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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Listing Four Subspecies of Mazama Pocket Gopher and Designation of Critical Habitat; Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS–R1–ES–2012–0088; 4500030113]

RIN 1018–AZ17

Endangered and Threatened Wildlife and Plants; Listing Four Subspecies of Mazama Pocket Gopher and Designation of Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service, propose to list four subspecies of Mazama pocket gopher (Olympia, Tenino, Yelm, and Roy Prairie) as threatened species under the Endangered Species Act of 1973, as amended (Act). We additionally propose to designate critical habitat for these subspecies. We have determined that the Tacoma pocket gopher is extinct, and that the listing of three other subspecies of Mazama pocket gopher (Shelton, Cathlamet, and Olympic) is not warranted. These determinations fulfill our obligations under a settlement agreement. These are proposed regulations, and if finalized, the effect of these regulations will be to add these species to the List of Endangered and Threatened Wildlife and to designate critical habitat under the Endangered Species Act.

DATES: We will accept comments received or postmarked on or before February 11, 2013. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by January 25, 2013.

ADDRESSES: You may submit comments by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter Docket No. FWS–R1–ES–2012–0088, which is the docket number for this rulemaking. You may submit a comment by clicking on ''Comment Now!''.

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R1–ES–2012–0088; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We request that you send comments only by the methods described above. We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

The coordinates or plot points or both from which the critical habitat maps are generated are included in the administrative record for this rulemaking and are available at *http://www.fws.gov/wafwo/*, *http://www.regulations.gov* at Docket No. [FWS–R1–ES–2012–0088], and at the Washington Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**). Any additional tools or supporting information that we may develop for this rulemaking will also be available at the Fish and Wildlife Service Web site and Field Office set out above, and may also be included in the preamble and/or at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Ken S. Berg, Manager, Washington Fish and Wildlife Office, 510 Desmond Drive, Lacey, WA 98503, by telephone (360) 753–9440, or by facsimile (360) 534–9331. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Endangered Species Act (Act), a species may warrant protection through listing if it is an endangered or threatened species throughout all or a significant portion of its range. The subspecies addressed in this proposed rule are candidates for listing and, by virtue of a settlement agreement, we must make a determination as to their present status under the Act. These status changes can only be done by issuing a rulemaking. The table below summarizes our determination for each of these candidate species:

Species		Present range	Status
Thurston/Pierce subspecies of Mazama pocket gopher.	*Thomomys mazama* ssp. *glacialis, pugetensis, tumuli, yelmensis.*	Pierce and Thurston Counties, WA.	Proposed Threatened.
Olympic pocket gopher	*Thomomys mazama melanops*	Clallam County, WA	Not warranted.
Brush Prairie pocket gopher	*Thomomys talpoides douglasii*	Clark County, WA	Removed due to error.
Cathlamet pocket gopher	*Thomomys mazama louiei*	Wahkiakum County, WA	Not warranted.
Tacoma pocket gopher	*Thomomys mazama tacomensis*	Extinct	Extinct.
Shelton pocket gopher	*Thomomys mazama couchi*	Mason County, WA	Not warranted.

The basis for our action. Under the Endangered Species Act, we may determine that a species is an endangered or threatened species based on any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

For those subspecies for which we are proposing listing, we have determined that these subspecies are impacted by one or more of the following factors to the extent that the subspecies meet the definition of an endangered or threatened species under the Act:

- Habitat loss through conversion and degradation of habitat, particularly from agricultural and urban development, successional changes to grassland habitat, military training, and the spread of invasive plants;
- Disease;
- Predation;
- Inadequate existing regulatory mechanisms that allow significant threats such as habitat loss; and
- Other natural or manmade factors, including low genetic diversity, small or isolated populations, low reproductive success, declining population or subpopulation sizes, and control as a pest species.

In this rule we propose to designate critical habitat for these species. We are proposing to designate approximately 9,234 ac (3,737 ha) as critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher (Olympia, Tenino, Yelm, and Roy Prairie) in Washington.

The basis for our action. Under the Endangered Species Act, we are required to designate critical habitat for any species that is determined to be endangered or threatened. We are required to base the designation on the best available scientific data after taking into consideration economic, national

security, and other relevant impacts. An area may be excluded from the final designation of critical habitat if the benefits of exclusion outweigh the benefits of designation, unless the exclusion will result in the extinction of the subspecies.

We are proposing to promulgate special rules. We are considering whether to exempt from the Act's take prohibitions (at section 9), existing maintenance activities and agricultural practices located on private lands where Mazama pocket gophers occur. The intent of this special rule would be to increase support for the conservation of Mazama pocket gophers and provide an incentive for continued management activities that benefit the four Thurston/Pierce subspecies and their habitats.

We are preparing an economic analysis. To ensure that we fully consider the economic impacts, we are preparing a draft economic analysis of the proposed designations of critical habitat. We will publish an announcement and seek public comments on the draft economic analysis when it is completed.

We will seek peer review. We are seeking comments from knowledgeable individuals with scientific expertise to review our technical assumptions, analysis of the best available science, and application of that science or to provide any additional scientific information to improve these proposed rules. Because we will consider all comments and information received during the comment period, our final determinations may differ from this proposal.

We are seeking public comment on this proposed rule. Anyone is welcome to comment on our proposal or provide additional information on the proposal that we can use in making a final determination on the status of this species. Please submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. Within 1 year following the publication of this proposal, we will publish in the **Federal Register** a final determination concerning the listing of the subspecies and the designation of their critical habitat or withdraw the proposal if new information is provided that supports that decision.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from the public, other concerned governmental agencies, Native American tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) The subspecies' biology, range, and population trends, including:

(a) Habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range including distribution patterns;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for the subspecies, their habitat or both.

(2) The factors that are the basis for making a listing determination for the four subspecies under section 4(a) of the Act (16 U.S.C. 1531 *et seq.*), which are:

(a) The present or threatened destruction, modification, or curtailment of the subspecies' habitat or range;

(b) Overutilization for commercial, recreational, scientific, or educational purposes;

(c) Disease or predation;

(d) The inadequacy of existing regulatory mechanisms; or

(e) Other natural or manmade factors affecting the subspecies' continued existence.

(3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to these subspecies and existing regulations that may be addressing those threats;

(4) Additional information concerning the historical and current status, range, distribution, and population size of these subspecies, including the locations of any additional populations of these subspecies;

(5) Any information on the biological or ecological requirements of the four subspecies, and ongoing conservation measures for the subspecies and their habitat;

(6) The reasons why we should or should not designate areas as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including whether there are threats to the four subspecies from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designation of critical habitat may not be prudent.

(7) Specific information on:

(a) The amount and distribution of habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher;

(b) What areas that were occupied at the time of listing (or are currently occupied) and that contain features essential to the conservation of the subspecies should be included in the designation and why;

(c) Special management considerations or protection that may be needed in critical habitat areas we are proposing; and

(d) What areas not occupied at the time of listing are essential for the conservation of the subspecies and why.

(8) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat.

(9) Information on the projected and reasonably likely impacts of climate change on the four Thurston/Pierce subspecies of Mazama pocket gopher.

(10) Any probable economic, national security, or other relevant impacts of designating any area that may be included in the final designation; in particular, any impacts on small entities or families, and the benefits of including or excluding areas that exhibit these impacts.

(11) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act, and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act.

(12) Additional information pertaining to the promulgation of a special rule to exempt from the section 9 take prohibitions existing maintenance activities and agricultural practices on private lands, including airports, where the four Thurston/Pierce subspecies of Mazama pocket gopher occur.

(13) Whether the Brush Prairie pocket gopher, which the Service believes was added to the candidate list in error and without basis, should be removed from the candidate list.

(14) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

Please note that submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is a threatened or endangered species must be made ''solely on the basis of the best scientific and commercial data available.''

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We request that you send comments only by the methods described in the **ADDRESSES** section.

If you submit information via *http://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the Web site. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *http://www.regulations.gov.* Please include sufficient information with your comments to allow us to verify any scientific or commercial information you include.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov,* or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Previous Federal Actions

Candidate History

We first identified eight subspecies of Mazama pocket gophers (Shelton, Roy Prairie, Cathlamet, Olympic, Olympia, Tacoma, Tenino, and Yelm) in Washington as candidates for listing in the 2001 Notice of Review of Native Species that are Candidates for Listing as Endangered or Threatened (CNOR) (66 FR 54808, October 30, 2001). All candidate species are assigned listing priority numbers (LPN) that are based on the immediacy and magnitude of threats and taxonomic status. In 2001, all eight subspecies of Mazama pocket gopher were assigned an LPN of 6, which reflects threats of a high magnitude that are not considered imminent.

In 2005, the LPN for the eight Washington subspecies of Mazama pocket gopher was revised to 3 in response to imminent threats including commercial and residential development and the operation of gravel pits (70 FR 24870; May 11, 2005) on gopher habitat. In our 2007 CNOR (72 FR 69034, December 6, 2007), we added the Brush Prairie pocket gopher to the list of candidate species, because at that time it was believed to be a subspecies of Mazama pocket gopher based on genetic data and morphological features. The candidate status for the nine Washington subspecies of Mazama pocket gopher was most recently reaffirmed in the October 26, 2011, CNOR (76 FR 66370). The U.S. Fish and Wildlife Service (Service) completed action plans for the nine Washington subspecies of Mazama pocket gophers and set conservation targets and identified actions to achieve those targets over the next 5 years. The action plan can be found on the Service's Web site at: *http://ecos.fws.gov/docs/action_plans/doc3085.pdf* (Mazama pocket gopher).

Petition History

In 2001, we developed an internal, discretionary candidate assessment document for the Washington subspecies of Mazama pocket gopher. This candidate assessment was published in the **Federal Register** on October 30, 2001 (USFWS 2001). On December 10, 2002, we received a petition from the Center for Biological Diversity and the Northwest Ecosystem Alliance to list the eight subspecies of Mazama pocket gophers endemic to Washington State as endangered species. The petitioners also requested that critical habitat be designated concurrent with the listing. Because the Service had already determined that these subspecies of Mazama pocket gopher warranted listing and placed them on the candidate list in 2001, we have been evaluating these subspecies as resubmitted petition findings on an annual basis. On July 12, 2011, the Service filed a multiyear work plan as part of a proposed settlement agreement with the Center for Biological Diversity and others, in a consolidated case in the U.S. District Court for the District of Columbia. The settlement agreement was approved by the court on September 9, 2011, and will enable the Service to systematically review and address the conservation needs of more than 250 candidate species over a period of 6 years, including the Washington State Mazama pocket gopher subspecies. This proposed rule fulfills, in part, the terms of that settlement agreement.

Background

We discuss below only those topics directly relevant to the proposed listing of the Washington State Mazama pocket gopher subspecies in this section of the proposed rule.

Species Information

Although the species *Thomomys mazama,* or Mazama pocket gopher, includes numerous subspecies that are found in the States of Washington, Oregon, and California (as described below in Taxonomy), only the Mazama pocket gopher subspecies found in the State of Washington are currently candidates for listing under the Act. In this document, when we use the general term ''Mazama pocket gopher'' we are referring collectively to only those subspecies of *Thomomys mazama* that occur in the State of Washington; as used here, ''Mazama pocket gopher'' is not intended to include any subspecies of *T. mazama* that occur in the States of Oregon or California.

Adult Mazama pocket gophers are reddish brown to black above, and the underparts are lead-colored with buff-colored tips. The lips, nose, and patches behind the ears are black; the wrists are white. Adults range from 7 to 11 inches (in) (175 to 273 millimeters (mm)) in total length, with tails that range from 2 to 3 in (45 to 85 mm) (Hall 1981, p. 465). In Washington, Mazama pocket gophers are found west of the Cascade Mountain Range from the Olympic Mountains south through the Puget Sound trough, with an additional single locality known from Wahkiakum County (Verts and Carraway 2000, p. 3). Their populations are concentrated in well-drained friable soils often associated with glacial outwash. Mazama pocket gophers reach reproductive age in the spring of the year after their birth and produce litters between spring and early summer. Litter size ranges from one to nine (Wight 1918, p. 14), with an average of four (Verts and Carraway 2000, p. 3).

Taxonomy

The Mazama pocket gopher complex consists of 15 subspecies, 8 of which occur only in Washington, 5 of which occur only in Oregon, 1 that occurs only in California, and 1 subspecies with a distribution that spans the boundary between Oregon and California (Hall 1981, p. 467). The first pocket gophers collected in western Washington were considered to be subspecies of the northern pocket gopher (*Thomomys talpoides*) (Goldman 1939), until 1960 when the complex of pocket gophers found in western Washington was determined to be more similar to the western pocket gopher (*T. mazama*) based on characteristics of the baculum (penis bone) (Johnson and Benson 1960, p. 20). Eight western Washington subspecies of Mazama pocket gopher (*T. mazama,* ssp. *couchi, glacialis, louiei, melanops, pugetensis, tacomensis, tumuli,* and *yelmensis)* have been identified (Hall 1981, p. 467). *Thomomys mazama* is recognized as a valid species by the Integrated Taxonomic Information System (ITIS)

(ITIS 2012b); however, the ITIS Web site does not designate these taxa to the subspecies level.

Although there have been some suggestions that potential changes to the classification of some of these subspecies may be considered, as discussed below, we have no information to suggest that any of the presently recognized subspecies are the subject of serious dispute. We consulted with Alfred Gardner, Curator of North American mammals, Smithsonian Institution, National Museum of Natural History, who identified the Mammalian Species Account #641 of the American Society of Mammalogists, authored by Verts and Carraway (2000), as the definitive text for this taxon (Gardner 2012, pers. comm.). Thus we follow the subspecies designations of Verts and Carraway (2000) in this finding, as this text represents the currently accepted taxonomy for the species *Thomomys mazama.*

While past descriptions of Mazama pocket gophers have focused on morphological differences in characteristics such as pelage color, skull features, and body size (Bailey 1915; Taylor 1919; Goldman 1939; Dalquest and Scheffer 1942; Dalquest and Scheffer 1944a, b; Gardner 1950; Hall 1981, pp. 465–466), recent genetic evaluations have been conducted on the Mazama pocket gopher complex using mitochondrial deoxyribonucleic acid (mtDNA) sequencing of the cytochrome b gene (Welch 2008). From these and subsequent data, Welch and Kenagy (2008, pp. 6–7) determined that the Mazama pocket gopher complex in Washington is geographically structured into three haplotype clades (genetic groups) representing the following three localities: (1) Olympic Peninsula (Clade A, which includes the Olympic pocket gopher); (2) Mason County (Clade B, which includes the Shelton pocket gopher), and (3) Thurston and Pierce county (Clade C, which includes the Roy Prairie, Olympia, and Yelm pocket gophers).

Specimens from the subspecies *Thomomys mazama louiei* (Wahkiakum County) were unobtainable and as such were omitted from Welch and Kenagy's (2008, pp. 1–3) analysis, so it is unknown what clade the Cathlamet pocket gopher belongs to or if it occupies its own clade. In addition, no specimens from the subspecies *T. m. tumuli* (Tenino pocket gopher) were readily available and were also not included in the analysis. None of the haplotypes in the analyzed specimens were shared between the three clades, which supports the differentiation of the clades. The mtDNA analysis was not able to distinguish between subspecies in Clade C; more genetic work needs to be done to determine how closely-related these subspecies are. Verts and Carraway (2000, p. 1) recognize *T. m. glacialis, pugetensis, tumuli,* and *yelmensis* (the Roy Prairie, Olympia, Tenino, and Yelm pocket gophers, respectively) as separate subspecies based on morphological characteristics, distribution, and differences in number of chromosomes. For the purposes of this proposed rule, due to the close proximity of the four subspecies located in Thurston and Pierce counties and the fact that at least three of them occur in the same clade, we will be discussing these four subspecies (*T. m. glacialis, pugetensis, tumuli,* and *yelmensis*) together and will refer to them as ''the four Thurston/Pierce subspecies.''

As noted above, based on these genetic analyses the Olympic pocket gopher (*Thomomys mazama melanops*) may warrant consideration as a separate species (Welch and Kenagy 2006, pp. 5–6). It is sufficiently genetically distinct and geographically isolated from all other subspecies, has very low genetic diversity within the subspecies (i.e., it is relatively inbred) compared to other extant subspecies, and does not share haplotypes with any other *T. mazama* subspecies (Welch and Kenagy 2008, pp. 6–7). In addition, the clade containing this subspecies (Clade A) is highly divergent from the other two clades (Welch and Kenagy 2008, p. 6). This is consistent with genetic isolation through the last glaciation period, suggesting that the subspecies is a relictual population that survived in the nunatak (ice-free areas that serve as glacial refugia in mountain ranges). Verts and Carraway (2000, p. 1) recognize *T. m. melanops* as a separate subspecies based on morphological characteristics and distribution.

The Shelton pocket gopher *(Thomomys mazama couchi)* persists at Scott's Prairie (which is where the Shelton airport is sited) and may also occur in two other nearby areas (Stinson 2005, p. 40). *Thomomys mazama couchi* is not only in a separate clade (Clade B) from the one containing the Thurston/Pierce subspecies (Clade C), but landscape-level connectivity that would allow for gene flow between clades B and C is lacking. Verts and Carraway (2000, p. 1) recognize *T. m. couchi* as a separate subspecies based on morphological characteristics and distribution.

The Cathlamet pocket gopher *(Thomomys mazama louiei)* occurs on commercial timber forest lands in Wahkiakum County. Despite brief survey efforts in the 1970s, 1980s, 1990s, and 2010s, gophers have not been found at the type locality (where it was originally found) since 1956. However, these surveys did not cover the full extent of the soil types (series) known to be used by the Cathlamet pocket gopher (Murnen soil type). For this reason, and because survey efforts were not exhaustive and land use hasn't changed in this area since the type locality for the subspecies was found in 1949 (Gardner 1950), we assume the species may still be extant. No genetic work has been conducted on this subspecies. This subpopulation is about 64 miles (mi) (103 kilometers (km)) away from the next-nearest extant subspecies locality (in Thurston County), with no opportunity for gene flow between them. Verts and Carraway (2000, p. 1) recognize *T. m. louiei* as a separate subspecies based on morphological characteristics and distribution.

Proposed Removal of *Thomomys mazama tacomensis* from the Candidate List

The first identified specimen of *Thomomys mazama tacomensis* was collected in 1853 by Suckley and Cooper (1860) at Fort Steilacoom, but was first described by Taylor (1919, pp. 169–171). Verts and Carraway (2000, p. 1) recognize *T. m. tacomensis* as a separate subspecies based on morphological characteristics and distribution. Its range spanned from Point Defiance in Tacoma, south to Steilacoom, and perhaps as far east as Puyallup. In 1920, Tacoma pocket gophers were collected in Parkland and there are subsequent reports of gophers being caught in Puyallup (Scheffer, unpubl. notes, 1957). Original collection sites were long ago converted to residential and suburban development, and one site is now a gravel mining operation. By 1970, Johnson (Johnson 1982, *in litt.*) believed Tacoma pocket gophers were locally extirpated. Surveys conducted in the early 1990s by Steinberg (1996a), again in 1998 (Stinson 2005, p. 120), and during an extensive survey of historical and potential habitat in the subspecies' known range in 2011 (Tirhi 2012a, *in litt.*) failed to relocate gophers at any of the previously documented locations. Surveys were conducted during the time of year when gopher activity should have been seen if gophers were present.

The soils series in the area of the historical local populations are Alderwood, Bellingham, Everett, Nisqually, and Spanaway. The entire historical area has been heavily developed since the type locality for this subspecies was found in 1918 (Taylor 1919, p. 169). Based on repeated

surveys of previously populated areas where gophers have not been redetected (Steinberg 1995; Tirhi 2012a, *in litt.*), the lack of documented evidence of *T. m. tacomensis* over the last three decades, and the lack of appropriate habitat left at historical locations, we conclude the Tacoma pocket gopher is extinct. Therefore, we propose to remove *T. m. tacomensis* from the candidate list, and this subspecies will not be considered further in this finding.

Proposed Removal of *Thomomys mazama douglasii* from the Candidate List

In our 2007 CNOR (72 FR 69034; December 6, 2007), we added the Brush Prairie pocket gopher (*Thomomys mazama douglasii)* to the list of candidate species due to current (at the time) genetic data and morphological features and based on the presumption that this subspecies was a member of *T. mazama* and not *T. talpoides.* At the time, a review by the State of Washington recognized the Brush Prairie pocket gopher as a subspecies of *T. mazama* instead of *T. talpoides,* and the Service simply accepted that classification without additional evaluation. However, we have now further investigated the genetic and morphological information originally used to add the subspecies to the candidate list based on the presumption that it was a Mazama pocket gopher (Kenagy 2012, pers. comm.; Paulson 2012, pers. comm.; Welch 2012a,b, *in litt.*). While it is not possible to conclusively determine that Brush Prairie pocket gophers are not *T. mazama,* clear evidence to support the conclusion that they are *T. mazama* does not exist at this time. Verts and Carraway (2000, p. 1) do not recognize the Brush Prairie pocket gopher as a member of *T. mazama.* Therefore, based upon review of the best science available, we no longer believe the Brush Prairie pocket gopher is a member of the species *T. mazama.*

The Service erred by failing to conduct a separate five-factor threats analysis when we added the Brush Prairie pocket gopher to the candidate list as *Thomomys mazama douglasii,* and we now believe it was added in error and without basis (i.e., the population is not subject to threats such that listing is warranted under the Act). The Brush Prairie pocket gopher was added to the candidate list based purely on the presumption that it was a Washington subspecies of Mazama pocket gopher, and because all other Washington subspecies of Mazama pocket gophers were candidates. Because the best available science suggests that the Brush Prairie pocket gopher is not a subspecies of *T. mazama,* and because it was added to the candidate list without basis, we propose to remove *T. m. douglasii* from the candidate list, and this subspecies will not be considered further in this analysis.

Habitat and Life History

The Mazama pocket gopher is associated with glacial outwash prairies in western Washington, an ecosystem of conservation concern (Hartway and Steinberg 1997, p. 1), as well as alpine and subalpine meadows and other meadow-like openings at lower elevations (from this point on in the document, we will be evaluating seven Washington subspecies of Mazama pocket gopher: Olympia, Roy Prairie, Tenino, and Yelm (the four Thurston/Pierce subspecies); Shelton; Cathlamet; and Olympic). Steinberg and Heller (1997, p. 46) found that Mazama pocket gophers are even more patchily distributed than are prairies, as there are some seemingly high quality prairies within the species' range that lack pocket gophers (e.g., Mima Mounds NAP, and 13th Division Prairie on Joint Base Lewis-McChord (JBLM)). Pocket gopher distribution is affected by the rock content of soils (gophers avoid rocky soils), drainage, forage availability, and climate (Case and Jasch 1994, p. B–21; Steinberg and Heller 1997, p. 45; Hafner *et al.* 1998, p. 279; Stinson 2005, p. 31; Reichman 2007, pp. 273–274, WDFW 2009), thus further restricting the total area of a prairie that may be occupied by gophers. Prairie and meadow habitats used by pocket gophers have a naturally patchy distribution. In their prairie habitats, there is an even patchier distribution of soil rockiness which may further restrict the total area that pocket gophers can utilize (Steinberg and Heller 1997, p. 45; WDFW 2009). We assume that meadow soils have a similarly patchy distribution of rockiness, though the soil surveys to support this are, at this time, incomplete.

In Washington, Mazama pocket gophers currently occupy the following soils series: Alderwood, Cagey, Carstairs, Everett, Godfrey, Grove, Indianola, Kapowsin, McKenna, Murnen, Nisqually, Norma, Shelton, Spana, Spanaway, Spanaway-Nisqually complex, and Yelm. There is no currently-available soils survey for the Olympia National Park, so soils occupied by gophers there are unknown. Although some soils are sandier, more gravelly, or siltier, most all are friable (easily pulverized or crumbled), loamy, and deep, and generally have slopes less than 15 percent. Mapped soils series can have smaller inclusions of different soils types. Because soils are mapped at larger scales, mapped soils may not reflect these smaller inclusions, which may be used by gophers.

In 2011, there were reports of Mazama pocket gophers (subspecies unknown) occurring on new types of soils and on managed forest lands in Capitol State Forest (owned by WDNR) and Vail Forest (owned by Weyerhaeuser) in Thurston County. These were subsequently determined to be moles, based on trapping conducted in these areas by WDFW during the 2012 gopher survey season (Thompson 2012d, pers. comm.).

Mazama pocket gophers are morphologically similar to other species of pocket gophers that exploit a subterranean existence. They are stocky and tubular in shape, with short necks, powerful limbs, long claws, and tiny ears and eyes. Their short, nearly hairless tails are highly sensitive and probably assist in navigation in tunnels. Burrows consist of a series of main runways, off which lateral tunnels lead to the surface of the ground (Wight 1918, p. 7). Pocket gophers dig their burrows using their sharp teeth and claws and then push the soil out through the lateral tunnels (Wight 1918, p. 8; Case and Jasch 1994, p. B–20). Nests containing dried vegetation are generally located near the center of each pocket gopher's home tunnel system (Wight 1918, p. 10). Food caches and store piles are usually placed near the nest, and excrement is piled into blind tunnels or loop tunnels, and then covered with dirt, leaving the nest and main runways clean (Wight 1918, p. 11). The ''pockets'' of pocket gophers are external, fur-lined cheek pouches on either side of the mouth that are used to transport nesting material and carry plant cuttings to storage compartments. Their teeth grow continuously, requiring gophers to constantly gnaw in order to grind them down (Case and Jasch 1994, p. B–20). Pocket gophers don't hibernate in winter; they remain active throughout the year (Case and Jasch 1994, p. B–20).

A variety of natural predators eat pocket gophers, including weasels, snakes, badgers, foxes, skunks, bobcats, coyotes, great horned owls, barn owls, and several hawks (Hisaw and Gloyd 1926, entire; Fichter *et al.* 1955, p. 13; Huntly and Inouye 1988, p. 792; Case and Jasch 1994, p. B–21; Stinson 2005, pp. 29–30). Many different vertebrates and invertebrates take refuge in gopher burrows, especially during inclement

weather, including beetles, amphibians (such as toads and frogs), lizards, snakes, ground squirrels, and smaller rodents (Blume and Aga 1979, p. 131; Case and Jasch 1994, p. B–21; Stinson 2005, pp. 29–30).

Pocket gophers are generalist herbivores and their diet includes a wide variety of plant material, including leafy vegetation, succulent roots, shoots, and tubers. In natural settings pocket gophers play a key ecological role by aerating soils, activating the seed bank, and stimulating plant growth, though they can be considered pests in agricultural systems. In prairie and meadow ecosystems, pocket gopher activity is important in maintaining species richness and diversity.

The home range of a Mazama pocket gopher is composed of suitable breeding and foraging habitat. Home range size varies based on factors such as soil type, climate, and density and type of vegetative cover (Cox and Hunt 1992, p. 133; Case and Jasch 1994, p. B–21; Hafner *et al.* 1998, p. 279). Home range size for individual Mazama pocket gophers averages about 1,076 square feet (ft^2) (100 square meters (m^2)) (Witmer *et al.* 1996, p. 96). Based on work done by Converse *et al.* (2010, pp. 14–15), a local population of Mazama pocket gophers in the south Puget Sound area could be self-sustaining if it occurred on a habitat patch that was equal to or greater than 50 ac (20 ha) in size.

Foraging primarily takes place below the surface of the soil, where pocket gophers snip off roots of plants before occasionally pulling the whole plant below ground to eat or store in caches. If above-ground foraging occurs, it's usually within a few feet of an opening and forage plants are quickly cut into small pieces, and carried in their fur-lined cheek pouches back to the nest or cache (Wight 1918, p. 12). Any water they need is obtained from their food (Wight 1918, p. 13; Gettinger 1984, pp. 749–750). The probability of Mazama pocket gopher occupancy is much higher in areas with less than 10 percent woody vegetation cover (Olson 2011a, p. 16), because such vegetation will shade out the forbs, bulbs, and grasses that gophers prefer to eat, and high densities of woody plants make travel both below and above the ground difficult for gophers.

Pocket gophers reach sexual maturity during the spring of the year following their birth, and produce one litter per year (Case and Jasch 1994, p. B–20). Gestation lasts approximately 18 days (Schramm 1961, p. 169; Anderson 1978, p. 421). Young are born in the spring to early summer (Wight 1918, p. 13), and are reared by the female. Aside from the breeding season, males and females remain segregated in their own tunnel systems. There are 1–9 pups per litter (averaging 3–4), born without hair, pockets, or teeth, and they must be kept warm by the mother or ''packed'' in dried vegetation (Wight 1918, p. 14; Case and Jasch 1994, p. B–20). Juvenile pelage starts growing in at just over a week (Anderson 1978, p. 420). The young eat vegetation in the nest within 3 weeks of birth, with eyes and ears opening and pockets developing at about a month (Wight 1918, p. 14; Anderson 1978, p. 420). At 6 weeks they are weaned, fighting with siblings, and nearly ready to disperse (Wight 1918, p. 15; Anderson 1978, p. 420), which usually occurs at about 2 months of age (Stinson 2005, p. 26). They attain their adult weight around 4–5 months of age (Anderson 1978, pp. 419, 421). Most pocket gophers live only a year or two, with few living to 3 or 4 years of age (Hansen 1962, pp. 152–153; Livezey and Verts 1979, p. 39).

Pocket gophers rarely surface completely from their burrow except as juveniles, when they disperse above ground from spring through early fall (Ingles 1952, p. 89; Howard and Childs 1959, p. 312; Olson 2011b, unnumbered pp. 3–4). They are highly asocial and intolerant of other gophers. Each gopher maintains its own burrow system, and occupancy of a burrow system by multiple individuals occurs only for brief periods during mating seasons and prior to weaning young (Ingles 1952, pp. 88–89; Witmer and Engeman 2007, p. 288; Marsh and Steele 1992, p. 209). The mating system is probably polygynous (a single male mates with multiple females) and most likely based on female choice. The adult sex ratio has been reported as biased toward females in most species of pocket gophers that have been studied, often as much as 4:1 (Howard and Childs 1959, p. 296; Patton and Feder 1981, p. 917), though Witmer *et al.* (1996, p. 95) reported a sex ratio of close to 1:1 in Mazama pocket gophers.

Sex ratio may vary with population density, which is often a measure of forage density and soil suitability for burrowing. One site having a deep soil layer that was much less rocky was estimated to have a pocket gopher population density five times that of another site having rocky soil (Steinberg 1996, p. 26). A study of the relationship between soil rockiness and pocket gopher distribution revealed a strong negative correlation between the proportion of medium-sized rocks in the soil and absence of pocket gophers in eight of nine prairies sampled (medium sized rocks were considered greater than 0.5 inch (12.7 mm) but less than 2 inches (50.8 mm) in diameter; Steinberg 1996, p. 32). In observations of pocket gopher distribution on JBLM, pocket gophers did not occur in areas with a high percentage of Scot's broom cover in the vegetation, or where mole (*Scapanus* spp.) populations were particularly dense (Steinberg 1995, p. 26). A more recent study on JBLM also found that pocket gopher presence was negatively associated with Scot's broom; however, the researcher found no relationship between pocket gopher presence and mole density (Olson 2011a, pp. 12–13).

