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## Part II

# Department of the Interior

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Fish and Wildlife Service

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50 CFR Part 17

**Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Fender's Blue Butterfly (*Icaricia icarioides fenderi*), *Lupinus sulphureus* ssp. *kincaidii* (Kincaid's Lupine), and *Erigeron decumbens* var. *decumbens* (Willamette Daisy); Proposed Rule**

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

RIN 1018-AT91

**Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Fender's Blue Butterfly (*Icaricia icarioides fenderi*), *Lupinus sulphureus* ssp. *kincaidii* (Kincaid's Lupine), and *Erigeron decumbens* var. *decumbens* (Willamette Daisy).****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for the Fender's blue butterfly (*Icaricia icarioides fenderi*), and two plants, *Lupinus sulphureus* ssp. *kincaidii* (Kincaid's lupine), and *Erigeron decumbens* var. *decumbens* (Willamette daisy) pursuant to the Endangered Species Act of 1973, as amended (Act). We are proposing to designate 3,089 acres (ac) (1,250 hectares (ha) as critical habitat for Fender's blue butterfly, 724 ac (293 ha) as critical habitat for *L. sulphureus* ssp. *kincaidii*, and 718 ac (291 ha) as critical habitat for *E. decumbens* var. *decumbens*. The proposed critical habitat is located in Polk, Benton, Yamhill, Lane, Marion, Linn, and Douglas Counties, Oregon, and Lewis County, Washington.

**DATES:** We will accept comments from all interested parties until January 3, 2006. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by December 19, 2005.

**ADDRESSES:** If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods:

(1) You may submit written comments and information to Kemper McMaster, Field Supervisor, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266.

(2) You may hand-deliver written comments to our Office, at the above address.

(3) You may send comments by electronic mail (e-mail) to [fw1willamettech@fws.gov](mailto:fw1willamettech@fws.gov). Please see the Public Comments Solicited section below for file format and other information about electronic filing.

(4) You may fax your comments to 503/231-6195.

Comments and materials received, as well as supporting documentation used

in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours (see address above) (telephone 503/231-6179).

**FOR FURTHER INFORMATION CONTACT:**

Kemper McMaster, Field Supervisor, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266 (telephone 503/231-6179; facsimile 503/231-6195).

**SUPPLEMENTARY INFORMATION:****Public Comments Solicited**

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) The reasons any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefit of designation will outweigh any threats to the species due to designation;

(2) Specific information on the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* and its habitat, and which habitat or habitat components (i.e., physical and biological features) are essential to the conservation such as soil moisture gradient, microsite preferences, light requirements;

(3) Specific information on the amount and distribution of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* habitat; what areas should be included in the designations that were occupied at the time of listing and contain the features that are essential to the conservation of the species and why; specific information is also sought on what areas that were not occupied at the time of listing are essential to the conservation of the species and why;

(4) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat; we specifically solicit information including:

(a) The benefits provided by a management plan; specifically describe how the plan addresses each primary constituent element (PCE) in the absence of designated critical habitat; describe conservation benefits to Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* or *Erigeron*

*decumbens* var. *decumbens*; include citations that point to the certainty of implementation of those aspects of the management plans (see the Special Management Considerations or Protections section below);

(b) The benefits of excluding from the critical habitat designation the areas covered by the plan; we are especially interested in knowing how partnerships may be positively or negatively affected by a designation, or through exclusion from critical habitat, and costs associated with designation;

(c) With specific reference to the recent amendments to sections 4(a)(3) and 4(b)(2) of the Act, we request information from the Department of Defense to assist the Secretary of the Interior in making a determination as to whether to exclude critical habitat on lands administered by or under the control of the Department of Defense based on the benefit of an Integrated Natural Resources Management Plan (INRMP) to the conservation of the species;

(5) Any foreseeable economic, national security, or other potential impacts resulting from the proposed designation and, in particular, any impacts on small entities; and

(6) Whether our approach to designating critical habitat could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concerns and comments.

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES** section). Please submit Internet comments to [fw1willamettech@fws.gov](mailto:fw1willamettech@fws.gov) in ASCII file format and avoid the use of special characters or any form of encryption. Please also include "RIN 1018-AT91" in your e-mail subject header and your name and return address in the body of your message. If you do not receive a confirmation from the system that we have received your Internet message, contact us directly (see **ADDRESSES**). Please note that the Internet address [fw1willamettech@fws.gov](mailto:fw1willamettech@fws.gov) will be unavailable at the termination of the public comment period.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home addresses from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the

rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comments. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

### Designation of Critical Habitat Provides Little Additional Protection to Species

In 30 years of implementing the Act, the Service has found that the designation of statutory critical habitat provides little additional protection to most listed species, while consuming significant amounts of available conservation resources. The Service's present system for designating critical habitat has evolved since its original statutory prescription into a process that provides little real conservation benefit, is driven by litigation and the courts rather than biology, limits our ability to fully evaluate the science involved, consumes enormous agency resources, and imposes huge social and economic costs. The Service believes that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.

#### Role of Critical Habitat in Actual Practice of Administering and Implementing the Act

While attention to and protection of habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources. Sidle (1987) stated, "Because the Act can protect species with and without critical habitat designation, critical habitat designation may be redundant to the other consultation requirements of section 7." Currently, only 470 species or 37.5 percent of the 1,253 listed species in the U.S. under the jurisdiction of the Service have designated critical habitat.

We address the habitat needs of all 1,253 listed species through conservation mechanisms such as listing, section 7 consultations, the Section 4 recovery planning process, the

Section 9 protective prohibitions of unauthorized take, Section 6 funding to the States, and the Section 10 incidental take permit process. The Service believes that it is these measures that may make the difference between conservation for many species.

We note, however, that a recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, has invalidated the Service's regulation defining destruction or adverse modification of critical habitat. In response, on December 9, 2004, the Director issued guidance to be considered in making section 7 adverse modification determinations. This critical habitat designation does not use the invalidated regulation in our consideration of critical habitat's benefits. The Service will carefully manage consultations that analyze impacts to designated critical habitat, particularly those that appear to be resulting in an adverse modification determination. Such consultations will be reviewed by the Regional Office prior to finalizing to ensure that an adequate analysis has been conducted that is informed by the Director's guidelines.

#### Procedural and Resource Difficulties in Designating Critical Habitat

We have been inundated with lawsuits for our failure to designate critical habitat, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected the Service to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves the Service with little ability to prioritize its activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent (NOIs) to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, listing petition responses, the Service's own proposals to list critically imperiled species, and final listing determinations on existing proposals are all significantly delayed.

The accelerated schedules of court ordered designations have left the Service with almost no ability to provide for adequate public participation or to ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals due to the risks associated

with noncompliance with judicially-imposed deadlines. This in turn fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, is very expensive, and in the final analysis provides relatively little additional protection to listed species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with the National Environmental Policy Act (NEPA). None of these costs result in any benefit to the species that is not already afforded by the protections of the Act enumerated earlier, and they directly reduce the funds available for direct and tangible conservation actions.

### Background

It is our intent to discuss those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*, refer to the final listing rule published in the **Federal Register** on January 25, 2000 (65 FR 3875). Provided below is a general overview of the habitat requirements and distribution of Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii* and *E. decumbens* var. *decumbens*.

These species occur in wet prairie, upland prairie, and oak/savanna habitats (collectively referred to as prairie habitat) which were once widely distributed across western Oregon and southwestern Washington (Clark 1996; Schultz *et al.* 2003; Wilson *et al.* 2003). Various descriptions of prairie habitats have been published over the years and they usually vary in their division of communities and the dominant species present in each community (Jackson 1996). For the purposes of this document we describe two habitat types, wet and upland prairie, and we define these by describing the plant communities reported co-occurring with the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*. Upland prairie (including oak savanna) habitat is characterized by short-grass stature which is dominated by native bunch grasses and forbs, such as: *Calochortus tolmiei* (Cat's ear, Tolmie star-tulip), *Danthonia californica* (California oatgrass), *Eriophyllum lanatum* (common woolly sunflower, Oregon

sunshine), *Festuca romeri* (Romer's fescue), and *Fragaria virginiana* (Virginia strawberry) (Wilson 1998a; Schultz *et al.* 2003; Wilson *et al.* 2003). Wet prairies are seasonally flooded ecosystems occurring on both poorly drained soil types and well-drained soils where shallow bedrock impedes drainage (Wilson 1998b). Although wet prairie soils dry-out during typical summer droughts, they have soils with hydric characteristics that support facultative or obligate wetland plant species (Wilson 1998b) such as, *Anthoxanthum odoratum* (sweet vernalgrass), *Deschampsia caespitosa* (tufted hairgrass), *Eriophyllum lanatum*, and *Lomatium bradshawii* (Bradshaw's lomatium) (Clark *et al.* 1993; Wilson 1998b). The Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*, occur in prairie remnants with undisturbed (not disturbed in the last 10 years) subsoils (the layer of soil between the topsoil and bedrock) (Kagen and Yamamoto 1987; USFWS 2003a; USFWS 2004a, 2004b).

Prairie habitat has been reduced to less than one percent of pre-settlement distribution (Hammond and Wilson 1993), making the ecosystem among the most endangered in the United States (Noss *et al.* 1995). The decline in these habitats and their increased fragmentation have led to the decline of many native prairie plants and animals (Wilson 1998a, 1998b). The most noteworthy decline was that of Fender's blue butterfly, which was thought to be extinct for over 50 years before being rediscovered in Benton County, Oregon in the late 1980s (Schultz *et al.* 2003; Wilson *et al.* 2003).

Historically, prairie plant species, such as *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*, were scattered across the landscape in patches which were relatively close to each other (Jackson 1996; Schultz 1998; Severns 2003a). Today, few prairie habitat patches remain and most are threatened to varying degrees by the spread of exotic grasses and shrubs, and succession to forest (Hammond and Wilson 1993; Schultz *et al.* 2003; Wilson *et al.* 2003). As a result, many of the remaining populations of Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii*, and *E. decumbens* var. *decumbens* are extremely small and isolated, further threatening the long-term persistence of these species (Jackson 1996; Schultz 1998; Schultz and Hammond 2003; Severns 2003a; Schultz *et al.* 2003).

*Fender's blue butterfly and Lupinus sulphureus* ssp. *kincaidii*

The Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii* populations occur on early seral (one stage in a sequential progression) upland prairie habitat with plant species including, but not limited to: *Achillea millefolium* (common yarrow), *Aster hallii* (Hall's aster), *Brodiaea congesta* (Brodiaea), *Bromus carinatus* (California brome), *Calochortus tolmiei*, *Carex tumulicola* (splitawn sedge), *Cirsium callilepis* (fewleaf thistle), *Danthonia californica*, *Elymus glaucus* (blue wildrye), *Eriophyllum lanatum*, *Festuca californica* (California fescue), *Festuca roemerii*, *Fragaria virginiana*, *Geranium oregonum* (Oregon geranium), *Grindelia integrifolia* (gumweed), *Lomatium nudicaule* (barestemmed desert parsley), *Luzula campestris* (wood rush), *Prunella vulgaris* (common selfheal), *Sanicula crassicaulis* (Pacific blacksnakeroot), *Sidalcea virgata* (rose checkermallow and dwarf checkerbloom), *Silene hookeri* (Hooker's silene), and *Wyethia angustifolia* (California compassplant). Many of these associated species are considered indicators for this habitat type (Schultz and Dlugosch 1999; Schultz 2001; Schultz *et al.* 2003; Wilson *et al.* 2003).

*L. sulphureus* ssp. *kincaidii* habitat is described as prairie or open areas, and this species is unable to survive prolonged periods of shade (Wilson *et al.* 2003). This plant is a low-growing herbaceous perennial with large individual plant clones (Wilson *et al.* 2003). Excavation efforts indicate that leaves 33 feet (10 m) or more apart can be interconnected by below ground stems, and the species is long-lived with lateral growth rates suggesting that some plants could be several decades old (Wilson *et al.* 2003). *L. sulphureus* ssp. *kincaidii* clones are scattered in patches across the prairie habitat and intermixed with several other prairie-associated plant species.

*Lupinus sulphureus* ssp. *kincaidii* is the primary host plant for the Fender's blue butterfly and is utilized by the butterfly as a larval food source and for oviposition (laying eggs) (Schultz *et al.* 2003; Wilson *et al.* 2003). The Fender's blue butterfly habitat requirements include a larval host plant, native forbs for adult nectar sources, and a mixture of native grasses that help maintain the short-grass stature of the upland prairies (Wilson *et al.* 1997; Schultz 2001) essential to the survival of these shade intolerant species (Wilson *et al.* 2003). Full sun conditions are necessary for adult butterflies to seek out nectar, search for a mate and disperse. The

Fender's blue butterfly appears to have limited dispersal ability with most dispersing adults likely remaining within 1.2 miles (2 km) of their natal lupine patch (Schultz 1998). The maximum dispersal distance reported for the Fender's blue butterfly is 3.1 to 3.7 miles (5 to 6 km) (Hammond and Wilson 1992; Schultz 1998).

To simplify mapping efforts, Fender's blue butterfly occupancy has typically been recorded by simply reporting the location of occupied lupine patches (Schultz and Dlugosch 1999; Schultz 2001; Schultz *et al.* 2003). Adult butterflies utilize a variety of prairie species in addition to the lupine habitat. Species occurrence information reported in the final listing rule was calculated by reporting the estimated area covered by the lupine, which considerably under-estimates the range of Fender's blue butterfly adults. For this proposed critical habitat designation, we have identified and report all known prairie habitat supporting Fender's blue butterfly populations, regardless of the presence or absence of lupine.

Fender's blue butterfly is currently found in 16 isolated populations comprising a total of approximately 3,388 ac (1,370 ha) of upland prairie habitat. The prairie habitat currently supporting this species is found in Yamhill, Polk, Benton, and Lane Counties, Oregon. *Lupinus sulphureus* ssp. *kincaidii* occurs in 76 upland prairie/savanna habitat patches, totaling approximately 1,150 ac (465 ha). The prairie habitat supporting this species is scattered across six counties (Lewis County, Washington, and Yamhill, Polk, Benton, Lane, and Douglas Counties, Oregon).

*Erigeron decumbens* var. *decumbens*

*Erigeron decumbens* var. *decumbens* grows in wet prairies occurring on relatively impermeable soils with plant species including, but not limited to: *Anthoxanthum odoratum*, *Aster curtus* (white-top aster), *Aster hallii* (Hall's aster), *Brodiaea coronaria* (crown brodiaea), *Camassia quamash* (common camas), *Danthonia californica* (California oatgrass), *Deschampsia caespitosa*, *Festuca arundinacea* (tall fescue), *Grindelia integrifolia* (gumweed), *Holcus lanatus* (velvet grass), *Horkelia congesta* (Sierra horkelia), *Saxifraga integrifolia* (bog saxifrag), *Lomatium bradshawii*, *Luzula campestris* (wood rush), *Panicum capillare* (witchgrass), *Potentilla gracilis* (slender cinquefoil), *Prunella vulgaris* (common selfheal) and *Sisyrinchium angustifolium* (narrowleaf blue-eyed grass) (Clark *et al.* 1993; Clark *et al.*

1995a, 1995b; Jackson 1996; Clark 2000). *Erigeron decumbens* var. *decumbens* also grows in upland prairies as previously described (Clark *et al.* 1993; Clark *et al.* 1995a; Jackson 1996; Clark 2000).

*Erigeron decumbens* var. *decumbens* typically occurs where woody cover is nearly absent and where herbaceous vegetation cover is low in stature relative to the surrounding areas (Clark *et al.* 1993). *Erigeron decumbens* var. *decumbens* is a low growing (6–24 inches (15–60 cm) herbaceous perennial occurring in clumps of genetically identical ramets (i.e., a vegetatively reproduced copy of the parent plant) that are typically patchy in distribution across the prairie habitat (Clark *et al.* 1993). These plants are intermixed with several associated species which are considered indicator species for the prairie habitat (Clark *et al.* 1993).

*Erigeron decumbens* var. *decumbens* occurs in 32 wet and upland prairie patches, totaling 1,193 ac (483 ha). This species currently occurs in Benton, Lane, Linn, Marion, and Polk Counties, Oregon.

The historic wide spread distribution of continuous prairie habitat allowed the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* to function as metapopulations (Jackson 1996; Schultz 1998; Schultz *et al.* 2003; and Severns 2003a). Currently, populations are mostly isolated from neighboring populations and interactions between them are thought to be rare events (Jackson 1996; Schultz 1998; Severns 2003a). Recovery of all three species will require reestablishment of functioning habitat networks that support multiple, connected populations (Kaye, in litt., 2005; Schultz *et al.* 2003; Severns 2003a). In this document we refer to these functioning habitat networks as metapopulations.

#### Previous Federal Actions

The Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* were listed on January 25, 2000. For more information on previous Federal actions concerning the Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii* and *E. decumbens* var. *decumbens*, refer to the final listing rule published in the **Federal Register** on January 25, 2000 (65 FR 3875.)

On April 23, 2003, a complaint was filed against the Service (CV 03 513 JE (D. Or.)) for failure to designate critical habitat for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*. In December 2003, a settlement agreement

resulted in a schedule for the Service to submit a proposed critical habitat rule to the **Federal Register** by October 15, 2005, and a final rule by October 15, 2006.

#### Critical Habitat

Critical habitat is defined in section 3 of the Act as—(i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. “Conservation” means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are 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 government or public access to private lands.

To be included in a critical habitat designation, the habitat within the area occupied by the species at the time of listing must first have features that are “essential to the conservation of the species.” Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Habitat occupied at the time of listing may be included in critical habitat only if the essential features thereon may require special management or protection. Thus, we do not include areas where existing management is sufficient to conserve the species; as discussed below, such areas may also be excluded from critical habitat pursuant to section 4(b)(2). Specific areas outside the geographical area occupied by the species at the time it is listed may be designated as critical habitat, in

accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such features are essential for the conservation of the species.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), and Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service, provide criteria, establish procedures, and provide guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. They require Service biologists to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information is generally the listing package for the species. Additional information sources include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge. All information is used in accordance with the provisions of Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Most populations of Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* have not been studied well enough to determine how to restore functioning metapopulations in these highly fragmented prairie remnants. Although it is generally understood that recovery of remaining populations will involve expanding existing populations,

increasing connectivity, and/or improving habitat quality (Clark *et al.* 1995b; Schultz *et al.* 2003; Severns 2003a; Wilson *et al.* 2003), additional information is needed to determine the most appropriate restoration design (Schultz *et al.* in prep.). Since each of the remaining populations occur in a unique habitat setting, habitat analyses will likely need to be completed to determine which lands are suitable for expanding populations, increasing connectivity, and reestablishing functioning metapopulations. For many populations of Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii* and *E. decumbens* var. *decumbens*, we do not have the information necessary to specifically identify additional areas needed to increase connectivity between populations and establish larger metapopulations. If new information becomes available identifying additional features essential to the conservation of these species, we will reevaluate the critical habitat designation.

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

#### Methods

As required by section 4(b)(1)(A) of the Act, we use the best scientific and commercial data available in determining areas that contain the features that are essential to the conservation of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*.

We have reviewed available information that pertains to the habitat requirements of these species and evaluated all known species locations using data from the following sources: Spatial data for known species locations from the Oregon Natural Heritage Information Center (ORNHC 2004), Washington Natural Heritage Program

(WNHP 2005), U.S. Army Corps of Engineers (Corps 2004), and Bureau of Land Management (BLM 2005); United States Geological Survey (USGS 2000) 1:24,000 scale 3.75 digital orthophotographic quarter quadrangle images; recent biological surveys and reports; site-specific habitat evaluations (USFWS 2003a; USFWS 2004a, 2004b, 2004e); data in reports submitted during section 7 consultations and by biologists holding section 10(a)(1)(A) recovery permits; research published in peer-reviewed articles and presented in academic theses or reports; recovery team meeting notes; and discussions with species experts. We are not proposing to designate areas outside the geographic area occupied by the species.

#### Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat determinations on the best scientific and commercial data available and to consider those physical and biological features (primary constituent elements (PCEs)) that are essential to the conservation of the species, and that may require special management considerations and protection. These include, but are not limited to: Space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species. We are requesting specific information from the public on the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* and its habitat, and which habitat or habitat components (i.e., physical and biological features) are essential to the conservation and why.

The specific primary constituent elements required for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* are derived from the biological needs of these species as described in the Background section of this proposal with specific requirements described below.

#### *Space for Individual and Population Growth and Normal Behavior*

Fender's blue butterfly

Historically, the Willamette Valley was a mosaic of upland and wetland

prairie, with lupine patches rarely more than 0.3 miles (0.5 km) apart, providing a high probability that the Fender's blue butterfly could disperse between patches (Schultz 1998). Habitat fragmentation has isolated the remaining populations of Fender's blue butterfly to such an extent that dispersal among suitable habitat patches is now likely a rare event (Schultz 1998) which increases the risk of inbreeding depression (Schultz *et al.* 2003). The rarity of host lupine patches and habitat fragmentation are the major ecological factors limiting reproduction, dispersal, and subsequent colonization of new habitat (Hammond and Wilson 1992, 1993; Hammond 1994; Schultz 1997a; Schultz and Dlugosch 1999).

Conservation recommendations for recovering the Fender's blue butterfly include having enough high quality habitat to maintain viable populations across the range of the species (Schultz *et al.* 2003). This will require habitat restoration to create new sites, expanding the size of existing sites and creating habitat networks that connect isolated populations (Schultz *et al.* 2003). The largest remaining Fender's blue butterfly populations generally occur in the largest, most connected prairie remnants currently supporting the species (USFWS 2004a, 2004e). Schultz *et al.* (2003) found that under current conditions, even these largest Fender's blue butterfly populations have a poor chance of survival over the next 100 years.

The three largest known butterfly populations occur on prairie remnants with estimated areas of 251 ac (102 ha), 55 ac (22 ha), and 31 ac (13 ha) (Hammond 2004; Fitzpatrick 2005; USFWS 2004a, 2004e, 2005), respectively. Although the prairie habitat supporting these populations is threatened to varying degrees by invasive species and woody succession, it also appears to have the highest diversity of native plant species. Large habitat patches tend to support higher native species diversity (Noss and Cooperrider 1994) and the Fender's blue butterfly depends on a diversity of native plant species for survival (Wilson *et al.* 1997).

To promote successful dispersal between lupine patches and reestablish functioning metapopulations, Fender's blue butterfly will likely require stepping-stones of lupine patches that are close enough together for dispersing butterflies to have a high probability of finding them (Schultz 1998). This conservation reserve strategy is superior to narrow linear corridors because Fender's blue butterfly flight patterns into non-lupine habitat make it unlikely

they would stay in a narrow corridor (Schultz 1998). Reestablishing stepping stones of lupine habitat between existing populations increases the likelihood that dispersing individuals will move from one large lupine patch to the next (Schultz 1998). Lupine patches should be less than 0.6 mile (1 km) from their nearest neighbor (Schultz 1998; Schultz 2001; Schultz and Crone 2005) to restore functioning metapopulations for the Fender's blue butterfly and ensure the long-term persistence of this species (Schultz *et al.* 2003).

Recovery of the Fender's blue butterfly will require ten functioning metapopulations that are distributed across the range of the species. All of the reserve metapopulations will need to consistently maintain a sufficient number of individuals and a minimum growth rate for 10–15 consecutive years. In addition to the above draft criteria, three of the metapopulations will need to be larger (larger areal extent), functioning metapopulations (Schultz *et al.*, in litt., 2005). The three areas with the highest likelihood of fostering large, functioning metapopulations are lands owned by The Nature Conservancy (TNC) in Eugene, Oregon, the Baskett Slough National Wildlife Refuge populations, and the areas currently supporting the Wren, Oregon, populations.

#### *Lupinus sulphureus ssp. kincaidii*

For many organisms that are patchily distributed, the minimum viable population will often depend on both the occupied and surrounding unoccupied habitat that is protected and managed for the species (Nunny and Campbell 1993). Plant populations often occupy only small regions of the available habitat at any one period, and this pattern is very relevant to their conservation (Menges 1991). The habitat between plant patches is often utilized for seedling establishment (Wilson 1998b) and, as such, may be necessary for the long-term perseverance of the species (Nunny and Campbell 1993).

Native upland prairies are low-growing plant communities dominated by bunchgrasses with open spaces occurring between plants (Wilson 1998a, 1998b). Spaces between bunchgrasses remain available for the vegetative spread of lupine and seedling establishment necessary for expanding population size and increasing population viability. In addition to providing space for population growth, larger prairie habitats provide opportunity for population expansion because the native grasses and forbs maintain the short-grass prairie stature

and provide the full sun conditions necessary for the species to grow and expand into surrounding habitat (Wilson 1998a).

*Lupinus sulphureus ssp. kincaidii* populations exhibit typical signs of inbreeding depression (a process that weakens plant fitness through repeated generations of inbreeding), such as low seed production, which is attributed to the small size and isolated nature of the species' current distribution (Severns 2003a; Wilson *et al.* 2003). Insect outcrossing pollination (the transfer of pollen from the flower of one plant to the flower of another plant of the same species) has been documented as necessary for successful seed production in *L. sulphureus ssp. kincaidii* (Wilson *et al.* 2003). Since *L. sulphureus ssp. kincaidii* is a long lived perennial that grows to more than 20 m in diameter, and observations suggest that lupine patches are either one individual or a few closely related individuals (Severns 2003a), successful outcrossing pollination will require large populations with many individuals or multiple plant patches of unrelated individuals that are functionally connected (i.e., they are in close enough proximity that pollinators will regularly move between the patches). The number of *L. sulphureus ssp. kincaidii* patches occurring within prairie remnants has been positively correlated with increased seed production, likely because larger populations have a higher density of floral displays and attract more pollinators (Severns 2003a). Since population size appears to be important for visibility to pollinators and the successful reproduction of *L. sulphureus ssp. kincaidii*, increasing the size of existing populations will play a role in recovering this species (Severns 2003a).

Habitat management recommendations for the conservation and recovery of *Lupinus sulphureus ssp. kincaidii* include expanding the size of existing populations by augmenting them with individuals from other plant populations (Severns 2003a). The prairie habitat occurring between existing lupine patches will be necessary to provide space for augmentations which is expected to reduce the effects of inbreeding depression. Smaller distances between plant patches increase the likelihood of outcrossing as insect pollinators more readily travel among nearby patches to transfer pollen between individual plants. The stepping-stone reserve design recommended for Fender's blue butterfly will also benefit *L. sulphureus ssp. kincaidii* by increasing opportunity

for pollen transfer between existing plant patches and allow current small populations to function together as larger ones (Severns 2003a; Wilson *et al.* 2003).

Draft recovery criteria for the *Lupinus sulphureus ssp. kincaidii* include having reserves established across the historic range of the species with populations larger than 0.25 ac (0.1 ha) of lupine cover and within 5 miles (8 km) of neighboring populations (Gisler *et al.*, in litt., 2005). An area-based measurement is used for minimum patch size due to the difficulty of counting individual plants of this clonal species. The 5 mile (8 km) criterion is based on the estimated pollinating distance of the honeybee (*Apis mellifera*), which is the primary pollinator of this species (Gisler *et al.*, in litt., 2005). These criteria are expected to promote larger functioning metapopulations, with increased population sizes and genetic diversity, which in turn, promotes long-term population viability and species conservation.

#### *Erigeron decumbens var. decumbens*

*Erigeron decumbens var. decumbens* populations are currently vulnerable to inbreeding depression throughout their range because they occur in small, isolated habitat patches (Jackson 1996). Jackson (1996) documents that conservation plans for the wet prairie habitat must emphasize connections, corridors, and large areas of contiguous habitat. Clark *et al.* (1993) identified habitats critical for the conservation of *E. decumbens var. decumbens* and recommends protecting sites harboring large populations of native plants, prairie habitat providing physical links between *E. decumbens var. decumbens* populations, and potential sites for restoration in order to reduce the current threats to survival (Clark *et al.* 1993).

*E. decumbens var. decumbens* populations are typically distributed in clumps scattered across the prairie habitat and dispersed among other prairie indicator species (Clark *et al.* 1993). Larger prairie remnants are more likely to provide the conditions necessary to support population growth because the native species composition maintains the light and composition necessary for this species to persist and expand. Conservation measures documented as necessary for maintaining and increasing the few remaining populations of *E. decumbens var. decumbens* include promoting conditions for natural regeneration as well as possibly augmenting small populations with propagated



individuals (Clark *et al.* 1995b). Open spaces between bunch grasses allow *E. decumbens* var. *decumbens* to expand within a habitat patch and larger prairie remnants provide the area necessary to use propagated individuals for population augmentation.

Draft recovery criteria for the *Erigeron decumbens* var. *decumbens* include the establishment of reserves comprised of populations larger than 200 plants and within 5 miles (8 km) of neighboring populations, across the historic range of the species (Robinson *et al.*, in litt., 2005). *E. decumbens* var. *decumbens* population estimates are typically reported by counting plant clumps as individual plants and therefore, a minimum number of individuals has been identified in the draft recovery criteria (Robinson *et al.*, in litt., 2005).

#### Food

The Fender's blue butterfly uses *Lupinus sulphureus* ssp. *kincaidii*, *L. arbustus* (spur lupine) and *L. albicaulis* (sickle-keeled lupine) as larval host plants. Adult Fender's blue butterflies require several forbs for nectar (Schultz and Dlugosch 1999; Schultz *et al.* 2003). Specific adult nectar sources include: *Allium acuminatum* (tapertip onion), *Allium amplexans* (narrowleaf onion), *Calochortus tolmiei* (Tolmie's mariposa lily), *Eriophyllum lanatum* (woolly sunflower), *Sidalcea campestris* (Meadow checker-mallow), *Sidalcea virgata* (rose checker-mallow), *Vicia sativa* (common vetch) and *V. hirsuta* (tiny vetch). These exotic vetches (*V. sativa* and *V. hirsuta*) are heavily used at many sites but they are considered a lower quality source of nectar (Schultz and Dlugosch 1999).

#### Light

As previously described, all three species are early seral and occur in open areas. Willamette Valley grasslands have been described as a mixture of wet and upland prairie, and oak/savanna habitat having a relatively open canopy cover (Altman *et al.* 2001; Chappell *et al.* 2001). These open areas were historically maintained by the indigenous people of the Willamette Valley who seasonally burned the land to facilitate hunting and gathering of food (Clark *et al.* 1995b; Clark 2000; Jackson 1996; Schultz *et al.* 2003; Wilson *et al.* 2003). The fires prevented the widespread abundance of woody species and maintained the openness needed for early seral species to persist (Jackson 1996; Schultz *et al.* 2003; Wilson *et al.* 2003). Change in this historic disturbance regime has allowed shrubs and trees to invade many prairies and oak/savannas.

Populations of Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii* historically occurring in the oak/savannas were probably the first to be lost to succession and development, with most of the remaining populations found in the valley floor prairies. *L. sulphureus* ssp. *kincaidii* and many of the Fender's blue butterfly nectar sources do not tolerate the decrease in available light that results from increased canopy closure as prairies gradually grow into woodlands in the absence of disturbance (Schultz *et al.* 2003). *Erigeron decumbens* var. *decumbens* typically occurs where woody cover is nearly absent and where herbaceous vegetation cover is low in stature relative to the surrounding areas (Clark *et al.* 1993).

Native Willamette Valley prairies are predominantly low-stature communities with most plant foliage occurring within 8 inches (20 cm) of the soil, but with flowering stalks of some of the grasses reaching up to 59 inches (150 cm) in height (Wilson 1998a, 1998b). Maintaining the stature of the prairie habitat that surrounds the patches of *Lupinus sulphureus* ssp. *kincaidii* and *E. decumbens* var. *decumbens* is essential for the conservation of not only the plants but also the Fender's blue butterfly (Schultz *et al.* 2003). The butterfly is more vigorous in the full sun of open habitats which provide conditions that promote nectaring and ovipositioning (Schultz *et al.* 2003).

Populations of *Lupinus sulphureus* ssp. *kincaidii* occurring in Douglas County, Oregon, have been documented occurring in atypical habitat for the species (Barnes 2004). The Douglas County populations are in wooded areas with canopy cover ranging from 50 to 80 percent (Barnes 2004) and dominated by species such as: *Arbutus menziesii* (Pacific madrone), *Arctostaphylos columbiana* (hairy manzanita), *Calocedrus decurrens* (incense cedar), *Calochortus tolmiei* (Cat's ear, Tolmie star-tulip), *Canadanthus modestus* (giant mountain aster), *Ceanothus cuneatus* (buckbrush), *Cerastium arvense* (field chickweed), *Cynosurus echinatus* (bristly dogstail grass), *Daucus carota* (Queen Anne's Lace, wild carrot), *Dichelostemma capitatum* (bluedicks), *Festuca californica* (California fescue), *Festuca roemerii* (Roemer's fescue), *Fragaria vesca* (woodland strawberry), *Hieracium albiflorum* (white hawkweed), *Holodiscus discolor* (oceanspray), *Lathyrus polyphyllus* (leafy pea), *Lonocera hispida* (pink honeysuckle), *Pinus ponderosa* (ponderosa pine), *Pseudotsuga menziesii* (Douglas fir, Doug fir), *Quercus kelloggii* (California

black oak), *Rubus ursinus* (California blackberry), *Sanicula crassicaulis* (Pacific blacksnakeroot), *Symphoricarpos albus* (snowberry), *Torilis arvensis* (spreading hedgeparsley), *Toxicodendron diversilobum* (poison oak), *Vicia americana* (American vetch), and *Whipplea modesta* (common whipplea).

#### Moisture

Plant communities in prairie ecosystems vary mainly due to differences in moisture and these moisture differences are a result of elevation, slope, and soil permeability (Jackson 1996). The Willamette Valley prairies have been categorized into two habitat types, wet prairie and upland prairie (Jackson 1996). The wet prairie habitat is defined as areas of low relief, with poor drainage and hydric, clayey soils (Jackson 1996). This habitat type is dominated by bunchgrasses, most predominately *Deschampsia caespitosa* (Clark *et al.* 1993; Jackson 1996). Jackson (1996) describes the term upland prairie as "misleading" because this habitat largely occurs on the valley floor. A few upland prairie habitat patches occur on colluvium upland soils (Jackson 1996), but many occur on soils not considered upland, such as terraces, alluvium, and even floodplain soils (Clark *et al.* 1993; Jackson 1996; Wilson *et al.* 2003). Although many of the habitat patches supporting the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* occur on the valley floor, they have been characterized as "upland prairies" because of their drier conditions which are attributed to better draining soils or topography (Jackson 1996). This upland prairie habitat is typically characterized by the vegetation that thrives in these well-drained conditions (associated species previously identified) (Jackson 1996).

*Erigeron decumbens* var. *decumbens* grows in both wet and upland prairies. The populations occurring in wet prairies tend to occur in the driest portions of the wet prairie habitat. *E. decumbens* var. *decumbens* prefers the driest of habitats in which *D. caespitosa* can grow, and thus where *D. caespitosa* is sparse (Clark *et al.* 1993). *Lupinus sulphureus* ssp. *kincaidii* populations occur predominately in upland prairie habitat with a few occurring in the transitional areas between wet and upland prairie habitats. The Fender's blue butterfly largely occurs in upland prairies, however several adult nectar sources occur in wet prairies and are utilized by the butterfly when wet



prairie patches are adjacent to lupine patches.

#### Reproduction

##### Fender's blue butterfly

Adult Fender's blue butterflies emerge in May and females lay their eggs on the underside of lupine leaves. The butterfly uses three lupine species as host plants for oviposition. A few weeks after oviposition, the eggs hatch and the larvae eat lupine leaves for a few weeks until the lupines senesce. After lupine senescence, the larvae enter an extended diapause which lasts until the following March. When the lupine plants resurface, the larvae emerge from the soil litter and begin eating the young lupine leaves until they pupate in mid-April (Schultz *et al.* 2003). Adult females lay approximately 350 eggs (Schultz *et al.* 2003) over their estimated 15-day lifespan. Of these eggs, approximately 1.5 will survive to adulthood, indicating that female fecundity is very low (Schultz 1998; Schultz *et al.* 2003).

Native prairie composition, including short-stature grasses, provides the full sun conditions required for *Lupinus sulphureus* ssp. *kincaidii* plants to produce an abundance of leaves for Fender's blue butterfly to lay eggs upon, whereas invasive species often cover the lupine leaves making it difficult for the butterfly to oviposition. Native nectar sources have been documented as higher quality adult food sources and butterfly populations dependent on low quality exotic vetches, may spend more of their limited adult flight time nectaring, and less time ovipositioning (Schultz and Dlugosch 1999).

Schultz and Crone (2001) found that Fender's blue butterfly population patterns are influenced by habitat patch size via residence time of female butterflies, where butterflies emigrate from smaller patches more quickly than they do from larger patches. This directly influences the numbers and spatial distribution of eggs, and therefore the future number of butterflies. Because Fender's blue butterflies only live for approximately two weeks, a change in residence time by a day markedly influences the distribution of eggs.

##### *Lupinus sulphureus* ssp. *kincaidii*

*Lupinus sulphureus* ssp. *kincaidii* flowers possess a pump or piston arrangement for cross-pollination by insects, as is common in other lupines (Knuth 1906; Kaye 1999). Pollination of *L. sulphureus* ssp. *kincaidii* appears to be carried out by bees visiting the flowers and the relatively small flowers

attract only small bees (Wilson *et al.* 2003). Several bee species have been documented commonly visiting *L. sulphureus* ssp. *kincaidii* flowers, such as small bumblebees (*Bombus mixtus* and *B. californicus*), and the European honey bee (*Apis mellifera*). As described in Wilson *et al.* (2003), insect pollination appears to be critical for successful seed production in *L. sulphureus* ssp. *kincaidii*. The maturation of the flowers of *L. sulphureus* ssp. *kincaidii* promotes outcrossing pollination because of the way they mature from the bottom of the inflorescence to the top (Wilson *et al.* 2003).

Studies indicate that inbreeding depression may limit the seed set and seed fitness of smaller lupine populations (Severns 2003a; Wilson *et al.* 2003). Conserving *Lupinus sulphureus* ssp. *kincaidii* will likely require the outcrossing of populations by planting new individuals from different sources near existing populations and increasing pollinator connectivity between existing populations (Severns 2003a).

##### *Erigeron decumbens* var. *decumbens*

This species spreads vegetatively via rhizomes over short distances (about 4 inches (10 cm)) (Kaye 2000) and the plants often grow in clumps, making it difficult to distinguish individuals. Sexual reproduction is facilitated by insect pollination. Pollinators include species such as the field crescent butterfly (*Phyciodes campestris*), sweat bees (Halictidae spp.), and a syrphid fly (*Toxomerus occidentalis*) (Jackson 1996). Seeds are dispersed by wind but over very short distances (Clark *et al.* 1993). Research indicates that scarification stimulates germination but the mechanism for seed coat scarification (scoring of the seed coat) in the wild is unknown (Clark *et al.* 1995b). Germination of *Erigeron decumbens* var. *decumbens* seeds occurs mostly in April and May (Clark *et al.* 1995b). Flowering is concentrated in June and early July, and seeds are dispersed in mid to late July (Ingersoll *et al.* 1995).

Jackson (1996) reports that remaining populations of *Erigeron decumbens* var. *decumbens* may be experiencing reproductive difficulties because they are extremely small and isolated from one another. Gene flow between individuals of a sexually-reproducing species is requisite for their persistence (Jackson 1996). Research results indicate that the *E. decumbens* var. *decumbens* is at risk of inbreeding depression (Jackson 1996). To reduce this risk and to conserve the species, it will likely be

necessary to increase the number of habitat patches located in close proximity to one another such that functioning metapopulations are restored. This population arrangement provides increased opportunity for insects to carry pollen between individual plants and increases the likelihood of reproductive success of *E. decumbens* var. *decumbens*.

##### Areas Representative of the Historic Geographical and Ecological Distributions of a Species

##### Fender's blue butterfly

Conservation recommendations for the Fender's blue butterfly include having a reserve design with a minimum of two populations for each occupied county (eight total) so that a local back-up is always available in case of site extirpations (Hammond and Wilson 1993). Draft recovery criteria for the Fender's blue butterfly include having ten Fender's blue butterfly metapopulations distributed across the historic range of the species before considering delisting (Schultz *et al.*, in litt., 2005). By maintaining viable metapopulations across the species' range, the distribution would be wide enough to buffer the species from catastrophes that may occur in portions of its range (Schultz *et al.* 2003).

Recommendations for reserve design criteria for this species include preserving populations occurring under unique conditions as distinct ecological segregates (Hammond and Wilson 1993). Therefore, populations occurring in unique habitat conditions should be conserved across the range of the species, with a reserve design that provides "back-up" populations occurring in the same unique habitat conditions. For example, a few unique Fender's blue butterfly populations occur on valley hillsides that appear to be stable climax grasslands due to the presence of deep, fine-textured, self-mulching soils or xeric lithosols, while the vast majority of remaining sites occur on the valley floor under different habitat conditions (Hammond and Wilson 1993).

##### *Lupinus sulphureus* ssp. *kincaidii*

*Lupinus sulphureus* ssp. *kincaidii* populations in Douglas County, Oregon and Lewis County, Washington, represent the furthest southern and northern extent of the current range, respectively. These populations are highly disjunct and isolated from the Willamette Valley populations with approximately 81 miles (131 km) between the northernmost Willamette Valley population to the Lewis County,

Washington population, and approximately 54 miles (87 km) separating Oregon's south Willamette Valley populations from the Douglas County populations.

The primary habitat for *Lupinus sulphureus* ssp. *kincaidii* is open upland prairie and meadow edges, often near oak trees with a relatively open canopy cover. Most of the Douglas County, Oregon, populations appear to tolerate more shaded habitat conditions with canopy cover of 50 to 80 percent (Barnes 2004). These plants are found in wooded areas dominated by *Pseudotsuga menziesii* (Douglas-fir), *Arbutus menziesii* (Pacific madrone), and other trees and shrubs (Barnes 2004). Because these populations represent the southern-most extent of this species' range, they may be adapted to tolerate more extreme habitat and/or other environmental conditions. Therefore, conservation of *L. sulphureus* ssp. *kincaidii* populations across their current range will require recovery units in Lewis County, Washington and Douglas County, Oregon, in addition to recovery units in the Willamette Valley, Oregon (Gisler *et al.*, in litt., 2005).

#### *Erigeron decumbens* var. *decumbens*

*Erigeron decumbens* var. *decumbens* occurs on wetland prairie dominated by *Deschampsia caespitosa*. It also occurs on a few upland prairie sites characterized by a mix of native and non-native bunchgrasses (Jackson 1996; Clark 2000). Since this species occurs in both wet prairie and upland prairie habitat, conservation of representative populations in both of these habitat types is essential to the conservation of this species. As previously described, the long-term persistence of small populations will likely depend on augmentation with propagated individuals (Clark *et al.* 1995b). Since there are very few surviving populations of *E. decumbens* var. *decumbens* and because they occur in both wet and upland prairie habitats, population augmentations must be sensitive to geographic variation in genotype and phenotype.

Although it may be possible to reestablish functioning metapopulations across the range of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens*, it is highly unlikely that these metapopulations will ever be reconnected because of the distance between existing populations in an extremely fragmented landscape. Each metapopulation will therefore need to be independently viable, supporting multiple populations to reduce the risk of localized extinction.

With so few remaining populations of each of these species, losing any one of these populations through a natural or human-caused event will measurably increase the likelihood of extinction. For example, an accidental spraying of insecticide and/or herbicide on a Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii* population, could eliminate the entire population of one or both species. In December 2004, one of the core Fender's blue butterfly populations was significantly damaged by a herd of pigs that gained access into and rooted up a large area of occupied prairie habitat. Although the likelihood of such an event is variable and difficult to predict, the extant small populations are at high risk of extirpation if such an event were to occur.

#### Primary Constituents Elements for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*

Based on our current knowledge of the life history, biology, and ecology of the species and the requirements of the habitat to sustain life history functions of the species, we have determined that the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*'s primary constituent elements (PCEs) are:

The PCEs for Fender's blue butterfly are:

- (1) Early seral upland prairie, oak savanna habitat with undisturbed subsoils that provides a mosaic of low growing grasses and forbs, and an absence of dense canopy vegetation allowing access to sunlight needed to seek nectar and search for mates;
- (2) Larval host-plants: *Lupinus sulphureus* ssp. *kincaidii*, *L. arbustus*, or *L. albicaulis*;
- (3) Adult nectar sources, such as: *Allium acuminatum* (tapertip onion), *Allium amplexans* (narrowleaf onion), *Calochortus tolmiei* (Tolmie's mariposa lilly), *Camassia quamash* (small camas), *Cryptantha intermedia* (clearwater cryptantha), *Eriophyllum lanatum* (wooly sunflower), *Geranium oregonum* (Oregon geranium), *Iris tenax* (toughleaf iris), *Linum angustifolium* (pale flax), *Linum perenne* (blue flax), *Sidalcea campestris* (Meadow checkermallow), *Sidalcea virgata* (rose checker-mallow), *Vicia cracca* (bird vetch), *V. sativa* (common vetch) and *V. hirsute* (tiny vetch);

(4) Stepping stone habitat: Undeveloped open areas with the physical characteristics appropriate for supporting the short-stature prairie, oak/savanna plant community (well drained soils), within and between natal lupine patches (~1.2 miles (~2 km)), necessary

for dispersal, connectivity, population growth, and, ultimately, viability.

The PCEs for *Lupinus sulphureus* ssp. *kincaidii* are:

(1) Early seral upland prairie, oak savanna habitat with a mosaic of low growing grasses, forbs, and spaces to establish seedlings or new vegetative growth, with an absence of dense canopy vegetation providing sunlight for individual and population growth and reproduction and with undisturbed subsoils and proper moisture and protection from competitive invasive species.

(2) The presence of insect outcrossing pollinators, such as *Bombus mixtus* and *B. californicus*, with unrestricted movement between existing lupine patches, critical for successful lupine reproduction.

The PCE for *Erigeron decumbens* var. *decumbens* is:

(1) Early seral upland prairie, oak savanna habitat with a mosaic of low growing grasses, forbs, and spaces to establish seedlings or new vegetative growth, with an absence of dense canopy vegetation providing sunlight for individual and population growth and reproduction and with undisturbed subsoils and proper moisture and protection from competitive invasive species.

#### Criteria Used To Identify Critical Habitat

We are proposing to designate critical habitat on lands that we have determined were occupied at the time of listing and contain the primary constituent elements for Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*. To identify areas of habitat containing the features essential for the conservation of all three species we selected areas that represent the current distribution of each species, are of sufficient quality (including size) to contribute to functioning metapopulations (which provide connectivity among core populations) or which represent unique ecological conditions. This approach is consistent with the general principles of conserving rare and endangered species and their habitats (Gilpin and Soule 1986; Goodman 1987a, 1987b; Stacey and Taper 1992; Lesica and Allendorf 1995; Falk *et al.* 1996; Fahrig 1997; Noss and Csuti 1997; Huxel and Hastings 1998; Redford and Richter 1999; Debinski and Holt 2000; Donaldson *et al.* 2002; Schultz *et al.* 2003; Wilson *et al.* 2003; Severns 2003a).

We selected areas across the current distribution of Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and

*Erigeron decumbens* var. *decumbens*. Species protected across their range face a lower risk of extinction than those protected in portions of their range (Soule and Simberloff 1986). This fundamental tenet of conservation biology is reflected in the draft recovery criteria and other reports for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*, which document the need for functioning metapopulations distributed across the current range of these species (Hammond and Wilson 1993; Schultz *et al.* 2003; Schultz *et al.*, in litt., 2005; Gisler *et al.*, in litt., 2005; Robinson *et al.*, in litt., 2005).

We selected occupied areas exhibiting the highest quality habitat by evaluating the following factors for each known occurrence: The presence of prairie indicator species, amount of habitat degradation (exotic species and succession to shrubs and trees), population size, and available surrounding prairie habitat to support population growth. Specifically, we selected occupied prairie habitat rated as moderate to high quality (USFWS 2004a and 2004b; USFWS 2005). Moderate quality habitat is defined as those areas supporting a minimum of three prairie indicator species, providing adequate available habitat for population growth (surrounded by short-grass prairie habitat) and areas where habitat management activities would be effective at controlling threats. By identifying the highest quality occupied areas with supporting habitat available for population growth and expansion these areas are of sufficient size and quality to maintain viable populations.

We then selected areas that provide for population connectivity. Fender's blue butterfly habitat needs to be connected, ideally in a stepping-stone arrangement, to provide gene flow and demographic interaction between populations (Schultz 1998; Crone and Schultz 2003; Schultz *et al.* 2003; Schultz and Crone 2005). This connectivity is central to maintaining functioning metapopulations which are at lower risk of extinction than populations that do not interact. Reserves composed of functioning metapopulations increase the likelihood that recolonization of individual populations will occur following local extinctions (Huxel and Hastings 1998) or that populations with depressed gene pools will be "rescued", and reduce the risk of inbreeding depression, as previously described in the Space for Individual and Population Growth and Reproduction section.

