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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Oregon Chub (Oregonichthys crameri); Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

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[FWS–R1–ES–2009–0010; 92210–1117–000–B4]

RIN 1018–AV87

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Oregon Chub (Oregonichthys crameri)

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 Oregon chub (*Oregonichthys crameri*) pursuant to the Endangered Species Act of 1973, as amended (Act). In total, approximately 53 hectares (ha) (132 acres (ac)) fall within the boundaries of the proposed critical habitat designation. The proposed critical habitat is located in Benton, Lane, Linn, and Marion Counties, Oregon.

DATES: We will accept comments received on or before May 11, 2009. We must receive requests for public hearings, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section by April 24, 2009.

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

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *U.S. Mail or Hand Delivery:* U.S. mail or hand-delivery: Public Comments Processing, *Attn:* RIN 1018–AV87; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (*see* ''Public Comments'' section below for more information).

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

SUPPLEMENTARY INFORMATION:

Public Comments

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, we request comments or suggestions on this proposed rule. We particularly seek comments concerning:

1. The reasons why we should or should not designate habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including whether there are threats to the species from human activity, the degree of which can be expected to increase due to the designation, and whether the benefit of designation would outweigh threats to the species caused by the designation, such that the designation of critical habitat is prudent.

2. Specific information on:

- The amount and distribution of habitat for the species included in this proposed rule;
- What areas occupied at the time of listing, and that contain features essential for the conservation of the species, we should include and why; and
- What areas not occupied at the time of listing are essential to the conservation of the species and why.

3. Land use designations and current or planned activities in areas occupied by the species, and their possible impacts on the species and the proposed critical habitat.

4. Any foreseeable economic, national security, or other potential impacts resulting from the proposed designation and, in particular, any impacts on small entities and the benefits of including or excluding areas that exhibit these impacts.

5. Whether the benefits of excluding any particular area from critical habitat outweigh the benefits of including that area as critical habitat under section 4(b)(2) of the Act, after considering the potential impacts and benefits of the proposed critical habitat designation.

6. Special management considerations or protections that the proposed critical habitat may require.

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

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not consider comments sent by e-mail or fax or to an address not listed in the **ADDRESSES** section.

If you submit a comment via *http://www.regulations.gov,* your entire comment—including any personal identifying information—will be posted on the Web site. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy comments on *http://www.regulations.gov.*

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

You may obtain copies of the proposed rule by mail from the Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**) or by visiting the Federal eRulemaking Portal at *http://www.regulations.gov.*

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For a more complete discussion of the ecology and life history of this species, *please see* the Oregon Chub 5-year Review Summary and Evaluation completed February 11, 2008 (*http://www.fws.gov/pacific/ecoservices/endangered/recovery/Documents/Oregonchub.pdf*).

Description and Taxonomy

The Oregon chub (*Oregonichthys crameri*) was first described in scientific literature in 1908 (Snyder 1908, pp. 181–182), but it wasn't until 1991 that it was identified as a unique species (Markle *et al.* 1991, pp. 284–289). Oregon chub have an olive-colored back (dorsum) grading to silver on the sides and white on the belly. Scales are relatively large with fewer than 40 occurring along the lateral line; scales near the back are outlined with dark pigment (Markle *et al.* 1991, pp. 286–288). While young of the year range in length from 7 to 32 millimeters (mm) (0.3 to 1.3 inches (in)), adults can be up to 90 mm (3.5 in) in length (Pearsons 1989, p. 17). The species is distinguished from its closest relative, the Umpqua chub (*Oregonichthys kalawatseti*), by Oregon chub's longer caudal peduncle (the narrow part of a fish's body to which the tail is attached), mostly scaled breast, and more terminal mouth position (Markle *et al.* 1991, p. 290).