Pocket gophers have limited dispersal capabilities. The loss and degradation of additional patches of appropriate habitat could result in further isolation of populations, increasing their vulnerability to extinction. Physiographic, demographic, historical, and stochastic factors probably influence potential dispersal distance (Hafner *et al.* 1998, p. 279). Studies of other larger *Thomomys* gophers found that most will only disperse less than 131 ft (40 m) from their natal territory (Daly and Patton 1990, p. 1291), although some have been found to move greater than 984 ft (300 m) (Williams and Baker 1976, p. 306; Daly and Patton 1990, p. 1286), and up to 1,312 ft (400 m) (Hafner *et al.* 1998, p. 279). In 2010 and 2011, WDFW conducted a study to determine dispersal distances of juvenile Mazama pocket gophers on JBLM. Twenty-eight juveniles were radio-collared and tracked for 17–56 days, with all but 3 animals tracked for more than 30 days. Of these, only 9 gophers moved more than 32.8 ft (10 m), and 10 gophers were never found more than 13.1 ft (4 m) from any previous location (Olson 2012b, p. 5). Only 1 animal dispersed what would be considered a larger distance, moving 525 ft (160 m) in a single day. This research is ongoing.

Historical and Current Range and Distribution

The Olympic pocket gopher (*Thomomys mazama melanops)* is found in the Olympic National Park in Clallam County where it is restricted to subalpine habitat of the higher Olympic Mountains. While the protections of the National Park Service (NPS) suggest that this is the most secure of the subspecies in Washington, three local populations had been extirpated by 1951, and another was recorded as extirpated by 1976 (Johnson 1977, pp. 2–3). By 1977, Johnson (1977, p. 1) estimated that the subspecies had been extirpated from about 30 percent of its range, and speculated that such extirpations may

have been related to fire suppression, avalanches, landslides, or weather cycles. Steinberg (1995, p. 27; 1996, p. 8) and Welch (2009, *in litt.*) documented Olympic pocket gophers at several sites in the Park, and the Burke Museum's records show that pocket gopher specimens have been gathered from multiple locations in the Park (Burke Museum 2009). A series of surveys were conducted in the summer of 2012, and found evidence of Mazama pocket gophers still occurring in the same areas as found by Johnson and Steinberg (Fleckenstein 2012, *in litt.*). Further surveys need to be conducted to determine the status of this subspecies, as no complete inventory has been conducted. There have been no soil surveys conducted on the Olympic National Park, so soils series names are not known at the locations where gophers occur in Clallam County.

The Shelton pocket gopher *(Thomomys mazama couchi)* was known from one local population detected at the Shelton airport in Mason County and mounds found near the penitentiary grounds near Shelton (Stinson 2005, p. 39). A nearby regenerating clearcut was found to have been colonized by pocket gophers after 1992 (Stinson 2005, p. 41). Other local populations have been identified nearby on private land, including a recent clearcut near the airport (Stinson 2011a, *in litt.*). New populations have been found on commercial timber lands and private lands in Mason County (Olson 2011b, *in litt.*) and more may exist (Krippner 2011b, entire). Pocket gopher sign has been reported elsewhere, but their presence has not been verified by trapping (Stinson 2011b, pers. comm.). All currently known gopher sites in Mason County occur on Carstairs, Grove, or Shelton soils.

The Cathlamet pocket gopher (*Thomomys mazama louiei*) is known only from its type locality in Wahkiakum County. The Cathlamet pocket gopher was originally found on commercial forest lands in a large burn that subsequently regenerated to forest. The forest was clearcut in the early 2000s, but pocket gophers have not been found at this site since 1956, despite brief survey efforts in the 1970s, 1980s, 1990s, and 2010s (Stinson 2005, p. 34; Thompson 2012a, p. 1 *in litt.*). The soils series these gophers occupy (Murnen) is locally limited in extent, and patchily distributed. In the Service's review of this species previously (USFWS 2010, pp. 5–6), it was characterized as likely extinct. However, based on our further review of information for this proposed rule, we determined that further surveys of the area are needed to determine the status of this subpopulation, as thorough surveys of all potential habitat have never been conducted and land use has remained the same since the type locality was discovered in 1949 (Gardner 1950), suggesting that the subspecies may remain extant.

The following general description of the distribution of the four Thurston/Pierce subspecies of Mazama pocket gopher (*Thomomys mazama glacialis, pugetensis, tumuli,* and *yelmensis*) is based on our current knowledge. Steinberg (1996, p. 9) surveyed all historical and many currently known gopher sites. This included all current and formerly known occupied sites listed by the WDNR as having Carstairs, Nisqually, or Spanaway gravelly or sandy loam soil, and that WDNR determined to have vegetation that was intact prairie or restorable to prairie. WDFW and a suite of consultants have surveyed areas of potential gopher habitat in both counties, usually associated with proposed development (Krippner 2011a, pp. 26–29). WDFW has also surveyed areas in relation to various research studies, as well as conducting a 5-county-wide distribution survey in 2012 (Thompson 2012b and c, entire).

The Roy Prairie pocket gopher (*Thomomys mazama glacialis*) is found in the vicinity of the Roy Prairie and on JBLM in Pierce County. The subspecies was described as plentiful in 1983 but was reduced to a small population by 1993 (Stinson 2005, p. 38). Due to proximity to the subspecies' type locality, it is likely that gophers occurring on 91st Division Prairie and Marion Prairie in Pierce County contain this subspecies. Soils in and around this area are Everett, Indianola, Norma, Spanaway, and Nisqually.

The type locality for the Olympia pocket gopher (*Thomomys mazama pugetensis*) was the prairie on and around the Olympia Airport (Dalquest and Scheffer 1944b, p. 445). Gophers continue to occupy this area. Soils in and around this area are Alderwood, Cagey, Everett, Indianola, McKenna, Nisqually, Norma, Spana, Spanaway-Nisqually complex, and Yelm.

Tenino pocket gophers (*Thomomys mazama tumuli*) were originally found in the vicinity of the Rocky Prairie NAP, near Tenino (Stinson 2005, pp. 19, 33, 38), a relatively small-extent prairie area. Gophers still reside there, but WDFW researchers have not seen consistent occupancy of the area by gophers in recent years (Olson 2010, *in litt.*), suggesting that the colonies intermittently located in the NAP are satellite populations dispersing from a currently unidentified nearby source population. Soils in this area are Everett, Nisqually, Norma, Spanaway, and Spanaway-Nisqually complex.

Yelm pocket gophers (*Thomomys mazama yelmensis*) were originally found on prairies in the area of Grand Mound, Vail, and Rochester (Dalquest and Scheffer 1944b, p. 446). Surveys conducted in 1993–1994 found no gophers near the towns of Vail or Rochester (Steinberg 1995, p. 28); however, more recent surveys have documented gophers near Rochester, Rainier, Littlerock, Grand Mound, and Vail (Krippner 2011a, p. 31). Soils series in and around these areas include Alderwood, Everett, Godfrey, Kapowsin, McKenna, Nisqually, Norma, Spana, Spanaway, Spanaway-Nisqually complex, and Yelm.

Population Estimates/Status

There are few data on historical or current population sizes of Mazama pocket gopher populations in Washington, although several local populations and one subspecies are believed to be extinct. Knowledge of the past status of the Mazama pocket gopher is limited to distributional information. Recent surveys have focused on determining current distribution, primarily in response to development applications. In addition, in 2012, WDFW initiated a 5-county-wide distribution survey. Because the object of all of these surveys has mainly been presence/absence only, total population numbers for each subspecies are unknown. Local population estimates have been reported but are based on using apparent gopher mounds to delineate the number of territories, a method that has not been validated (Stinson 2005, pp. 40–41). Olson (2011a, p. 2) evaluated this methodology on pocket gopher populations at the Olympia Airport and Wolf Haven International. Although there was a positive relationship between the number of mounds and number of pocket gophers, the relationship varies spatially, temporally, and demographically (Olson 2011a, pp. 2, 39). Based on the results of Olson's 2011 study we believe past population estimates (Stinson 2005) may have been too high. As there is no generally-accepted standard survey protocol for pocket gophers, it is difficult to make a reliable determination of population abundance or trend.

Increased survey effort since 2007 has resulted in the identification of numerous additional occupied sites located on private lands, especially in Thurston County (Krippner 2011, pp. 26–29). Some of these are satellite colonies adjacent to known larger

populations, such as that on the Olympia Airport, and may be population sinks (colonies that do not add to the overall population through recruitment). Others are separate locations, seemingly unassociated (physically) with known populations (Tirhi 2008, *in litt.*). The largest known local populations of any Mazama pocket gophers in Washington occur on JBLM (Roy Prairie and Yelm pocket gophers), and at the Olympia and Shelton airports (Olympia and Shelton pocket gophers, respectively).

A translocated population of Mazama pocket gophers occurs on Wolf Haven International's land near Tenino, Washington. Between 2005 and 2008, over 200 gophers from a variety of areas in Thurston County (mostly from around Olympia Airport (Olympia pocket gopher, *Thomomys mazama pugetensis*)) were released into the 38-ac (15-ha) mounded prairie site. Based on the best available information, we do not believe the property contained Mazama pocket gophers previously. Today pocket gophers continue to occupy the site (Tirhi 2011, *in litt.*); however current population estimates are not available. Another site, West Rocky Prairie Wildlife Area, has received a total number of 560 translocated pocket gophers (*T. m. pugetensis*) from the Olympia Airport between 2009 and 2011. Initial translocation efforts in 2009 were unsuccessful; a majority of the pocket gophers died within 3 days due to predation (Olson 2009, unnumbered p. 3). Modified release techniques used in 2010 and 2011 resulted in improved survival rates of gophers translocated to West Rocky Prairie Wildlife Area (Olson 2011c, unnumbered p. 4). It is too soon to know if the population will become self-sustaining, or if additional translocations of gophers will be necessary. This research is ongoing.

Summary of Factors Affecting the Species

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for adding species to the Federal List of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, we may list a species based on any of the following five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other natural or manmade factors affecting its continued existence. Listing actions may be warranted based on any of the above threat factors, singly or in combination. Each of these factors is discussed below.

In making this finding, information pertaining to each of the species in question in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. In considering what factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat and we then attempt to determine how significant a threat it is. If the threat is significant, it may drive or contribute to the risk of extinction of the species such that the species warrants listing as an endangered or threatened species as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively is not sufficient to compel a finding that listing is appropriate; we require evidence that these factors are operative threats that act on the species to the point that the species meets the definition of an endangered or threatened species under the Act.

In making the 12-month finding for each of the subspecies addressed in this document we considered and evaluated the best available scientific and commercial information. Here we evaluate the factors affecting the subspecies under consideration in this proposed rule.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Under this factor, the primary long term threats to the Mazama pocket gopher are the loss, conversion, and degradation of habitat particularly to urban development, successional changes to grassland habitat, and the spread of invasive plants. The threats also include increased predation pressure, which is closely linked to habitat degradation and discussed more fully under Factor C.

The prairies of south Puget Sound are part of one of the rarest ecosystems in the United States (Noss *et al.* 1995, p. I–2; Dunn and Ewing 1997, p. v). Dramatic changes have occurred on the landscape over the last 150 years, including a 90 to 95 percent reduction in the prairie ecosystem. In the south Puget Sound region, where most of western Washington's prairies historically occurred, less than 10 percent of the original prairie persists, and only 3 percent remains dominated by native vegetation (Crawford and Hall 1997, pp. 13–14).

Development

Native prairies and grasslands have been severely reduced throughout the range of the four Thurston/Pierce subspecies of Mazama pocket gopher and the Shelton pocket gopher as a result of human activity due to conversion of habitat to residential and commercial development and agriculture. Prairie habitat continues to be lost, particularly to residential development (Stinson 2005, p. 70) by removal and fragmentation of native vegetation and the excavation and grading of surfaces and conversion to non-habitat (buildings, pavement, other infrastructure) rendering soils unsuitable for burrowing. Residential development is associated with increased infrastructure such as new road construction, which is one of the primary causes of landscape fragmentation (Watts *et al.* 2007, p. 736). Activities that accompany low-density development are correlated with decreased levels of biodiversity, mortality to wildlife, and facilitated introduction of nonnative invasive species (Trombulak and Frissell 2000, entire; Watts *et al.* 2007, p. 736). In the south Puget Sound lowlands, the glacial outwash soils and gravels underlying the prairies are deep and valuable for use in construction and road building, which leads to their degradation and destruction.

In the south Puget Sound, Mazama pocket gophers most commonly reside in Nisqually loamy soils (Stinson 2010a, *in litt.*), the vast majority of which occur in developed areas of Thurston County, or within the Urban Growth Areas for the cities of Olympia, Tumwater, and Lacey (Thurston County 2004; WDFW 2009a), where future development is most likely to occur. Where pocket gopher populations presumably extended across an undeveloped expanse of open prairie (Dalquest and Scheffer 1942, pp. 95–96), current local populations of gophers in these areas are now isolated to small fragmented patches.

The presumed extinction of the Tacoma pocket gopher is likely linked directly to residential and commercial development, which has replaced nearly all gopher habitat in the historical range of the subspecies (Stinson 2005, pp. 18,

34, 46). One of the historical Tacoma pocket gopher sites was converted to a large gravel pit and golf course (Stinson 2005, pp. 47, 120; Steinberg 1996, pp. 24, 27). In addition, two gravel pits are now operating on part of the site recognized as the type locality for the Roy Prairie pocket gopher (Stinson 2005, p. 42), and another is in operation near Tenino (Stinson 2010b, *in litt.*) in the vicinity of the type locality for the Tenino pocket gopher. Many areas historically occupied by Mazama pocket gophers in Olympia and Lacey have been lost to development (Stinson 2005, p. 26).

Multiple pocket gopher sites in Pierce and Thurston Counties may be, or have been lost to, gravel pit development, golf course development, or residential and commercial development (Stinson 2005, pp. 26, 42; Stinson 2007, *in litt.,* and 2010b, *in litt.*). Multiple prairies that used to contain local populations of pocket gophers within the range of the four Thurston/Pierce subspecies have been developed to cities, neighborhoods, or agricultural lands, including Yelm Prairie, Grand Mound Prairie, Baker Prairie, Chambers Prairie, and Roy Prairie.

Where their properties coincide with gopher occupancy, many private lands developers and landowners in Thurston County have agreed to create gopher set-asides in order to obtain development permits from the County (Tirhi 2008, *in litt.*). However, it is unknown if any gophers will remain on these sites due to the small size of the set-asides, extensive grading in some areas, lack of enforcement or monitoring of set-aside maintenance (Defobbis 2011, *in litt.*), and lack of control of predation by domestic or feral cats or dogs.

There are two local populations of Olympia and Shelton pocket gophers located at and around airports (Port of Olympia's Olympia Airport and Port of Shelton's Sanderson Field). Gophers at the Olympia Airport are currently threatened by development from the airport itself and adjacent landowner development. The Port of Olympia is realigning the airport runway, and has plans to develop large portions of the existing grassland that likely supports the largest population of the Olympia pocket gopher in Washington (Stinson 2007, *in litt.;* Port of Olympia and WDFW 2008, p.1; Port of Olympia 2012). They continue to work with WDFW on mitigating airport expansion activities that may impact gophers (Tirhi 2010, *in litt.*).

Shelton Pocket Gopher. While past construction of the Port of Shelton's Sanderson Field previously removed prairie habitat in an area occupied by Shelton pocket gophers, future development plans do not include impacts to a significant amount of gopher habitat at this time. The majority of planned development will occur in areas already impacted (between existing buildings). Potential additions of pavement for hangars and a runway extension are planned in gopher use areas at the south end of the airport. However, neither project would impact a significant portion of the entire area used by gophers (Port of Shelton 2010, 2012). In addition, the Port will have to prove to the Federal Aviation Administration that a need exists to extend the existing runway, which is unlikely to occur in the next 5 years (Palmer 2012, *in litt.*). The Port of Shelton operates under a Gopher Habitat Management Plan (Port of Shelton 2003) and has identified a smaller restoration area of approximately 50 ac (20 ha) across Highway 101 from the airport, where Scot's broom and other woody vegetation would be controlled in order to benefit Mazama pocket gophers, although the soil type in the restoration site (Shelton) is different from that on most of Sanderson Field (Carstairs). The majority of other local populations of Shelton pocket gophers in Mason County (i.e., those that occur off of Port property) do not appear to face a threat of development, as they largely occur on commercial timber forest lands.

Olympic, Roy, and Yelm Pocket Gophers. The Olympic pocket gopher, occurring entirely within the Olympic National Park, the Yelm pocket gophers at Tenalquot Preserve and Scatter Creek Wildlife Area, and the translocated populations at West Rocky Prairie Wildlife Area (all Olympia pocket gophers from the Olympia Airport) and Wolf Haven (largely from around the Olympia Airport, but could include other subspecies), are currently secure from intense commercial and residential development pressures as these populations occur on conserved lands. JBLM local populations (which could include both Roy Prairie and Yelm pocket gophers due to Department of Defense (DOD) land holdings that overlap the ranges of both subspecies) are also secure from such residential and commercial development; however, impacts due to military training threaten gopher habitat and may lead to reduced use of these areas by gophers (see Military Activities, below).

Cathlamet Pocket Gopher. We have no information available that indicates that development is a threat to the Cathlamet subspecies of Mazama pocket gopher.

Loss of Ecological Disturbance Processes, Invasive Species, and Succession

The suppression and loss of ecological disturbance regimes across vast portions of the landscape, such as fire, has resulted in altered vegetation structure in the prairies and meadows and has facilitated invasion by native and nonnative woody vegetation, rendering habitat unusable for the four Thurston/Pierce and Shelton subspecies of Mazama pocket gopher. The basic ecological processes that maintain prairies and meadows have disappeared from, or have been altered on, all but a few protected and managed sites.

Historically, the prairies and meadows of the south Puget Sound region of Washington are thought to have been actively maintained by the native peoples of the region, who lived here for at least 10,000 years before the arrival of Euro-American settlers (Boyd 1986, entire; Christy and Alverson 2011, p. 93). Frequent burning reduced the encroachment and spread of shrubs and trees (Boyd 1986, entire; Chappell and Kagan 2001, p. 42), favoring open grasslands with a rich variety of native plants and animals. Following Euro-American settlement of the region in the mid-19th century, fire was actively suppressed on grasslands, allowing encroachment by woody vegetation into the remaining prairie habitat and oak woodlands (Franklin and Dyrness 1973 p. 122; Boyd 1986, entire; Kruckeberg 1991, p. 287; Agee 1993, p. 360; Altman *et al.* 2001, p. 262).

Fires on the prairie create a mosaic of vegetation conditions, which serve to maintain native prairie plant communities. In some prairie patches fires will kill encroaching woody vegetation and reset succession back to bare ground, creating early successional vegetation conditions suitable for many native prairie species. Early succession forbs and grasses are favored by Mazama pocket gophers. The historical fire frequency on prairies has been estimated to be 3 to 5 years (Foster 2005, p. 8).

The result of fire suppression has been the invasion of the prairies and oak woodlands by native and nonnative plant species (Dunn and Ewing 1997, p. v; Tveten and Fonda 1999, p. 146), notably woody plants such as the native Douglas-fir and the nonnative Scot's broom. On tallgrass prairies in midwestern North America, fire suppression has led to degradation and the loss of native grasslands (Curtis 1959, pp. 296, 298; Panzer 2002, p. 1297). On northwestern prairies, fire suppression has allowed Douglas-fir to

encroach on and outcompete native prairie vegetation for light, water, and nutrients (Stinson 2005, p. 7). This increase in woody vegetation and nonnative plant species has resulted in less available prairie habitat overall and habitat that is unsuitable for and avoided by many native prairie species, including the Mazama pocket gopher (Tveten and Fonda 1999, p. 155; Pearson and Hopey 2005, pp. 2, 27; Olson 2011a, pp. 12, 16). Pocket gophers prefer early successional vegetation as forage. Woody plants shade out the forbs and grasses that gophers prefer to eat, and high densities of woody plants make travel both below and above the ground difficult for gophers. In locations with poor forage, pocket gophers tend to have larger territories, which may be difficult to establish in densely forested areas. The probability of Mazama pocket gopher occupancy is much higher in areas with less than 10 percent woody vegetation cover (Olson 2011a, p. 16).

On JBLM alone, over 16,000 acres (6,477 ha) of prairie has converted to Douglas-fir forest since the mid-19th century (Foster and Shaff 2003, p. 284). Where controlled burns or direct tree removal are not used as a management tool, this encroachment will continue to cause the loss of open grassland habitats for Mazama pocket gophers and is an ongoing threat for the species.

Restoration in some of the south Puget Sound grasslands has resulted in temporary control of Scot's broom and other invasive plants through the careful and judicious use of herbicides, mowing, grazing, and fire. Fire has been used as a management tool to maintain native prairie composition and structure and is generally acknowledged to improve the health and composition of grassland habitat by providing a short-term nitrogen addition, which results in a fertilizer effect to vegetation, thus aiding grasses and forbs as they resprout.

Unintentional fires ignited by military training burn patches of prairie grasses and forbs on JBLM on an annual basis. These light ground fires create a mosaic of conditions within the grassland, maintaining a low vegetative structure of native and nonnative plant composition, and patches of bare soil. Because of the topography of the landscape, fires create a patchy mosaic of areas that burn completely, some areas that do not burn, and areas where consumption of the vegetation is mixed in its effects to the habitat. One of the benefits to fire in grasslands is that it tends to kill regenerating conifers, and reduces the cover of nonnative shrubs such as Scot's broom, although Scot's broom seed stored in the soil can be stimulated by fire (Agee 1993, p. 367). Fire also improves conditions for many native bulb-forming plants, such as *Camassia* sp. (camas) (Agee and Dunwiddie 1984, p. 367). On sites where regular fires occur, such as on JBLM, there is a high complement of native plants and fewer invasive species. These types of fires promote the maintenance of the native short-statured plant communities favored by pocket gophers.

Management practices such as intentional burning and mowing require expertise in timing and technique to achieve desired results. If applied at the wrong season, frequency, or scale, fire and mowing can be detrimental to the restoration of native prairie species. Excessive and high intensity burning can result in a lack of vegetation or encourage regrowth to nonnative grasses. Where such burning has occurred over a period of more than 50 years on the artillery ranges of the JBLM, prairies are covered by nonnative forbs and grasses instead of native perennial bunchgrasses (Tveten and Fonda 1999, pp. 154–155).

Mazama pocket gophers are not commonly found in areas colonized by Douglas-fir trees because gophers require forbs and grasses of an early successional stage for food (Witmer *et al.* 1996, p. 96). Mazama pocket gophers observed on JBLM did not occur in areas with high cover of Scot's broom (Steinberg 1995, p. 26). A more recent study on JBLM also found that pocket gopher presence was negatively associated with Scot's broom (Olson 2011a, pp. 12–13, 16). Some subspecies of Mazama pocket gophers may disperse through forested areas or may temporarily establish territories on forest edges, but there is currently not enough data available to determine how common this behavior may be or which subspecies employ it. The four Thurston/Pierce subspecies occur on prairie-type habitats, many of which, if not actively managed to maintain vegetation in an early-successional state, have been invaded by shrubs and trees that either preclude the gophers or limit their ability to fully occupy the landscape.

Some areas which are occupied by the Olympic, Cathlamet, and to some extent the Shelton subspecies of Mazama pocket gopher, may be at risk due to ingrowth of trees (Vale 1981, p. 61; Magee and Antos 1992, pp. 492–493; Woodward *et al.* 1995, p. 224; Zolbrod and Peterson 1999, pp. 1970–1971). This encroachment appears to be occurring slowly and other factors may prevent it or set it back, including increased or decreased precipitation (depending on season), growing season duration and temperature, timing and duration of snowpack, increased fire frequency, or windthrow. Such factors can be extremely site-specific in nature and microclimatically based. This makes it difficult to predict where, when, and to what extent encroachment may occur (see discussion under Climate Change, Factor E). The loss of natural disturbance processes and succession aren't known to be a current threat to the Olympic or Cathlamet subspecies of Mazama pocket gopher.

Where the Shelton pocket gopher occurs on Sanderson Field (the largest open prairie habitat in the range of the Shelton pocket gopher), airport management prevents woody vegetation from encroaching for flight safety reasons. Vegetative encroachment is therefore not an issue at this site. The Shelton pocket gopher's range overlaps both prairie and commercial timberlands. Due to management actions at Sanderson Field, and due to the subspecies' ability to take advantage of forest openings created by management, succession or loss of habitat does not appear to be an overall threat to this subspecies.

Military Training

Populations of Mazama pocket gophers occurring on JBLM are exposed to differing levels of training activities on the base. The DOD's proposed actions under 'Grow the Army' (GTA) include stationing 5,700 new soldiers, new combat service support units, a combat aviation brigade, facility demolition and construction to support the increased troop levels, and additional aviation, maneuver, and live fire training (75 FR 55313, September 10, 2010). The increased training activities will affect nearly all training areas at JBLM resulting in an increased risk of accidental fires, and habitat destruction and degradation through vehicle travel, dismounted training, bivouac activities, and digging. While training areas on the base have degraded habitat for these species, with implementation of conservation measures, these areas still provide habitat for the Mazama pocket gopher.

Several moderate- to large-sized local populations of Mazama pocket gophers have been identified on JBLM. We believe these are likely to be Roy Prairie and Yelm pocket gophers. Their absence from some sites of what is presumed to have been formerly suitable habitat may be related to compaction of the soil due to years of mechanized vehicle training, which impedes burrowing activities of pocket gophers (Steinberg 1995, p. 36). Training infrastructure (roads, firing

ranges, bunkers) also degrades gopher habitat and may lead to reduced use of these areas by pocket gophers. For example, as part of the GTA effort, JBLM has plans to add a third rifle range on the south impact area where it overlaps with a densely occupied Mazama pocket gopher site. The area may be usable by gophers when the project is completed; however, construction of the rifle range may result in removal of forage and direct mortality of gophers through crushing of burrows (Stinson 2011c, *in litt.*). We assume, as access is not allowed there, that gophers are unable to fully utilize the otherwise apparently suitable central portion of 91st Division Prairie due to repeated and ongoing bombardment of that area. Other JBLM training areas have varying levels of use; some allow excavation (Marion Prairie) and off-road vehicle use, while other areas have restrictions that limit off-road vehicle use. No military training occurs in the range of the Olympic, Cathlamet, Shelton, Olympia, or Tenino subspecies of Mazama pocket gopher.

JBLM has committed to restrictions both seasonally and operationally on military training areas, in order to avoid and minimize potential impacts to Mazama pocket gophers. These restrictions include identified non-training areas, seasonally restricted areas during breeding, and the adjustment of mowing schedules to protect the species. These conservation management practices are outlined in an operational plan that the Service has assisted the DOD in developing for JBLM (Thomas 2012, pers. comm.).

Restoration Activities

Management for invasive species and encroachment of conifers requires control through equipment, herbicides, and other activities. While restoration has conservation value for the species, management activities to implement restoration may also have direct impacts to the species that are the target of habitat restoration.

In the south Puget Sound, Mazama pocket gopher habitat has been degraded and encroached upon by native and nonnative shrubs, including Scot's broom and several Washington State listed noxious weeds, such as *Euphorbia esula* (leafy spurge) and *Centaurea* sp. (knapweed) (Dunn and Ewing 1997, p. v; Vaughan and Black 2002, p. 11). Steinberg (1995, p. 26) observed that pocket gophers on JBLM did not occur in areas with thick Scot's broom and Olson (2011a, pp. 12–13) also found that pocket gopher presence was negatively associated with Scot's broom. Most restoration activities are unlikely to have direct impacts on pocket gophers, though removal of nonnative vegetation is likely to temporarily decrease available forage for Mazama pocket gophers.

Disease Impacts to Habitat

Disease is not known to be a threat to the habitats of the Washington subspecies of Mazama pocket gophers.

Summary of Factor A

Here we summarize the threats to the seven subspecies of Mazama pocket gophers under consideration in this proposed rule.

Much of the habitat originally used by the four Thurston/Pierce subspecies has been fragmented and/or lost to development. Residential and commercial development in the restricted remaining range of the four Thurston/Pierce subspecies is expected to continue into the future, and is likely to continue to result in substantial impacts to the subspecies' habitat and populations. Development removes forage vegetation, renders soils unsuitable for burrowing by covering them with impervious surfaces, or by grading or removing them. Proposed development triggers Critical Area Ordinances (CAOs) in these counties, but resultant set-asides are not always adequate to conserve local populations into the future (for further discussion on these regulatory assurances, see Factor D) The threat of development is not significant for the Shelton pocket gopher. Development is not a threat for the Olympic or Cathlamet pocket gophers.

Past military training has likely negatively impacted two of the four Thurston/Pierce subspecies (Roy Prairie and Yelm pocket gophers) by direct and indirect mortality from bombardment, subsequent fires, and soils compaction on prairies. This threat is expected to continue in the future due to planned increases in stationing and military training at JBLM. Military training is not a threat to the five other subspecies of Mazama pocket gopher.

Degradation of habitat by invasive shrubby species such as Scot's broom continues to be on ongoing significant threat to the four Thurston/Pierce subspecies. Invasive species encroachment into alpine and subalpine meadows is not known to be a threat for the Olympic, Cathlamet, or Shelton pocket gopher.

The four Thurston/Pierce subspecies also face threats from encroachment of native and nonnative plant species into their prairie environments due to succession and fire suppression, and are particularly impacted by the encroachment of woody vegetation. This has resulted in loss of forage vegetation for pocket gophers, as well loss of burrowing habitat, as tree and shrub roots overtake the soils. We have no evidence to indicate that encroachment of woody vegetation is a threat for the Olympic, Shelton, or Cathlamet pocket gophers.

The Washington prairie ecosystem that the Mazama pocket gopher subspecies primarily depend upon has been reduced by an estimated 90 to 95 percent over the past 150 years, with less than 10 percent of the native prairie remaining in the south Puget Sound region today. Due to loss and degradation of gopher habitat from ongoing and future residential and commercial development, encroachment of shrubs and trees into their prairie habitats, and impacts from both current and future military training (for Roy Prairie and Yelm subspecies), we conclude that the threats to the habitat of the four Thurston/Pierce subspecies of Mazama pocket gopher are significant. We did not find any information to suggest that there are habitat based threats for the Olympic, Shelton, or Cathlamet subspecies of Mazama pocket gopher.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Overutilization of species results when the number of individuals removed from the system exceeds the ability of the population of the species to sustain its numbers or reduces populations of the species to a level such that it is vulnerable to other influences (threats) upon its survival. This overutilization can result from removal of individuals from the wild for commercial, recreational, scientific or educational purposes.