We selected areas across a wide range of habitat conditions (e.g., *Erigeron decumbens* var. *decumbens* populations occurring in upland prairie habitat tolerate drier conditions than wet prairie *Erigeron decumbens* var. *decumbens* populations). Fahrig and Merriam (1994) recommended conservation of species across the variety of habitats in which they are found to reduce the chance of losing disjunct populations which may have a unique phenotype, genotype, or adaptations to local environmental conditions.

All sites selected based on the above principles were then screened with the following criteria which were used to evaluate all occupied areas supporting the PCEs to delineate the habitat containing the features essential to the conservation of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*:

(1) We used our best professional judgment to select all prairie remnants supporting core populations distributed across their respective ranges. Based on site-specific evaluations completed during field verification of occurrence data (USFWS 2003a, 2004a, and 2004b) and various scientific reports (Severns 2004; Hammond 2004; Fitzpatrick 2005; BLM 2005; Kuykendall and Kaye 1993a, 1993b; Clark *et al.* 1993), core sites were identified as the highest quality sites which significantly contribute towards both local metapopulation function and range wide distribution.

From the areas selected according to the above principles, we eliminated some areas from further consideration if they did not contain features essential for the conservation of the species because: (1) The area was highly degraded and may not be restorable; and (2) the area was small, highly fragmented, or isolated such that it would provide little or no long-term conservation value.

(2) In addition to habitat patches meeting criteria 1 above, we evaluated all populations that were in close proximity (1.2 miles (2 km) for Fender's blue butterfly and 5 miles (8 km) for both plant species) to core populations. Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* all require functioning metapopulations to ensure long-term persistence. Therefore, areas that provide stepping-stone habitat between two core populations of each species are necessary for the conservation of these species. These areas include habitat patches meeting the criteria below:

(a) For *Lupinus sulphureus* ssp. *kincaidii*, we selected areas supporting at least 0.25 ac (0.1 ha) of plant cover located within 5 miles (8 km) of core populations;

(b) For *Erigeron decumbens* var. *decumbens*, we selected areas supporting a minimum of 200 plants (estimated to be 0.6 ac (0.24 ha) based on average density (Clark *et al.* 1993)) located within 5 miles (8 km) of core populations;

(c) For Fender's blue butterfly, we selected areas within 1.2 miles (2 km) of a core Fender's blue butterfly population and between two Fender's blue butterfly populations.

(3) To select areas in atypical ecological settings we used the following criteria:

(a) For Fender's blue butterfly we selected populations occurring on valley hillsides that may be climax grasslands;

(b) For *Erigeron decumbens* var. *decumbens* we selected populations on wet and upland prairie habitats;

(c) For *Lupinus sulphureus* ssp. *kincaidii* we selected populations in Douglas County, Oregon, where plants tend to be more shade tolerant.

#### Applying the Criteria

The PCEs were examined in combination with habitat maps, land use maps, aerial photographs, and occurrence data for populations meeting the above criteria to identify the extent of prairie habitat supporting viable species occurrences. Areas providing the physical and biological features essential to the conservation of these species were identified and the prairie habitat boundaries were digitized. Local land managers and scientific experts familiar with the prairie habitat patches were then asked to review prairie mappings to ensure that only areas able to support Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* were included within our prairie boundaries. The proposed critical habitat units were then delineated by overlaying those extant species locations meeting criteria 1–3 above, and mapping prairie boundaries onto 2000 USGS 1:24,000 scale 3.75 orthophotographic quadrangle images.

When determining proposed critical habitat boundaries, effort was made to avoid proposing the designation of developed areas such as buildings, paved areas, and other structures that lack PCEs for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens*. Any such structures inadvertently left inside proposed

critical habitat boundaries are not considered part of the proposed unit.

### Special Management Considerations or Protections

When designating critical habitat, we determine whether areas occupied at the time of listing and containing the primary constituent elements may require special management considerations or protections.

#### Maintenance of Open Habitat Conditions

Since most prairie habitat within the range of these species is early-successional, active management is necessary for the conservation of all populations of Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* that occur in the proposed units described below. Without active management or natural disturbance, many populations may be lost to habitat succession (Wilson 1998a, 1998b; Wilson *et al.* 2003) as trees and shrubs grow and outcompete early seral plants and shade-out or crowd-out important early seral species such as *L. sulphureus* ssp. *kincaidii*, *E. decumbens* var. *decumbens* and Fender's blue butterfly nectar sources. Left unmanaged, entire lupine populations in these early seral habitats may disappear (Wilson *et al.* 2003).

#### Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii*

Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii* populations respond positively to habitat restoration. Mowing, burning and mechanical removal of weeds, when done appropriately, have all been shown to benefit Fender's blue populations. At sites managed by TNC, the Fender's blue butterfly and *L. sulphureus* ssp. *kincaidii* populations increased following removal of noxious non-native plants such as: *Rubus discolor* (Himalayan blackberry) and *Cytisus scoparius* (Scotch broom) (Fitzpatrick 2005). Wilson and Clark (1997) studied the effects of controlled fire and mowing on Fender's blue butterfly and its native upland prairie at Baskett Slough National Wildlife Refuge in western Oregon. Although fire killed all larvae in treated patches, nearby unburned (untreated) patches provided a source of female Fender's blue butterflies that were able to recolonize the entire burned (treated) area. Wilson and Clark (1997) also found that Fender's blue butterfly eggs were 10 to 14 times more abundant in plots that were mowed or burned compared to undisturbed, control plots. Woody plants were

reduced 45 percent with burning and 66 percent with mowing. At the Corps' Fern Ridge Reservoir, the Fender's blue population has increased dramatically since fall mowing of *L. sulphureus* ssp. *kincaidii* patches has been implemented. The abundance of Fender's blue butterfly eggs and *L. sulphureus* ssp. *kincaidii* have increased as blackberry bushes have been controlled in several test plots located on BLM lands in Eugene, Oregon (Kaye and Cramer 2003). In general, Fender's blue butterfly egg abundance increased substantially at sites treated to control non-native weeds (Schultz *et al.* 2003).

#### *Erigeron decumbens* var. *decumbens*

Since periodic fire is believed to have historically maintained open prairie conditions, the use of prescribed burning as a maintenance tool has been investigated for restoring wet prairie habitats (Clark and Wilson 1998). Studies investigating the effects of fire on *Erigeron decumbens* var. *decumbens* populations have been inconclusive, as to whether fire promotes or inhibits populations (Wilson and Clark 1997). Additionally, research efforts investigating the control of woody vegetation in wet prairies demonstrated that none of the treatments (fire, mowing, and hand removal of woody vegetation) proved to be more effective than the others (Clark and Wilson 2000). Mowing with the removal of cut material actually increased the presence of non-native herbaceous species and should not be used as a management tool (Clark and Wilson 2000). Because *Erigeron decumbens* var. *decumbens* does not tolerate the presence of woody vegetation, habitat management will be required for the long-term persistence of this species. Further investigation is needed to determine the most appropriate techniques for managing available habitat. Also, due to the low reproductive capability of the species, recovery of the *E. decumbens* var. *decumbens* will likely depend on artificially augmenting populations in areas where woody vegetation has been removed (Clark 2000).

#### Reduce Habitat Fragmentation and Increase Population Size

The Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* are at risk of inbreeding depression and site extirpation across their respective ranges because populations are small and isolated from one another (Jackson 1996; Schultz *et al.* 2003, Severns 2003a, 2003b; Schultz *et al.* in prep). All three species will benefit from reestablishing prairie plant patches in

close proximity to core populations. This will also establish reserve areas that may ultimately be needed for delisting (Gisler *et al.*, in litt., 2005; Schultz *et al.*, in litt., 2005).

Efforts have been made to establish stepping-stones of lupine habitat between core Fender's blue butterfly populations occurring on BLM lands and Corps lands. A small patch of *Lupinus sulphureus* ssp. *kincaidii* planted in 2001 between two core Fender's blue butterfly populations became occupied by the species during the 2004 field season (Severns 2004). While inconclusive, this observation provides evidence that Schultz's (1998) recommended stepping-stone reserve design may allow for successful dispersal between populations (Severns 2004). Connectivity is considered essential to the survival of each of these populations (Schultz *et al.* in prep.; Severns 2004). The reserve design concept has been documented to likely benefit *L. sulphureus* ssp. *kincaidii* as well, since lupine patches located in close proximity to one another are more likely to be cross-pollinated.

Schultz *et al.* (in prep.) completed a study to determine if fragmented prairie remnants near Eugene, Oregon, can be restored to a large functioning metapopulation that will persist over the long-term. Several populations occur in this area but they are too far apart for the butterfly to disperse (greater than 1.2 miles (2 km)) and there are few intervening habitat patches. This study specifically looked at the conservation potential of restorable land located between the populations in a matrix of urban and agricultural land uses. Results of this study indicate that restoring existing prairie habitat to high quality may result in viable but unconnected populations unless habitat between populations is also reestablished.

Expanding *Erigeron decumbens* var. *decumbens* populations will require more investigation into the roles of sexual and vegetative reproduction of this species. If sexual reproduction proves to be most important for population recruitment, then managers will need to focus on strategies that promote flowering, seed production, and seedling establishment (Clark 2000). However, if vegetative regeneration is predominant, then managers will need to focus on activities that promote ramet production (Clark 2000). Clark *et al.* (1995b) found that vegetative propagation is a viable technique for *E. decumbens* var. *decumbens*; populations may also be increased by sowing seeds under appropriate conditions, although this technique

appeared to be less effective than vegetative propagation.

*Roadside, Power Right-of-Way, and Railroad Maintenance*

Many remaining populations of Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* populations occur in road right-of-ways and are adversely affected by maintenance activities such as mowing and/or spraying of herbicides when applied at the wrong time of year. In general, these kinds of maintenance activities should be implemented between August 1 and March 15 to avoid adverse impacts to these species. A few *L. sulphureus* ssp. *kincaidii* populations along roads persist, likely because the routine maintenance provides open, full-sun conditions characteristic of *L. sulphureus* ssp. *kincaidii* habitat.

*Protection*

Several *Lupinus sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* populations occur on private lands and consequently remain unprotected under existing state or federal statutes because these laws do not protect listed plants on private lands (Wilson *et al.* 2003). Limited protection of plant populations may be afforded under programs administered by the USDA Natural Resources Conservation Service, such as the Wetland Reserve Program. However, current program rules prioritize disturbed agricultural lands over prairie remnant habitats which limits the programs ability to protect existing plant populations since they typically do not occur in disturbed agricultural lands. Lacking statutory protection, Wilson *et al.* (2003) concluded that many of the plant populations occurring on private lands will likely be lost to development, agriculture, and invasion of weeds.

The Fender's blue butterfly is dependent primarily on *L. sulphureus* ssp. *kincaidii* as a larval food source and for egg laying (ovipositioning). When populations of *L. sulphureus* ssp. *kincaidii* are destroyed, it also reduces the opportunity to expand existing Fender's blue butterfly populations.

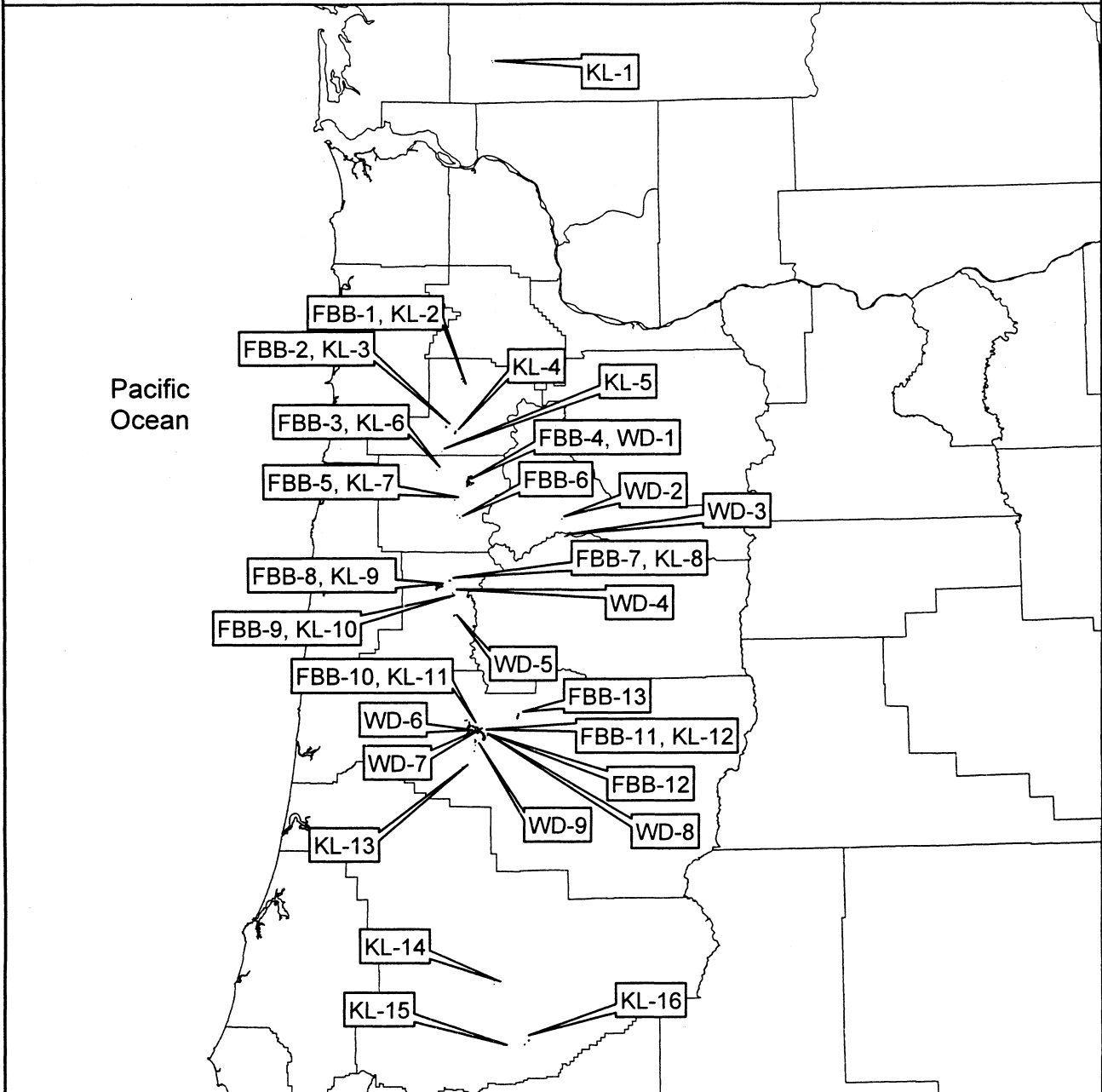
**Proposed Critical Habitat Designation**

We are proposing 13 units as critical habitat for Fender's blue butterfly, 16 units for *Lupinus sulphureus* ssp. *kincaidii* and 9 units for *Erigeron decumbens* var. *decumbens* (see Figure 1). The critical habitat units described below constitute our best assessment of the features essential to the conservation of the Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii*, and *E. decumbens* var. *decumbens* that were occupied at the time of listing, that contain the primary constituent elements, and that may require special management.

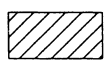
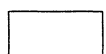
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Figure 1: Index Map

Fender's Blue Butterfly (FBB) (*Icaricia icarioides fenderi*), *Lupinus sulphueus* ssp. *kincaidii* (Kincaid's Lupine (KL)), and *Erigeron decumbens* var. *decumbens* (Willamette Daisy (WD))



Legend

-  Proposed Critical Habitat
-  County

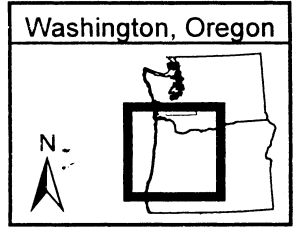
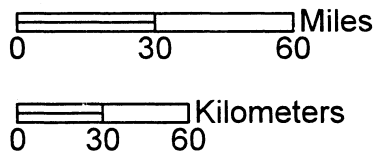


Table 1 provides the approximate area (ac/ha) determined to contain the features essential to the conservation of Fender's blue butterfly, *Lupinus*

*sulphureus* ssp. *kincaidii* and *Erigeron decumbens* var. *decumbens* and area proposed for exclusion from the final critical habitat designation by County.

The approximate area encompassed within each proposed critical habitat unit is shown in Table 2.

Table 1. Proposed critical habitat for the three Willamette Valley species and the areas proposed for exclusion from the final critical habitat designation

	State	County	Area	Proposed Exclusion
			Proposed acres (hectares)	Proposed acres (hectares)
Fender's Blue Butterfly:	Oregon	Benton	813.62 (329.26)	0 (0)
		Lane	1,005.04 (406.65)	0 (0)
		Polk	1,198.66 (485.08)	0 (0)
		Yamhill	71.35 (28.86)	0 (0)
	Species total		3,088.67 (1,249.85)	0 (0)
<u>Lupinus sulphureus</u> ssp. <u>kincaidii</u> :	Oregon	Benton	237.71 (96.19)	0 (0)
		Douglas	100.43 (40.65)	0 (0)
		Lane	222.13 (89.87)	0 (0)
		Polk	15.93 (6.45)	0 (0)
		Yamhill	141.62 (57.30)	0 (0)
	Washington	Lewis	5.87 (2.37)	0 (0)
	Species total		723.69 (292.83)	0 (0)
<u>Erigeron decumbens</u> var. <u>decumbens</u> :	Oregon	Benton	47.76 (19.32)	0 (0)
		Lane	558.42 (225.99)	0 (0)
		Linn	58.28 (23.59)	0 (0)
		Marion	12.23 (4.95)	0 (0)
		Polk	41.20 (16.67)	0 (0)
	Species total		717.89 (290.52)	0 (0)



Table 2: Approximate Areas of Critical Habitat for the Three Willamette Valley Species in Oregon and Washington

	Federal lands	State lands	County/City Lands	Private Lands	Total Lands	
	Proposed acres (hectares)	Proposed acres (hectares)	Proposed acres (hectares)	Proposed acres (hectares)	Proposed acres	Proposed hectares
<b>Fender's Blue Butterfly:</b>						
FBB-1	0 (0)	0 (0)	0 (0)	20.36 (8.23)	20.36	8.23
FBB-2	0 (0)	0 (0)	0 (0)	50.99 (20.63)	50.99	20.63
FBB-3	0 (0)	2.53 (1.02)	0 (0)	1.12 (0.46)	3.65	1.48
FBB-4	629.00 (254.39)	0 (0)	0 (0)	535.84 (216.84)	1,164.84	471.23
FBB-5	0 (0)	0 (0)	0 (0)	12.28 (4.97)	12.28	4.97
FBB-6	0 (0)	0 (0)	0 (0)	18.29 (7.40)	18.29	7.40
FBB-7	0 (0)	5.58 (2.26)	0 (0)	42.74 (17.29)	48.32	19.55
FBB-8	0 (0)	0 (0)	0 (0)	716.69 (290.03)	716.69	290.03
FBB-9	0 (0)	0 (0)	0 (0)	48.61 (19.68)	48.61	19.68
FBB-10	308.33 (124.75)	0 (0)	43.08 (17.42)	162.90 (66.00)	514.31	208.17
FBB-11	180.64 (73.09)	2.53 (1.02)	19.13 (7.74)	41.49 (16.78)	243.79	98.63
FBB-12	0 (0)	0 (0)	0 (0)	114.36 (46.28)	114.36	46.28
FBB-13	0 (0)	0 (0)	0 (0)	132.50 (53.60)	132.50	53.60
<b>Species Total</b>	<b>1,117.97 (452.23)</b>	<b>10.64 (4.30)</b>	<b>62.21 (25.16)</b>	<b>1,898.17 (768.19)</b>	<b>3,088.99</b>	<b>1,249.88</b>
<b><u>Lupinus sulphureus</u> ssp. <u>kincaidii</u>:</b>						
KL-1	0 (0)	0 (0)	0 (0)	5.87 (2.30)	5.87	2.30
KL-2	0 (0)	0 (0)	0 (0)	20.36 (8.23)	20.36	8.23
KL-3	0 (0)	0 (0)	0 (0)	50.99 (20.63)	50.99	20.63
KL-4	0 (0)	0 (0)	0 (0)	69.00 (28.00)	69.00	28.00
KL-5	0 (0)	1.69 (0.69)	0 (0)	0 (0)	1.69	0.69
KL-6	0 (0)	2.53 (1.02)	0 (0)	1.00 (0.46)	3.53	1.48
KL-7	0 (0)	0 (0)	0 (0)	12.28 (4.97)	12.28	4.97
KL-8	0 (0)	0 (0)	0 (0)	28.15 (11.39)	28.15	11.39
KL-9	0 (0)	0 (0)	0 (0)	42.74 (17.29)	48.32	19.55

	Federal lands	State lands	County/City Lands	Private Lands	Total Lands	
	Proposed acres (hectares)	Proposed acres (hectares)	Proposed acres (hectares)	Proposed acres (hectares)	Proposed acres	Proposed hectares
KL-10	0 (0)	0 (0)	0 (0)	17.89 (7.24)	17.89	7.24
KL-11	56.72 (22.94)	0 (0)	0.48 (0.19)	7.56 (3.05)	64.76	26.18
KL-12	21.46 (8.68)	0 (0)	0 (0)	119.68 (48.44)	141.14	57.12
KL-13	0 (0)	0 (0)	0 (0)	16.23 (6.57)	16.23	6.57
KL-14	21.16 (8.56)	0 (0)	0 (0)	2.92 (1.18)	24.08	9.74
KL-15	3.27 (1.33)	0 (0)	0 (0)	7.47 (3.03)	10.74	4.36
KL-16	63.74 (25.80)	0 (0)	0 (0)	1.87 (0.75)	65.61	26.55
Species Total	166.35 (67.31)	9.80 (3.97)	0.48 (0.19)	547.36 (221.54)	723.99	293.01
<u>Erigeron decumbens</u> var. <u>decumbens</u> :						
WD-1	41.20 (16.67)	0 (0)	0 (0)	0 (0)	41.20	16.67
WD-2	0 (0)	0 (0)	0 (0)	12.23 (4.95)	12.23	4.95
WD-3	0 (0)	0 (0)	0 (0)	58.28 (23.59)	58.28	23.59
WD-4	0 (0)	0 (0)	5.76 (2.32)	3.51 (1.42)	9.27	3.74
WD-5	0 (0)	0 (0)	0 (0)	38.49 (15.58)	38.49	15.58
WD-6	77.08 (31.19)	0 (0)	0 (0)	8.36 (3.38)	85.44	34.57
WD-7	128.27 (51.91)	6.01	0 (0)	31.44 (12.72)	165.72	67.06
WD-8	77.61 (31.41)	0 (0)	0.48 (0.20)	135.11 (54.68)	213.20	86.29
WD-9	0 (0)	0 (0)	0 (0)	94.06 (38.07)	94.06	38.07
Species Total	324.16 (131.18)	6.01 (2.43)	6.24 (2.52)	381.48 (154.39)	717.89	290.52

## BILLING CODE 4310-55-C

Fender's blue butterfly proposed critical habitat encompasses 3,089 ac (1,250 ha); 36 percent of this area is on Federal land; less than 1 percent is State land, 2 percent is local government land, and 61 percent is private land. Proposed critical habitat for *Lupinus sulphureus* ssp. *kincaidii* encompasses 724 ac (293 ha). Federal lands comprise 23 percent of this proposed area; 1 percent is State land, less than 1 percent is local government land, and 76 percent is private land. Proposed critical habitat for *Erigeron decumbens* var. *decumbens* includes 718 ac (291 ha); 45 percent of this habitat is on Federal land, 1 percent is State land, 1 percent

is local government land, and 53 percent is private land.

## Fender's Blue Butterfly

In total, we are proposing 13 critical habitat units, each of which represents the areas of habitat containing the features essential to the conservation of existing core populations across the range of the species. Collectively, these units provide the foundation for 8 of the 10 Recovery Reserve areas. Each unit represents a core population that is currently isolated from other occupied areas and each unit was occupied at the time of listing. As previously identified, three of the Recovery Reserves will need to be large functioning metapopulations

to be considered for delisting (Schultz *et al.*, in litt., 2005). Therefore, to simplify unit descriptions we have grouped units that with proper management and restoration may function as larger connected metapopulations. For many Recovery Reserves we do not have the information at this time to identify lands that provide stepping-stone habitat between units that will likely be needed to meet recovery goals. However, with proper management the proposed critical habitat will provide the necessary conditions to ensure Fender's blue butterfly populations will persist across their range.

Unit 1 for Fender's blue butterfly (Units FBB-1A and 1B):

Units FBB-1A and 1B encompass approximately 6.25 ac (2.5 ha) and 14 ac (5.75 ha) respectively, of private land occurring within northern Yamhill County and within the Oak Ridge Recovery Reserve boundaries identified in the draft recovery plan (Schultz *et al.*, in litt., 2005). The Oak Ridge butterfly population is supported by three separate habitat patches, and the population has been monitored annually for ten years (Hammond 2004). The population has become much larger over the last three years with an estimated 259 butterflies in 2004 (Hammond 2004). FBB-1A represents the northern most known occupied habitat patch in the current range of Fender's blue butterfly and occurs along both the east and west sides of Oak Creek Road. FBB-1B is located approximately 0.7 miles (1.1 km) south of FBB-1A along both the east and west sides of Oak Creek Road, near the junction with Fairdale Road. The prairie habitat within FBB-1A and FBB-1B includes the PCEs essential to the conservation of this core population, which represents the foundation for one of ten reserve complexes necessary for delisting this species (Schultz *et al.*, in litt., 2005).

In recent years the Oak Ridge butterfly metapopulation has been evenly distributed between the three lupine patches. However, ten years of monitoring reports for this population indicate that the number of individuals supported by each habitat patch has increased and decreased annually with one habitat patch disproportionately supporting the population each year. The population fluctuations documented at these sites are attributed to the following threats: Roadside maintenance, livestock grazing and presence of invasive species (Hammond 2004). The overall population has remained relatively stable, likely because its distribution between three habitat patches provides opportunity for recolonization of impacted habitat patches (Hammond 2004). The prairie habitat within and between FBB-1A and 1B should be managed to allow for growth and expansion of this relatively small population in order to consistently maintain the population growth rate necessary for Recovery Reserves.

This unit provides the habitat containing the features that are essential for the continued persistence of the core population in this portion of the species' range. Establishing stepping-stone habitat between FBB-1A and 1B will contribute towards a more connected functioning metapopulation. However, at this time we do not have

enough information to identify additional potential habitat for population expansion that may be necessary to meet delisting criteria. The prairie habitat identified in FBB-1A and 1B has the features essential to the conservation of this species because it has one of the largest remaining Fender's blue butterfly metapopulations; it is supported by its primary host plant, *Lupinus sulphureus* ssp. *kincaidii*; it occurs at the northern most extent of the species range (Hammond 2004); and there is surrounding prairie habitat available for population expansion.

Unit 2 for Fender's blue butterfly (Unit FBB-2):

Unit FBB-2 consists of approximately 51 ac (21 ha) of private lands within southern Yamhill County and occurs within the Gopher Valley Recovery Reserve boundaries identified in the draft recovery plan (Schultz *et al.*, in litt., 2005). The Gopher Valley butterfly population has been monitored annually for ten years (Hammond 2004) and has remained stable with a relatively low number of individuals consistently being reported (as compared to other stable populations) (Hammond 2004). The *Lupinus sulphureus* ssp. *kincaidii* habitat supporting this population occurs in two habitat patches scattered along the east and west sides of Gopher Valley Road. The largest distance separating lupine patches is approximately 0.12 miles (0.2 km). This population is threatened by the limited availability of nectar sources, presence of invasive species, and roadside maintenance activities.

With the proper management of the prairie habitat surrounding the population located within the FBB-2 unit boundary, this area should provide opportunity for population growth and expansion of both Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii*. Unit FBB-2 provides ease of Fender's blue butterfly movement between lupine habitat patches, and to all the features essential to the conservation of the species. The area identified within the boundaries of FBB-2 provides the foundation for the Gopher Valley Recovery Reserve (Schultz *et al.*, in litt., 2005). The prairie habitat identified in FBB-2 has the features essential to the conservation of this species because it is one of the largest remaining Fender's blue butterfly populations in this portion of its range; it is supported by its primary host plant; it provides the foundation for the existence of the species in this portion of its range (Hammond 2004); and there

is surrounding prairie habitat available for population expansion.

Unit 3 for Fender's blue butterfly (Unit FBB-3):

Unit FBB-3 encompasses approximately 3.65 ac (1.5 ha) of primarily state-owned lands within northern Polk County and occurs within the Mill Creek Recovery Reserve boundaries identified in the draft recovery plan (Schultz *et al.*, in litt., 2005). The Mill Creek butterfly population has been monitored annually for ten years (Hammond 2004) and the overall number of individuals has increased over the past three years (Hammond 2004). The lupine habitat supporting this population occurs in two patches scattered along the northeast and southwest sides of Highway 22, near the intersection with Mill Creek Road. The Oregon Department of Transportation (ODOT) owns most of the habitat supporting this population. Hammond (2004) documents the history of threats to this unit, largely the presence of invasive grasses and shrubs that have overgrown the habitat, suppressing the lupine and *Erigeron decumbens* var. *decumbens* populations occupying this prairie remnant.

Mowing activities implemented by ODOT in 2000 resulted in a large growth flush of *Lupinus sulphureus* ssp. *kincaidii* and Fender's blue butterfly. This demonstrates that appropriate management of this site should provide the habitat essential for population growth and expansion and ultimately the survival of this population. Due to the limited availability of supporting prairie habitat, and the existing habitat being divided by the highway, this population will likely need to be augmented with other areas to meet Recovery Reserve criteria. However, at this time we do not have enough information to identify potential habitat for population expansion. It is possible that other populations occur nearby because the surrounding areas support large open areas that have yet to be surveyed. The prairie habitat identified in FBB-3 has the features essential to the conservation of this species because it is supported by its primary host plant; the population size has been increasing over the last few years; it is one of the largest remaining Fender's blue butterfly populations in this portion of its range and it provides the core metapopulation for the Mill Creek Recovery Reserve (Schultz *et al.*, in litt., 2005).

Unit 4 for Fender's blue butterfly (Units FBB-4A and 4B):

Units FBB-4A and 4B encompass approximately 536 ac (217 ha) and 629 ac (254 ha) respectively, of private and

Federal land occurring within northern Polk County and within the Baskett Recovery Reserve boundaries identified in the draft recovery plan (Schultz *et al.*, in litt., 2005). Units FBB-4A and 4B are located adjacent to Highway 22 approximately 5.5 miles (8.8 km) northeast of the City of Dallas. Units FBB-4A and 4B are approximately 0.12 miles (0.2 km) apart with predominately agricultural lands occurring between these populations. An estimated 64 percent of the habitat encompassed within Unit FBB-4 occurs within the boundaries of the Service's Baskett Slough National Wildlife Refuge (Refuge) and approximately 36 percent of the prairie habitat occurs on adjacent private lands. Refuge biologists have documented the occurrence of the PCEs throughout the habitat within FBB-4A and 4B and also the Fender's blue butterfly's utilization of these areas (USFWS 2005).

Many of the populations occurring in FBB-4A have been monitored annually for ten years (Hammond 2004), and populations occupy ten separate patches of *Lupinus arbustus* which are scattered across the unit. Recent survey results indicate that this metapopulation increased dramatically in size during 2003-2004 (Hammond 2004). The total metapopulation size was estimated at 223 individuals in 2001 and approximately 1,368 individuals in 2004. This large surge in population is likely the result of both favorable weather conditions and habitat management activities implemented by Refuge staff during the 2001-2002 field seasons (Hammond 2004). Habitat conditions had steadily declined between 1993 and 2001 due to encroachment of grasses and brush in the upland prairie habitat (Hammond 2004). These habitat conditions had adversely impacted not only the Fender's blue butterfly but also the population of *Erigeron decumbens* var. *decumbens* supported within FBB-4A. Unit FBB-4 (FBB-4A and 4B)

supports the largest known Fender's blue butterfly metapopulation and the largest contiguous occupied prairie patch in the range of the species. This relatively large, contiguous prairie habitat is one of a few occupied remnants occurring on valley hillsides, with most remaining populations occurring on the valley floor. The open nature of the lands occurring between FBB-4A and 4B increases the potential for individuals to successfully disperse between habitat patches. Based on recent population increases, it is likely that with the continued management of invasive species across FBB-4A and 4B these units could support one of the

three "large functioning metapopulations" required for delisting (Schultz *et al.*, in litt., 2005) of the Fender's blue butterfly. Each of the required large functioning reserves is distributed across the species' range with this metapopulation occurring in the northern region. This unit has the features essential to the conservation of the species because it supports the largest known metapopulation, consists of ten connected populations and provides an abundance of nectaring and dispersal habitat that allows for population growth and expansion.

Unit 5 for Fender's blue butterfly (Unit FBB-5):

Unit FBB-5 consists of approximately 12.3 ac (5 ha) of private lands within the central portion of Polk County and occurs within the Dallas/Polk County Recovery Reserve boundaries (Schultz *et al.*, in litt., 2005). Unit FBB-5 is located near the junction of Highway 223 and Oakdale Avenue and largely falls within the City of Dallas' urban-growth boundary. Although Hammond (2004) has estimated the size of this population for over ten years, he documents that he has been unable to access the site for over seven years and has been limited to visually-obstructed roadside observations. During the 2004 field season, we met with the private landowner who owns one of the parcels currently supporting the population and we were able to document the extent to which the PCEs were distributed on several adjoining parcels. Additionally, we surveyed an adjoining parcel, which is listed for sale, on the south side of the prairie remnant, and it supports nectar habitat essential to the conservation of this population. The landowner we met with in 2004 has entered into a Partners for Fish and Wildlife Agreement (USFWS 2004d) and in cooperation with Refuge staff, has agreed to manage his portion of the Fender's blue butterfly and *Lupinus sulphureus* ssp. *kincaidii* populations. The Fender's blue butterfly population is threatened by the limited availability of food plants, presence of invasive species, and the impacts associated with the encroachment of urban development. Hammond (2004) has documented the removal of several acres of Fender's blue butterfly habitat over the last ten years for residential development.

At this time, we do not have enough information to specifically identify which surrounding areas support the PCEs and could contribute towards population expansion and the long-term viability of a larger metapopulation. The open areas to the south support prairie remnants that historically supported Fender's blue butterfly populations and

have been extirpated over the last ten years (Hammond 2004). Reintroductions of *Lupinus sulphureus* ssp. *kincaidii* or augmentations may be necessary for the long-term viability of the Dallas/Polk County Recovery Reserve. Although this unit likely represents only a portion of the area necessary for long-term viability of the Dallas/Polk County Recovery Reserve, appropriate management of the prairie habitat within FBB-5 should provide opportunity for population growth and expansion, and ultimately the survival of the population. Unit FBB-5 provides the habitat containing the features essential for the continued persistence of this core population by providing the "backbone" of a larger metapopulation for this Recovery Reserve.

Unit 6 for Fender's blue butterfly (Units FBB-6A and 6B):

Units FBB-6A and 6B encompass approximately 2.4 ac (1 ha) and 16 ac (6.5 ha) respectively, of private lands occurring within southern Polk County and the Dallas/Polk County Recovery Reserve boundaries (Schultz *et al.*, in litt., 2005). Unit FBB-6A is located along McCaleb Road near Cooper Creek and Unit FBB-6B is approximately 0.8 mile (1.4 km) south of FBB-6A along Monmouth Highway. Several Fender's blue butterfly populations historically occurring south of Dallas, Oregon have been extirpated over the last decade (Hammond 2004). The habitat encompassed within FBB-6 (FBB-6A and 6B) supports the core butterfly population occurring at the southern end of the Dallas/Polk County Recovery Reserve. Reintroductions of *Lupinus sulphureus* ssp. *kincaidii* or augmentations may be necessary at extirpated sites to provide stepping-stone habitat between FBB-5 and FBB-6 in order to ensure for the long-term viability of the Dallas/Polk County Recovery Reserve. Unit FBB-6 apparently provides the habitat containing the features essential to the persistence of this core population, as evidenced by an increasing population size over the last few years; it is one of the largest remaining Fender's blue butterfly populations in this portion of its range and it is one of two core, isolated populations providing the "backbone" at the southern end of this Recovery Reserve.

The larval host plant found in FBB-6B is *Lupinus albicaulis*, and based on roadside observations, Hammond (2004) estimates several hundred individuals occupy this habitat. Since *L. albicaulis* is a short-lived perennial, Hammond (2004) documents that without periodic disturbance this butterfly population may disappear more quickly than

populations using *L. sulphureus* ssp. *kincaidii* and *L. arbustus* as a host plant. However, *L. albicaulis* is the primary host plant for Puget blue butterfly (*Icaricia icarioides blackmorei*) and appears to serve the Puget blue quite well (Schultz, in litt., 2005). Additionally, other roadside populations of Polk County Fender's blue butterfly supported by *L. albicaulis* have remained stable for over a decade (Hammond 2004). Even if the available habitat is transitory, it may serve as an important stepping-stone between other sites and enhance genetic exchange between sites over the period that the butterflies use the site (Schultz, in litt., 2005).

FBB-6A supports a roadside population of *Lupinus sulphureus* ssp. *kincaidii* and is located between FBB-6B and a Fender's blue butterfly site where individuals have not been seen for two years. FBB-6A provides stepping-stone habitat for Fender's blue butterfly and is essential to the long-term persistence of the Dallas/Polk County Recovery Reserve.

Units 7, 8, and 9 for Fender's blue butterfly (Units FBB-7, FBB-8, and FBB-9):

Units FBB-7, FBB-8, and FBB-9 collectively represent the areas of habitat containing the features essential to the conservation of the Fender's blue butterfly populations in northern Benton County, which with appropriate management could support one of the three large functioning metapopulations necessary for the Fender's blue butterfly to be considered for delisting (Schultz *et al.*, in litt., 2005). This reserve is located in the central region of the species range and consists of two large and one medium size populations that are isolated from one another. The availability of habitat in each of these units provides opportunity for population growth and expansion, with appropriate stepping-stone habitat conditions available for facilitating ease of movement within units.

Each of these units is essential to the conservation of the species because they collectively support three of the largest remaining Fender's blue butterfly populations in this portion of the species range and are located in relatively close proximity to one another, thus increasing the potential for interaction between populations, they are all supported by *Lupinus sulphureus* ssp. *kincaidii*, and there is surrounding prairie habitat available for metapopulation expansion. Stepping-stone habitat between FBB-7, FBB-8, and FBB-9 may contribute to a yet larger, functioning metapopulation. The habitat included within each of these

units provides the foundation for long-term persistence of each respective isolated population and recovery strategies should focus on opportunities to connect metapopulations to larger, functioning metapopulations.

Unit 7 for Fender's blue butterfly (Unit FBB-7):

Unit FBB-7 consists of approximately 48.3 ac (19.6 ha) of private and State lands within Benton County. The habitat in this unit supports the second largest known Fender's blue butterfly population and occurs in McDonald Forest located off of Oak Creek Road. Approximately 14 percent of the habitat supporting the PCEs within FBB-7 occurs on Oregon State University lands and the remaining 86 percent occurs on private lands. This Fender's blue butterfly population has been monitored annually for ten years (Hammond 2004) and recent studies indicate this population has the highest chance of long-term persistence based on population trend data (Schultz *et al.* 2003).

This population is threatened by the encroachment of invasive grasses and succession to forest, especially in narrow areas of the meadow where tree encroachment could block-off portions of the habitat and isolate portions of the populations. Although a management plan has not been completed for this unit, the landowner is interested in maintaining the prairie habitat for the butterfly. In cooperation with Oregon State University scientists, the landowner is studying appropriate management techniques for controlling invasive *Brachypodium sylvaticum* (false brome). Unit FBB-7 provides a diverse composition of high quality habitat utilized by all life stages of the Fender's blue butterfly. This habitat is uniquely located in a meadow surrounded by forested land and supports the second largest remaining Fender's blue butterfly populations across the range of the species. This population provides the foundation for one of the three large, functioning metapopulations necessary for delisting (Schultz *et al.*, in litt., 2005) and is located in the central portion of the species range.

Unit 8 for Fender's blue butterfly (Unit FBB-8):

Unit FBB-8 encompasses approximately 717 ac (290 ha) of private lands within Benton County. This unit is located in Wren, Oregon, between Kings Valley Highway, Cardwell Hill Road and Blakesly Creek Road, approximately 2 miles (3.2 km) southwest of Unit FBB-7. Several of the Fender's blue butterfly populations

occupying this unit have been surveyed annually for ten years (Hammond 2004).

A new population of Fender's blue butterfly has been documented using a large population of *Lupinus sulphureus* ssp. *kincaidii* located between two of the regularly monitored populations of Fender's blue butterfly (Hammond 2004). The powerline right-of-way that runs across Unit FBB-8 appears to play a significant role in Fender's blue butterfly dispersal between the *L. sulphureus* ssp. *kincaidii* populations scattered across this large contiguous high quality prairie (USFWS 2004a, 2004e). The relatively "pristine" (Hammond 2004), large prairie habitat included within Unit FBB-8 is essential for all life stages of this Fender's blue butterfly metapopulation. This core metapopulation provides the foundation for one of the three large, functioning metapopulations necessary for delisting (Schultz *et al.*, in litt., 2005).

Unit 9 for Fender's blue butterfly (Unit FBB-9):

Unit FBB-9 consists of approximately 49 ac (20 ha) of private lands located north of Philomath. The habitat occurs primarily to the south of West Hills Road and to the west of 19th Street. The Greenbelt Land Trust recently obtained a conservation easement for 51 percent of the prairie habitat supporting this population. Adult Fender's blue butterfly individuals have been observed using the nectaring habitat in this remnant prairie and many of the *Lupinus sulphureus* ssp. *kincaidii* populations scattered throughout the unit. The Fender's blue butterfly population utilizing the eastern portion of this site has been monitored for the last five years (Hammond 2004). Threats to this site include encroachment of invasive species, trees and shrubs, and a small portion of the Unit FBB-9 is located along West Hills Road and impacted by roadside maintenance activities. Unit FBB-9 provides the habitat essential for all life stages of this butterfly population, and one of the core populations that are the foundation for one of the three, large functioning metapopulations necessary for delisting (Schultz *et al.*, in litt., 2005).

Units 10, 11, and 12 for Fender's blue butterfly (Unit FBB-10, FBB-11, and FBB-12):

Units FBB-10, FBB-11, and FBB-12, support the core populations essential to the conservation of the species in this southern portion of their range. Collectively, these units provide the foundation for the conservation of a third large, functioning Fender's blue butterfly metapopulation within the west Eugene Recovery Reserve boundaries (Schultz *et al.*, in litt. 2005).

Additionally, recent studies indicate that the areas collectively proposed in Units FBB-10, FBB-11, and FBB-12 are essential for the long-term viability of this larger metapopulation (Schultz *et al.* in prep.).

This reserve supports three core populations that are mostly isolated from one another (greater than 0.93 miles (1.5 km) from the nearest occupied lupine patch) with a few stepping-stone populations located between core populations. The availability of habitat within each of these units provides opportunity for population growth and expansion, as well as areas appropriate for stepping-stone habitat that will facilitate ease of movement within units. Each of these units is essential to the conservation of the species because they collectively support two of the largest remaining Fender's blue butterfly metapopulations (FBB-10 and FBB-12), the two metapopulations are located in relatively close proximity to one another providing a unique opportunity to reestablish a larger connected set of populations that functions as a viable metapopulation, the butterfly populations are all supported by *Lupinus sulphureus ssp. kincaidii*, and there is surrounding prairie habitat available for population expansion. Stepping-stone habitat in FBB-11 is necessary to provide connectivity between core butterfly populations to ensure the long-term persistence of this metapopulation.

Unit 10 for Fender's blue butterfly (Unit FBB-10A and 10B):

Unit FBB-10A and 10B encompass approximately 50 ac (20.5 ha) and 463 ac (188 ha) of prairie habitat, respectively, in Lane County, Oregon. The prairie habitat included within FBB-10A and 10B occurs on BLM and Corps land (60 percent), private lands (32 percent), and County lands (8 percent). Each of these subunits support a core metapopulation of Fender's blue butterfly and *Lupinus sulphureus ssp. kincaidii* which have been surveyed annually since 1993 (Severns 2004; Fitzpatrick 2005). Eighty-four percent of the area included within FBB-10A occurs on Corps lands located near Shore Lane, NE Fern Ridge Reservoir.

The populations occupying FBB-10A require tall-oat grass management because this invasive grass now covers 100 percent of the habitat supporting all six populations (Severns 2004). Nevertheless, the 2004 population surveys reported the largest number of individuals ever observed at the site; the population size more than doubled between 2003 and 2004. The Corps has reestablished populations of *Lupinus*

*sulphureus ssp. kincaidii* between core Fender's blue butterfly populations located within this unit to provide butterfly stepping-stone habitat and increase connectivity. In 2001, a small patch of *L. sulphureus ssp. kincaidii* was planted on the side of a spoil mound, on the south side of the Amazon Canal. The Fender's blue butterfly was documented using this lupine patch during the 2004 field season. This demonstrates that the recommended stepping-stone reserve design (Schultz 1998) will allow for successful dispersal between core populations occurring on Corps lands in FBB-10A and on BLM lands in FBB-10B (Severns 2004). This connection is considered essential to the survival of each of these populations (Schultz *et al.* in prep.; Severns 2004).

Approximately two-thirds of the prairie habitat included within FBB-10B occurs on publicly owned lands, primarily BLM, but also Corps and County lands, and the remaining one-third occurs on adjacent private lands. The center of this unit occurs near the intersection of Fir Butte Road and the Amazon Canal. Portions of the habitat occurring on BLM land are severely threatened by the closed canopy cover of *Rubus discolor* that has overtaken large areas of the site (Kaye 2004). Fender's blue butterfly populations supported by the habitat within FBB-10B would benefit from adult nectar source augmentations (Severns 2004). Habitat management will be necessary to increase the size and connectivity of butterfly populations by restoring additional stepping-stone habitat patches that enhance the connection between the core populations occupying FBB-10A and FBB-10B ((Schultz *et al.* in prep). Unit FBB-10 (FBB-10A and FBB-10B) provides the habitat containing the features essential for two butterfly populations. This unit includes one of the most contiguous prairie remnants, increasing the potential for connectivity between these two core populations and provides the foundation for reestablishing a large functioning metapopulation within the west Eugene Recovery Reserve boundaries (Schultz *et al.*, in litt., 2005).

Unit 11 for Fender's blue butterfly (Unit FBB-11A, 11B, 11C, 11D, and 11E):

Unit FBB-11A consists of 15.5 ac (6.3 ha) of privately owned land. FBB-11B includes approximately 14 ac (5.7 ha) of primarily BLM land (94 percent) with 6 percent occurring on private lands. FBB-11C encompasses approximately 22 ac (9 ha) with 94 percent occurring on BLM land and 6 percent on private lands. FBB-11D encompasses

approximately 188 ac (76 ha) with 88 percent on publicly owned lands (County, BLM, and State) and 12 percent on private lands. FBB-11E consists of approximately 4.5 ac (1.8 ha) of land entirely owned by Lane County. Most of the lupine populations scattered across the prairie habitat within this unit are relatively small, but the habitat supporting them is essential to the long-term viability of a larger functioning Fender's blue butterfly metapopulation in this southern portion of the species range (Schultz *et al.* in prep).

The area included within this unit provides needed stepping-stone habitat between the BLM/Corps metapopulation to the northwest and TNC metapopulations to the southeast (Schultz *et al.* in prep). Local land managers recently surveyed this area to identify habitat patches suitable for reestablishing *Lupinus sulphureus ssp. kincaidii* populations as stepping-stones for the Fender's blue butterfly (Schultz *et al.* in prep.). The areas they identified occur within this unit boundary and this habitat will need to be enhanced to increase the size and connectivity of butterfly populations by restoring patches between core metapopulations within FBB-10 and FBB-12 (Schultz *et al.* in prep.). Unit FBB-11 (FBB-11A, 11B, 11C, 11D, and 11E) provides the habitat essential for all life stages of this butterfly population because it includes habitat to reestablish connectivity between two of the largest remaining metapopulations, and it increases viability of all populations in this portion of the species range. The habitat included within FBB-11 is essential for reestablishing connectivity between existing metapopulations and providing for a large functioning metapopulation (Schultz *et al.* in prep.).

Unit 12 for Fender's blue butterfly (Units FBB-12A and 12B):

Units FBB-12A and 12B encompasses approximately 114.4 ac (46 ha) with the majority of this land occurring on TNC property and are located near the intersection of Bailey Hill Road and Bertelso Road. The *Lupinus sulphureus ssp. kincaidii* and Fender's blue butterfly populations are scattered across the 508 ac (206 ha) of remnant prairie known as the Willow Creek Natural Area (Fitzpatrick 2005). FBB-12A and 12B function as a metapopulation and collectively represent the third largest Fender's blue butterfly metapopulation across the range of the species. The populations occurring within this unit have been monitored for over 10 years (Fitzpatrick 2005).