Distribution and Habitat

Oregon chub are found in slack-water, off-channel habitats with little or no flow, silty and organic substrate, and considerable aquatic vegetative cover for hiding and spawning (Pearsons 1989, p. 10; Markle *et al.* 1991, p. 288; Scheerer and Jones 1997, p. 5; Scheerer *et al.* 2007, p. 3). The species' aquatic habitat is typically at depths of less than or equal to 2 meters (m) (6.6 feet (ft)), and has a summer subsurface water temperature exceeding 15 °Celsius (°C) (61 °Fahrenheit (°F)) (Scheerer and Apke 1997, p. 45; Scheerer 2002, p. 1073; Scheerer and McDonald 2003, p. 69). Optimal Oregon chub habitat provides 1 square meter (m^2) (11 square feet (ft^2)) of aquatic surface area per adult, at depths between 0.5 m (1.6 ft) to 2 m (6.6 ft) (Scheerer 2008b). Oregon chub can be relatively long lived with males living up to 7 years and females up to 9 years, although less than 10 percent of fish in most Oregon chub populations are older than 3 years (Scheerer and McDonald 2003, p. 71). Outside of spawning season, the species is social and non-aggressive with fish of similar size classes schooling and feeding together (Pearsons 1989, pp. 16–17).

The species is endemic to the Willamette River drainage of western Oregon (Markle *et al.* 1991, p. 288) and was formerly distributed throughout the Willamette River Valley in a dynamic network of off-channel habitats such as beaver ponds, oxbows, side channels, backwater sloughs, low-gradient tributaries, and flooded marshes in the floodplain (Snyder 1908, p. 182). Records show Oregon chub were found as far downstream as Oregon City, as far upstream as Oakridge, and in various tributaries within the Willamette basin (Markle *et al.* 1991, p. 288).

Historically, Oregon chub would be dispersed and their habitat regularly altered, increased, or eliminated due to regular winter and spring flood events (Benner and Sedell 1997, pp. 27–28); this dispersal created opportunities for interbreeding between different populations. The installation of the flood control projects in the Willamette River basin altered the natural flow regime, and flooding no longer plays a positive role in creating Oregon chub habitat or providing opportunities for genetic mixing of populations. Flood events now threaten Oregon chub populations due to the dispersal of nonnative species that compete with or prey on Oregon chub. Whereas natural perturbations like floods often favor native species over nonnative species, human perturbations typically favor the nonnative species. In the Santiam River basin, the two largest natural populations of Oregon chub declined substantially after nonnative fishes invaded these habitat during the 1996 floods, and no new populations of Oregon chub were discovered in habitats located downstream of existing chub populations during thorough sampling in 1997–2000. This suggests that no successful colonization occurred as a result of the flooding event (Scheerer 2002, p. 1078).

Currently, the largest populations of Oregon chub occur in locations with the highest diversity of native fish, amphibian, reptile and plant species (Scheerer and Apke 1998, p. 11). Beaver (*Castor canadensis*) appear to be especially important in creating and maintaining habitats that support these diverse native species assemblages (Scheerer and Apke 1998, p. 45). Conversely, the establishment and expansion of nonnative species in Oregon have contributed to the decline of the Oregon chub, limiting the species' ability to expand beyond its current range (Scheerer 2007, p. 92). Many sites formerly inhabited by the Oregon chub are now occupied by nonnative species (Scheerer *et al.* 2007, p. 9; Scheerer 2007a, p. 96). Sites with high connectivity to adjacent flowing water frequently contain nonnative predatory fishes and rarely contain Oregon chub (Scheerer 2007, p. 99). The presence of centrarchids (e.g., *Micropterus* sp. (largemouth bass, smallmouth bass, bluegill) and *Pomoxis* sp. (crappies)), and bullhead catfishes (*Ameiurus* sp.) is probably preventing Oregon chub from recolonizing suitable habitats throughout the basin (Markle *et al.* 1991, p. 291).