One local population of Mazama pocket gopher at Lost Lake Prairie in Mason County (Shelton pocket gopher) may have been extirpated as a result of collecting by Dalquest and Scheffer in the late 1930s or early 1940s (Dalquest and Scheffer 1944, p. 314). Later, Steinberg (1996, p.23) conducted surveys in the vicinity and found no evidence of pocket gophers. In addition, Mazama pocket gophers in Washington were used in a rodenticide experiment as recently as 1995 (Witmer *et al.* 1996, p. 97). Witmer *et al.* (1996, p. 95) claim these were likely *Thomomys mazama tumuli* (Tenino pocket gophers), but these Lacey-area gophers may fall in the range of the Olympia pocket gopher. Hundreds of Olympia pocket gophers died during initial translocation experiments and research conducted by WDFW at Wolf Haven and West Rocky

Prairie, respectively, between 2005 and 2011 (Linders 2008, p. 9; Olson 2011c; Olson 2012a, *in litt.*). In the case of the Wolf Haven translocations, gophers were removed from development sites where pocket gopher mortality would have likely occurred from direct impacts due to site development (crushing of individuals and burrows from heavy machinery excavation, grading, and construction, etc.). Pocket gophers continue to occupy Wolf Haven, despite there being no known occurrence records for the site prior to translocations. Similarly, pocket gophers were not known to inhabit West Rocky Prairie prior to translocation experiments there. Pocket gophers for this research were taken from the Olympia Airport, one of the largest local populations of Mazama pocket gophers in Thurston County. Although no analysis has been completed on the population levels of the Olympia airport population after this experiment, this population remains the largest in Thurston County. The analysis and evaluation of this research is ongoing. Outside of this controlled research, we have no information or evidence that overutilization of any subspecies of Mazama pocket gopher is an ongoing threat now or will become a threat in the future.

Summary of Factor B

In summary, although there is some evidence of historical mortality from overutilization of the Mazama pocket gopher, and there may have been recent mortality from utilization of the Mazama pocket gopher for research purposes, we have no information to indicate that these activities have negatively impacted the species as a whole and have no information to suggest that overutilization will become a threat in the future. In addition, there is no evidence that commercial, recreational, scientific, or educational use is occurring at a level that would pose a threat to the Mazama pocket gopher.

Factor C. Disease or Predation

Disease

Most healthy ecosystems include organisms such as viruses, bacteria, fungi, and parasites that cause disease. Healthy wildlife and ecosystems have evolved defenses to fend off most diseases before they have devastating impacts. An ecosystem with high levels of biodiversity (diversity of species and genetic diversity within species) is more resilient to the impacts of disease because there are greater possibilities that some species and individuals within a species have evolved resistance, or if an entire species is lost, that there will likely be another species to fill the empty niche.

Where ecosystems are not healthy due to a loss of biodiversity and threats such as habitat loss, climate change, pollutants or invasive species, wildlife and ecosystems are more vulnerable to emerging diseases. Diseases caused by or carried by invasive species are particularly severe threats, as native wildlife may have no natural immunity to them (National Wildlife Federation 2012).

Our review of the best available scientific and commercial data found no evidence to indicate that disease is a threat to the Washington Mazama pocket gopher subspecies. We conclude that disease is not a threat to the subspecies now, nor do we anticipate it to become a threat in the future.

Predation

Predation is a process of major importance in influencing the distribution, abundance, and diversity of species in ecological communities. Generally, predation leads to changes in both the population size of the predator and that of the prey. In unfavorable environments, prey species are stressed or living at low population densities such that predation is likely to have negative effects on all prey species, thus lowering species richness. In addition, when a nonnative predator is introduced to the ecosystem, negative effects on the prey population may be higher than those from co-evolved native predators. The effect of predation may be magnified when populations are small, and the disproportionate effect of predation on declining populations has been shown to drive rare species even further towards extinction (Woodworth 1999, pp. 74–75).

Predation has an impact on populations of the four Thurston/Pierce subspecies of Mazama pocket gopher. For the Mazama pocket gopher, urbanization, particularly in the south Puget Sound area, has resulted in not only habitat loss, but the increased exposure to feral and domestic cats (*Felis catus*) and dogs (*Canis lupus familiaris*). Domestic cats are known to have serious impacts on small mammals and birds and have been implicated in the decline of several endangered and threatened mammals, including marsh rabbits in Florida and the salt-marsh harvest mouse in California (Ogan and Jurek 1997, p. 89). Domestic cats and dogs have been specifically identified as common predators of pocket gophers (Wight 1918, p. 21; Henderson 1981, p. 233; Case and Jasch 1994, p. B–21) and at least two Mazama pocket gopher locations were found as a result of house cats bringing home pocket gopher carcasses (WDFW 2001, entire). In addition, the last specimens and last known individuals of the Tacoma pocket gopher were carcasses brought home by cats (Stinson 2005, p. 34). There is also one recorded instance of a WDFW biologist being presented with a dead Mazama pocket gopher by a dog during an east Olympia, Washington, site visit in 2006 (Burke Museum 2012).

The four Thurston/Pierce subspecies of Mazama pocket gopher occur in rapidly developing areas. Local populations that survive commercial and residential development (adjacent to and within habitat) are vulnerable to extirpation by domestic and feral cats and dogs (Henderson 1981, p. 233; Case and Jasch 1994, p. B–21). As stated previously, predation is a natural part of the Mazama pocket gopher's life history; however, the effect of predation may be magnified when populations are small. The disproportionate effect of additional predation on declining populations has been shown to drive rare species even further towards extinction (Woodworth 1999, pp. 74–75). Predation, particularly from nonnative species, will likely continue to be a threat to the four Thurston/Pierce subspecies of Mazama pocket gopher now and in the future, particularly where development abuts gopher habitat. In such areas where local populations are already small, this additional predation pressure (above natural levels of predation) is expected to further impact population numbers. We have no information to indicate that predation is a threat to the Olympic, Shelton, or Cathlamet subspecies of Mazama pocket gopher.

Summary of Factor C

Based on our review of the best available information, we conclude that disease is not a threat to the Mazama pocket gopher now, nor do we expect it to become a threat in the future.

Because the populations of the four Thurston/Pierce subspecies of Mazama pocket gopher are declining and small, we find that the effect of the threat of predation by feral and domestic pets (cats and dogs) is resulting in a significant impact on the subspecies. Therefore, based on our review of the best available scientific and commercial information, we conclude that predation is currently a threat to the four Thurston/Pierce subspecies of Mazama pocket gopher now and will continue to be in the future. We have no information to indicate that predation is a threat to the Olympic, Shelton, or

Cathlamet subspecies of Mazama pocket gopher.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

Under this factor, we examine whether existing regulatory mechanisms are inadequate to address the threats to the subspecies discussed under the other factors. Section 4(b)(1)(A) of the Act requires the Service to take into account ''those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species * * *.'' In relation to Factor D under the Act, we interpret this language to require the Service to consider relevant Federal, State, and Tribal laws, regulations, and other such mechanisms that may minimize any of the threats we describe in threat analyses under the other four factors, or otherwise enhance conservation of the subspecies. We give strongest weight to statutes and their implementing regulations and to management direction that stems from those laws and regulations. An example would be State governmental actions enforced under a State statute or constitution, or Federal action under statute.

The following section includes a discussion of Federal, State, Tribal, or local laws, regulations, or treaties that apply to the Mazama pocket gopher. It includes legislation for Federal land management agencies and State and Federal regulatory authorities affecting land use or other relevant management.

United States Federal Laws and Regulations

There are no Federal laws in the United States that specifically address the Mazama pocket gopher.

The Sikes Act (16 U.S.C. 670) authorizes the Secretary of Defense to develop cooperative plans with the Secretaries of Agriculture and the Interior for natural resources on public lands. The Sikes Act Improvement Act of 1997 requires Department of Defense installations to prepare Integrated Natural Resource Management Plans (INRMPs) that provide for the conservation and rehabilitation of natural resources on military lands consistent with the use of military installations to ensure the readiness of the Armed Forces. INRMPs incorporate, to the maximum extent practicable, ecosystem management principles and provide the landscape necessary to sustain military land uses. While INRMPs are not technically regulatory mechanisms because their implementation is subject to funding availability, they can be an added conservation tool in promoting the recovery of endangered and threatened species on military lands.

On JBLM in Washington, several policies and an INRMP are in place to provide conservation measures to grassland associated species that occupy training lands on the military base. JBLM in partnership with local agencies and nongovernmental organizations has provided funding to conserve these species through the acquisition of new conservation properties and management actions intended to improve the amount and distribution of habitat for these species. JBLM has also provided funding to reintroduce declining species into suitable habitat on and off military lands. In June 2011, representatives from DOD (Washington, DC, office) met with all conservation partners to assess the success of this program and make decisions as to future funding needs. Support from the Garrison Commander of JBLM and all partners resulted in an increase in funding for habitat management and acquisition projects for these species on JBLM.

The Service has worked closely with the DOD to develop protection areas within the primary habitat for Mazama pocket gophers on JBLM. These include areas where no vehicles are permitted on occupied habitat, where vehicles will remain on roads only, and where only foot traffic is allowed.

JBLM policies include Army Regulation 420–5, which covers the INRMP, and AR–200–1. This is an agreement between each troop and DOD management that actions taken by each soldier will comply with restrictions placed on specific Training Areas, or range lands. Within the INRMP, the wildlife branch of the DOD is developing updated Endangered Species Management Plans (ESMPs) that provide site specific management and protection actions that are taken on military lands for the conservation of the Mazama pocket gopher. The ESMPs will provide assurances of available funding, and an implementation schedule that determines when certain activities will occur and who will accomplish these actions. ESMPs require regular updates to account for local or rangewide changes in species status. INRMPs also have a monitoring component that would require modifications, or adaptive management, to planning actions when the result of that specific action may differ from the intent of the planned action. Therefore, although current military actions may continue to harm individuals of the species, we expect (based on our ongoing technical assistance) that the Final ESMPs and revised INRMP will provide greater conservation benefit to the species than this current level of management and will protect Mazama pocket gophers from further population declines associated with habitat loss or inappropriate management on JBLM properties.

The National Park Service Organic Act of 1916, as amended (39 Stat. 535, 16 U.S.C. 1), states that the National Park Service (NPS) ''shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations * * * to conserve the scenery and the national and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.'' The NPS Management Policies indicate that the Park Service will ''meet its obligations under the National Park Service Organic Act and the Endangered Species Act to both pro-actively conserve listed species and prevent detrimental effects on these species.'' This includes working with the Service and undertaking active management programs to inventory, monitor, restore, and maintain listed species' habitats, among other actions.

The Olympic pocket gopher occurs entirely on National Park land and is protected by Federal regulations. Under Federal regulations, disturbance, collection of, or possessing unlawfully taken wildlife, except by authorized hunting and trapping activities is prohibited (36 CFR 2.1(a)(1)(i), 2.2(a)(1)(2)(3), and (b)(1)(2)(3)(4)). The Park also provides some protection to the species due to its threatened status in the State of Washington. According to the regulations codified in 36 CFR 2.5(c);

> ''A permit to take an endangered or threatened species listed pursuant to the Endangered Species Act, or similarly identified by the States, shall not be issued unless the species cannot be obtained outside of the park area and the primary purpose of the collection is to enhance the protection or management of the species.''

Based on our review, we conclude that the Olympic pocket gopher is not faced with further population declines associated with habitat loss or inappropriate management due to the inadequacy of existing NPS regulations.

State Laws and Regulations

Although there is no State Endangered Species Act in Washington, the Washington Fish and Wildlife Commission has authority to list species (Revised Code of Washington (RCW) 77.12.020). The Mazama pocket gopher

is currently listed as a threatened species by the WDFW. State-listed species are protected from direct take and/or malicious' take' but their habitat is not protected (RCW 77.15.120). State listings generally consider only the status of the species within the State's borders, and do not depend upon the same considerations as a potential Federal listing. Habitat receives protection through county or municipal critical area ordinances. Critical area ordinances require environmental review and habitat management plans for development proposals that affect state-listed species. Washington's Growth Management Act requires counties to develop critical area ordinances that address development impacts to important wildlife habitats. However, the specifics and implementation of critical area ordinances vary by county (see specific discussions below).

The Mazama pocket gopher is a Priority Species under WDFW's Priority Habitats and Species Program (WDFW 2008, pp. 19, 80, 120). As a Priority Species, Mazama pocket gophers benefit from some protection of their habitats under environmental reviews of applications for county or municipal development permits (Stinson 2005, pp. 46, 70). WDFW provides Priority Habitats and Species Management Recommendations to local government permit reviewers, applicants, consultants, and landowners in order to avoid, minimize, and mitigate impacts to Mazama pocket gophers and their habitat (WDFW 2011, p.1). These recommendations are not regulatory, but are based on best available science. As discussed in Factor A, the threat of development is greatest for the four Thurston/Pierce subspecies, but is not known to be a threat to the Olympic, Shelton, or Cathlamet subspecies.

Under the Washington State Forest Practices Act (RCW 76.09 accessed online 2012), WDNR must approve certain activities related to growing, harvesting or processing timber on all local government, State, and privately-owned forest lands. WDNR's mission is to protect public resources while maintaining a viable timber industry. The primary goal of the forest practices rules is to achieve protection of water quality, fish and wildlife habitat, and capital improvements while ensuring that harvested areas are reforested. Presently, the Washington State Forest Practices Rules do not specifically protect Mazama pocket gophers or their habitat. The Shelton and Cathlamet subspecies both occur in areas that would be subject to Washington State Forest Practices Rules. Landowners removing over 5,000 board feet of timber on their ownership, have the option to develop a management plan for a listed species if it resides on their property. If landowners choose to not develop a management plan for the subspecies with WDFW, their forest practices application will be conditioned to protect the relevant subspecies. If this approach does not provide the required protections for the subspecies then WDFW and WDNR may request the Forest Practice Board to initiate rule making, and possibly, an emergency rule would be developed (Whipple 2008, pers. comm.).

The WDNR also manages approximately 66,000 ac (26,710 ha) of lands as Natural Area Preserves (NAP). NAPs provide the highest level of protection for excellent examples of unique or typical land features in Washington State. These NAPs provide protection for the Mazama pocket gopher and based on their proactive management, we do not find the Mazama pocket gophers to be threatened by the inadequacy of existing regulatory mechanisms on WDNR lands.

Based on our review of the existing regulatory mechanisms for the State of Washington, we conclude that while the State's regulations may protect individuals of the subspecies, they do not protect the four Thurston/Pierce subspecies of the Mazama pocket gopher, from further population declines associated with habitat loss or inappropriate management nor do they provide for these subspecies' long-term population viability.

Local Laws and Regulations

The Washington State Growth Management Act of 1990 requires all jurisdictions in the state to designate and protect critical areas. The state defines five broad categories of critical areas, including: (1) Wetlands; (2) areas with a critical recharging effects on aquifers used for potable water; (3) fish and wildlife habitat conservation areas; (4) frequently flooded areas; and (5) geologically hazardous areas. *Quercus garryana* (Oregon white oak) habitat and prairie both predominantly fall into the category of fish and wildlife habitat conservation areas, though due to the coarse nature of prairie soils and the presence of wet prairie habitat across the landscape, critical area protections for crucial aquifer recharge areas and wetlands may also address some prairie habitat protection. As indicated previously, Washington's Growth Management Act requires counties to develop critical area ordinances that address development impacts to important wildlife habitats. The specifics and implementation of critical area ordinances vary by county although the Mazama pocket gopher is recognized as a species of local importance in the critical area ordinances of Pierce, Thurston, and Mason counties. Generally within these areas, when development activities are proposed where gophers are likely to be present, the developer must determine if gophers are present, assess the impact to gophers, and submit a Habitat Assessment Report (Pierce) or Habitat Management Plan (Thurston, Mason). Habitat Management Plans have been developed for gophers for many sites in Thurston County since 2006.

Within counties, the Critical Areas Ordinance (CAO) applies to all unincorporated areas, but incorporated cities are required to independently address critical areas within their Urban Growth Area. The incorporated cities within the range of the Mazama pocket gopher in Washington are: (1) Shelton (Mason County); (2) Roy (Pierce County); and (3) Olympia, Lacey, Tumwater, and Yelm (Thurston County).

In 2009, the Thurston County Board of Commissioners adopted Interim Ordinance No. 14260, which strengthened protections for prairie and Oregon white oak habitat in consideration of the best available science. The County worked with the Service and WDFW to include an up-to-date definition of prairie habitat and to delineate soils where prairie habitat is likely to occur. In July 2010, the ordinance was renewed and amended, including revisions to the prairie soils list and changes to administrative language. Since July 2010, the interim prairie ordinance has been renewed on a 6-month basis and is currently in place. Several prairie species were also included as important species subject to critical areas regulation, including three subspecies of Mazama pocket gophers (for Thurston County, these would be the Olympia, Tenino, and Yelm pocket gophers, although the CAO doesn't separate out subspecies by name) (Thurston County 2012, p. 1).

Implementation of the ordinances includes delineation of prairie soils at the time of any land use application. County staff use the presence of prairie soils and soils identified as Mazama pocket gopher habitat as well as known presence of these subspecies to determine whether prairie habitat may be present at a site and impacted by the land use activity. After a field review, if prairie habitat or one of these subspecies is found on the site, the County requires a habitat management plan (HMP) to be developed, typically

by a consultant for the landowner, in accordance with WDFW's Priority Habitats and Species Management Recommendations. This HMP specifies how site development should occur, and assists developers in achieving compliance with CAO requirements to minimize impact to the prairie habitat and species. The HMPs typically include onsite fencing and semi-annual mowing. Mitigation for prairie impacts may also be required, on-site or off (Thurston County 2012, p. 2). WDFW biologists are not required to review or approve the HMP for adequacy and usually are not privy to the recommendations in final Plan. Subsequently, the County may vacate all or part of the HMP if it determines a reasonable use exception (discussed towards the end of this section) is appropriate.

In Clallam, Pierce, and Mason Counties, specific CAOs have not been identified for the Olympic, Shelton, or Roy Prairie subspecies of Mazama pocket gopher. However, prairie habitats and species garner some protection under Fish (or Aquatic) and Wildlife Habitat Conservation Areas (Mason County 2009, p. 64; Clallam County 2012, Part Three, entire; Pierce County 2012, pp. 18E.40–1–3). All developments within these areas are required to: preserve and protect habitat adequate to support viable populations of native wildlife (Clallam County 2012, Part Three, entire); to achieve ''no net loss'' of species and habitat where, if altered, the action may reduce the likelihood that these species survive and reproduce over the long term (Pierce County 2012, p. 18E.40–1); and support viable populations and protect habitat for Federal or State listed fish or wildlife (Mason County 2009, p. 63).

Due to its State-listed status in Washington, gophers are included in three county CAOs in the State. Actions in gopher habitat under such ordinances are intended to protect and minimize impacts to gophers and their habitats. As such, development applications in suspected gopher areas have spurred surveys and habitat assessments by WDFW or contractors in Mason, Pierce, and Thurston Counties. While survey techniques are more-or-less consistent from site to site, potential development properties found to be occupied by gophers are subject to varied species protection measures. These measures have included habitat set-asides, on-site fencing, signage, and suggested guidelines for long-term management. These measures are inadequate for protecting the site from nonnative predators, ensuring long-term habitat functioning or population viability, providing connectivity to adjacent habitat areas, or prompting corrective management actions if the biological functioning of the set-aside declines.

Measures are implemented with varying degrees of biological assessment, evaluation, and monitoring to ensure ecological success. If a site is found to be occupied by Mazama pocket gophers and unless a reasonable use exception is determined by the County, development properties are required to set aside fenced, signed areas for pocket gopher protection that must be maintained into the future. However, fencing often doesn't exclude predators, and the size of the set-asides may not be large enough to sustain a population of gophers over time. Additionally, there appears to be no mechanism in place for oversight to ensure that current and future landowners are complying with the habitat maintenance requirements, so within these set-asides, pocket gopher habitat may become unsuitable over time. Legal procedures to ensure performance, permanency, funding, and enforcement for long-term site stewardship are inadequate, or are nonexistent (Defobbis 2011, *in litt.*). Consequently, for the Mazama pocket gophers impacted by development (the four Thurston/Pierce subspecies), the contribution of these sites to maintaining pocket gopher populations and viability is unreliable for long-term conservation.

For a few property owners in Thurston County, the size of the set-aside would have precluded the proposed use of the properties. In these cases, landowners were granted a ''reasonable use exception,'' allowing development to proceed. In some cases, gophers that could be live-trapped have been moved (translocated) to other locations. These were termed emergency translocations. In cases such as this, or where the set-aside doesn't wholly overlap all occupied habitat, destruction of occupied habitats (due to building construction, grading or paving over, etc.) likely results in death of individuals due to the gopher's underground existence and sedentary nature, which makes them vulnerable in situations where their burrows are crushed.

County-level CAOs do not apply to incorporated cities within county boundaries, thus the incorporated cities of Olympia, Lacey, Tumwater, Yelm, Tenino, and Rainier that overlap the range of the four Thurston/Pierce subspecies of Mazama pocket gopher do not provide the same specificity of protection as the Thurston County CAO. Below we address the relevant city ordinances that overlap the species' range. We conclude below with a summary of whether we deem these city ordinances as they are tied to the County-level ordinances are adequate for the conservation of the four Thurston/Pierce subspecies of Mazama pocket gopher.

The City of Olympia. The City of Olympia's municipal code states that ''The Department [City] may restrict the uses and activities of a development proposal which lie within one thousand feet of important habitat or species location,'' defined by Washington State's Priority Habitat and Species (PHS) Management Recommendations of 1991, as amended'' (Olympia Municipal Code (OMC) 18.32.315 B). When development is proposed within 1,000 feet of habitat of a species designated as important by Washington State, the Olympia CAO requires the preparation of a formal ''Important Habitats and Species Management Plan'' unless waived by the WDFW (OMC 18.32.320).

The City of Lacey. The City of Lacey CAO includes in its definition of ''critical area'' any area identified as habitat for a Federal or State endangered, threatened, or sensitive species or State-listed priority habitat, and calls these Habitat Conservation Areas (HCAs) (Lacey Municipal Code (LMC) 14.33.060). These areas are defined through individual contract with qualified professional biologists on a site-by-site basis as development is proposed. The code further states that, ''No development shall be allowed within a habitat conservation area or buffer [for a habitat conservation area] with which state or federally endangered, threatened, or sensitive species have a primary association'' (LMC 14.33.117).

The City of Tumwater. The City of Tumwater CAO outlines protections for HCAs and for ''habitats and species of local importance.'' Tumwater's HCAs are established on a case-by-case basis by a ''qualified professional'' as development is proposed and the HCAs are required to be consistent with the recommendations issued by the Washington State Department of Fish and Wildlife (Tumwater Municipal Code (TMC) 16.32.60). Species of local importance are defined as locally significant species that are not State-listed as threatened, endangered, or sensitive, but live in Tumwater and are of special importance to the citizens of Tumwater for cultural or historical reasons, or if the City is a critically significant portion of its range (TMC 16.32.055 A). Tumwater is considered a ''critically significant portion of a species' range'' if the species'

population would be divided into nonviable populations if it is eliminated from Tumwater'' (TMC 16.32.055 A2). Species of local importance are further defined as State monitor or candidate species where Tumwater is a significant portion of its range such that a significant reduction or elimination of the species from Tumwater would result in changing the status of the species to that of State endangered, threatened, or sensitive (TMC 16.32.055 A3).

The City of Yelm. The municipal code of Yelm states that it will ''regulate all uses, activities, and developments within, adjacent to, or likely to affect one or more critical areas, consistent with the best available science'' (Yelm Municipal Code (YMC) 14.08.010 E4f) and mandates that ''all actions and developments shall be designed and constructed to avoid, minimize, and restore all adverse impacts.'' Further, it states that, ''no activity or use shall be allowed that results in a net loss of the functions or values of critical areas'' (YMC 14.08.010 G) and ''no development shall be allowed within a habitat conservation area or buffer which state or federally endangered, threatened, or sensitive species have a primary association, except that which is provided for by a management plan established by WDFW or applicable state or federal agency'' (YMC 14.080.140 D1a). The City of Yelm municipal code states that by ''limiting development and alteration of critical areas'' it will ''maintain healthy, functioning ecosystems through the protection of unique, fragile, and valuable elements of the environment, and * * * conserve the biodiversity of plant and animal species'' (17.08.010 A4b).

The City of Tenino. The City of Tenino municipal code gives Development Regulations for Critical Areas and Natural Resource Lands that include fish and wildlife habitat areas (Tenino Municipal Code (TMC) 18D.10.030 A) and further ''protects unique, fragile, and valuable elements of the environment, including critical fish and wildlife habitat'' (TMC 18D.10.030 D). The City of Tenino references the WDNR Critical Areas Fish and Wildlife Habitat Areas-Stream Typing Map and the WDFW PHS Program and PHS Maps as sources to identify fish and wildlife habitat (TMC 18D.10.140 E1, 2). The City also defines critical fish and wildlife species habitat areas as those areas known to support or have ''a primary association with State or Federally listed endangered, threatened, or sensitive species of fish or wildlife (specified in 50 CFR 17.11, 50 CFR 17.12, WAC 232–12–011) and which, if altered, may reduce the likelihood that the species will survive and reproduce over the long term'' (TMC 18D.40.020A, B).

The City of Rainier. The City of Rainier municipal code identifies ''critical areas as defined by RCW 36.70A.030 to include * * * fish and wildlife habitat areas'' (Rainier Municipal Code (RMC) 18.100.030A) and further ''protects unique, fragile, and valuable elements of the environment, including critical fish and wildlife habitat'' (RMC 180.100.030D). The City of Rainier mandates protective measures that include avoiding impact to critical areas first and mitigation second (RMC 18.100.B030B). Fish and wildlife habitat critical areas may be designated either by a contracted ''qualified professional'' or a qualified city employee (RMC 18.100.H040H).

The City of Shelton. The CAO for the city of Shelton (Mason County) specifies compliance with the PHS through designation of habitat conservation areas (HCAs) (Shelton Municipal Code (SMC) 21.64.300 B1), indicating that where HCAs are designated, development will be curtailed (SMC 21.64.010 B) except at the discretion of the director (city), who may allow single-family development at such sites without a critical areas assessment report if development is not believed to directly disturb the components of the HCA (SMC 21.64.360 B).

The City of Roy. The CAO for the city of Roy (Pierce County) defines HCAs according to WDFW PHS (Roy Municipal Code (RMC) 10–5E1 C), alongside habitats and species of local importance as identified by the City (RMC 10–5E1 D). HCAs are delineated by qualified professional fish and wildlife biologists (RMC 10–5–9 A5). These HCAs are subject to mitigation if direct impacts to the HCA are unavoidable (RMC 10–5–13 E3).

Summary. City and County CAOs have been crafted to preserve the maximum amount of biodiversity while at the same time encouraging high density development within their respective Urban Growth Areas. City and County CAOs require that potential fish and wildlife habitat be surveyed by qualified professional habitat biologists as development is proposed (with the exception of Rainier, where a qualified city staffer may complete the survey). An HCA is determined according to the WDFW PHS list, which is associated with WDFW management recommendations for each habitat and species. If an HCA is identified at a site, the development of the parcel is then subject to the CAO regulations. Mitigation required by each City or County CAO prioritizes reconsideration of the proposed development action in order to avoid the impact to the HCA.

These efforts are laudable, but are unlikely to prevent isolation of local populations of sensitive species. Increased habitat fragmentation and degradation, decreased habitat connectivity and pressure from onsite and offsite factors are not fully taken into consideration in the establishment of these mitigation sites. This may be due to a lack of standardization in assessment protocols, though efforts have been made on the part of the WDFW to implement training requirements for all ''qualified biologists'' who survey for pocket gopher presence or absence. Variability in the expertise and training of ''qualified habitat biologists'' has led to broad variation in the application of CAO guidelines in completion of the HMPs. Coupled with the lack of requirement for WDFW to review and approve every HMP, this variability in expertise and training does not appear to equally or adequately support the conservation of Mazama pocket gophers.

Connectivity of populations, abundance of resources (e.g. food plants), and undisturbed habitat are three primary factors affecting plant and animal populations. The piecemeal pattern that development unavoidably exhibits is difficult to reconcile with the needs of the Mazama pocket gopher within a given Urban Growth Area. Further, previously-common species may become uncommon due to disruption by development, and preservation of small pockets of habitat is unlikely to prevent extirpation of some species without intensive species management, which is beyond the scope of individual CAOs. The four Thurston/Pierce subspecies of Mazama pocket gopher are affected by habitat loss through development and conversion. Protective measures undertaken while development of lands is taking place may provide benefits for these species; however, based on our review of the Washington County and State regulatory mechanisms, we conclude that these measures are currently inadequate to protect the the four Thurston/Pierce subspecies of Mazama pocket gopher from further population declines associated with habitat loss, inappropriate management and loss of connectivity. We do not have any information to suggest that the inadequacy of existing regulatory mechanisms poses a threat to the Olympic, Shelton, or Cathlamet subspecies of Mazama pocket gopher.

Summary of Factor D

In summary, the existing regulatory mechanisms described above are not sufficient to significantly reduce or remove the existing threats to the four Thurston/Pierce subspecies of Mazama pocket gopher. Lack of essential habitat protection under State laws leaves these subspecies at continued risk of habitat loss and degradation.

On JBLM, military training, as it currently occurs, causes direct mortality of individuals and impacts habitat for the Roy Prairie and Yelm subspecies of Mazama pocket gopher in all areas where training and the species overlap. However, we expect (based on our ongoing technical assistance), that the Final ESMPs and revised INRMP will provide greater conservation benefit to the species than this current level of management and will protect Mazama pocket gophers from further population declines associated with habitat loss or inappropriate management on JBLM properties. Therefore, we do not find existing regulatory mechanisms to be inadequate for the subspecies on JBLM lands.

The Washington CAOs generally provide conservation measures to minimize habitat removal and direct effects to the Mazama pocket gopher. However, habitat removal and degradation, direct loss of individuals, increased fragmentation, decreased connectivity, and the lack of consistent regulatory mechanisms to address the threats associated with these effects continues to occur, particularly for the four Thurston/Pierce subspecies of Mazama pocket gopher.

Based upon our review of the best commercial and scientific data available, we conclude that the existing regulatory mechanisms are inadequate to reduce the threats to the four Thurston/Pierce subspecies of Mazama pocket gopher now or in the future. Based on our review, we have no information to suggest that the inadequacy of existing regulatory mechanisms poses a threat to the Olympic, Shelton, or Cathlamet subspecies of Mazama pocket gopher.

Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence

Low Genetic Diversity, Small or Isolated Populations, and Low Reproductive Success

Most species' populations fluctuate naturally, responding to various factors such as weather events, disease, and predation. Johnson (1977, p. 3), however, suggested that these factors have less impact on a species with a wide and continuous distribution. Populations that are small, fragmented, or isolated by habitat loss or modification of naturally patchy habitat, and other human-related factors, are more vulnerable to extirpation by natural randomly occurring events, cumulative effects, and to genetic effects that plague small populations, collectively known as small population effects. These effects can include genetic drift (loss of recessive alleles), founder effects (over time, an increasing percentage of the population inheriting a narrow range of traits), and genetic bottlenecks leading to increasingly lower genetic diversity, with consequent negative effects on evolutionary potential.

To date, of the eight subspecies of Mazama pocket gopher in Washington, only the Olympic pocket gopher has been documented as having low genetic diversity (Welch and Kenagy 2008, p. 7), although the other seven subspecies have local populations that are small, fragmented, and physically isolated from one another. The four Thurston/Pierce subspecies face threats from further loss or fragmentation of habitat. Historically, Mazama pocket gophers probably persisted by continually recolonizing habitat patches after local extinctions. This process, in concert with widespread development and conversion of habitat, has resulted in widely separated populations since intervening habitat corridors are now gone, likely stopping much of the natural recolonization that historically occurred (Stinson 2005, p. 46). Although the Mazama pocket gopher (except for the Olympic pocket gopher) is not known to have low genetic diversity small population sizes in most sites coupled with disjunct and fragmented habitat may contribute to further population declines, specifically for the four Thurston/Pierce subspecies of Mazama pocket gopher. Little is known about the local or rangewide reproductive success of Mazama pocket gophers in Washington.

Climate Change

Our analyses under the Act include consideration of ongoing and projected changes in climate. The terms ''climate'' and ''climate change'' are defined by the Intergovernmental Panel on Climate Change (IPCC). The term ''climate'' refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements, although shorter or longer periods also may be used (IPCC 2007a, p. 78). The term ''climate change'' thus refers to a change in the mean or variability of one or more measures of climate (e.g., temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2007a, p. 78).

Scientific measurements spanning several decades demonstrate that changes in climate are occurring, and that the rate of change has been faster since the 1950s. Examples include warming of the global climate system, substantial increases in precipitation in some regions of the world, and decreases in other regions. (For these and other examples, see IPCC 2007a, p. 30; and IPCC 2007d, pp. 35–54, 82–85.) Results of scientific analyses presented by the IPCC show that most of the observed increase in global average temperature since the mid-20th century cannot be explained by natural variability in climate, and is ''very likely'' (defined by the IPCC as 90 percent or higher probability) due to the observed increase in greenhouse gas (GHG) concentrations in the atmosphere as a result of human activities, particularly carbon dioxide emissions from use of fossil fuels (IPCC 2007a, pp. 5–6 and figures SPM.3 and SPM.4; IPCC 2007d, pp. 21–35). Further confirmation of the role of GHGs comes from analyses by Huber and Knutti (2011, p. 4), who concluded it is extremely likely that approximately 75 percent of global warming since 1950 has been caused by human activities.

Scientists use a variety of climate models, which include consideration of natural processes and variability, as well as various scenarios of potential levels and timing of GHG emissions, to evaluate the causes of changes already observed and to project future changes in temperature and other climate conditions (e.g., IPCC 2007c, entire; Ganguly *et al.* 2009, pp. 11555, 15558; Prinn *et al.* 2011, pp. 527, 529). All combinations of models and emissions scenarios yield very similar projections of increases in the most common measure of climate change, average global surface temperature (commonly known as global warming), until about 2030. Although projections of the extent and rate of warming differ after about 2030, the overall trajectory of all the projections is one of increased global warming through the end of this century, even for the projections based on scenarios that assume that GHG emissions will stabilize or decline. Thus, there is strong scientific support for projections that warming will continue through the 21st century, and that the scope and rate of change will be influenced substantially by the extent of GHG emissions (IPCC 2007a, pp. 44–45;

IPCC 2007c, pp. 760–764 and 797–811; Ganguly *et al.* 2009, pp. 15555–15558; Prinn *et al.* 2011, pp. 527, 529). (See IPCC 2007b, p. 8, for a summary of other global projections of climate-related changes, such as frequency of heat waves and changes in precipitation. Also see IPCC 2011(entire) for a summary of observations and projections of extreme climate events.)

Various changes in climate may have direct or indirect effects on species. These effects may be positive, neutral, or negative, and they may change over time, depending on the species and other relevant considerations, such as interactions of climate with other variables (e.g., habitat fragmentation) (IPCC 2007e, pp. 214–246). Identifying likely effects often involves aspects of climate change vulnerability analysis. Vulnerability refers to the degree to which a species (or system) is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the type, scope, and rate of climate change and variation to which a species is exposed, its sensitivity, and its adaptive capacity (IPCC 2007a, p. 89; see also Glick *et al.* 2011, pp. 19–22). There is no single method for conducting such analyses that applies to all situations (Glick *et al.* 2011, p. 3). We use our expert judgment and appropriate analytical approaches to weigh relevant information, including uncertainty, in our consideration of various aspects of climate change.

As is the case with all threats that we assess, even if we conclude that a species is currently affected or is likely to be affected in a negative way by one or more climate-related impacts, it does not necessarily follow that the species meets the definition of an ''endangered species'' or a ''threatened species'' under the Act. If a species is listed as endangered or threatened, knowledge regarding the vulnerability of the species to, and known or anticipated impacts from, climate-associated changes in environmental conditions can be used to help devise appropriate strategies for its recovery.

Global climate projections are informative, and, in some cases, the only or the best scientific information available for us to use. However, projected changes in climate and related impacts can vary substantially across and within different regions of the world (e.g., IPCC 2007a, pp. 8–12). Therefore, we use ''downscaled'' projections when they are available and have been developed through appropriate scientific procedures, because such projections provide higher resolution information that is more relevant to spatial scales used for analyses of a given species (see Glick *et al.* 2011, pp. 58–61, for a discussion of downscaling). With regard to our analysis for the Mazama pocket gopher, downscaled projections are available.

The ranges of the Mazama pocket gopher subspecies extend from the Olympic Peninsula down through the Puget Sound trough. Downscaled climate change projections for this ecoregion predict consistently increasing annual mean temperatures from 2012 to 2095 using the IPCC's medium (A1B) emissions scenario (IPCC 2000, p. 245). Using the General Circulation Model (GCM) that most accurately predicts precipitation for the Pacific Northwest, the Third Generation Coupled Global Climate Model (CGCM3.1) under the medium emissions scenario (A1B), annual mean temperature is predicted to increase approximately 1.8 °Fahrenheit (F) (1 °Celsius (C)) by the year 2020, 3.6 °F (2 °C) by 2050, and 5.4 °F (3 °C) by 2090 (Climatewizardcustom 2012). This analysis was restricted to the ecoregion encompassing the overlapping range of the species of interest and is well supported by analyses focused only on the Pacific Northwest by Mote and Salathé in their 2010 publication, Future Climate in the Pacific Northwest (Mote and Salathé 2010, entire). Employing the same GCM and medium emissions scenario, downscaled model runs for precipitation in the ecoregion project a small (less than 5 percent) increase in mean annual precipitation over approximately the next 80 years. Most months are projected to show an increase in mean annual precipitation. May through August are projected to show a decrease in mean annual precipitation, which corresponds with the majority of the reproductive season for the Mazama pocket gopher (Climatewizardcustom 2012).

The potential impacts of a changing global climate to the Mazama pocket gopher are presently unclear. Projections localized to the Georgia Basin—Puget Sound Trough—Willamette Valley Ecoregion suggest that temperatures are likely to increase approximately 5 °F (2.8 °C) at the north end of the region by the year 2080 based on an average of greenhouse gas emission scenarios B1, A1B, and A2 and all Global Circulation Models employed by Climatewizard (range = 2.6 °F to 7.6 °F; 1.4 °C to 4.2 °C). Similarly, the mid region projection predicts an increase an average of 4.5 °F (range = 2.1 °F to 7.1 °F; average of 2.5 °C with a range of 1.2 °C to 3.9 °C) and the southern end to increase by 4.5 °F (range = 2.2 °F to 7.1 °F; average of 2.5 °C with a range of 1.2 °C to 3.9 °C). Worldwide, the IPCC states it is very likely that extreme high temperatures, heat waves, and heavy precipitation events will increase in frequency (IPCC 2007c, p. 783).

Climate change has been linked to a number of conservation issues and changes in animal populations and ranges. However, direct evidence that climate change is the cause of these alterations is often lacking (McCarty 2001, p. 327). The body of work examining the response of small mammals to climate change is small and is primarily focused on reconstruction of mammalian communities through the comparison of small mammal fossils from the late Pleistocene to those of the Holocene, a time period that spans the last significant climate warming event that took place between 15,000 and 11,000 years ago (Blois *et al.* 2010, entire; Terry *et al.* 2011, entire). Paleontological work done by Blois *et al.* (2010, p. 772) in northern California reveals a strong correlation between climate change and the decline and extirpation of small mammal species during the last major global warming event. The loss in species richness (number of taxa) of small mammals at their research site is equal to that documented for large mammal extinctions in North America during the same warming event at the transition from the Pleistocene to the Holocene: 32 percent (Blois *et al.* 2010, p. 772). Blois *et al.* (2010, supplemental data, p. 9) determined that *Thomomys mazama* were more vulnerable to climate change than other *Thomomys* species in the area due to the steep decline of *T. mazama* population numbers that coincided with the first significant warming event around 15,000 years ago and their extirpation from the site around 6,000 years ago.

To explore the potential impacts of climate change within the Anthropocene (the current geologic epoch), Blois (2009, p. 243) constructed a climate niche (the estimated tolerance of environmental variables for a given species) for *Thomomys mazama* reflecting the average minimum and average maximum temperatures range wide. Blois used climate data compiled by PRISM Group, Oregon State University, for the years 1971–2000, to construct the climate niche. Temperatures given are mean annual temperatures based on mean monthly averages. The climate niche Blois constructed for the Mazama pocket gopher gives 22.3 °F (−5.4 °C) for the lowest of the mean annual minimum temperatures across all localities and 66.9 °F (19.4 °C) for the highest of the

mean annual maximum temperatures across all localities where Mazama pocket gophers are found. Minimum and maximum temperatures above the surface of the soil are attenuated with increased soil depth. It is unknown as to whether or not Mazama pocket gophers are able to regulate the temperature in their burrow system by digging deeper in the soil; however, it is likely that any temperature changes experienced by pocket gophers underground are attenuated relative to observed changes in surface temperatures.

The effects of climate change may be buffered by pocket gophers' fossorial lifestyle and are likely to be restricted to indirect effects in the form of changes in vegetation structure and subsequent habitat shifts through plant invasion and encroachment (Blois 2009, p. 217). Further, the impacts of climate change on western Washington are projected to be less severe than in other parts of the country. While overall annual average precipitation in western Washington is predicted to increase, seasonal precipitation is projected to become increasingly variable, with wetter and warmer winter and springs and drier, hotter summers (Mote and Salathé 2010, p. 34; Climatewizard 2012). These shifts in temperature, precipitation, and soil moisture may result in changes in the vegetation structure through woody invasion and encroachment and thus affect the habitat for all pocket gopher species and subspecies in the region. Despite this potential for future environmental changes, we have not identified nor are we aware of any data on an appropriate scale to evaluate habitat or populations trends for the Mazama pocket gopher subspecies or to make predictions about future trends and whether the species will be significantly impacted by climate change.

Stochastic Weather Events

Stochasticity of extreme weather events may impact the ability of threatened and endangered species to survive. Vulnerability to weather events can be described as being composed of three elements; exposure, sensitivity, and adaptive capacity.

The small, isolated nature of the remaining populations of Mazama pocket gophers increases the species' vulnerability to stochastic (random) natural events. When species are limited to small, isolated habitats, they are more likely to become extinct due to a local event that negatively affects the population. While a population's small, isolated nature does not represent an independent threat to the species, it does substantially increase the risk of extirpation from the effects of all other threats, including those addressed in this analysis, and those that could occur in the future from unknown sources.

The impact of stochastic weather and extreme weather events on pocket gophers is difficult to predict. Pocket gophers may largely be buffered from these impacts due to their fossorial lifestyle, but Case and Jasch (1994, p. B–21) connect sharp population declines of pocket gophers of several genera with stochastic weather events such as heavy snow cover and rapid snowmelt with a corresponding rise in the water table. Based on our review, we found no information to indicate that the effects of stochastic weather events are a threat to any of the Washington subspecies of Mazama pocket gopher.

Pesticides and Herbicides

The Mazama pocket gopher is not known to be impacted by pesticides or herbicides directly, but may be impacted by the equipment used to dispense them. These impacts are covered under Factor A.

Control as a Pest Species

Pocket gophers are often considered a pest because they sometimes damage crops and seedling trees, and their mounds can create a nuisance. Several site locations in the WDFW wildlife survey database were found as a result of trapping on Christmas tree farms, a nursery, and in a livestock pasture (WDFW 2001). For instance, the type locality for the Cathlamet pocket gopher is on a commercial tree farm. Mazama pocket gophers in Washington were also used in a rodenticide experiment as recently as 1995 (Witmer *et al.* 1996, p. 97).

In Washington it is currently illegal to trap or poison pocket gophers or trap or poison moles where they overlap with Mazama pocket gopher populations, but not all property owners are cognizant of these laws, nor are most citizens capable of differentiating between mole and pocket gopher soil disturbance. In light of this, it is reasonable to believe that mole trapping or poisoning efforts still have the potential to adversely affect pocket gopher populations. Local populations of Mazama pocket gophers that survive commercial and residential development (adjacent to and within habitat) may be subsequently extirpated by trapping or poisoning by humans. Lethal control by trapping or poisoning is most likely a threat to the four Thurston/Pierce subspecies, where they overlap residential properties. Trapping or poisoning is not a threat to the Olympic pocket gopher, which resides wholly within the Olympic National Park.

It is unknown if this may be a threat to the Cathlamet or Shelton pocket gophers, which are found largely on commercial timber lands or on Port of Shelton lands. Commercial timber landowners are likely to trap or poison gophers in areas where it is otherwise legal and where gophers are limiting tree seedling growth. This has not been a reported problem in either county. Shelton and Cathlamet pocket gophers are State-listed and thus lethal control is illegal without a permit. Port of Shelton is aware that gophers occur on their property, is operating under a gopher habitat management plan, and have not used lethal control there since gophers don't directly impact their operations. We found no information to indicate that control as a pest species is a threat to the Shelton or Cathlamet subspecies of Mazama pocket gopher.

Recreation

The Mazama pocket gopher is not known to be impacted by recreation activities, although predation by domestic dogs associated with recreational activities does occur (Clause 2012, pers. comm.). These impacts are covered under Predation in Factor C.

Summary of Factor E

Based upon our review of the best commercial and scientific data available, the loss, degradation, and fragmentation of prairies has resulted in smaller local population sizes, loss of genetic diversity, reduced gene flow among populations, destruction of population structure, and increased susceptibility to local population extirpation for the four Thurston/Pierce subspecies of Mazama pocket gopher from a series of threats including poisoning and trapping, as summarized below.

Small population sizes coupled with disjunct and fragmented habitat may contribute to further population declines, specifically for the four Thurston/Pierce subspecies of Mazama pocket gopher, which occur in habitats that face continuing fragmentation due to development.

Mole trapping or poisoning efforts have the potential to adversely affect the four Thurston/Pierce subspecies, especially where they abut commercial and residential areas. Such efforts may have a particularly negative impact on these pocket gopher populations since they are already small and isolated.

Due to small population effects caused by fragmentation of habitat, and impacts from trapping and poisoning

efforts, we find that the threats associated with other natural or manmade factors are significant for the four Thurston/Pierce subspecies of Mazama pocket gopher.

Based on the best available scientific and commercial information, we found no evidence to suggest that any of the factors considered here pose a threat to the Olympic, Shelton, or Cathlamet subspecies of Mazama pocket gopher.

Proposed Determination

The four Thurston/Pierce subspecies of Mazama pocket gopher. The four Thurston/Pierce subspecies historically ranged across the open prairies and grasslands of the south Puget Sound (Dalquest and Scheffer 1942, pp. 95–96). In the south Puget Sound region, where most of western Washington's prairies historically occurred, and where the four Thurston/Pierce subspecies occur, less than 10 percent of the original prairie persists (Crawford and Hall 1997, pp. 13–14). These four subspecies have varying degrees of impacts acting on them.

For the four Thurston/Pierce subspecies, we find that both development and fire suppression have caused the loss of a majority of prairie habitats or made such habitat unavailable to gophers due to encroachment of native and nonnative species of plants. These significant impacts are expected to continue into the foreseeable future. Impacts from military training, affecting large local populations of the Roy Prairie and Yelm pocket gopher on JBLM, are expected to increase under the DOD's Grow the Army initiative although we expect that JBLM's final ESMPs will provide an overall conservation benefit to the species. Predation of gophers by feral and domestic cats and dogs has occurred and is expected to increase with increased residential development on prairie soils occupied by gophers. This is of particular concern for the four Thurston/Pierce subspecies.

We find that the threat of development and adverse impacts to habitat from conversion to other uses, the loss of historically occupied locations resulting in the present isolation and limited distribution of the species, the impacts of military training, existing and likely future habitat fragmentation, land use changes, long-term fire suppression, and the threats associated with the present and threatened destruction, modification, and curtailment of the four Thurston/Pierce subspecies habitat is significant. We conclude that there are likely to be significant, ongoing threats to the subspecies due to factors such as small population effects (risk of population loss due to catastrophic or stochastic events), poisoning, and trapping. The small size of most of the remaining local populations, coupled with disjunct and fragmented habitat, may render them increasingly vulnerable to additional threats such as those mentioned above.

The four Thurston/Pierce subspecies face a combination of several high-magnitude threats; the threats are immediate; these subspecies are highly restricted in their ranges; the threats occur throughout the subspecies' ranges and are not restricted to any particular significant portion of those ranges. Therefore, we assessed the status of each of these subspecies throughout their entire ranges and our assessment and proposed determination will apply to these subspecies throughout their entire ranges. For the reasons provided in this rule we propose that the four Thurston/Pierce subspecies (*Thomomys mazama pugetensis, glacialis, tumuli,* and *yelmensis*—the Olympia, Roy Prairie, Tenino, and Yelm pocket gophers, respectively) be listed as threatened throughout their ranges.

The Act defines an endangered species as any species that is ''in danger of extinction throughout all or a significant portion of its range'' and a threatened species as any species ''that is likely to become endangered throughout all or a significant portion of its range within the foreseeable future.'' We find that the four Thurston/Pierce subspecies (*Thomomys mazama pugetensis, glacialis, tumuli,* and *yelmensis*) are likely to become endangered species throughout all or a significant portion of their ranges within the foreseeable future, based on the immediacy, severity, and scope of the threats described above. We do not, however, have information to suggest that the present threats are of such great magnitude that any of these four subspecies are in immediate danger of extinction, but are likely to become so in the foreseeable future. Therefore, on the basis of the best available scientific and commercial information, we determine that *T. m. pugetensis, glacialis, tumuli,* and *yelmensis* meet the definition of threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

This proposal is based on current information about the location, status and threats for these subspecies. If new information is found which results in an expanded range of habitats used by the subspecies, or a different level of threats, we will consider that information in the final rule.

Olympic pocket gopher. The Olympic pocket gopher occupies isolated alpine meadows in the Olympic National Park in Clallam County. We find that the effects due to small or isolated populations have likely had negative impacts to the subspecies. This low-magnitude threat is not known to be imminent, though it may continue into the foreseeable future. This species also exhibits low genetic diversity. This is also a low-magnitude threat, is ongoing and likely to continue into the foreseeable future. This subspecies is highly restricted in its range, the few threats identified occur throughout its range, and the threats are not restricted to any particular portion of its range. However, none of the threats faced by the Olympic pocket gopher are particularly grave or immediate, and we do not have information to suggest that the subspecies is suffering from any recent declines in abundance or distribution. Occurring entirely within the boundaries of a National Park, the Olympic pocket gopher is secure from many of the threats facing the other Washington subspecies, such as habitat loss to development, encroachment by woody vegetation, or predation by feral cats and dogs. The best available information indicates that the threats identified for the Olympic pocket gopher are relatively minor and are not resulting in population level effects such that the subspecies is currently in danger of extinction, or likely to become so within the foreseeable future. Therefore, we find that the Olympic subspecies *(Thomomys mazama melanops)* does not meet the definition of an endangered or a threatened species and therefore does not warrant listing under the Act.

Shelton pocket gopher. The Shelton pocket gopher used to range across the open prairies and grasslands of Mason County, and is now also known to inhabit low-elevation meadow-type areas in Mason County. We find that the effects due to small or isolated populations have likely had negative impacts to the subspecies. This low-magnitude threat is not known to be imminent, though it may continue into the foreseeable future. This subspecies is highly restricted in its range, the few threats identified occur throughout its range, and the threasts are not restricted to any particular portion of its range. Although likely impacted by development in the past, we have no information to suggest that future development poses a threat to this subspecies, and beneficial management plans are in place for some of the larger populations of the Shelton pocket gopher.

This subspecies is not currently affected by many of the threats that have

had severe impacts on other Washington subspecies of Mazama pocket gopher, such as habitat loss due to residential or commercial development, encroachment of woody vegetation, or predation by cats and dogs. We have no evidence that the Shelton pocket gopher is experiencing population-level effects from the threats identified, and new local populations of the subspecies have been identified. Based on the best available information, we conclude that the threats faced by the Shelton pocket gopher are relatively minor and that the subspecies is not currently in danger of extinction, or likely to become so within the foreseeable future. Therefore, we find that the Shelton subspecies *(Thomomys mazama couchi)* does not meet the definition of an endangered or a threatened species and therefore does not warrant listing under the Act.

Cathlamet pocket gopher. The Cathlamet pocket gopher occurs in low-elevation meadow-type areas in Wahkiakum County. The subspecies is found in a limited-extent soil type on commercial timber lands. In the Service's review of this species previously (USFWS 2010, pp. 5–6), it was characterized as likely extinct. However, based on our further review of information, we determined that further surveys of the type locality and surrounding area are needed to determine the status of this subpopulation as thorough surveys of all potential habitat were never conducted. In addition, land use within the type locality has remained the same since the subspecies was discovered in 1949 (Gardner 1950), suggesting that the subspecies may remain extant.

We find that the effects due to small or isolated populations may have had negative impacts to the subspecies. However, this low-magnitude threat is not known to be imminent, though it will likely continue into the future. The range and distribution of the Cathlamet pocket gopher has not been completely surveyed and its type locality still exists. Based on the available information, we do not have evidence that the subspecies is impacted at a population level and believe that any threats to the species are minor and are not restricted to any particular portion of its range. For these reasons and those discussed under the Factor analyses previously, we have determined that the Cathlamet subspecies *(Thomomys mazama louiei)* does not meet the definition of an endangered or a threatened species and therefore does not warrant listing under the Act.

Distinct Population Segment and Significant Portion of the Range for the Four Thurston/Pierce Subspecies of Mazama Pocket Gopher

Having determined that the four Thurston/Pierce subspecies of Mazama pocket gopher meet the definition of threatened species throughout their ranges, we must next consider whether a distinct population segment of any of these subspecies may be an endangered species in accordance with the Service's Policy Regarding the Recognition of Distinct Vertebrate Population Segments under the Endangered Species Act (61 FR 4722, February 7, 1996), or whether any significant portions of the ranges of the subspecies exist where they are in danger of extinction. Because the range is so small for each of these subspecies and we have considered the threats throughout the range of each subspecies, we believe there is no relevant portion of any of the subspecies' ranges that could be justified as a separate Distinct Population Segment or significant portion of the range. In addition, our evaluation did not indicate that threats for any of the subspecies were particularly concentrated or more severe within any geographic subset of the subspecies' range.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Listing results in recognition and public awareness and conservation by Federal, State, Tribal, and local agencies, private organizations, and individuals. The Act encourages cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required by Federal agencies and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Subsection 4(f) of the Act requires the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

Recovery planning includes the development of a recovery outline shortly after a species is listed, preparation of a draft and final recovery plan, and revisions to the plan as significant new information becomes available. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. The recovery plan identifies site-specific management actions that will achieve recovery of the species, measurable criteria that determine when a species may be downlisted or delisted, and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams (comprised of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outline, draft recovery plan, and the final recovery plan will be available on our Web site (*http://www.fws.gov/endangered*), or from our Washington Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribal, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (e.g., restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

If the four Thurston/Pierce subspecies of Mazama pocket gopher are listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the State of Washington would be eligible for Federal funds to implement management actions that promote the protection and recovery of these Mazama pocket gopher subspecies. Information on our grant programs that

are available to aid species recovery can be found at: *http://www.fws.gov/grants.*

Although the four Thurston/Pierce subspecies of Mazama pocket gopher are only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for these species. Additionally, we invite you to submit any new information on these species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, 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 the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal agency actions within the species habitat that may require conference or consultation or both as described in the preceding paragraph include actions to manage or restore critical habitat, actions that require collecting or handling the species for the purpose of captive propagation and translocation to new habitat, actions that may negatively affect the species through removal, conversion, or degradation of habitat. Examples of activities conducted, regulated or funded by Federal agencies that may affect listed species or their habitat include, but are not limited to:

(1) Military training activities and operations conducted in or adjacent to occupied or suitable habitat on DOD lands;

(2) Activities with a Federal nexus that include vegetation management such as burning, mechanical treatment, and/or application of herbicides/pesticides on Federal, State, or private lands;

(3) Ground-disturbing activities regulated, funded or conducted by Federal agencies in or adjacent to occupied and/or suitable habitat; and

(4) Import, export or trade of the species, to name a few.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. The prohibitions of section 9(a)(2) of the Act, codified at 50 CFR 17.21 for endangered wildlife, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import, export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. Under the Lacey Act (18 U.S.C. 42–43; 16 U.S.C. 3371–3378), it is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered and threatened wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 for endangered species, and at 17.32 for threatened species. With regard to endangered wildlife, a permit must be issued for the following purposes: For scientific purposes, to enhance the propagation or survival of the species, and for incidental take in connection with otherwise lawful activities.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of species proposed for listing. The following activities could potentially result in a violation of section 9 of the Act; this list is not comprehensive:

(1) Unauthorized collecting, handling, possessing, selling, delivering, carrying, or transporting of the subspecies, including import or export across State lines and international boundaries, except for properly documented antique specimens of these taxa at least 100 years old, as defined by section 10(h)(1) of the Act;

(2) Introduction of species that compete with or prey upon the Mazama pocket gopher, or its habitat such as the introduction of competing, invasive plants or animals;

(3) Unauthorized modification of the soil profiles or the vegetation components on sites known to be occupied by the four Thurston/Pierce subspecies of Mazama pocket gopher;

(4) Unauthorized utilization of trapping or poisoning techniques in areas occupied by the four Thurston/Pierce subspecies of Mazama pocket gopher;

(5) Intentional harassment or removal of pocket gophers; and

(6) When conducted over large areas, removal of forage habitat by burning or other means i.e., the area of removal is so large that gophers can't access foraging habitat from the center of the area.

Questions regarding whether specific activities would constitute a violation of section 9 of the Act should be directed to the Washington Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**). Requests for copies of the regulations concerning listed animals and general inquiries regarding prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Eastside Federal Complex, 911 NE. 11th Avenue, Portland, OR 97232–4181 (telephone 503–231–6158; facsimile 503–231–6243).

If the four Thurston/Pierce subspecies of Mazama pocket gopher are listed under the Act, the State of Washington may enter into agreements with Federal agencies to administer and manage any area required for the conservation, management, enhancement, or protection of endangered species. Funds for these activities could be made available under section 6 of the Act (Cooperation with the States) or through competitive application to receive funding through our Recovery Program under section 4 of the Act. Thus, the Federal protection afforded to the subspecies by listing them as threatened species will be reinforced and supplemented by protection under State law.

Special Rules

Under section 4(d) of the Act, the Secretary may publish a special rule that modifies the standard protections for threatened species in the Service's regulations at 50 CFR 17.31, which implement section 9 of the Act, with special measures that are determined to be necessary and advisable to provide for the conservation of the subspecies. As a means to promote conservation efforts on behalf of the four Thurston/Pierce subspecies of Mazama pocket gopher, we are proposing special rules for these subspecies under section 4(d) of the Act. In the case of a special rule,

the general regulations (50 CFR 17.31 and 17.71) applying most prohibitions under section 9 of the Act to threatened species do not apply to that species, and the special rule contains the prohibitions necessary and appropriate to conserve that species.

Under the proposed special rule, take of these subspecies caused by restoration- and/or maintenance-type activities by airports on State, county, private, or Tribal lands and ongoing single-family residential noncommercial activities would be exempt from section 9 of the Act. These activities include mechanical weed and grass removal on airports. We also propose to exempt certain construction activities that occur in already-developed sites within single-family residential development footprints. These include the placement of above-ground fencing, garden plots, children's play equipment, residential dog kennels, and storage sheds and carports on block or above-ground footings. In addition, we also propose to exempt certain normal farming or ranching activities, including: grazing, routine fence and structure maintenance, mowing, herbicide use, burning, and other routine activities as described under proposed § 17.40 (Special Rules—Mammals) at the end of this document. The rule targets these activities to encourage landowners to continue to maintain those areas that are not only important for airport safety, agricultural use, and restoration activities, but also provide habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher. On Federal lands, airport restoration and maintenance type activities will be addressed through the section 7 process.

Justification

Airport Management. Some management actions taken at airports are generally beneficial to Mazama pocket gophers. The Service believes current management of these areas provide for safe aircraft operations while simultaneously providing for the conservation of pocket gophers. Under the proposed rule, covered actions would include vegetation management to maintain desired grass height on or adjacent to airports through mowing or herbicide use; hazing of hazardous wildlife, routine management, repair and maintenance of roads and runways; and management of forage, water, and shelter to be less attractive to these hazardous wildlife. See proposed § 17.40 (Special Rules—Mammals) for specific language.

If finalized, the listing of the four Thurston/Pierce subspecies of Mazama pocket gopher would impose a requirement of airport managers where the subspecies occur to consider the effects of their management activities on these subspecies. Additionally, airport managers would likely take actions to deter the subspecies from inhabiting areas where they currently occur in order to avoid the burden of the resulting take restrictions that would accrue from the presence of a listed species. However, a special rule under section 4(d) of the Act for airports which exempts activities, such as mowing or other management to deter hazardous wildlife, that result in take under section 9 of the Act, would encourage airports to maintain habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher.

Agricultural Lands. Agricultural lands provide important habitats for the four Thurston/Pierce subspecies of Mazama pocket gopher. Examples of farmed areas that are occupied by Mazama pocket gophers and provide suitable habitat include livestock ranches, pastures, seed nurseries, and open areas where vegetation is maintained in an early seral condition. Some farming activities like tilling or discing, if conducted during certain times of the year, can result in individuals being injured or killed. But where adjacent local populations remain intact, Mazama pocket gophers may recolonize disturbed areas and continue to persist in areas that are farmed, grazed, and used for agricultural production. Because agricultural areas provide important habitats for the four Thurston/Pierce subspecies of Mazama pocket gopher, we propose to exempt normal farming and ranching activities, including: grazing, routine fence and structure maintenance, mowing, herbicide use, burning, and other routine activities as described under proposed § 17.40 (Special Rules—Mammals), which may result in take of the Mazama pocket gopher under section 9 of the Act.