The habitat within FBB-12A and 12B is threatened by exotic vegetation and

succession to woody vegetation. To ensure viability of the Willow Creek metapopulation, the area within this unit should be enhanced to provide opportunity for population growth and expansion (Schultz *et al.* in prep). Unit FBB-12 (FBB-12A and 12B) has the features essential to the conservation of the species because it includes some of the highest quality remaining upland prairie, supports the large core metapopulation in this portion of the species range, and the metapopulation is fundamental to the persistence of this larger functioning metapopulation (Schultz *et al.* in prep) located with the West Eugene Recovery Reserve boundaries (Schultz *et al.* in litt., 2005).

Unit 13 for Fender's blue butterfly (Unit FBB-13):

Unit FBB-13 encompasses approximately 133 ac (54 ha) of private land that supports several patches of primarily *Lupinus arbustus* scattered across the remnant prairie. The Fender's blue butterfly population occupying this unit has been monitored since 1993 (Fitzpatrick 2005). This habitat supports one of the largest remaining butterfly populations and it supports a diverse flora of native plants (Schultz 2004). The habitat included in this unit is very different than the populations growing on the valley floor (Hammond and Wilson 1993). Hammond and Wilson (1993) indicate this population should be regarded as a distinct ecological segregate that should be preserved in a unique population. The size, quality and its unique ecological conditions make this unit essential to the conservation of the species.

#### *Lupinus sulphureus ssp. kincaidii*

We present, below, brief descriptions of all units, and reasons they are essential for the conservation of the *Lupinus sulphureus ssp. kincaidii*. In total, we propose 16 critical habitat units, each of which represents the habitat containing the features essential to the conservation of core populations across the range of the species. To simplify unit descriptions we have grouped units that are within pollinator distance of one another, and may function as larger, connected metapopulations with proper management and restoration. For many Recovery Reserves we do not have the information at this time to identify lands that provide stepping-stone habitat between units which will likely be needed to meet recovery goals. However, the proposed critical habitat will provide the foundation for *L. sulphureus ssp. kincaidii* populations to persist across their range.

Unit 1 of *Lupinus sulphureus ssp. kincaidii* (Units KL-1A and 1B):

Units KL-1A and 1B consists of approximately 6 ac (2.5 ha) of private land in Lewis County, Washington. There are only two small populations of *Lupinus sulphureus ssp. kincaidii* remaining in Washington. These populations are highly disjunct from the Willamette Valley populations with an estimated 81 miles (131 km) separation. Conservation biology principles include providing for the conservation of a species over a range of habitat types to reduce the chance of losing disjunct populations representing important conservation value for their adaptation to local environmental conditions and their genetic uniqueness (Fahrig and Merriam 1994). In keeping with this principle, the draft recovery criteria for this species identify the need to have populations conserved across their current range (Gisler *et al.*, in litt., 2005). Unit KL-1 (KL-1A and KL-1B) includes the highest quality prairie habitat supporting *L. sulphureus ssp. kincaidii* in this northern-most extent of its range. This habitat will likely need to be actively managed to expand the current populations and re-establish lupine patches in relative close proximity (3-5 miles (5-8 km)) to one another. At this time, we do not have enough information to identify additional potential habitat for population expansion, which will likely be necessary for these populations to function as a viable metapopulation and meet delisting criteria. The prairie habitat identified in this unit has the features essential to the conservation of this species because it supports two of the remaining *L. sulphureus ssp. kincaidii* populations in the northern-most extent of the species' range, and there is surrounding prairie habitat available for population expansion.

Unit 2 of *Lupinus sulphureus ssp. kincaidii* (Unit KL-2 A and 2B):

Unit KL-2A and 2B encompass approximately 6.25 ac (2.5 ha) and 14 ac (5.75 ha) respectively, of private land in northern Yamhill County. KL-2A supports *Lupinus sulphureus ssp. kincaidii* patches along both the east and west sides of Oak Creek Road. KL-2B is located approximately 0.68 miles (1.1 km) south of KL-2A along both the east and west sides of Oak Creek Road, near the junction with Fairdale Road. Yamhill County is responsible for roadside maintenance activities along Oak Creek Road that may adversely impact these plant populations. The prairie habitat within KL-2 (KL-2A and 2B) includes the PCEs essential to the conservation of this core population. Habitat management will be necessary

to maintain the short-grass stature of the native prairie and provide the habitat conditions essential to the conservation of *L. sulphureus ssp. kincaidii*. The Fender's blue butterfly uses *L. sulphureus ssp. kincaidii* at this site as a primary host plant and 100 percent of Unit KL-1 is included within Unit FBB-1.

Threats to this *Lupinus sulphureus ssp. kincaidii* unit include road maintenance, livestock grazing, and presence of invasive species (Hammond 2004). The distribution of habitat patches in relatively close proximity to each other has likely contributed to the persistence of this population. Impacts to this population over the years have typically affected only one habitat patch at any given time since they are scattered across the prairie habitat. The prairie habitat within KL-2 will likely need to be managed to allow for growth and expansion of this relatively small population in order to meet recovery goals. Severns (2003a) indicates that the stepping-stone reserve design recommended for the conservation of Fender's blue butterfly will also benefit *L. sulphureus ssp. kincaidii* populations. Increasing the number of lupine patches in close proximity to one another will likely increase the chances for outcrossing pollination, which is essential to the conservation of this species.

This population will likely need to function with other populations to form a more viable metapopulation in order for the species to persist over the long-term. At this time we do not have enough information to identify additional potential habitat for population expansion that will be necessary for this metapopulation to meet delisting criteria. Although there are other reported occurrences in the general vicinity, those sites did not meet the minimum patch size for draft recovery criteria, were highly degraded, or were roadside without potential for population expansion, and were not considered essential to the conservation of this population. Unit KL-2 provides the habitat essential for the continued persistence of a core population in this portion of species range. This unit has the features essential to the conservation of this species because even with a relatively small population size, it supports one of the largest remaining *Lupinus sulphureus ssp. kincaidii* populations, it represents the northern-most Willamette Valley population, and it provides surrounding prairie habitat for population expansion.

Units 3 and 4 of *Lupinus sulphureus ssp. kincaidii* (Unit KL-3 and KL-4):



These units each support a *Lupinus sulphureus* ssp. *kincaidii* population that, collectively, may function as a larger metapopulation. These units are located approximately 2.3 miles (3.7 km) apart and likely have at least rare cross pollination events. Active management may be necessary to both enhance these populations and identify opportunities to increase pollinator connectivity between units. At this time we do not have enough information to identify additional potential habitat for population expansion, which will likely be necessary for these populations to function as a larger metapopulation. Although there are other small, mostly roadside populations recorded within the estimated 5 miles (8 km) pollinator distance, most are highly degraded, presumed extinct, or too small to meet Recovery Reserve design criteria, and are not proposed for critical habitat. Each of these units have the features essential to the conservation of the species because they each support the largest remaining populations in this portion of their range, are located in relatively close proximity to one another, increasing potential for cross pollination and increased reproductive success, and there is surrounding prairie habitat available for population expansion.

Unit 3 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-3):

Unit KL-3 consists of approximately 51 ac (21 ha) of private lands within Yamhill County. The *Lupinus sulphureus* ssp. *kincaidii* population is comprised of several populations scattered along the east and west sides of Gopher Valley Road near its intersection with Dupee Road. Yamhill County is responsible for roadside maintenance activities along Gopher Valley Road that may adversely impact this population of *L. sulphureus* ssp. *kincaidii*. The largest distance separating lupine populations is approximately 0.12 mi (0.2 km). This population is threatened by the presence of invasive species; the relatively small, isolated nature of the population; and impacts associated with roadside maintenance activities. The Fender's blue butterfly uses *L. sulphureus* ssp. *kincaidii* at this site as a primary host plant, and 100 percent of Unit KL-3 is included in Unit FBB-2.

The prairie habitat within KL-3 should be managed to allow for growth and expansion of this relatively small population. Increasing the number of *Lupinus sulphureus* ssp. *kincaidii* patches in close proximity to one another will increase the chances for outcrossing pollination, which is essential to the conservation of this

species. Because of the limited availability of supporting prairie habitat, this population will need to function with other populations as a larger, more viable metapopulation in order to persist over the long term. This prairie habitat should be actively managed in order to maintain the short-grass prairie stature essential for the conservation of *Lupinus sulphureus* ssp. *kincaidii* and provide opportunity for population growth and expansion. Unit KL-3 is essential for the continued persistence of a functioning metapopulation in this portion of the species' range.

Unit 4 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-4A and 4B):

Unit KL-4A and 4B consists of approximately 69 ac (28 ha) of private lands in Yamhill County and is located west of Muddy Valley Road and south of Eagle Point Road. The *Lupinus sulphureus* ssp. *kincaidii* populations are relatively small and scattered across this large, contiguous prairie remnant. The *L. sulphureus* ssp. *kincaidii* population within this unit boundary is one of only a few populations supported by extensive areas of the short-grass prairie necessary for population growth and expansion. This habitat should be managed in a way that enhances the *L. sulphureus* ssp. *kincaidii* population so that the plant extends across the available habitat, ideally with populations located between 0.3 and 0.6 mi (0.5 and 1 km) apart, mimicking historic prairie conditions. Unit KL-4 (KL-4A and 4B) provides the habitat that has the features essential for the continued persistence of this core population, and, together with the habitat included in Unit KL-3, these areas are fundamental to the continued persistence of a viable metapopulation in this portion of the species' range.

Summary of Units 5 and 6 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-5 and KL-6):

Units KL-5 and KL-6 are both primarily State-owned lands managed by the ODOT, and each support populations of *Lupinus sulphureus* ssp. *kincaidii* in this portion of the species' range that collectively may function as a larger metapopulation. These units are both relatively small, but they are two of the largest remaining populations in this portion of the species' range. In addition, they are within the estimated 5 mi (8 km) pollinator distance of one another, and therefore may be functioning as a larger more viable metapopulation. However, if cross pollination between habitat patches occurs, it is likely a rare event. Active management will likely be necessary to both enhance these populations and identify opportunities to increase

pollinator connectivity between units. At this time, we do not have enough information to identify additional potential habitat for population expansion, which will likely be necessary for these populations to regularly function as a larger metapopulation. Although there are other small, mostly roadside populations recorded within the estimated 5 mi (8 km) pollinator distance, most are highly degraded, presumed extinct, or too small to meet Recovery Reserve design criteria and not expected to contribute towards the long-term persistence of this species. Each of these units have the features essential to the conservation of the species because: (1) They support the largest remaining populations in this portion of their range; (2) they are located in relatively close proximity to one another, increasing potential for cross pollination and increased reproductive success; and (3) there is surrounding prairie habitat available for population expansion.

Unit 5 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-5):

Unit KL-5 encompasses approximately 1.7 ac (0.7 ha) of ODOT land in southern Yamhill County and is located south of State Highway 18, east of Ballston Road, and approximately 0.6 mi (1 km) south of the Yamhill River. Although the overall prairie remnant supporting the population is small, the population of *Lupinus sulphureus* ssp. *kincaidii* is relatively large, with over a 1,000 individuals reported to occupy the unit. The prairie habitat within and between KL-5 and KL-6 should be managed to allow for growth and expansion of these small populations. Severns (2003a) indicates that the stepping-stone reserve design recommended for the conservation of Fender's blue butterfly will also benefit *L. sulphureus* ssp. *kincaidii* populations. Increasing the number of lupine patches in close proximity to one another will likely increase the chances for outcrossing pollination, which will increase long-term viability of the metapopulation. Unit KL-5 provides the habitat containing the features essential for the continued persistence of this core population and, together with the habitat included in Unit KL-6, is fundamental to the continued persistence of a functioning metapopulation in this portion of the species' range.

Unit 6 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-6):

Unit KL-6 encompasses approximately 3.5 ac (1.5 ha) of primarily ODOT land in northern Polk County. The *Lupinus sulphureus* ssp. *kincaidii* population occurs in two

patches scattered along the northeast and southwest sides of Highway 22, near the intersection with Mill Creek Road. The Fender's blue butterfly uses the *L. sulphureus* ssp. *kincaiddi* at this site as a primary host plant, and 100 percent of Unit KL-6 is included in Unit FBB-5. Additionally, a small population of *Erigeron decumbens* var. *decumbens* occurs at this site. Hammond (2004) has documented that invasive grasses and shrubs have repressed the *L. sulphureus* ssp. *kincaiddi* and *E. decumbens* var. *decumbens* populations occupying this prairie remnant. There are also the impacts associated with roadside populations described above in the Special Management Considerations or Protections section.

Although Unit KL-6 has limited available prairie habitat directly adjacent to the area currently supporting the species, mowing activities implemented by ODOT in 2000 resulted in an increase of *Lipinus sulphureus* ssp. *kincaiddi* and Fender's blue butterfly. This demonstrates that appropriate management of this site does provide opportunity for population growth and expansion and, ultimately for the survival of this small population. Unit KL-6 provides the habitat containing the features essential for the continued persistence of the core population, and together with Unit KL-5, strengthens this core reserve area and is fundamental to the continued persistence of a functioning metapopulation in this portion of the species' range. It is likely that other populations occur in the near vicinity because the surrounding area is fairly undeveloped and much of this land has never been surveyed for *L. sulphureus* ssp. *kincaiddi*.

Unit 7 of *Lipinus sulphureus* ssp. *kincaiddi* (Unit KL-7):

Unit KL-7 consists of approximately 12.3 ac (5 ha) of private lands in central Polk County. This unit is located near the junction of Highway 223 and Oakdale Avenue, and largely falls within the City of Dallas' urban-growth boundary. The Fender's blue butterfly uses *Lipinus sulphureus* ssp. *kincaiddi* at this site as a primary host plant, and 100 percent of Unit KL-7 is included in Unit FBB-5. This butterfly population was monitored consistently between 1993 and 1997, but not again until May 2004. During the May 2004 field season, we met with the private landowner who owns one of the land parcels currently supporting the population of *L. sulphureus* ssp. *kincaiddi* occurring within this unit boundary. We were able to document the extent of the area supporting the PCEs across the landscape and determined that a

significant portion of the area historically supporting *L. sulphureus* ssp. *kincaiddi* and Fender's blue butterfly populations has been developed into residential lots. Hammond (2004) has documented the removal of several acres of habitat over the last 10 years that had historically supported this population. The landowner we met with in 2004 has entered into a Partners for Fish and Wildlife Agreement (USFWS 2004d) and, in cooperation with Refuge staff, has agreed to manage the portion of Fender's blue butterfly and *L. sulphureus* ssp. *kincaiddi* habitat occurring on his property. This population is threatened by the presence of invasive species and the impacts associated with the encroachment of urban development.

The area identified within the boundaries of KL-7 includes the features essential to the conservation of this core population in this portion of the species' range. Because of the limited availability of supporting prairie habitat, this population will likely need to function with other populations as a larger, viable metapopulation in order for the species to persist over the long term. At this time, we do not have enough information to specifically identify which surrounding areas supporting the PCEs will likely be necessary for the long-term viability of this larger metapopulation. The open areas to the south support roadside prairie remnants that historically had *Lipinus sulphureus* ssp. *kincaiddi* populations that have been extirpated over the last 10 years (Hammond 2004).

Summary of Units 8, 9, and 10 of *Lipinus sulphureus* ssp. *kincaiddi* (Units KL-8, KL-9, and KL-10):

These units each support a *Lipinus sulphureus* ssp. *kincaiddi* population that, collectively, may function as a larger metapopulation. These units are located approximately 3.7 mi (6 km) apart and may, at least occasionally, be cross-pollinated by insects. Active management will likely be necessary to both enhance these populations and identify opportunities to increase pollinator connectivity between units. Each of these units contain the habitat that have the features essential to the conservation of the species because: (1) They each support a relatively large population; and (2) they are located in relatively close proximity to one another, thus increasing potential for cross pollination and increased reproductive success; and (3) there is surrounding prairie habitat available for population expansion. At this time, we do not have enough information to identify additional potential habitat for

population expansion, which may be necessary for these populations to regularly function as a larger metapopulation. Although there are other small, mostly roadside populations recorded within the estimated 5 mi (8 km) pollinator distance, most are highly degraded, presumed extinct, or too small to meet Recovery Reserve criteria, and not expected to contribute towards the long-term persistence; they are therefore not proposed as critical habitat.

Unit 8 of *Lipinus sulphureus* ssp. *kincaiddi* (Unit KL-8):

Unit KL-8 consists of approximately 28.2 ac (11 ha) of private and State lands in Benton County. This unit occurs in McDonald Forest located off Oak Creek Road and supports one of the highest quality remaining prairies. The *Lipinus sulphureus* ssp. *kincaiddi* occupying this unit is the primary host plant of the Fender's blue butterfly; this site is the second largest known Fender's blue butterfly population, and 100 percent of Unit KL-8 is included in Unit FBB-7. Approximately 14 percent of the lands supporting the PCEs within this unit occurs on Oregon State University lands, and the remaining 86 percent occurs on private lands. The patches of *L. sulphureus* ssp. *kincaiddi* occupying Unit KL-8 are scattered across a large contiguous prairie habitat, which is one of few occupied remnants occurring on valley hillsides. Unit KL-8 provides high quality upland prairie habitat, including the short-grass stature necessary to maintain the openness of the habitat. This population is, however, threatened by the encroachment of invasive grasses, particularly *Brachypodium sylvaticum*, and succession to forest, especially in narrow areas of the meadow where tree encroachment could block-off portions of the habitat and reduce connectivity between lupine patches, thus decreasing the potential for successful outcrossing pollination. Although a management plan for this area has not been completed, the unit has been managed for several years to enhance populations of both the Fender's blue butterfly and *L. sulphureus* ssp. *kincaiddi*.

The continued management of these lands is essential to the conservation of this population. The prairie habitat identified in Unit KL-8 has the features essential to the conservation of this species because: (1) It is one of the largest remaining contiguous prairie patches supporting a large population of *Lipinus sulphureus* ssp. *kincaiddi*; and (2) there is surrounding prairie habitat available for population expansion; and (3) this subpopulation substantially

increases the long-term viability of neighboring populations.

Unit 9 of *Lipinus sulphureus* ssp. *kincaidii* (Unit KL-9):

Unit KL-9 encompasses approximately 48 ac (20 ha) of private lands within Benton County. This unit is located in Wren, Oregon, between Kings Valley Highway, Cardwell Hill Road, and Blakesly Creek Road, approximately 2 mi (3.2 km) southwest of Unit KL-8. The Fender's blue butterfly uses the *Lipinus sulphureus* ssp. *kincaidii* scattered across this unit as a primary host plant, and 100 percent of Unit KL-9 is included in Unit FBB-8. The estimated average distance between lupine patches is 0.6 mi (1 km), providing excellent habitat conditions for outcrossing pollination between lupine individuals.

This historic population was first documented in 1937 (Hammond 2004), and new information has recently been identified about the distribution of the larger *Lipinus sulphureus* ssp. *kincaidii* metapopulation supported across this prairie remnant (Hammond 2004). A new patch of *L. sulphureus* ssp. *kincaidii*, also occupied by the Fender's blue butterfly, has been documented within this prairie remnant and is located between the two populations that have been monitored annually (Hammond 2004). The relatively "pristine" (Hammond 2004), large, prairie habitat included within this unit provides the short-grass prairie stature required for expansion of the *L. sulphureus* ssp. *kincaidii* population. The prairie habitat identified in Unit KL-9 has the features essential to the conservation of this species because: (1) It is one of the largest remaining contiguous prairie patches supporting a large population of *L. sulphureus* ssp. *kincaidii*; (2) it provides opportunity for population expansion; and (3) this population substantially increases the long-term viability of neighboring populations.

Unit 10 of *Lipinus sulphureus* ssp. *kincaidii* (Unit KL-10):

Unit KL-10 consists of approximately 18 ac (7 ha) of private lands within Benton County and is located north of Philomath, with the habitat occurring primarily to the south of West Hills Road and to the west of 19th Street. This unit provides the features essential to the *Lipinus sulphureus* ssp. *kincaidii* population that serves as the primary host plant for a large population of Fender's blue butterfly. All of the area within Unit KL-10 is included in Unit FBB-9. The Greenbelt Land Trust recently obtained a conservation easement for the habitat and began managing prairie to enhance the areas

supporting the features essential to the conservation of both the *L. sulphureus* ssp. *kincaidii* and Fender's blue butterfly populations.

Threats to this site include encroachment of invasive species, trees, and shrubs. A small portion of Unit KL-10 is located along West Hills Road and is impacted by roadside maintenance activities. The long-term viability of this unit will depend on active management that maintains the short-grass prairie habitat within this unit and provides opportunity to expand the existing population of *Lipinus sulphureus* ssp. *kincaidii*. The continued management of these lands is essential to the conservation of this population. The prairie habitat identified in Unit KL-10 has the features essential to the conservation of this species because: (1) It is one of the highest quality remaining prairie patches supporting *L. sulphureus* ssp. *kincaidii*; (2) there is surrounding prairie habitat available for population expansion; and (3) this population substantially increases the long-term viability of neighboring populations.

Units 11 and 12 of *Lipinus sulphureus* ssp. *kincaidii* (Units KL-11 and KL-12):

Units KL-11 (KL-11A, 11B, 11C, 11D, and 11E) and KL-12 (KL-12A, 12B, 12C, 12D, and 12E) collectively represent a series of upland habitat patches distributed across West Eugene interspersed with wet prairie habitat patches. This extensive network of wetland and upland prairie does not occur anywhere else in the Willamette Valley. Units KL-12A, 12B and 12C collectively provide a series of stepping-stone habitat patches between the *Lipinus sulphureus* ssp. *kincaidii* populations supported by habitat within KL-12D and KL-12E and those populations occupying Unit KL-11. Increasing the number of lupine patches in close proximity to one another increases the chances for outcrossing pollination, which is required for successful reproduction. Both of these units contain the habitat that have the features essential to the conservation of the species because: (1) They each support the largest remaining *L. sulphureus* ssp. *kincaidii* populations in this portion of their range; (2) they are located in relatively close proximity to one another, thus increasing potential for cross pollination and increased reproductive success; and (3) there is substantial surrounding prairie habitat available for population expansion. Although there are other small, mostly roadside populations recorded within the estimated 5 mi (8 km) pollinator distance, most are highly degraded, presumed extinct, or too small to meet

Recovery Reserve criteria, and therefore not proposed as critical habitat.

Unit 11 of *Lipinus sulphureus* ssp. *kincaidii* (Unit KL-11A, 11B, 11C, 11D, and 11E):

Unit KL-11 encompasses approximately 65 ac (26 ha) of prairie habitat distributed across Federal and private lands in Lane County. This unit is located in west Eugene, near the Fern Ridge Reservoir, just south of Clearlake Road, and on both the east and west sides of Fir Butte Road. The area included in Units KL-11A, 11B, 11C, 11D, and 11E, collectively represent the areas containing the habitat that has the features essential to the conservation of a currently functioning *Lipinus sulphureus* ssp. *kincaidii* metapopulation. The Fender's blue butterfly uses the *L. sulphureus* ssp. *kincaidii* within this unit as a primary host plant and 100 percent of Unit KL-11 is included in Unit FBB-10.

The habitat within Unit KL-11 primarily occurs on Federal land managed by the BLM and Corps, with 12 percent occurring on private land. The *Lipinus sulphureus* ssp. *kincaidii* populations occurring in KL-11A, 11B, 11C, and 11D are scattered across the area and form separate habitat patches that encircle the northeast edge of the Fern Ridge Reservoir. Although the Corps actively manages most of the habitat supporting these populations, they all remain threatened by the presence of invasive grasses, predominantly *Arrhenatherum elatius* (tall oat grass), which limits the overall diversity of the site and the opportunity for population growth (Severns 2004). *Lipinus sulphureus* ssp. *kincaidii* occupying KL-11E is relatively sparsely distributed across the entire subunit, making it difficult to identify separate *L. sulphureus* ssp. *kincaidii* patches. This subunit is severely threatened by the presence of exotic species, primarily *Rubus discolor*. Although Unit KL-11 does not provide the highest quality habitat, it manages to support some of the largest remaining populations of *L. sulphureus* ssp. *kincaidii* in this portion of its range. The habitat included within Unit KL-11 provides the features essential for the continued persistence of this metapopulation and provides the foundation of the Recovery Reserve necessary in this portion of the species' range.

Unit 12 of *Lipinus sulphureus* ssp. *kincaidii* (Units KL-12A, 12B, 12C, 12D, and 12E):

Unit KL-12 encompasses approximately 141 ac (57 ha) of prairie habitat that is distributed across Federal and private lands in Lane County. This unit is in west Eugene and is located

north of Bailey Hill Road and west of Bertelsen Road. This unit primarily occurs on lands owned by TNC and the BLM, with 4 percent occurring on private lands. The area included in KL-12A, 12B, 12C, 12D, and 12E, collectively represent the areas containing the habitat that has the features essential to the conservation of a functioning *Lupinus sulphureus* ssp. *kincaidii* metapopulation. The Fender's blue butterfly uses the *L. sulphureus* ssp. *kincaidii* occupying this unit as a primary host plant, and 100 percent of Unit KL-12 is included in Unit FBB-12. KL-12D and 12E are owned by TNC and support the highest quality upland prairie remaining in this portion of the species' range. *Lupinus sulphureus* ssp. *kincaidii* is scattered across the prairie habitat in KL-12D and 12E and forms four distinct lupine patches that are separated by an estimated maximum distance of 0.3 mi (0.5 km). The habitat is actively managed for *L. sulphureus* ssp. *kincaidii*, and the long-term goal for TNC's lands is to eventually restore all available upland habitat and expand the population size. These units have the habitat containing the features essential to the conservation of this metapopulation because they: (1) Provide the highest quality remaining habitat; (2) support one of the largest remaining populations of *L. sulphureus* ssp. *kincaidii*; and (3) provide habitat necessary for population growth.

Unit KL-12C supports a relatively small population of *Lupinus sulphureus* ssp. *kincaidii* occurring on private land, just north of West 11th Avenue. Unit KL-12B also supports a relatively small population of *L. sulphureus* ssp. *kincaidii* occurring on lands owned and managed by the BLM that are located east of Green Hill Road and north of West 11th Avenue. Unit KL-12A supports another relatively small population of *L. sulphureus* ssp. *kincaidii* occurring on land primarily owned and managed by the BLM and is located east of Green Hill Road and north of West 11th Avenue. Units KL-12A, 12B, and 12C, collectively provide a series of stepping-stone habitat patches between the *L. sulphureus* ssp. *kincaidii* populations owned and managed by TNC and the those populations occupying Unit KL-11.

Unit 13 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-13):

Unit KL-13 encompasses approximately 16 ac (7 ha) of private land in Lane County, and is located north of Powell Road and west of Coyote Creek. The prairie habitat included in this unit supports the southernmost population of *Lupinus sulphureus* ssp. *kincaidii* occurring in

the Willamette Valley. The patches of *L. sulphureus* ssp. *kincaidii* are scattered across the available prairie habitat and include some of the densest plant stands observed (USFWS 2004a, 2004e). Although there are no known occurrences of *L. sulphureus* ssp. *kincaidii* within pollinator distance of this population, it may be the healthiest population of this plant remaining. The habitat is threatened by the presence of invasive species such as *Cytisus scoparius* (Scotch broom), and the landowner manually removes the exotic species in order to maintain the conditions required for *L. sulphureus* ssp. *kincaidii* to persist. Unit KL-13 has the features that are essential to the conservation of the species because: (1) It supports possibly the largest remaining *L. sulphureus* ssp. *kincaidii* population, (2) is surrounded by high quality prairie that provides opportunity for population growth and expansion, and (3) is the southernmost population remaining in the Willamette Valley.

Unit 14 of *Lupinus sulphureus* ssp. *kincaidii* (Units KL-14A and B):

Unit KL-14A encompasses approximately 24 ac (10 ha) of land owned and managed by the BLM within central Douglas County. This unit is located north of the intersection of Myrtle Road and Myrtle Creek Road, and includes habitat on both sides of the roadbanks and road cuts on south-facing slopes. This population of *Lupinus sulphureus* ssp. *kincaidii* uniquely occurs on a fringe of habitat between the roadside and the young, replanted forests, and beyond into a young *Calocedrus decurrens*, *Toxicodendron diversiloba*, and *Ceanothus integerrimus* woodland. The primary threat to this population is forest succession that could encroach and shade out the population. Construction of firebreaks is a secondary threat.

This population has survived recurring fires, and a failed attempt to reforest with *Pseudotsuga menziesii*. *Lupinus sulphureus* ssp. *kincaidii* occurs in several small patches linked by roads and obsolete skid trails. There is an extensive amount of suitable habitat for the population to expand. Additionally, this population is within pollinator distance of KL-14B, increasing the potential for outcrossing pollination and therefore the viability of both of these units.

Unit KL-14B encompasses approximately 3 ac (1.2 ha) of exclusively private land in central Douglas County. This unit is located between North Myrtle Creek and Riser Creek and is approximately 0.93 mi (1.5 km) southeast of Unit KL-14A. This population occurs under a canopy of 25-

to 35-year-old *Pseudotsuga menziesii*, *Arbutus menziesii*, and *Calocedrus decurrens*. Plants in this population represent a unique habitat type because they exist on a fringe of habit between the roadside and the replanted forests, have survived recurring fires, and have co-existed with logging activities. The primary threats to this population are forest succession that could encroach and shade out the population, and, secondarily, construction of firebreaks for fire suppression.

The Douglas County populations of *Lupinus sulphureus* ssp. *kincaidii* occur in different habitat conditions than the Willamette Valley populations. These populations are more shade-tolerant, and overall more adaptable to extreme habitat conditions. It is essential to conserve a species across its range of habitat types in order to reduce the chance of losing disjunct populations that represent adaptation to local environmental conditions and unique genetic variation (Fahrig and Merriam 1994). This unit has the features essential to the conservation of the species because: (1) It supports two of the largest remaining populations in Douglas County; (2) the populations are located within pollinator distance of one another, providing the opportunity for these populations to function as a larger metapopulation; and (3) this is one of the most vigorous remaining *L. sulphureus* ssp. *kincaidii* populations in the southernmost extent of the species' range.

Unit 15 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-15A and 15B):

Unit KL-15 encompasses approximately 10.7 ac (4.4 ha) of federally and privately owned lands in southern Douglas County. KL-15A includes 2.3 ac (0.9 ha) of Federal land; KL-15B encompasses 8.4 ac (3.5 ha) of private land. These units are located west of Stouts Creek, with the *Lupinus sulphureus* ssp. *kincaidii* patches occurring on road banks and road cuts in a hilly area. Plants occur within 100 feet of roads except for one portion that extends to about 1,000 feet from the road along a slight slope. This area was logged prior to 1980, and burned during fires in 1972 and 1988. The primary threat to this site is forest succession; firebreak construction is a secondary threat. This one of the largest populations of healthy plants in Douglas County with evidence of recruitment across Douglas County. Plants in this population exist on a fringe of habitat between the roadside and the replanted forests and have survived recurring fires. The population occurs in several small patches linked by the roads and obsolete skid trails. There is an

extensive amount of suitable habitat for the population to expand. The habitat supporting this relatively large population of *L. sulphureus* ssp. *kincaidii* contains the features essential to the conservation of this species across its range, as it: (1) Supports one of three populations occurring at this southernmost extent of its range; and (2) occurs in the unique Douglas County habitat conditions.

Unit 16 of *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-16A and 16B):

Unit KL-16 encompasses approximately 66 ac (26.7 ha) of federally-owned land managed by the BLM and is located west of Elk Creek, with the edge of an incense cedar treeline in partial shade. KL-16A encompasses 19.2 ac (7.8 ha) includes two lupine patches that occur within 3.4 mi (5.5 km) of two other *Lupinus sulphureus* ssp. *kincaidii* populations (KL-16B) that are in the same meadow system. KL-16B encompasses 46.3 ac (18.8 ha). This system is similar to the habitat conditions supporting the Willamette Valley populations and unlike the other *L. sulphureus* ssp. *kincaidii* occurrences in Douglas County. The unique meadow is on a slight slope with a northwest aspect and is the only *L. sulphureus* ssp. *kincaidii* population that occurs close to a large band of serpentine geology.

The habitat is threatened by cattle grazing and shows evidence of inbreeding depression, is evidently unable to reproduce by seed, and is suspected to be a single clone. The Roseburg office of BLM has been actively managing the population patches by: (1) Monitoring the population for the past four years; (2) establishing fences to prevent cattle from encroaching into *Lupinus sulphureus* ssp. *kincaidii* habitat; and (3) scoping methods for reducing fuels to enhance habitat. This unit contains the habitat that has the features essential to the conservation of *L. sulphureus* ssp. *kincaidii* across its range because it supports one of the three largest remaining populations occurring at the southernmost extent of this species' range.

*Erigeron decumbens* var. *decumbens*

We present brief descriptions of all units, and reasons why they are essential for the conservation of the *Erigeron decumbens* var. *decumbens*, below.

Unit 1 for *Erigeron decumbens* var. *decumbens* (Units WD-1A and 1B):

Units WD-1A and 1B encompasses approximately 41 ac (17 ha) of Federal land occurring in northern Polk County. This unit is located adjacent to Highway

22, approximately 5.6 mi (9 km) northeast of the City of Dallas. There are two distinct populations (1A and 1B) located on the Baskett Slough National Wildlife Refuge, approximately 0.9 mi (1.5 km) apart. Unit 1B is located on Baskett Butte summit and coexists with the largest remaining Fender's blue butterfly populations. The prairie habitat supporting these *Erigeron decumbens* var. *decumbens* populations is currently being managed for the species. Units WD-1A and 1B contain the habitat that has the features essential to the conservation of the species because they support the only remaining viable population of *E. decumbens* var. *decumbens* within Polk County, which represents the northernmost extent of the species' range. Although there are other reported occurrences in the general vicinity, these sites did not meet the minimum patch size for draft recovery criteria, were highly degraded, or were believed to be extirpated sites and, therefore, were not proposed as critical habitat.

Unit 2 for *Erigeron decumbens* var. *decumbens* (Unit WD-2):

Unit WD-2 encompasses approximately 12 ac (5 ha) of private land occurring in southern Marion County. This unit occurs south of SE Triumph Road and east of SE Boedigheimer Road, and supports the largest remaining *Erigeron decumbens* var. *decumbens* population in Marion County. Although this unit is privately owned, the Bonneville Power Administration holds an easement to maintain the powerline right-of-way that bisects the unit. This *E. decumbens* var. *decumbens* population is supported in a relatively large patch of high quality prairie that includes a diverse mix of prairie indicator species. Threats to the site include the presence of invasive species, population isolation including risk of inbreeding depression, and maintenance activities in the powerline right-of-way. Unit WD-2 contains the habitat that has the features essential to the conservation of the species because it supports the only remaining core population in Marion County and it supports a large population in high quality habitat with the opportunity to increase population size and maintain a viable population. Although there are other reported occurrences in the general vicinity, those sites did not meet the minimum patch size for draft recovery criteria, were highly degraded, or were believed to be extirpated sites and, therefore, were not proposed as critical habitat.

Unit 3 for *Erigeron decumbens* var. *decumbens* (Units WD-3A, 3B, and 3C):

Unit WD-3 encompasses approximately 59 ac (24 ha) of private land occurring within northern Linn County. This site is located north of SE Kingston Lyons Drive and on both the east and west sides of Huntly Road, and is primarily owned by TNC. This population of *Erigeron decumbens* var. *decumbens* occurs in a relatively large patch of high quality prairie that supports a diverse mix of prairie indicator species. The *E. decumbens* var. *decumbens* populations are distributed across the prairie remnant in three distinct habitat patches (WD-3A, 3B, and 3C). Threats to this site include the presence of invasive species and population isolation including risk of inbreeding depression. TNC is managing the habitat supporting this population to allow for population expansion and reduce the distance between *E. decumbens* var. *decumbens* plant patches. Unit WD-3 contains the habitat that has the features essential to the conservation of the species: (1) Because it supports the only remaining viable population within all of Linn County; (2) supports a large population in high quality habitat with the opportunity to increase population size and establish a viable population; and (3) represents the easternmost extent of the species' range. Although there are other reported occurrences in the general vicinity, those sites did not meet the minimum patch size for draft recovery criteria, were highly degraded, were roadside without potential for population expansion, or were believed to be extirpated sites and, therefore, were not proposed as critical habitat.

Unit 4 for *Erigeron decumbens* var. *decumbens* (Units WD-4A and 4B):

Unit WD-4 encompasses approximately 9.3 ac (3.7 ha) of private and City of Corvallis (City) land occurring in Benton County. This unit is located north of SW Reservoir Avenue and south of NW Oak Creek Drive. Approximately half of the habitat within this unit is located on City land and half on private land. The habitat supporting this population of *Erigeron decumbens* var. *decumbens* occurs in two distinct habitat patches (WD-4A and 4B) approximately 0.6 mi (1 km) apart. A portion of the *E. decumbens* var. *decumbens* population occupying this unit occurs along a hiking trail located on private land with a City access easement. Threats to this unit include woody encroachment, trail maintenance, and the small size and isolated nature of the population. There are only two other reported occurrences in Benton County: One population in Unit WD-5 and a second population encompassing 300 square ft (28 square

m) within the boundary of the William Finley National Wildlife Refuge.

Although the *Erigeron decumbens* var. *decumbens* population occupying this unit is relatively small, it is one of the largest remaining populations in this portion of the species' range and is supported by a large habitat patch with a moderate diversity of indicator species. Additional habitat will likely be necessary to support other populations in close proximity, to allow these areas to collectively function as a larger metapopulation, and to meet the Recovery Reserve criteria necessary for delisting. At this time, we do not have enough information to identify how much additional habitat may be needed or where population expansion is feasible. Unit WD-4 contains the habitat that has the features essential to the conservation of the species because it supports one of three remaining populations in Benton County and has a moderate size population with enough available habitat to provide for population growth and expansion. This unit supports a core population fundamental to the continued persistence of the species in this portion of its current range.

Unit 5 for *Erigeron decumbens* var. *decumbens* (Unit WD-5):

Unit WD-5 consists of approximately 38.5 ac (15.6 ha) of private land, south of Corvallis, in Benton County. This unit is located along Muddy Creek, just to the west of Cutler Lane. The Greenbelt Land Trust is currently working with the landowner to place a conservation easement on the property, and, in cooperation with the Service, they plan to restore and enhance native habitats within the unit. Unit WD-5 contains the habitat that has the features essential to the conservation of the species because it supports the largest population of *Erigeron decumbens* var. *decumbens* in Benton County, includes substantial habitat for population expansion, and supports the core population fundamental to the continued persistence of the species in this portion of its current range. Although additional habitat will likely be necessary to support other populations that collectively function as a larger metapopulation and to meet the Recovery Reserve criteria necessary for delisting, at this time, we do not have sufficient information to identify how much additional habitat may be needed or where population expansion is feasible.

Summary of Units 6, 7, 8, and 9 for *Erigeron decumbens* var. *decumbens* (Units WD-6, WD-7, WD-8, and WD-9):

Units WD-6, WD-7, WD-8, and WD-9 occur in West Eugene, Oregon, and collectively represent the largest, most-connected, functional network of suitable prairie habitat for *Erigeron decumbens* var. *decumbens*. Units WD-6, WD-7, WD-8, and WD-9 contain the habitat that has the features essential to the conservation of this species because they each support stable populations and, collectively, these units support the only large metapopulation of *E. decumbens* var. *decumbens* across its current range; this network of habitat will need to remain intact to ensure the continued persistence of this species. As described in the unit descriptions for WD-1 through WD-5 above, there are very few extant populations of *E. decumbens* var. *decumbens* documented outside of Eugene. Units WD-1 to WD-5 are essential for the continued persistence of *E. decumbens* var. *decumbens* across its current range due to their limited distribution. It is important to note that in order for core populations occupying Units WD-1 to WD-5 to persist over the long term, each unit should be managed to allow for population expansion and additional habitat will likely be needed.

Since Units WD-6, WD-7, WD-8, and WD-9 support the only large metapopulation of *E. decumbens* var. *decumbens* across its current range the habitat supporting these populations provide the highest probability for long-term persistence of the species. Any reduction of available habitat will create more edge effect, increase habitat fragmentation, reduce outcrossing pollination potential, and further reduce population viability. Units WD-6, WD-7, WD-8, and WD-9 are threatened to varying degrees by the encroachment of invasive species and active management will be necessary to ensure the long-term persistence of this large metapopulation. Additionally, habitat enhancement may be necessary to expand populations across this metapopulation and increase connectivity. Our critical habitat units were designed to select for the largest, highest quality habitat patches with the potential for population growth. Therefore, the units selected for critical habitat in Eugene represent only those areas that meet the Recovery Reserve criteria necessary for delisting. Although there are other reported occurrences of *Erigeron decumbens* var. *decumbens* in the general vicinity, those sites did not meet the minimum patch size for draft recovery criteria, or were highly degraded, and were therefore not included in proposed critical habitat.

Unit 6 for *Erigeron decumbens* var. *decumbens* (Units WD-6A, 6B, 6C, and 6D):

Unit WD-6 encompasses approximately 85 ac (35 ha) of primarily Federal land with an estimated 11 percent occurring on private land. This unit is located in Eugene, along Ken Neilsen Road and West 11th Avenue. The federally owned land includes both BLM and Corps lands. WD-6A supports one of the largest remaining populations of *Erigeron decumbens* var. *decumbens*, occurs on Corps lands, and is located on the northwestern edge of this relatively large metapopulation.

Unit WD-6 contains the habitat that has the features essential to the conservation of this species because it supports a stable population and, collectively with WD-7 to WD-9, these units support the only large metapopulation of *E. decumbens* var. *decumbens* across its current range; this network of habitat will need to remain intact to ensure the continued persistence of this species.

Unit 7 for *Erigeron decumbens* var. *decumbens* (Units WD-7A and WD-7B):

Unit WD-7A consists of approximately 22.5 ac (9 ha) of primarily Federal land with 2 percent occurring on private land. WD-7A is located to the west of Green Hill Road and to the north of West 11th Avenue, and is managed by the Corps. The habitat included within this unit boundary supports a moderately sized *Erigeron decumbens* var. *decumbens* population with habitat available for population expansion.

Subunit WD-7B encompasses approximately 143 ac (58 ha) of primarily Federal land with an estimated 22 percent occurring on private land. This subunit is located near the intersection of Green Hill Road and West 11th Avenue. *Erigeron decumbens* var. *decumbens* is patchily distributed across the subunit with enough supporting habitat to allow for population growth. The *E. decumbens* var. *decumbens* populations supported by WD-7A and 7B are less than 0.6 miles (1 km) from the nearest neighboring daisy population, providing for pollinator connectivity between habitat patches and increasing the potential for successful reproduction.

Unit WD-7 contains the habitat that has the features essential to the conservation of this species because it supports a stable population and, collectively with WD-6, WD-8 and WD-9, these units support the only large metapopulation of *E. decumbens* var. *decumbens* across its current range; this network of habitat will need to

remain intact to ensure the continued persistence of this species.

Unit 8 for *Erigeron decumbens* var. *decumbens* (Units WD-8A, WD-8B, WD-8C, WD-8D, and WD-8E):

Subunits WD-8A and 8B consists of approximately 129 ac (55 ha) of Federal and private lands in West Eugene, Oregon. These subunits are located near the intersection of Willow Creek and West 18th Avenue. An estimated 45 percent of this area occurs on private land with approximately 55 percent occurring on BLM land. The western half of subunit WD-8A includes high quality remaining wet prairie; the eastern portion of the site includes much lower quality habitat. WD-8A is a relatively large remnant prairie and provides excellent opportunity for population growth and expansion. WD-8B is located approximately 0.3 mi (0.5 km) directly east of WD-8A. This habitat patch is located directly north of TNC's land, which is currently being managed for *Erigeron decumbens* var. *decumbens*. The location of these subunits, in close proximity to one another increases the overall quality and viability of this metapopulation.

Subunit WD-8C encompasses approximately 2.5 ac (1 ha) of private land located east of Wallis Street within the City of Eugene. This site supports a relatively small population of *Erigeron decumbens* var. *decumbens* on good quality wet prairie habitat with a diverse species composition. The site is located within 1.5 mi (2.5 km) of WD-9B. This subunit provides habitat for population growth and expansion. The *E. decumbens* var. *decumbens* plants occurring in this unit, Unit WD-6, and Unit WD-7 are all in close proximity to one another, thus increasing the potential for cross pollination between populations and reducing the risk of inbreeding depression. The primary threat to this habitat is that it is surrounded by development, reducing pollinator connectivity to the other populations. However, since this habitat is in close proximity to other populations, this *E. decumbens* var. *decumbens* site has a much higher chance of cross pollination than most remaining isolated populations.

Subunits WD-8D and 8E consist of approximately 79 ac (30 ha) of prairie habitat that is owned by TNC. These subunits are located just south of West 18th Avenue along Willow Creek. These subunits include high quality prairie and support the second largest *Erigeron decumbens* var. *decumbens* population located in Eugene. These subunits provide sufficient habitat to support population growth and expansion, and are located less than 1.2 mi (2 km) from

neighboring *E. decumbens* var. *decumbens* populations. This large, connected, high quality habitat provides one of the core areas contributing towards the long-term conservation of Unit WD-8.

Unit WD-8 contains the habitat that has the features essential to the conservation of this species because it supports a stable population and, collectively with WD-6, WD-7, and WD-9, these units support the only large metapopulation of *E. decumbens* var. *decumbens* across its current range; this network of habitat will need to remain intact to ensure the continued persistence of this species.

Unit 9 for *Erigeron decumbens* var. *decumbens* (Unit WD-9A, WD-9B, WD-9C, WD-9D, and WD-9E):

Subunit WD-9A encompasses an estimated 90 ac (36 ha) of private land and is located approximately 1.2 mi (2 km) east of the intersection of Pine Grove Road and Crow Road. The *Erigeron decumbens* var. *decumbens* population occupying this unit is scattered in a few patches across this large prairie remnant. The habitat included within this unit includes high quality prairie with extensive habitat available to support population growth and expansion. This unit is located approximately 1.2 mi (2 km) north of the closest known *E. decumbens* var. *decumbens* population, increasing the long-term viability of both populations due to increased pollinator accessibility between plant patches.

Subunits WD-9B and 9C consist of approximately 1 ac (0.25 ha) of private land and are located east of Pine Grove Road and south of Crow Road. Although this is a relatively small site, it is located on a high quality prairie remnant that supports a diversity of native composition. The *Erigeron decumbens* var. *decumbens* populations occupying these subunits occur in patches scattered around a stand of oak and *Pinus ponderosa* (ponderosa pine). These subunits are located between WD-9A, WD-9D, and WD-9E, and increase the potential for outcrossing pollination of all Unit WD-9 populations.

Subunits WD-9D and WD-9E encompass approximately 2 ac (0.75 ha) of private land and are located north of Spencer Creek Road and east of Pine Grove Road. These subunits include high quality wet prairie with a highly diverse species composition and support hundreds of *Erigeron decumbens* var. *decumbens* plants. This population occurs at the southernmost extent of the species' range, with Unit WD-9C located approximately 1.9 miles (3 km) to the north.

Unit WD-9 contains the habitat that has the features essential to the conservation of this species because it supports a stable population and, collectively with WD-7 to WD-9, these units support the only large metapopulation of *E. decumbens* var. *decumbens* across its current range; this network of habitat will need to remain intact to ensure the continued persistence of this species.

## Effects of Critical Habitat Designation

### Section 7 Consultation

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

When we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. "Reasonable and prudent alternatives" are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid destruction or adverse modification of 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 critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions



may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Federal activities that may affect the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* or their critical habitat will require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (e.g., Federal Highway Administration or Federal Emergency Management Agency funding), will also continue to be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non Federal and private lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

Each of the areas proposed for designation in this rule have been determined to contain sufficient PCEs to provide for one or more of the life history functions of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, or *Erigeron decumbens* var. *decumbens*. In some cases, the PCEs exist as a result of ongoing federal actions. As a result, ongoing federal actions at the time of designation will be included in the baseline in any consultation conducted subsequent to this designation.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat also may jeopardize the continued existence of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, or *Erigeron decumbens* var. *decumbens*. Federal activities that, when carried out, may adversely affect critical habitat for the Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii*, or *E. decumbens* var. *decumbens* include, but are not limited to:

(1) Actions that would further degrade, or destroy, prairie habitat supporting populations of Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, or *Erigeron decumbens* var. *decumbens*. Such activities could include, but are not limited to, the removal or destruction of prairie habitat by grading, leveling, plowing, mowing, burning, operation of motorized

equipment, herbicide spraying, or intensive grazing. These activities could eliminate or reduce the habitat necessary for Fender's blue butterfly by removing the host plant essential for reproduction and larval feeding, as well as adult nectaring plants. Additionally, removal or destruction of habitat further isolates populations and increases the risk of inbreeding depression. Implementation of these activities in prairie habitat supporting *L. sulphureus* ssp. *kincaidii* or *E. decumbens* var. *decumbens* could directly eliminate individuals and eliminate the potential for essential population growth and expansion in the available "open spaces" of native short-grass prairie habitat.

