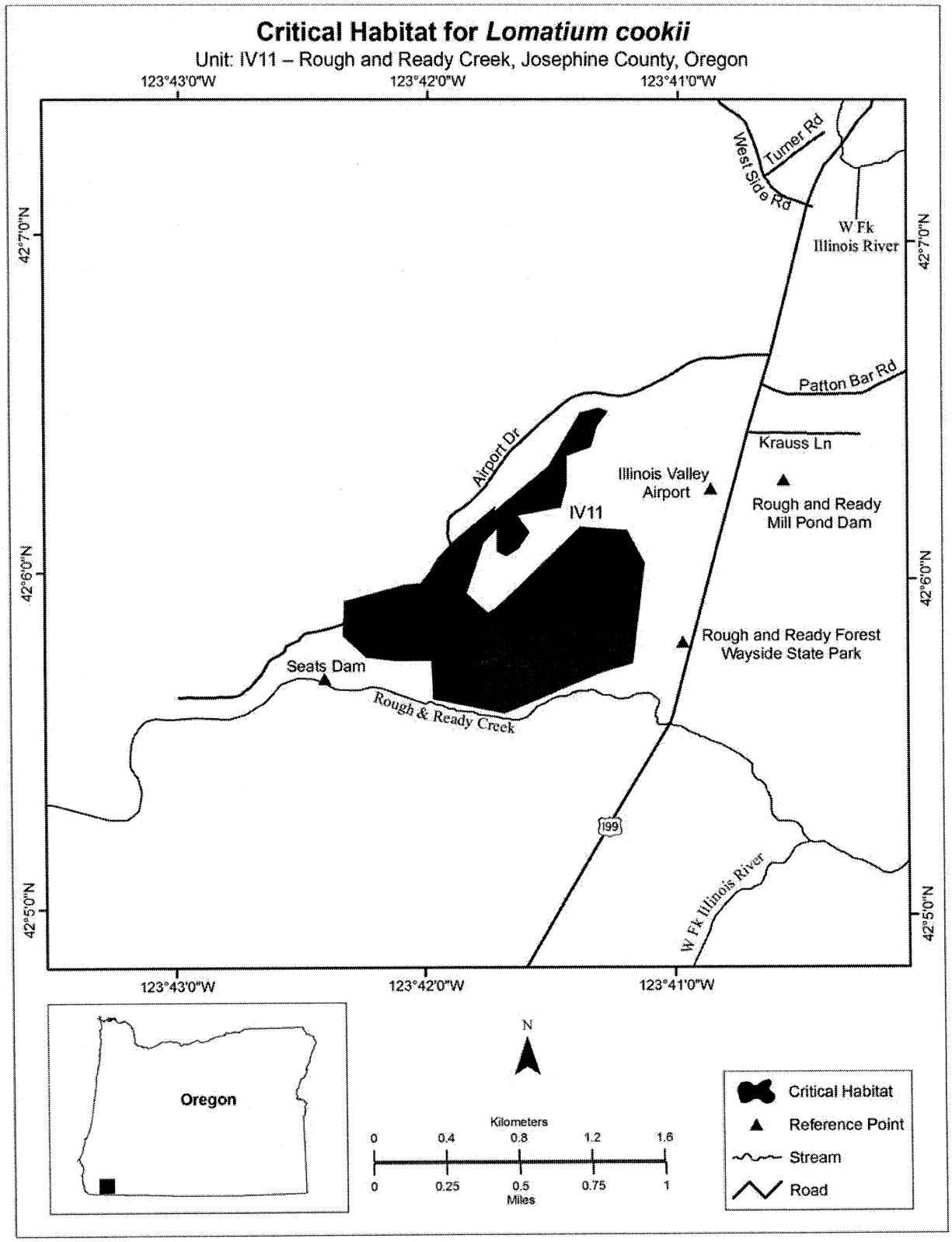


(20) Unit IV11 for *Lomatium cookii*: Rough and Ready Creek, Josephine County, Oregon.

(i) Unit IV11 consists of 118 ha (292 ac) of intact wet meadow habitat. The unit roughly follows along and is adjacent to a 1.9-km (1.2-mi) stretch of Airport Drive. It is located 3 km (1.9 mi) north of O'Brien, 900 m (2,950 ft) west of the Rough and Ready Forest Wayside State Park, and 122 m (400 ft) east of the confluence with the Illinois River and Rough and Ready Creek.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 442862, 4661486; 442625, 4661442; 442689, 4661348; 442630, 4661262; 442562, 4661221; 442512, 4661248; 442512, 4661371; 442436, 4661297; 442433, 4661288; 442341, 4661017; 442458, 4660908; 442511, 4660943; 442971, 4661379; 443227, 4661360; 443325, 4661183; 443256, 4660632; 443089, 4660583; 442548, 4660357; 442155, 4660436; 442145, 4660646; 441956, 4660645; 441789, 4660666; 441658, 4660784; 441668, 4660973; 441996, 4661062; 442086, 4661071; 442133, 4661127; 442182, 4661207; 442263, 4661293; 442503, 4661493; 442493, 4661461; 442794, 4661712; 442973, 4662010; 443075, 4662031; 443124, 4662015; 443065, 4661934; 443031, 4661819; 442897, 4661772; 442897, 4661615; 442862, 4661486.

(iii) *Note*: Map of Unit IV11 for *Lomatium cookii* follows:

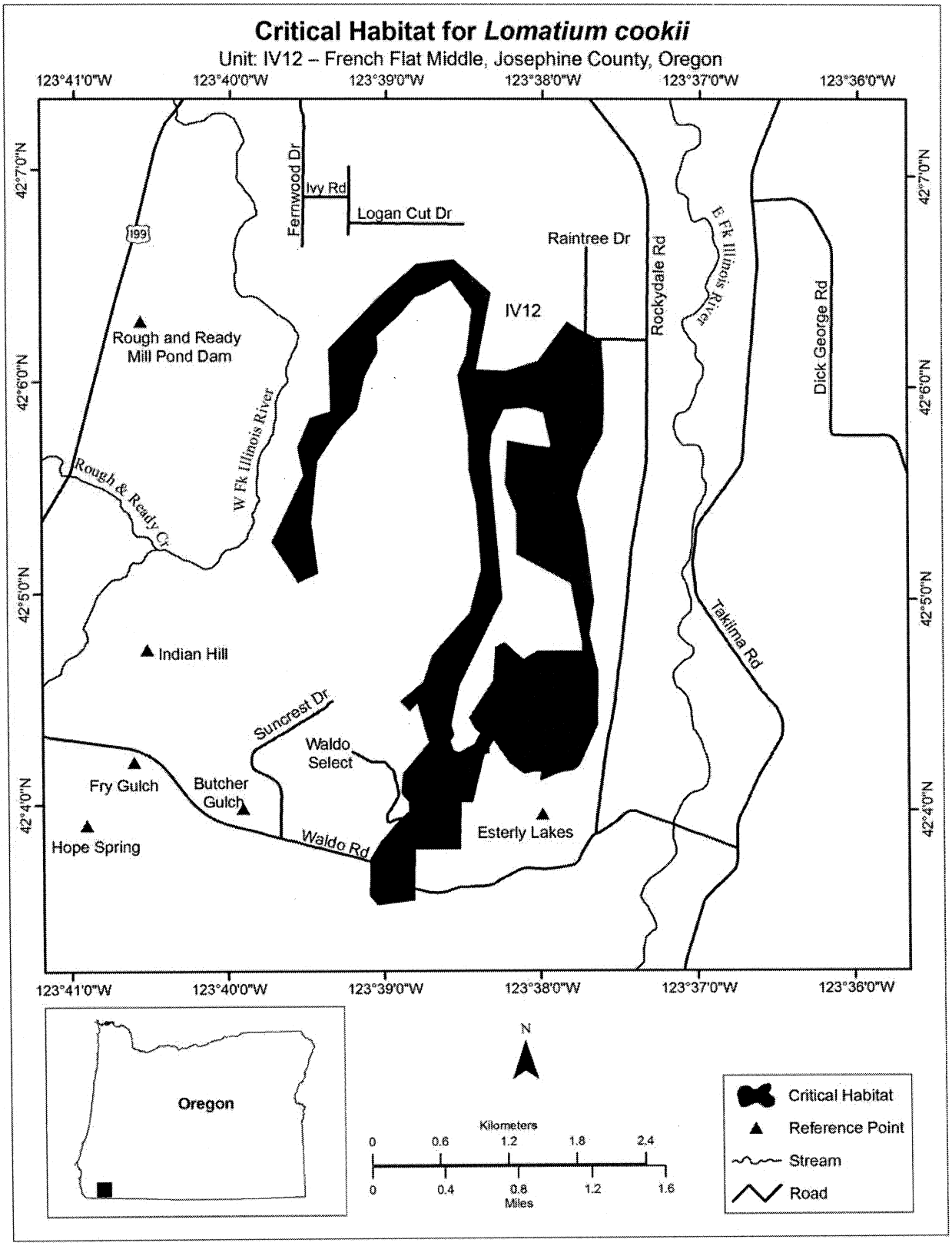

Critical Habitat for Lomatium cookii
Unit: IV11 – Rough and Ready Creek, Josephine County, Oregon
123°43'0"W
123°42'0"W
123°41'0"W
42°7'0"N
42°6'0"N
42°5'0"N
Turner Rd
West Side Rd
W Fk Illinois River
Patton Bar Rd
Krauss Ln
Airport Dr
Illinois Valley Airport
Rough and Ready Mill Pond Dam
IV11
Rough and Ready Forest Wayside State Park
Seats Dam
Rough & Ready Creek
199
W Fk Illinois River
Oregon
N
Kilometers
0
0.4
0.8
1.2
1.6
0
0.25
0.5
0.75
1
Miles
Critical Habitat
Reference Point
Stream
Road

(21) Unit IV12 for *Lomatium cookii*: French Flat Middle, Josephine County, Oregon.