Ongoing Small Landowner Noncommercial Activities. The four Thurston/Pierce subspecies of Mazama pocket gopher occur on private lands throughout Thurston and Pierce Counties. Activities by single-family residential landowners in these areas have the potential to harm or kill pocket gophers. Section 9 of the Act provides general prohibitions on activities that would result in take of a threatened species; however, the Service recognizes that routine maintenance and some small construction activities, even those with the potential to inadvertently take individual Mazama pocket gophers, may provide for the long-term conservation needs of the species. The Service recognizes that in the long term, it is a benefit to the four Thurston/Pierce subspecies of Mazama pocket gopher to maintain the distribution of the species across private and public lands to aid in the recovery of the species. We believe this special rule will further conservation of the species by discouraging conversions of the landscape into habitats unsuitable for the four Thurston/Pierce subspecies of Mazama pocket gopher and encouraging landowners to continue managing the remaining landscape in ways that meet the needs of their operation and provide suitable habitat for these four subspecies. Under the proposed rule, covered actions would include vegetative management through mowing or herbicide use, and the construction of dog kennels, fences, garden plots, playground equipment, and storage sheds and carports on block or above-ground footings, as described under proposed § 17.40 (Special Rules—Mammals).

Provisions of the Proposed Special Rule

We believe these actions and activities, while they may have some minimal level of harm or disturbance to the four Thurston/Pierce subspecies of Mazama pocket gopher, are not expected to adversely affect the species' conservation and recovery efforts.

This proposal will not be finalized until we have reviewed comments from the public and peer reviewers. Exempted activities include existing routine airport practices as outlined above by non-Federal entities on existing airports, agricultural and ranching activities, and routine single-family residential activities.

Critical Habitat Designation for the Four Thurston/Pierce Subspecies of Mazama Pocket Gopher

It is our intent to discuss below only those topics directly relevant to the designation of critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher (Olympia, Roy Prairie, Tenino, and Yelm) in this section of the proposed rule.

Background

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

(1) The specific areas within the geographical area occupied by the 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 the 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 pursuant to 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 requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of 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) would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographic area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical and biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are the elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographic area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area currently occupied by the species, but that was not occupied at the time of listing, may be determined to be essential to the conservation of the species and may be included in the critical habitat designation. We designate critical habitat in areas outside the geographic area occupied by a species only when a designation limited to its range would be inadequate to ensure the conservation of the species.

Methods

As required by Section 4 of the Act, we used the best scientific data available in determining those areas that contain the physical or biological features essential to the conservation of these species. 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 (if available), articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, other unpublished materials, or experts' opinions or personal knowledge. In this case we used existing occurrence data for each species and identified the habitat and ecosystems upon which they depend. These sources of information included, but were not limited to:

1. Data used to prepare the proposed rule to list the species;
2. Information from biological surveys;
3. Peer-reviewed articles, various agency reports, and databases;
4. Information from the U.S. Department of Defense—Joint Base Lewis McChord and other cooperators;
5. Information from species experts;
6. Data and information presented in academic research theses; and
7. Regional Geographic Information System (GIS) data (such as species occurrence data, land use, topography, aerial imagery, soil data, and land ownership maps) for area calculations and mapping.

Habitat is dynamic, and species may move from one area to another over time. Climate change will be a particular challenge for biodiversity because the interaction of additional threats associated with climate change and current threats may push species beyond their ability to survive (Lovejoy 2005, pp. 325–326). The synergistic implications of climate change and habitat fragmentation are the most threatening facet of climate change for biodiversity (Hannah *et al.* 2005, p. 4). Current climate change predictions for terrestrial areas in the Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field *et al.* 1999, pp. 1–3; Hayhoe *et al.* 2004, p. 12422; Cayan *et al.* 2005, p. 6; Intergovernmental Panel on Climate Change (IPCC) 2007, p. 1181). Climate change may lead to increased frequency and duration of severe storms and droughts (Golladay *et al.* 2004, p. 504; McLaughlin *et al.* 2002, p. 6074; Cook *et al.* 2004, p. 1015).

The information currently available on the effects of global climate change and increasing temperatures does not make sufficiently precise estimates of the location and magnitude of the

effects. Nor are we currently aware of any climate change information specific to the habitat of the species that would indicate what areas may become important to the subspecies in the future. Therefore, we are unable to determine what additional areas, if any, may be appropriate to include in the final critical habitat for these subspecies to address the effects of climate change.

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 subspecies. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the subspecies. Areas that are important to the conservation of the subspecies, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) the prohibitions of section 9 of the Act if actions occurring in these areas may affect the subspecies. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. 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 of these planning efforts calls for a different outcome.

Prudency Determination

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. Our regulations at 50 CFR 424.12(a)(1) state that the designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is threatened by taking or other activity and the identification of critical habitat can be expected to increase the degree of threat to the species; or (2) such designation of critical habitat would not be beneficial to the species.

Species Proposed for Listing

As we have discussed under the threats analysis for Factor B, there is no documentation that the four Thurston/Pierce subspecies of Mazama pocket gopher are currently significantly threatened by collection for private or commercial purposes.

We reviewed the information available for the four Thurston/Pierce subspecies of Mazama pocket gopher pertaining to their biological needs and habitat characteristics. In the absence of finding that the designation of critical habitat would increase threats to a species, if there are any benefits to a critical habitat designation, then a prudent finding is warranted. The potential benefits of critical habitat to the four Thurston/Pierce subspecies of Mazama pocket gopher include: (1) Triggering consultation under section 7 of the Act in new areas, for actions in which there may be a Federal nexus where it would not otherwise occur because, for example, it is or has become unoccupied or the occupancy is in question; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the subspecies.

The primary regulatory effect of critical habitat is the section 7(a)(2) requirement that Federal agencies refrain from taking any action that destroys or adversely modifies critical habitat. We find that the designation of critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher will benefit them by serving to focus conservation efforts on the restoration and maintenance of ecosystem functions that are essential for attaining their recovery and long-term viability. In addition, the designation of critical habitat serves to inform management and conservation decisions by identifying any additional physical or biological features of the ecosystem that may be essential for the conservation of these subspecies. Therefore, because we have determined that the designation of critical habitat will not likely increase the degree of threat to the species and may provide some measure of benefit, we find that designation of critical habitat is prudent for the four Thurston/Pierce subspecies of Mazama pocket gopher.

Critical Habitat Determinability

Having determined that designation is prudent, under section 4(a)(3) of the Act we must find whether critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher is determinable. Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist:

(i) Information sufficient to perform required analyses of the impacts of the designation is lacking, or

(ii) The biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat.

When critical habitat is not determinable, the Act allows the Service an additional year to publish a critical habitat designation (16 U.S.C. 1533(b)(6)(C)(ii)).

We reviewed the available information pertaining to the biological needs of the four Thurston/Pierce subspecies of Mazama pocket gopher and habitat characteristics where these subspecies are located. This and other information represent the best scientific data available and led us to conclude that the designation of critical habitat is determinable for the four Thurston/Pierce subspecies of Mazama pocket gopher.

Physical or Biological Features

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we identify the physical or biological features that are essential to the conservation of the species and which 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, or rearing (or development) of offspring; and

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

We derive the specific physical or biological features required for each subspecies from studies of their habitat, ecology, and life history as described above in this document. We have determined that the physical and

biological features described below are essential for the conservation of the four Thurston/Pierce subspecies of Mazama pocket gopher, and have further determined that these features may require special management considerations or protection.

We have determined that the following physical or biological features are essential for the four Thurston/Pierce subspecies of Mazama pocket gopher:

Space for Individual and Population Growth and for Normal Behavior

Pocket gophers have low vagility, meaning they have a poor dispersal capability (Williams and Baker 1976, p. 303). *Thomomys mazama* pocket gophers are smaller in size than other sympatric (occurring within the same geographic area; overlapping in distribution) or parapatric (immediately adjacent to each other but not significantly overlapping in distribution) *Thomomys* species (Verts and Carraway 2000, p. 1). Both dispersal distances and home range size are therefore likely to be smaller than for other *Thomomys* species. Dispersal distances may vary based on surface or soil conditions and size of the animal. For other, larger, *Thomomys* species, dispersal distances average about 131 ft (40 m) (Barnes 1973, pp. 168–169; Williams and Baker 1976, p. 306; Daly and Patton 1990, pp. 1286, 1288). Initial results from dispersal research being conducted on JBLM indicates that Mazama pocket gophers in Washington usually disperse from 13.1–32.8 ft (4–10 m), though one animal moved 525 ft (160m) in 1 day (Olson 2012b, p. 5). Suitable dispersal habitat contains gopher foraging habitat and is free of barriers to gopher movement. Barriers include, but are not limited to, open water, steep slopes, and soils or substrates inappropriate for burrowing.

The home range of a Mazama pocket gopher is composed of suitable breeding and foraging habitat (described below, under ''Food, water, air, light, minerals, or other nutritional or physiological requirements''). Home range size varies based on factors such as soil type, climate, and density and type of vegetative cover (Cox and Hunt 1992, p. 133; Case and Jasch 1994, p. B–21; Hafner *et al.* 1998, p. 279). Home range size for individual Mazama pocket gophers averages about 1,076 square feet (ft^2) (100 square meters (m^2)) (Witmer *et al.* 1996, p. 96). Based on work done by Converse *et al.* (2010, pp. 14–15), a local population could be self-sustaining if it occurred on a habitat patch that was equal to or greater than 50 ac (20 ha) in size.

Therefore, based on the information above, we identify patches of breeding and foraging habitat that are equal to or greater than 50 ac (20 ha) in size or within dispersal distance of each other, as well as corridors of suitable dispersal habitat, as physical or biological features essential to the conservation of the four Thurston/Pierce subspecies of Mazama pocket gopher.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements and Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

The four Thurston/Pierce subspecies are associated with glacial outwash prairies in western Washington, an ecosystem of conservation concern (Hartway and Steinberg 1997, p. 1). Steinberg and Heller (1997, p. 46) found that Mazama pocket gophers are even more patchily distributed than are the prairie habitats they inhabit. That is, there are some seemingly high quality prairies within the species' range that lack pocket gophers. Prairie habitats have a naturally patchy distribution, and within them, there is a patchy distribution of soil rockiness (Steinberg and Heller 1997, p. 45; WDFW 2009a), which may further restrict the total area that gophers can utilize since they avoid areas of excessive rockiness.

Of the glacial outwash prairie soils or prairie-like soils present in western Washington, the four Thurston/Pierce subspecies of Mazama pocket gopher are most often found in deep, well-drained, friable soils capable of supporting the forbs, bulbs, and grasses that are the preferred forage for gophers (Stinson 2005, pp. 22–23).

In order to support typical Mazama pocket gopher forage plants, areas supporting Mazama pocket gophers tend to be largely free of shrubs and trees. Woody plants shade out the forbs, bulbs, and grasses that gophers prefer to eat, and high densities of woody plants make travel both below and above the ground difficult for gophers. The probability of Mazama pocket gopher occupancy is much higher in areas with less than 10 percent woody vegetation cover (Olson 2011, p. 16).

Although some soils used by Mazama pocket gophers are relatively sandy, gravelly, or silty, those most frequently associated with the subspecies are loamy and deep, have slopes generally less than 15 percent, and have good drainage or permeability. These soils types additionally provide the essential physical and biological features of cover or shelter, as well as sites for breeding, reproduction, or rearing of offspring. Soils series where individuals of the four Thurston/Pierce subspecies of Mazama pocket gopher may be found include Alderwood, Cagey, Everett, Godfrey, Indianola, Kapowsin, McKenna, Nisqually, Norma, Spana, Spanaway, Spanaway-Nisqually complex, and Yelm.

Additionally, encroachment of woody vegetation into the habitat of the four Thurston/Pierce subspecies of Mazama pocket gopher continues to further reduce the size of the remaining prairies and prairie-type areas, thus reducing the amount of habitat available for gophers to burrow, forage, and reproduce. Historically these areas would have been maintained by natural or human-caused fires. Fire suppression allows Douglas-fir and other woody plants to encroach on and overwhelm prairie habitat (Stinson 2005, p. 7). Mazama pocket gophers require areas where natural disturbance or management prevents the encroachment of woody vegetation into their preferred prairie or meadow habitats.

Therefore, based on the information above, we identify soils series that are known to support the Mazama pocket gopher in Washington (listed above), and vegetative habitat with less than 10 percent woody plant cover, that provides for feeding, breeding, and foraging, as physical or biological features essential to the conservation of the Mazama pocket gopher.

Habitats That Are Protected From Disturbance or Are Representative of the Historical, Geographical, and Ecological Distributions of a Species

Predation, specifically feral and domestic cat and dog predation, is a threat to the four Thurston/Pierce subspecies of Mazama pocket gopher. Urbanization exacerbates this threat with the addition of feral and domestic cats and dogs into the matrix of pocket gopher habitat. Many pets are not controlled by their owners in the semi-urban and rural environments that the four Thurston/Pierce subspecies of Mazama pocket gopher currently inhabit, leading to uninhibited predation of native animals. Where local populations of native wild animals are small or declining, predation can drive populations farther toward extinction (Woodworth 1999, pp. 74–75). Many local populations of the four Thurston/Pierce subspecies of Mazama pocket gopher are small and occur in a matrix of residential and agricultural development, with many feral and domestic pets in the vicinity. Pocket gophers need areas free of the threat of predation by feral and domestic cats and dogs.

In Washington it is currently illegal to trap or poison Mazama pocket gophers (WAC 232–12–011, RCW 77.15.194), but not all property owners are aware of these laws, nor are most citizens capable of differentiating between mole and pocket gopher soil disturbance. In light of this, it is reasonable to believe that mole trapping and poisoning efforts have the potential to adversely affect pocket gopher populations within the range of the four Thurston/Pierce subspecies of Mazama pocket gopher. Mazama pocket gophers require areas free of human disturbance from trapping and poisoning.

Therefore, based on the information above, we identify areas where gophers are protected from predation by feral or domestic animals, as well as from human disturbance in the form of trapping and poisoning, as physical or biological features essential to the conservation of the Mazama pocket gopher.

Primary Constituent Elements for the Four Thurston/Pierce Subspecies of Mazama Pocket Gopher

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of the four Thurston/Pierce subspecies of Mazama pocket gopher in areas occupied at the time of listing, focusing on the features' primary constituent elements (PCEs). We consider primary constituent elements to be the elements of physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the subspecies' life-history processes, we determine that the primary constituent elements specific to the four Thurston/Pierce subspecies of Mazama pocket gopher are:

(i) Friable, loamy, and deep soils, some with relatively greater content of sand, gravel, or silt, all generally on slopes less than 15 percent in the following series:

(a) Alderwood;
(b) Cagey;
(c) Everett;
(d) Godfrey
(e) Indianola;
(f) Kapowsin;
(g) McKenna;
(h) Nisqually;
(i) Norma;
(j) Spana;
(k) Spanaway;
(l) Spanaway-Nisqually complex; and
(m) Yelm.

(ii) Areas equal to or larger than 50 ac (20 ha) in size that provide for breeding, foraging, and dispersal activities, found in the soil series listed in (i) that have:

(a) Less than 10 percent woody vegetation cover.

(b) Vegetative cover suitable for foraging by gophers. Pocket gophers' diet includes a wide variety of plant material, including leafy vegetation, succulent roots, shoots, tubers, and grasses. Forbs and grasses that Mazama pocket gophers are known to eat include, but are not limited to: *Achillea millefolium* (common yarrow), *Agoseris* spp. (agoseris), *Cirsium* spp. (thistle), *Bromus* spp. (brome), *Camassia* spp. (camas), *Collomia linearis* (tiny trumpet), *Epilobium spp.* (several willowherb spp.), *Eriophyllum lanatum* (woolly sunflower), *Gayophytum diffusum* (groundsmoke), *Hypochaeris radicata* (hairy cat's ear), *Lathyrus* spp. (peavine), *Lupinus* spp. (lupine), *Microsteris gracilis* (slender phlox), *Penstemon* spp. (penstemon), *Perideridia gairdneri* (Gairdner's yampah), *Phacelia heterophylla* (varileaf phacelia), *Polygonum douglasii* (knotweed), *Potentilla* spp. (cinquefoil), *Pteridium aquilinum* (bracken fern), *Taraxacum officinale* (common dandelion), *Trifolium* spp. (clover), and *Viola* spp. (violet).

(c) Few, if any barriers to dispersal. Barriers to dispersal include, but are not limited to: open water; steep slopes (greater than 35 percent); wide expanses of rhizomatous grasses; concrete; large areas of rock; development and buildings; and soils or substrates inappropriate for burrowing.

With this proposed designation of critical habitat, we intend to identify the physical or biological features essential to the conservation of the species, through the identification of the primary constituent elements sufficient to support the life-history processes of the species. All units and subunits proposed to be designated as critical habitat are currently occupied by one or more of the four Thurston/Pierce subspecies of Mazama pocket gopher and contain all of the primary constituent elements essential to the conservation of the species.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protection. Here we describe the type of special management considerations or protections that may be required for the physical or biological features identified as essential for Mazama pocket gophers. The specific critical habitat subunits where these management considerations or protections apply are identified in Table 1.

All areas designated as critical habitat will require some level of management to address the current and future threats to the four Thurston/Pierce subspecies of Mazama pocket gopher and to maintain or restore the PCEs. A detailed discussion of activities influencing the four Thurston/Pierce subspecies of Mazama pocket gopher and their habitats can be found in the preceding proposed listing rule. Threats to the physical or biological features that are essential to the conservation of these subspecies and that may warrant special management considerations or protection include, but are not limited to: (1) Loss of habitat from conversion to other uses; (2) control of nonnative, invasive species; (3) development; (4) construction and maintenance of roads and utility corridors; (5) predation by feral or domestic animals; (6) disease; and (7) habitat modifications brought on by succession of vegetation due to lack of disturbance, both small- and large-scale. These threats also have the potential to affect the PCEs if they are conducted within or adjacent to designated units.

The physical or biological features essential to the conservation of the four Thurston/Pierce subspecies of Mazama pocket gopher may require special management considerations or protection to control or prevent the establishment of invasive woody plants, which create shade and utilize light, food and nutrients otherwise utilized by the forb, bulb, and grass species that the gophers require for forage. Management may be implemented using hand tools or mechanical methods, prescribed fire, and the judicious use of herbicides. Although several management techniques are being implemented on public lands, we may need to improve our outreach to educate private landowners on controlling their pets and appropriately managing grazing on their properties, as well as to developing incentives for landowners who agree to conserve habitat. Incentives would create protected areas, through agreements or acquisitions. These would include corridors between existing protected habitat areas that may require restoration, enhancement actions, and long-term maintenance.

TABLE 1—THREATS TO THE FOUR THURSTON/PIERCE SUBSPECIES OF MAZAMA POCKET GOPHER IDENTIFIED IN SPECIFIC PROPOSED CRITICAL HABITAT SUBUNITS; THREATS SPECIFIC TO THE PHYSICAL OR BIOLOGICAL FEATURES, WHICH MAY REQUIRE SPECIAL MANAGEMENT CONSIDERATIONS OR PROTECTION AS DESCRIBED IN THE TEXT, ARE IDENTIFIED WITH AN ASTERISK

Threat factors under the Endangered Species Act	Subunits of proposed designated critical habitat for the Mazama pocket gopher subspecies
Factor A:	
Development *	Unit 1: all subunits.
Loss of natural disturbance processes, invasive species, and succession *	Unit 1: all subunits.
Military training *	Unit 1: 1–A, 1–B, 1–E.
Factor B:	
Overutilization for commercial, recreational, scientific, or educational purposes	NA.
Factor C:	
Disease	NA.
Predation	Unit 1: all subunits.
Factor D:	
The inadequacy of existing regulatory mechanisms *	Unit 1: all subunits.
Factor E:	
Low genetic diversity, small or isolated populations, and low reproductive success	NA.
Stochastic weather events	NA.
Climate change	NA.
Pesticides and herbicides	Unit 1: 1–D, 1–E, 1–G, and 1–H.
Control as a pest species *	Unit 1: 1–D, 1–E, 1–G, and 1–H.
Recreation	NA.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we use the best scientific and commercial data available to designate critical habitat. We review available information pertaining to the habitat requirements of the species, and begin by assessing the specific geographic areas occupied by the species at the time of listing. If such areas are not sufficient to provide for the conservation of the species, in accordance with the Act and its implementing regulation at 50 CFR 424.12(e), we then consider whether designating additional areas outside the geographic areas occupied at the time of listing may be essential to ensure the conservation of the species. We consider unoccupied areas for critical habitat when a designation limited to the present range of the species may be inadequate to ensure the conservation of the species. In this case, since we are proposing listing simultaneously with the proposed critical habitat, all areas presently occupied by each of the subspecies are presumed to constitute those areas occupied at the time of listing; those areas currently occupied by the subspecies are identified as such in each of the unit or subunit descriptions below. None of the subunits are believed to be unoccupied at the time of listing. Our determination of the areas occupied at the time of listing, is provided below.

We plotted the known locations of the four Thurston/Pierce subspecies of Mazama pocket gopher where they occur in the south Puget Sound lowlands using 2011 NAIP digital imagery in ArcGIS, version 10 (Environmental Systems Research Institute, Inc.), a computer geographic information system program.

To determine if the currently occupied areas contain the primary constituent elements, we assessed the life history components and the distribution of the subspecies through element occurrence records in State natural heritage databases and natural history information on each of the subspecies as they relate to habitat. To determine if any unoccupied sites met the criteria for critical habitat, we considered: (1) The importance of the site to the overall status of the subspecies to prevent extinction and contribute to future recovery of the subspecies; (2) whether the area presently provides the essential physical or biological features, or could be managed and restored to contain the necessary physical and biological features to support the subspecies; and (3) whether individuals were likely to colonize the site.

Occupied Areas

For the four Thurston/Pierce subspecies of Mazama pocket gopher, we are proposing to designate critical habitat only in areas within the geographical area occupied by the four subspecies at the time of listing. All units proposed for critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher are currently occupied as determined by recent surveys, within the last five years (JBLM 2012, Krippner 2011, pp. 25–29; Olson 2012, pp. 9–10; WDFW 2012), and all provide one or more of the physical or biological features that may require special management considerations or protection, as described in the unit and subunit descriptions that follow.

In all cases, when determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement (such as airport runways and roads), and other structures because such lands lack the essential physical or biological features for the four Thurston/Pierce subspecies of Mazama pocket gopher. 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 lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical or biological features in the adjacent critical habitat.

We are proposing one critical habitat unit for designation based on sufficient elements of physical and biological features being present to support the

four Thurston/Pierce subspecies of Mazama pocket gopher. These unit is further divided into 8 subunits. All of the subunits contain the identified elements of physical and biological features necessary to support the subspecies' use of that habitat.

We invite public comment on our identification of those areas presently occupied by the subspecies that provide the physical or biological features that may require special management considerations or protection.

Proposed Critical Habitat Designation

We are proposing critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher in the State of Washington, as follows: The South Sound Unit (Unit 1), which includes eight subunits.

Four Thurston/Pierce Subspecies of Mazama Pocket Gopher—Unit 1

We are proposing for designation of critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of physical or biological features to support life-history processes essential for the conservation of the Olympia, Roy Prairie, Tenino, and Yelm subspecies of Mazama pocket gopher.

We are proposing critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher in one unit: the South Sound Unit, totaling 9,234 ac (3,737 ha). This includes 6,345 ac (2,567 ha) of Federal ownership; 820 ac (331 ha) of State ownership; 1,934 ac (783 ha) of private ownership; and 135 ac (55 ha) of lands owned by a Port, local municipality, or nonprofit conservation organization. The South Sound Unit for the four Thurston/Pierce subspecies of Mazama pocket gopher contains eight subunits, all of which are presently occupied by one or more of the four Thurston/Pierce subspecies. All subunits contain one or more of the PCEs to support essential life-history processes for these subspecies. The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the Olympia, Roy Prairie, Tenino, and Yelm pocket gophers. The eight subunits we propose as critical habitat are: (1) (1–A) 91st Division Prairie; (2) (1–B) Marion Prairie; (3) (1–C) Olympia Airport; (4) (1–D) Rocky Prairie; (5) (1–E) Tenalquot Prairie; (6) (1–F) West Rocky Prairie; (7) (1–G) Scatter Creek; and (8) (1–H) Rock Prairie. The approximate area and landownership for each proposed critical habitat unit and subunit is shown in Table 2.

TABLE 2—PROPOSED CRITICAL HABITAT UNITS FOR THE FOUR THURSTON/PIERCE SUBSPECIES OF MAZAMA POCKET GOPHER

[**Note:** Area sizes may not sum due to rounding. Area estimates reflect all land within critical habitat unit boundaries]

Unit 1 South Sound	Subunit name	Federal	State	Private	Other*
		Ac (Ha)	Ac (Ha)	Ac (Ha)	Ac (Ha)
1–A	91st Division Prairie	4,120 (1,667)	0	0	0
1–B	Marion Prairie	720 (291)	0	0	0
1–C	Olympia Airport	0	0	0	676 (274)
1–D	Rocky Prairie	0	54 (22)	385 (156)	0
1–E	Tenalquot Prairie	1,505 (609)	0	154 (62)	135 (55)
1–F	West Rocky Prairie	0	134 (54)	0	0
1–G	Scatter Creek	0	632 (256)	98 (40)	0
1–H	Rock Prairie	0	0	621 (251)	0
	Unit 1 Totals	6,345 (2,567)	820 (331)	1,258 (509)	811 (329)

*Other = Local municipalities and nonprofit conservation organization.

Here we present brief descriptions of all subunits, and reasons why they meet the definition of critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher, below.

Unit 1: South Sound Unit—Four Thurston/Pierce Subspecies of Mazama Pocket Gopher

The South Sound Unit and its constituent subunits are all currently occupied by one or more Mazama pocket gophers of the subspecies *Thomomys mazama glacialis* (Roy Prairie pocket gopher), *pugetensis* (Olympia pocket gopher), *tumuli* (Tenino pocket gopher), or *yelmensis* (Yelm pocket gopher) (the four Thurston/Pierce subspecies). All subunits contain the physical or biological features essential to the conservation of these subspecies, which may require special management considerations or protection. All subunits are subject to the same suite of threats, aside from one suite of threats unique to DOD lands (subunits 1–A, 1–B, and the Federal portions of subunit 1–E). The common threats to the essential features include: development on or adjacent to the subunits, incompatible management practices, invasive species, and the inadequacy of existing regulatory mechanisms. The threat unique to DOD lands is military training. In all subunits, the physical or biological features essential to the conservation of each subspecies may require special management considerations or protection to restore, protect, and maintain the essential features found in the subunits. For those threats that are common to all subunits, special management considerations or protection may be required to address direct or indirect habitat loss due to development, invasive plant species, or use of trapping or poisoning techniques by landowners or land managers of the subunits themselves or adjacent landowners or land managers. For those threats that are unique to DOD lands, special management considerations or protection may be required to address uncontrolled fires due to deployment of explosive or incendiary devices, military training involving heavy equipment (resulting in trampling or crushing of burrows), digging or trenching, bombardment, or use of live ammunition.

Subunit 1–A: 91st Division Prairie. This subunit consists of 4,120 ac (1,667 ha) and is made up entirely of lands on the JBLM, owned by the DOD. This subunit is located west-northwest of the city of Roy, Pierce County, Washington. Subunit 1–A is occupied by the Roy Prairie pocket gopher and the Yelm pocket gopher and contains the physical or biological features essential to the conservation of these subspecies due to

the underlying soils series (Nisqually and Spanaway), suitable forb and grass vegetation present on-site, and its large size. The physical or biological features essential to the conservation of the Roy Prairie pocket gopher and the Yelm pocket gopher may require special management considerations or protection to address threats listed above that are common to all subunits and from uncontrolled fires due to deployment of explosive or incendiary devices, military training involving heavy equipment (resulting in trampling or crushing of burrows), digging or trenching, bombardment, or use of live ammunition. This critical habitat subunit (1–A) is being considered for exemption from designation of critical habitat under section 4(a)(3)(B)(i) of the Act, contingent on our approval of the DOD INRMP for JBLM (see Exemptions).

Subunit 1–B: Marion Prairie. This subunit consists of 720 ac (291 ha) and contains JBLM lands owned by the DOD. This subunit is located west of the city of Roy, Pierce County, Washington. Subunit 1–B is occupied by the Roy Prairie pocket gopher and the Yelm pocket gopher, and provides physical or biological features essential to the conservation of these subspecies due to the underlying soils series (Nisqually and Spanaway), suitable forb and grass vegetation present onsite, and its large size. The features essential to the conservation of the species may require special management considerations or protection to address uncontrolled fires due to deployment of explosive or incendiary devices, military training involving heavy equipment (resulting in trampling or crushing of burrows), digging or trenching, bombardment, or use of live ammunition. This critical habitat subunit (1–B) is being considered for exemption from designation of critical habitat under section 4(a)(3)(B)(i) of the Act, contingent on our approval of the DOD INRMP for JBLM (see Exemptions).

Subunit 1–C: Olympia Airport. This subunit consists of 676 ac (274 ha). This subunit is made up of lands owned by the Port of Olympia and is located south of the cities of Olympia and Tumwater, Thurston County, Washington. Subunit 1–C is occupied by the Olympia pocket gopher and the Yelm pocket gopher and contains the physical or biological features essential to the conservation of the subspecies due to the underlying soils series (Cagey, Everett, Indianola, and Nisqually), suitable forb and grass vegetation present onsite, and its large size.

Subunit 1–D: Rocky Prairie. This subunit consists of 439 ac (178 ha) and contains lands owned by one commercial landowner, Burlington Northern Santa Fe Railroad, and WDNR, which owns the Rocky Prairie NAP, a portion of the subunit. This subunit is located north of the city of Tenino, Thurston County, Washington. Subunit 1–D is occupied by the Tenino pocket gopher and the Yelm pocket gopher, and contains the physical or biological features essential to the conservation of the species due to the underlying soils series (Everett, Nisqually, Spanaway, and Spanaway-Nisqually complex), suitable forb and grass vegetation present onsite, and its large size. A portion of the State lands include the Rocky Prairie Natural Area Preserve which makes up 35 ac (14 ha) of this critical habitat subunit (1–D) and is being proposed for exclusion from designation of critical habitat under section 4(b)(2) of the Act, due to the approved WDNR State Lands HCP (see Exclusions)

Subunit 1–E: Tenalquot Prairie. This subunit consists of 1,794 ac (726 ha) and contains lands owned by one commercial landowner, The Nature Conservancy and DOD, which owns the largest portion of the subunit. This subunit is located northwest of the city of Rainier, Thurston County, Washington. Subunit 1–E is occupied by the Yelm pocket gopher and contains the physical or biological features essential to the conservation of the species due to the underlying soils series (Spanaway and Spanaway-Nisqually complex), suitable forb and grass vegetation present onsite, and its large size. On the 1,505 ac (609 ha) in this subunit that are owned by DOD, special management considerations or protection may be required to address threats from military training involving heavy equipment (resulting in trampling or crushing of burrows). The portion of this proposed critical habitat designation on JBLM (1,505 ac; 609 ha) is being considered for exemption from designation of critical habitat under section 4(a)(3)(B)(i) of the Act, contingent on our approval of the DOD INRMP for JBLM (see Exemptions).