(2) Actions that further isolate populations of Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, or *Erigeron decumbens* var. *decumbens* from other extant locations within a unit or between subunits. Such activities could include, but are not limited to, the construction or expansion of roads, houses, buildings, or infrastructure that limit dispersal of the Fender's blue butterfly between lupine patches, and limit the dispersal of plant pollinators between *L. sulphureus* ssp. *kincaidii* and *E. decumbens* var. *decumbens* populations. These activities reduce the opportunity for population growth and decrease genetic diversity by limiting normal breeding behaviors.

All critical habitat units are within the geographic ranges of these species, and all were occupied by these species at the time of listing. All units are likely to be used by Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, or *Erigeron decumbens* var. *decumbens* to carry out important life history functions. We consider all of the units included in this proposed designation to be essential to the conservation of the Fender's blue butterfly, *L. sulphureus* ssp. *kincaidii*, or *E. decumbens* var. *decumbens*. When analyzing whether the effects of those actions described above constitute adverse modification or destruction of critical habitat, the Service would determine whether the action precludes the ability of any given unit to provide the PCEs. In considering whether loss of the PCEs contributes to adverse modification, the Service will consider the purpose for which any given unit was determined to be essential and designated as critical habitat. Since all units are deemed essential to conservation of each of these species, the loss of any one unit's ability to provide the PCEs, or to function as it was intended, would likely result in a finding of adverse modification of critical habitat. Federal

agencies already consult with us on activities in areas currently occupied by the species or if the species may be affected by the action to ensure that their actions do not jeopardize the continued existence of the species.

The most direct, and potentially largest regulatory benefit of critical habitat is that federally authorized, funded, or carried out activities require consultation pursuant to section 7 of the Act to ensure that they are not likely to destroy or adversely modify critical habitat. There are two limitations to this regulatory effect. First, it only applies where there is a Federal nexus—if there is no Federal nexus, designation itself does not restrict actions that destroy or adversely modify critical habitat. Second, it only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure those areas that contain the physical and biological features essential to the conservation of the species or unoccupied areas that are essential to the conservation of the species are not eroded. Critical habitat designation alone, however, does not require specific steps toward recovery.

Once consultation under section 7 of the Act is triggered, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect the listed species or its critical habitat. However, if the Service determines through informal consultation that adverse impacts are likely to occur, then formal consultation would be initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat, with separate analyses being made under both the jeopardy and the adverse modification standards. For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not contain any mandatory reasonable and prudent measures or terms and conditions. Mandatory reasonable and prudent alternatives to the proposed Federal action would only be issued when the biological opinion results in a jeopardy or adverse modification conclusion.

We also note that for 30 years prior to the Ninth Circuit Court's decision in *Gifford Pinchot*, the Service equated the jeopardy standard with the standard for destruction or adverse modification of

critical habitat. The Court ruled that the Service could no longer equate the two standards and that adverse modification evaluations require consideration of impacts on the recovery of species. Thus, under the *Gifford Pinchot* decision, critical habitat designations may provide greater benefits to the recovery of a species. However, we believe the conservation achieved through implementing management plans is typically greater than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7 consultations only commit Federal agencies to prevent adverse modification to critical habitat caused by the particular project and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed project. Thus, any management plan which considers enhancement or recovery as the management standard will always provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

If you have questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat, please contact the State Supervisor, Oregon Fish and Wildlife Office (see **ADDRESSES** section). Requests for copies of the regulations on listed wildlife and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Endangered Species Division, 911 NE 11th Ave., Portland, Oregon 97232 (telephone 503/231-6158).

#### *Application of Section 3(5)(A) and 4(a)(3) and Exclusions Under Section 4(b)(2) of the Act*

Section 3(5)(A) of the Act defines critical habitat as the specific areas within the geographic area occupied by the species at the time of listing on which are found those physical and biological features (i) essential to the conservation of the species and (ii) which may require special management considerations or protection. Therefore, areas within the geographic area occupied by the species at the time of listing that do not contain the features essential for the conservation of the species are not, by definition, critical habitat. Similarly, areas within the geographic area occupied by the species

at the time of listing that do not require special management or protection also are not, by definition, critical habitat. To determine whether an area requires special management, we first determine if the essential features located there generally require special management to address applicable threats. If those features do not require special management, or if they do in general but not for the particular area in question because of the existence of an adequate management plan or for some other reason, then the area does not require special management.

We consider a current plan to provide adequate management or protection if it meets three criteria: (1) The plan is complete and provides a conservation benefit to the species (i.e., the plan must maintain or provide for an increase in the species' population, or the enhancement or restoration of its habitat within the area covered by the plan); (2) the plan provides assurances that the conservation management strategies and actions will be implemented (i.e., those responsible for implementing the plan are capable of accomplishing the objectives, and have an implementation schedule or adequate funding for implementing the management plan); and (3) the plan provides assurances that the conservation strategies and measures will be effective (i.e., it identifies biological goals, has provisions for reporting progress, and is of a duration sufficient to implement the plan and achieve the plan's goals and objectives).

Section 318 of the fiscal year 2004 National Defense Authorization Act (Pub. L. 108-136) amended the Endangered Species Act to address the relationship of INRMPs to critical habitat by adding a new section 4(a)(3)(B). This provision prohibits the Service from designating 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 INRMP prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary of the Interior determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

Further, section 4(b)(2) of the Act states that critical habitat shall be designated, and revised, 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. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the

benefits of specifying a particular area as critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species.

In our critical habitat designations, we use both the provisions outlined in sections 3(5)(A) and 4(b)(2) of the Act to evaluate those specific areas proposed for designation as critical habitat. Lands that we may find do not meet the definition of critical habitat under section 3(5)(A) or that we may exclude pursuant to section 4(b)(2) may include those covered by the following types of plans if they provide assurances that the conservation measures they outline will be implemented and effective: (1) Legally operative HCPs that cover the species, (2) draft HCPs that cover the species and have undergone public review and comment (i.e., pending HCPs), (3) Tribal conservation plans that cover the species, (4) State conservation plans that cover the species, and (5) National Wildlife Refuge System Comprehensive Conservation Plans. In addition, after reviewing comments on this proposal, the draft economic analysis and comments on the draft economic analysis (see below), we may exclude areas under either of these sections of the Act that are not proposed for exclusion in these notices.

#### *Oregon National Guard Camp Adair*

The Oregon Military Department (OMD) (i.e., Joint Force Headquarters of the Oregon Army and Air National Guard) completed an INRMP for Camp Adair in September 2001. The INRMP contained a management plan for *Lupinus sulphureus* ssp. *kincaidii* with specific goals to maintain and create a healthy plant population by implementing the following management measures: Avoidance of known plant locations, suppression of invasive species, restoration of native ecosystems, and monitoring on a 3-year schedule. Active management began in 1999 with posting of off-limits signs around the lupine patches. In 2001 and 2002, restoration activities were implemented around lupine patches to control woody vegetation and exotic species. Specific management activities include herbicide applications (broadcast and backpack), hand pulling and machete cutting. The June 2002 monitoring report documents a 34 percent increase in square meters occupied by *L. sulphureus* ssp. *kincaidii*, likely due to the active management that began in 1999. In an electronic correspondence dated June 6, 2005, Camp Adair's Environmental Program Manager indicated that they were proceeding with hiring staff to

complete the scheduled 2005 monitoring. Lands managed by Camp Adair are not included in the proposed critical habitat because an INRMP is in place that provides a framework for managing natural resources for *L. sulphureus* ssp. *kincaidii* and provides a benefit to the species.

#### Economic Analysis

An analysis of the economic impacts of proposing critical habitat for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* is being prepared. 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.fws.gov/pacific/oregonfwo/EndSpp/ESA-Actions/CritHabWillametteValley-05.htm>, or by contacting our Oregon Fish and Wildlife Office directly (see **ADDRESSES**).

#### Peer Review

In accordance with our joint policy 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 such review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We will provide copies of this proposed rule to peer reviewers immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

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

#### Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Requests for public hearings must be made in writing at least 15 days prior to the close of the public comment period (see **DATES**). We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings in the **Federal Register** and local newspapers at least 15 days prior to the first hearing.

#### Clarity of the Rule

Executive Order 12866 requires each agency to write regulations and notices that are easy to understand. We invite comments on how to make this proposed rule easier to understand, including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of the sections, use of headings, paragraphing, and so forth) aid or reduce its clarity? (4) Is the description of the notice in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? (5) What else could we do to make this proposed rule easier to understand?

Send a copy of any comments on how we could make this proposed rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You may e-mail your comments to this address: [Exsec@ios.doi.gov](mailto:Exsec@ios.doi.gov).

#### Required Determinations

##### *Regulatory Planning and Review*

In accordance with Executive Order 12866, this document is a significant rule in that it may raise novel legal and policy issues, but it is not anticipated to have an annual effect on the economy of \$100 million or more or affect the economy in a material way. Due to the tight timeline for publication in the **Federal Register**, the Office of Management and Budget (OMB) has not formally reviewed this rule. We are preparing a draft economic analysis of this proposed action, which will be available for public comment, to determine the economic consequences of designating the specific areas as critical habitat. This economic analysis also will be used to determine compliance with Executive Order 12866, Regulatory Flexibility Act, Small Business Regulatory Enforcement Fairness Act, and Executive Order 12630.

Within these areas, the types of Federal actions or authorized activities that we have identified as potential concerns are listed above in the section on Section 7 Consultation. The availability of the draft economic analysis will be announced in the **Federal Register** and in local newspapers so that it is available for public review and comments. The draft economic analysis can be obtained from our Internet website at <http://www.fws.gov/pacific/oregonfwo/>

*EndSpp/ESA-Actions/CritHabWillametteValley-05.htm* or by contacting our Oregon Fish and Wildlife Office directly (see **ADDRESSES**).

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

Our assessment of economic effect will be completed prior to final rulemaking based upon review of the draft economic analysis prepared pursuant to section 4(b)(2) of the Act and E.O. 12866. This analysis is for the purposes of compliance with the Regulatory Flexibility Act and does not reflect our position on the type of economic analysis required by *New Mexico Cattle Growers Assn. v. U.S. Fish & Wildlife Service* 248 F.3d 1277 (10th Cir. 2001).

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to 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 (i.e., 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 Regulatory Flexibility Act (RFA) to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

At this time, the Service lacks the economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, the RFA finding is deferred until completion of the draft economic analysis prepared pursuant to section 4(b)(2) of the Act and E.O. 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, the Service will publish a notice of availability of the draft economic analysis of the proposed designation and reopen the public comment period for the proposed designation for an additional 60 days. The Service will include with the notice of availability, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination. The Service has

concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that the Service makes a sufficiently informed determination based on adequate economic information and provides the necessary opportunity for public comment.

#### *Executive Order 13211*

On May 18, 2001, the President issued an Executive Order (E.O. 13211) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This proposed rule to designate critical habitat for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* is not a significant regulatory action under Executive Order 12866, and it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

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

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501), the Service makes the following findings:

(a) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)-(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment,

these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that actions they fund, carry out, or permit 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 on to State governments.

Due to current public knowledge of the species' protection, the prohibition against take of the species both within and outside of the designated areas, and the fact that critical habitat provides no incremental restrictions, we do not anticipate that this rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required. We will, however, further evaluate this issue as we conduct our economic analysis and revise this assessment if appropriate.

#### *Federalism*

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with DOI and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Oregon and Washington. The designation of critical habitat in areas

currently occupied by the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* 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 in that the lands containing the features essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

#### *Civil Justice Reform*

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and 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 Endangered Species Act. This proposed rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens*.

#### *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. 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*

It is our position that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the NEPA in connection with designating critical habitat under the Endangered Species Act of 1973, as amended. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This

assertion was upheld in the courts of the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996)).

*Government-to-Government Relationship With Tribes*

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and the Department of 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. We have determined that there are no tribal lands essential for the conservation of the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron*

*decumbens* var. *decumbens*. Therefore, critical habitat for the Fender's blue butterfly, *Lupinus sulphureus* ssp. *kincaidii*, and *Erigeron decumbens* var. *decumbens* has not been designated on Tribal lands.

**References Cited**

A complete list of all references cited in this proposed rule is available upon request from the Oregon Fish and Wildlife Office (see **ADDRESSES** section).

**Author(s)**

The primary author of this package is Mikki Collins, Oregon Fish and Wildlife Office, U.S. Fish and Wildlife Service.

**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. In § 17.11(h), revise the entry for "Butterfly, Fender's blue" under "INSECTS" to read as follows:

**§ 17.11 Endangered and threatened wildlife.**

\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
* * * * *		*	*	*	*		*
INSECTS							
Butterfly, Fender's blue.	<i>Icaricia icarioides fenderi</i> .	U.S.A. (OR) .....	NA .....	E	679	17.95(i)	NA
* * * * *		*	*	*	*		*

3. In § 17.12(h), revise the entry for *Erigeron decumbens* var. *decumbens* (Willamette daisy) and *Lupinus*

*sulphureus* ssp. *kincaidii* (Kincaid's lupine) under "FLOWERING PLANTS" to read as follows:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
* * * * *		*	*	*	*		*
FLOWERING PLANTS							
<i>Erigeron decumbens</i> var. <i>decumbens</i> .	Willamette daisy .....	U.S.A. (OR) .....	Asteraceae—Aster family.	E	679	17.96	NA
<i>Lupinus sulphureus</i> ssp. <i>kincaidii</i> .	Kincaid's lupine .....	U.S.A (OR, WA) .....	Fabaceae—Pea family.	T	679	17.96	NA
* * * * *		*	*	*	*		*

4. In § 17.95(i), add the entry for "Fender's blue butterfly" under "INSECTS" to read as follows:

**§ 17.95 Critical habitat—fish and wildlife.**

\* \* \* \* \*  
(i) *Insects*.  
\* \* \* \* \*

Fender's Blue Butterfly (*Icaricia icarioides fenderi*)

(1) Critical habitat units are depicted for Benton, Lane, Polk, and Yamhill Counties, Oregon, on the maps below.

(2) The primary constituent elements of critical habitat for the Fender's blue butterfly are the habitat components that provide:

(i) Early seral upland prairie, oak savanna habitat with undisturbed subsoils that provides a mosaic of low growing grasses and forbs, and an absence of dense canopy vegetation allowing access to sunlight needed to seek nectar and search for mates;

(ii) Larval host-plants: *Lupinus sulphureus* ssp. *kincaidii*, *L. arbustus*, or *L. albicaulis*;

(iii) Adult nectar sources, such as: *Allium acuminatum* (tapertip onion), *Allium amplexans* (narrowleaf onion), *Calochortus tolmiei* (Tolmie's mariposa lily), *Camassia quamash* (small camas), *Cryptantha intermedia* (clearwater cryptantha), *Eriophyllum lanatum* (wooly sunflower), *Geranium oreganum* (Oregon geranium), *Iris tenax* (toughleaf iris), *Linum angustifolium* (pale flax), *Linum perenne* (blue flax), *Sidalcea campestris* (Meadow checkermallow), *Sidalcea virgata* (rose checker-mallow),

*Vicia cracca* (bird vetch), *V. sativa* (common vetch) and *V. hirsute* (tiny vetch);

(iv) Stepping stone habitat: undeveloped open areas with the physical characteristics appropriate for supporting the short-stature prairie, oak/savanna plant community (well drained soils), within and between natal lupine patches (~1.2 miles (~2 km)), necessary for dispersal, connectivity, population growth, and, ultimately, viability.

(3) Critical habitat does not include humanmade structures existing on the effective date of this rule and not containing one or more of the primary

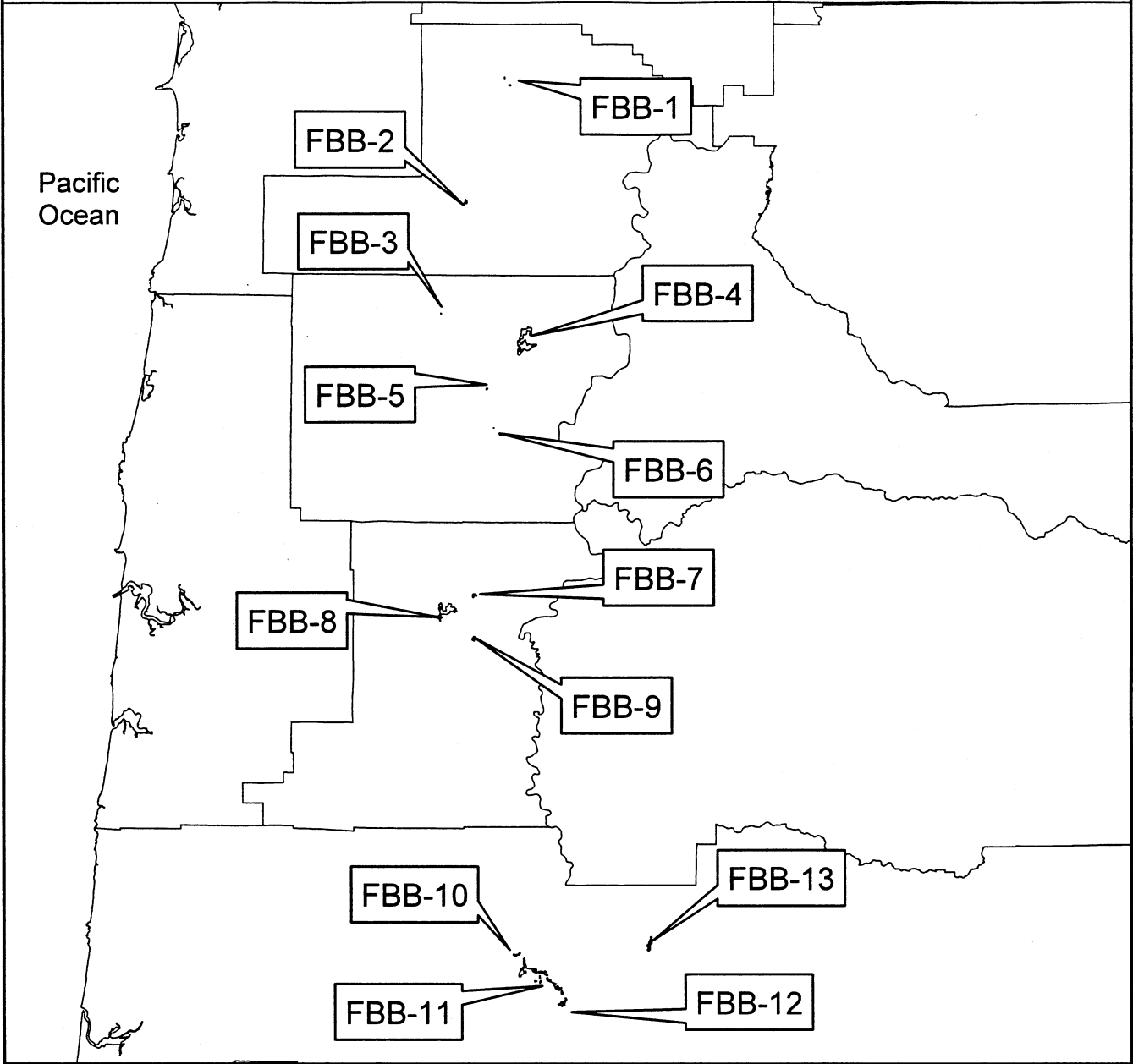
constituent elements, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) Critical habitat units are described below. Data layers defining map units were created using USGS 2000 Digital Ortho Quads 24,000 in projection Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 27.

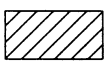
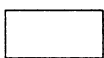
(5) **Note:** Map 1 (Index map for Fender's blue butterfly) follows:

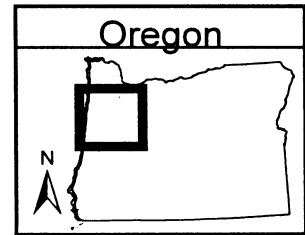
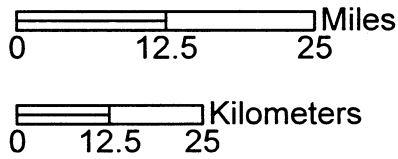
**BILLING CODE 4310-55-U**

Index Map  
Map 1  
Fender's Blue Butterfly (FBB)  
*Icaricia icariodes fenderi*



Legend

-  Proposed Critical Habitat
-  County





(6) Unit 1 for Fender's blue butterfly (FBB-1), Yamhill County, Oregon.

(i) Unit 1A (FBB-1A): 477039,

5022576; 477038, 5022585; 477039, 5022591; 477039, 5022824; 477055, 5022862; 477073, 5022873; 477056, 5022893; 477056, 5022901; 477057, 5022907; 477061, 5022907; 477060, 5022896; 477081, 5022888; 477101, 5022884; 477099, 5022848; 477110, 5022829; 477111, 5022528; 477098, 5022513; 477069, 5022504; 477067, 5022498; 477069, 5022493; 477070, 5022487; 477067, 5022487; 477065, 5022493; 477063, 5022498; 477063, 5022510; 477046, 5022526; 477039, 5022566; 477039, 5022576.

(ii) Unit 1B (FBB-1B): 477695,

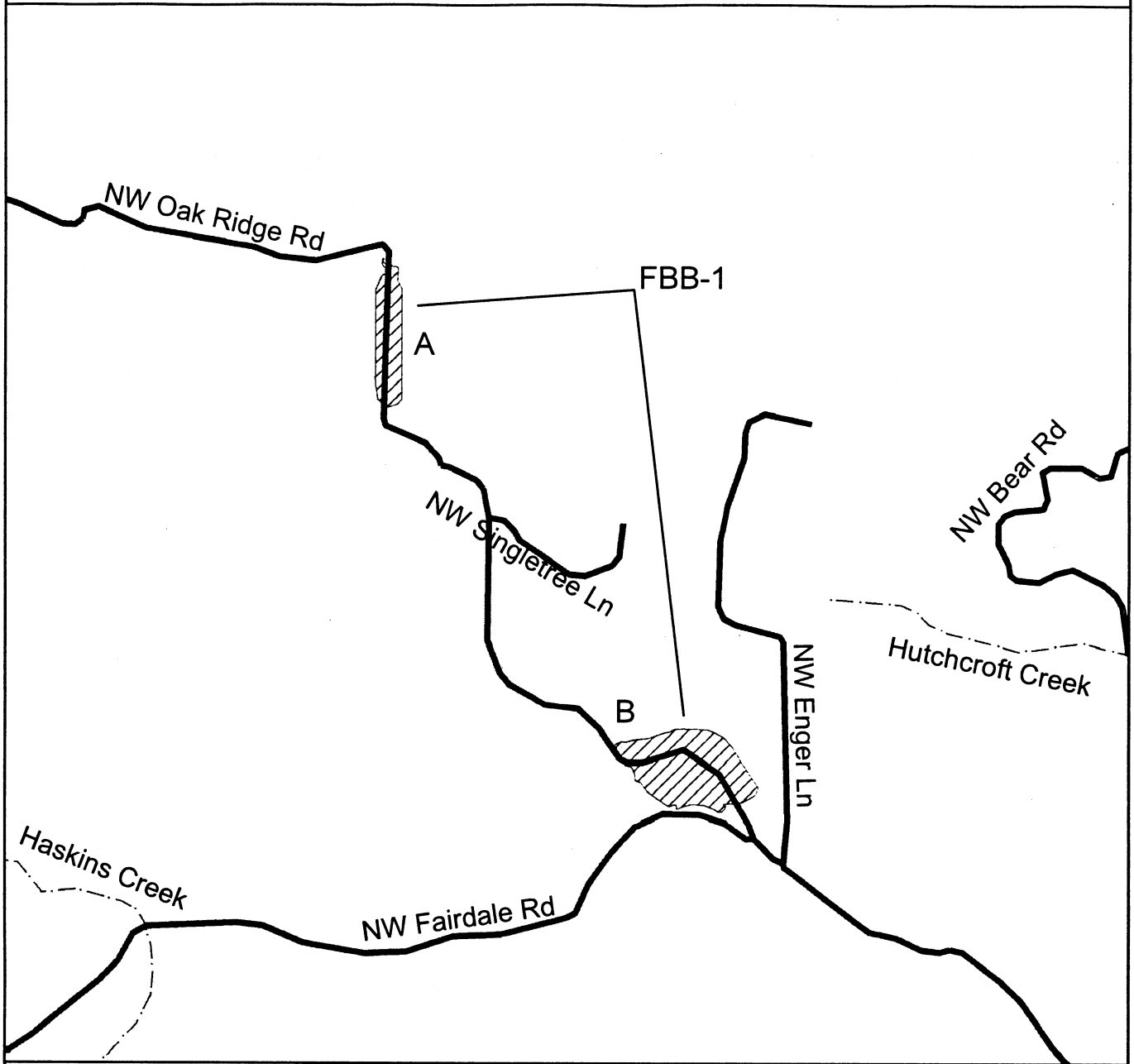
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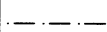

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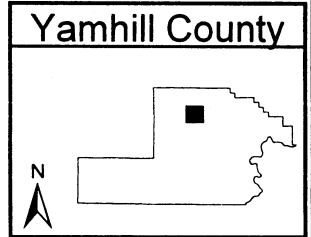
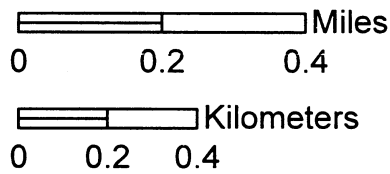
(iii) **Note:** Map 2 of Unit 1 for Fender's blue butterfly (FBB-1) follows:

Map 2, Unit FBB-1  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(7) Unit 2 for Fender's blue butterfly (FBB-2), Yamhill County, Oregon.

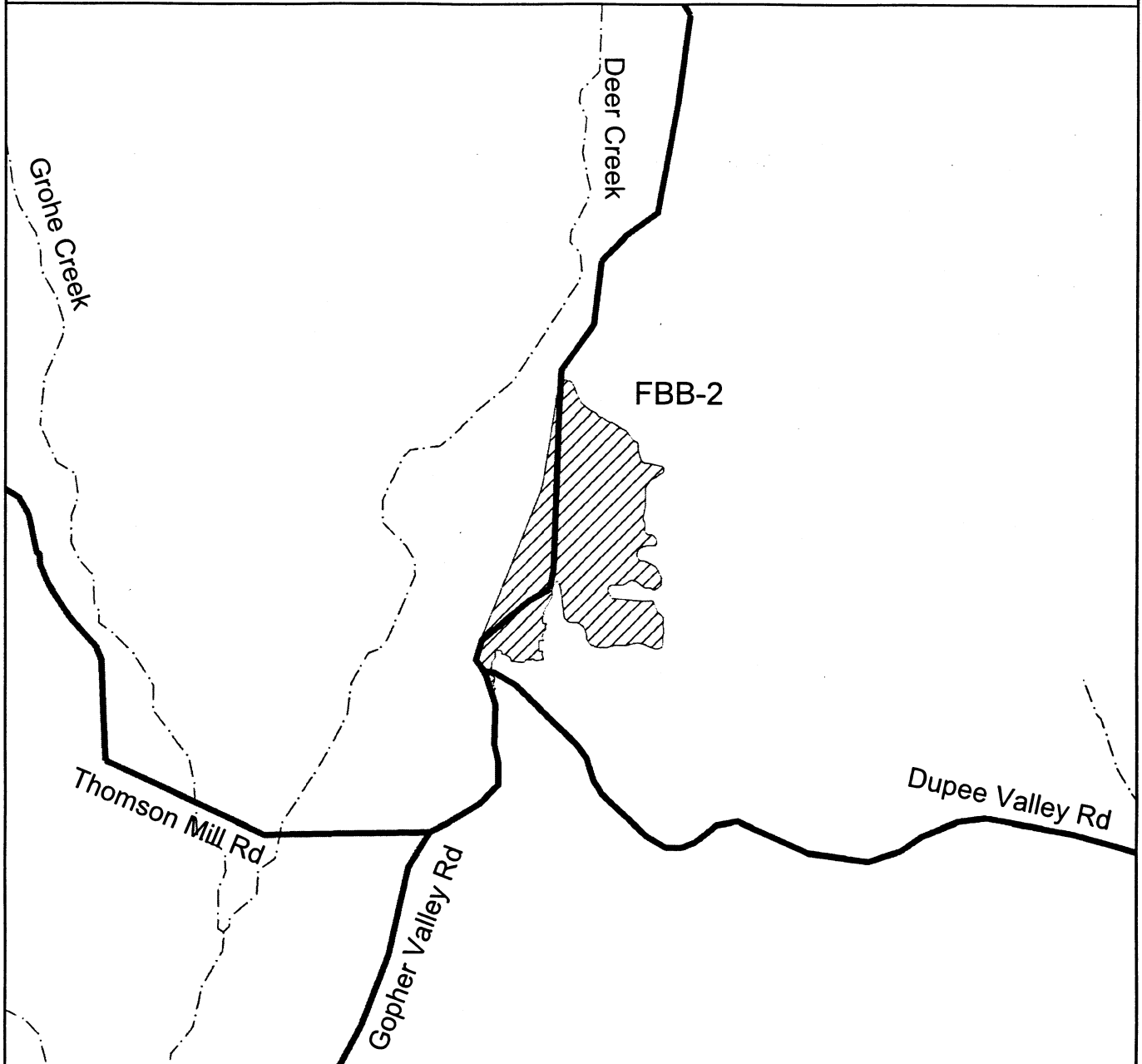
(i) Unit 2 (FBB-2): 470725, 5003387; 470725, 5003399; 470728, 5003400; 470728, 5003406; 470733, 5003407; 470738, 5003441; 470741, 5003444; 470749, 5003447; 470755, 5003446; 470764, 5003444; 470769, 5003441; 470775, 5003430; 470778, 5003422; 470780, 5003416; 470782, 5003411; 470787, 5003400; 470790, 5003393; 470794, 5003387; 470797, 5003383; 470810, 5003372; 470817, 5003367; 470829, 5003362; 470836, 5003356; 470841, 5003352; 470852, 5003349; 470856, 5003345; 470858, 5003343; 470869, 5003337; 470878, 5003335; 470891, 5003328; 470895, 5003325; 470901, 5003320; 470914, 5003313; 470925, 5003301; 470930, 5003295; 470937, 5003286; 470945, 5003282; 470948, 5003277; 470948, 5003271; 470948, 5003260; 470951, 5003247; 470955, 5003235; 470959, 5003231; 470965, 5003226; 470972, 5003226; 470984, 5003224; 470992, 5003223; 471004, 5003220; 471012, 5003218; 471016, 5003215; 471018, 5003209; 471014, 5003202; 471011, 5003200; 471006, 5003198; 470998, 5003191; 470991, 5003187; 470988, 5003186; 470981, 5003180; 470977, 5003176; 470973, 5003168; 470970, 5003165; 470968, 5003159; 470968, 5003151; 470968, 5003132; 470968, 5003123; 470967, 5003109; 470965, 5003099; 470962, 5003090; 470961, 5003075; 470965, 5003070; 470966, 5003065; 470967, 5003055; 470965, 5003048; 470969, 5003041; 470974, 5003036; 470979, 5003036; 470984, 5003035; 470986, 5003035; 470990, 5003032;

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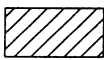


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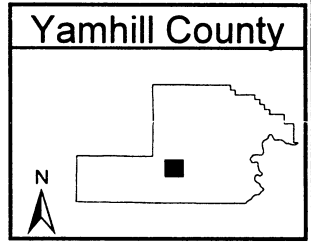
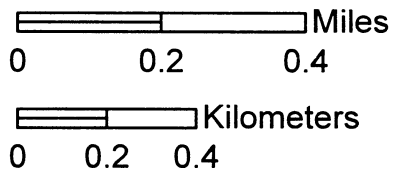
(ii) **Note:** Map 3 of Unit 2 for Fender's blue butterfly (FBB-2) follows:

Map 3, Unit FBB-2  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(8) Unit 3 for Fender's blue butterfly (FBB-3), Polk County, Oregon.

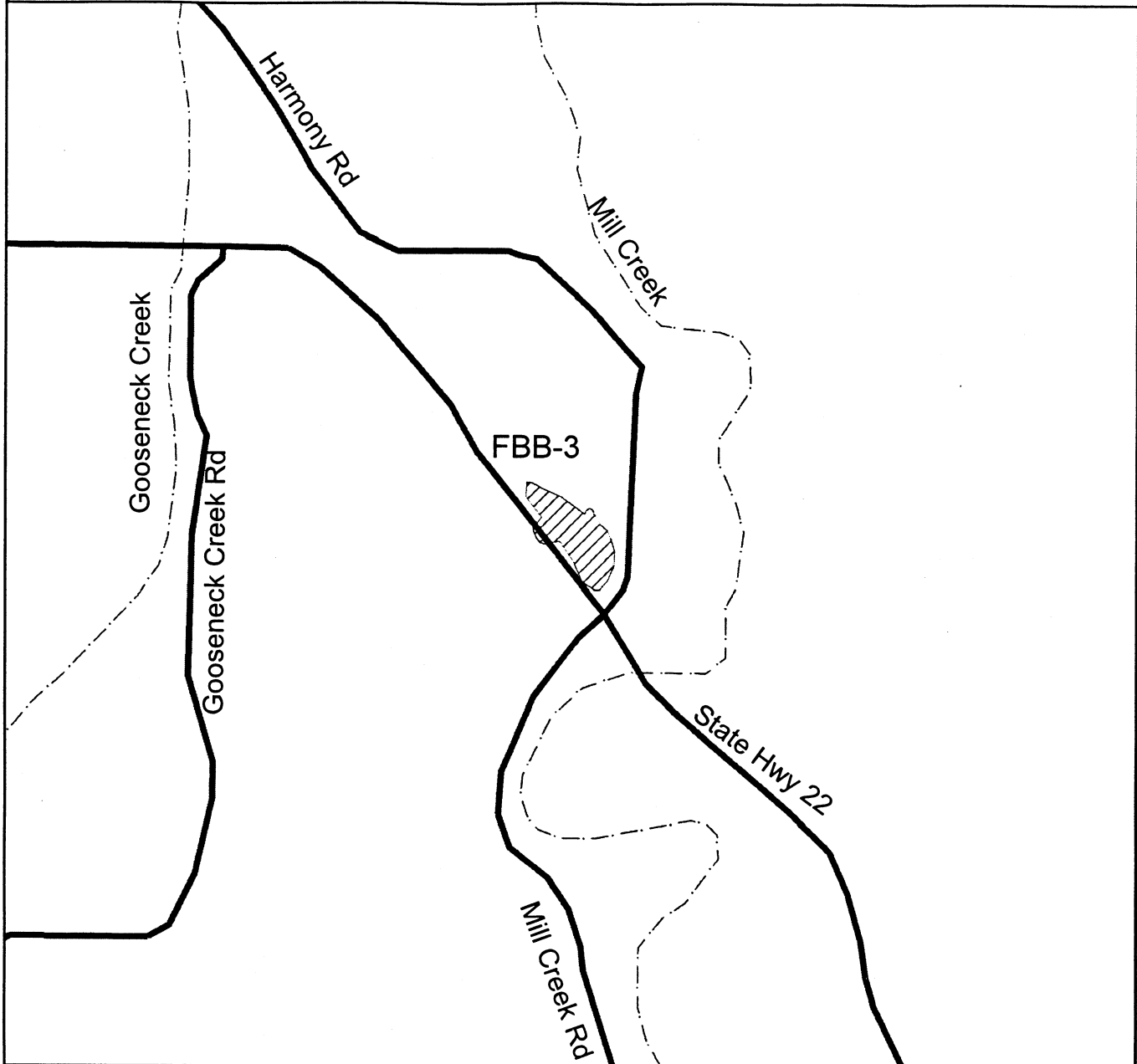
(i) Unit 3 (FBB-3): 466683, 4985320; 466691, 4985320; 466712, 4985309; 466744, 4985295; 466788, 4985264; 466788, 4985266; 466788, 4985267; 466788, 4985268; 466789, 4985269; 466789, 4985270; 466790, 4985271; 466791, 4985272; 466792, 4985273; 466793, 4985273; 466795, 4985273; 466796, 4985274; 466797, 4985273;

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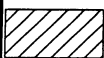
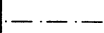

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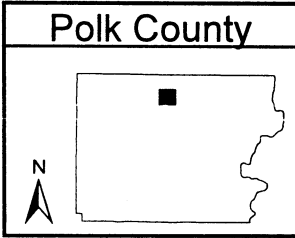
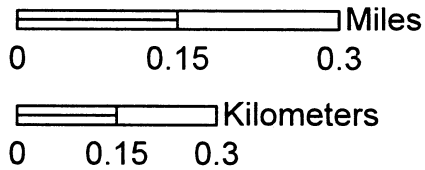
(ii) **Note:** Map 4 of Unit 3 for Fender's blue butterfly (FBB-3) follows:

Map 4, Unit FBB-3  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(9) Unit 4 for Fender's blue butterfly (FBB-4), Polk County, Oregon.

(i) Unit 4A (FBB-4A): 479115, 4978766; 479123, 4978846; 479124, 4978910; 479125, 4978980; 479136, 4979163; 479138, 4979243; 479160, 4979487; 479170, 4979514; 479211, 4979570; 479216, 4979575; 479226, 4979608; 479267, 4979631; 479289, 4979636; 479317, 4979621; 479337, 4979585; 479357, 4979503; 479386, 4979425; 479394, 4979339; 479420, 4979229; 479437, 4979189; 479463, 4979159; 479505, 4979144; 479558, 4979182; 479590, 4979220; 479615, 4979263; 479634, 4979344; 479637, 4979377; 479627, 4979430; 479599, 4979493; 479567, 4979539; 479517, 4979565; 479479, 4979591; 479448, 4979641; 479427, 4979687; 479442, 4979726; 479483, 4979721; 479523, 4979726; 479636, 4979673; 479674, 4979658; 479689, 4979658; 479704, 4979652; 479706, 4979658; 479702, 4979671; 479704, 4979680; 479709, 4979687; 479718, 4979687; 479726, 4979685; 479732, 4979688; 479725, 4979696; 479712, 4979698; 479700, 4979702; 479694, 4979712; 479677, 4979727; 479671, 4979737; 479657, 4979744; 479647, 4979749; 479641, 4979754; 479640, 4979762; 479629, 4979768; 479616, 4979772; 479610, 4979778; 479603, 4979787; 479591, 4979790; 479582, 4979793; 479572, 4979797; 479564, 4979803; 479556, 4979804; 479545, 4979812; 479530, 4979818; 479523, 4979826; 479513, 4979823; 479506, 4979832; 479500, 4979842; 479497, 4979852; 479487, 4979861; 479471, 4979865; 479459, 4979860; 479446, 4979857; 479431, 4979857; 479415, 4979864; 479402, 4979872; 479393, 4979882; 479357, 4979902; 479332, 4979906; 479304, 4979923; 479280, 4979933; 479251, 4979937; 479208, 4979982; 479184, 4980014; 479170, 4980039; 479157, 4980082; 479148, 4980099; 479149, 4980126; 479158, 4980154; 479155, 4980237; 479150, 4980299; 479129, 4980320; 479108, 4980347; 479100, 4980373; 479105, 4980406; 479115, 4980442; 479118, 4980493; 479105, 4980533; 479106, 4980564; 479115, 4980602; 479110, 4980644; 479110, 4980683; 479110, 4980720; 479124, 4980755; 479131, 4980796; 479136, 4980835; 479149, 4980865; 479167, 4980878; 479187, 4980883; 479210, 4980892; 479224, 4980903; 479235, 4980911; 479248, 4980909; 479266, 4980896; 479279, 4980880; 479288, 4980866; 479294, 4980851; 479290, 4980840; 479292, 4980832; 479303, 4980821; 479314, 4980812; 479321, 4980800; 479342, 4980795; 479356, 4980790; 479364, 4980792; 479374,

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(ii) Unit 4B (FBB-4B): 479435, 4980999; 479436, 4981283; 479442, 4981328; 479442, 4981367; 479454, 4981382; 479475, 4981394; 479505, 4981415; 479535, 4981445; 479562, 4981499; 479574, 4981517; 479583, 4981556; 479589, 4981601; 479607, 4981622; 479619, 4981628; 479634, 4981631; 479649, 4981628; 479667, 4981619; 479688, 4981616; 479697, 4981604; 479697, 4981631; 479691, 4981661; 479694, 4981691; 479688, 4981712; 479652, 4981763; 479628, 4981787; 479631, 4981825; 479634, 4982011; 479625, 4982026; 479601, 4982038; 479598, 4982050; 479613, 4982050; 479652, 4982053; 479682, 4982047; 479739, 4982056; 479736, 4982344; 479748, 4982644; 479751, 4982674; 479751, 4982713; 479748, 4982746; 479754, 4982764; 479913, 4982761; 479931, 4982758; 479949, 4982758; 479964, 4982746; 479979,



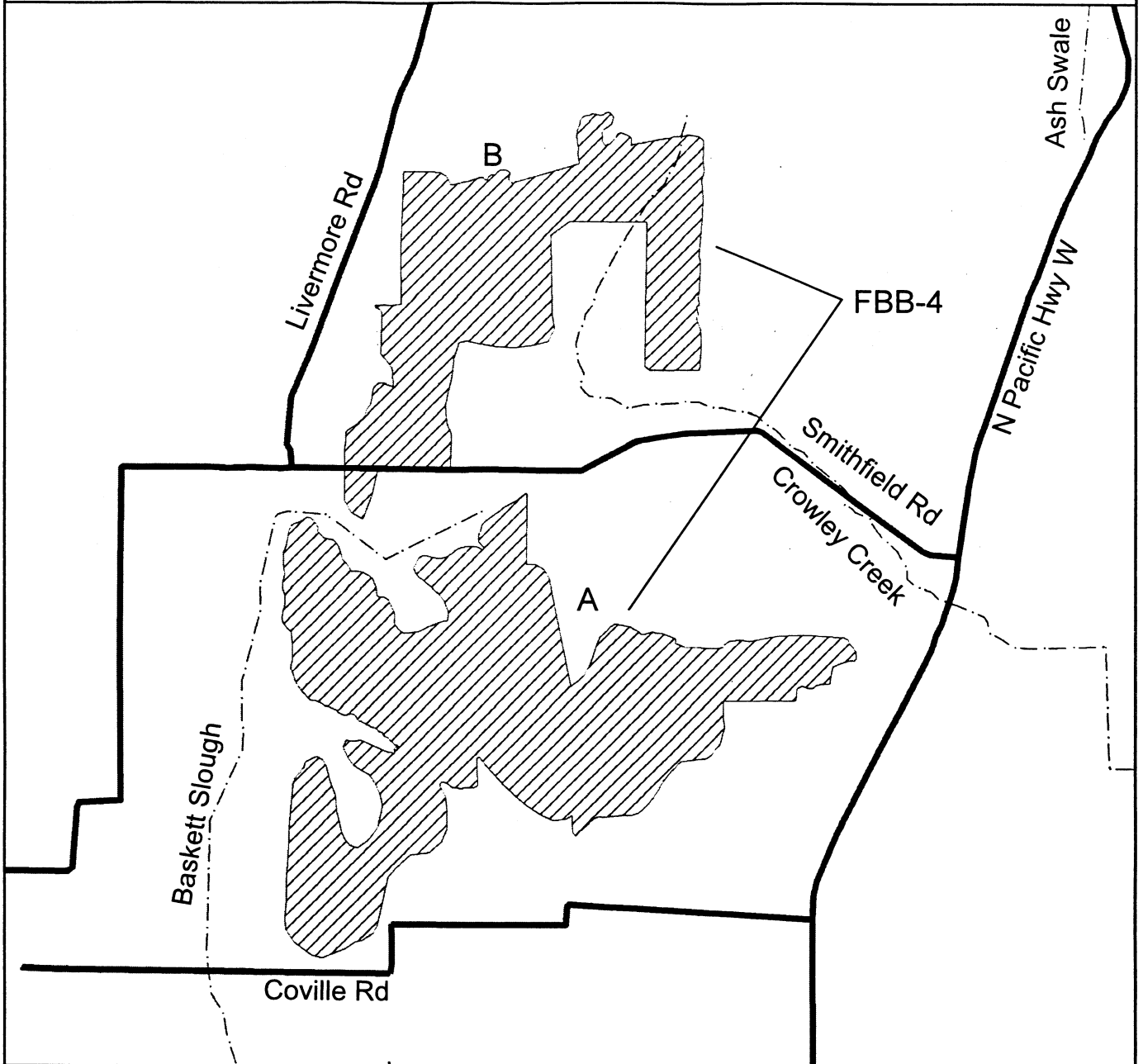
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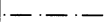

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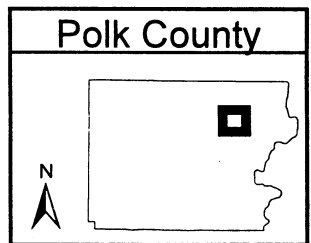
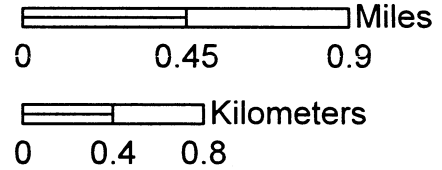
(iii) **Note:** Map 5 of Unit 4 for Fender's blue butterfly (FBB-4) follows:

Map 5, Unit FBB-4  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(10) Unit 5 for Fender's blue butterfly (FBB-5), Polk County, Oregon.

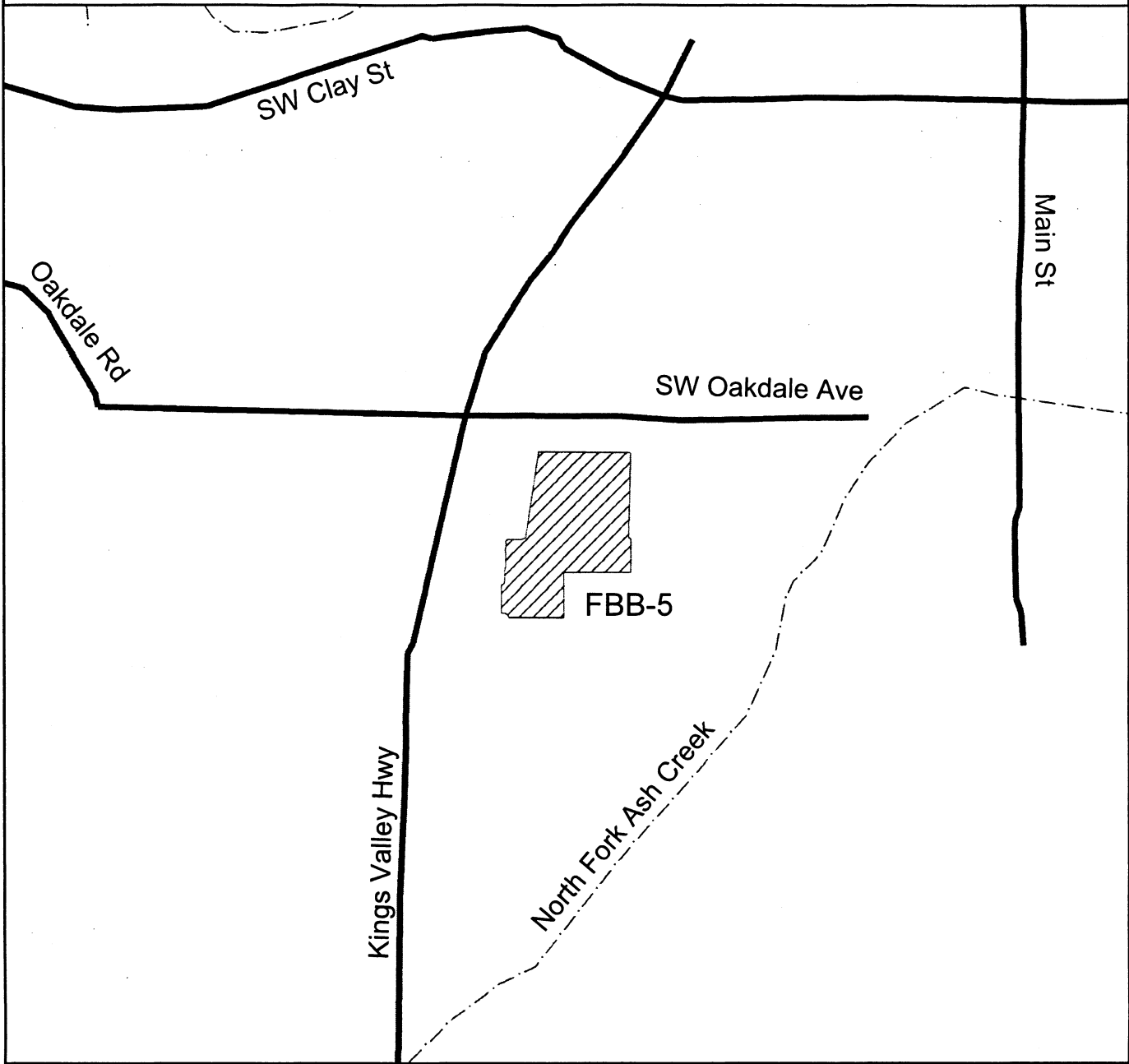
(i) Unit 5 (FBB-5): 474107, 4973322; 474272, 4973321; 474269, 4973168; 474273, 4973168; 474274, 4973107; 474153, 4973107; 474153, 4973026; 474053, 4973026; 474051, 4973029; 474049, 4973032; 474047, 4973034;

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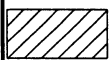
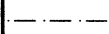

474047, 4973158; 474048, 4973164; 474049, 4973164; 474052, 4973165; 474054, 4973165; 474061, 4973165; 474067, 4973165; 474074, 4973165; 474079, 4973166; 474083, 4973168; 474098, 4973263; 474107, 4973322.