(i) Unit IV12 consists of 492 ha (1,216 ac) of intact wet meadow habitat. The unit is located 4.5 km (2.8 mi) east of Cave Junction, 3.7 km (2.3 mi) northeast of O'Brien, 140 m (460 ft) north and 560 m (1,830 ft) west of Esterly Lakes, 1.4 km (0.9 mi) northeast of Indian Hill, and 300 m (960 ft) east of the confluence of Rough and Ready Creek and the West Fork Illinois River. It also follows along a 1.6-km (1.0-mi) stretch of Rockydale Road until the junction with Waldo Road.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 446860, 4662173; 447187, 4661885; 447051, 4661211; 447318, 4661198; 447598, 4661287; 447854, 4661630; 447956, 4661565; 448150, 4661463; 448171, 4661156; 448171, 4660872; 448158, 4660646; 447992, 4660335; 447933, 4660103; 447996, 4659837; 448078, 4659190; 448032, 4658899; 448111, 4658574; 448105, 4658100; 447946, 4657750; 447889, 4657708; 447783, 4657691; 447694, 4657657; 447599, 4657617; 447606, 4657696; 447530, 4657694; 447460, 4657675; 447331, 4657771; 447192, 4657971; 447148, 4657913; 447153, 4657860; 447108, 4657850; 447002, 4657429; 446901, 4657426; 446891, 4657015; 446491, 4657016; 446486, 4656704; 446483, 4656571; 446158, 4656530; 446086, 4656613; 446096, 4656823; 446093, 4656927; 446184, 4657078; 446369, 4657289; 446437, 4657345; 446442, 4657429; 446371, 4657514; 446388, 4657680; 446620, 4657952; 446539, 4658228; 446523, 4658301; 446450, 4658228; 446368, 4658309; 446571, 4658480; 446653, 4658714; 446987, 4659084; 446986, 4659084; 447091, 4659468; 447051, 4660049; 446986, 4660333; 446978, 4660650; 446934, 4660899; 446892, 4661165; 446971, 4661345; 447019, 4661742; 446833, 4661998; 446612, 4661880; 446518, 4661854; 446373, 4661691; 446172, 4661506; 446185, 4661367; 446068, 4661157; 445999, 4660871; 445820, 4660681; 445645, 4660416; 445588, 4659882; 445649, 4659438; 445473, 4659358; 445241, 4659711; 445523, 4660294; 445473, 4660538; 445584, 4660791; 445767, 4660848; 445749, 4661392; 446200, 4661854; 446534, 4662135; 446860, 4662173; and excluding land bound by 447273, 4659208; 447203, 4659076; 446889, 4658443; 446818, 4658110; 446840, 4658012; 446808, 4657965; 446838, 4657883; 446882, 4657863; 447019, 4657935; 447073, 4658033; 447029, 4658069; 446977, 4658167; 447192, 4658493; 447212, 4658784; 447290, 4658824; 447455, 4658678; 447581, 4658749; 447723, 4658749; 447975, 4658749; 447971, 4658840; 447876, 4659346; 447403, 4659604; 447407, 4659962; 447305, 4660216; 447329, 4660591; 447452, 4660569; 447689, 4660530; 447706, 4660555; 447643, 4660838; 447497, 4660883; 447296, 4660866; 447186, 4660643; 447167, 4660448; 447273, 4659208.

(iii) *Note*: Map of Unit IV12 for *Lomatium cookii* follows:

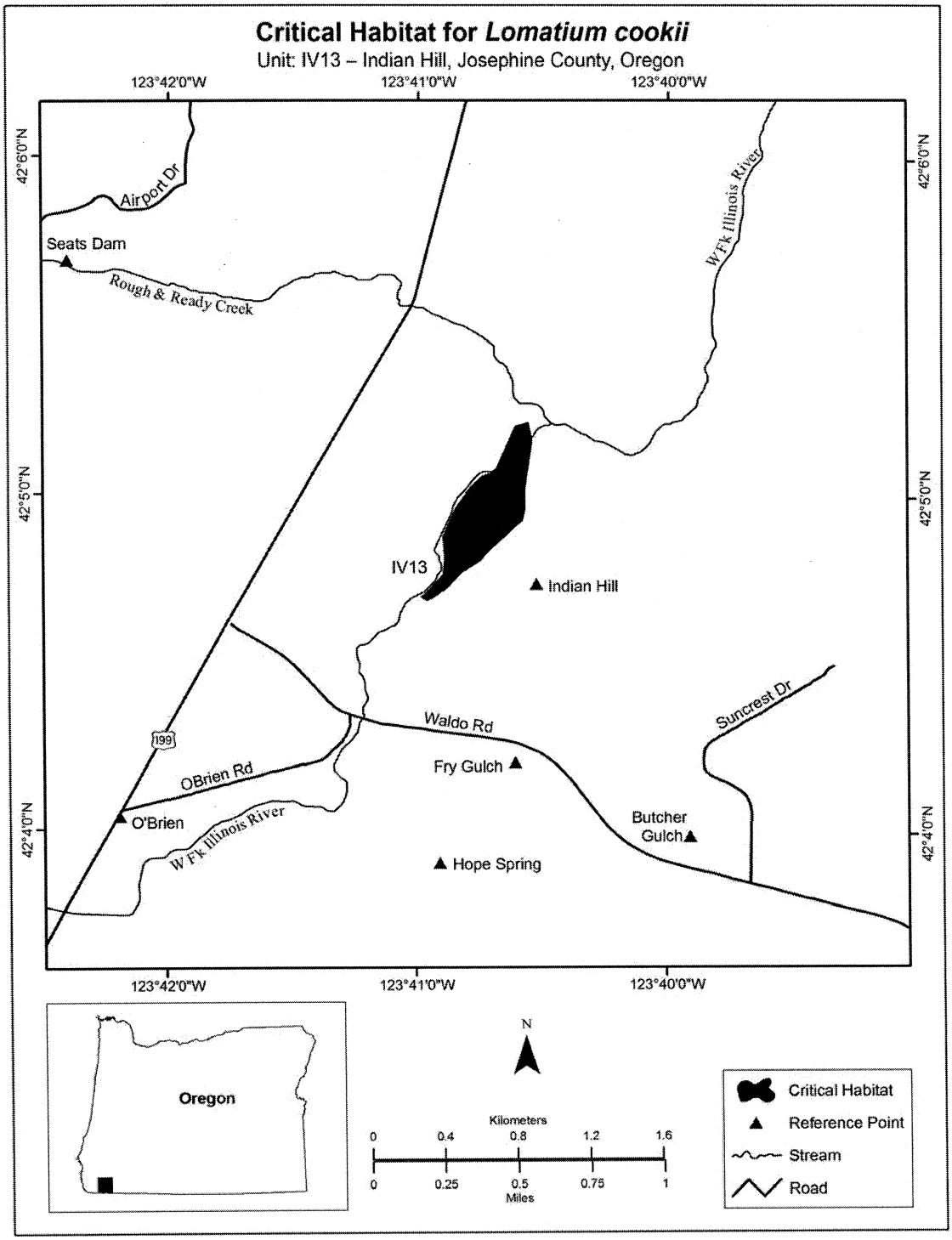

Critical Habitat for Lomatium cookii
Unit: IV12 – French Flat Middle, Josephine County, Oregon
123°41'0"W
123°40'0"W
123°39'0"W
123°38'0"W
123°37'0"W
123°36'0"W
42°7'0"N
42°6'0"N
42°5'0"N
42°4'0"N
Fernwood Dr
Ivy Rd
Logan Cut Dr
199
Raintree Dr
Rockydale Rd
E Fk Illinois River
Dick George Rd
IV12
Rough and Ready Mill Pond Dam
W Fk Illinois River
Rough & Ready Cr
Takilma Rd
Indian Hill
Suncrest Dr
Waldo Select
Fry Gulch
Butcher Gulch
Hope Spring
Waldo Rd
Esterly Lakes
Oregon
N
Kilometers
0
0.6
1.2
1.8
2.4
0
0.4
0.8
1.2
1.6
Miles
Critical Habitat
Reference Point
Stream
Road

(22) Unit IV13 for *Lomatium cookii*: Indian Hill, Josephine County, Oregon.

(i) Unit IV13 consists of 22 ha (54 ac) of intact wet meadow habitat. The unit is located adjacent to and lies east of a 900-m (2,950-ft) stretch of the West Fork Illinois River. It is located approximately 300 m south (upstream) of the confluence of Rough and Ready Creek and the West Fork Illinois River. The unit is 1.8 km (1.1 mi) northeast of O'Brien and 350 m (1,150 ft) northwest of Indian Hill.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 443565, 4658691; 443534, 4658677; 443500, 4658696; 443621, 4658819; 443630, 4658917; 443620, 4659030; 443690, 4659187; 443771, 4659300; 443840, 4659363; 443908, 4659385; 444024, 4659638; 444098, 4659659; 444117, 4659555; 444078, 4659294; 444078, 4659182; 444062, 4659116; 444017, 4659076; 443966, 4659029; 443874, 4658947; 443829, 4658895; 443726, 4658830; 443642, 4658741; 443565, 4658691.

(iii) *Note*: Map of Unit IV13 for *Lomatium cookii* follows:



* * * * *

Family Limnanthaceae: *Limnanthes floccosa* ssp. *grandiflora* (large-flowered woolly meadowfoam)

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

(2) The primary constituent elements of critical habitat for *Limnanthes floccosa* ssp. *grandiflora* are the following habitat components:

(i) Vernal pools or ephemeral wetlands and the adjacent upland margins of these depressions that hold water for a sufficient length of time to sustain *Limnanthes floccosa* ssp. *grandiflora* germination, growth, and reproduction, occurring in the Rogue River Valley vernal pool landscape. These vernal pools or ephemeral wetlands are seasonally inundated during wet years but do not necessarily fill with water every year due to natural variability in rainfall, and support native plant populations. Areas of sufficient size and quality are likely to have the following characteristics:

(A) Elevations from 372 to 469 m (1,220 to 1,540 ft);

(B) Associated dominant native plants including, but not limited to: *Alopecurus saccatus, Deschampsia danthonioides*, *Eryngium petiolatum, Lasthenia californica, Myosurus minimus*, *Navarretia leucocephala* ssp. *leucocephala, Phlox gracilis, Plagiobothrys bracteatus*, *Trifolium depauperatum*, and *Triteleia hyacinthina.*

(C) A minimum area of 8 ha (20 ac) to provide intact hydrology and protection from development and weed sources.

(ii) The hydrologically and ecologically functional system of interconnected pools, ephemeral wetlands, or depressions within a matrix of surrounding uplands that together form vernal pool complexes within the greater watershed. The associated features may include the pool basin or depressions; an intact hardpan subsoil underlying the surface soils up to 0.75 m (2.5 ft) in depth; and surrounding uplands, including mound topography and other geographic and edaphic features, that support these systems of hydrologically interconnected pools and other ephemeral wetlands (which may vary in extent depending on site-specific characteristics of pool size and depth, soil type, and hardpan depth).