Although surveys conducted by the Oregon Department of Fish and Wildlife (ODFW) prior to the 1993 listing of Oregon chub as endangered under the Act indicated the presence of the species at 17 different locations, the impacts of floodplain alteration and nonnative predators and competitors were clearly represented in the relatively small numbers of Oregon chub found at these sites. At the time of listing, these surveys were the best evidence of the then-current distribution of the species. Of these 17 sites, only 9 supported populations of 10 or more Oregon chub, and all but 1 of those populations were found within a 30-kilometer (km) (19-mile (mi)) stretch of the Middle Fork Willamette River in the vicinity of Dexter and Lookout Point Reservoirs in Lane County, Oregon; this stretch represented just 2 percent of the species' historical range (58 FR 53800; October 18, 1993). Very small numbers of the species, between 1 and 7 individuals, were found at the remaining eight of the 17 sites at the time of listing. Currently, the distribution of Oregon chub is limited to 25 known naturally occurring populations and 11 reintroduced populations scattered throughout the Willamette Valley (Scheerer *et al.* 2007, p. 2; 2008a, p. 2).

Previous Federal Actions

In 1993, we listed Oregon chub as endangered, in accordance with the Endangered Species Act (Act) (58 FR 53800; October 18, 1993). In that listing, we concluded that critical habitat was prudent but not determinable. A recovery plan for the Oregon chub was completed in 1998 (USFWS 1998). The Oregon chub recovery plan established certain criteria for downlisting the species from endangered to threatened, which included establishing and managing 10 populations of at least 500 adults each that exhibit a stable or increasing trend for 5 years. The recovery plan states that, for purposes of downlisting the species, at least three populations must be located in each of the three sub-basins of the Willamette River identified in the plan (Mainstem Willamette River, Middle Fork Willamette, and Santiam River). The recovery plan also established criteria for delisting the Oregon chub (i.e., removing it from the List of Endangered and Threatened Wildlife). These include establishing and managing 20 populations of at least 500 adults each, which demonstrate a stable or increasing trend for 7 years. In addition, at least four populations must be located in each of the three sub-basins (Mainstem Willamette River, Middle Fork Willamette, and Santiam River). The management of these populations must be guaranteed in perpetuity.

On March 9, 2007, the Institute for Wildlife Protection filed suit in Federal district court, alleging that the Service and the Secretary of the Interior violated their statutory duties as mandated by the Act when they failed to designate critical habitat for the Oregon chub and failed to perform a 5-year status review (*Institute for Wildlife Protection* v. *U.S. Fish and Wildlife Service*). On March 8, 2007, we issued a notice that we would begin a status review of the Oregon chub (72 FR 10547). We completed the Oregon chub 5-Year Review on February 11, 2008. In a settlement agreement with the Plaintiff, we agreed to submit a proposed critical habitat rule for Oregon chub to the **Federal Register** by March 1, 2009, and to submit a final critical habitat determination to the **Federal Register** by March 1, 2010.

We have established two Safe Harbor Agreements (SHAs) for the Oregon chub; both in Lane County, Oregon, in 2001 (66 FR 30745; June 7, 2001) and 2007 (72 FR 50976; September 5, 2007). These SHAs established new populations of Oregon chub in artificial ponds as refugia for natural populations, which contributes to the conservation of the species by reducing the risk of the complete loss of donor populations and any of their unique genetic material. The SHA policy was developed to encourage private and other non-Federal property owners to voluntarily undertake management activities on their property to enhance, restore, or maintain habitat to benefit federally listed species. SHAs provide assurances to property owners allowing alterations or modifications to enrolled property, even if such actions result in the incidental take of a listed species. For more information on previous Federal actions concerning the Oregon chub, refer to the Determination of Endangered Status for the Oregon Chub published in the **Federal Register** on October 18, 1993 (58 FR 53800) or the 1998 Recovery Plan for Oregon Chub (USFWS 1998).

Critical Habitat

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

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

a. Essential to the conservation of the species, and

b. Which may require special management considerations or protection; and

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

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring any endangered species or threatened species to the point at which the measures provided under the Act are no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing activities that result in the destruction or adverse modification of critical habitat. Section 7 of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by the landowner. Where the landowner seeks or requests Federal agency funding or authorization of an activity that may affect a listed species or critical habitat, the consultation requirements of section 7 would apply. However, even if a destruction or adverse modification finding were to be made, a landowner's obligation would not be to restore or recover the species, but rather, to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat in order to receive the federal agency funding or authorization.