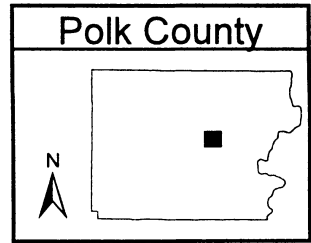
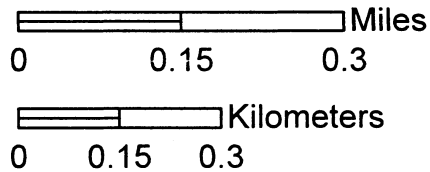
(ii) **Note:** Map 6 of Unit 5 for Fender's blue butterfly (FBB-5) follows:

Map 6, Unit FBB-5  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(11) Unit 6 for Fender's blue butterfly (FBB-6), Polk County, Oregon.

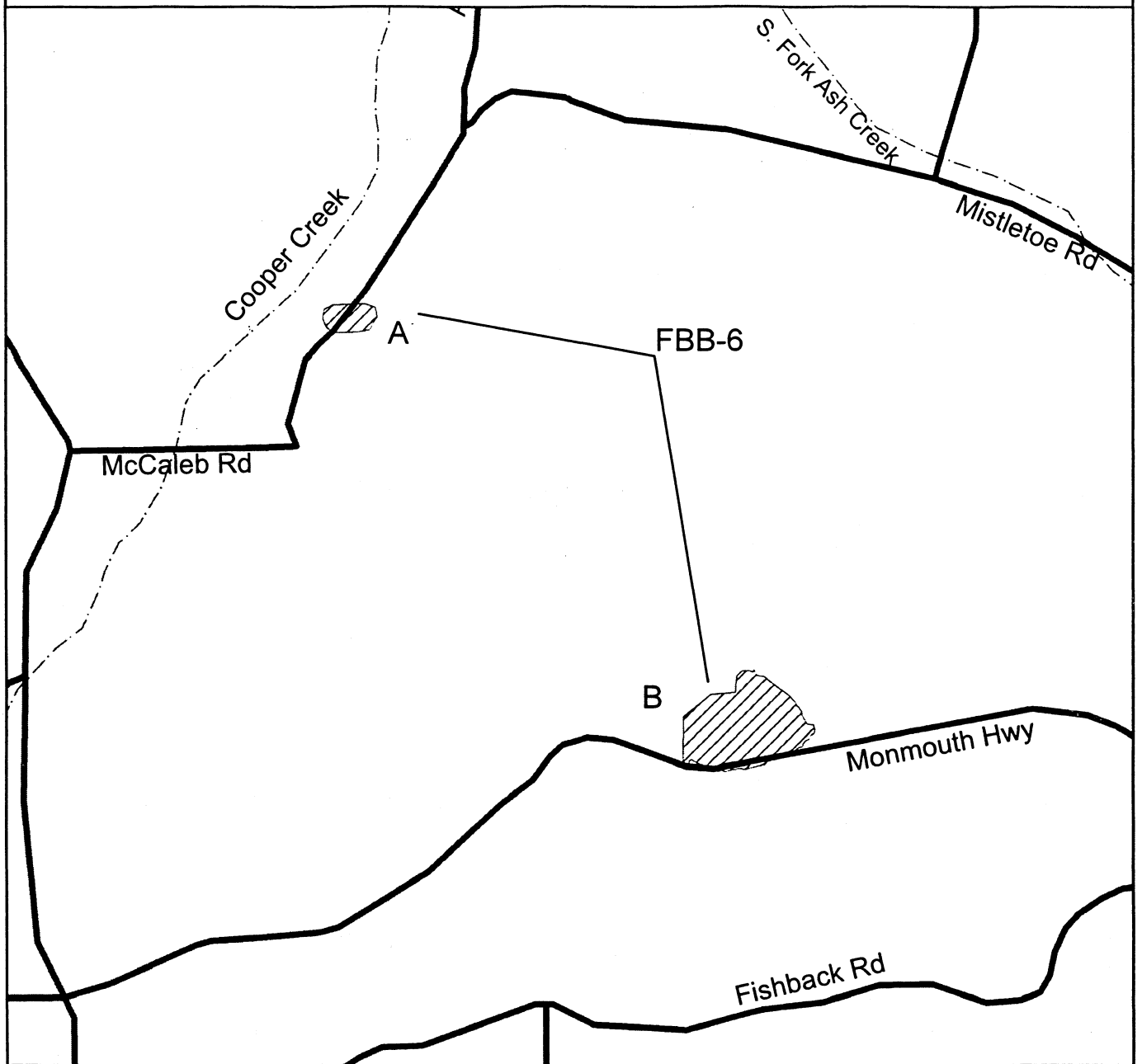
(i) Unit 6A (FBB-6A): 475213, 4966910; 475218, 4966935; 475240, 4966947; 475327, 4966950; 475355, 4966941; 475361, 4966915; 475341, 4966880; 475311, 4966874; 475279, 4966872; 475243, 4966871; 475222, 4966886; 475213, 4966910.

(ii) Unit 6B (FBB-6B): 476186, 4965722; 476188, 4965840; 476262, 4965902; 476327, 4965906; 476329, 965931; 476331, 4965951; 476344, 4965964; 476364, 4965964; 476376, 4965961; 476378, 4965968; 476384, 4965952; 476405, 4965950; 476419, 4965937; 476444, 965919; 476463, 4965906; 476473, 4965897; 476487, 4965882; 476493, 4965872; 476506,

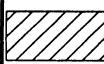
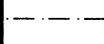

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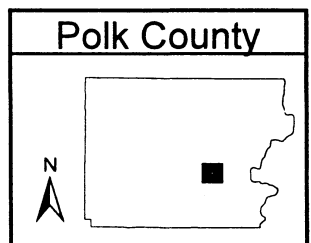
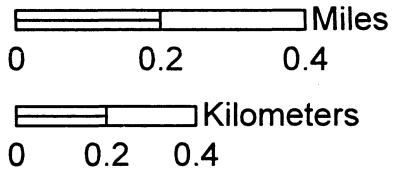
(iii) **Note:** Map 7 of Unit 6 for Fender's blue butterfly (FBB-6) follows:

Map 7, Unit FBB-6  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(12) Units 7, 8, and 9 for Fender's blue butterfly (FBB-7, FBB-8, and FBB-9), Benton County, Oregon.

(i) Unit 7 (FBB-7): 471794, 4940353;

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(ii) Unit 8 (FBB-8): 466211, 4936799;

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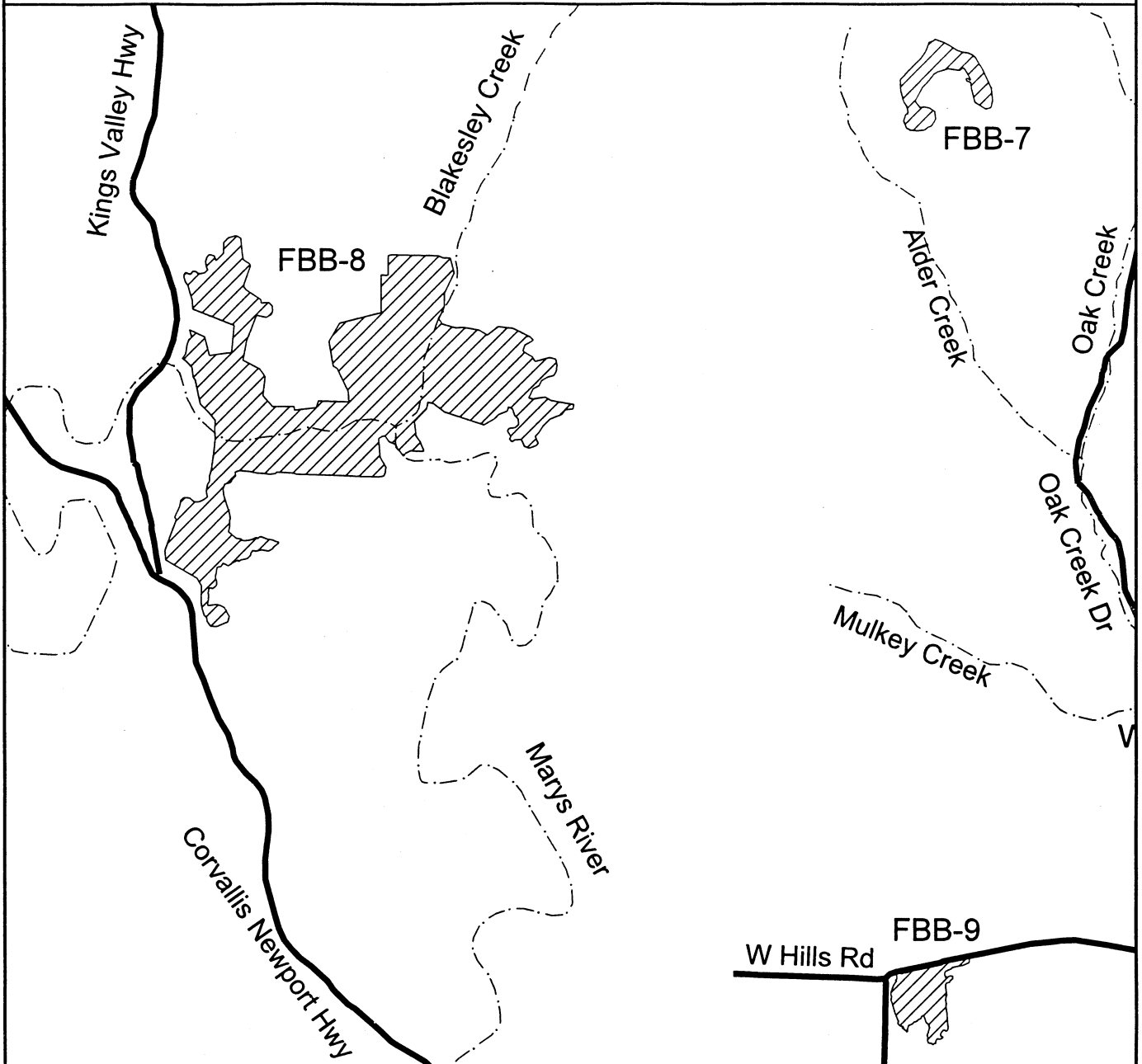
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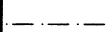

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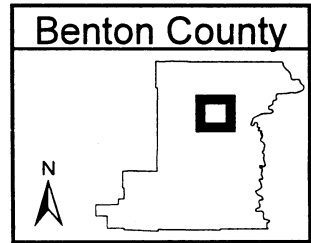
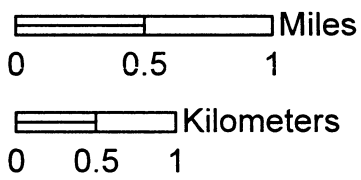
(iv) **Note:** Map 8 of Units 7, 8, and 9 for Fender's blue butterfly (FBB-7, FBB-8, and FBB-9) follows:

Map 8, Units FBB-7, FBB-8, and FBB-9  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(13) Units 10, 11, and 12 for Fender's blue butterfly (FBB-10, FBB-11, and FBB-12) in Lane County, Oregon.

(i) Unit 10A (FBB10A): 478303, 4882985; 478321, 4883013; 478329, 4883031; 478335, 4883047; 478339, 4883067; 478349, 4883089; 478361, 4883104; 478367, 4883118; 478379, 4883126; 478391, 4883133; 478407, 4883134; 478415, 4883127; 478417, 4883114; 478420, 4883108; 478423, 4883095; 478428, 4883084; 478441, 4883074; 478459, 4883069; 478496, 4883065; 478510, 4883065; 478524, 4883065; 478536, 4883063; 478561, 4883057; 478583, 4883055; 478597, 4883053; 478619, 4883045; 478645, 4883029; 478659, 4883027; 478674, 4883027; 478676, 4883027; 478696, 4883033; 478706, 4883039; 478724, 4883031; 478728, 4883021; 478730, 4883011; 478746, 4883005; 478766, 4883009; 478772, 4883015; 478790, 4883005; 478809, 4883015; 478815, 4883037; 478815, 4883053; 478813, 4883069; 478805, 4883097; 478815, 4883107; 478859, 4883108; 478901, 4883104; 478921, 4883108; 479004, 4883110; 479010, 4883102; 479212, 4883102; 479210, 4883128; 479212, 4883156; 479210, 4883190; 479210, 4883218; 479214, 4883247; 479210, 4883265; 479208, 4883283; 479216, 4883313; 479218, 4883337; 479238, 4883339; 479278, 4883339; 479319, 4883343; 479361, 4883343; 479389, 4883341; 479413, 4883341; 479442, 4883333; 479454, 4883325; 479444, 4883317; 479419, 4883305; 479409, 4883299; 479403, 4883279; 479397, 4883259; 479385, 4883239; 479377, 4883216; 479371, 4883204; 479373, 4883192; 479373, 4883176; 479375, 4883162; 479371, 4883148; 479361, 4883128; 479357, 4883120; 479353, 4883108; 479365, 4883104; 479370, 4883105; 479372, 4883103; 479372, 4883083; 479371, 4883075; 479369, 4883061; 479365, 4883041; 479361, 4883025; 479345, 4883003; 479331, 4883007; 479333, 4882993; 479321, 4882977; 479306, 4882968; 479282, 4882968; 479266, 4882970; 479246, 4882973; 479226, 4882971; 479218, 4882977; 479212, 4882991; 479210, 4883009; 479204, 4883015; 479186, 4883017; 479165, 4883013; 479149, 4883013; 479135, 4883013; 479123, 4883007; 479093, 4883009; 479059, 4883003; 479026, 4883001; 479010, 4882997; 479004, 4882995; 479006, 4882987; 479014, 4882981; 479010, 4882970; 478998, 4882966; 478962, 4882964; 478930, 4882968; 478926, 4882977; 478913, 4882973; 478897, 4882962; 478857, 4882952; 478837, 4882954; 478831, 4882962; 478819, 4882982; 478807, 4882981; 478794,

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(ii) Unit 10B (FBB-10 B): 480171, 4882524; 480172, 4882501; 480173, 4882467; 480173, 4882393; 480173, 4882308; 480170, 4882236; 480168, 4882165; 480176, 4882152; 480191, 4882150; 480226, 4882147; 480247, 4882138; 480243, 4882127; 480236, 4882109; 480232, 4882089; 480224, 4882064; 480207, 4882058; 480209, 4882042; 480209, 4882024; 480185, 4882016; 480170, 4882007; 480169, 4881966; 480191, 4881931; 480206, 4881898; 480213, 4881847; 480219, 4881787; 480246, 4881569; 480248, 4881544; 480247, 4881536; 480247, 4881524; 480239, 4881512; 480240, 4881489; 480243, 4881474; 480247, 4881442; 480243, 4881433; 480239, 4881415; 480224, 4881399; 480215, 4881399; 480210, 4881384; 480221, 4881370; 480230, 4881360; 480254, 4881347; 480271, 4881331; 480283, 4881333; 480297, 4881333; 480325, 4881335; 480338, 4881336; 480361, 4881332; 480375, 4881331; 480386, 4881325; 480394, 4881312; 480398, 4881279; 480398, 4881082; 480400,

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(iii) Unit 11A (FBB-11A): 482470, 4879358; 482492, 4879432; 482573, 4879516; 482592, 4879600; 482486, 4879609; 482475, 4879701; 482527, 4879700; 482613, 4879696; 482655, 4879694; 482634, 4879216; 482560, 4879196; 482528, 4879254; 482470, 4879358.

(iv) Unit 11B (FBB-11B): 481791, 4878918; 481901, 4878886; 482130, 4878873; 482101, 4878734; 481898, 4878780; 481827, 4878721; 481792, 4878680; 481750, 4878676; 481734, 4878689; 481740, 4878776; 481743, 4878847; 481771, 4878922; 481791, 4878918.

(v) Unit 11C (FBB-11C): 482595, 4878851; 482687, 4878901; 482911, 4878899; 482883, 4878825; 482792, 4878741; 482744, 4878644; 482654, 4878599; 482625, 4878583; 482637, 4878489; 482654, 4878466; 482492, 4878476; 482492, 4878521; 482544, 4878709; 482595, 4878851.

(vi) Unit 11D (FBB-11D): 483920, 4879021; 483949, 4879004; 483975, 4878976; 483992, 4878953; 484027, 4878883; 484073, 4878855; 484168, 4878820; 484287, 4878766; 484397, 4878720; 484451, 4878701; 484503, 4878680; 484573, 4878636; 484639, 4878590; 484856, 4878596; 484906, 4878565; 484909, 4878412; 485247, 4878417; 485269, 4878317; 485038, 4878264; 484819, 4878269; 484774, 4878240; 484789, 4878221; 484812, 4878191; 484835, 4878177; 484878,

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(vii) Unit 11E (FBB-11E): 484439, 4878986; 484226, 4878988; 484195, 4878996; 484183, 4879004; 484183, 4879189; 484193, 4879197; 484201, 4879199; 484220, 4879148; 484239, 4879099; 484253, 4879070; 484274, 4879053; 484439, 4878986.

(viii) Unit 12A (FBB-12A): 485712, 4875178; 485889, 4875218; 485910, 4875396; 485986, 4875456; 486062, 4875471; 486072, 4875472; 486086, 4875473; 486088, 4875478; 486096, 4875476; 486143, 4875502; 486141, 4875516; 486141, 4875526; 486138, 4875537; 486132, 4875540; 486115, 4875576; 486116, 4875585; 486113, 4875587; 486113, 4875591; 486100, 4875599; 486094, 4875607; 486092, 4875611; 486092, 4875616; 486105, 4875626; 486123, 4875643; 486143, 4875649; 486156, 4875646; 486159, 4875643; 486163, 4875634; 486164, 4875624; 486166, 4875609; 486169, 4875599; 486174, 4875586; 486190, 4875560; 486193, 4875549; 486195, 4875534; 486197, 4875513; 486200, 4875474; 486201, 4875316; 486185, 4874677; 486042, 4874749; 486046, 4875014; 485875, 4875023; 485874, 4875012; 485698, 4875023; 485695, 4875035; 485450, 4875035; 485702, 4875208; 485712, 4875178.

(ix) Unit 12B (FBB-12 B): 486401, 4875024; 486422, 4875028; 486417, 4875033; 486405, 4875292; 486421, 4875508; 486517, 4875652; 486614, 4875792; 486640, 4875821; 486742, 4875825; 486742, 4875951; 486725, 4875983; 486714, 4875983; 486709, 4875984; 486702, 4875993; 486694, 4876021; 486685, 4876033; 486684, 4876035; 486680, 4876031; 486676, 4876028; 486672, 4876025; 486660, 4876020; 486657, 4876018; 486652, 4876018; 486639, 4876025; 486629, 4876029; 486620, 4876034; 486614, 4876044; 486613, 4876052; 486610, 4876058; 486605, 4876068; 486594, 4876067; 486589, 4876066; 486585, 4876068; 486581, 4876078; 486576, 4876086; 486568, 4876093; 486565, 4876102; 486563, 4876110; 486565, 4876115; 486573, 4876118; 486577, 4876118; 486583, 4876115; 486588, 4876113; 486592, 4876119; 486590, 4876128; 486585, 4876137; 486580, 4876144; 486579, 4876147; 486795, 4876145; 486793, 4876121; 486790, 4876107; 486783, 4876064; 486783, 4876051; 486790, 4876034; 486805, 4876021; 486842, 4875993; 486855, 4875977; 486860, 4875962; 486869, 4875946; 486883, 4875908; 486893, 4875878; 486895, 4875857; 486896, 4875826; 486892, 4875791; 486893, 4875754; 486886, 4875756; 486738, 4875751; 486734, 4875744; 486731,

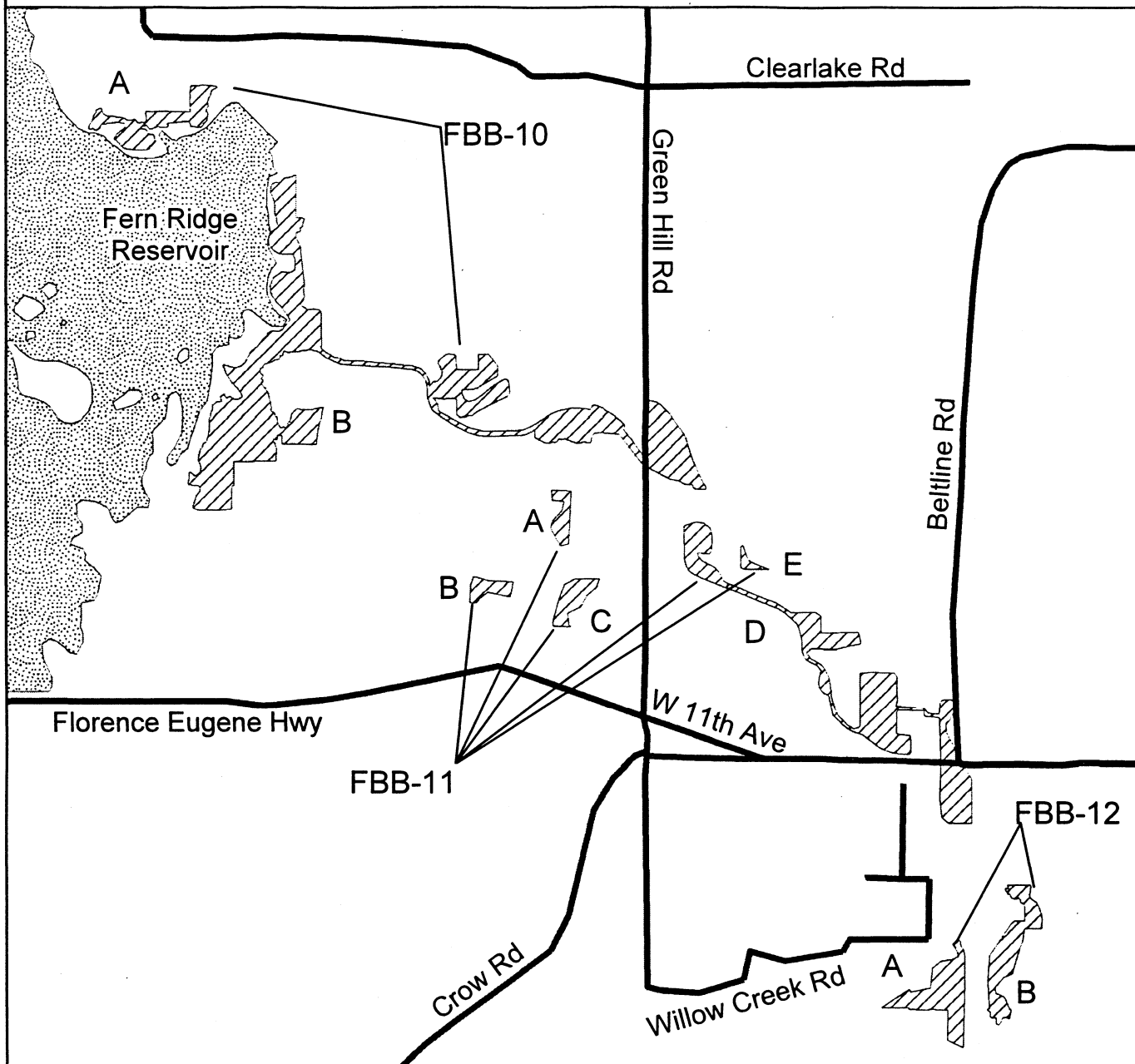
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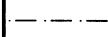

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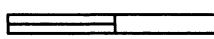
(x) **Note:** Map 9 of Units 10, 11, and  
12 for Fender's blue butterfly (FBB-10,  
FBB-11, and FBB-12) follows:

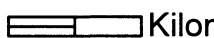
Map 9, Units FBB-10, FBB-11, and FBB-12  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*

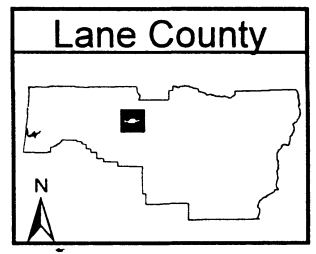


Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads

 Miles  
0 0.5 1

 Kilometers  
0 0.5 1



(14) Unit 13 for Fender's blue butterfly, Lane County, Oregon.

(i) Unit 13 (FBB-13): 500326,

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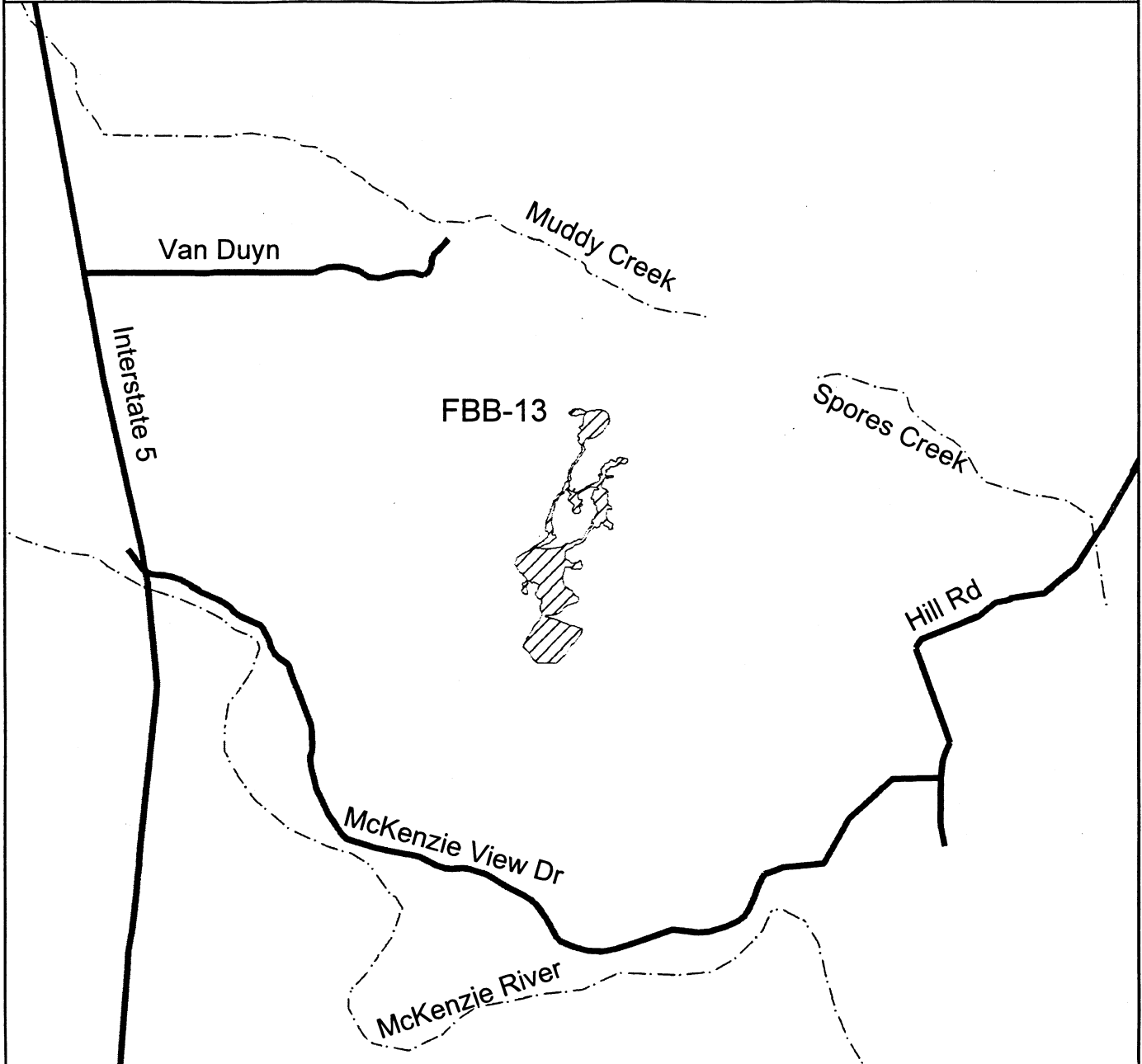
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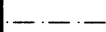

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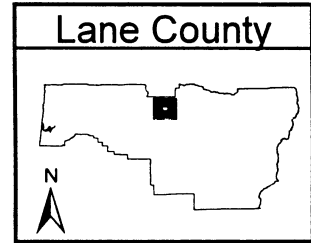
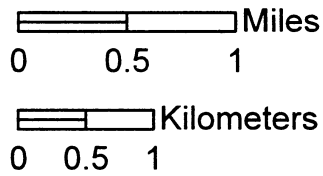
(ii) **Note:** Map 10 for Unit 13 for Fender's blue butterfly (FBB-13) follows:

Map 10, Unit FBB-13  
Fender's blue butterfly (FBB)  
*Icaricia icarioides fenderi*



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



5. In § 17.96(a), add entries for *Erigeron decumbens* var. *decumbens* (Willamette daisy) and *Lupinus sulphureus* ssp. *kincaidii* (Kincaid's lupine) in alphabetical order by family under Asteraceae and Fabaceae, respectively, to read as follows:

**§ 17.96 Critical habitat—plants.**

(a) *Flowering plants.*

\* \* \* \* \*

Family Asteraceae: *Erigeron decumbens* var. *decumbens* (Willamette Daisy)

(1) Critical habitat units are depicted for Benton, Lane, Linn, Marion, Polk Counties, Oregon, on the maps below.

(2) The primary constituent elements of critical habitat for *Erigeron decumbens* var. *decumbens* are the habitat components that provide early seral upland prairie, oak savanna habitat with a mosaic of low growing grasses, forbs, and spaces to establish seedlings or new vegetative growth, with an absence of dense canopy vegetation providing sunlight for individual and population growth and reproduction and with undisturbed subsoils and proper moisture and protection from competitive invasive species.

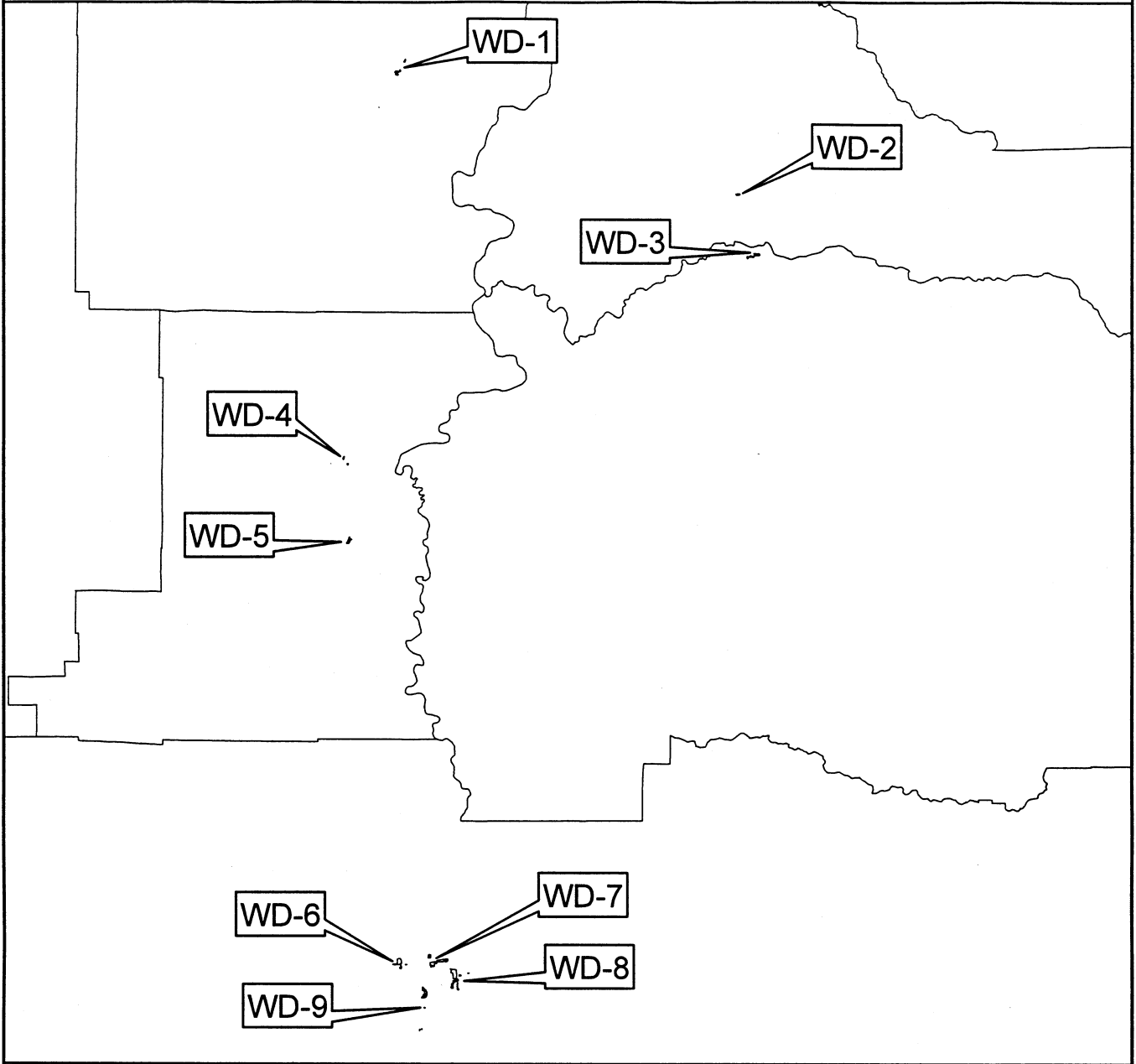
(3) Critical habitat does not include humanmade structures existing on the

effective date of this rule and not containing one or more of the primary constituent elements, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

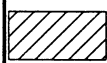
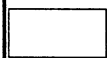
(4) Critical habitat units are described below. Data layers defining map units were created using USGS 2000 Digital Ortho Quads 24,000 in projection Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 27.

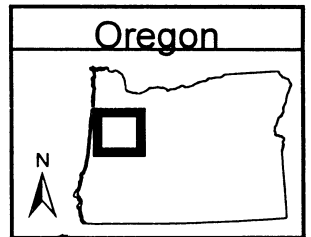
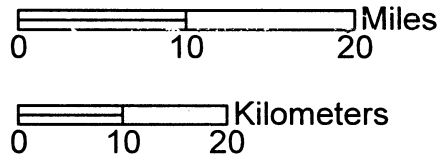
(5) **Note:** Map 1 (Index map for *Erigeron decumbens* var. *decumbens*) follows:

Index Map  
Map 1  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  County



(6) Unit 1 for *Erigeron decumbens* var. *decumbens* (WD-1), Polk County, Oregon.

(i) Unit 1A (WD-1A): 480393, 4980586; 480417, 4980484; 480379, 4980405; 480424, 4980390; 480372, 4980330; 480312, 4980343; 480304, 4980273; 480339, 4980261; 480339, 4980235; 480319, 4980183; 480271, 4980178; 480242, 4980204; 480206, 4980208; 480198, 4980215; 480170, 4980213; 480383, 4980550; 480393, 4980586.

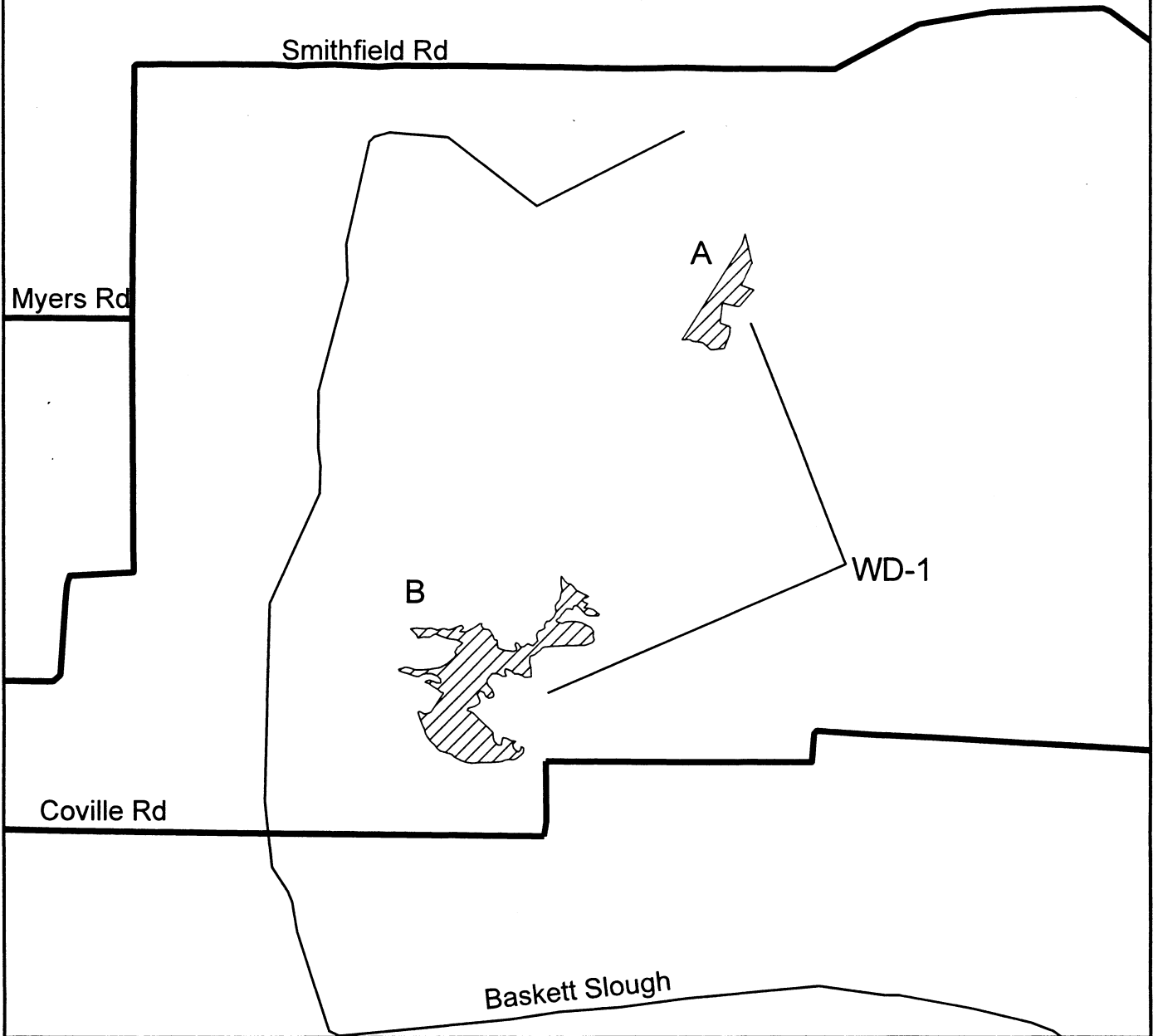
(ii) Unit 1B (WD-1B): 479503, 4978804; 479509, 4978799; 479517, 4978791; 479530, 4978791; 479531, 4978803; 479534, 4978817; 479541, 4978817; 479549, 4978815; 479563, 4978808; 479581, 4978804; 479577, 4978801; 479569, 4978794; 479571, 4978782; 479583, 4978771; 479591, 4978767; 479599, 4978775; 479599, 4978786; 479608, 4978782; 479607, 4978764; 479597, 4978755; 479583, 4978744; 479571, 4978740; 479557, 4978741; 479547, 4978740; 479537, 4978736; 479531, 4978734; 479507, 4978732; 479481, 4978731; 479457, 4978731; 479425, 4978728; 479402, 4978732; 479385, 4978738; 479360, 4978751; 479354, 4978759; 479323, 4978769; 479313, 4978770; 479302, 4978778; 479292, 4978792; 479277, 4978804; 479266, 4978822; 479260, 4978834; 479255, 4978851; 479248, 4978865; 479239, 4978887; 479233, 4978904; 479239, 4978910; 479244, 4978907; 479255, 4978901; 479270, 4978903; 479280, 4978907; 479325, 4978974; 479314, 4978978; 479306, 4978985; 479283, 4978999; 479270, 4979009; 479260, 4979012; 479264, 4979017; 479274, 4979021; 479286, 4979017; 479299, 4979011; 479314, 4979010; 479314, 4979022; 479306, 4979031; 479297, 4979037; 479281, 4979043; 479263, 4979043; 479253, 4979041; 479237, 4979033; 479228,

4979034; 479209, 4979040; 479198, 4979044; 479184, 4979048; 479168, 4979053; 479167, 4979059; 479182, 4979062; 479188, 4979066; 479203, 4979065; 479228, 4979056; 479250, 4979056; 479277, 4979059; 479311, 4979065; 479337, 4979078; 479361, 4979097; 479369, 4979110; 479364, 4979119; 479373, 4979134; 479382, 4979140; 479393, 4979149; 479370, 4979161; 479341, 4979166; 479310, 4979176; 479295, 4979184; 479275, 4979171; 479254, 4979172; 479235, 4979167; 479229, 4979180; 479218, 4979190; 479209, 4979200; 479230, 4979204; 479243, 4979201; 479261, 4979200; 479277, 4979204; 479289, 4979200; 479304, 4979195; 479320, 4979200; 479331, 4979200; 479342, 4979195; 479356, 4979199; 479368, 4979205; 479389, 4979212; 479395, 4979203; 479381, 4979190; 479404, 4979188; 479427, 4979200; 479443, 4979210; 479453, 4979218; 479462, 4979218; 479458, 4979211; 479467, 4979200; 479475, 4979198; 479482, 4979198; 479490, 4979191; 479499, 4979179; 479501, 4979169; 479506, 4979161; 479514, 4979160; 479517, 4979134; 479531, 4979128; 479544, 4979124; 479574, 4979121; 479583, 4979125; 479584, 4979130; 479578, 4979144; 479582, 4979153; 479591, 4979146; 479597, 4979136; 479610, 4979137; 479624, 4979148; 479633, 4979143; 479643, 4979140; 479653, 4979151; 479659, 4979156; 479656, 4979168; 479654, 4979180; 479662, 4979192; 479673, 4979195; 479684, 4979201; 479683, 4979213; 479691, 4979228; 479702, 4979226; 479714, 4979238; 479721, 4979251; 479723, 4979260; 479722, 4979270; 479721, 4979281; 479728, 4979291; 479737, 4979301; 479740, 4979320; 479745, 4979336; 479741, 4979358; 479741, 4979377; 479744, 4979386; 479757,




4979367; 479765, 4979358; 479775, 4979358; 479788, 4979347; 479796, 4979335; 479809, 4979329; 479830, 4979318; 479840, 4979313; 479817, 4979304; 479821, 4979295; 479838, 4979287; 479823, 4979273; 479839, 4979273; 479854, 4979268; 479870, 4979256; 479878, 4979250; 479874, 4979244; 479841, 4979247; 479829, 4979250; 479823, 4979256; 479808, 4979274; 479797, 4979282; 479786, 4979280; 479782, 4979267; 479773, 4979270; 479761, 4979270; 479751, 4979259; 479744, 4979249; 479737, 4979239; 479723, 4979230; 479727, 4979224; 479746, 4979218; 479758, 4979224; 479778, 4979226; 479790, 4979226; 479814, 4979222; 479826, 4979216; 479847, 4979205; 479857, 4979192; 479855, 4979172; 479859, 4979160; 479853, 4979153; 479827, 4979142; 479769, 4979141; 479708, 4979138; 479679, 4979136; 479673, 4979131; 479669, 4979125; 479658, 4979117; 479649, 4979110; 479632, 4979104; 479629, 4979085; 479634, 4979063; 479635, 4979041; 479637, 4979031; 479612, 4979030; 479602, 4979037; 479587, 4979043; 479577, 4979041; 479563, 4979053; 479545, 4979061; 479541, 4979049; 479547, 4979034; 479533, 4979034; 479518, 4979042; 479497, 4979043; 479486, 4979029; 479480, 4979021; 479478, 4979011; 479483, 4978999; 479496, 4978986; 479503, 4978968; 479500, 4978960; 479487, 4978955; 479476, 4978961; 479469, 4978975; 479453, 4978983; 479444, 4978970; 479453, 4978947; 479451, 4978937; 479434, 4978927; 479412, 4978921; 479408, 4978912; 479424, 4978908; 479430, 4978904; 479499, 4978836; 479500, 4978819; 479503, 4978804.

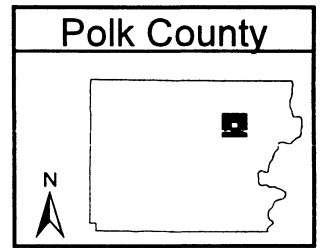
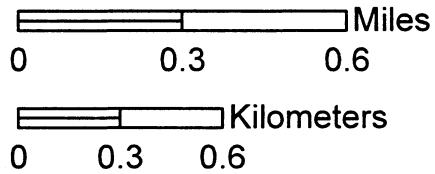
(iii) **Note:** Map 2 of Unit 1 for *Erigeron decumbens* var. *decumbens* (WD-1) follows:

Map 2, Unit WD-1  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(7) Unit 2 for *Erigeron decumbens* var. *decumbens*, Marion County, Oregon.

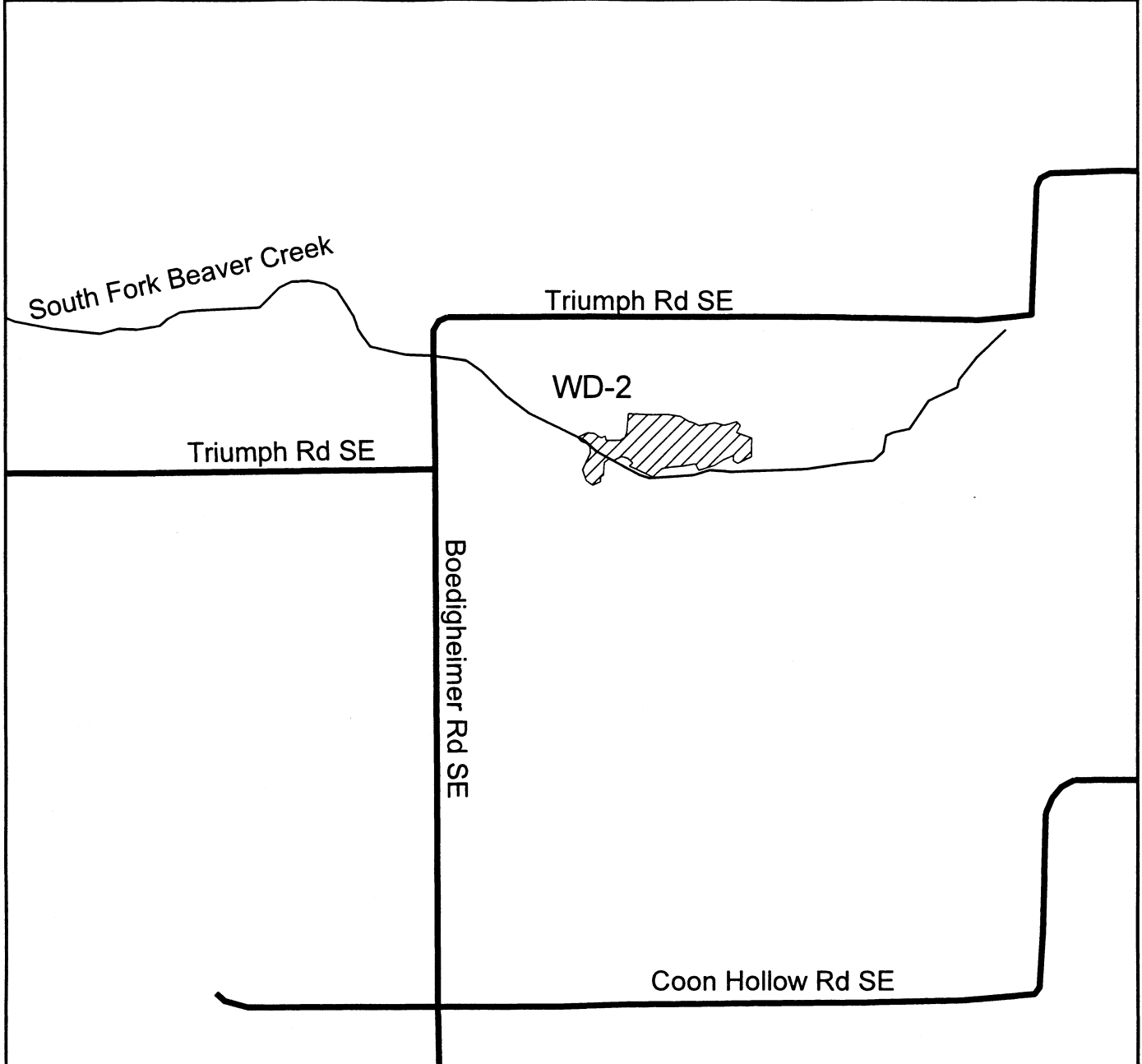
(i) Unit 2: 518439, 4965420; 518478, 4965420; 518509, 4965415; 518530, 4965402; 518545, 4965398; 518558, 4965390; 518602, 4965398; 518627, 4965391; 518660, 4965400; 518669, 4965390; 518659, 4965371; 518700, 4965357; 518698, 4965306; 518661, 4965289; 518650, 4965297; 518651, 4965310; 518626, 4965300; 518601,

4965284; 518558, 4965272; 518549, 4965289; 518516, 4965282; 518489, 4965281; 518460, 4965276; 518435, 4965253; 518373, 4965282; 518382, 4965290; 518368, 4965304; 518352, 4965308; 518331, 4965298; 518319, 4965302; 518305, 4965291; 518303, 4965258; 518295, 4965254; 518295, 4965241; 518274, 4965231; 518256, 4965244; 518247, 4965272; 518269, 4965319; 518267, 4965322; 518267,

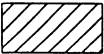


4965333; 518256, 4965344; 518243, 4965349; 518233, 4965359; 518260, 4965371; 518278, 4965370; 518297, 4965357; 518308, 4965363; 518310, 4965351; 518348, 4965351; 518361, 4965359; 518366, 4965371; 518371, 4965422; 518439, 4965420.