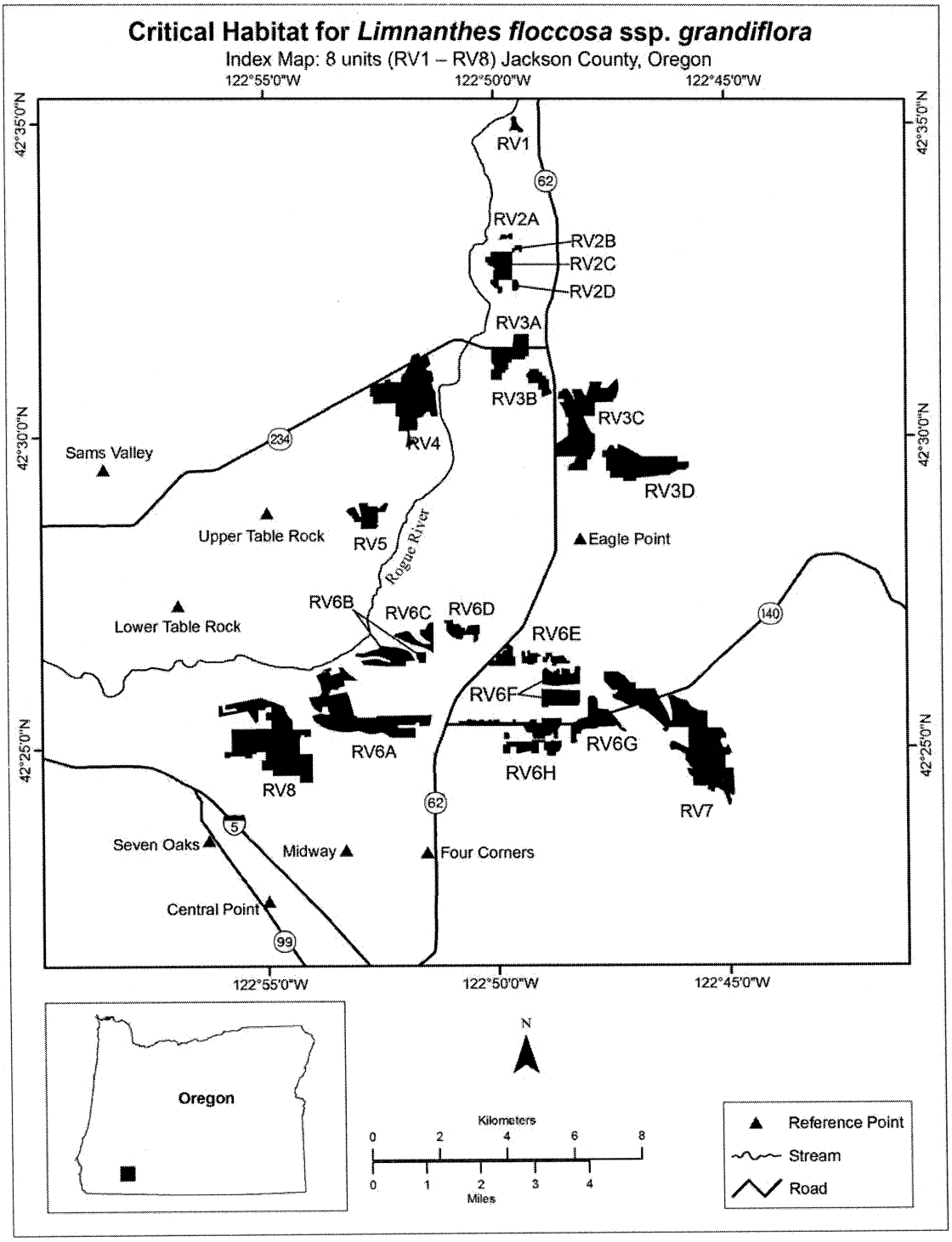
(iii) Silt, loam, and clay soils that are of alluvial origin, with a 0 to 3 percent slope, primarily classified as Agate–Winlo complex soils, but also including Coker clay, Carney clay, Provig–Agate complex soils, and Winlo very gravelly loam soils.

(iv) No or negligible presence of competitive, nonnative, invasive plant species. Negligible is defined for the purpose of this rule as a minimal level of nonnative plant species that will still allow *Limnanthes floccosa* ssp. *grandiflora* to continue to survive and recover.

(3) Critical habitat does not include manmade structures (including, but not limited to, 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 and not containing one or more of the primary constituent elements.

(4) *Critical habitat unit maps.* These critical habitat units were mapped using Universal Transverse Mercator, Zone 10, North American Datum 1983 (UTM NAD 83) coordinates. These coordinates establish the vertices and endpoints of the boundaries of the units.

(5) *Note*: Index map for critical habitat for *Limnanthes floccosa* ssp. *grandiflora* in Jackson County, Oregon, follows:

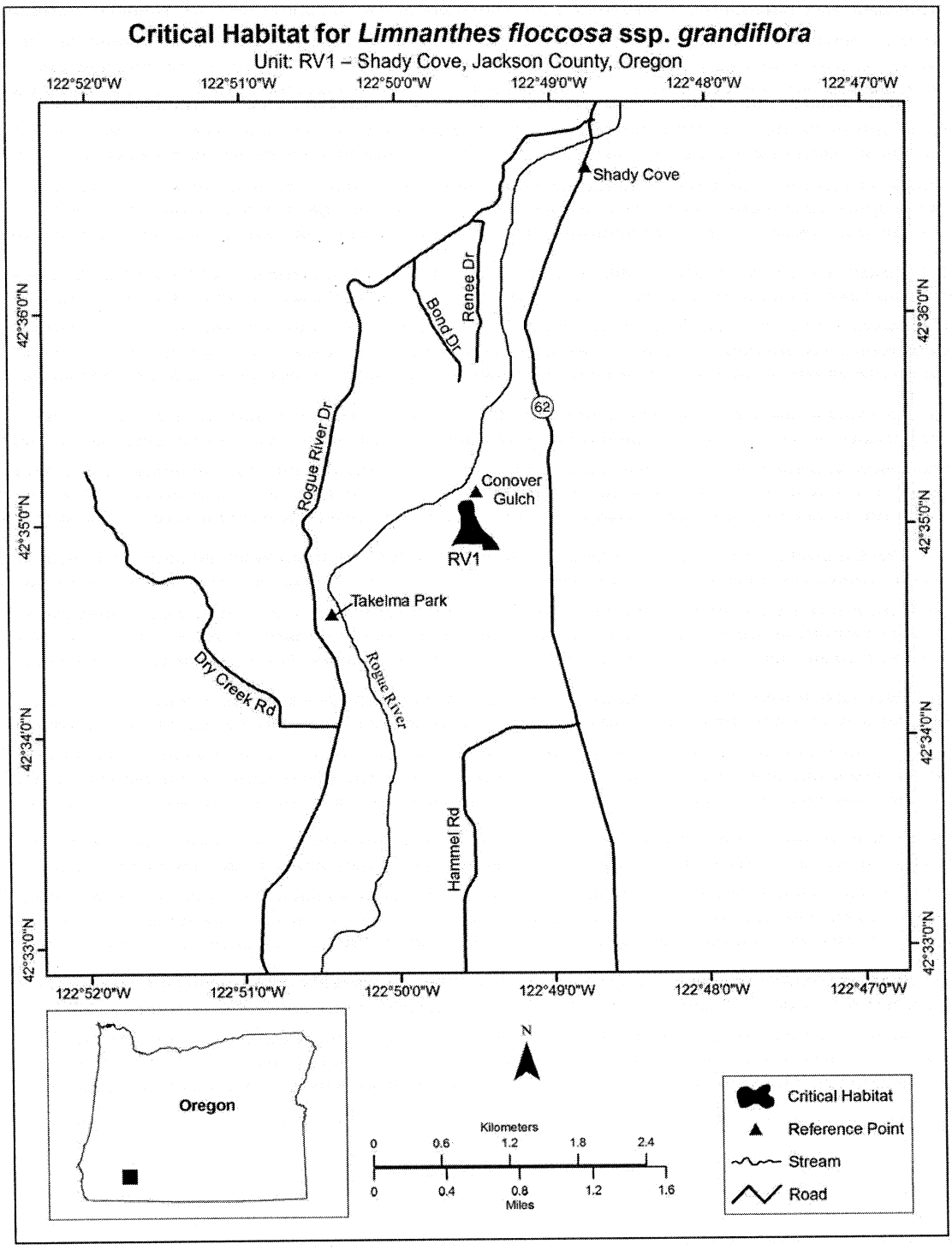

Critical Habitat for *Limnanthes floccosa* ssp. *grandiflora*
Index Map: 8 units (RV1 – RV8) Jackson County, Oregon
122°55'0"W
122°50'0"W
122°45'0"W
42°35'0"N
42°30'0"N
42°25'0"N
RV1
RV2A
RV2B
RV2C
RV2D
RV3A
RV3B
RV3C
RV3D
RV4
RV5
RV6A
RV6B
RV6C
RV6D
RV6E
RV6F
RV6G
RV6H
RV7
RV8
Sams Valley
Upper Table Rock
Lower Table Rock
Eagle Point
Rogue River
Seven Oaks
Midway
Four Corners
Central Point
62
234
140
5
99
Oregon
N
Kilometers
0 2 4 6 8
0 1 2 3 4
Miles
Reference Point
Stream
Road

(6) Unit RV1 for *Limnanthes floccosa ssp. grandiflora*: Shady Cove, Jackson County, Oregon.

(i) Unit RV1 consists of approximately 8 ha (20 ha) of intact vernal pool–mounded prairie habitat. The unit is located 460 m (1,500 ft) west of Highway 62 and parallels a 430-m (1,411-ft) stretch of the highway. The unit is 0.8 km (0.5 mi) south of Shady Cove, 1.3 km (0.8 mi) northeast of Takelma Park, and 122 m (400 ft) east of the Rogue River.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514512, 4714448; 514563, 4714380; 514580, 4714338; 514442, 4714339; 514429, 4714389; 514204, 4714397; 514161, 4714376; 514207, 4714456; 514224, 4714494; 514242, 4714529; 514246, 4714597; 514242, 4714640; 514220, 4714682; 514217, 4714728; 514247, 4714766; 514288, 4714774; 514335, 4714771; 514354, 4714747; 514360, 4714707; 514363, 4714651; 514414, 4714543; 514450, 4714495; 514512, 4714448.

(iii) *Note*: Map of Unit RV1 for *Limnanthes floccosa* ssp. *grandiflora* follows:



(7) Unit RV2 for *Limnanthes floccosa* ssp. *grandiflora*: Hammel Road, Jackson County, Oregon.

(i) Unit RV2 is composed of four subunits and comprises approximately 69 ha (169 ac) of vernal pool–mounded prairie. The unit is located 1.2 km (0.75 mi) northeast of the confluence of Reese Creek and the Rogue River, 1.3 km (0.8 mi) west of Highway 62, and 430 m (1,400 ft) east of the Rogue River.