Subunit 1–F: West Rocky Prairie. This subunit consists of 134 ac (54 ha) and contains lands within the West Rocky Prairie Wildlife Area, owned by WDFW, north of the city of Tenino, Thurston County, Washington. Subunit 1–F is occupied by the Olympia pocket gopher and contains the physical or biological features essential to the conservation of the species due to the underlying soils series (Nisqually, Norma, and Spanaway-Nisqually complex), suitable forb and grass vegetation present onsite, and its large size.

Subunit 1–G: Scatter Creek. This subunit consists of 730 ac (296 ha) and contains lands within the Scatter Creek Wildlife Area, owned by WDFW, and one private landowner near the city of Grand Mound, Thurston County, Washington. WDFW holds a lease on the private lands, which totals approximately 98 ac (40 ha), and manages the habitat the same as on adjacent WDFW lands (Hays 2012, *in litt.*). The lease expires in 2014. Subunit 1–G is occupied by the Yelm pocket gopher and contains the physical or biological features essential to the conservation of the species due to the underlying soils series (McKenna, Nisqually, Spanaway, and Spanaway-Nisqually complex), suitable forb and grass vegetation present on-site, and its large size. A powerline right-of-way managed by the BPA crosses Scatter Creek Wildlife Area and may require special management consideration. We are considering the exclusion of approximately 98 ac (40 ha) of private property in this subunit under section 4(b)(2) of the Act, due to the level of public benefits derived from encouraging collaborative efforts and encouraging private and local conservation efforts; and the effect designation would have on these partnerships as well as the existing WDFW lease on this property, and the fact that this property is managed in a manner consistent with the conservation of this species (see Exclusions).

Subunit 1–H: Rock Prairie. This subunit consists of 621 ac (251 ha) and contains lands owned by two private residential and commercial landowners. One of the private landowners' property (379 ac; 153 ha) is entirely covered by a Natural Resources Conservation Service (NRCS) Grassland Reserve Program agreement and partially covered under a permanent conservation easement. This subunit is located just west of the city of Tenino, Thurston County, Washington. Subunit 1–H is occupied by the Yelm pocket gopher and contains the physical or biological features essential to the conservation of the species due to the underlying soils series (Yelm, Spanaway, and Nisqually), suitable forb and grass vegetation present onsite, and its large size. The entire acreage of the proposed critical habitat on one private landowner's property is being considered for exclusion under section 4(b)(2) of the Act, due to the conservation easement on approximately 530 ac (215 ha) of their property and the Grassland Reserve Program plan developed in partnership

with NRCS for the long-term management of their property, which is consistent with restoration and management needs for sustaining prairies (see Exclusions).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory 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, 442 (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 continue to serve its intended conservation role for the species.

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. Examples of actions that are subject to the section 7 consultation process are actions on State, Tribal, local, or private lands that require 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 the Service (under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(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, or are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy or destruction or adverse modification of critical habitat. We define ''reasonable and prudent alternatives'' (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species or avoid the likelihood of 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 we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes 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.

Application of the ''Adverse Modification'' Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher. As discussed above, the role of critical habitat is to support the life-history needs of the subspecies and provide for the conservation of the subspecies.

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 affect the physical or biological features of critical habitat, or destroy or adversely modify critical habitat.

Under section 7(a)(2) of the Act, activities that may affect critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher, when carried out, funded, or authorized by a Federal agency, require consultation. These activities may include, but are not limited to:

(1) Actions that restore, alter, or degrade habitat features through development, agricultural activities, burning, mowing, herbicide use or other means in suitable habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher.

(2) Actions that would alter the physical or biological features of critical habitat including modification of soil profiles or the composition and structure of vegetation in suitable habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher. Such activities could include, but are not limited to, construction, grading or other development, mowing, or conversion of habitat (military training on DOD lands, recreational use, off road vehicles on Federal, State, private, or Tribal lands). These activities may affect the physical or biological features of critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher by crushing burrows, removing forage, or impacting habitat essential for completion of life history.

(3) Activities within or adjacent to critical habitat that affect or degrade the conservation value or function of the physical or biological features of critical

habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher.

Exemptions

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 resource 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:

(1) An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;

(2) A statement of goals and priorities;

(3) A detailed description of management actions to be implemented to provide for these ecological needs; and

(4) 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 (Pub. L. 108–136) amended the 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.''

We consult with the military on the development and implementation of INRMPs for installations with listed species. We analyzed INRMPs developed by military installations located within the range of the proposed critical habitat designation for the four Thurston/Pierce subspecies of Mazama pocket gopher to determine if they are exempt under section 4(a)(3) of the Act. The following areas are Department of Defense lands within the proposed critical habitat designation: (1) 91st Division Prairie, (2) Marion Prairie, and (3) Tenalquot Prairie. All of these areas are part of JBLM, except for the portion of Tenalquot Prairie known as the Morgan property.

Joint Base Lewis-McChord

Joint Base Lewis-McChord (formerly known as Fort Lewis and McChord Air Force Base) is an 86,000 ac (34,800 ha) military complex in western Washington. JBLM has an approved INRMP in place, dated July 2006, that covers the years 2006 through 2010. This INRMP is being updated and a revision will be submitted to the Service in 2012 (Steucke 2008, pers. comm.). JBLM is composed of both native and degraded grasslands; shrub-dominated vegetation; conifer, conifer-oak, oak-savannah, oak woodland and pine woodland/savannah forests; riverine, lacustrine, and palustrine wetlands; ponds and lakes; as well as other unique habitat, such as mima mounds. Portions of JBLM are currently occupied by the Mazama pocket gopher. Actions on this property include military training, recreation, transportation, utilities (including dedicated corridors), and land use.

The mission of JBLM is to maintain trained and ready forces for Army commanders worldwide, by providing them with training support and infrastructure. This includes a land base capable of supporting current and future training needs through good stewardship of the Installation's natural and cultural resources, as directed by Federal statutes, Department of Defense directives, directives and programs such as ACUB (Army Compatible Use Buffer Program), and Army and JBLM regulations.

Although only military actions are covered by the INRMP, several additional actions occurring on JBLM could pose substantial threats to the Mazama pocket gopher (e.g., dog trials, model airplanes, recreational activities), and are restricted to a few grassland properties. Many of the avoidance measures for military training action subgroups are implemented through environmental review and permitting programs related to a specific action. Timing of actions and education of users are important avoidance measures for the other activities.

Joint Base Lewis-McChord actively manages prairie habitat as part of Fort Lewis' INRMP (U.S. Army 2006). The purpose of the plan is to ''provide guidance for effective and efficient management of the prairie landscape to meet military training and ecological conservation goals.'' There are three overall goals including: (1) No net loss of open landscapes for military training; (2) no net reduction in the quantity or quality of moderate- and high-quality grassland; and (3) viable populations of all prairie-dependent and prairie-associated species.

Joint Base Lewis-McChord has a stewardship responsibility that includes actions to help recover threatened and endangered species under the Act. It is Army policy to consider candidate species when making decisions that may affect them, to avoid taking actions that may cause them to be listed, and to take affirmative actions that can preclude the need to list (AR 200–3).

Mazama pocket gophers exist on prairies on JBLM lands where vehicular traffic is currently restricted to established roads, but there are no specific restrictions on military training to protect Mazama pocket gophers. Efforts to maintain and increase populations on the installation focus on restoring or managing the overall condition of prairie habitat.

Two regional programs managed under the INRMP and funded by the DOD are currently underway on many of the lands where Mazama pocket gophers occur. The Fort Lewis ACUB program is a proactive effort to prevent ''encroachment'' at military installations. Encroachment includes current or potential future restrictions on military training associated with currently listed and candidate species under the Act. The Fort Lewis ACUB program focuses on management of non-Federal conservation lands in the vicinity of Fort Lewis that contain, or can be restored to, native prairie. Some of the ACUB efforts include improving habitats on JBLM property for prairie-dependent species, including the Mazama pocket gopher. It is implemented by means of a cooperative agreement between the Army and The Nature Conservancy (now Center for Natural Lands Management), and includes WDFW and WDNR as partners. To date, a total of $8.23 million has been allocated to this program (Anderson 2012, pers. comm). This funds conservation actions such as invasive plant control on occupied sites and the restoration of unoccupied habitat.

The JBLM Legacy program is dedicated to ''protecting, enhancing, and conserving natural and cultural resources on DOD lands through stewardship, leadership, and partnership.'' The Legacy program supports conservation actions that have regional or DOD-wide significance, and that support military training or fulfill legal obligations (DOD 2011, p. 2). In

recent years, substantial effort and funding have gone toward projects, both on and off JBLM, related to the Mazama pocket gopher.

Although JBLM's INRMP has the potential to provide a conservation benefit to the Mazama pocket gopher, it does not currently. Since their INRMP is currently undergoing revision and is subject to change, we are reserving judgment on whether management under the new INRMP will meet our criteria for exemption from critical habitat at this time. In accordance with section 4(a)(3)(B)(i) of the Act, if we determine prior to our final rulemaking that conservation efforts identified in the newly revised INRMP will provide a conservation benefit to the species identified previously, we may at that time exempt the identified lands from the final designation of critical habitat.

Exclusions

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

Section 4(b)(2) of the Act states that the Secretary shall designate and 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 impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, 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 statute on its face, as well as the legislative history are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise his discretion to exclude the area only if such exclusion would not result in the extinction of the species.

When identifying the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive from the protection from adverse modification or destruction as a result of actions with a Federal nexus; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

When identifying the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation; the continuation, strengthening, or encouragement of partnerships; or implementation of a management plan that provides equal to or more conservation than a critical habitat designation would provide.

The Secretary can consider the existence of conservation agreements and other land management plans with Federal, private, State, and Tribal entities when making decisions under section 4(b)(2) of the Act. The Secretary may also consider relationships with landowners, voluntary partnerships, and conservation plans, and weigh the implementation and effectiveness of these against that of designation to determine which provides the greatest conservation value to the listed species. Consideration of relevant impacts of designation or exclusion under section 4(b)(2) may include, but is not limited to, any of the following factors:

(1) Whether the plan provides specific information on how it protects the species and the physical and biological features, and whether the plan is at a geographical scope commensurate with the species;

(2) Whether the plan is complete and will be effective at conserving and protecting the physical and biological features;

(3) Whether a reasonable expectation exists that conservation management strategies and actions will be implemented, that those responsible for implementing the plan are capable of achieving the objectives, that an implementation schedule exists, and that adequate funding exists;

(4) Whether the plan provides assurances that the conservation strategies and measures will be effective (i.e., identifies biological goals, has provisions for reporting progress, and is of a duration sufficient to implement the plan);

(5) Whether the plan has a monitoring program or adaptive management to ensure that the conservation measures are effective;

(6) The degree to which the record supports a conclusion that a critical habitat designation would impair the benefits of the plan;

(7) The extent of public participation;

(8) Demonstrated track record of implementation success;

(9) Level of public benefits derived from encouraging collaborative efforts and encouraging private and local conservation efforts; and

(10) The effect designation would have on partnerships.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to evaluate whether the benefits of exclusion outweigh those of inclusion. If our analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, we then determine whether exclusion would result in extinction. If exclusion of an area from critical habitat will result in extinction, we will not exclude it from the designation.

Based on the information provided by entities seeking exclusion, as well as any additional public comments received, we will evaluate whether certain lands in proposed critical habitat are appropriate for exclusion from the final designation under section 4(b)(2) of the Act. If the analysis indicates that the benefits of excluding lands from the final designation outweigh the benefits of designating those lands as critical habitat, then the Secretary may exercise his discretion to exclude the lands from the final designation.

Under section 4(b)(2) of the Act, we must consider all relevant impacts of the designation of critical habitat, including economic impacts. In addition to economic impacts (discussed in the Economics Analysis section, below), we consider a number of factors in a 4(b)(2) analysis. For example, we consider whether there are lands owned by the Department of Defense (DoD) where a national security impact might exist. We also consider whether Federal or private landowners or other public agencies have developed management plans or habitat conservation plans (HCPs) for the area or whether there are conservation partnerships or other conservation benefits that would be encouraged or discouraged by designation of, or exclusion from, critical habitat in an area. In addition, we look at the presence of Indian lands or Indian trust resources that might be affected, and consider the government-to-government relationship of the United States with Indian entities. We also consider any other relevant impacts that might occur because of the designation. To ensure that our final determination is based on the best available information, we are inviting comments on any foreseeable economic, national security, or other potential impacts resulting from this proposed designation of critical habitat from governmental, business, or private

interests and, in particular, any potential impacts on small businesses.

For the reasons discussed above, if the Secretary decides to exercise his discretion under section 4(b)(2) of the Act, we have identified certain areas that we are considering for exclusion from the final critical habitat designation for the four Thurston/Pierce subspecies of Mazama pocket gopher. However, we solicit comments on the inclusion or exclusion of such particular areas, as well as any other areas identified in the proposed rule (see Public Comments section). During the development of the final designation, we will consider economic impacts, public comments, and other new information. However, the Secretary's decision as to which, if any, areas may be excluded from the final designation is not limited to these lands. Additional particular areas, in addition to those identified below for potential exclusion in this proposed rule, may be excluded from the final critical habitat designation under section 4(b)(2) of the Act. In other words, potential exclusions are not limited to those areas specifically identified in this proposed rule.

However, we specifically solicit comments on the inclusion or exclusion of such areas. In the paragraphs below, we provide a detailed analysis of our exclusion of these lands under section 4(b)(2) of the Act.

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 are preparing an analysis of the economic impacts of the proposed critical habitat designation and related factors. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.regulations.gov,* or by contacting the Washington Fish and Wildlife Office directly (see **FOR FURTHER INFORMATION CONTACT** section). During the development of a final designation, we will consider economic impacts, public comments, and other new information, and areas may be excluded from the final critical habitat designation under section 4(b)(2) of the Act and our implementing regulations at 50 CFR 424.19.

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 a national security impact might exist. The U.S. Army's Joint Base Lewis-McChord Military Reservation (JBLM) is the only DOD land included within the proposed designation of critical habitat. As described above, in preparing this proposal, we are considering JBLM for exemption from the designation of critical habitat under section 4(a)(3) of the Act, pending our evaluation of their revised INRMP, scheduled for completion in 2012, to determine whether it provides a conservation benefit to the species under consideration in this proposed rule. We have determined that the remaining lands within the proposed designation of critical habitat for the species are not owned or managed by the Department of Defense, and, therefore, we anticipate no impact on national security. Consequently, the Secretary is not intending to exert his discretion to exclude any areas from the final designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts to national security, of specifying any particular area as critical habitat. We consider a number of factors, including whether landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships or relationships 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 other relevant impacts that might occur because of the designation. Our weighing of the benefits of inclusion versus exclusion considers all relevant factors in making a final determination as to what will result in the greatest conservation benefit to the listed species. Depending on the specifics of each situation, there may be cases where the designation of critical habitat will not necessarily provide enhanced protection, and may actually lead to a net loss of conservation benefit. Here we present a brief description of three general areas considered for exclusion from the final designations of critical habitat for the subspecies.

We are considering the exclusion of private lands associated with the Scatter Creek Wildlife Area and Rock Prairie (Unit 1, subunits 1–G and 1–H for the Mazama pocket gopher), both within Thurston County. The first proposed exclusion is located in the south Puget Sound region, in the Scatter Creek subunit of Unit 1, the South Sound Unit subunit 1–G for the Mazama pocket gopher. We are considering excluding private lands in this unit totaling 98 ac (40 ha) based on the benefits of partnerships, HCPs, and other conservation agreements.

The second area is located in the south Puget Sound, in the Rock Prairie subunit also in Unit 1, the South Sound Unit. This is subunit 1–H for the Mazama pocket gopher. In this subunit, 379 ac (153 ha) is considered for exclusion as they are managed under a permanent conservation easement and a Grassland Reserve Program Management Plan agreement with NRCS.

Each area contains one landholding that is under a conservation easement for agriculture and open space protection, species conservation, and/or prairie conservation. We are considering the exclusion of these privately-owned lands (1–G and 1–H for the Mazama pocket gopher in the South Sound Unit) based on the partnerships that have been developed for the conservation of the Mazama pocket gopher subspecies as evidenced by the management plan and conservation easement on those private lands as well as the conservation benefit to the species from the management plan.

We request public comments on the relative benefits of inclusion or exclusion of these areas (Table 3) from the designation of critical habitat. At present, we seek public comment on the general benefits of including or excluding private lands in this area (see PUBLIC COMMENTS).

TABLE 3—LANDS PROPOSED OR THAT MAY BE CONSIDERED FOR EXCLUSION FROM THE FINAL RULE TO DESIGNATE CRITICAL HABITAT FOR SEVERAL PUGET SOUND SPECIES

Type of agreement	Critical habitat unit name	State	Name of agreement/entity	Acres	Hectares
Habitat Conservation Plans—proposed for exclusion.	Unit 1-South Sound; Subunits MPG: 1–D.	WA	Washington Department of Natural Resources State Lands.	35	14
Conservation Agreements, Other agreements or Partnerships—proposed for exclusion.	Unit 1—South Sound; Subunit MPG: 1–G.	WA	Scatter Creek Wildlife Area Private Landowner Management Plan.	98	40
	Unit 1–South Sound; Subunit MPG: 1–H.	WA	Rock Prairie Grassland Easement and Private Landowner Partnership.	379	153
Total Proposed	.....		.....	512	207

Benefits of Excluding Lands with Habitat Conservation Plans

Habitat Conservation Plans (HCPs) are planning documents required as part of an application for an ''incidental take'' permit. They describe the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated; and how the HCP is to be funded. HCPs can apply to both listed and nonlisted species, including those that are candidates or have been proposed for listing. Anyone whose otherwise-lawful activities will result in the ''incidental take'' of a listed wildlife species needs a permit. The Act defines ''take'' as ''* * * to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.'' ''Harm'' includes significant habitat modification that actually kills or injures a listed species through impairing essential behavior such as breeding, feeding, or sheltering. Section 9 of the Act prohibits the take of endangered and threatened species. The purpose of the incidental take permit is to exempt non-Federal permit-holders—such as States and private landowners—from the prohibitions of section 9, not to authorize the activities that result in take.

In developing HCPs, people applying for incidental take permits describe measures designed to minimize and mitigate the effects of their actions— to ensure that species will be conserved and to contribute to their recovery. Habitat Conservation Plans are required to meet the permit issuance criteria of section 10(a)(2)(B) of the Act:

- Taking will be incidental;
- The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking;
- The applicant will ensure that adequate funding for the plan will be provided;
- Taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
- Other measures, as required by the Secretary, will be met.

The benefits of excluding lands with approved HCPs from critical habitat designation may include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed as a result of the critical habitat designation. Many HCPs take years to develop and, upon completion, are consistent with the recovery objectives for listed species covered within the plan area. Many conservation plans also provide conservation benefits to unlisted sensitive species.

A related benefit of excluding lands covered by approved HCPs from critical habitat designation is that it can make it easier for us to seek new partnerships with future plan participants, including States, counties, local jurisdictions, conservation organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise. HCPs often cover a wide range of species, including species that are not State and federally listed and would otherwise receive little protection from development. By excluding these lands, we preserve our current partnerships and encourage additional future conservation actions.

We also note that permit issuance in association with HCP applications requires consultation under section 7(a)(2) of the Act, which would include the review of the effects of all HCP-covered activities that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification (see definition of ''harm'' at 50 CFR 17.3), even without the critical habitat designation. In addition, all other Federal actions that may affect the listed species would still require consultation under section 7(a)(2) of the Act, and we would review these actions for possible significant habitat modification in accordance with the definition of harm referenced above.

We consider a current HCP to be appropriate for consideration for exclusion from a final critical habitat designation under section 4(b)(2) of the Act if:

(1) It provides for the conservation of the essential physical and biological features or areas otherwise determined to be essential;

(2) There is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future;

(3) The conservation strategies in the HCP are likely to be effective; and

(4) The HCP contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

Below is a brief description of each HCP and the lands proposed as critical habitat covered by each plan that we are proposing to exclude under section 4(b)(2) of the Act from the final designation of critical habitat.

Washington State Department of Natural Resources State Lands Habitat Conservation Plan

We are proposing to exclude lands managed under the Washington State Department of Natural Resources (WDNR) State Lands HCP in one critical habitat subunit in Washington from the final critical habitat designation for the four Thurston/Pierce subspecies of Mazama pocket gopher (Olympia, Roy Prairie, Tenino, and Yelm). The WDNR State Lands HCP covers approximately 1.6 million ac (730,000 ha) of State forest lands. The majority of the area covered by the HCP is west of the Cascade Crest including the Olympic Peninsula. The permit associated with this HCP, issued January 30, 1997 (61 FR 15297, April 5, 1996), has a term of 70 to 100 years, and covers activities primarily associated with commercial forest management, but also includes limited, non-timber activities such as some recreational activities. The HCP

covers all federally listed species in Washington that use the types of habitats provided by covered lands at the time the HCP was approved, and those species that have similar habitat affinities and become listed after the HCP was approved and an incidental take permit (ITP) was issued. If listed, the four Thurston/Pierce subspecies of Mazama pocket gopher (Olympia, Roy Prairie, Tenino, and Yelm) would be added to the WDNR ITP per Section 7 and 12.6 of the Implementing Agreement (Appendix B of the HCP).

The HCP addressed multiple species through a combination of strategies. The main focus of these strategies is the riparian ecosystems (salmonids), northern spotted owl, and the marbled murrelet. The main objective of these strategies was to maintain and promote late successional forest habitats along riparian corridors and in upland locations that would benefit spotted owls and marbled murrelets. It was envisioned that the conservation strategies for salmonids, spotted owls, and marbled murrelets would serve to reduce the risk of extinction for the other wildlife species covered by the HCP. In addition, a fourth emphasis of the HCP was to provide protection for species that relied on uncommon or unique habitats. For these species, additional measures were developed to meet the conservation objectives of the HCP. These measures specifically address the protection of talus, caves, cliffs, balds, oak woodlands, mineral springs, large snags, and large, structurally unique trees because these features are difficult to restore or recreate. In addition, as noted in the HCP, at the time a new species is proposed for listing, DNR provides a written request to add that species to its ITP and evaluates and considers additional protection measures such as seasonal restrictions and protection of nesting/denning sites.

The WDNR also manages approximately 66,000 ac (26,710 ha) of non-trust lands as NAPs. A portion of Rocky Prairie (subunit 1–D) is located within a WDNR Natural Area Preserve (NAP). While not subject to the HCP, the Service recognizes the habitat contributions provided by these lands in terms of meeting the conservation goals and objectives of the HCP. NAPs provide the highest level of protection for excellent examples of unique or typical land features in Washington State. Some of these protected lands currently provide habitat in areas identified as ''critical'' for the Tenino and Yelm pocket gophers at the Rocky Prairie NAP. Details of the WDNR HCP are available at *http://www.dnr.wa.gov/researchscience/topics/trustlandshcp/Pages/Home.aspx.*

Federal Lands

As noted above, Federal agencies have an independent responsibility under section 7(a)(1) of the Act to use their programs in furtherance of the Act and to utilize their authorities to carry out programs for the conservation of endangered and threatened species. We consider the development and implementation of land management plans by Federal agencies to be consistent with this statutory obligation under section 7(a)(1) of the Act. Therefore, Federal land management plans, in and of themselves, are generally not an appropriate basis for exclusion from critical habitat. The Secretary is not intending to exercise his discretion to exclude any Federal lands from the designation of critical habitat.

Consideration of Indian Lands

In accordance with the Secretarial Order 3206, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997); the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951); Executive Order 13175, ''Consultation and Coordination with Indian Tribal Governments'' (November 6, 2000, and as reaffirmed November 5, 2009); and the relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2), we believe that fish, wildlife, and other natural resources on Indian lands may be better managed under Indian authorities, policies, and programs than through Federal regulation where Indian management addresses the conservation needs of listed species. In addition, such designation may be viewed by tribes as unwarranted and an unwanted intrusion into Indian self-governance, thus compromising the government-to-government relationship essential to achieving our mutual goals of managing for healthy ecosystems upon which the viability of threatened and endangered species populations depend.

We have determined that there are no reserved tribal lands occupied by the four Thurston/Pierce County subspecies of Mazama pocket gopher that contain the physical or biological features essential to conservation of the species, and no reserved tribal lands unoccupied by the species that are essential for the conservation of the species. Therefore, we are not proposing to designate critical habitat for the Mazama pocket gopher on tribal lands.

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions regarding the proposal to list the Olympia, Roy Prairie, Tenino, and Yelm subspecies of Mazama pocket gopher our proposed critical habitat for these species as well as our other determinations.

We will consider all comments and information received during this comment period on this proposed rule during our preparation of a final determination. Accordingly, the final decision may differ from this proposal.

Public Hearings

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposed rule in the **Federal Register**. Such requests must be sent to the address shown in the **ADDRESSES** section. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

Required Determinations

Regulatory Planning and Review—Executive Orders 12866 and 13563

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes

further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

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 (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 certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

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; and small businesses (13 CFR 121.201). Small businesses include such businesses as 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 forestry and logging operations with fewer than 500 employees and annual business less than $7 million. To determine whether small entities may be affected, we will consider the types of activities that might trigger regulatory impacts under this designation as well as 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.

Importantly, the incremental impacts of a rule must be *both* significant and substantial to prevent certification of the rule under the RFA and to require the preparation of an initial regulatory flexibility analysis. If a substantial number of small entities are affected by the proposed critical habitat designation, but the per-entity economic impact is not significant, the Service may certify. Likewise, if the per-entity economic impact is likely to be significant, but the number of affected entities is not substantial, the Service may also certify.

Under the RFA, as amended, and following recent court decisions, Federal agencies are only required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself, and not the potential impacts to indirectly affected entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried by the Agency is not likely to adversely modify critical habitat. Therefore, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Under these circumstances, it is our position that only Federal action agencies will be directly regulated by this designation. Therefore, because Federal agencies are not small entities, the Service may certify that the proposed critical habitat rule will not have a significant economic impact on a substantial number of small entities.

We acknowledge, however, that in some cases, third-party proponents of the action subject to permitting or funding may participate in a section 7 consultation, and thus may be indirectly affected. We believe it is good policy to assess these impacts if we have sufficient data before us to complete the necessary analysis, whether or not this analysis is strictly required by the RFA. While this regulation does not directly regulate these entities, in our draft economic analysis we will conduct a brief evaluation of the potential number of third parties participating in consultations on an annual basis in order to ensure a more complete examination of the incremental effects of this proposed rule in the context of the RFA.

In conclusion, we believe that, based on our interpretation of directly regulated entities under the RFA and relevant case law, this designation of critical habitat will only directly regulate Federal agencies which are not by definition small business entities. And as such, certify that, if promulgated, this designation of critical habitat would not have a significant economic impact on a substantial number of small business entities. Therefore, an initial regulatory flexibility analysis is not required. However, though not necessarily required by the RFA, in our draft economic analysis for this proposal we will consider and evaluate the potential effects to third parties that may be involved with consultations with Federal action agencies related to this action.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. We do not expect the designation of this proposed critical habitat to significantly affect energy supplies, distribution, or use as these species and proposed critical habitat do not appear to overlap with these areas. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

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, or 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; Aid to Families with Dependent Children 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 impacted 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 impacted 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 onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments. Government lands being proposed for critical habitat designation are owned by Washington State Department of Fish and Wildlife, Washington Department of Natural Resources, Department of Defense (Army), the U.S. Forest Service, and Thurston County Parks and Recreation, in Washington. None of these government entities fit the definition of ''small governmental jurisdiction.'' Therefore, a Small Government Agency Plan is not required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted. Therefore, a Small Government Agency Plan is not required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment if appropriate.

Takings—Executive Order 12630

In accordance with Executive Order 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for the four Thurston/Pierce subspecies of Mazama pocket gopher 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 the four Thurston/Pierce subspecies of Mazama pocket gopher does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with Executive Order 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Washington. The designation of critical habitat in areas currently occupied by the four Thurston/Pierce subspecies of Mazama pocket gopher imposes no additional restrictions to those currently in place and, therefore, has 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 physical or biological features essential to the conservation of the species are more clearly defined, and the elements of the features of the habitat necessary to the conservation of the species are specifically identified. This information does 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).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. 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 impacted 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.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 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 proposed designating critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the elements of physical or biological features essential to the conservation of the four Thurston/Pierce subspecies of Mazama pocket gopher within the proposed designated areas to assist the public in understanding the habitat needs of the species.

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.)

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), need not be prepared in connection with listing a species as endangered or threatened under the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to NEPA 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 U.S. 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)).

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

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), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), 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 have determined that there are no Tribal lands occupied by the four Thurston/Pierce subspecies of Mazama pocket gopher that contain the physical or biological features essential to conservation of the subspecies, and no Tribal lands unoccupied by the subspecies that are essential for the conservation of the subspecies. Therefore, we are not proposing to designate critical habitat for the Mazama pocket gopher on Tribal lands.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* and upon request from the Washington Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this package are the staff members of the Washington Fish and Wildlife Office, Lacey, Washington, and the Oregon Fish and Wildlife Office, Portland, Oregon.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

Accordingly, we propose to 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 § 17.11(h), the List of Endangered and Threatened Wildlife, by adding entries for ''Pocket gopher, Olympia (*Thomomys mazama pugetensis*)'', ''Pocket gopher, Roy Prairie'' (*Thomomys mazama glacialis*)'', ''Pocket gopher, Tenino (*Thomomys mazama tumuli*)'', and ''Pocket gopher, Yelm (*Thomomys mazama yelmensis*)'' in alphabetical order under Mammals, to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historical range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
*	*	*	*	*	*		*
Pocket gopher, Olympia.	*Thomomys mazama pugetensis.*	U.S.A. (WA)	U.S.A. (WA)	T	.....	17.95(a)	17.40(a)
Pocket gopher, Roy Prairie.	*Thomomys mazama glacialis.*	U.S.A. (WA)	U.S.A. (WA)	T	.....	17.95(a)	17.40(a)
Pocket gopher, Tenino.	*Thomomys mazama tumuli.*	U.S.A. (WA)	U.S.A. (WA)	T	.....	17.95(a)	17.40(a)
Pocket gopher, Yelm	*Thomomys mazama yelmensis.*	U.S.A. (WA)	U.S.A. (WA)	T	.....	17.95(a)	17.40(a)
*	*	*	*	*	*		*

3. Amend § 17.40 by adding paragraph (a) to read as follows:

§ 17.40 Special rules—mammals.