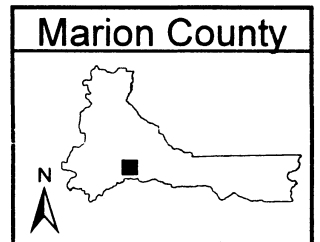
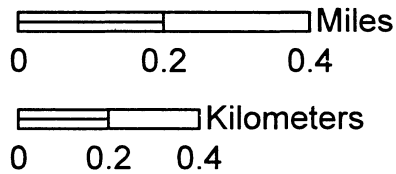
(ii) **Note:** Map 3 of Unit 2 for *Erigeron decumbens* var. *decumbens* (WD-2) follows:

Map 3, Unit WD-2  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads





(8) Unit 3 for *Erigeron decumbens* var. *decumbens* (WD-3), Linn County, Oregon.

(i) Unit 3A (WD-3A): 519562, 4958125; 519579, 4958147; 519602, 4958149; 519617, 4958146; 519628, 4958137; 519635, 4958121; 519641, 4958109; 519650, 4958098; 519654, 4958084; 519648, 4958076; 519642, 4958065; 519642, 4958062; 519642, 4958055; 519638, 4958051; 519619, 4958047; 519607, 4958045; 519595, 4958045; 519544, 4958039; 519519, 4958037; 519512, 4958035; 519508, 4958037; 519506, 4958122; 519505, 4958128; 519503, 4958137; 519501, 4958144; 519498, 4958156; 519497, 4958164; 519494, 4958183; 519496, 4958201; 519497, 4958210; 519501, 4958218; 519505, 4958227; 519506, 4958233; 519505, 4958243; 519505, 4958245; 519501, 4958249; 519497, 4958260; 519496, 4958267; 519497, 4958272; 519498, 4958284; 519499, 4958288; 519504, 4958298; 519512, 4958303; 519528, 4958309; 519539, 4958314; 519545, 4958316; 519555, 4958320; 519563, 4958319; 519574, 4958319; 519585, 4958317; 519589, 4958311; 519592, 4958298; 519593, 4958286; 519592, 4958277; 519590, 4958266; 519587, 4958257; 519583, 4958253; 519578, 4958248; 519566, 4958245; 519557, 4958238; 519549, 4958230; 519541, 4958214; 519536, 4958205; 519532, 4958187; 519532, 4958176; 519532, 4958162; 519532, 4958156; 519532, 4958152; 519535, 4958141; 519547, 4958132; 519549, 4958129; 519551, 4958122; 519562, 4958125.

(ii) Unit 3B (WD-3B): 519791, 4958229; 519783, 4958238; 519773, 4958248; 519762, 4958256; 519747, 4958275; 519741, 4958287; 519735, 4958308; 519737, 4958317; 519751, 4958323; 519775, 4958323; 519793,

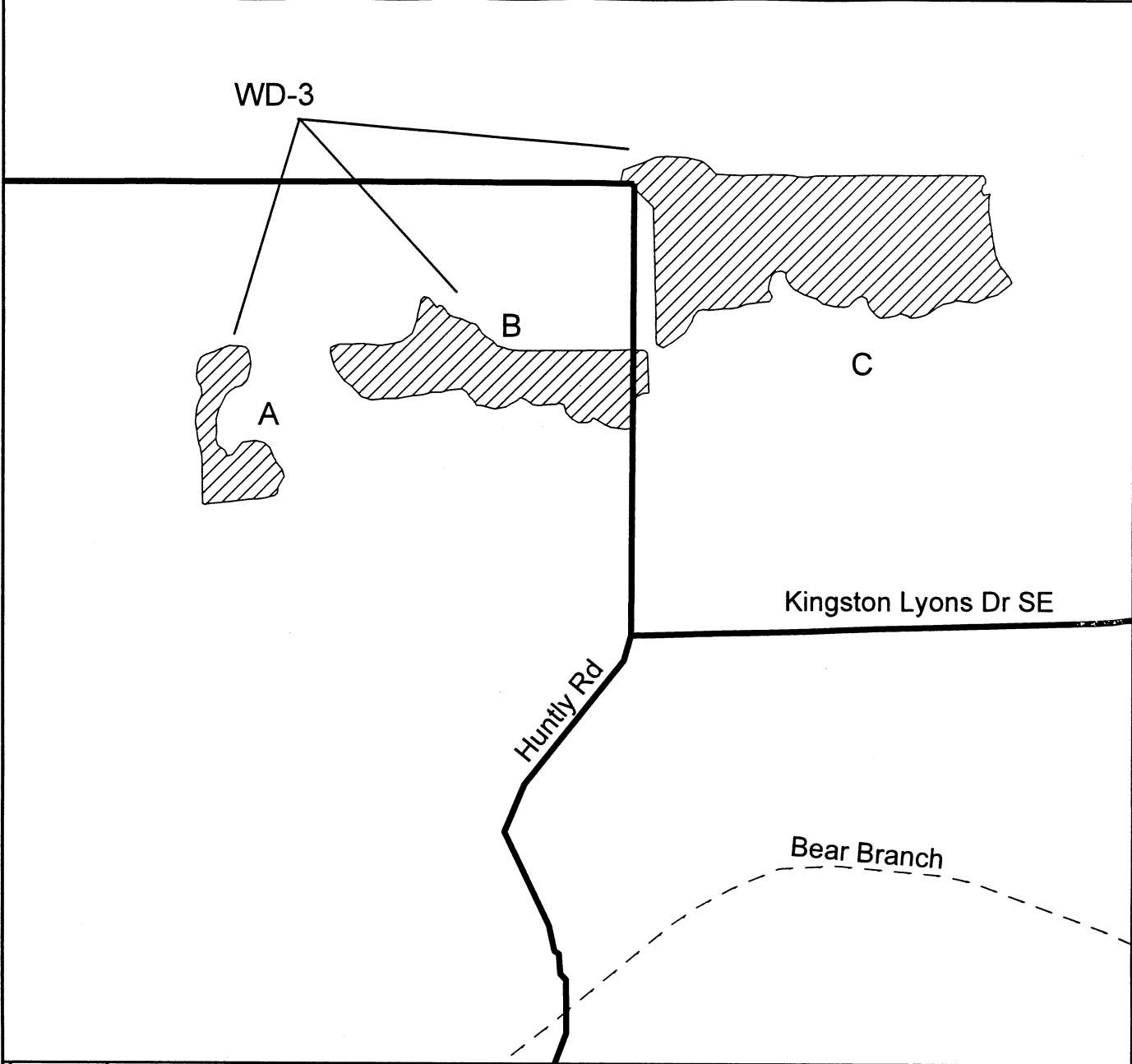
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(iii) Unit 3C (WD-3C): 520319, 4958402; 520318, 4958432; 520318, 4958451; 520314, 4958568; 520279, 4958601; 520256, 4958614; 520260, 4958633; 520294, 4958645; 520319, 4958656; 520339, 4958657; 520375, 4958655; 520402, 4958649; 520415, 4958638; 520426, 4958626; 520468,


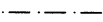

4958624; 520525, 4958625; 520563, 4958624; 520576, 4958621; 520591, 4958621; 520607, 4958624; 520896, 4958625; 520906, 4958625; 520909, 4958619; 520909, 4958611; 520905, 4958607; 520902, 4958598; 520906, 4958589; 520918, 4958593; 520915, 4958581; 520915, 4958560; 520920, 4958529; 520922, 4958512; 520927, 4958483; 520936, 4958464; 520944, 4958455; 520953, 4958443; 520957, 4958433; 520949, 4958426; 520932, 4958413; 520912, 4958407; 520891, 4958399; 520870, 4958401; 520858, 4958402; 520847, 4958399; 520836, 4958396; 520822, 4958389; 520811, 4958381; 520801, 4958376; 520789, 4958373; 520775, 4958371; 520771, 4958375; 520757, 4958380; 520749, 4958375; 520736, 4958373; 520721, 4958371; 520713, 4958377; 520705, 4958387; 520700, 4958395; 520697, 4958406; 520688, 4958411; 520681, 4958407; 520672, 4958400; 520666, 4958393; 520658, 4958390; 520641, 4958392; 520619, 4958396; 520613, 4958401; 520605, 4958406; 520591, 4958411; 520584, 4958413; 520574, 4958419; 520568, 4958421; 520560, 4958429; 520553, 4958442; 520552, 4958451; 520545, 4958455; 520533, 4958452; 520527, 4958445; 520524, 4958436; 520521, 4958423; 520526, 4958413; 520528, 4958408; 520524, 4958400; 520509, 4958399; 520494, 4958396; 520482, 4958395; 520468, 4958389; 520455, 4958387; 520441, 4958387; 520415, 4958385; 520405, 4958386; 520395, 4958383; 520387, 4958373; 520384, 4958364; 520371, 4958344; 520350, 4958327; 520333, 4958318; 520321, 4958324; 520320, 4958331; 520319, 4958402.

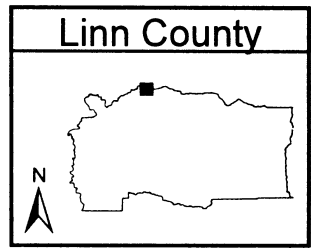
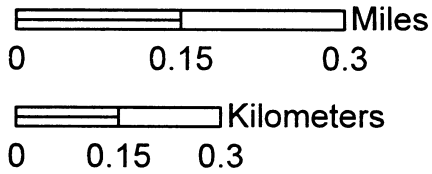
(iv) **Note:** Map 4 of Unit 3 for *Erigeron decumbens* var. *decumbens* (WD-3) follows:

Map 4, Unit WD-3  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(9) Unit 4 for *Erigeron decumbens* var. *decumbens* (WD-4), Benton County, Oregon.

(i) Unit 4A (WD-4A): 473333, 4935091; 473298, 4935146; 473306, 4935153; 473303, 4935164; 473299, 4935168; 473297, 4935173; 473295, 4935178; 473293, 4935183; 473288, 4935189; 473286, 4935194; 473284, 4935202; 473282, 4935206; 473279, 4935209; 473281, 4935220; 473281, 4935226; 473280, 4935233; 473282, 4935241; 473282, 4935246; 473284, 4935251; 473288, 4935260; 473296, 4935267; 473303, 4935275; 473312, 4935288; 473316, 4935299; 473319, 4935311; 473322, 4935323; 473327, 4935333; 473330, 4935342; 473335, 4935351; 473341, 4935361; 473349, 4935372; 473352, 4935380; 473357, 4935391; 473366, 4935400; 473373, 4935410; 473378, 4935416; 473388, 4935424; 473410, 4935441; 473437, 4935441; 473431, 4935402; 473406, 4935381; 473384, 4935401; 473380, 4935398; 473374, 4935394; 473370,

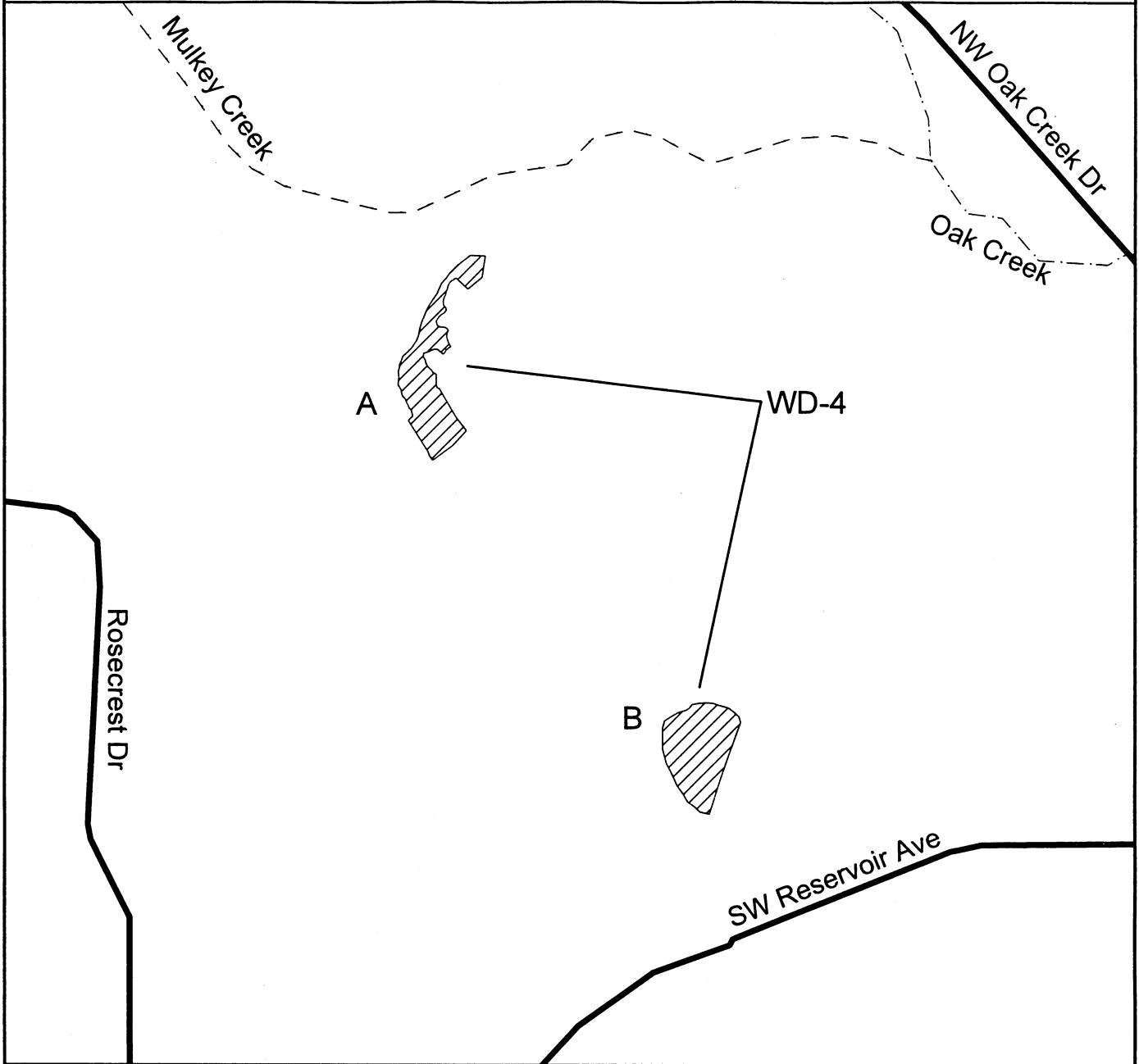
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4935216; 473348, 4935211; 473350, 4935205; 473354, 4935202; 473382, 4935154; 473403, 4935128; 473379, 4935102; 473342, 4935074; 473336, 4935083; 473333, 4935091.

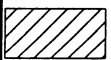
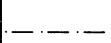

(ii) Unit 4B (WD-4B): 473894, 4934609; 473855, 4934497; 473838, 4934445; 473821, 4934449; 473811, 4934458; 473800, 4934466; 473793, 4934479; 473780, 4934496; 473770, 4934518; 473760, 4934538; 473758, 4934544; 473754, 4934561; 473754, 4934599; 473757, 4934611; 473766, 4934617; 473774, 4934622; 473782, 4934626; 473789, 4934629; 473796, 4934630; 473803, 4934635; 473807, 4934641; 473815, 4934642; 473821, 4934643; 473831, 4934644; 473845, 4934643; 473857, 4934639; 473873, 4934635; 473882, 4934628; 473892, 4934619; 473894, 4934609.

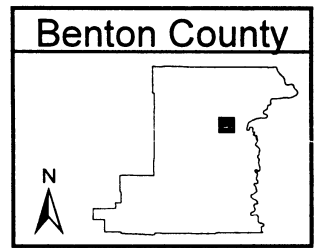
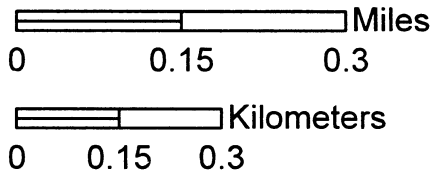
(iii) **Note:** Map 5 of Unit 4 for *Erigeron decumbens* var. *decumbens* (WD-4) follows:

Map 5, Unit WD-4  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(10) Unit 5 of *Erigeron decumbens* var. *decumbens* (WD-5), Benton County, Oregon.

(i) Unit 5 (WD-5): 474091, 4926323; 474091, 4926315; 474088, 4926311; 474087, 4926307; 474083, 4926305; 474079, 4926304; 474074, 4926304; 474074, 4926299; 474074, 4926292; 474070, 4926293; 474063, 4926294; 474054, 4926289; 474049, 4926283; 474044, 4926282; 474040, 4926281; 474034, 4926277; 474034, 4926271; 474035, 4926268; 474034, 4926263; 474027, 4926260; 474024, 4926256; 474020, 4926254; 474017, 4926259; 474014, 4926263; 474007, 4926264; 474003, 4926259; 474000, 4926252; 473997, 4926247; 473997, 4926241; 474000, 4926236; 474002, 4926230; 473997, 4926229; 473993, 4926232; 473991, 4926227; 473988, 4926223; 473986, 4926215; 473989, 4926211; 473989, 4926205; 473992, 4926288; 473997, 4926197; 474000, 4926196; 474004, 4926192; 474007, 4926188; 474010, 4926183; 474014, 4926179; 474024, 4926179; 474025, 4926184; 474029, 4926186; 474033, 4926183; 474046, 4926187; 474050, 4926192; 474056, 4926192; 474063, 4926196; 474068, 4926201; 474074, 4926199; 474067, 4926192; 474069, 4926183; 474067, 4926179; 474064, 4926173; 474064, 4926166; 474064, 4926159; 474064, 4926150; 474060, 4926147; 474060, 4926140; 474067, 4926138; 474075, 4926131; 474080, 4926125; 474088, 4926119; 474092, 4926116; 474098, 4926115; 474100, 4926117; 474105, 4926118; 474112, 4926120; 474116, 4926121; 474120, 4926123; 474125, 4926124; 474127, 4926124; 474133, 4926121; 474135, 4926122; 474139, 4926126; 474142, 4926128; 474146, 4926131; 474151, 4926133; 474159, 4926135; 474165, 4926137; 474170, 4926139; 474176, 4926140; 474178, 4926144; 474179, 4926148; 474181, 4926151; 474185, 4926148; 474190, 4926142; 474198, 4926141; 474205, 4926144; 474211, 4926142; 474218, 4926140; 474220, 4926133; 474224, 4926124; 474229, 4926118; 474231, 4926112; 474235, 4926107; 474241, 4926105; 474244, 4926099; 474247, 4926090; 474252, 4926085; 474258, 4926080; 474262, 4926077; 474263, 4926070; 474270, 4926068; 474270, 4926066; 474274, 4926062; 474281, 4926058; 474287, 4926053; 474290, 4926049; 474297, 4926046; 474299, 4926041; 474299, 4926033; 474286, 4926035; 474270, 4926037; 474257, 4926036; 474245, 4926032; 474238, 4926027; 474233, 4926028; 474229, 4926026; 474226, 4926022; 474225, 4926016; 474228, 4926010; 474234, 4926003; 474232, 4926000;

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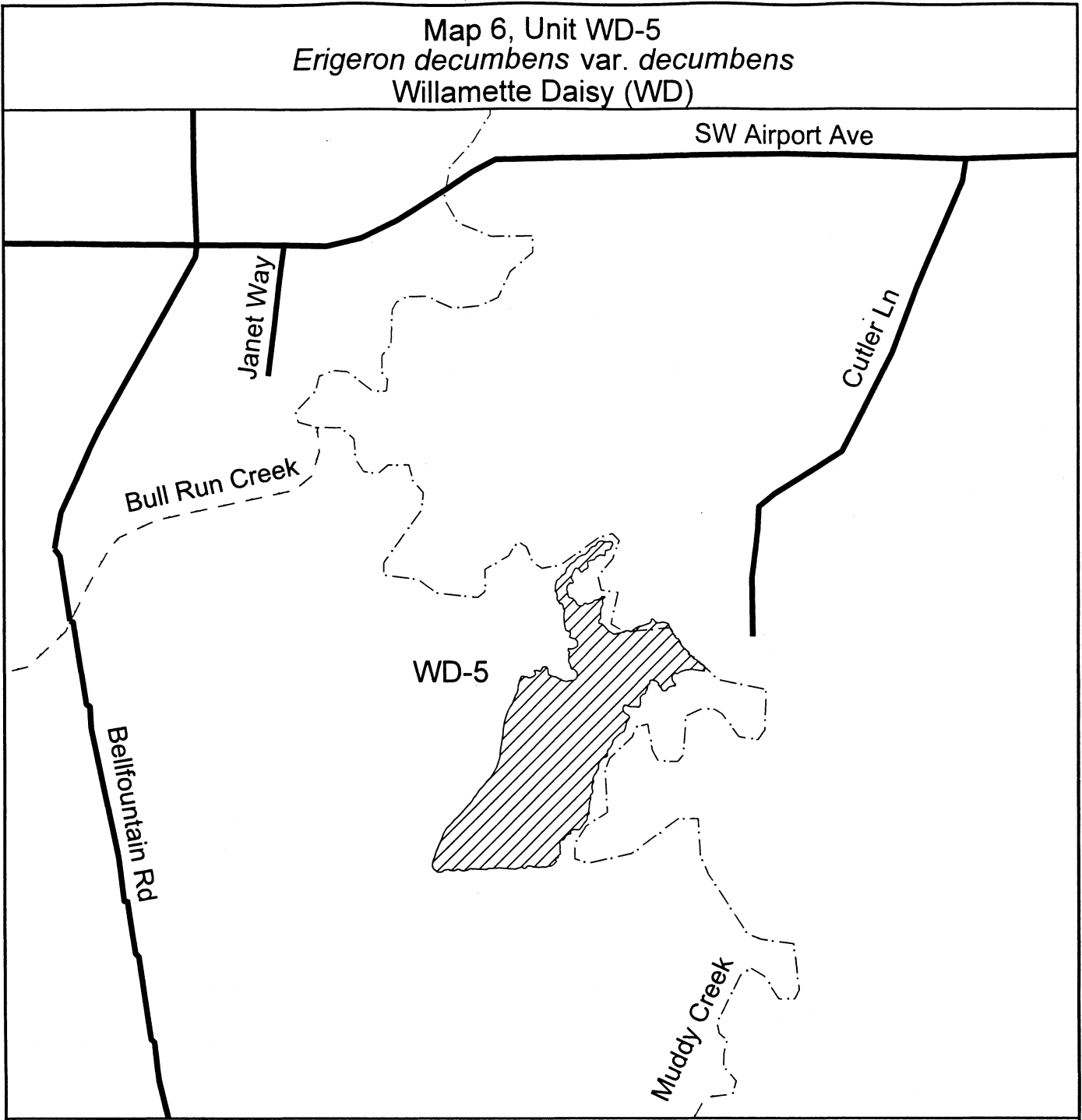
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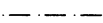

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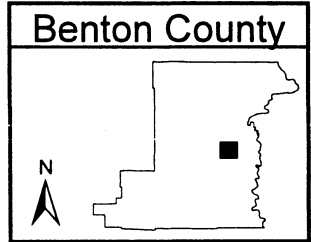
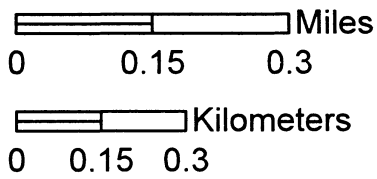
(ii) **Note:** Map 6 of Unit 5 for *Erigeron decumbens* var. *decumbens* (WD-5) follows:

Map 6, Unit WD-5  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(11) Unit 6 of *Erigeron decumbens* var. *decumbens* (WD-6), Lane County, Oregon.

(i) Unit 6A (WD-6A): 479004, 4877770; 478975, 4877772; 478968, 4877777; 478973, 4877791; 478982, 4877794; 479002, 4877802; 479105, 4877802; 479109, 4877806; 479163, 4877808; 479221, 4877806; 479298, 4877808; 479441, 4877808; 479448, 4877812; 479479, 4877810; 479477, 4877808; 479507, 4877819; 479509, 4878049; 479503, 4878036; 479494, 4878038; 479495, 4878064; 479495, 4878081; 479494, 4878101; 479503, 4878110; 479509, 4878106; 479511, 4878393; 479798, 4878473; 479879, 4878451; 479919, 4878324; 479950, 4878194; 479981, 4878131; 479980, 4878075; 480005, 4878058; 479979, 4878000; 479976, 4877895; 479973, 4877884; 479970, 4877854; 479905, 4877836; 479902, 4877775; 479866, 4877774; 479869, 4877759; 479513, 4877760; 479509, 4877798; 479466, 4877794; 479463, 4877792; 479464, 4877792; 479465, 4877781; 479461, 4877769; 479441, 4877769; 479440, 4877751; 479220, 4877753; 479148,

4877754; 479138, 4877753; 479138, 4877754; 479092, 4877754; 479090, 4877770; 479004, 4877770.

(ii) Unit 6B (WD-6B): 479925, 4877659; 479939, 4877658; 479938, 4877652; 479936, 4877638; 479929, 4877634; 479911, 4877635; 479898, 4877639; 479899, 4877653; 479910, 4877660; 479925, 4877659.

(iii) Unit 6C (WD-6C): 479882, 4877323; 479789, 4877322; 479773, 4877340; 479764, 4877365; 479771, 4877397; 479794, 4877426; 479837, 4877464; 479844, 4877462; 479841, 4877454; 479798, 4877419; 479784, 4877398; 479774, 4877383; 479775, 4877364; 479778, 4877346; 479790, 4877332; 479801, 4877328; 479900, 4877331; 479929, 4877334; 479940, 4877344; 479941, 4877446; 479937, 4877462; 479931, 4877469; 479920, 4877474; 479905, 4877478; 479908, 4877488; 479916, 4877488; 479928, 4877482; 479935, 4877486; 479934, 4877499; 479935, 4877513; 479938, 4877522; 479943, 4877523; 479948, 4877509; 479949, 4877344; 479947, 4877340; 479955, 4877348; 479963, 4877391; 479960, 4877425; 479954,

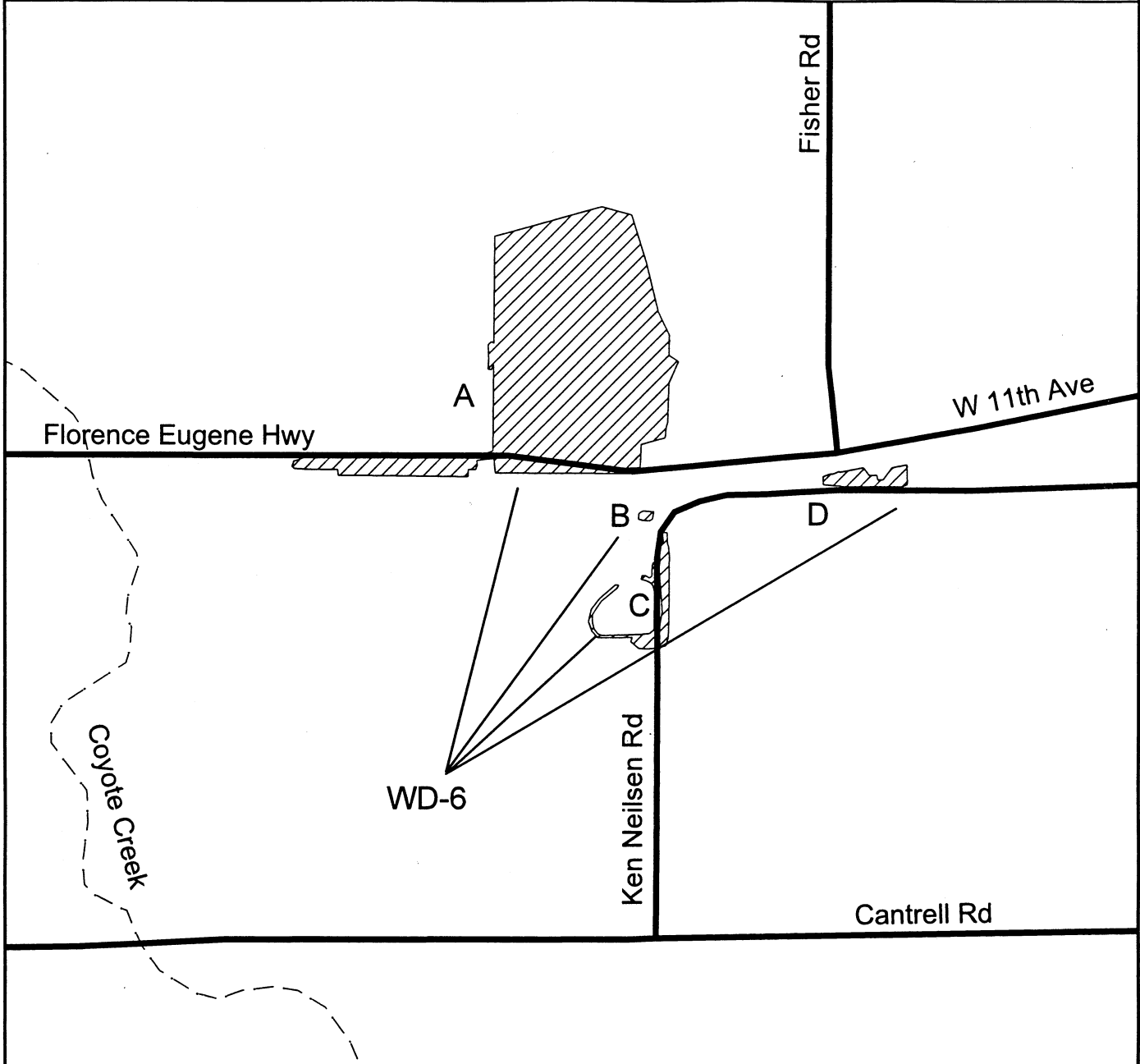
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(iv) Unit 6D (WD-6D): 480418, 4877759; 480435, 4877767; 480435, 4877764; 480500, 4877776; 480515, 4877756; 480520, 4877756; 480536, 4877756; 480538, 4877744; 480553, 4877744; 480577, 4877776; 480616, 4877784; 480618, 4877730; 480603, 4877726; 480494, 4877726; 480444, 4877726; 480436, 4877729; 480422, 4877729; 480392, 4877731; 480393, 4877753; 480411, 4877760; 480418, 4877759.




(v) **Note:** Map 7 of Unit 6 for *Erigeron decumbens* var. *decumbens* (WD-6) follows:

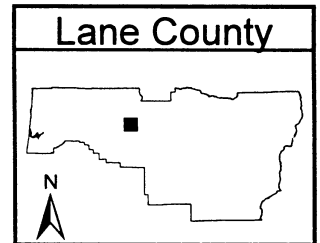
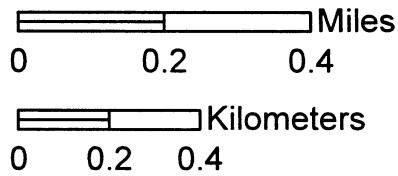


Map 7, Unit WD-6  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(12) Unit 7 for *Erigeron decumbens* var. *decumbens* (WD-7), Lane County, Oregon.

(i) Unit 7A (WD-7A): 483220, 4878609; 483220, 4878615; 483217, 4878617; 483211, 4878618; 483207, 4878611; 483203, 4878602; 483192, 4878583; 483184, 4878561; 483164, 4878507; 483151, 4878499; 483141, 4878502; 483140, 4878509; 483019, 4878506; 483013, 4878513; 483013, 4878524; 483022, 4878686; 483026, 4878696; 483030, 4878700; 483059, 4878715; 483070, 4878725; 483076, 4878881; 483082, 4878888; 483092, 4878891; 483296, 4878892; 483299, 4878886; 483299, 4878836; 483298, 4878805; 483297, 4878777; 483292, 4878770; 483286, 4878767; 483282, 4878758; 483274, 4878754; 483272, 4878748; 483266, 4878745; 483264, 4878738; 483260, 4878732; 483253, 4878726; 483250, 4878720; 483244, 4878717; 483241, 4878706; 483246, 4878696; 483250, 4878685; 483251, 4878678; 483250, 4878670; 483258, 4878669; 483272, 4878683; 483285, 4878687; 483302, 4878653; 483294, 4878582; 483309, 4878514; 483297, 4878495; 483289, 4878490; 483268, 4878492; 483247, 4878510; 483220, 4878557; 483220, 4878609.

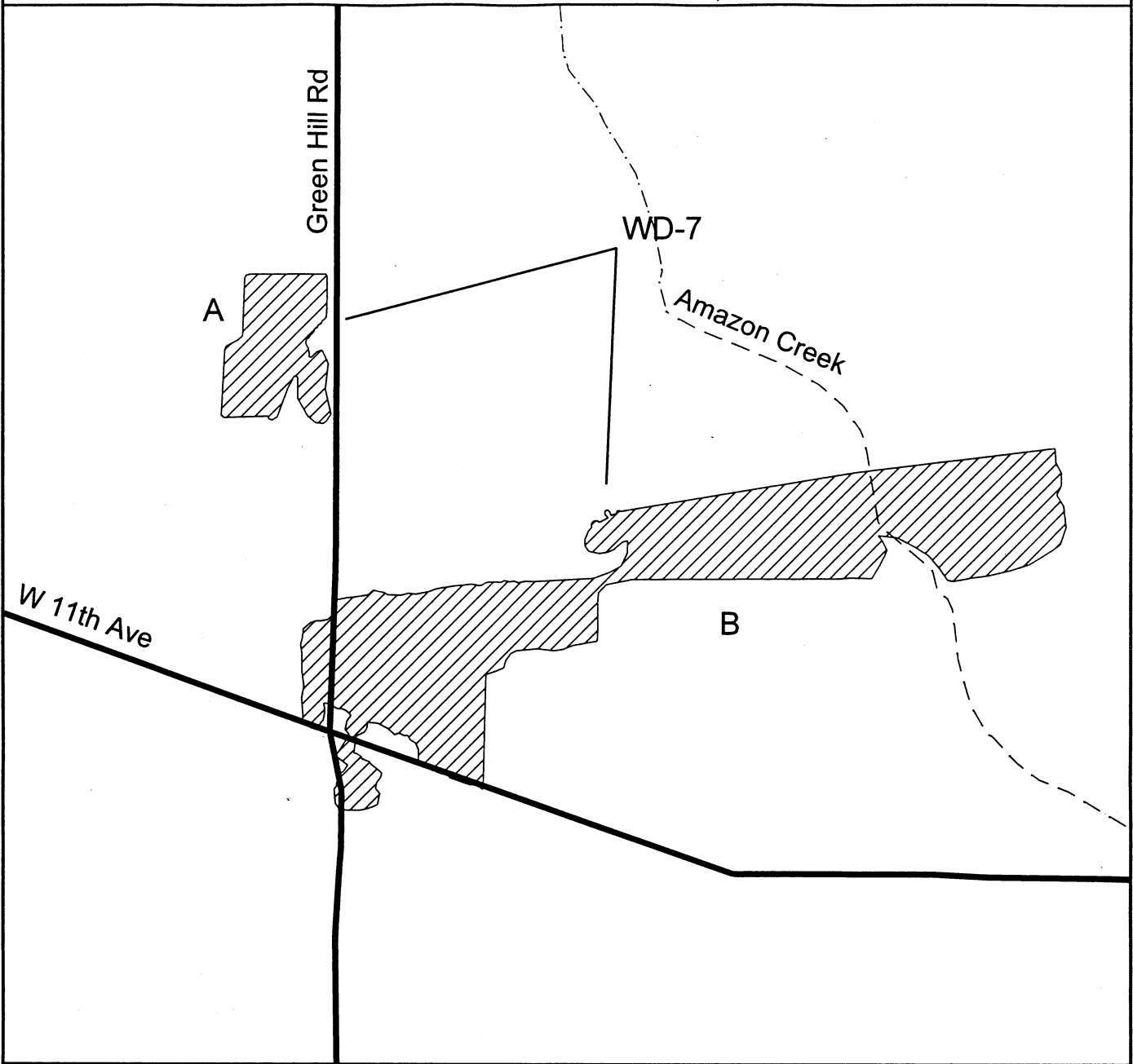
(ii) Unit 7B (WD-7B): 483434, 4877468; 483409, 4877458; 483389, 4877453; 483354, 4877453; 483333, 4877456; 483321, 4877471; 483318, 4877509; 483325, 4877517; 483325, 4877525; 483331, 4877540; 483332, 4877540; 483332, 4877550; 483344, 4877559; 483354, 4877574; 483328, 4877594; 483323, 4877597; 483323, 4877599; 483359, 4877655; 483347, 4877670; 483352, 4877691; 483363, 4877705; 483360, 4877711; 483349, 4877721; 483340, 4877725; 483337, 4877726; 483328, 4877725; 483301, 4877740; 483290, 4877740; 483292, 4877729; 483293, 4877723; 483293,

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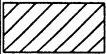
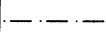

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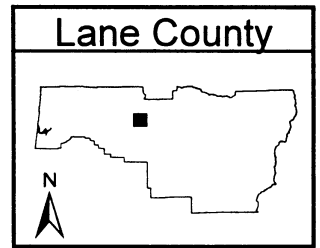
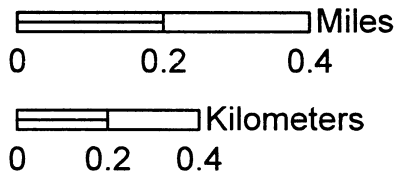
(iii) **Note:** Map 8 of Unit 7 for *Erigeron decumbens* var. *decumbens* (WD-7) follows:

Map 8, Unit WD-7  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(13) Unit 8 for *Erigeron decumbens* var. *decumbens* (WD-8), Lane County, Oregon.

(i) Unit 8A (WD-8A): 485625, 4876847; 485623, 4876992; 485625, 4877015; 485640, 4877044; 485665, 4877071; 485642, 4877087; 485633, 4877125; 485643, 4877218; 485623, 4877249; 485593, 4877249; 485562, 4877250; 485534, 4877251; 485535, 4877259; 485557, 4877293; 485561, 4877295; 485562, 4877284; 485629, 4877284; 485645, 4877274; 485654, 4877257; 485673, 4877230; 485694, 4877225; 485718, 4877215; 485737, 4877213; 485743, 4877226; 486046, 4877221; 486095, 4877215; 486136, 4877209; 486179, 4877192; 486205, 4877172; 486228, 4877154; 486257, 4877125; 486269, 4877102; 486266, 4876751; 486267, 4876727; 486279, 4876713; 486287, 4876694; 486294, 4876684; 486296, 4876591; 486286, 4876460; 486279, 4876449; 486270, 4876410; 486260, 4876389; 486252, 4876169; 485950, 4876177; 485863, 4876180; 485857, 4876232; 485863, 4876325; 485866, 4876383; 485866, 4876458; 485866, 4876496; 485857, 4876554; 485854, 4876621; 485852, 4876696; 485860, 4876742; 485840, 4876789; 485797, 4876824; 485759, 4876841; 485701, 4876856; 485657, 4876850; 485625, 4876847.

(ii) Unit 8B (WD-8B): 486657, 4876501; 486653, 4876529; 486654, 4876499; 486652, 4876472; 486642, 4876455; 486627, 4876441; 486618, 4876441; 486602, 4876442; 486601, 4876435; 486602, 4876406; 486602, 4876397; 486598, 4876393; 486593, 4876396; 486591, 4876407; 486591, 4876417; 486590, 4876426; 486590, 4876435; 486590, 4876443; 486562, 4876457; 486556, 4876492; 486557, 4876500; 486551, 4876505; 486547, 4876506; 486540, 4876510; 486543, 4876524; 486547, 4876537; 486552, 4876545; 486557, 4876550; 486561, 4876557; 486562, 4876564; 486582, 4876581; 486589, 4876597; 486590, 4876602; 486589, 4876609; 486589, 4876621; 486589, 4876635; 486590, 4876653; 486591, 4876659; 486594, 4876667; 486600, 4876669; 486605, 4876666; 486606, 4876654; 486605, 4876640; 486608, 4876631; 486627, 4876636; 486632, 4876635; 486640, 4876635; 486657, 4876628; 486661, 4876606; 486650, 4876579; 486656, 4876557; 486668, 4876600; 486683, 4876621; 486704, 4876623; 486726,

4876604; 486732, 4876587; 486781, 4876558; 486789, 4876539; 486795, 4876512; 486782, 4876491; 486770, 4876484; 486741, 4876473; 486688, 4876472; 486667, 4876485; 486657, 4876501.

(iii) Unit 8C (WD-8C): 487623, 4876823; 487647, 4876820; 487687, 4876814; 487710, 4876811; 487734, 4876809; 487730, 4876793; 487708, 4876778; 487695, 4876766; 487655, 4876763; 487598, 4876773; 487547, 4876776; 487531, 4876778; 487530, 4876798; 487535, 4876810; 487540, 4876843; 487567, 4876831; 487597, 4876828; 487623, 4876823.

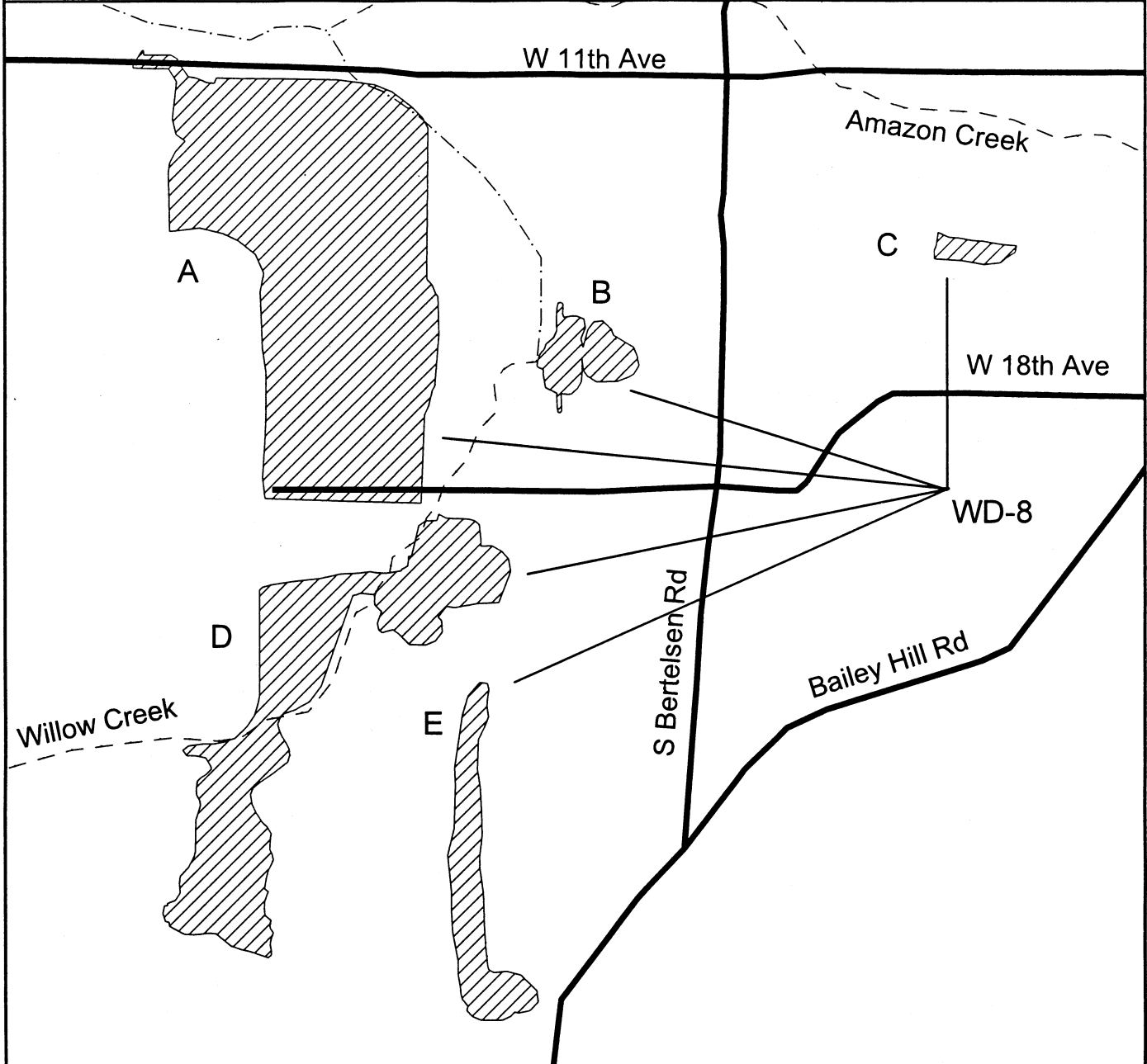
(iv) Unit 8D (WD-8D): 485871, 4875038; 485852, 4875045; 485827, 4875053; 485803, 4875059; 485777, 4875068; 485754, 4875087; 485740, 4875098; 485723, 4875099; 485706, 4875097; 485686, 4875096; 485665, 4875097; 485657, 4875098; 485623, 4875117; 485622, 4875126; 485613, 4875129; 485607, 4875147; 485610, 4875167; 485619, 4875168; 485618, 4875173; 485638, 4875182; 485650, 4875199; 485648, 4875223; 485650, 4875241; 485671, 4875264; 485685, 4875291; 485688, 4875304; 485690, 4875382; 485701, 4875417; 485700, 4875429; 485692, 4875447; 485691, 4875459; 485694, 4875478; 485703, 4875488; 485718, 4875497; 485729, 4875509; 485727, 4875518; 485715, 4875537; 485687, 4875543; 485667, 4875543; 485657, 4875556; 485671, 4875567; 485688, 4875570; 485708, 4875571; 485735, 4875571; 485760, 4875576; 485789, 4875586; 485817, 4875614; 485837, 4875642; 485846, 4875674; 485850, 4875691; 485850, 4875952; 485858, 4875959; 485877, 4875965; 485928, 4875973; 486003, 4875982; 486052, 4875993; 486097, 4875994; 486125, 4875998; 486142, 4875995; 486166, 4875994; 486203, 4876000; 486204, 4876005; 486218, 4876012; 486220, 4876026; 486220, 4876036; 486228, 4876038; 486246, 4876113; 486264, 4876125; 486291, 4876126; 486296, 4876141; 486312, 4876132; 486334, 4876130; 486354, 4876130; 486373, 4876128; 486385, 4876125; 486397, 4876116; 486401, 4876077; 486401, 4876062; 486428, 4876063; 486453, 4876049; 486469, 4876031; 486475, 4875999; 486445, 4875922; 486395, 4875920; 486336, 4875909; 486315, 4875912; 486294, 4875885; 486303, 4875877; 486304, 4875848; 486288, 4875827; 486264,

4875816; 486223, 4875817; 486199, 4875842; 486181, 4875854; 486167, 4875850; 486155, 4875847; 486146, 4875854; 486143, 4875870; 486148, 4875885; 486154, 4875898; 486137, 4875916; 486136, 4875925; 486137, 4875941; 486121, 4875943; 486100, 4875945; 486093, 4875941; 486082, 4875939; 486003, 4875714; 485990, 4875696; 485981, 4875684; 485974, 4875676; 485955, 4875666; 485939, 4875656; 485912, 4875647; 485902, 4875639; 485895, 4875620; 485899, 4875606; 485904, 4875594; 485915, 4875575; 485924, 4875559; 485924, 4875543; 485920, 4875526; 485906, 4875516; 485885, 4875499; 485852, 4875477; 485832, 4875461; 485827, 4875446; 485830, 4875423; 485841, 4875400; 485858, 4875375; 485869, 4875364; 485878, 4875349; 485876, 4875339; 485875, 4875309; 485880, 4875299; 485883, 4875283; 485877, 4875269; 485871, 4875255; 485865, 4875234; 485862, 4875210; 485871, 4875203; 485867, 4875194; 485862, 4875177; 485861, 4875157; 485863, 4875143; 485877, 4875132; 485875, 4875121; 485875, 4875112; 485883, 4875101; 485875, 4875077; 485875, 4875069; 485878, 4875055; 485878, 4875045; 485871, 4875038.