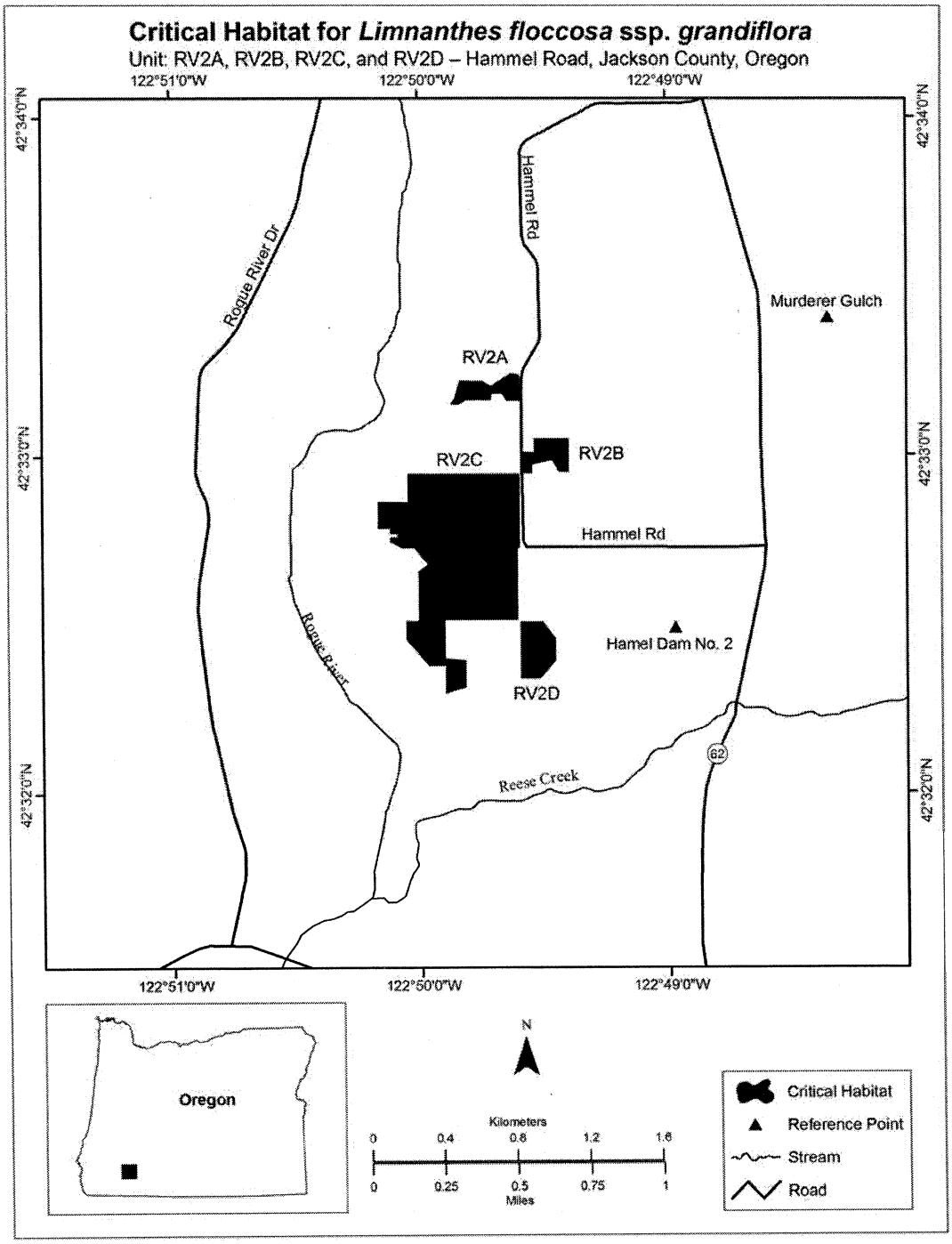
(ii) Subunit RV2A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514233, 4711302; 514239, 4711159; 514167, 4711162; 514141, 4711197; 514084, 4711197; 514078, 4711162; 513945, 4711163; 513895, 4711138; 513860, 4711142; 513879, 4711174; 513909, 4711271; 514034, 4711267; 514077, 4711239; 514191, 4711309; 514233, 4711302.

(iii) Subunit RV2B. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514249, 4710764; 514248, 4710878; 514316, 4710877; 514319, 4710955; 514507, 4710953; 514510, 4710771; 514456, 4710770; 514416, 4710835; 514305, 4710813; 514305, 4710764; 514249, 4710764.

(iv) Subunit RV2C. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514237, 4710760; 514236, 4710354; 514223, 4710354; 514223, 4709956; 513823, 4709956; 513823, 4709747; 513937, 4709737; 513937, 4709590; 513827, 4709557; 513824, 4709706; 513736, 4709706; 513609, 4709851; 513609, 4709950; 513679, 4709953; 513678, 4710224; 513731, 4710264; 513657, 4710353; 513586, 4710356; 513522, 4710388; 513522, 4710412; 513563, 4710412; 513563, 4710431; 513522, 4710431; 513522, 4710460; 513455, 4710460; 513455, 4710606; 513620, 4710606; 513620, 4710760; 514237, 4710760.

(v) Subunit RV2D. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514240, 4709947; 514364, 4709947; 514432, 4709857; 514432, 4709737; 514404, 4709703; 514343, 4709635; 514240, 4709635; 514240, 4709947.

(vi) *Note*: Map of Unit RV2 for *Limnanthes floccosa* ssp. *grandiflora* follows:



BILLING CODE 4310–55–C

(8) Unit RV3 for *Limnanthes floccosa* ssp. *grandiflora*: North Eagle Point, Jackson County, Oregon.

(i) Unit RV3 is composed of four subunits and totals 490 ha (1,210 ac) of intact vernal pool habitat. The unit is located southwest of Mosser Mountain and northeast of Long Mountain. The four subunits loosely follow a 6.9-km (4.3-mi) stretch of Hog Creek beginning at its origin. Originating 3.8 km (2.4 mi) east of Highway 62 in subunit RV3D, Hog Creek runs through RV3C, crosses Highway 62, flows between RV3B (located 100 m (328 ft) west of Highway 62) and RV3A (located 600 m (1,970 ft) west of Highway 62), before emptying into the Rogue River after 2.4 km (1.5 mi). Subunit RV3A is located 560 m (1,837 ft) southeast of the confluence of Reese Creek and the Rogue River. Subunit RV3B is located 100 m (328 ft) west of Highway 62 at the intersection of Ball Road and extends along an 835-m (2,740-ft) stretch of Hog Creek. Subunit RV3C is located 2 km (1.2 mi) north of Eagle Point (see Index map) and extends 2.6 km (1.6 mi) south of the junction of Ball Road and Reese Creek Road. Subunit RV3D is located 3.2 km (2 mi) east of Long Mountain and is 2.4 km (1.5 mi) southeast of the junction of Highway 62 and Ball Road. It extends along a 1.8-km (1.1-mi) stretch of Hog Creek.

(ii) Subunit RV3A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 513900, 4707000; 513600, 4707000; 513600, 4707300; 513700, 4707300; 513700, 4707400; 513619, 4707507; 513615, 4707926; 514239, 4707958; 514239, 4708060; 514295, 4708341; 514698, 4708343; 514700, 4707700; 514600, 4707700; 514600, 4707600; 514200, 4707600; 514200, 4707500; 514100, 4707500; 514100, 4707300; 514000, 4707300; 514000, 4707200; 513900, 4707200; 513900, 4707000.

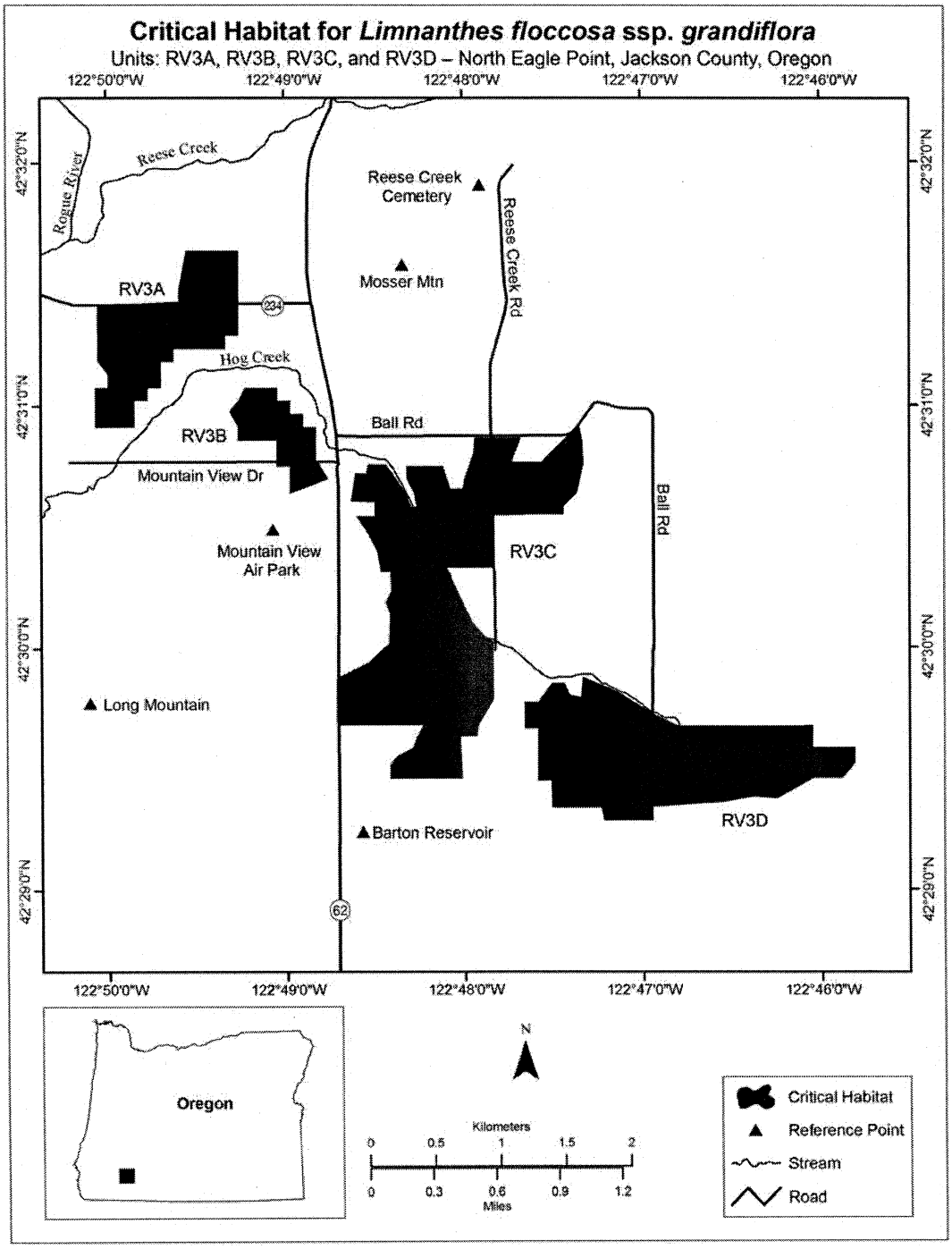
(iii) Subunit RV3B. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 515000, 4707300; 515000, 4707200; 515100, 4707200; 515100, 4707100; 515200, 4707100; 515200, 4707000; 515300, 4707000; 515300, 4706800; 515297, 4706736; 515314, 4706735; 515392, 4706602; 515100, 4706500; 515100, 4706700; 515000, 4706700; 515000, 4706900; 514700, 4706900; 514700, 4707000; 514632, 4707121; 514700, 4707200; 514739, 4707278; 514751, 4707302; 515000, 4707300.