For inclusion in a critical habitat designation, habitat within the geographic area occupied by the species at the time it was listed must contain the physical and biological features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)). Occupied habitat that contains features essential to the conservation of the species meets the definition of critical habitat only if those features may require special management considerations or protection. Under the Act, we can designate areas that were unoccupied at the time of listing as critical habitat only when we determine that the best available scientific data demonstrate that the designation of that area is essential to the conservation of the species. When the best available scientific data do not demonstrate that the conservation needs of the species require such additional areas, we will not designate critical habitat in areas outside the geographical area occupied by the species at the time of listing. An area currently occupied by the species but that was not occupied at the time of listing may, however, be essential to the conservation of the species and may be included in the critical habitat designation.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), 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, and establish procedures and guidelines to ensure that decisions made by the Service represent the best scientific data available. They require Service biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

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

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that we may eventually determine are necessary for the recovery of the species, based on scientific data not now available to the Service. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be required for recovery of the species.

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

Methods

As required by section 4(b)(2) of the Act, we use the best scientific data

available in determining areas that contain the features that are essential to the conservation of the Oregon chub. Data sources include research published in peer-reviewed articles; previous Service documents on the species, including the final listing determination (58 FR 53800; October 18, 1993) and the Recovery Plan for the Oregon chub (USFWS 1998); and annual surveys conducted by the ODFW (1992 through 2008, as summarized in Scheerer *et al.* 2007 and Scheerer 2008a). Additionally we utilized regional Geographic Information System (GIS) shape files for area calculations and mapping.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas occupied at the time of listing to propose as critical habitat, we consider the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These features are the primary constituent elements (PCEs) laid out in the appropriate quantity and spatial arrangement for conservation of the species. These include, but are not limited to:

1. Space for individual and population growth and for normal behavior;

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

3. Cover or shelter;

4. Sites for breeding, reproduction, and rearing (or development) of offspring; and

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

We derive the specific PCEs required for the Oregon chub from the biological needs of the species as described in the Background section of this proposed rule and the following information.

Space for Individual and Population Growth and Normal Behavior

Flow Velocities and Depth

Oregon chub habitats are typically slack-water off-channel water bodies with little or no flow, such as beaver ponds, oxbows, side channels, backwater sloughs, low-gradient tributaries (less than 2.5 percent gradient) and flooded marshes (Pearsons 1989, p. 30–31; Markle *et al.* 1991, pp. 288–289; Scheerer *et al.* 2007, p. 3; Scheerer 2008e). The species' swimming ability has been described as poor, and it is believed that no or low flow velocity water optimizes the energy expenditure of these slow fish (Pearsons 1989, p. 30–31). Although Oregon chub habitat may contain water of somewhat greater depth, the species mainly occupies water depths between approximately 0.5–2.0 m (1.6–6.6 ft). In order for a habitat to provide enough space to allow normal behavior for a population of 500 or more individuals, the water body needs to include approximately 500 square meters (m^2) (0.12 ac) or more of aquatic surface area between 0.5–2.0 m (1.6–6.6 ft) deep. (Scheerer 2008b).

Cover

The species' habitat preference varies depending on lifestage and season, but all Oregon chub require considerable aquatic vegetation for hiding and spawning activities (Pearsons 1989, p. 22; Markle *et al.* 1991, p. 290; Scheerer and Jones 1997, p. 5; Scheerer *et al.* 2007, p. 3). A minimum of 250 m^2 (0.06 ac) (or between approximately 25 and 100 percent of the total surface area of the habitat) to be covered with aquatic vegetation is needed to provide life-history requirements for a population of 500 Oregon chub (Scheerer 2008e). Aquatic plant communities within Oregon chub habitat include, but are not limited to, both native and nonnative species, including:

1. Emergent vegetation: *Carex* spp. (sedge); *Eleocharis* spp. (spikerush); *Scirpus* spp. (bulrush); *Juncus* spp. (rush); *Alisma* spp. (water plantain); *Polygyonum* spp. (knotweed); *Ludwigia* spp. (primrose-willow); *Salix* spp. (willow); *Sparganium* spp. (bur-reed); and *Typha* spp. (cattail).