(a) Mazama pocket gophers (Olympia, Tenino, Yelm, and Roy Prairie) *(Thomomys mazama pugetensis, tumuli, yelmensis, and glacialis).*

(1) *Which populations of the Mazama pocket gophers are covered by this special rule?* This rule covers the four Thurston/Pierce subspecies of Mazama pocket gopher (Olympia, Tenino, Yelm, and Roy Prairie) *(Thomomys mazama pugetensis, tumuli, yelmensis, and glacialis)* wherever they occur.

(2) *What activities are prohibited?* Except as noted in paragraphs (a)(3)

through (a)(5) of this section, all prohibitions of § 17.31 will apply to the Olympia, Tenino, Yelm, and Roy Prairie pocket gophers.

(3) *What agricultural activities are allowed on non-Federal lands?* Incidental take of the Olympia, Tenino, Yelm, and Roy Prairie pocket gophers will not be a violation of section 9 of the Act, if the incidental take results from routine farming, seed nursery, or ranching activities located in or adjacent to Mazama pocket gopher habitat on non-Federal lands. Routine farming, seed nursery, or ranching activities are limited to the following:

(i) Livestock grazing according to normally acceptable and established levels of intensity in terms of the number of head of livestock per acre of rangeland.

(ii) Routine management and maintenance of stock ponds and berms to maintain livestock water supplies. Such activities shall not involve the use of heavy equipment.

(iii) Routine maintenance or construction of open-wire fences for grazing management.

(iv) Planting, harvest, or rotation of crops when such activities occur between November 1 and February 28 (inclusive).

(v) Maintenance of livestock management facilities such as corrals, sheds, and other ranch outbuildings.

(vi) Repair and maintenance of unimproved ranch roads. This exemption does not include improvement, upgrade, or construction of new roads.

(vii) Discing of fencelines or perimeter areas for fire prevention control when such activities occur between November 1 and February 28 (inclusive).

(viii) Placement of mineral supplements.

(ix) Control and management of noxious weeds through mowing, herbicide application, and burning. Use of herbicides and burning must occur in such a way that nontarget plants are not affected.

(4) *What activities are allowed on airports on non-Federal lands?* Incidental take of the Olympia, Tenino, Yelm, and Roy Prairie pocket gophers will not be a violation of section 9 of the Act, if the incidental take results from routine maintenance activities in or adjacent to Mazama pocket gopher habitat and associated with airport operations located on non-Federal lands. Routine maintenance activities include the following and do not involve the use of heavy equipment that would crush burrows or compact soils:

(i) Routine management, repair, and maintenance of roads and runways (does not include upgrades, or construction of new roads or runways or new development at airports); and

(ii) Control and management of noxious weeds and grass through mowing, herbicide application, or burning. Use of herbicides and burning must occur in such a way that nontarget plants are not affected.

(5) *What activities are allowed on private land?* Incidental take of the Olympia, Tenino, Yelm, and Roy Prairie pocket gophers will not be a violation of section 9 of the Act, if the incidental take results from noncommercial activities that occur in or adjacent to Mazama pocket gopher habitat on existing single-family residential properties. These activities could include, but are not limited to, the following, and must not involve the use of heavy equipment:

(i) Control and management of invasive plants and grass through mowing, herbicide application, or burning. Use of herbicides and burning must occur in such a way that nontarget plants are not affected;

(ii) Construction and placement of above-ground fencing, play equipment, and dog kennels less than 100 ft^2 (9.29 m^2) only if on block, or above-ground, footings; and (iii) Construction of carports, or storage sheds less than 100 ft^2 (9.29 m^2), only if on block, or above-ground, footings.

* * * * *

3. Amend § 17.95(a) by adding entries for ''Olympia pocket gopher (*Thomomys mazama pugetensis)'', ''*Roy Prairie pocket gopher (*Thomomys mazama glacialis)'', ''*Tenino pocket gopher (*Thomomys mazama tumuli)'',* and ''Yelm pocket gopher (*Thomomys mazama yelmensis*)'' in the same order that these species appear in the table in § 17.11(h), to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

(a) *Mammals.*

* * * * *

Olympia Pocket Gopher (*Thomomys mazama pugetensis*)

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

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Olympia pocket gopher consist of:

(i) Friable, loamy, and deep soils, some with relatively greater content of sand, gravel, or silt, all generally on slopes less than 15 percent in the following series:

(A) Alderwood;
(B) Cagey;
(D) Everett;
(E) Indianola;
(F) McKenna;
(G) Nisqually;
(H) Norma;
(I) Spana;
(J) Spanaway;
(K) Spanaway-Nisqually complex; and
(L) Yelm.

(ii) Areas equal to or larger than 50 ac (20 ha) in size that provide for breeding, foraging, and dispersal activities, found in the soil series listed in paragraph (2)(i) of this entry that have:

(A) Less than 10 percent woody vegetation cover.

(B) Vegetative cover suitable for foraging by gophers. Pocket gophers' diets include a wide variety of plant material, including leafy vegetation, succulent roots, shoots, tubers, and grasses. Forbs and grasses that Mazama pocket gophers eat are known to include, but are not limited to: *Achillea millefolium* (common yarrow), *Agoseris* spp. (agoseris), *Cirsium* spp. (thistle), *Bromus* spp. (brome), *Camassia* spp. (camas), *Collomia linearis* (tiny trumpet), *Epilobium spp.* (several willowherb spp.), *Eriophyllum lanatum* (woolly sunflower), *Gayophytum diffusum* (groundsmoke), *Hypochaeris radicata* (hairy cat's ear), *Lathyrus* spp. (peavine), *Lupinus* spp. (lupine), *Microsteris gracilis* (slender phlox), *Penstemon* spp. (penstemon), *Perideridia gairdneri* (Gairdner's yampah), *Phacelia heterophylla* (varileaf phacelia), *Polygonum douglasii* (knotweed), *Potentilla* spp. (cinquefoil), *Pteridium aquilinum* (bracken fern), *Taraxacum officinale* (common dandelion), *Trifolium* spp. (clover), and *Viola* spp. (violet).

(C) Few, if any, barriers to dispersal. Barriers to dispersal include, but are not limited to: open water; steep slopes (greater than 35 percent); wide expanses of rhizomatous grasses; concrete; large areas of rock; development and buildings; and soils or substrates inappropriate for burrowing.

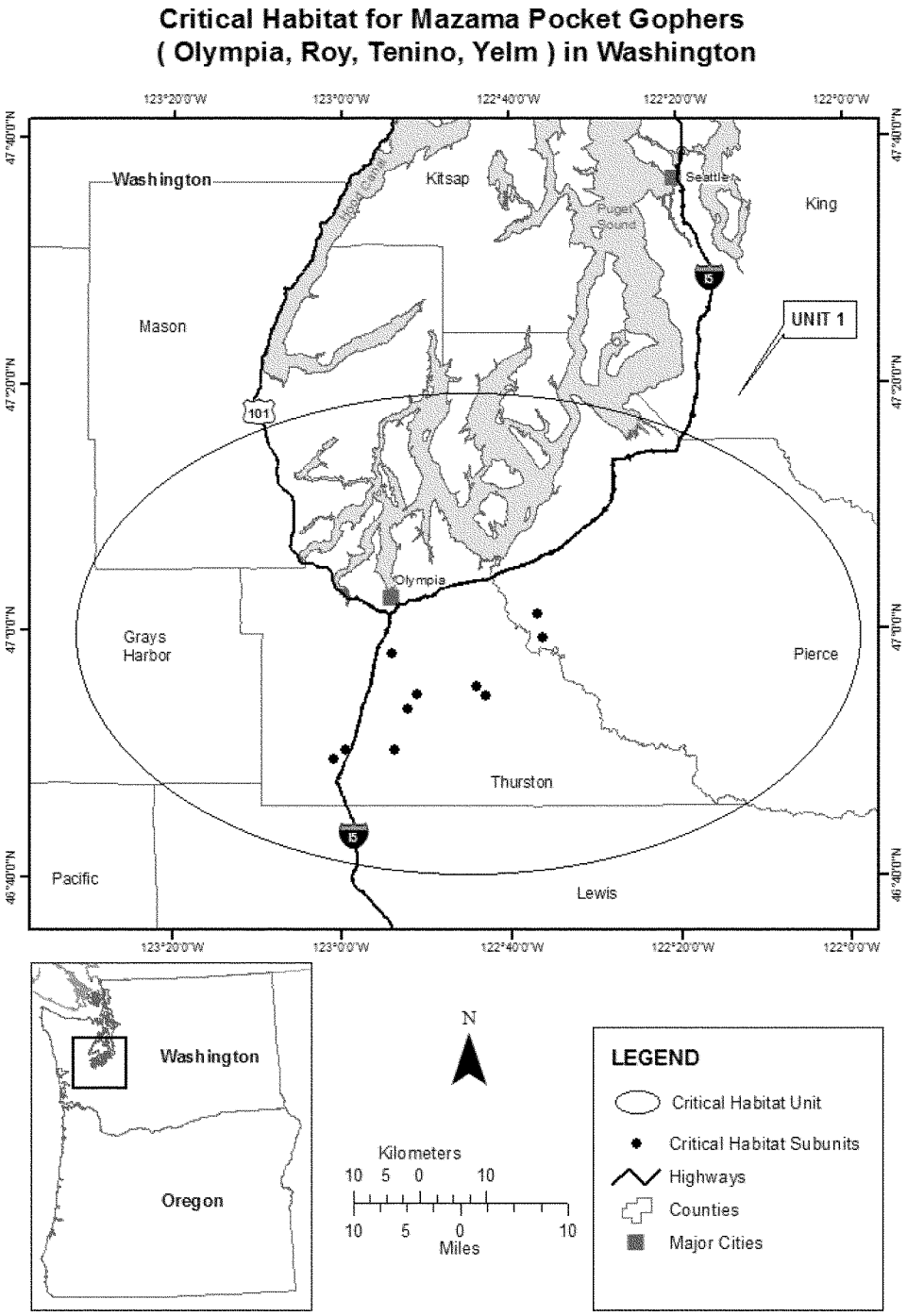
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [DATE 30 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE].

(4) *Critical habitat map units.* Data layers defining the map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The

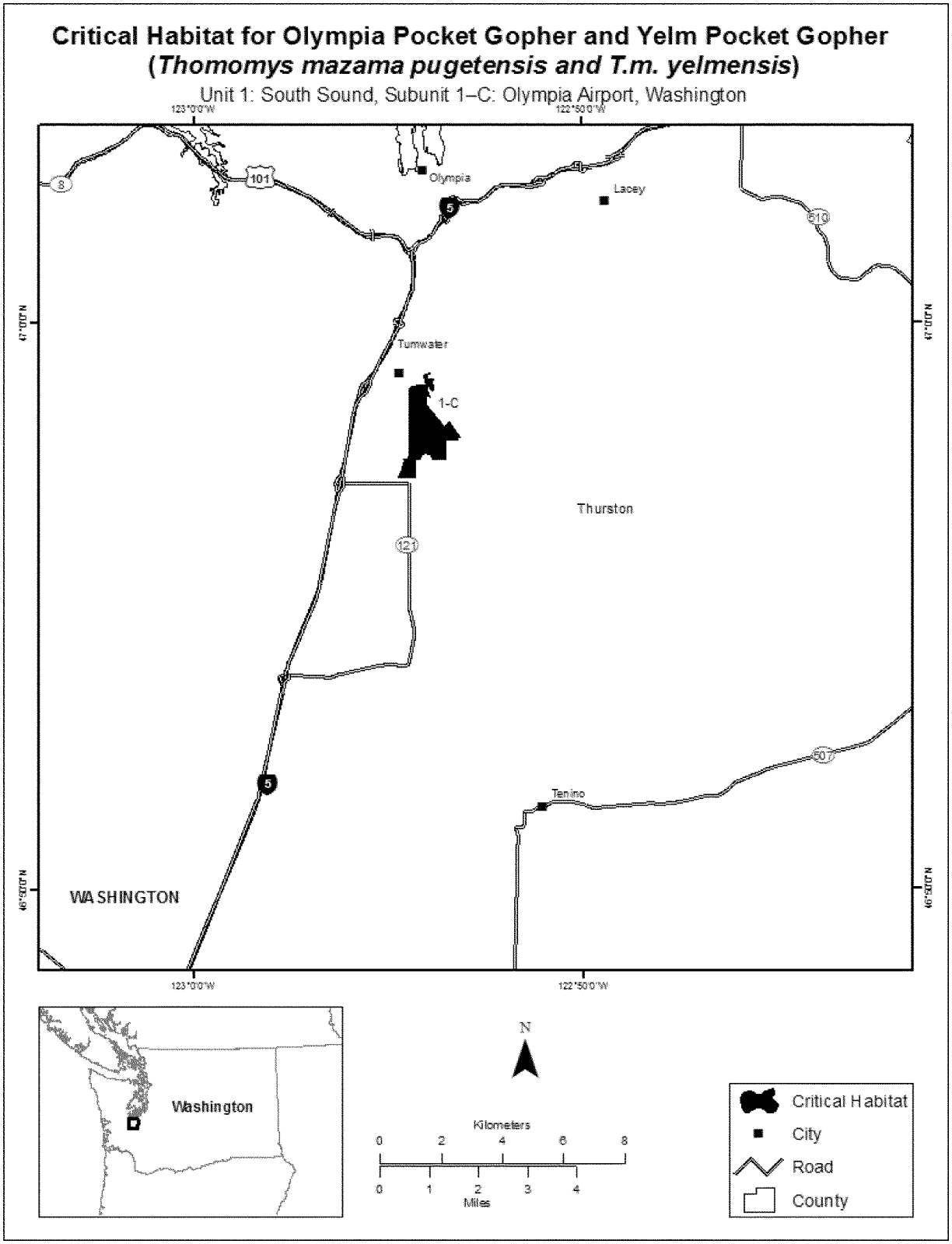
maps in this entry establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, (*http://www.fws.gov/wafwo/*), Regulations.gov (*http://www.regulations.gov* at Docket No. FWS–R1–ES–2012–0088), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) **Note**: Index map follows:

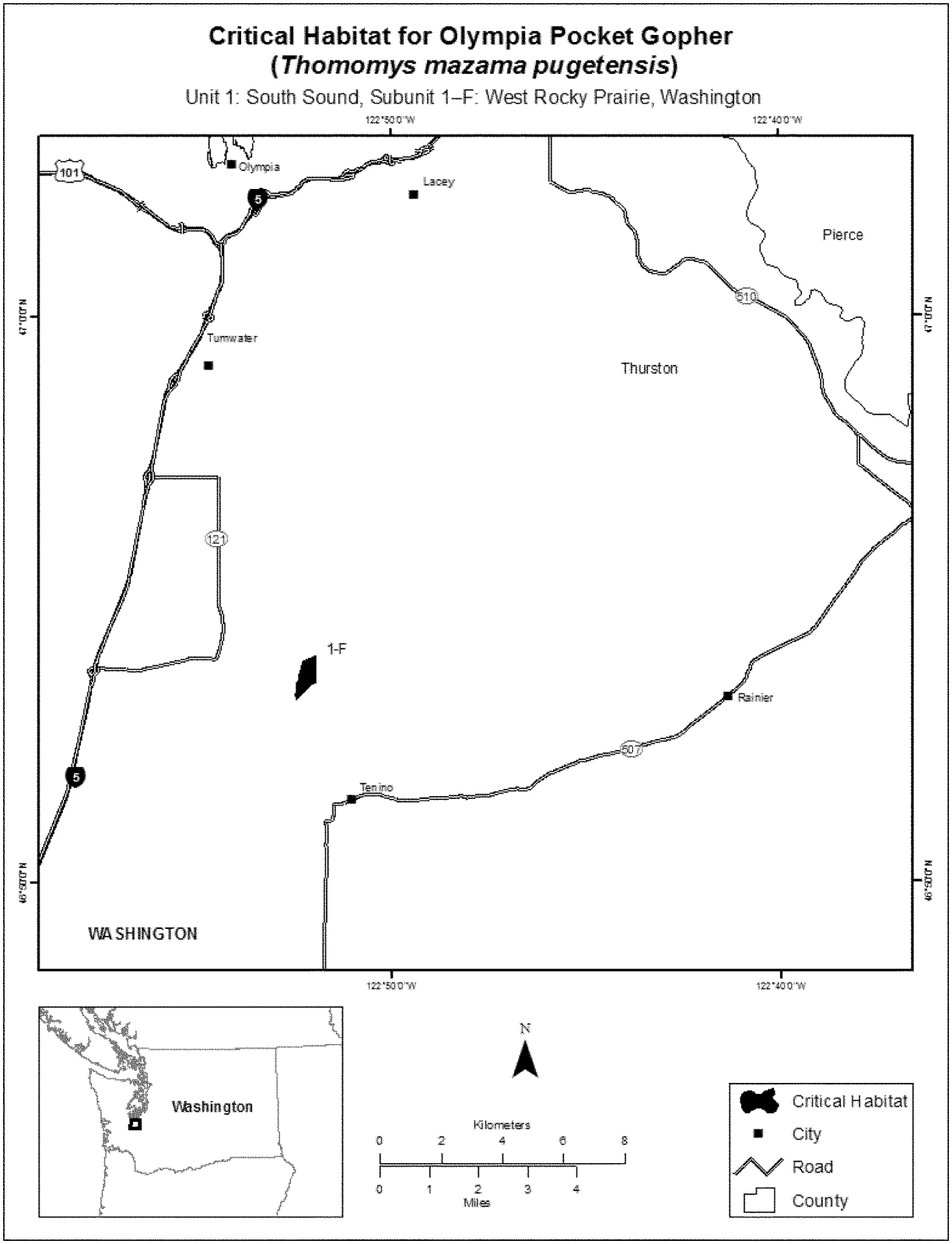
BILLING CODE 4310–55–P



(6) Unit 1—South Sound, Subunit 1–C: Olympia Airport, Thurston County, Washington. Map of Unit 1, Subunit 1–C follows:



(7) Unit 1—South Sound, Subunit 1–F: West Rocky Prairie, Thurston County, Washington. Map of Unit 1, Subunit 1–F follows:



BILLING CODE 4310–55–C

Roy Prairie Pocket Gopher (*Thomomys mazama glacialis*)

(1) Critical habitat units are depicted for Thurston and Pierce Counties in Washington on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Roy Prairie pocket gopher consist of:

(i) Friable, loamy, and deep soils, some with relatively greater content of sand, gravel, or silt, all generally on slopes less than 15 percent in the following series:

(A) Everett;

(B) Indianola;

(C) Nisqually;

(D) Norma; and

(E) Spanaway.

(ii) Areas equal to or larger than 50 ac (20 ha) in size that provide for breeding, foraging, and dispersal activities, found in the soil series listed in paragraph (2)(i) of this entry that have:

(A) Less than 10 percent woody vegetation cover.

(B) Vegetative cover suitable for foraging by gophers. Pocket gophers' diets include a wide variety of plant material, including leafy vegetation, succulent roots, shoots, tubers, and grasses. Forbs and grasses that Mazama pocket gophers are known to eat include, but are not limited to: *Achillea millefolium* (common yarrow), *Agoseris* spp. (agoseris), *Cirsium* spp. (thistle), *Bromus* spp. (brome), *Camassia* spp. (camas), *Collomia linearis* (tiny trumpet), *Epilobium spp.* (several willowherb spp.), *Eriophyllum lanatum* (woolly sunflower), *Gayophytum diffusum* (groundsmoke), *Hypochaeris radicata* (hairy cat's ear), *Lathyrus* spp. (peavine), *Lupinus* spp. (lupine), *Microsteris gracilis* (slender phlox), *Penstemon* spp. (penstemon), *Perideridia gairdneri* (Gairdner's yampah), *Phacelia heterophylla* (varileaf phacelia), *Polygonum douglasii* (knotweed), *Potentilla* spp. (cinquefoil), *Pteridium aquilinum* (bracken fern), *Taraxacum officinale* (common dandelion), *Trifolium* spp. (clover), and *Viola* spp. (violet).

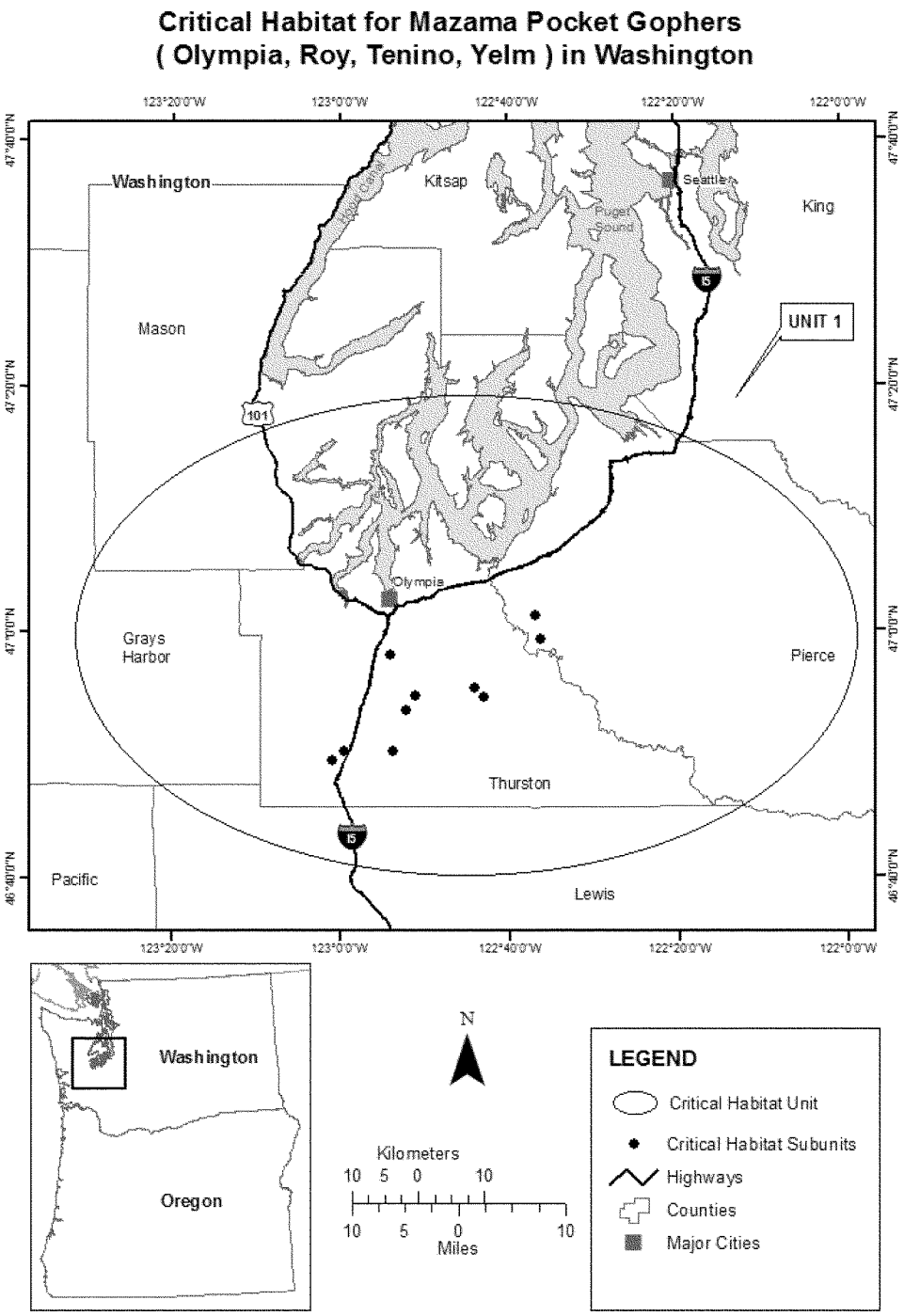
(C) Few, if any, barriers to dispersal. Barriers to dispersal include, but are not limited to: open water; steep slopes (greater than 35 percent); wide expanses of rhizomatous grasses; concrete; large areas of rock; development and buildings; and soils or substrates inappropriate for burrowing.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [DATE 30 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE].

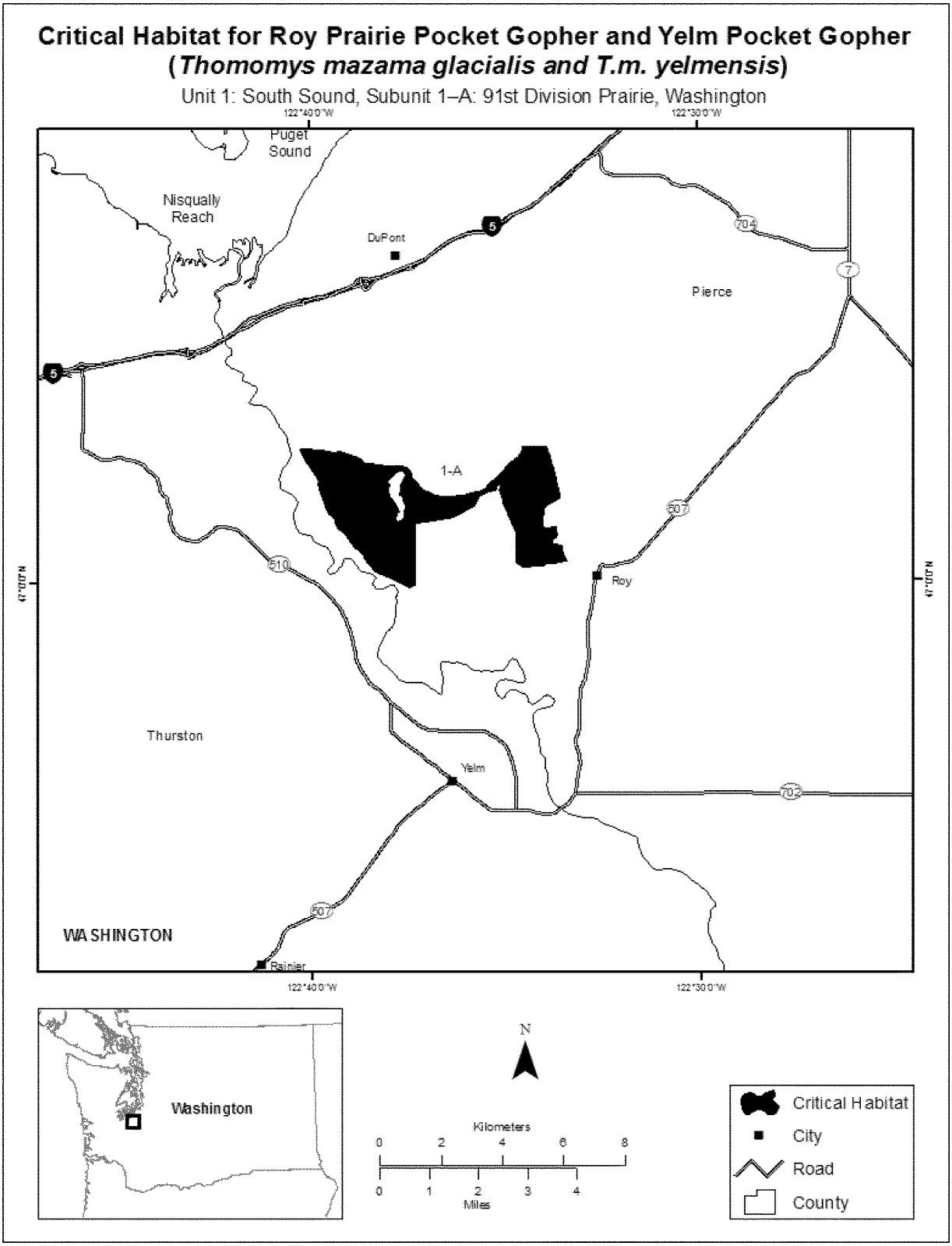
(4) *Critical habitat map units.* Data layers defining the map units were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, (at *http://www.fws.gov/wafwo/*), Regulations.gov (*http://www.regulations.gov* at Docket No. FWS–R1–ES–2012–0088), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) **Note**: Index map follows:

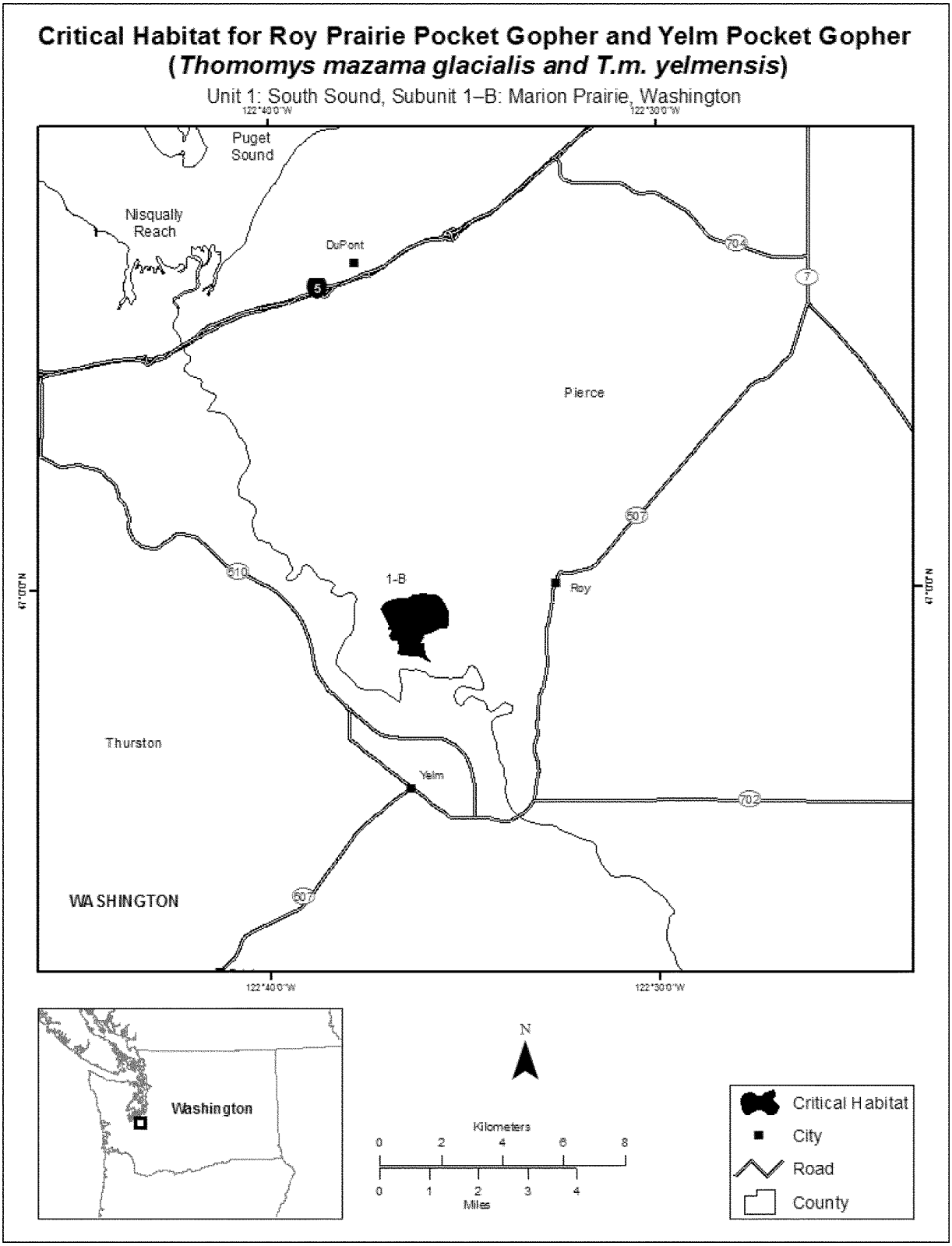
BILLING CODE 4310–55–P



(6) Unit 1—South Sound. Subunit 1–A: 91st Division Prairie, Pierce County, Washington. Map of Unit 1, Subunit 1–A follows:



(7) Unit 1—South Sound, Subunit 1–B: Marion Prairie, Thurston County, Washington. Map of Unit 1, Subunit 1–B follows:



BILLING CODE 4310–55–C

Tenino Pocket Gopher (*Thomomys mazama tumuli*)

(1) Critical habitat units are depicted for Thurston County in Washington on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of Tenino pocket gopher consist of two components:

(i) Friable, loamy, and deep soils, some with relatively greater content of sand, gravel, or silt, all generally on slopes less than 15 percent in the following series:

(A) Everett;

(B) Nisqually;

(C) Norma;

(D) Spanaway; and

(E) Spanaway-Nisqually complex.