(iv) Subunit RV3C. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 517028, 4706768; 517092, 4706752; 517204, 4706908; 517373, 4707044; 517420, 4706930; 517422, 4706783; 517371, 4706703; 517352, 4706678; 517300, 4706500; 517200, 4706400; 517100, 4706400; 517100, 4706300; 516700, 4706300; 516700, 4705600; 516404, 4705740; 516500, 4705500; 516600, 4705400; 516656, 4705359; 516657, 4704920; 516544, 4704721; 516561, 4704303; 515800, 4704300; 515752, 4704604; 515743, 4704710; 515478, 4704720; 515478, 4705092; 515700, 4705200; 515857, 4705347; 515868, 4705565; 515834, 4705663; 515879, 4705750; 515870, 4705898; 515800, 4705900; 515773, 4706047; 515695, 4706196; 515612, 4706318; 515751, 4706317; 515754, 4706429; 515570, 4706438; 515604, 4706639; 515689, 4706642; 515703, 4706714; 515839, 4706711; 515987, 4706499; 516030, 4706396; 516076, 4706391; 516054, 4706503; 516000, 4706600; 516000, 4706700; 516272, 4706702; 516331, 4706528; 516426, 4706534; 516438, 4706595; 516511, 4706803; 516519, 4706917; 516903, 4706921; 516900, 4707000; 517000, 4707000; 517005, 4707167; 517099, 4707277; 517182, 4707293; 517091, 4706902; 517028, 4706768.

(v) Subunit RV3D. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 517605, 4704981; 517900, 4704800; 518077, 4704715; 518195, 4704709; 518298, 4704783; 518897, 4704882; 519012, 4704866; 519136, 4704706; 519215, 4704637; 519300, 4704600; 519432, 4704433; 519400, 4704300; 519100, 4704300; 518877, 4704218; 518630, 4704167; 518425, 4704138; 517884, 4704099; 517881, 4703997; 517506, 4703997; 517487, 4704093; 517111, 4704096; 517100, 4704300; 517000, 4704300; 517000, 4704700; 516900, 4704700; 516900, 4704900; 517000, 4704900; 517108, 4705041; 517204, 4705042; 517240, 4704956; 517329, 4704940; 517349, 4705090; 517605, 4704981.

(vi) *Note*: Map of Unit RV3 for *Limnanthes floccosa* ssp. *grandiflora* follows:

BILLING CODE 4310–55–S

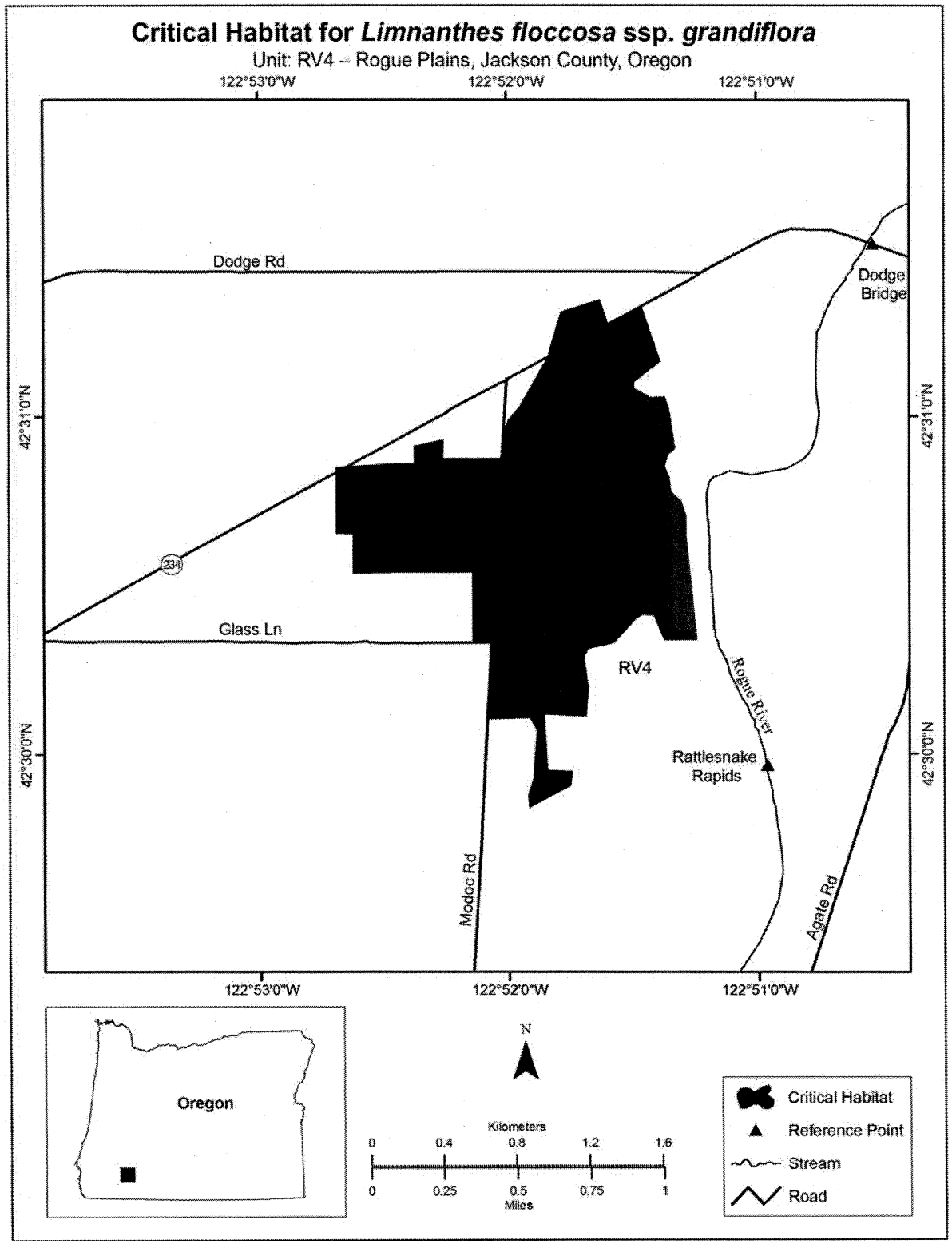

Critical Habitat for Limnanthes floccosa ssp. grandiflora
Units: RV3A, RV3B, RV3C, and RV3D – North Eagle Point, Jackson County, Oregon
122°50'0"W
122°49'0"W
122°48'0"W
122°47'0"W
122°46'0"W
42°32'0"N
42°31'0"N
42°30'0"N
42°29'0"N
Rogue River
Reese Creek
Reese Creek Cemetery
Reese Creek Rd
Mosser Mtn
RV3A
234
Hog Creek
RV3B
Ball Rd
Mountain View Dr
Mountain View Air Park
RV3C
Ball Rd
Long Mountain
Barton Reservoir
RV3D
62
Oregon
N
Kilometers
0 0.5 1 1.5 2
0 0.3 0.6 0.9 1.2
Miles
Critical Habitat
Reference Point
Stream
Road

(9) Unit RV4 for *Limnanthes floccosa* ssp. *grandiflora*: Rogue Plains, Jackson County, Oregon.

(i) Unit RV4 consists of 243 ha (600 ac) of partially intact vernal pool–mounded prairie habitat. The unit is located 122 m (400 ft) southeast of the junction of Highway 234 and Modoc Road. It extends 2 km (1.2 mi) south along Modoc Road from the intersection, is located 1.4 km (0.87 mi) southwest of Dodge Bridge, and is 1.0 km (0.6 mi) northwest of Rattlesnake Rapids on the Rogue River.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 511521, 4707772; 511579, 4707753; 511731, 4707754; 511792, 4707458; 511650, 4707350; 511646, 4707314; 511732, 4707264; 511817, 4707263; 511841, 4707191; 511873, 4706982; 511834, 4706950; 511815, 4706886; 511842, 4706827; 511850, 4706749; 511906, 4706699; 511933, 4706612; 511935, 4706500; 511992, 4705935; 511810, 4705936; 511752, 4706068; 511690, 4706074; 511653, 4706048; 511532, 4705917; 511393, 4705886; 511372, 4705842; 511393, 4705672; 511381, 4705514; 511152, 4705526; 510995, 4705500; 510900, 4705309; 510854, 4705468; 510780, 4705556; 510734, 4705958; 510730, 4706314; 510307, 4706304; 510100, 4706299; 510099, 4706515; 510007, 4706519; 510007, 4706880; 510158, 4706889; 510321, 4706900; 510437, 4706901; 510439, 4706995; 510600, 4707032; 510600, 4706929; 510797, 4706927; 510917, 4706930; 510930, 4707070; 510957, 4707142; 511015, 4707202; 511221, 4707543; 511245, 4707601; 511281, 4707732; 511366, 4707759; 511465, 4707774; 511521, 4707772.