2. Partly submerged/emergent vegetation: *Ranunculus* spp. (buttercup).

3. Floating/submerged vegetation: *Azolla* spp. (mosquitofern); *Callitriche* sp. (water-starwort); *Ceratophyllum* sp. (hornwort); *Elodea* spp. (water weed); *Fontinalis* spp. (fontinalis moss); *Lemna* spp. (duckweed); *Myriophyllum* spp. (parrot feather); *Nuphar* spp. (pond-lily); and *Potamogeton* spp. (pondweed) (Scheerer 2008c).

Oregon chub in similar size classes school and feed together. Larval Oregon chub congregate in the upper layers of the water column, especially in shallow, near-shore areas. Juvenile Oregon chub venture farther from shore into deeper areas of the water column. Adult Oregon chub seek dense vegetation for cover and frequently travel in the mid-water column in beaver channels or along the margins of aquatic plant beds. In the early spring, Oregon chub are most active in the warmer, shallow areas of the ponds (Pearsons 1989, pp. 16–17; USFWS 1998, p. 10).

Substrates

Because Oregon chub habitat is characterized by little or no water flow, resulting substrates are typically composed of silty and organic material. In winter months, Oregon chub of various life stages can be found buried in the detritus or concealed in aquatic vegetation (Pearsons 1989, p. 16). Females prefer a highly organic, vegetative substrate for spawning and will lay their adhesive eggs directly on the submerged vegetation (Pearsons 1989, p. 17, 23; Markle *et al.* 1991. p. 290; Scheerer 2007b, p. 494).

Food

Known as obligatory sight feeders (Davis and Miller 1967, p. 32), Oregon chub feed throughout the day and stop feeding after dusk (Pearsons 1989, p. 23). The fish feed mostly on water column fauna, especially invertebrates that live in dense aquatic vegetation. Markle *et al.* (1991, p. 288) found that the diet of Oregon chub adults consisted primarily of minute crustaceans including copepods, cladocerans, and chironomid larvae. The diet of juveniles also consists of minute organisms such as rotifers, copepods, and cladocerans (Pearsons 1989, p. 41–42).

Water Quality

With respect to water quality, the temperature regime at a site may determine the productivity of Oregon chub at that location. Spawning activity for the species has been observed from May through early August when subsurface water temperatures exceed 15 °C (59 °F) or 16 °C (61 °F) (Scheerer and Apke 1997, p. 22; Markle *et al.* 1991, p. 288; Scheerer and MacDonald 2003, p. 78). The species will display normal life-history behavior at temperatures between approximately 15 and 25 °C (59 and 77 °F). The upper lethal temperature for the fish was determined to be 31 °C (88 °F) in laboratory studies (Scheerer and Apke 1997, p. 22).

Optimal Oregon chub habitat contains water with dissolved oxygen levels greater than 3 parts per million (ppm), and an absence of contaminants such as copper, arsenic, mercury, and cadmium; human and animal waste products; pesticides; nitrogen and phosphorous fertilizers; and gasoline or diesel fuels. However, the species habitat is also characterized by high primary productivity and frequent algal blooms that might cause natural variability in water quality, especially dissolved oxygen levels (Scheerer and Apke 1997,

p. 15). Optimal Oregon chub habitat includes water dominated by fine substrates, but protected from excessive sedimentation. When excessive sediment is deposited, surface area can be lost as the sediment begins to displace open water. The resulting succession of open water habitat to wet meadow is detrimental to Oregon chub populations (Scheerer 2008c).

The water quality in the habitats of many known extant Oregon chub populations is threatened due to their proximity to areas of human activity. Many of the known extant populations of Oregon chub occur near rail, highway, and power transmission corridors and within public park and campground facilities. These populations may be threatened by chemical spills from overturned truck or rail tankers; runoff or accidental spills of vegetation control chemicals; overflow from chemical toilets in campgrounds; sedimentation of shallow habitats from construction activities; and changes in water level or flow conditions from construction, diversions, or natural desiccation. Oregon chub populations near agricultural areas are subject to poor water quality as a result of runoff laden with sediment, pesticides, and nutrients. Logging in the watershed can result in increased sedimentation and herbicide runoff (USFWS 1998, p. 14).