(ii) Areas equal to or larger than 50 ac (20 ha) in size that provide for breeding, foraging, and dispersal activities, found in the soil series listed in paragraph (2)(i) of this entry that have:

(A) Less than 10 percent woody vegetation cover.

(B) Vegetative cover suitable for foraging by gophers. Pocket gophers' diets include a wide variety of plant material, including leafy vegetation, succulent roots, shoots, tubers, and grasses. Forbs and grasses that Mazama pocket gophers are known to eat include, but are not limited to: *Achillea millefolium* (common yarrow), *Agoseris* spp. (agoseris), *Cirsium* spp. (thistle), *Bromus* spp. (brome), *Camassia* spp. (camas), *Collomia linearis* (tiny trumpet), *Epilobium spp.* (several willowherb spp.), *Eriophyllum lanatum* (woolly sunflower), *Gayophytum diffusum* (groundsmoke), *Hypochaeris radicata* (hairy cat's ear), *Lathyrus* spp. (peavine), *Lupinus* spp. (lupine), *Microsteris gracilis* (slender phlox), *Penstemon* spp. (penstemon), *Perideridia gairdneri* (Gairdner's yampah), *Phacelia heterophylla* (varileaf phacelia), *Polygonum douglasii* (knotweed), *Potentilla* spp. (cinquefoil), *Pteridium aquilinum* (bracken fern), *Taraxacum officinale* (common dandelion), *Trifolium* spp. (clover), and *Viola* spp. (violet).

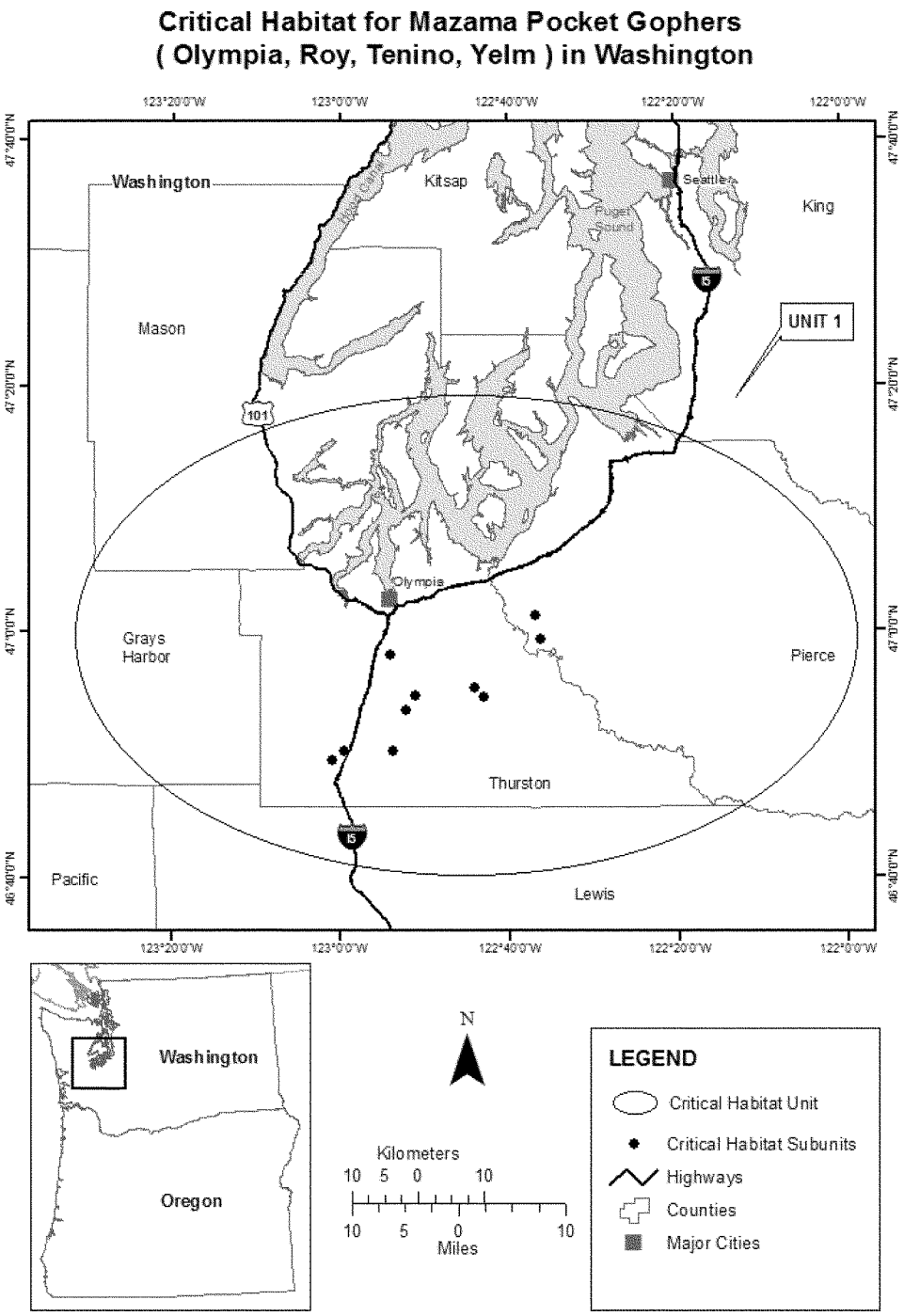
(C) Few, if any, barriers to dispersal. Barriers to dispersal include, but are not limited to: open water; steep slopes (greater than 35 percent); wide expanses of rhizomatous grasses; concrete; large areas of rock; development and buildings; and soils or substrates inappropriate for burrowing.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [DATE 30 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE].

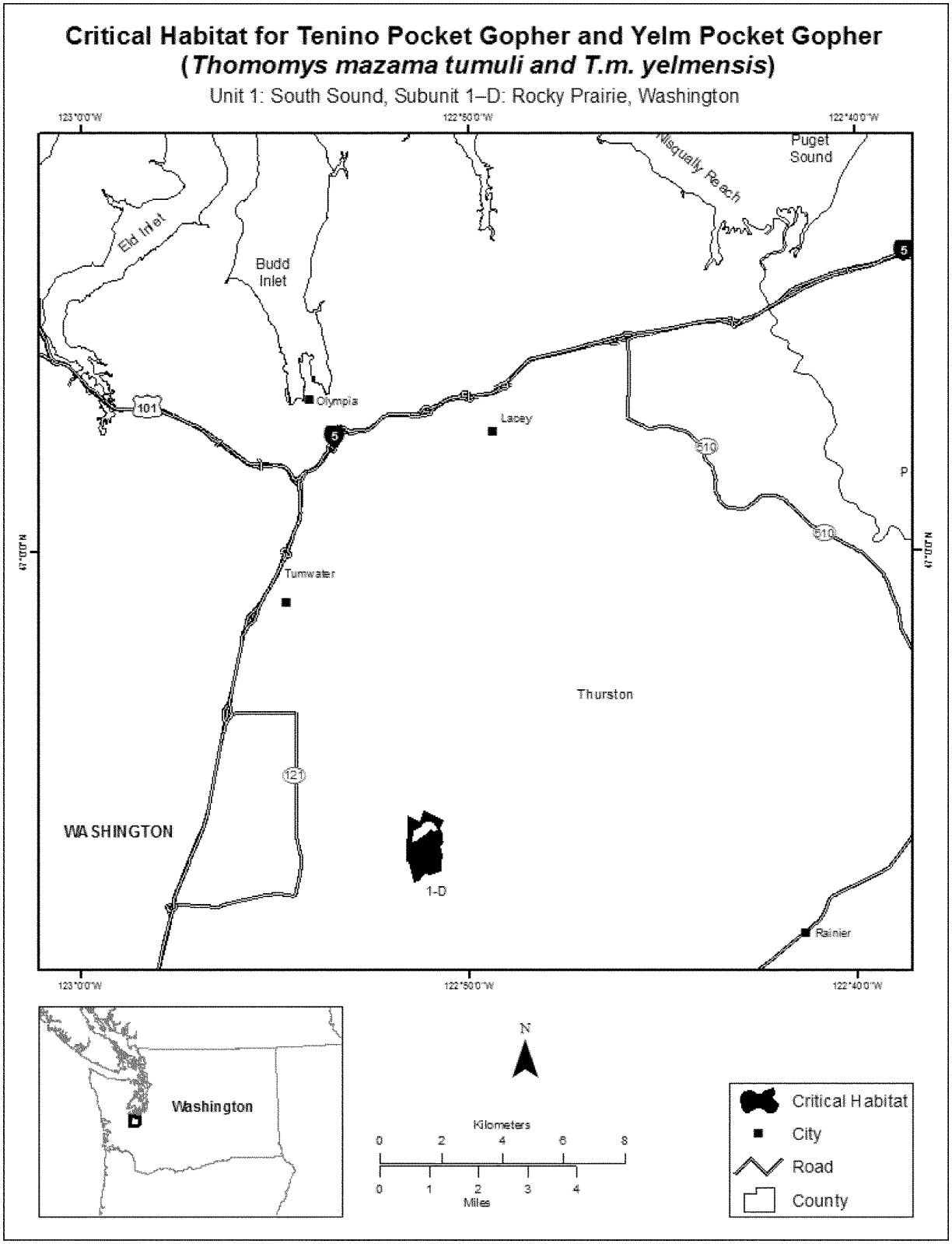
(4) *Critical habitat map unit.* Data layers defining the map unit were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, (*http://www.fws.gov/wafwo/*), Regulations.gov (*http://www.regulations.gov* at Docket No. FWS–R1–ES–2012–0088), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) **Note:** Index map follows:

BILLING CODE 4310–55–P



(6) Unit 1—South Sound. Subunit 1–D: Rocky Prairie, Thurston County, Washington. Map of Unit 1, Subunit 1–D follows:



BILLING CODE 4310–55–C

Yelm Pocket Gopher (*Thomomys mazama yelmensis*)

(1) Critical habitat units are depicted for Thurston and Pierce Counties in Washington on the maps below.

(2) Within these areas, the primary constituent elements of the physical or biological features essential to the conservation of the Yelm pocket gopher consist of two components:

(i) Friable, loamy, and deep soils, some with relatively greater content of sand, gravel, or silt, all generally on slopes less than 15 percent in the following series:

(A) Alderwood;
(B) Everett;
(C) Godfrey;
(D) Kapowsin;
(E) McKenna;
(F) Nisqually;
(G) Norma;
(H) Spana;
(I) Spanaway;
(J) Spanaway-Nisqually complex; and
(K) Yelm.

(ii) Areas equal to or larger than 50 ac (20 ha) in size that provide for breeding, foraging, and dispersal activities, found in the soil series listed in paragraph (2)(i) of this entry that have:

(A) Less than 10 percent woody vegetation cover.

(B)Vegetative cover suitable for foraging by gophers. Pocket gophers' diets include a wide variety of plant material, including leafy vegetation, succulent roots, shoots, tubers, and grasses. Forbs and grasses that Mazama pocket gophers are known to eat include, but are not limited to: *Achillea millefolium* (common yarrow), *Agoseris* spp. (agoseris), *Cirsium* spp. (thistle), *Bromus* spp. (brome), *Camassia* spp. (camas), *Collomia linearis* (tiny trumpet), *Epilobium spp.* (several willowherb spp.), *Eriophyllum lanatum* (woolly sunflower), *Gayophytum diffusum* (groundsmoke), *Hypochaeris radicata* (hairy cat's ear), *Lathyrus* spp. (peavine), *Lupinus* spp. (lupine), *Microsteris gracilis* (slender phlox), *Penstemon* spp. (penstemon), *Perideridia gairdneri* (Gairdner's yampah), *Phacelia heterophylla* (varileaf phacelia), *Polygonum douglasii* (knotweed), *Potentilla* spp. (cinquefoil), *Pteridium aquilinum* (bracken fern), *Taraxacum officinale* (common dandelion), *Trifolium* spp. (clover), and *Viola* spp. (violet).

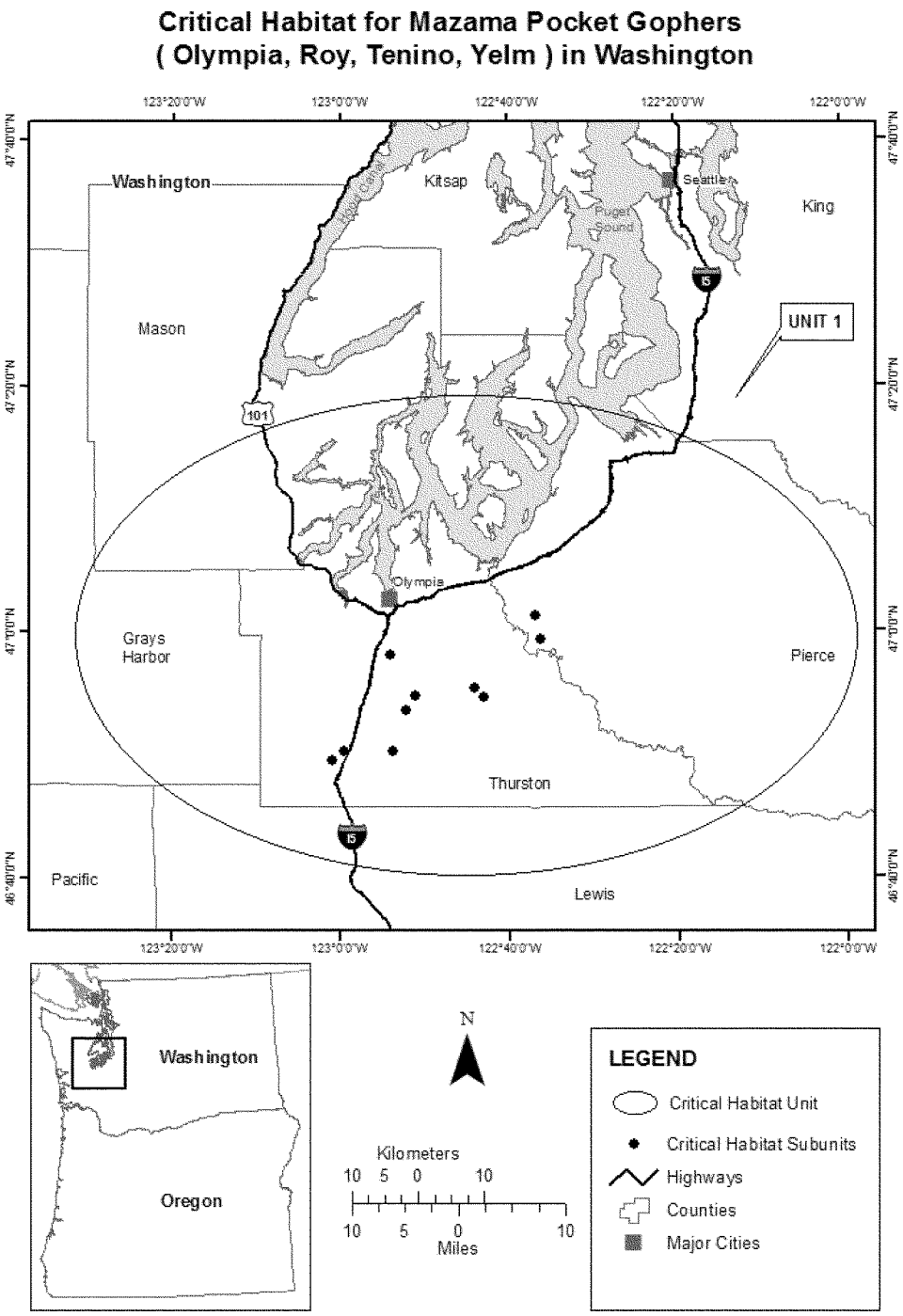
(C) Few, if any, barriers to dispersal. Barriers to dispersal include, but are not limited to: open water; steep slopes (greater than 35 percent); wide expanses of rhizomatous grasses; concrete; large areas of rock; development and buildings; and soils or substrates inappropriate for burrowing.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on [DATE 30 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE].

(4) *Critical habitat map units.* Data layers defining the map unit were created on 2010 aerial photography from U.S. Department of Agriculture, National Agriculture Imagery Program base maps using ArcMap (Environmental Systems Research Institute, Inc.), a computer geographic information system (GIS) program. The maps in this entry establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site, (*http://www.fws.gov/wafwo/*), Regulations.gov (*http://www.regulations.gov* at Docket No. FWS–R1–ES–2012–0088), and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) **Note**: Index map follows:

BILLING CODE 4310–55–P



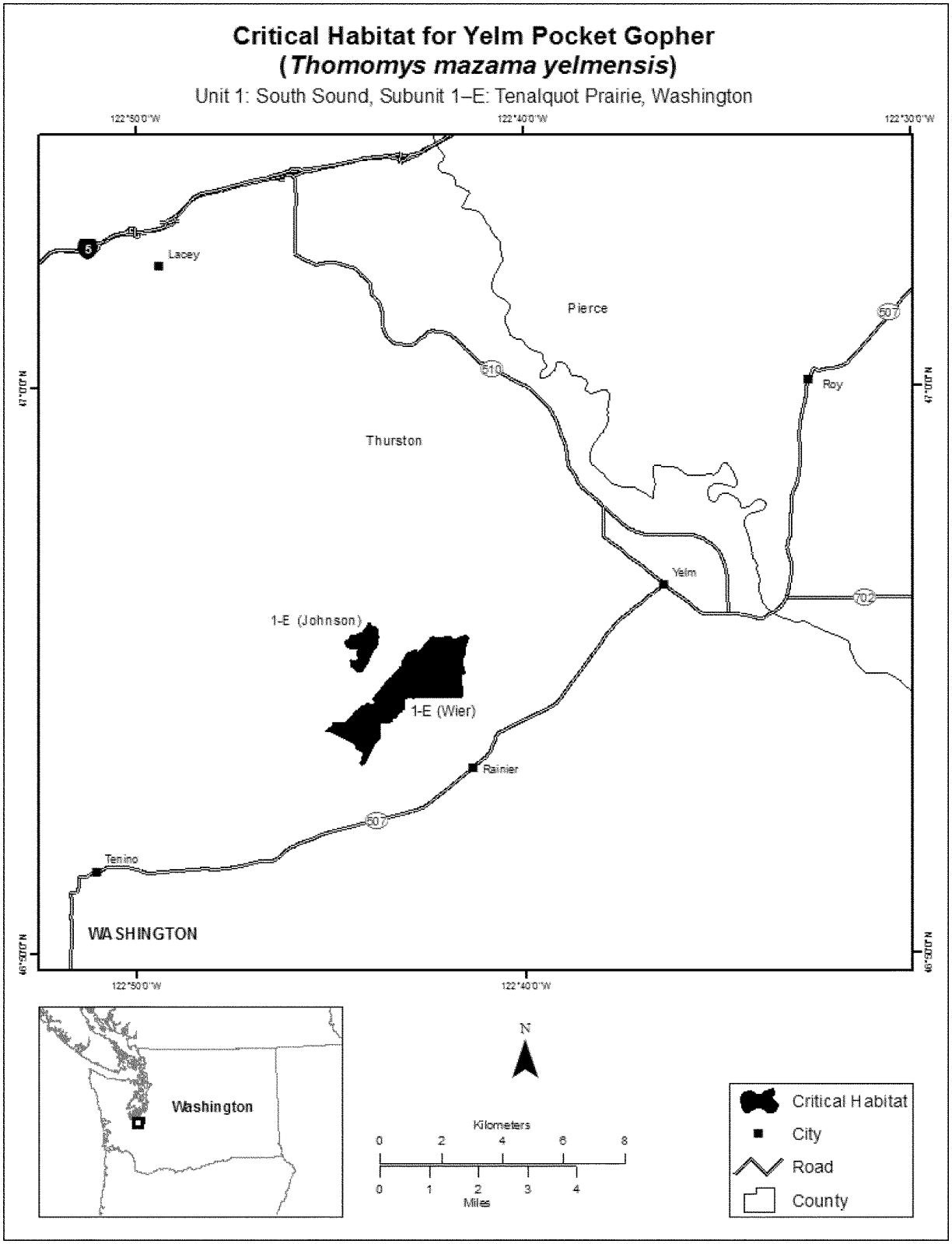
(6) Unit 1—South Sound, Subunit 1–A: 91 St Division Prairie, Pierce County, Washington. Map of Unit 1, Subunit 1–A is provided at paragraph (6) of the entry for the Roy Prairie pocket gopher.

(7) Unit 1—South Sound, Subunit 1–B: Marion Prairie, Pierce County, Washington. Map of Unit 1, Subunit 1–B, is provided at paragraph (7) of the entry for the Roy Prairie pocket gopher.

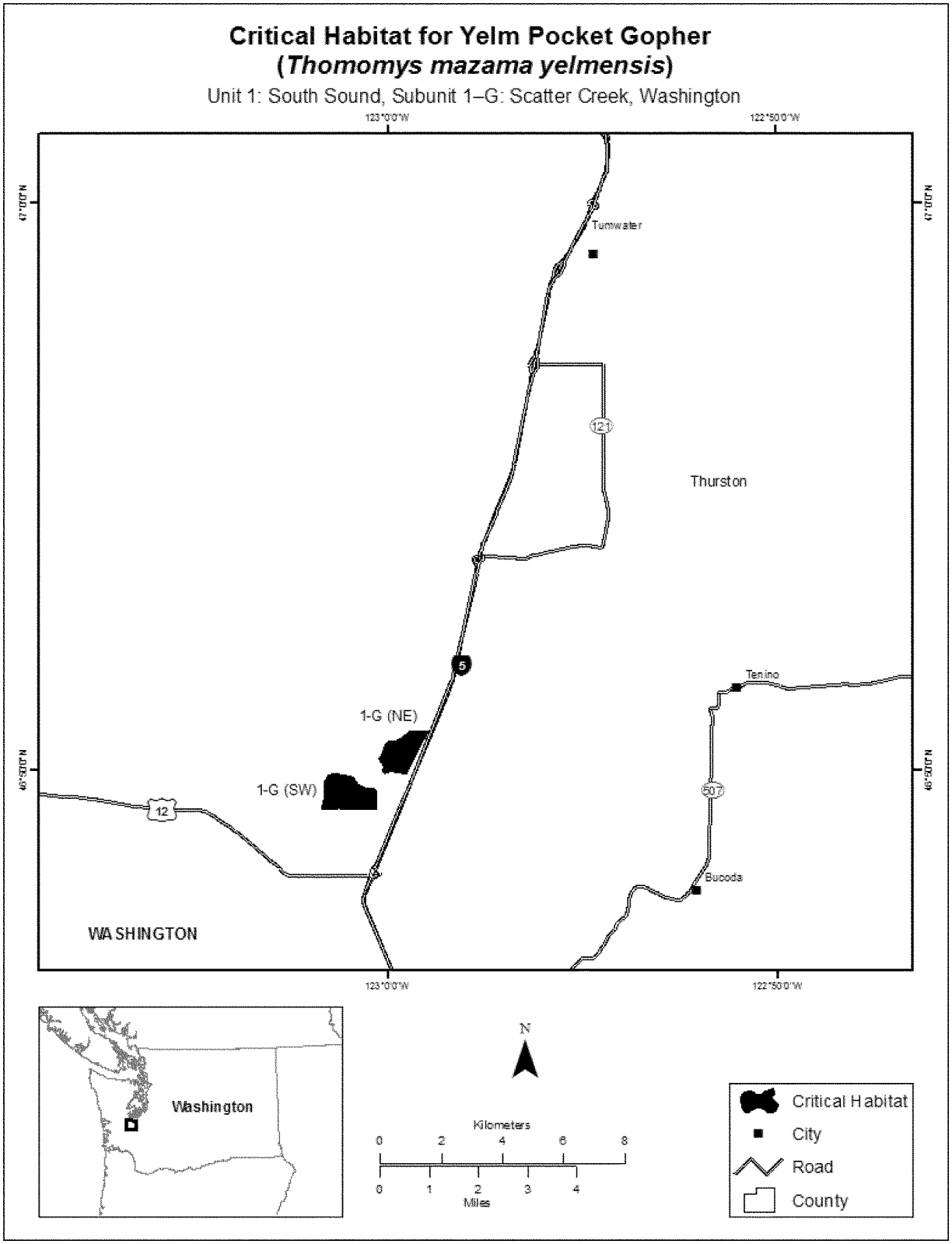
(8) Unit 1—South Sound, Subunit 1–C: Olympia Airport, Thurston County, Washington. Map of Unit 1, Subunit 1–C is provided at paragraph (6) of the entry for the Olympia pocket gopher.

(9) Unit 1—South Sound, Subunit 1–D: West Rocky Prairie, Thurston County, Washington. Map of Unit 1, Subunit 1–D is provided at paragraph (6) of the entry for the Tenino pocket gopher.

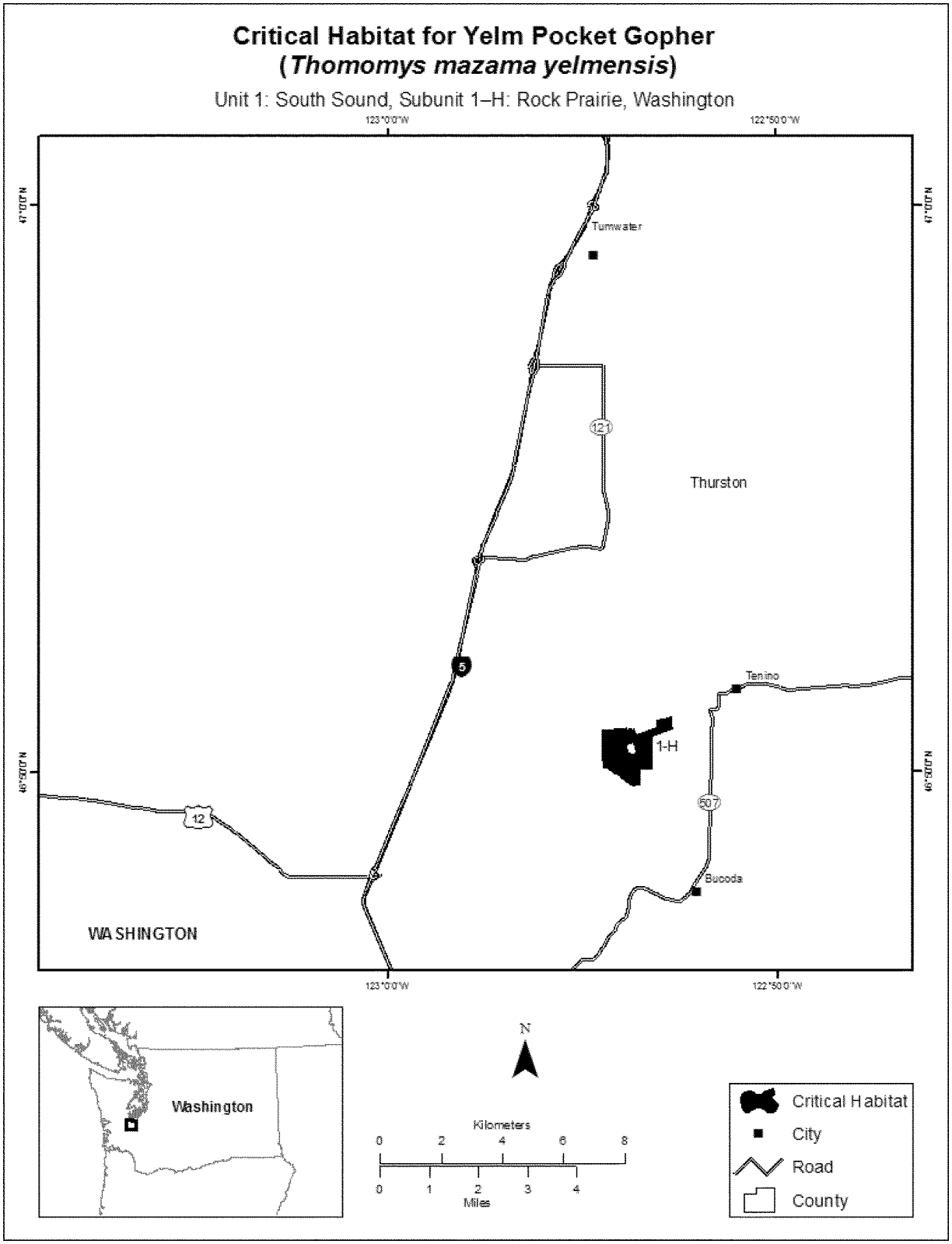
(10) Unit 1—South Sound, Subunit 1–E: Tenalquot Prairie, Thurston County, Washington. Map of Unit 1, Subunit 1–E follows:



(11) Unit 1—South Sound, Subunit 1–G: Scatter Creek, Thurston County, Washington. Map of Unit 1, Subunit 1–G follows:



(12) Unit 1—South Sound, Subunit 1–H: Rock Prairie, Thurston County, Washington. Map of Unit 1, Subunit 1–H follows:



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Dated: November 27, 2012.

Rachel Jacobson,

Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2012–29335 Filed 12–10–12; 8:45 am]

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