(iii) *Note*: Map of Unit RV4 for *Limnanthes floccosa* ssp. *grandiflora* follows:



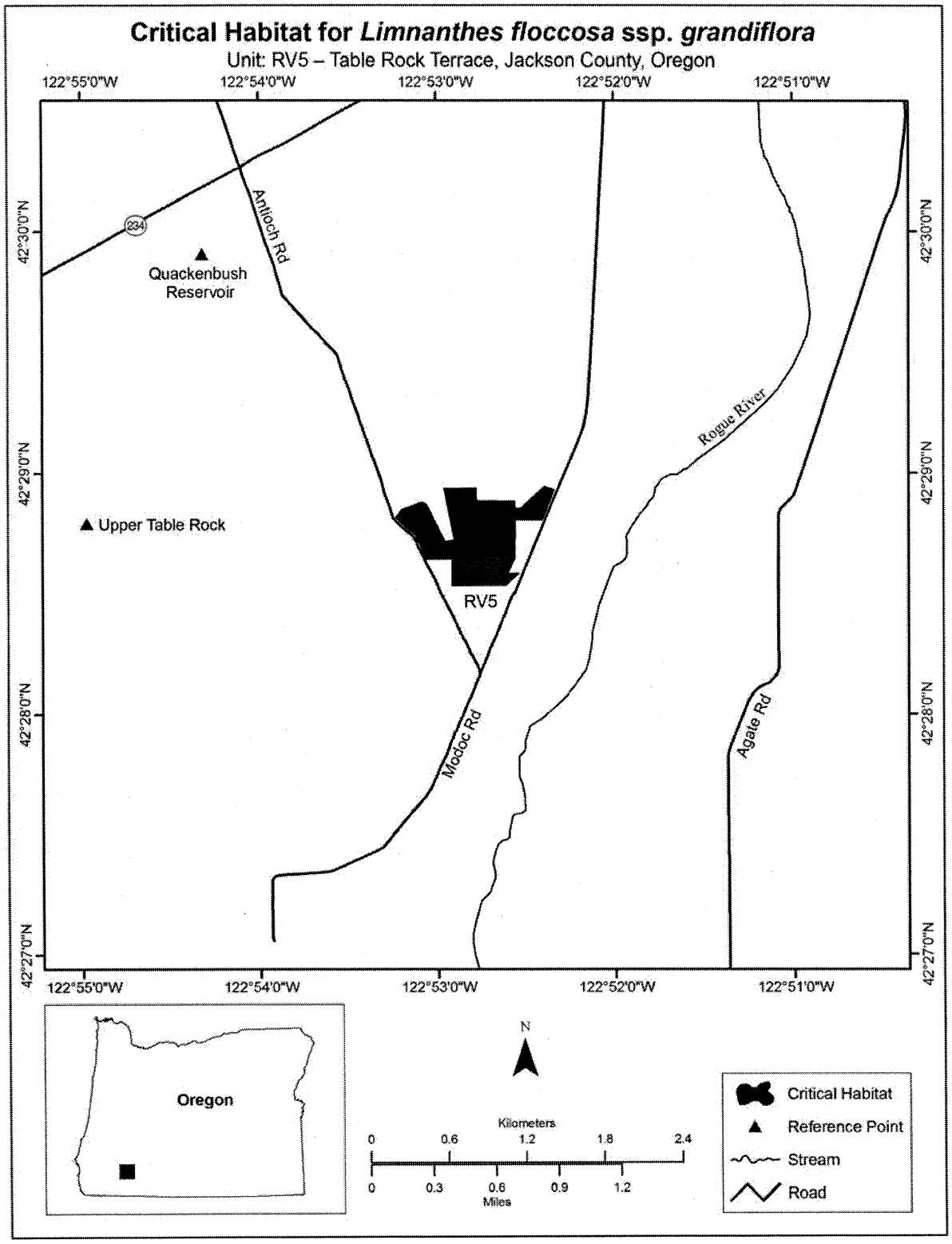
BILLING CODE 4310–55–C

(10) Unit RV5 for *Limnanthes floccosa ssp. grandiflora*: Table Rock Terrace, Jackson County, Oregon.

(i) Unit RV5 includes 49 ha (122 ac) of intact vernal pool–mounded prairie habitat. The unit is located on privately owned land 670 m (2,200 ft) north of the junction of Modoc and Antioc Roads, is 1.4 km (0.9 mi) east of Upper Table Rock, and is 650 m (2,300 ft) west of the Rogue River. This unit follows along an 800-m (2,600-ft) stretch of Modoc Road to the east of the unit and along a 700-m (2,300-ft) stretch of Antioc Road to the west of the unit.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 510498, 4703327; 510408, 4703091; 510198, 4703087; 510196, 4702941; 510195, 4702798; 510142, 4702687; 510225, 4702685; 510122, 4702583; 509704, 4702586; 509705, 4702789; 509509, 4702788; 509419, 4702971; 509368, 4703012; 509265, 4703108; 509318, 4703176; 509475, 4703231; 509515, 4703210; 509654, 4702930; 509719, 4702939; 509642, 4703337; 509897, 4703342; 509895, 4703244; 510190, 4703238; 510196, 4703181; 510232, 4703182; 510418, 4703353; 510498, 4703327.

(iii) *Note*: Map of Unit RV5 for *Limnanthes floccosa* ssp. *grandiflora* follows:



BILLING CODE 4310–55–C

(11) Unit RV6 for *Limnanthes floccosa* ssp. *grandiflora*: White City, Jackson County, Oregon.

(i) Unit RV6 for *Limnanthes floccosa* ssp. *grandiflora* consists of eight subunits totaling 740 ha (1,829 ac) in size and includes intact vernal pool–mounded prairie and swale habitats. The unit is located around White City, is 1.6 km (1.0 mi) southwest of Eagle Point, and is 440 m (1,444 ft) southeast of the confluence of the Rogue River and Little Butte Creek. Subunit RV6A is located north of Whetstone Creek and is 500 m (1,200 ft) west of the junction of Highway 62 and Antelope Road. Subunits RV6B, RV6C, RV6D, and RV6E are located north of Avenue G in White City, south of Little Butte Creek, and 670 m (2,200 ft) southwest of Antelope Creek. Subunits RV6F and RV6G are located approximately 500 feet west of Dry Creek and are east of Highway 62 in White City. Subunit RV6H is located north of Whetstone Creek and south of Antelope Road. Subunit RV6H roughly encircles the Hoover Ponds, east of Highway 62, and is 850 m (2,790 ft) east of subunit RV6A.

(ii) Subunit RV6A. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 509590, 4698553; 509628, 4698521; 509577, 4698528; 509573, 4698455; 509577, 4698351; 509566, 4698006; 509442, 4698029; 509398, 4698000; 509198, 4698000; 509198, 4697800; 509298, 4697800; 509298, 4697600; 509398, 4697600; 509398, 4697200; 509498, 4697200; 509498, 4697000; 510108, 4697038; 511737, 4697038; 511691, 4696744; 511407, 4696721; 511411, 4696840; 511292, 4696822; 511237, 4696703; 511278, 4696561; 511485, 4696363; 511242, 4696382; 510805, 4696377; 510535, 4696386; 510364, 4696502; 510322, 4696531; 510245, 4696538; 510056, 4696496; 509872, 4696506; 509811, 4696502; 509769, 4696521; 509695, 4696566; 509598, 4696583; 509527, 4696581; 509379, 4696562; 509128, 4696551; 508982, 4696571; 508669, 4696639; 508571, 4696681; 508453, 4696742; 508398, 4696800; 508318, 4696826; 508206, 4696995; 508126, 4697151; 508031, 4697328; 508098, 4697600; 508398, 4697600; 508398, 4697700; 508591, 4697655; 508692, 4697705; 508610, 4697875; 508522, 4698014; 508478, 4698093; 508478, 4698282; 508523, 4698383; 508785, 4698470; 508805, 4698389; 508850, 4698248; 509054, 4698315; 509009, 4698451; 509105, 4698414; 509319, 4698187; 509491, 4698100; 509542, 4698118; 509542, 4698162; 509392, 4698318; 509227, 4698493; 509198, 4698600; 509241, 4698655; 509409, 4698681; 509590, 4698553; excluding land bound by 508798, 4697800; 508798, 4697700; 509098, 4697700; 509098, 4697800; 508798, 4697800; and excluding land bound by 508498, 4697300; 508498, 4697100; 508598, 4697100; 508598, 4697300; 508498, 4697300.

(iii) Subunit RV6B. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 511598, 4698900; 511598, 4698600; 511397, 4698599; 511400, 4698706; 511342, 4698706; 511317, 4698897; 511598, 4698900. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 510939, 4698995; 511085, 4698924; 511147, 4698879; 511265, 4698671; 511192, 4698665; 510996, 4698638; 510998, 4698600; 510998, 4698500; 510698, 4698500; 510333, 4698509; 510331, 4698311; 509878, 4698348; 509875, 4698535; 509761, 4698539; 509680, 4698627; 509690, 4698655; 509837, 4698676; 510131, 4698713; 510528, 4698586; 510558, 4698649; 510302, 4698763; 510057, 4698814; 509882, 4698788; 509692, 4698753; 509664, 4698788; 509601, 4698784; 509526, 4698802; 509528, 4698848; 509570, 4698886; 509725, 4698869; 509785, 4698879; 510041, 4698975; 510129, 4698970; 510185, 4699005; 510230, 4699065; 510296, 4699104; 510491, 4699069; 510716, 4699049; 510939, 4698995.

(iv) Subunit RV6C. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 511820, 4699600; 511823, 4698894; 511714, 4698973; 511610, 4699028; 511474, 4699074; 511344, 4699123; 511180, 4699162; 511099, 4699200; 510982, 4699239; 510823, 4699334; 510663, 4699389; 510696, 4699456; 510899, 4699500; 510991, 4699540; 511066, 4699536; 511142, 4699487; 511189, 4699408; 511280, 4699298; 511502, 4699161; 511726, 4699150; 511757, 4699203; 511616, 4699285; 511445, 4699428; 511448, 4699581; 511585, 4699579; 511664, 4699701; 511671, 4699749; 511736, 4699785; 511820, 4699786; 511820, 4699600.

(v) Subunit RV6D. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 512404, 4699868; 512401, 4699742; 512583, 4699754; 512583, 4699708; 512636, 4699704; 512779, 4699700; 512766, 4699621; 512788, 4699505; 512821, 4699514; 512861, 4699694; 512928, 4699706; 513046, 4699707; 513295, 4699707; 513301, 4699470; 513131, 4699451; 513141, 4699288; 513037, 4699198; 512998, 4699209; 512681, 4699291; 512540, 4699322; 512382, 4699389; 512238, 4699551; 512237, 4699788; 512161, 4699788; 512161, 4699860; 512234, 4699860; 512241, 4699959; 512321, 4699936; 512328, 4699871; 512404, 4699868.

(vi) Subunit RV6E. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 515171, 4698870; 515331, 4698870; 515330, 4698766; 515568, 4698765; 515568, 4698791; 515687, 4698792; 515687, 4698766; 515758, 4698686; 515759, 4698632; 515856, 4698631; 515856, 4698563; 515472, 4698568; 515472, 4698496; 515356, 4698495; 515356, 4698608; 515304, 4698606; 515304, 4698763; 515236, 4698763; 515236, 4698689; 515188, 4698689; 515188, 4698608; 515076, 4698605; 515071, 4698752; 515173, 4698751; 515171, 4698870. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514894, 4698763; 514895, 4698584; 514804, 4698584; 514804, 4698545; 514627, 4698545; 514627, 4698576; 514464, 4698576; 514465, 4698761; 514445, 4698761; 514445, 4698915; 514529, 4698915; 514529, 4698767; 514624, 4698767; 514624, 4698940; 514678, 4698942; 514675, 4698858; 514893, 4698858; 514894, 4698874; 514984, 4698809; 514984, 4698763; 514894, 4698763. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514171, 4699050; 514171, 4698837; 514181, 4698837; 514181, 4698763; 514248, 4698762; 514249, 4698496; 513488, 4698496; 513456, 4698594; 513510, 4698652; 513695, 4698649; 513695, 4698767; 513773, 4698843; 513881, 4698843; 513880, 4698920; 513928, 4698967; 514019, 4698968; 514021, 4699022; 513877, 4699022; 514021, 4699174; 514171, 4699050.