Reproduction and Rearing of Offspring

Although most mature Oregon chub are found to be greater than or equal to 2 years old, maturity appears to be mainly size- rather than age-dependent (Scheerer and McDonald 2003, p. 78). Males over 35 mm (1.4 in) have been observed exhibiting spawning behavior. Oregon chub spawn from April through September, when temperatures exceed 15 °C (59 °F), with peak activity in July. Approximately 150 to 650 eggs will be released per spawning event, hatching within 10 to 14 days. As described above, females prefer a highly organic, vegetative substrate for spawning and will lay their adhesive eggs directly on the submerged vegetation (Pearsons 1989, p. 17, 23; Markle *et al.* 1992, p. 290; Scheerer 2007b, p. 494). Larvae and juveniles seek dense cover in shallow, warmer regions of off-channel habitats (Pearsons 1989, p. 17; Scheerer 2007b, p. 494).

Habitats Protected From Disturbance

Nonnative Fish

Many species of nonnative fish that compete with or prey upon Oregon chub have been introduced and are common throughout the Willamette Valley, including largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieui*), crappie (*Pomoxis* sp.), bluegill (*Lepomis macrochirus*), and western mosquitofish (*Gambusia affinis*). Of the 747 Willamette Valley sites sampled for Oregon chub by ODFW since the beginning of annual survey efforts by the agency in 1991, 42 percent contained nonnative fish. Most of the habitats surveyed that supported large populations of Oregon chub had no evidence of nonnative fish presence (Scheerer 2002, p. 1078; Scheerer 2007a, p. 96; Scheerer *et al.* 2007, p. 14). The presence of nonnative fish in the Willamette Valley, especially centrarchids (*e.g.*, basses and crappie) and ictalurids (catfishes) is suspected to be a major factor in the decline of Oregon chub and the biggest threat to the species' recovery (Markle *et al.* 1991, p. 291; Scheerer 2002, p. 1078; Scheerer *et al.* 2007, p. 18).

Specific interactions responsible for the exclusion of Oregon chub from habitats dominated by nonnative fish are not clear in all cases. While information confirming the presence of Oregon chub in stomach contents of predatory fish is lacking, many nonnative fish, particularly adult centrarchids and ictalurids are documented piscivores (fish eaters) (Moyle 2002, pp. 397, 399, 403; Wydoski and Whitney 2003, pp. 125, 128, 130; Li *et al.* 1987, pp. 198–201). These fish are frequently the dominant inhabitants of ponds and sloughs within the Willamette River drainage and may constitute a major obstacle to Oregon chub recolonization efforts. Nonnative fish may also serve as sources of parasites and diseases; however, disease and parasite problems have not been studied in the Oregon chub.

Observed feeding strategies and diet of introduced fish, particularly juvenile centrarchids and adult mosquitofish (Li *et al.* 1987, pp. 198–201), often overlap with diet and feeding strategies described for Oregon chub (Pearsons 1989, pp. 34–35). This suggests that direct competition for food between Oregon chub and introduced species may further impede species survival as well as recovery efforts. The rarity of finding Oregon chub in waters also inhabited by mosquitofish may reflect many negative interactions, including but not limited to food-based competition, aggressive spatial exclusion, and predation on eggs and larvae (Meffe 1983, pp. 316, 319; 1984, pp. 1,530–1,531). Because many remaining population sites are easily accessible, there continues to be a potential for unauthorized introductions of nonnative fish, particularly mosquitofish and game fish such as bass and walleye (*Stizostedion vitreurn*).

The bullfrog (*Rana catesbiana*), a nonnative amphibian, also occurs in the valley and breeds in habitats preferred by the Oregon chub (Bury and Whelan 1984, pp. 2–3; Scheerer 1999, p. 7). Adult bullfrogs prefer habitat similar in characteristics (*i.e.*, little to no water velocity, abundant aquatic and emergent vegetation) to the preferred habitat for Oregon chub, and are known to consume small fish as part of their diet (Cohen and Howard 1958, p. 225; Bury and Whelan 1984, p. 3), but it is unclear if they have a negative impact on Oregon chub populations, as several sites that have large numbers of bullfrogs also maintain robust Oregon chub populations (Scheerer 2008d).