(v) Unit 8E (WD-8E): 486432, 4875002; 486464, 4875005; 486499, 4874996; 486540, 4874957; 486543, 4874928; 486523, 4874907; 486495, 4874901; 486485, 4874903; 486475, 4874893; 486454, 4874883; 486401, 4874883; 486379, 4874893; 486365, 4874907; 486367, 4874918; 486360, 4874928; 486354, 4874935; 486350, 4874948; 486349, 4874964; 486343, 4874996; 486343, 4875029; 486329, 4875101; 486327, 4875156; 486327, 4875203; 486318, 4875294; 486333, 4875362; 486336, 4875470; 486335, 4875513; 486347, 4875595; 486355, 4875644; 486368, 4875689; 486398, 4875724; 486417, 4875722; 486421, 4875705; 486417, 4875683; 486415, 4875666; 486419, 4875638; 486409, 4875612; 486394, 4875582; 486392, 4875509; 486398, 4875465; 486402, 4875400; 486404, 4875343; 486397, 4875292; 486397, 4875264; 486406, 4875197; 486408, 4875161; 486409, 4875120; 486413, 4875059; 486417, 4875019; 486419, 4875009; 486432, 4875002.

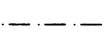
(vi) **Note:** Map 9 of Unit 8 for *Erigeron decumbens* var. *decumbens* (WD-8) follows:

Map 9, Unit WD-8  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)

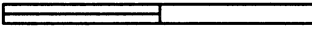


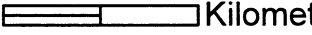
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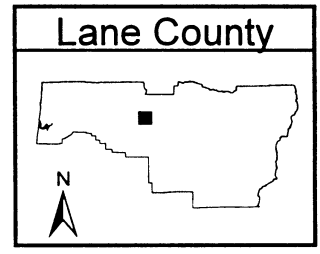
 Proposed Critical Habitat

 Rivers

 Major Roads

 Miles  
0 0.2 0.4

 Kilometers  
0 0.2 0.4



(14) Unit 9 for *Erigeron decumbens* var. *decumbens* (WD-9), Lane County, Oregon.

(i) Unit 9A (WD-9A): 482376, 4875220; 482431, 4875221; 482407, 4875176; 482419, 4875157; 482433, 4875154; 482454, 4875162; 482478, 4875158; 482496, 4875142; 482509, 4875124; 482504, 4875110; 482515, 4875097; 482526, 4875086; 482525, 4875072; 482519, 4875066; 482529, 4875056; 482532, 4875040; 482545, 4875028; 482556, 4875030; 482568, 4875031; 482626, 4875009; 482629, 4874992; 482636, 4874983; 482629, 4874972; 482632, 4874952; 482640, 4874945; 482635, 4874939; 482635, 4874898; 482653, 4874892; 482671, 4874893; 482682, 4874904; 482700, 4874893; 482716, 4874892; 482739, 4874889; 482756, 4874875; 482773, 4874872; 482781, 4874859; 482772, 4874853; 482752, 4874852; 482749, 4874810; 482762, 4874804; 482762, 4874795; 482751, 4874790; 482747, 4874782; 482759, 4874776; 482769, 4874768; 482792, 4874770; 482822, 4874745; 482818, 4874718; 482833, 4874707; 482853, 4874701; 482870, 4874682; 482880, 4874667; 482898, 4874283; 482886, 4874262; 482866, 4874250; 482850, 4874230; 482840, 4874202; 482843, 4874175; 482848, 4874143; 482831, 4874127; 482819, 4874104; 482811, 4874080; 482772, 4874052; 482735, 4874031; 482728, 4874017; 482725, 4873993; 482715, 4873979; 482701, 4873966; 482371, 4873978; 482338, 4873981; 482305, 4873976; 482243, 4873963; 482227, 4873968; 482236, 4873984; 482296, 4874007; 482308, 4874028; 482365,

4874052; 482381, 4874074; 482409, 4874087; 482432, 4874100; 482429, 4874112; 482412, 4874116; 482401, 4874102; 482384, 4874103; 482373, 4874090; 482362, 4874085; 482359, 4874074; 482339, 4874069; 482328, 4874073; 482322, 4874065; 482312, 4874076; 482315, 4874085; 482329, 4874094; 482351, 4874096; 482461, 4874167; 482445, 4874211; 482441, 4874229; 482438, 4874247; 482451, 4874269; 482449, 4874289; 482435, 4874303; 482448, 4874321; 482466, 4874321; 482473, 4874339; 482483, 4874338; 482508, 4874311; 482509, 4874293; 482534, 4874303; 482586, 4874349; 482591, 4874373; 482598, 4874362; 482616, 4874367; 482620, 4874381; 482609, 4874402; 482608, 4874420; 482600, 4874437; 482599, 4874448; 482609, 4874441; 482618, 4874442; 482628, 4874451; 482631, 4874471; 482608, 4874466; 482613, 4874486; 482623, 4874489; 482629, 4874504; 482625, 4874514; 482626, 4874524; 482639, 4874531; 482636, 4874540; 482631, 4874555; 482640, 4874567; 482622, 4874604; 482625, 4874641; 482591, 4874698; 482570, 4874705; 482567, 4874723; 482563, 4874736; 482537, 4874761; 482538, 4874773; 482524, 4874785; 482506, 4874780; 482473, 4874804; 482429, 4874833; 482376, 4874861; 482376, 4875220.

(ii) Unit 9B (WD-9B): 482570, 4872865; 482588, 4872857; 482600, 4872844; 482595, 4872832; 482581, 4872828; 482575, 4872828; 482571, 4872828; 482559, 4872835; 482548, 4872841; 482549, 4872860; 482568, 4872866; 482570, 4872865.

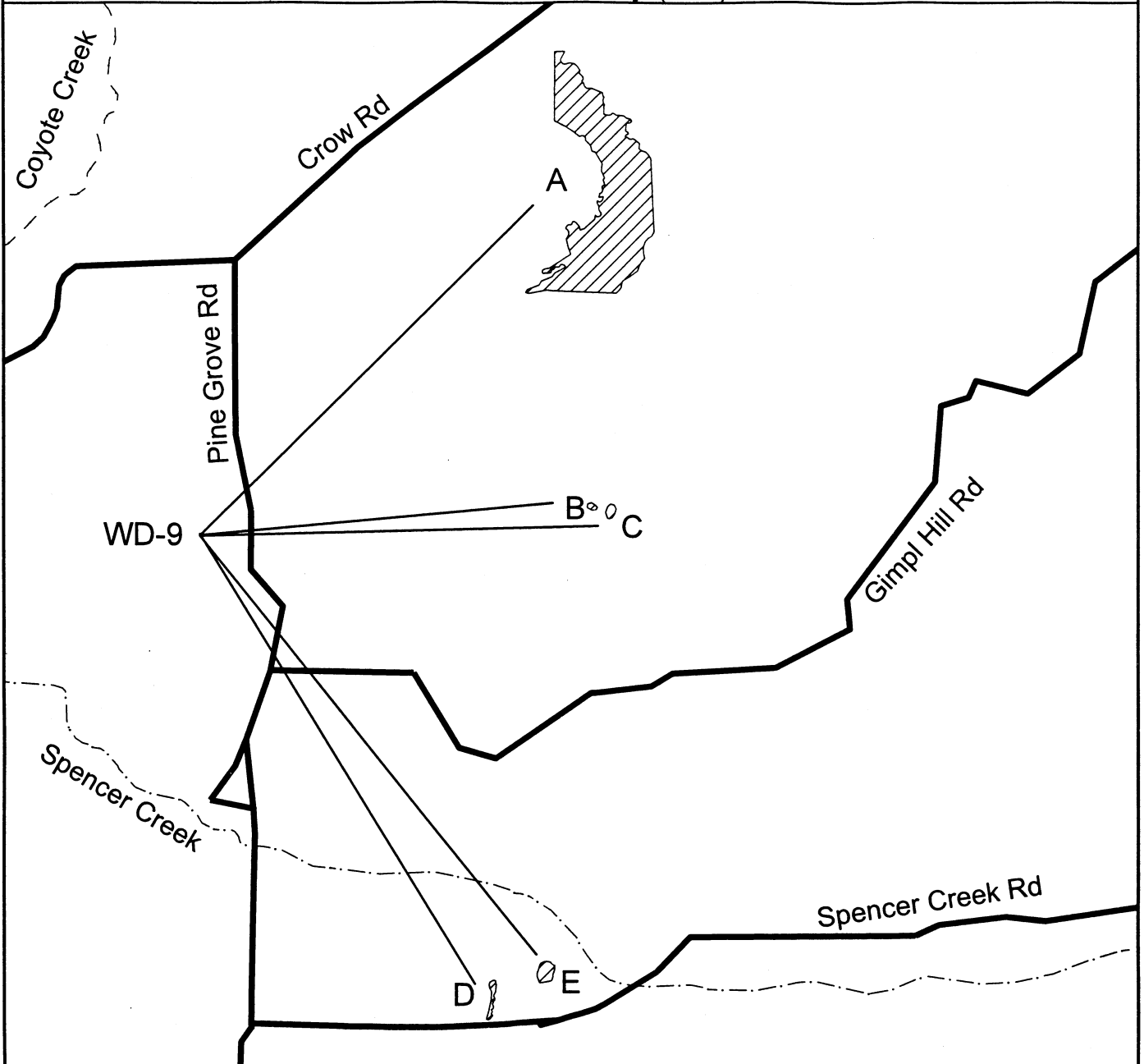
(iii) Unit 9C (WD-9C): 482668, 4872783; 482654, 4872785; 482645, 4872810; 482644, 4872821; 482654, 4872845; 482670, 4872860; 482689, 4872856; 482699, 4872834; 482689, 4872804; 482679, 4872790; 482668, 4872783.

(iv) Unit 9D (WD-9D): 482068, 4870373; 482070, 4870364; 482072, 4870350; 482070, 4870326; 482068, 4870308; 482062, 4870303; 482058, 4870291; 482064, 4870284; 482063, 4870270; 482055, 4870266; 482058, 4870256; 482052, 4870252; 482055, 4870244; 482058, 4870235; 482055, 4870224; 482046, 4870222; 482052, 4870210; 482045, 4870199; 482047, 4870193; 482054, 4870192; 482051, 4870187; 482043, 4870174; 482032, 4870168; 482021, 4870170; 482023, 4870180; 482031, 4870210; 482044, 4870268; 482047, 4870306; 482045, 4870320; 482038, 4870333; 482034, 4870350; 482039, 4870362; 482049, 4870370; 482059, 4870374; 482068, 4870373.


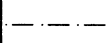

(v) Unit 9E (WD-9E): 482368, 4870408; 482366, 4870391; 482362, 4870374; 482349, 4870369; 482332, 4870366; 482315, 4870363; 482297, 4870361; 482292, 4870377; 482285, 4870392; 482285, 4870408; 482285, 4870413; 482292, 4870429; 482296, 4870440; 482299, 4870452; 482301, 4870459; 482308, 4870465; 482324, 4870472; 482342, 4870473; 482356, 4870468; 482361, 4870461; 482374, 4870450; 482377, 4870438; 482373, 4870421; 482368, 4870408.

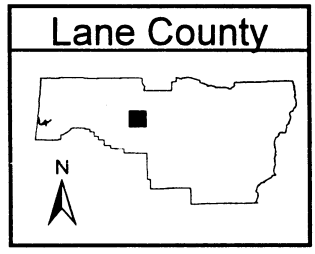
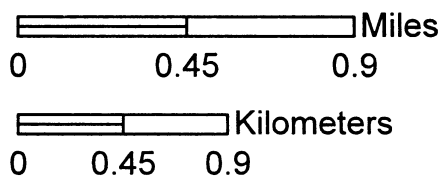
(vi) **Note:** Map 10 of Unit 9 for *Erigeron decumbens* var. *decumbens* (WD-9) follows:

Map 10, Unit WD-9  
*Erigeron decumbens* var. *decumbens*  
Willamette Daisy (WD)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



\* \* \* \* \*

Family Fabaceae: *Lupinus sulphureus* ssp. *kincaidii* (Kincaid's lupine).

(1) Critical habitat units are depicted for Benton, Douglas, Lane, Polk, and Yamhill Counties, Oregon, and Lewis County, Washington on the maps below.

(2) The primary constituent elements of critical habitat for the *Lupinus sulphureus* ssp. *kincaidii* are the habitat components that provide:

(i) Early seral upland prairie, oak savanna habitat with a mosaic of low growing grasses, forbs, and spaces to establish seedlings or new vegetative

growth, with an absence of dense canopy vegetation providing sunlight for individual and population growth and reproduction and with undisturbed subsoils and proper moisture and protection from competitive invasive species.

(ii) The presence of insect outcrossing pollinators, such as *Bombus mixtus* and *B. californicus*, with unrestricted movement between existing lupine patches, critical for successful lupine reproduction.

(3) Critical habitat does not include humanmade structures existing on the effective date of this rule and not

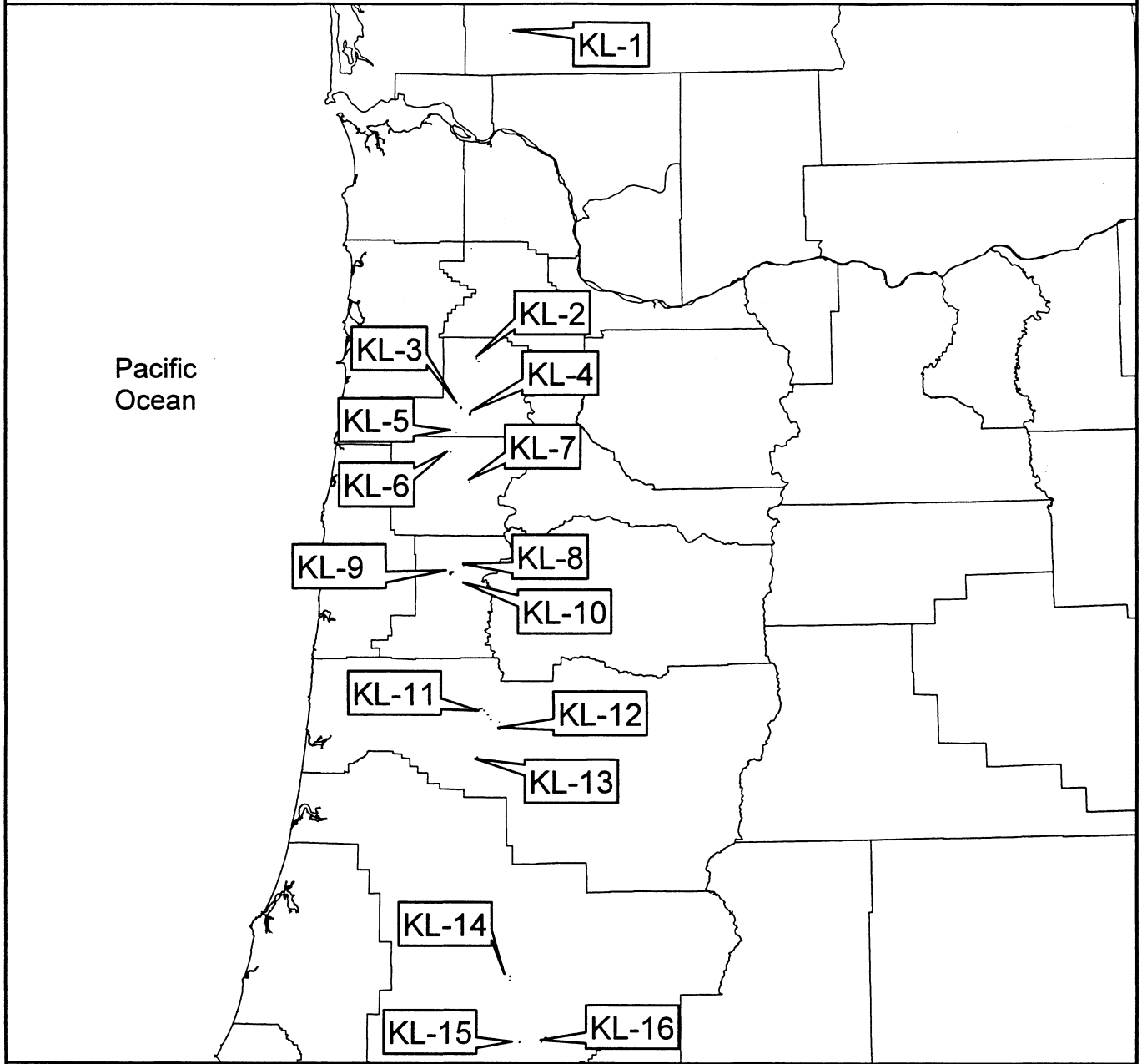
containing one or more of the primary constituent elements, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) Critical habitat units are described below. Data layers defining map units were created using USGS 2000 Digital Ortho Quads 24,000 in projection Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 27.

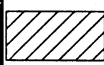
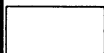
(5) **Note:** Map 1 (Index map for *Lupinus sulphureus* ssp. *kincaidii*) follows:

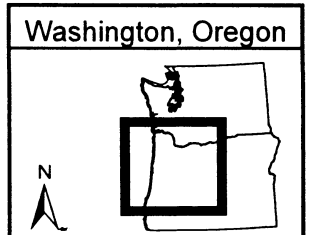
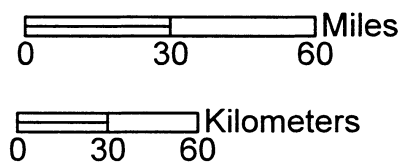


Index Map  
Map 1  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  County



(6) Unit 1 for *Lupinus sulphureus* ssp. *kincaidii* (KL-1), Lewis County, Washington.

(i) Unit 1A (KL-1A): 489842, 5153030; 489840, 5153036; 489840, 5153046; 489840, 5153098; 489840, 5153111; 489843, 5153115; 489848, 5153116; 489861, 5153117; 489902, 5153117; 489912, 5153117; 489917, 5153115; 489920, 5153110; 489922, 5153099; 489922, 5153044; 489920, 5153033; 489919, 5153028; 489913,

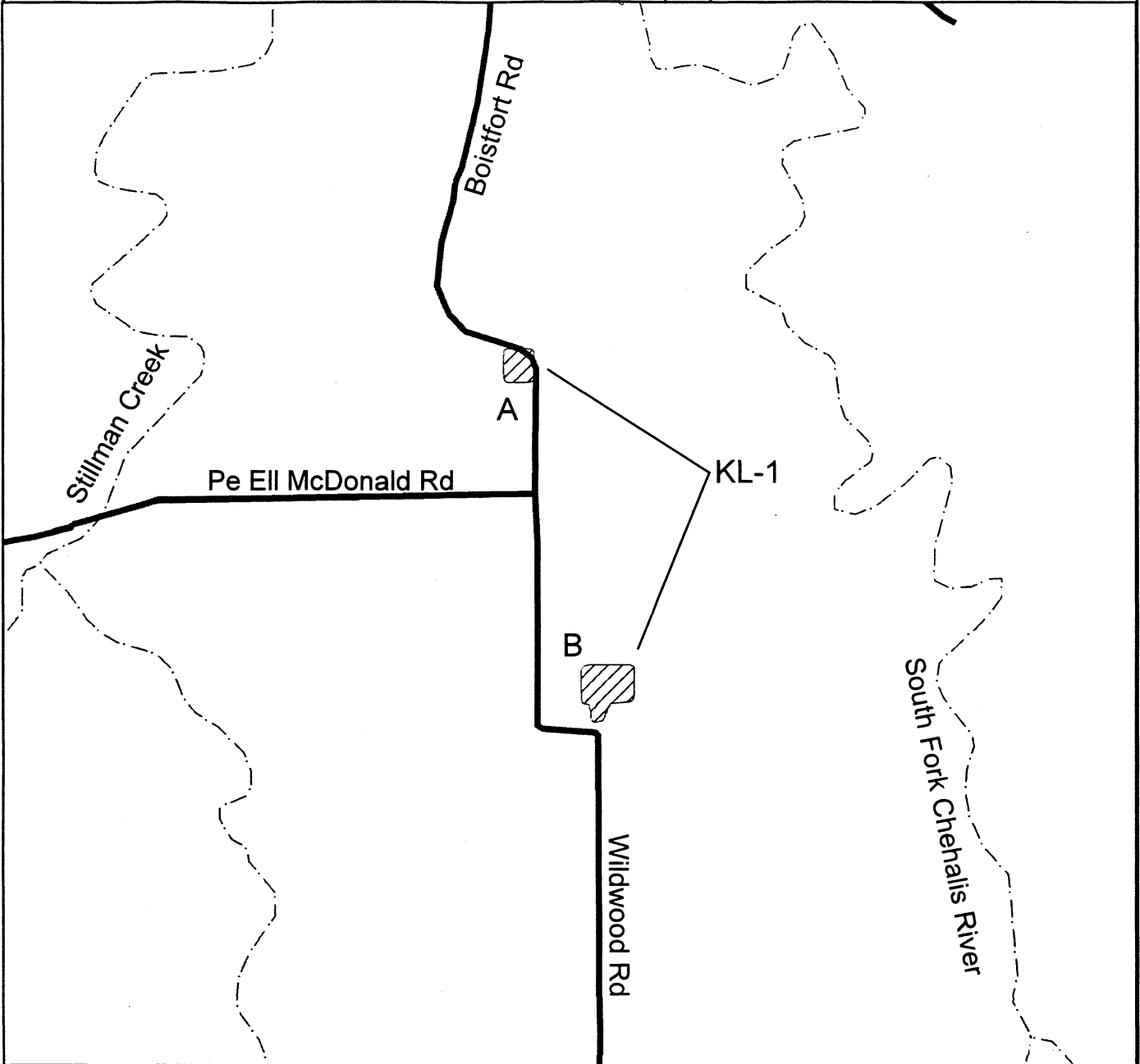
5153025; 489900, 5153024; 489859, 5153024; 489849, 5153025; 489842, 5153030.

(ii) Unit 1B (KL-1B): 490192, 5152263; 490192, 5152189; 490188, 5152176; 490177, 5152171; 490165, 5152171; 490131, 5152168; 490124, 5152161; 490121, 5152160; 490119, 5152148; 490115, 5152144; 490114, 5152137; 490109, 5152126; 490102, 5152121; 490098, 5152121; 490084, 5152118; 490080, 5152122; 490076,

5152130; 490076, 5152146; 490073, 5152152; 490073, 5152156; 490072, 5152164; 490056, 5152167; 490051, 5152171; 490050, 5152178; 490050, 5152196; 490050, 5152257; 490056, 5152268; 490072, 5152271; 490180, 5152271; 490189, 5152268; 490192, 5152263.


(iii) **Note:** Map 2 of Unit 1 of *Lupinus sulphureus* ssp. *kincaidii* (KL-1) follows:

Map 2, Unit KL-1  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)




Legend

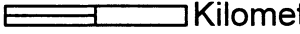
 Proposed Critical Habitat

 Rivers

 Major Roads

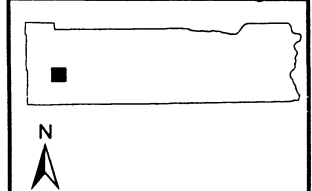
 Miles

0 0.2 0.4

 Kilometers

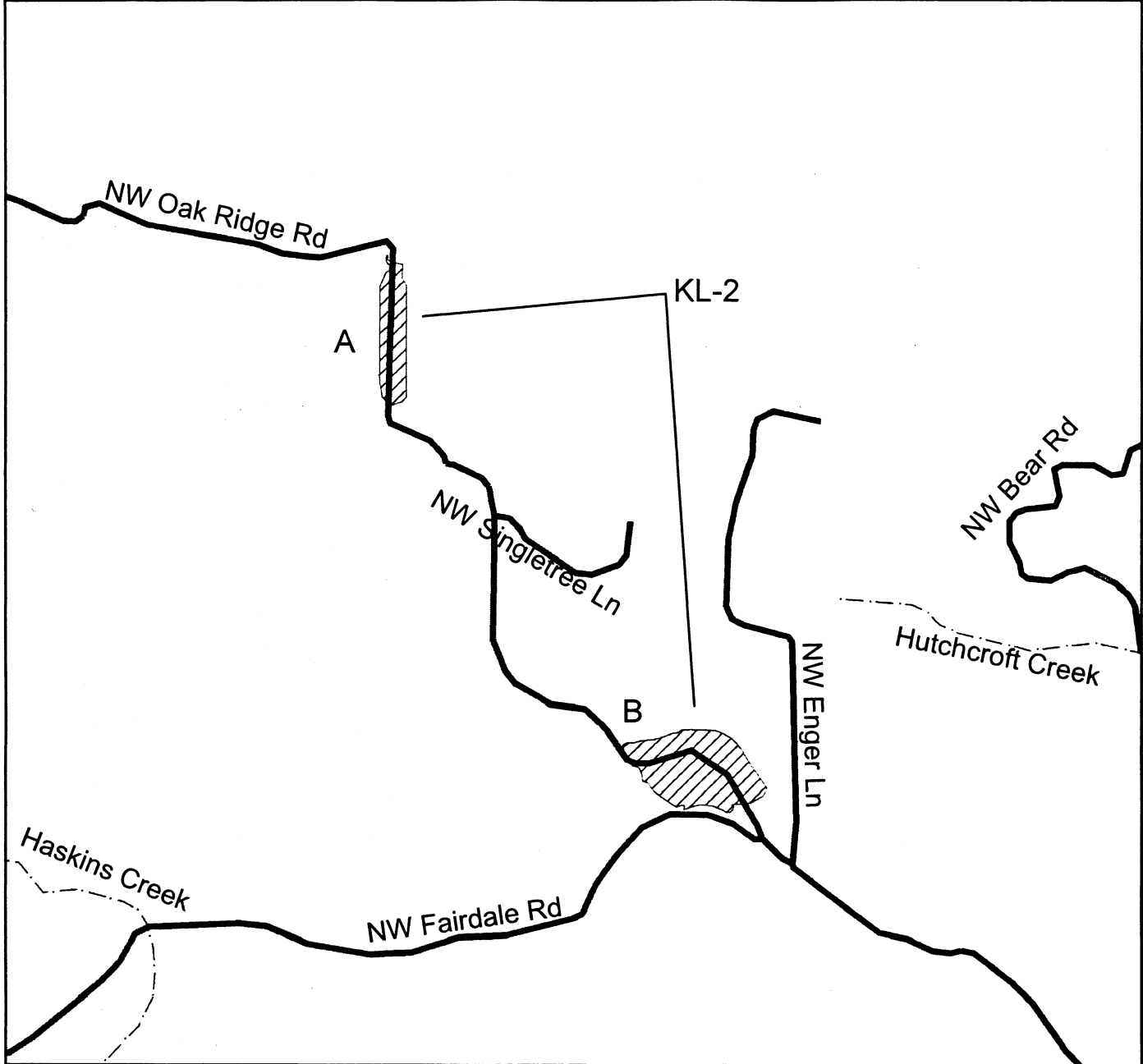
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Lewis County


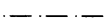



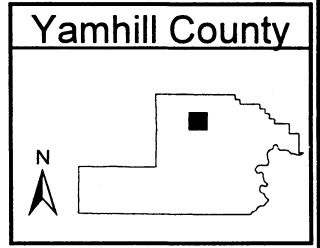
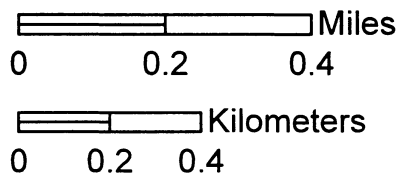


Map 3, Unit KL-2  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(8) Units 3 and 4 for *Lupinus sulphureus* ssp. *kincaidii* (KL-3 and KL-4), Yamhill County, Oregon.

(i) Unit 3 (KL-3): 470725, 5003387; 470725, 5003399; 470728, 5003400; 470728, 5003406; 470733, 5003407; 470738, 5003441; 470741, 5003444; 470749, 5003447; 470755, 5003446; 470764, 5003444; 470769, 5003441; 470775, 5003430; 470778, 5003422; 470780, 5003416; 470782, 5003411; 470787, 5003400; 470790, 5003393; 470794, 5003387; 470797, 5003383; 470810, 5003372; 470817, 5003367; 470829, 5003362; 470836, 5003356; 470841, 5003352; 470852, 5003349; 470856, 5003345; 470858, 5003343; 470869, 5003337; 470878, 5003335; 470891, 5003328; 470895, 5003325; 470901, 5003320; 470914, 5003313; 470925, 5003301; 470930, 5003295; 470937, 5003286; 470945, 5003282; 470948, 5003277; 470948, 5003271; 470948, 5003260; 470951, 5003247; 470955, 5003235; 470959, 5003231; 470965, 5003226; 470972, 5003226; 470984, 5003224; 470992, 5003223; 471004, 5003220; 471012, 5003218; 471016, 5003215; 471018, 5003209; 471014, 5003202; 471011, 5003200; 471006, 5003198; 470998, 5003191; 470991, 5003187; 470988, 5003186; 470981, 5003180; 470977, 5003176; 470973, 5003168; 470970, 5003165; 470968, 5003159; 470968, 5003151; 470968, 5003132; 470968, 5003123; 470967, 5003109; 470965, 5003099; 470962, 5003090; 470961, 5003075; 470965, 5003070; 470966, 5003065; 470967, 5003055; 470965, 5003048; 470969, 5003041; 470974, 5003036; 470979, 5003036; 470984, 5003035; 470986, 5003035; 470990, 5003032; 470995, 5003027; 470998, 5003022; 470998, 5003015; 470998, 5003010; 470994, 5003007; 470988, 5003006; 470977, 5003006; 470973, 5003006; 470963, 5003004; 470957, 5003001; 470949, 5002996; 470947, 5002994; 470945, 5002987; 470944, 5002981; 470946, 5002976; 470949, 5002967; 470958, 5002964; 470965, 5002964; 470973, 5002962; 470981, 5002958; 470988, 5002955; 470994, 5002951; 470999, 5002946; 471004, 5002937; 471005, 5002932; 471010, 5002924; 471012, 5002918; 471010, 5002913; 471011, 5002902; 471003, 5002893; 470992, 5002886; 470982, 5002892; 470966, 5002893; 470956, 5002901; 470945, 5002909; 470932, 5002914; 470925, 5002911; 470914, 5002904; 470905, 5002901; 470893, 5002900; 470876, 5002901; 470868, 5002895; 470867, 5002887; 470879, 5002867; 470888, 5002866; 470935, 5002861; 470970, 5002859; 470988, 5002861; 470991, 5002853; 470998, 5002837;

471002, 5002828; 471012, 5002821; 471016, 5002816; 471015, 5002796; 471017, 5002785; 471017, 5002776; 471016, 5002766; 471015, 5002751; 471014, 5002740; 471012, 5002737; 471008, 5002734; 470998, 5002731; 470988, 5002734; 470981, 5002737; 470975, 5002739; 470967, 5002744; 470959, 5002745; 470951, 5002747; 470943, 5002747; 470929, 5002745; 470924, 5002744; 470917, 5002740; 470908, 5002741; 470894, 5002743; 470884, 5002741; 470878, 5002739; 470871, 5002737; 470865, 5002735; 470861, 5002735; 470853, 5002735; 470843, 5002736; 470834, 5002737; 470826, 5002742; 470819, 5002745; 470814, 5002751; 470811, 5002758; 470811, 5002764; 470809, 5002774; 470805, 5002784; 470801, 5002791; 470797, 5002795; 470787, 5002802; 470780, 5002802; 470772, 5002802; 470760, 5002805; 470752, 5002811; 470750, 5002818; 470747, 5002830; 470746, 5002840; 470744, 5002861; 470743, 5002874; 470740, 5002886; 470738, 5002896; 470735, 5002904; 470731, 5002910; 470729, 5002911; 470716, 5002892; 470717, 5002872; 470704, 5002848; 470692, 5002827; 470696, 5002824; 470691, 5002816; 470690, 5002804; 470692, 5002800; 470703, 5002799; 470698, 5002794; 470700, 5002783; 470695, 5002776; 470691, 5002769; 470690, 5002762; 470695, 5002753; 470682, 5002753; 470682, 5002723; 470692, 5002723; 470689, 5002717; 470691, 5002709; 470694, 5002702; 470684, 5002700; 470675, 5002699; 470665, 5002704; 470657, 5002701; 470651, 5002704; 470645, 5002701; 470640, 5002694; 470623, 5002696; 470617, 5002697; 470608, 5002697; 470604, 5002707; 470589, 5002716; 470582, 5002715; 470580, 5002725; 470564, 5002726; 470563, 5002707; 470555, 5002695; 470553, 5002676; 470548, 5002670; 470553, 5002660; 470562, 5002655; 470562, 5002646; 470557, 5002635; 470564, 5002625; 470557, 5002608; 470514, 5002689; 470514, 5002732; 470561, 5002844; 470604, 5002950; 470685, 5003149; 470688, 5003164; 470693, 5003185; 470725, 5003387.

(ii) Unit 4A (KL-4A): 474339, 5000068; 474325, 5000064; 474320, 5000070; 474312, 5000070; 474311, 5000064; 474300, 5000057; 474282, 5000050; 474270, 5000046; 474267, 5000055; 474260, 5000056; 474256, 5000051; 474251, 5000055; 474247, 5000059; 474237, 5000061; 474230, 5000068; 474230, 5000079; 474229, 5000089; 474231, 5000094; 474229, 5000099; 474231, 5000108; 474231, 5000123; 474230, 5000155; 474233, 5000175; 474238, 5000186; 474234,

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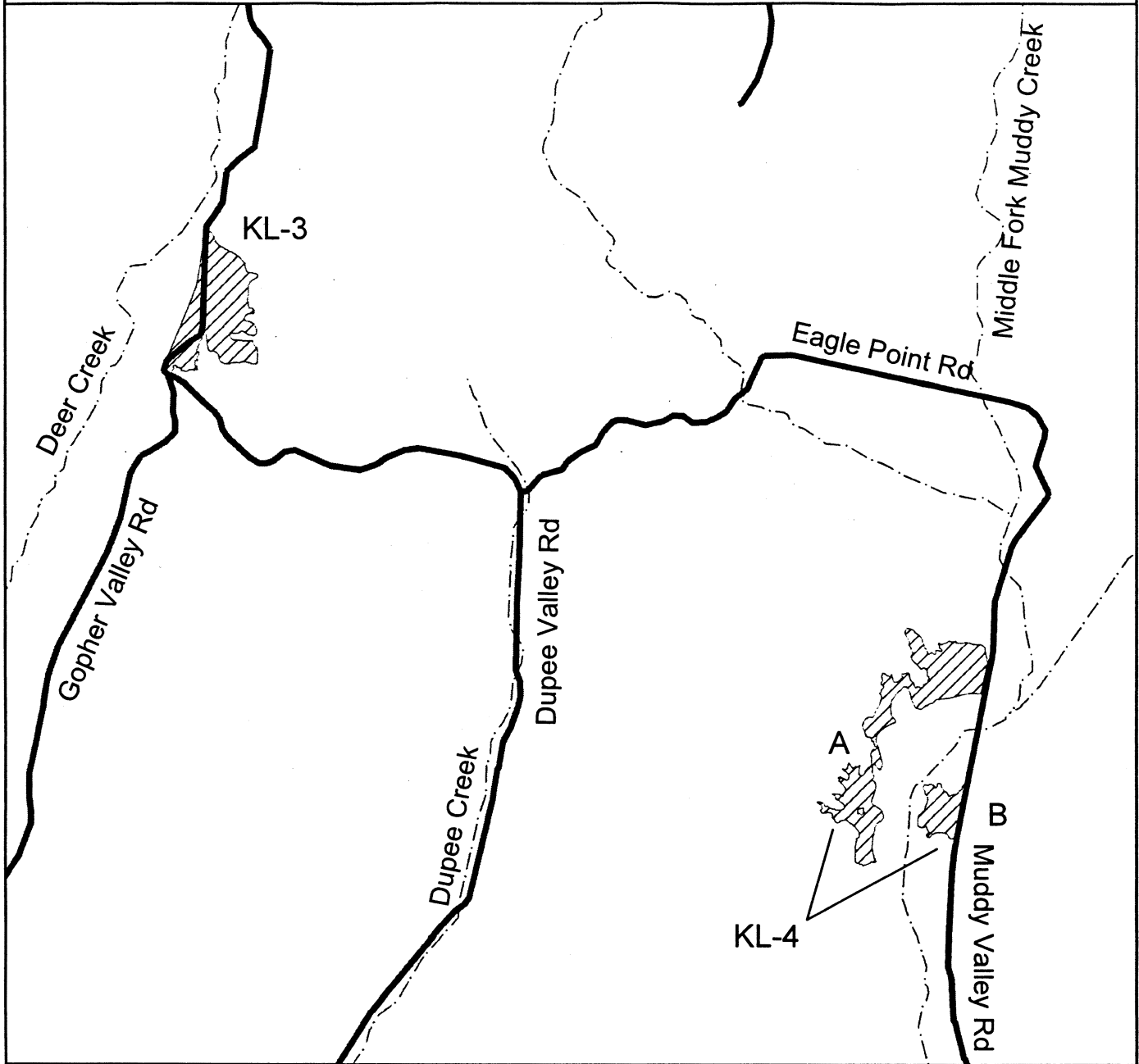
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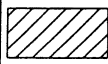
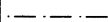

(iii) Unit 4B (KL-4B): 474825, 5000448; 474804, 5000350; 474787, 5000258; 474783, 5000230; 474782, 5000217; 474779, 5000202; 474772, 5000193; 474754, 5000191; 474739, 5000194; 474729, 5000204; 474723, 5000215; 474716, 5000222; 474702, 5000226; 474685, 5000227; 474669, 5000226; 474658, 5000223; 474640, 5000215; 474629, 5000204; 474621, 5000199; 474613, 5000202; 474609, 5000211; 474612, 5000218; 474617, 5000220; 474623, 5000229; 474615, 5000239; 474610, 5000255; 474610, 5000260; 474607, 5000264; 474598, 5000254; 474589, 5000252; 474580, 5000254; 474563, 5000263; 474564, 5000279; 474562, 5000290; 474566, 5000307; 474570, 5000316; 474581, 5000328; 474590, 5000336; 474598, 5000349; 474605, 5000362; 474611, 5000383; 474616, 5000399; 474618, 5000406; 474614, 5000417; 474604, 5000433; 474603, 5000446; 474597, 5000456; 474592, 5000468; 474596, 5000479; 474607, 5000481; 474619, 5000477; 474628, 5000481; 474638, 5000487; 474643, 5000478; 474647, 5000476; 474660, 5000464; 474667, 5000467; 474669, 5000479; 474671, 5000487; 474677, 5000489; 474687, 5000487; 474693, 5000469; 474698, 5000460; 474705, 5000445; 474719, 5000441; 474728, 5000430; 474731, 5000421; 474741, 5000424; 474751, 5000429; 474766, 5000430; 474779, 5000437; 474785, 5000445; 474792, 5000450; 474801, 5000456; 474803, 5000472; 474813, 5000483; 474823, 5000490; 474830, 5000485; 474830, 5000467; 474825, 5000448.

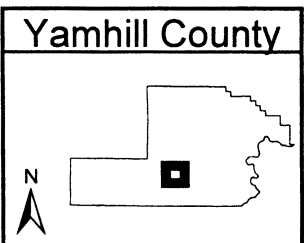
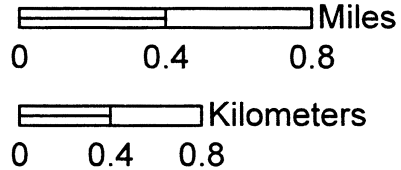
(iv) **Note:** Map 4 of Units 3 and 4 for *Lupinus sulphureus* ssp. *kincaidii* (KL-3 and KL-4) follows:

Map 4, Units KL-3 and KL-4  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads





(9) Units 5 and 6 for *Lupinus sulphureus* ssp. *kincaidii* (KL-5 and KL-6): Yamhill and Polk Counties, Oregon.

(i) Unit 5 (KL-5): 468981, 4992995; 469003, 4992969; 468989, 4992935; 468949, 4992915; 468897, 4992904; 468904, 4992979; 468953, 4992996; 468981, 4992995.

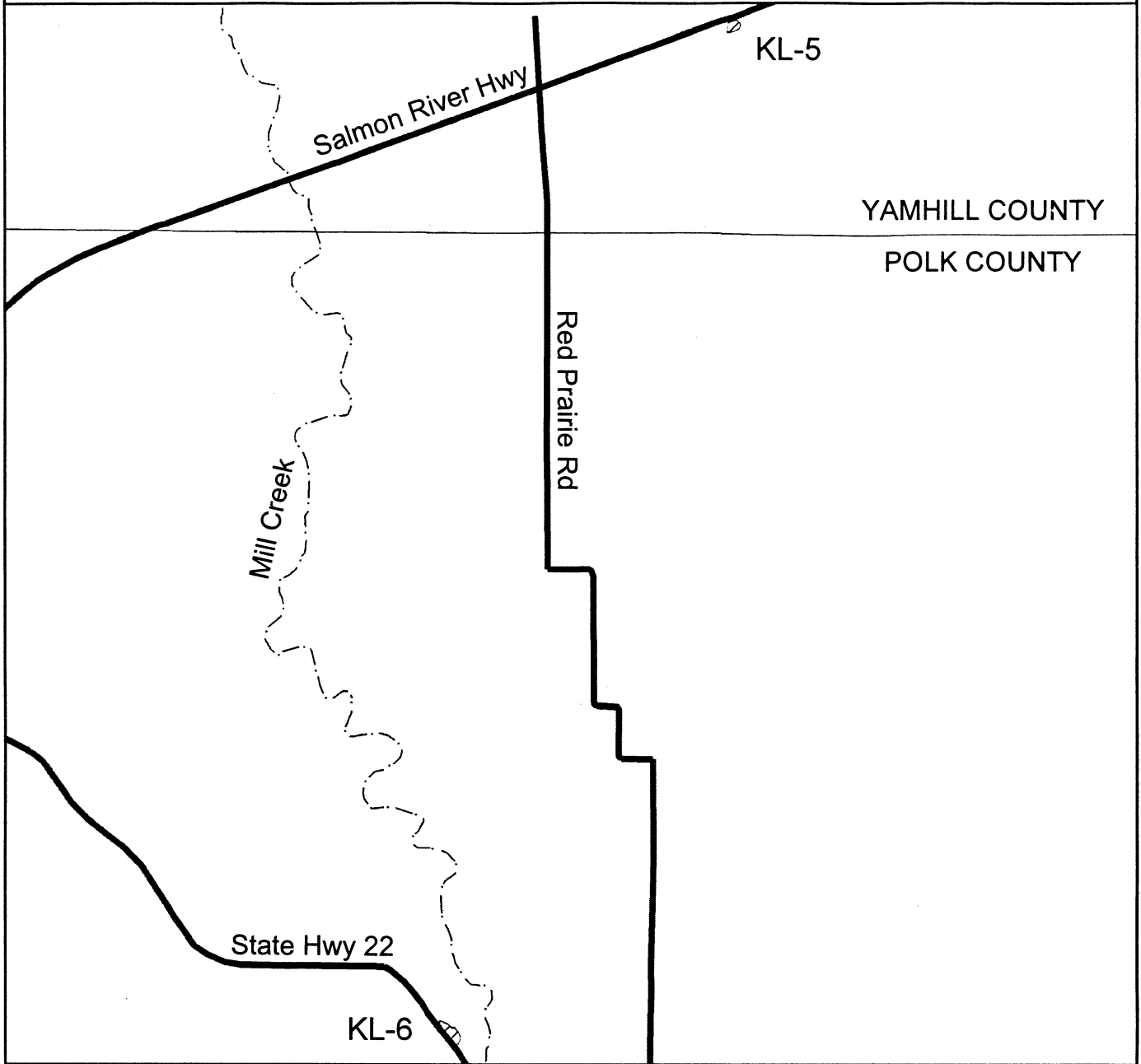
(ii) Unit 6 (KL-6): 466683, 4985320; 466691, 4985320; 466712, 4985309; 466744, 4985295; 466788, 4985264; 466788, 4985266; 466788, 4985267; 466788, 4985268; 466789, 4985269;

466789, 4985270; 466790, 4985271; 466791, 4985272; 466792, 4985273; 466793, 4985273; 466795, 4985273; 466796, 4985274; 466797, 4985273; 466798, 4985273; 466800, 4985272; 466800, 4985272; 466801, 4985271; 466802, 4985270; 466802, 4985269; 466803, 4985267; 466803, 4985266; 466803, 4985265; 466802, 4985264; 466805, 4985263; 466814, 4985246; 466828, 4985234; 466834, 4985222; 466841, 4985196; 466839, 4985170; 466828, 4985145; 466814, 4985129;


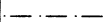

466805, 4985129; 466783, 4985143; 466767, 4985178; 466742, 4985216; 466725, 4985214; 466725, 4985212; 466721, 4985211; 466718, 4985210; 466715, 4985211; 466711, 4985212; 466707, 4985213; 466700, 4985220; 466694, 4985237; 466694, 4985239; 466694, 4985241; 466696, 4985243; 466710, 4985258; 466681, 4985295; 466683, 4985320.

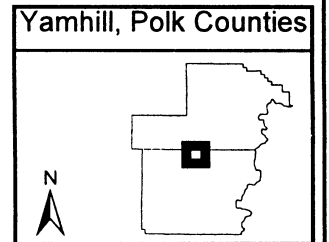
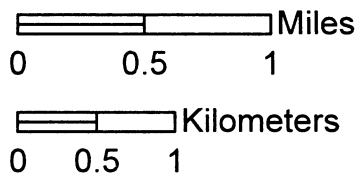
(iii) **Note:** Map 5 of Units 5 and 6 for *Lupinus sulphureus* ssp. *kincaidii* (KL-5 and KL-6) follows:

Map 5, Units KL-5 and KL-6  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(10) Unit 7 for *Lupinus sulphureus* ssp. *kincaidii* (KL-7), Polk County, Oregon.

(i) Unit 7 (KL-7): 474107, 4973322; 474272, 4973321; 474269, 4973168; 474273, 4973168; 474274, 4973107; 474153, 4973107; 474153, 4973026; 474053, 4973026; 474051, 4973029; 474049, 4973032; 474047, 4973034;

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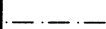

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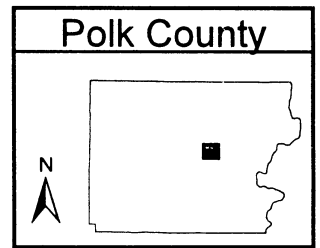
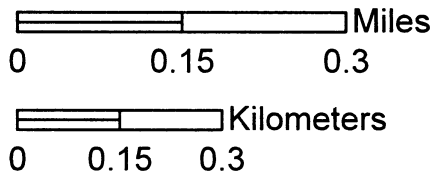
(ii) **Note:** Map 6 of Unit 7 for *Lupinus sulphureus* ssp. *kincaidii* (Unit KL-7) follows:

Map 6, Unit KL-7  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(11) Units 8, 9, and 10 for *Lupinus sulphureus* ssp. *kincaidii* (KL-8, KL-9, and KL-10), Benton County, Oregon.