(vii) Subunit RV6F. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 516157, 4697446; 516113, 4697319; 515222, 4697324; 515202, 4697271; 515033, 4697285; 515035, 4697791; 516149, 4697751; 516157, 4697446. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 516162, 4698466; 516140, 4698214; 516149, 4697960; 516028, 4697955; 515942, 4697933; 515819, 4697947; 515752, 4697925; 515666, 4697936; 515540, 4697896; 515376, 4697904; 515041, 4697952; 515055, 4698348; 515122, 4698420; 515165, 4698417; 515315, 4698305; 515395, 4698283; 515403, 4698340; 515478, 4698342; 515481, 4698391; 515548, 4698393; 515559, 4698222; 515620, 4698219; 515631, 4698409; 515864, 4698377; 515854, 4698240; 515996, 4698278; 516023, 4698463; 516162, 4698466.

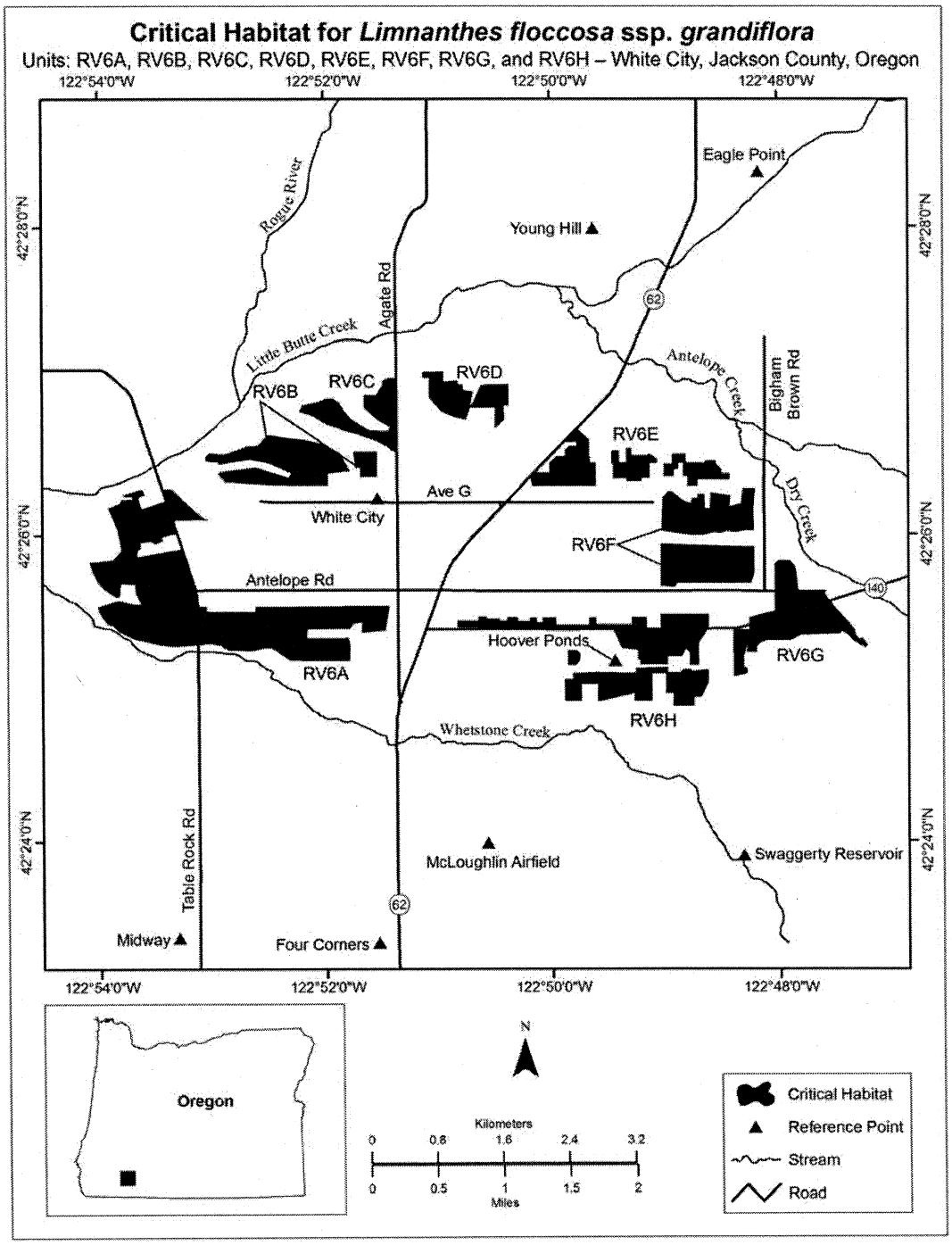
(viii) Subunit RV6G. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 517376, 4696746; 517526, 4696572; 517491, 4696542;

517351, 4696625; 517287, 4696695; 517217, 4696740; 517193, 4696711; 516712, 4696690; 516601, 4696630; 516302, 4696629; 516198, 4696495; 516181, 4696347; 516117, 4696263; 516030, 4696218; 515906, 4696192; 515899, 4696751; 516095, 4696752; 516098, 4696895; 516245, 4696937; 516405, 4696975; 516400, 4697547; 516449, 4697593; 516578, 4697590; 516640, 4697528; 516664, 4697441; 516684, 4697224; 516998, 4697195; 517053, 4697116; 517199, 4697019; 517376, 4696746.

(ix) Subunit RV6H. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 514058, 4696358; 514010, 4696329; 513917, 4696330; 513916, 4696504; 514058, 4696505; 514058, 4696358. Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 515597, 4696769; 515483, 4696601; 515485, 4696329; 515384, 4696329; 515380, 4696456; 515110, 4696452; 515111, 4696236; 515252, 4696236; 515301, 4696272; 515387, 4696272; 515386, 4696252; 515671, 4696257; 515512, 4695943; 515429, 4695944; 515427, 4695837; 515094, 4695837; 515090, 4696228; 514931, 4696225; 514931, 4695895; 514706, 4695899; 514713, 4695991; 514298, 4695895; 514273, 4695897; 514269, 4696102; 514075, 4696098; 514071, 4695895; 513880, 4695899; 513880, 4696227; 514731, 4696231; 514731, 4696288; 514947, 4696291; 514948, 4696321; 514783, 4696332; 514786, 4696393; 514756, 4696396; 514760, 4696508; 514564, 4696535; 514469, 4696735; 513882, 4696737; 513857, 4696770; 513518, 4696773; 512577, 4696788; 512576, 4696912; 513519, 4696896; 514245, 4696895; 514245, 4696811; 514556, 4696812; 514684, 4696816; 514681, 4696895; 514858, 4696895; 514856, 4696758; 515029, 4696760; 515027, 4696933; 515600, 4696932; 515600, 4696888; 515600, 4696769; 515597, 4696769.

(x) *Note*: Map of Unit RV6 for *Limnanthes floccosa* ssp. *grandiflora* follows:

BILLING CODE 4310–55–S

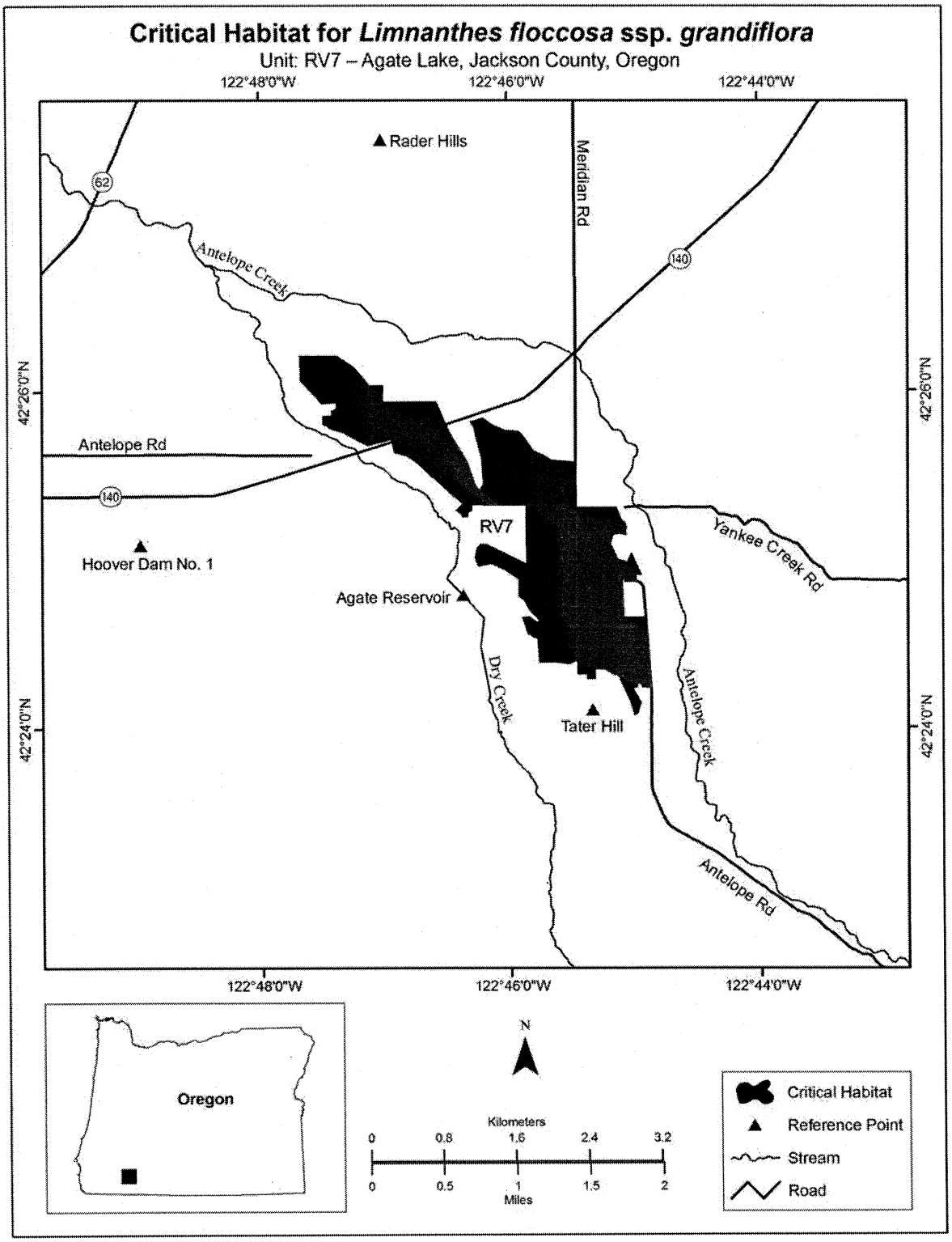

Critical Habitat for *Limnanthes floccosa* ssp. *grandiflora*
Units: RV6A, RV6B, RV6C, RV6D, RV6E, RV6F, RV6G, and RV6H – White City, Jackson County, Oregon
122°54'0"W
122°52'0"W
122°50'0"W
122°48'0"W
42°28'0"N
42°26'0"N
42°24'0"N
Rogue River
Little Butte Creek
Agate Rd
Eagle Point
Young Hill
62
Antelope Creek
Bigham Brown Rd
Dry Creek
RV6B
RV6C
RV6D
RV6E
RV6F
RV6G
RV6H
RV6A
Ave G
White City
Antelope Rd
140
Hoover Ponds
Whetstone Creek
Table Rock Rd
McLoughlin Airfield
Swaggerty Reservoir
Midway
Four Corners
Oregon
N
Kilometers
0
0.8
1.6
2.4
3.2
0
0.5
1
1.5
2
Miles
Critical Habitat
Reference Point
Stream
Road

(12) Unit RV7 for *Limnanthes floccosa* spp. *grandiflora*: Agate Lake, Jackson County, Oregon.

(i) Unit RV7 consists of 421 ha (1,039 ac) of intact vernal pool–mounded prairie and swale habitat. The unit is located 500 m (1,640 ft) east of the Agate Reservoir, lies along a 5.4-km (3.4-mi) stretch roughly parallel and between Dry Creek and Antelope Creek, is 330 m (1,080 ft) north of Tater Hill, and is 1.4 km (0.9 mi) southeast of the confluence of Dry Creek and Antelope Creek.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 517808, 4697980; 517808, 4697801; 518395, 4697802; 518543, 4697468; 518739, 4697149; 518832, 4696888; 518873, 4696839; 518911, 4696901; 518897, 4697166; 518801, 4697530; 518768, 4697585; 518909, 4697626; 519009, 4697554; 519143, 4697496; 519287, 4697482; 519338, 4697455; 519469, 4697266; 519593, 4697211; 519772, 4697176; 519935, 4697144; 519939, 4696803; 519935, 4696659; 520376, 4696668; 520486, 4696341; 520412, 4696340; 520344, 4696340; 520317, 4696245; 520373, 4696149; 520401, 4696088; 520507, 4696070; 520542, 4696146; 520655, 4695903; 520597, 4695903; 520597, 4695847; 520446, 4695850; 520444, 4695454; 520682, 4695457; 520736, 4694656; 520651, 4694661; 520642, 4694693; 520604, 4694699; 520604, 4694664; 520548, 4694650; 520644, 4694497; 520606, 4694381; 520568, 4694352; 520522, 4694510; 520459, 4694646; 520405, 4694748; 520416, 4694768; 520360, 4694804; 520349, 4694793; 520249, 4694857; 520140, 4694864; 520144, 4694753; 520051, 4694751; 520049, 4694804; 519944, 4694807; 519939, 4694941; 519916, 4694941; 519862, 4694917; 519715, 4694934; 519528, 4694934; 519504, 4695191; 519366, 4695135; 519329, 4695463; 519426, 4695452; 519416, 4695520; 519222, 4695672; 519272, 4695886; 519149, 4695959; 519019, 4696019; 518976, 4696068; 518990, 4696208; 519390, 4696026; 519395, 4696649; 518704, 4696657; 518564, 4696765; 518497, 4696803; 518453, 4696888; 518297, 4697003; 518197, 4697103; 518075, 4697204; 517697, 4697272; 517636, 4697317; 517405, 4697441; 517371, 4697462; 517250, 4697496; 517144, 4697558; 517137, 4697733; 517129, 4697774; 517061, 4697853; 516893, 4698029; 516884, 4698305; 517085, 4698310; 517297, 4698303; 517379, 4698251; 517487, 4698181; 517538, 4698118; 517658, 4697982; 517808, 4697980.

(iii) *Note*: Map of Unit RV7 for *Limnanthes floccosa* ssp. *grandiflora* follows:

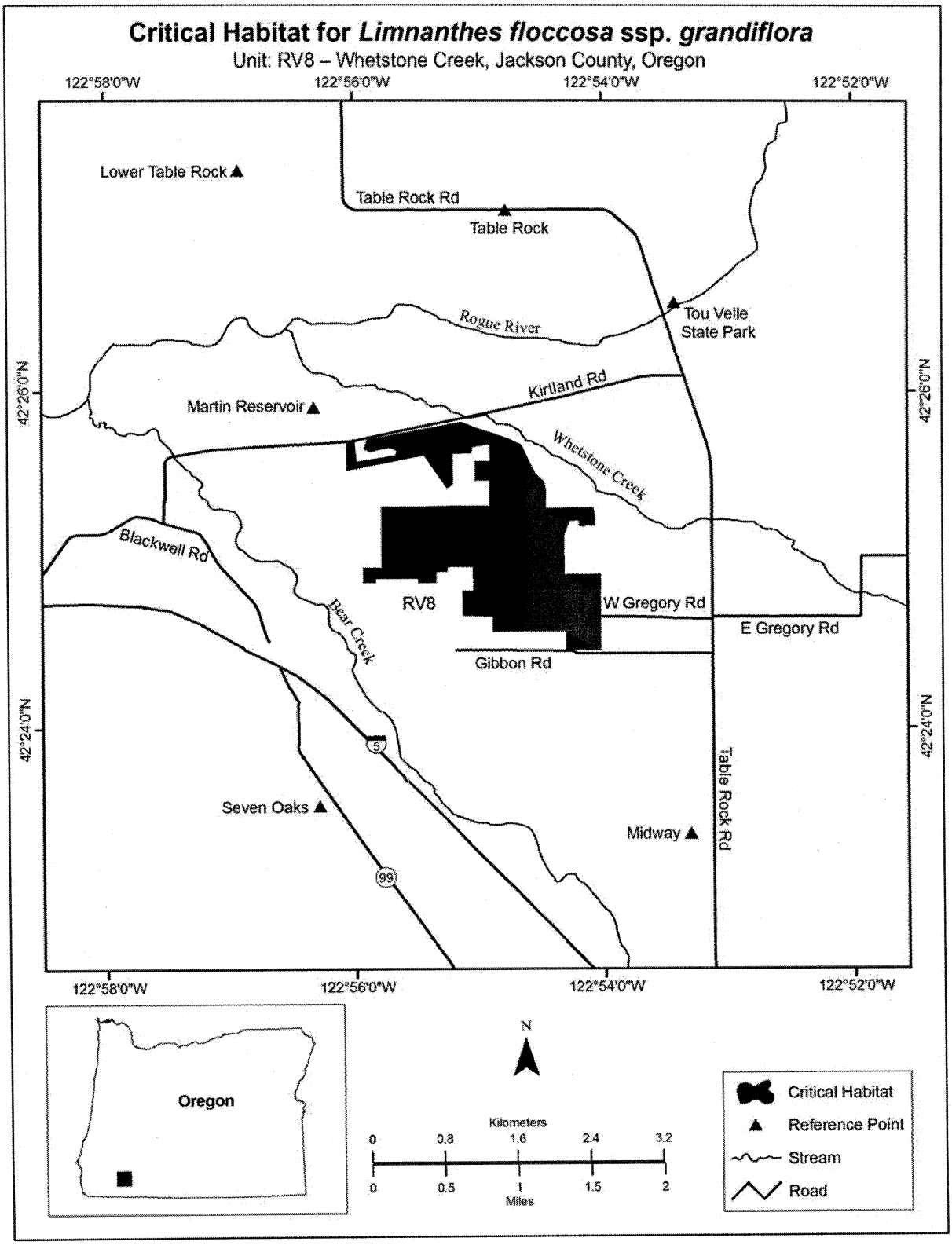

Critical Habitat for *Limnanthes floccosa* ssp. *grandiflora*
Unit: RV7 – Agate Lake, Jackson County, Oregon
122°48'0"W
122°46'0"W
122°44'0"W
42°26'0"N
42°24'0"N
Rader Hills
Meridian Rd
62
140
Antelope Creek
Antelope Rd
RV7
Hoover Dam No. 1
Agate Reservoir
Yankee Creek Rd
Dry Creek
Tater Hill
Antelope Creek
Antelope Rd
Oregon
N
Kilometers
0
0.8
1.6
2.4
3.2
0
0.5
1
1.5
2
Miles
Critical Habitat
Reference Point
Stream
Road

(13) Unit RV8 for *Limnanthes floccosa ssp. grandiflora*: Whetstone Creek, Jackson County, Oregon.

(i) Unit RV8 consists of 344 ha (850 ac) of intact vernal pool–mounded prairie and swale habitat. The unit is located approximately 1.4 km (0.9 mi) southeast of the confluence of the Rogue River and Whetstone Creek, 2.2 km (1.4 mi) southwest of Tou Velle State Park, and 2.9 km southeast of the confluence of Bear Creek and the Rogue River. The unit roughly parallels a 2.6-km (1.6-mi) stretch of Whetstone Creek to the south.

(ii) Land bounded by the following UTM Zone 10, NAD83 coordinates (E,N): 507195, 4697380; 507335, 4697312; 507411, 4697148; 507489, 4696991; 507579, 4696913; 507601, 4696830; 507604, 4696619; 507803, 4696617; 507946, 4696761; 508050, 4696760; 508086, 4696744; 508102, 4696700; 508115, 4696614; 508125, 4696557; 508199, 4696494; 508191, 4696311; 507797, 4696307; 507804, 4695886; 508202, 4695883; 508202, 4695051; 507814, 4695057; 507820, 4695259; 507012, 4695259; 507015, 4695418; 506686, 4695430; 506686, 4695706; 506801, 4695704; 506794, 4695971; 506392, 4695967; 506389, 4695791; 505589, 4695791; 505589, 4695991; 505789, 4695991; 505792, 4696631; 506152, 4696631; 506152, 4697078; 506378, 4696820; 506531, 4696643; 506981, 4696645; 506986, 4696916; 506820, 4696916; 506824, 4697131; 506986, 4697131; 506988, 4697318; 506789, 4697291; 506787, 4697223; 506578, 4697214; 506578, 4696879; 506509, 4696842; 506262, 4697197; 505415, 4697033; 505412, 4697323; 505491, 4697339; 505512, 4697123; 506022, 4697198; 506011, 4697265; 505876, 4697283; 505669, 4697233; 505601, 4697265; 505627, 4697366; 506667, 4697565; 506868, 4697490; 507015, 4697441; 507195, 4697380.

(iii) *Note*: Map of Unit RV8 for *Limnanthes floccosa* ssp. *grandiflora* follows:



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Dated: July 2, 2010

Eileen Sobeck,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2010–17324 Filed 7–20–10; 8:45 am]

BILLING CODE 4310–55–C