(i) Unit 8 (KL-8): 471794, 4940353;

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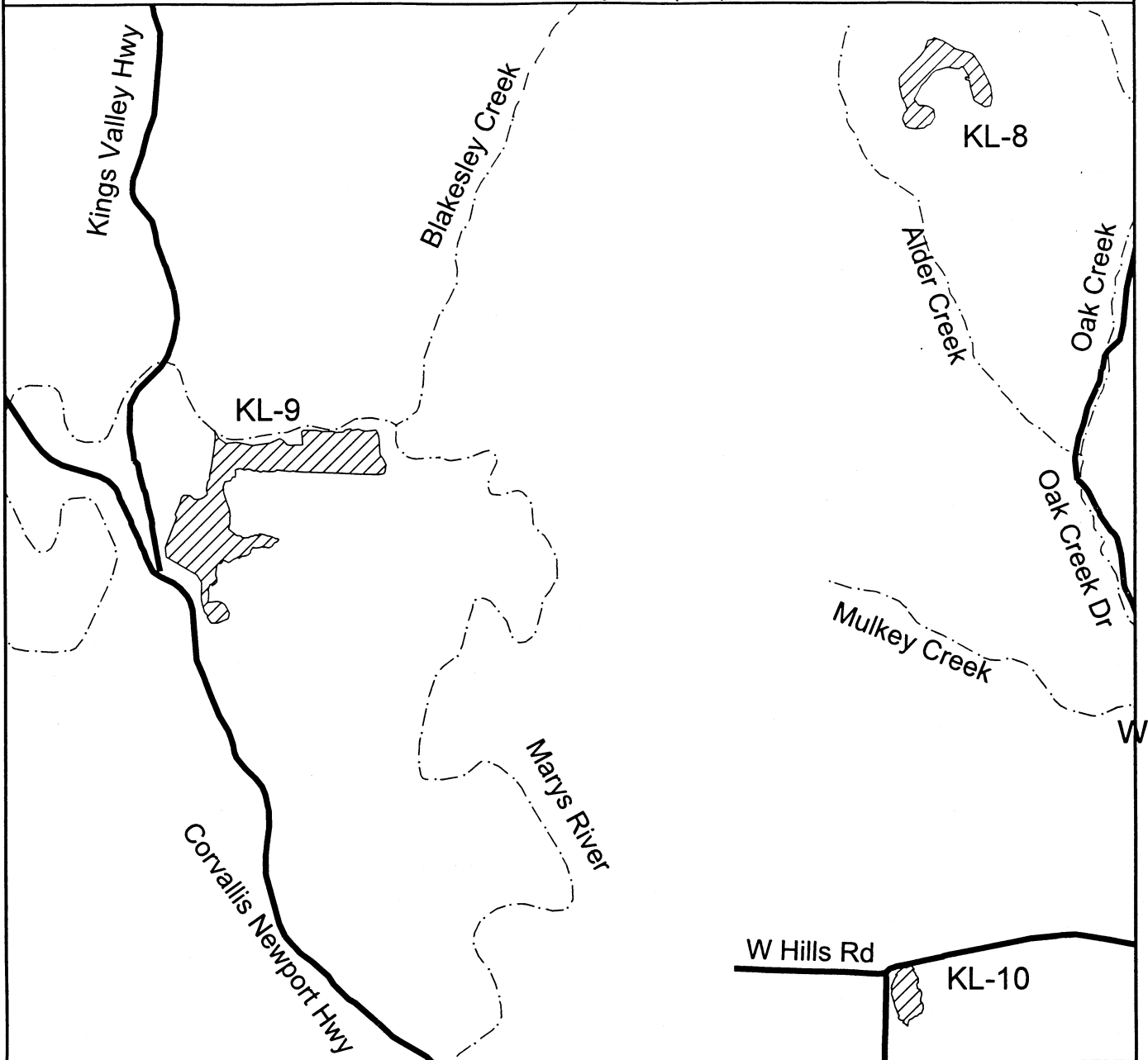
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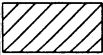
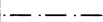

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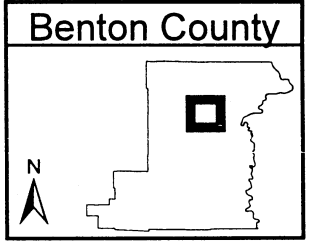
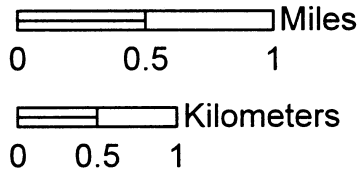
(iv) **Note:** Map 7 of Units 8, 9, and 10 for *Lupinus sulphureus* ssp. *kincaidii* (KL-8, KL-9, and KL-10) follows:

Map 7, Units KL-8, KL-9, and KL-10  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads





(12) Units 11 and 12 for *Lupinus sulphureus* ssp. *kincaidii* (KL–11 and KL–12), Lane County, Oregon.

(i) Unit 11A (KL–11A): 478296, 4882954; 478298, 4882969; 478304, 4882985; 478322, 4883013; 478329, 4883031; 478335, 4883047; 478339, 4883067; 478349, 4883088; 478361, 4883104; 478367, 4883118; 478379, 4883126; 478392, 4883133; 478406, 4883134; 478415, 4883127; 478417, 4883114; 478420, 4883108; 478423, 4883095; 478429, 4883084; 478441, 4883074; 478458, 4883069; 478496, 4883065; 478510, 4883065; 478524, 4883065; 478536, 4883063; 478562, 4883057; 478566, 4883056; 478555, 4883049; 478551, 4883048; 478547, 4883048; 478548, 4883039; 478543, 4883035; 478539, 4883034; 478535, 4883034; 478528, 4883030; 478527, 4883024; 478526, 4883021; 478527, 4883013; 478522, 4883015; 478514, 4883014; 478508, 4883005; 478480, 4882999; 478454, 4882997; 478443, 4882989; 478429, 4882989; 478419, 4882997; 478411, 4882989; 478403, 4882979; 478397, 4882963; 478382, 4882940; 478366, 4882933; 478349, 4882940; 478333, 4882956; 478318, 4882944; 478296, 4882954.

(ii) Unit 11B (KL–11B): 478625, 4882999; 478629, 4883002; 478637, 4883001; 478640, 4883008; 478639, 4883017; 478649, 4883022; 478660, 4883025; 478664, 4883022; 478670, 4883022; 478676, 4883024; 478697, 4883033; 478707, 4883039; 478725, 4883031; 478729, 4883021; 478731, 4883011; 478746, 4883005; 478766, 4883009; 478772, 4883015; 478790, 4883005; 478810, 4883015; 478816, 4883037; 478816, 4883053; 478814, 4883069; 478806, 4883096; 478815, 4883107; 478859, 4883108; 478901, 4883104; 478921, 4883108; 479004, 4883110; 479010, 4883102; 479010, 4883102; 479013, 4882998; 479010, 4882997; 479004, 4882995; 479006, 4882987; 479013, 4882982; 479014, 4882979; 479010, 4882969; 478998, 4882965; 478963, 4882963; 478931, 4882967; 478927, 4882977; 478913, 4882973; 478897, 4882961; 478858, 4882952; 478838, 4882954; 478832, 4882961; 478819, 4882982; 478808, 4882981; 478794, 4882977; 478778, 4882977; 478764, 4882965; 478761, 4882964; 478754, 4882965; 478745, 4882963; 478740, 4882964; 478733, 4882965; 478727, 4882963; 478724, 4882966; 478718, 4882968; 478712, 4882967; 478705, 4882966; 478698, 4882964; 478695, 4882965; 478690, 4882966; 478681, 4882963; 478663, 4882963; 478648, 4882961; 478642, 4882963; 478630, 4882964; 478624, 4882966; 478623, 4882973; 478627,

4882983; 478625, 4882993; 478625, 4882999.

(iii) Unit 11C (KL–11C): 479209, 4883080; 479213, 4883102; 479211, 4883128; 479213, 4883156; 479211, 4883190; 479211, 4883217; 479215, 4883247; 479211, 4883265; 479209, 4883283; 479217, 4883313; 479219, 4883337; 479239, 4883339; 479278, 4883339; 479320, 4883342; 479362, 4883342; 479389, 4883340; 479413, 4883340; 479443, 4883333; 479455, 4883325; 479445, 4883317; 479419, 4883305; 479409, 4883299; 479403, 4883279; 479397, 4883259; 479385, 4883239; 479377, 4883215; 479372, 4883204; 479373, 4883192; 479373, 4883176; 479375, 4883162; 479372, 4883148; 479362, 4883128; 479358, 4883120; 479354, 4883108; 479366, 4883104; 479370, 4883102; 479373, 4883083; 479372, 4883075; 479370, 4883061; 479366, 4883041; 479362, 4883025; 479346, 4883003; 479332, 4883007; 479334, 4882993; 479322, 4882977; 479306, 4882967; 479282, 4882967; 479266, 4882969; 479246, 4882973; 479227, 4882971; 479219, 4882977; 479213, 4882991; 479211, 4883009; 479209, 4883033; 479209, 4883080.

(iv) Unit 11D (KL–11D): 479942, 4882401; 479946, 4882431; 479954, 4882449; 479962, 4882455; 479980, 4882461; 479990, 4882465; 479999, 4882463; 480017, 4882459; 480037, 4882473; 480047, 4882494; 480063, 4882502; 480077, 4882508; 480109, 4882512; 480134, 4882518; 480158, 4882532; 480172, 4882532; 480172, 4882522; 480172, 4882500; 480174, 4882466; 480174, 4882391; 480174, 4882307; 480171, 4882234; 480169, 4882164; 480159, 4882157; 480143, 4882160; 480119, 4882161; 480100, 4882155; 480037, 4882155; 480023, 4882162; 480015, 4882171; 479994, 4882182; 479982, 4882179; 479978, 4882213; 479980, 4882240; 479978, 4882272; 479976, 4882288; 479968, 4882318; 479954, 4882344; 479944, 4882371; 479942, 4882401.

(v) Unit 11E (KL–11E): 481375, 4880635; 481376, 4880642; 481378, 4880650; 481382, 4880653; 481386, 4880656; 481391, 4880657; 481398, 4880658; 481400, 4880657; 481401, 4880675; 481437, 4880674; 481437, 4880675; 481443, 4880679; 481448, 4880686; 481454, 4880692; 481461, 4880697; 481466, 4880702; 481473, 4880709; 481478, 4880715; 481481, 4880724; 481484, 4880732; 481485, 4880737; 481486, 4880744; 481487, 4880751; 481488, 4880756; 481488, 4880762; 481488, 4880768; 481485, 4880774; 481482, 4880779; 481480, 4880786; 481478, 4880790; 481477, 4880795; 481475, 4880803; 481474,

4880808; 481473, 4880813; 481473, 4880820; 481467, 4880823; 481460, 4880829; 481455, 4880836; 481454, 4880844; 481455, 4880854; 481460, 4880864; 481464, 4880872; 481468, 4880877; 481472, 4880882; 481476, 4880886; 481481, 4880892; 481489, 4880897; 481495, 4880902; 481502, 4880908; 481511, 4880912; 481515, 4880917; 481521, 4880920; 481529, 4880923; 481535, 4880925; 481542, 4880927; 481547, 4880929; 481554, 4880928; 481562, 4880928; 481571, 4880927; 481579, 4880926; 481585, 4880924; 481592, 4880922; 481597, 4880919; 481601, 4880915; 481602, 4880913; 481612, 4880913; 481615, 4880820; 481611, 4880820; 481611, 4880816; 481612, 4880815; 481616, 4880815; 481616, 4880806; 481617, 4880802; 481620, 4880797; 481623, 4880792; 481624, 4880785; 481625, 4880779; 481624, 4880773; 481624, 4880768; 481624, 4880763; 481622, 4880754; 481621, 4880747; 481621, 4880738; 481619, 4880734; 481619, 4880726; 481619, 4880715; 481618, 4880702; 481618, 4880691; 481618, 4880679; 481618, 4880667; 481617, 4880657; 481617, 4880647; 481617, 4880635; 481617, 4880621; 481617, 4880610; 481616, 4880599; 481616, 4880591; 481616, 4880583; 481616, 4880575; 481616, 4880566; 481615, 4880556; 481615, 4880554; 481614, 4880528; 481593, 4880528; 481590, 4880526; 481585, 4880524; 481580, 4880525; 481572, 4880525; 481565, 4880525; 481559, 4880525; 481553, 4880523; 481548, 4880523; 481540, 4880523; 481534, 4880523; 481526, 4880522; 481519, 4880520; 481513, 4880519; 481508, 4880518; 481501, 4880518; 481492, 4880520; 481485, 4880522; 481478, 4880523; 481470, 4880525; 481463, 4880525; 481456, 4880525; 481451, 4880526; 481446, 4880527; 481440, 4880528; 481437, 4880529; 481399, 4880530; 481399, 4880545; 481399, 4880545; 481396, 4880551; 481392, 4880559; 481388, 4880568; 481385, 4880577; 481384, 4880586; 481382, 4880595; 481381, 4880600; 481381, 4880606; 481378, 4880617; 481376, 4880627; 481375, 4880635.

(vi) Unit 12A (KL–12A): 482595, 4878851; 482687, 4878901; 482911, 4878899; 482883, 4878825; 482792, 4878741; 482744, 4878644; 482654, 4878599; 482625, 4878583; 482637, 4878489; 482654, 4878466; 482492, 4878476; 482492, 4878521; 482544, 4878709; 482595, 4878851.

(vii) Unit 12B (KL–12B): 483896, 4878996; 483911, 4878992; 483905, 4878969; 483900, 4878970; 483898, 4878969; 483891, 4878967; 483885, 4878967; 483879, 4878968; 483872,

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(viii) Unit 12C (KL-12C): 485980, 4877758; 485984, 4877781; 485987, 4877794; 485999, 4877814; 486024, 4877817; 486038, 4877818; 486042, 4877818; 486064, 4877815; 486085, 4877816; 486099, 4877812; 486110, 4877795; 486113, 4877755; 486111, 4877741; 486112, 4877740; 486112, 4877737; 486112, 4877737; 486112, 4877736; 486112, 4877735; 486110, 4877734; 486110, 4877734; 486107, 4877713; 486106, 4877708; 486095, 4877689; 486073, 4877685; 486030, 4877683; 486019, 4877685; 486000, 4877689; 485980, 4877691; 485976, 4877703; 485978, 4877735; 485980, 4877755; 485980, 4877758.

(ix) Unit 12D (KL-12D): 486092, 4875616; 486105, 4875626; 486123, 4875643; 486143, 4875649; 486156, 4875646; 486159, 4875643; 486163, 4875634; 486164, 4875624; 486166, 4875609; 486169, 4875599; 486174, 4875586; 486190, 4875560; 486193, 4875549; 486195, 4875534; 486197, 4875513; 486200, 4875474; 486201, 4875316; 486185, 4874677; 486042,

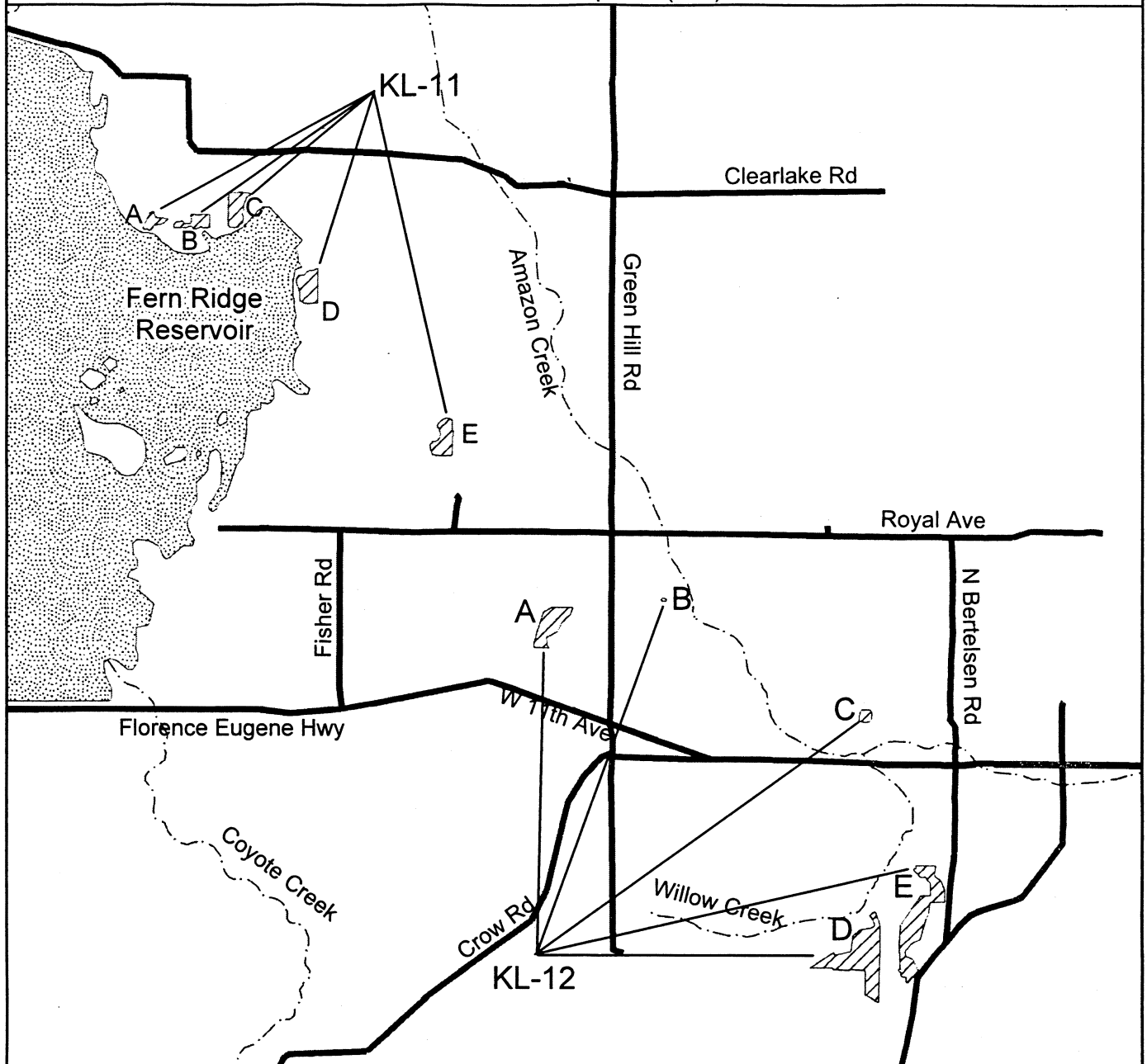
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(x) Unit 12E (KL-12E): 486401, 4875024; 486422, 4875028; 486417, 4875033; 486405, 4875292; 486421, 4875508; 486517, 4875652; 486614, 4875792; 486640, 4875821; 486742, 4875825; 486742, 4875951; 486725, 4875983; 486714, 4875983; 486709, 4875984; 486702, 4875993; 486694, 4876021; 486685, 4876033; 486684, 4876035; 486680, 4876031; 486676, 4876028; 486672, 4876025; 486660, 4876020; 486657, 4876018; 486652, 4876018; 486639, 4876025; 486629, 4876029; 486620, 4876034; 486614, 4876044; 486613, 4876052; 486610, 4876058; 486605, 4876068; 486594, 4876067; 486589, 4876066; 486585, 4876068; 486581, 4876078; 486576, 4876086; 486568, 4876093; 486565, 4876102; 486563, 4876110; 486565,


4876115; 486573, 4876118; 486577, 4876118; 486583, 4876115; 486588, 4876113; 486592, 4876119; 486590, 4876128; 486585, 4876137; 486580, 4876144; 486579, 4876147; 486795, 4876145; 486793, 4876121; 486790, 4876107; 486783, 4876064; 486783, 4876051; 486790, 4876034; 486805, 4876021; 486842, 4875993; 486855, 4875977; 486860, 4875962; 486869, 4875946; 486883, 4875908; 486893, 4875878; 486895, 4875857; 486896, 4875826; 486892, 4875791; 486893, 4875754; 486886, 4875756; 486738, 4875751; 486734, 4875744; 486731, 4875711; 486725, 4875665; 486720, 4875629; 486693, 4875573; 486629, 4875348; 486549, 4875312; 486469, 4875220; 486477, 4875168; 486553, 4875136; 486603, 4875021; 486608, 4875021; 486616, 4875020; 486601, 4874935; 486577, 4874945; 486546, 4874949; 486507, 4874882; 486482, 4874888; 486481, 4874944; 486439, 4874947; 486424, 4874957; 486426, 4874980; 486427, 4875000; 486409, 4875006; 486398, 4875018; 486401, 4875024.

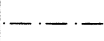
(xi) **Note:** Map 8 of Units 11 and 12 for *Lupinus sulphureus* ssp. *kincaidii* (KL-11 and KL-12) follows:

Map 8, Units KL-11 and KL-12  
*Lupinus sulphureus* ssp. *kincaidii*  
 Kincaid's Lupine (KL)

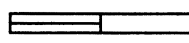


Legend

 Proposed Critical Habitat

 Rivers

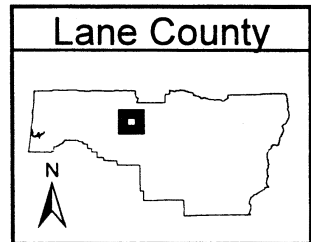
 Major Roads

 Miles

0 0.5 1

 Kilometers

0 0.5 1



(13) Unit 13 for *Lupinus sulphureus* ssp. *kincaidii* (KL-13), Lane County, Oregon.

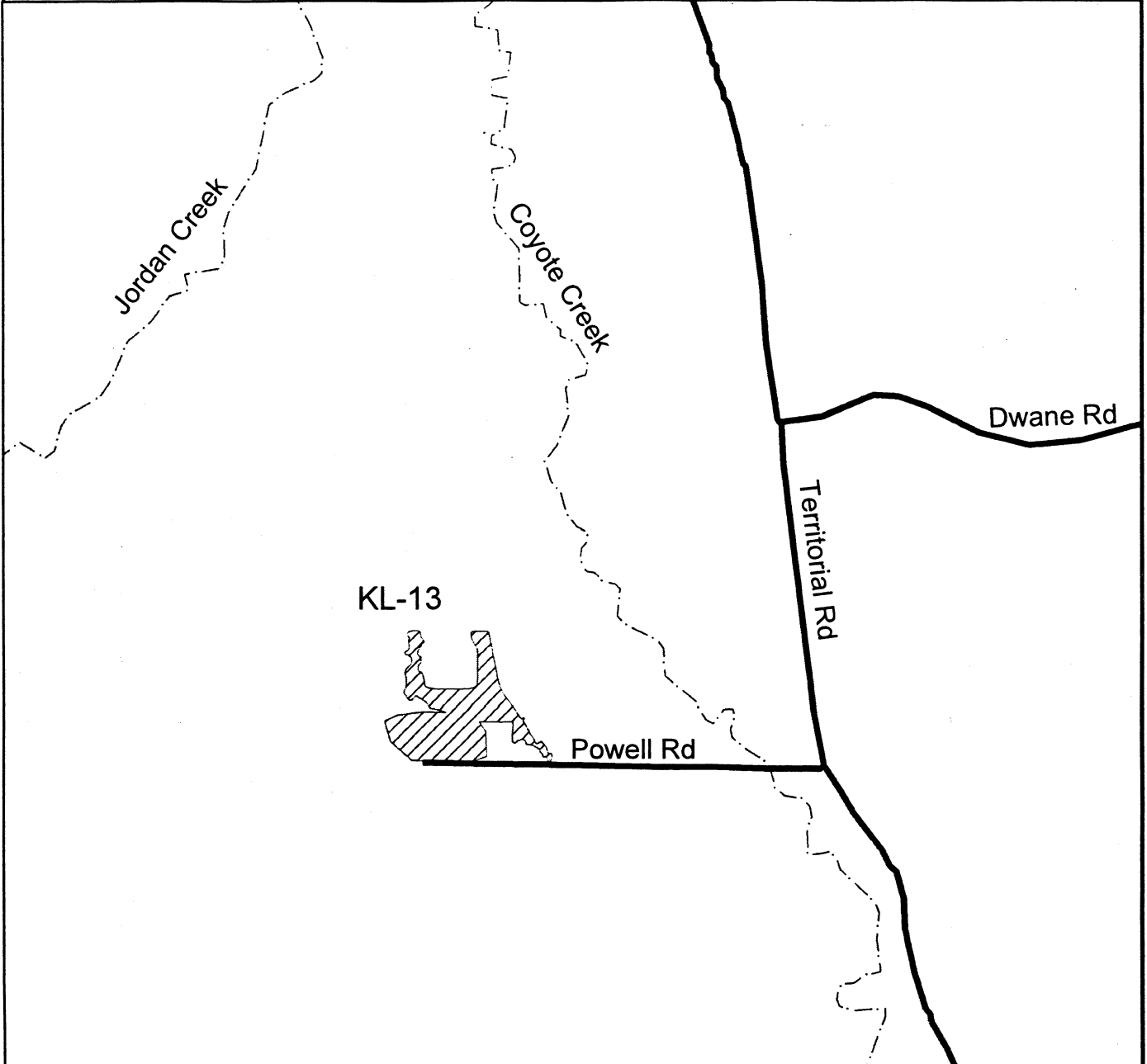
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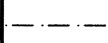
(ii) **Note:** Map 9 of Unit 13 for *Lupinus sulphureus* ssp. *kincaidii* (KL-13) follows:

Map 9, Unit KL-13  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)

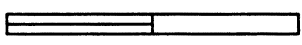


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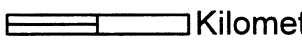
 Proposed Critical Habitat

 Rivers

 Major Roads

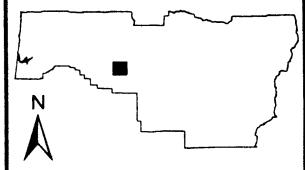
 Miles

0 0.2 0.4

 Kilometers

0 0.2 0.4

Lane County



(14) Unit 14 for *Lupinus sulphureus* ssp. *kincaidii* (KL-14), Douglas County, Oregon.

(i) Unit 14A (KL-14A): 490602, 4776084; 490612, 4776077; 490618, 4776068; 490618, 4776057; 490620, 4776044; 490614, 4776037; 490615, 4776021; 490618, 4776008; 490625, 4775994; 490627, 4775981; 490627, 4775976; 490628, 4775965; 490622, 4775954; 490620, 4775947; 490615, 4775935; 490607, 4775918; 490604, 4775913; 490598, 4775896; 490591, 4775890; 490572, 4775883; 490570, 4775881; 490562, 4775874; 490554, 4775864; 490547, 4775857; 490536, 4775841; 490526, 4775835; 490517, 4775838; 490504, 4775843; 490494, 4775839; 490477, 4775838; 490463, 4775837; 490451, 4775831; 490445, 4775827; 490431, 4775824; 490422, 4775823; 490417, 4775816; 490411, 4775817; 490406, 4775814; 490406, 4775797; 490406, 4775791; 490397, 4775784; 490405, 4775778; 490411, 4775782; 490418, 4775786; 490428, 4775785; 490433, 4775769; 490438, 4775760; 490448, 4775762; 490456, 4775764; 490458, 4775754; 490459, 4775746; 490453, 4775740; 490440, 4775742; 490435, 4775750; 490428,

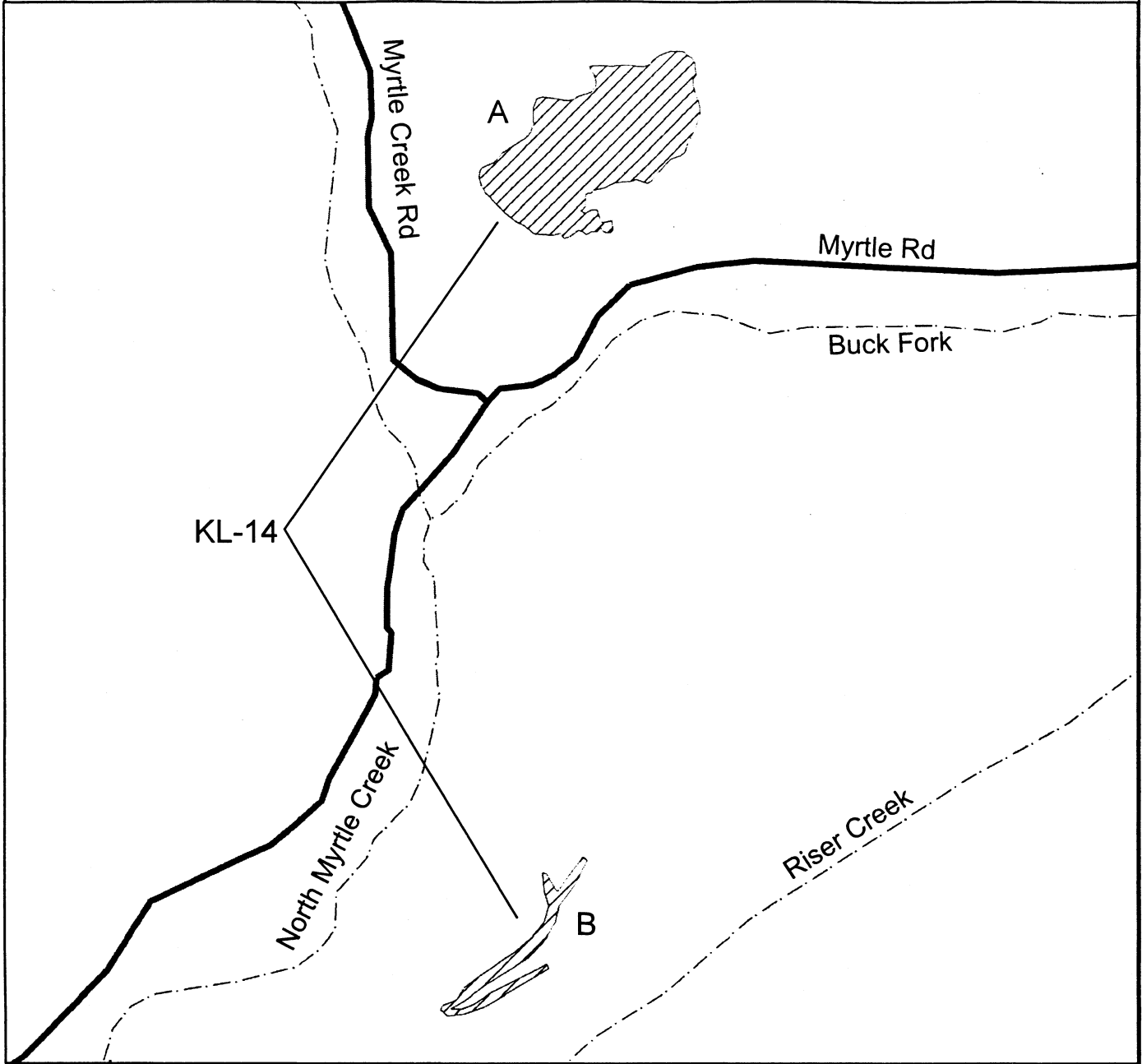
4775742; 490418, 4775743; 490407, 4775737; 490401, 4775742; 490392, 4775745; 490386, 4775740; 490375, 4775733; 490365, 4775730; 490358, 4775739; 490343, 4775735; 490321, 4775737; 490306, 4775738; 490295, 4775748; 490285, 4775756; 490272, 4775762; 490258, 4775773; 490250, 4775780; 490240, 4775790; 490231, 4775799; 490223, 4775809; 490214, 4775816; 490205, 4775831; 490201, 4775848; 490202, 4775858; 490205, 4775865; 490215, 4775870; 490229, 4775876; 490236, 4775883; 490244, 4775894; 490261, 4775904; 490280, 4775916; 490290, 4775921; 490298, 4775932; 490300, 4775936; 490303, 4775943; 490306, 4775950; 490305, 4775956; 490306, 4775969; 490306, 4775980; 490310, 4775993; 490312, 4775998; 490323, 4776002; 490339, 4775999; 490352, 4775998; 490366, 4775995; 490373, 4775995; 490382, 4775996; 490392, 4776002; 490406, 4776007; 490418, 4776012; 490425, 4776021; 490426, 4776030; 490425, 4776037; 490422, 4776046; 490417, 4776052; 490413, 4776060; 490418, 4776062; 490433, 4776062; 490443, 4776062; 490457, 4776061; 490467,

4776062; 490482, 4776063; 490495, 4776062; 490506, 4776061; 490516, 4776060; 490531, 4776064; 490536, 4776071; 490549, 4776082; 490562, 4776087; 490573, 4776091; 490583, 4776090; 490595, 4776090; 490600, 4776087; 490602, 4776084.




(ii) Unit 14B (KL-14 B): 490166, 4774242; 490191, 4774252; 490218, 4774271; 490330, 4774328; 490334, 4774320; 490211, 4774246; 490187, 4774238; 490169, 4774232; 490138, 4774229; 490132, 4774235; 490125, 4774241; 490130, 4774250; 490156, 4774260; 490171, 4774283; 490205, 4774308; 490268, 4774351; 490304, 4774382; 490326, 4774410; 490334, 4774440; 490326, 4774467; 490322, 4774504; 490329, 4774503; 490351, 4774467; 490357, 4774476; 490368, 4774491; 490376, 4774502; 490401, 4774535; 490408, 4774528; 490387, 4774485; 490376, 4774468; 490354, 4774439; 490347, 4774409; 490326, 4774373; 490293, 4774339; 490212, 4774288; 490174, 4774259; 490146, 4774243; 490166, 4774242.

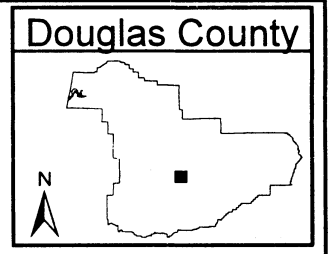
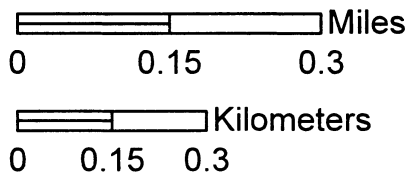
(iii) **Note:** Map 10 of Unit 14 for *Lupinus sulphureus* ssp. *kincaidii* (KL-14) follows:

Map 10, Unit KL-14  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)



Legend

-  Proposed Critical Habitat
-  Rivers
-  Major Roads



(15) Unit 15 for *Lupinus sulphureus* ssp. *kincaidii* (KL-15), Douglas County, Oregon.

(i) Unit 15A (KL-15A): 494125, 4749925; 494126, 4749931; 494137, 4749937; 494141, 4749943; 494144, 4749954; 494144, 4749957; 494143, 4749961; 494143, 4749965; 494146, 4749969; 494152, 4749971; 494158, 4749970; 494159, 4749967; 494162, 4749961; 494166, 4749956; 494177, 4749957; 494190, 4749949; 494202, 4749952; 494212, 4749950; 494215, 4749955; 494219, 4749960; 494223, 4749963; 494227, 4749966; 494234, 4749968; 494240, 4749970; 494249, 4749970; 494255, 4749968; 494261, 4749964; 494270, 4749958; 494277, 4749952; 494284, 4749947; 494288, 4749944; 494293, 4749941; 494299, 4749939; 494347, 4749908; 494358, 4749906; 494360, 4749898; 494365, 4749887; 494367, 4749877; 494362, 4749871; 494354, 4749873; 494354, 4749871; 494344, 4749868; 494336, 4749868; 494326, 4749872; 494318, 4749877; 494313, 4749881; 494307, 4749884; 494296, 4749889; 494290, 4749894; 494281, 4749901; 494269, 4749904; 494255, 4749911; 494239, 4749920; 494235, 4749928; 494231, 4749935; 494221, 4749939; 494217, 4749938; 494216, 4749925; 494206, 4749921; 494190, 4749921; 494177, 4749927; 494170, 4749931; 494168, 4749931; 494158, 4749931; 494157, 4749930; 494151, 4749927; 494143, 4749924; 494131, 4749920; 494127, 4749922; 494125, 4749925.

(ii) Unit 15B (KL-15B): 494094, 4749518; 494100, 4749524; 494107, 4749523; 494114, 4749521; 494126, 4749519; 494142, 4749518; 494150, 4749519; 494160, 4749521; 494164, 4749522; 494172, 4749525; 494177, 4749526; 494184, 4749525; 494197, 4749521; 494214, 4749514; 494228, 4749509; 494235, 4749495; 494240, 4749482; 494242, 4749471; 494244,

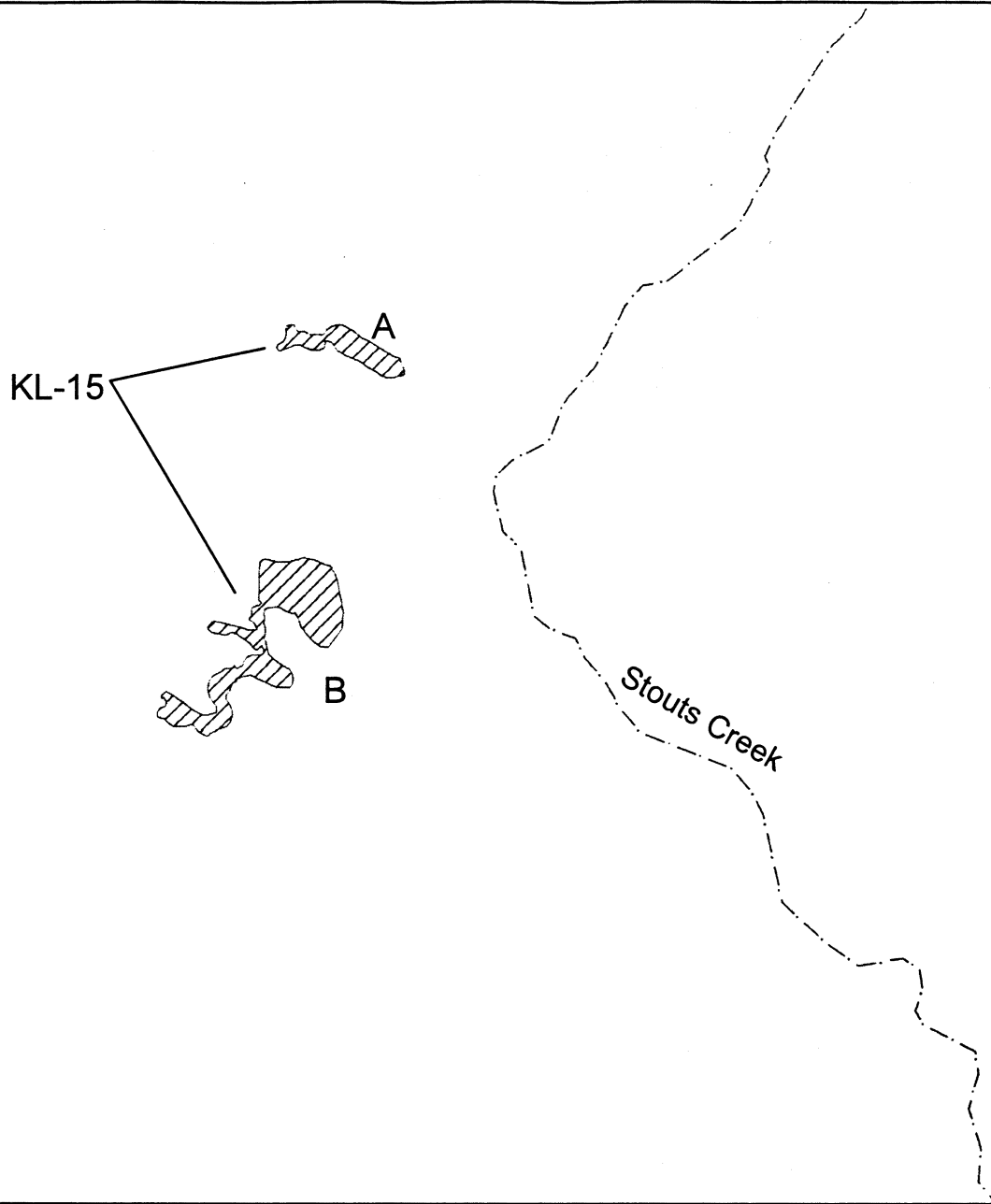
4749459; 494248, 4749444; 494248, 4749434; 494251, 4749423; 494250, 4749413; 494250, 4749402; 494248, 4749391; 494239, 4749379; 494228, 4749365; 494223, 4749357; 494208, 4749358; 494195, 4749368; 494187, 4749375; 494172, 4749395; 494168, 4749406; 494163, 4749415; 494161, 4749422; 494154, 4749420; 494145, 4749424; 494137, 4749428; 494134, 4749431; 494127, 4749433; 494118, 4749433; 494110, 4749432; 494106, 4749430; 494102, 4749428; 494101, 4749422; 494101, 4749416; 494102, 4749409; 494100, 4749403; 494100, 4749402; 494104, 4749391; 494104, 4749387; 494102, 4749378; 494101, 4749375; 494103, 4749370; 494110, 4749343; 494117, 4749336; 494126, 4749328; 494140, 4749321; 494150, 4749316; 494155, 4749307; 494156, 4749298; 494155, 4749288; 494149, 4749282; 494133, 4749282; 494124, 4749282; 494110, 4749288; 494097, 4749295; 494085, 4749300; 494077, 4749305; 494068, 4749304; 494058, 4749301; 494053, 4749298; 494048, 4749298; 494049, 4749293; 494044, 4749291; 494042, 4749289; 494039, 4749285; 494038, 4749281; 494035, 4749275; 494030, 4749267; 494030, 4749258; 494035, 4749249; 494039, 4749240; 494041, 4749232; 494039, 4749223; 494036, 4749215; 494030, 4749207; 494016, 4749203; 494006, 4749198; 493998, 4749196; 493998, 4749193; 493995, 4749191; 493991, 4749191; 493987, 4749193; 493983, 4749196; 493978, 4749198; 493972, 4749202; 493968, 4749208; 493968, 4749211; 493960, 4749210; 493951, 4749208; 493928, 4749208; 493923, 4749211; 493920, 4749213; 493916, 4749218; 493913, 4749222; 493905, 4749223; 493900, 4749226; 493899, 4749228; 493898, 4749232; 493901, 4749238; 493903, 4749242; 493908, 4749244; 493914, 4749246; 493916, 4749251; 493915, 4749257; 493911,

4749262; 493906, 4749263; 493907, 4749266; 493911, 4749270; 493915, 4749274; 493930, 4749266; 493938, 4749260; 493946, 4749255; 493951, 4749251; 493960, 4749243; 493970, 4749237; 493977, 4749233; 493984, 4749229; 493995, 4749230; 494010, 4749233; 494011, 4749240; 494010, 4749247; 494005, 4749253; 493997, 4749264; 493996, 4749272; 493994, 4749277; 493995, 4749283; 493997, 4749292; 494002, 4749301; 494010, 4749308; 494020, 4749311; 494022, 4749315; 494026, 4749317; 494035, 4749317; 494046, 4749322; 494046, 4749319; 494051, 4749318; 494060, 4749322; 494061, 4749327; 494065, 4749333; 494069, 4749338; 494077, 4749342; 494083, 4749343; 494091, 4749341; 494100, 4749344; 494100, 4749350; 494097, 4749361; 494092, 4749355; 494085, 4749352; 494076, 4749363; 494065, 4749372; 494058, 4749376; 494050, 4749383; 494041, 4749385; 494035, 4749384; 494029, 4749380; 494022, 4749382; 494006, 4749384; 494000, 4749386; 493996, 4749390; 493993, 4749394; 493999, 4749399; 494001, 4749403; 494004, 4749405; 494010, 4749405; 494053, 4749395; 494063, 4749392; 494070, 4749389; 494079, 4749389; 494087, 4749390; 494084, 4749400; 494080, 4749404; 494078, 4749407; 494073, 4749408; 494073, 4749412; 494077, 4749416; 494078, 4749424; 494078, 4749430; 494080, 4749433; 494085, 4749434; 494088, 4749435; 494095, 4749438; 494096, 4749441; 494091, 4749446; 494039, 4749317; 494041, 4749318; 494042, 4749319; 494043, 4749321; 494045, 4749324; 494091, 4749457; 494092, 4749463; 494092, 4749484; 494091, 4749489; 494092, 4749503; 494093, 4749510; 494094, 4749518.

(iii) **Note:** Map 11 of Unit 15 for *Lupinus sulphureus* ssp. *kincaidii* (KL-15) follows:

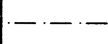


Map 11, Unit KL-15  
*Lupinus sulphureus* ssp. *kincaidii*  
Kincaid's Lupine (KL)

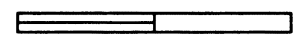


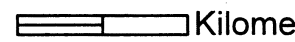
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 Proposed Critical Habitat

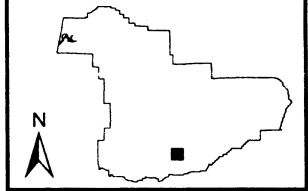
 Rivers

 Major Roads

 Miles  
0 0.15 0.3

 Kilometers  
0 0.15 0.3

Douglas County



(16) Unit 16 for *Lupinus sulphureus* ssp. *kincaidii* (KL-16), Douglas County, Oregon.

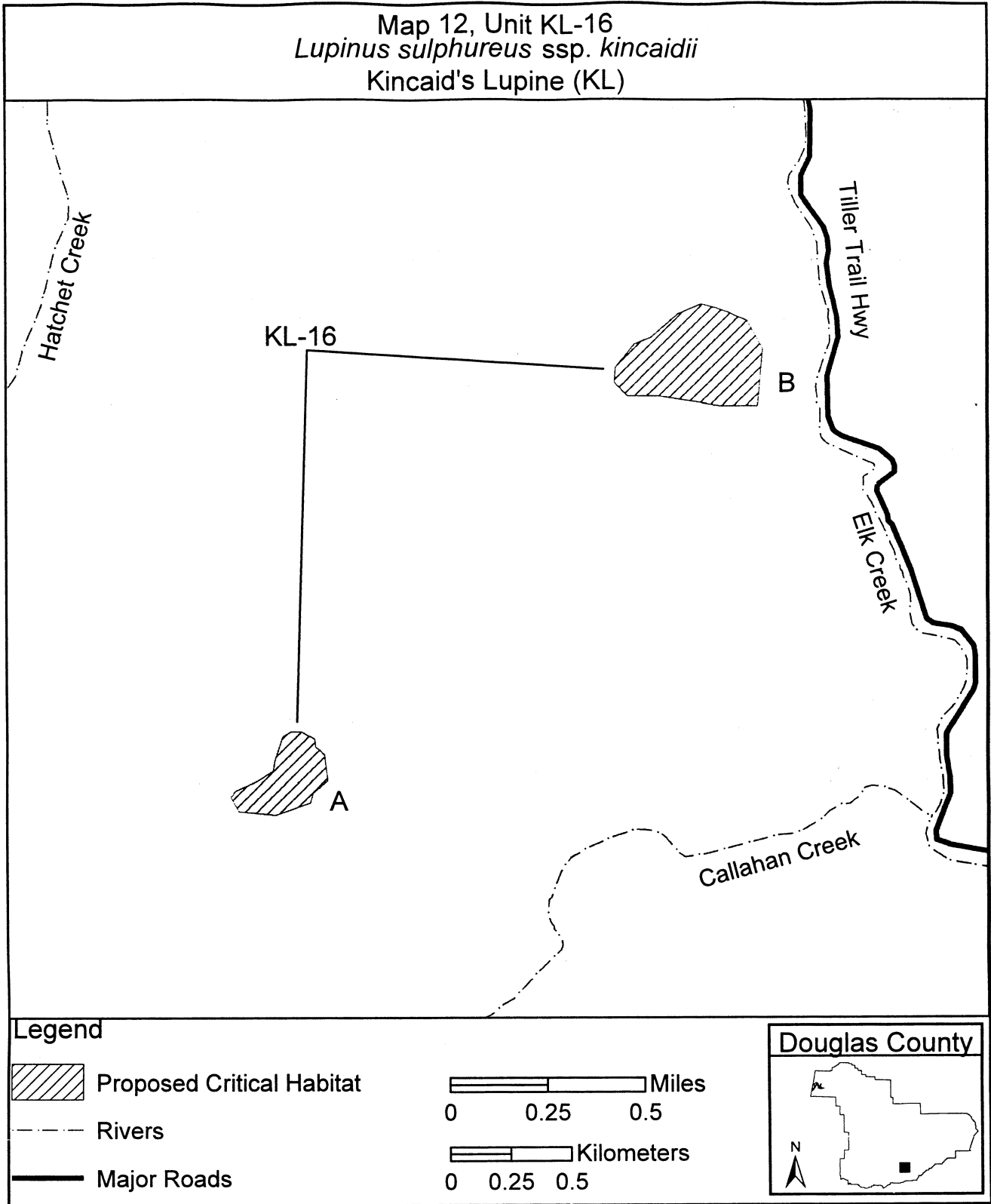
(i) Unit 16A (KL-16A): 503016, 4749664; 503030, 4749556; 503007, 4749538; 502968, 4749502; 502958, 4749463; 502814, 4749412; 502662, 4749428; 502628, 4749486; 502648, 4749512; 502738, 4749554; 502804,

4749595; 502810, 4749637; 502845, 4749741; 502880, 4749760; 502922, 4749759; 502976, 4749731; 502979, 4749697; 503016, 4749664.

(ii) Unit 16B (KL-16B): 504719, 4751476; 504768, 4751456; 504833, 4751339; 504810, 4751102; 504659, 4751102; 504407, 4751141; 504275, 4751141; 504219, 4751199; 504225,

4751260; 504303, 4751358; 504371, 4751385; 504483, 4751483; 504578, 4751524; 504626, 4751513; 504691, 4751491; 504719, 4751476.

(iii) **Note:** Map 12 of Unit 16 for *Lupinus sulphureus* ssp. *kincaidii* (KL-16) follows:



\* \* \* \* \*

Dated: October 17, 2005.  
**Craig Manson,**  
*Assistant Secretary for Fish and Wildlife and Parks.*  
[FR Doc. 05-21333 Filed 11-1-05; 8:45 am]  
BILLING CODE 4310-55-C