Flood Control

Major alteration of the Willamette River for flood control and navigation improvements has eliminated most of the river's historical floodplain, impairing or eliminating the environmental conditions in which the Oregon chub evolved. The decline of Oregon chub has been correlated with the construction of these projects based on the date of last capture at a site (58 FR 53801; October 18, 1993). Pearsons (1989, pp. 32–33) estimated that the most severe decline occurred during the 1950s and 1960s when 8 of 11 flood control projects in the Willamette River drainage were completed (USACE 1970, pp. 219–237). Other structural changes along the Willamette River corridor such as revetment and channelization, dike construction and drainage, and the removal of floodplain vegetation have eliminated or altered the slack water habitats of the Oregon chub (Willamette Basin Task Force 1969, pp. I9, II22–II24; Hjort *et al.* 1984, pp. 67–68, 73; Sedell and Froggatt 1984 pp. 1,832–1,833; Li *et al.* 1987, p. 201). Management of water bodies (such as reservoirs) adjacent to occupied Oregon chub habitat continues to impact the species by causing fluctuations in the water levels of their habitat such that it may exceed or drop below optimal water depths.

Primary Constituent Elements for the Oregon Chub

Pursuant to our regulations, we are required to identify the known physical and biological features, called primary constituent elements (PCEs), essential to the conservation of the Oregon chub and which may require special management considerations or protections. All areas proposed as critical habitat for Oregon chub are either occupied or within the species' historical geographic range.

Based on the above needs and our current knowledge of the life history, biology, and ecology of the species and the characteristics of the habitat necessary to sustain the essential life-history functions of the species, we have identified four PCEs for Oregon chub critical habitat:

1. Off-channel water bodies such as beaver ponds, oxbows, side-channels, stable backwater sloughs, low-gradient tributaries, and flooded marshes, including at least 500 continuous square meters (5,400 square feet) of aquatic surface area at depths between approximately 0.5 and 2.0 m (1.6 and 6.6 ft).

2. Aquatic vegetation covering a minimum of 250 m^2 (0.06 ac) (or between approximately 25 and 100 percent) of the total surface area of the habitat. This vegetation is primarily submergent for purposes of spawning, but also includes emergent and floating vegetation, and algae which is important for cover throughout the year. Areas with sufficient vegetation are likely to also have the following characteristics:

- Gradient less than 2.5 percent;
- No or very low water velocity in late spring and summer;
- Silty, organic substrate; and
- Abundant minute organisms such as rotifers, copepods, cladocerans, and chironomid larvae.

3. Late spring and summer subsurface water temperatures between 15 and 25 °C (59 and 78 °F), with natural diurnal and seasonal variation.

4. No or negligible levels of nonnative aquatic predatory or competitive species. Negligible is defined for the purpose of this proposed rule as a minimal level of nonnative species that will still allow the Oregon chub to continue to survive and recover.

The need for space for individual and population growth and normal behavior is met by PCE (1); areas for reproduction, shelter, food, and habitat for prey are provided by PCE (2); optimal physiological processes for spawning and survival are ensured by PCE (3); habitat free from disturbance and, therefore, sufficient reproduction and survival opportunities is provided by PCE (4).

This proposed designation is designed for the conservation of PCEs necessary to support the life-history functions that were the basis for the proposal. Each of the areas proposed in this rule has been determined to contain sufficient PCEs to provide for one or more of the life-history functions of the Oregon chub. Specifically, these areas fall into two groups: areas occupied at time of listing containing PCEs sufficient for one or more life-history functions, and areas not occupied at time of listing but that are essential to the conservation of the species and that also contain PCEs for one or more life-history functions.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we use the best scientific data available in determining areas that contain the features that are essential to the conservation of the Oregon chub. The steps we followed in identifying critical habitat were:

1. Our initial step in identifying critical habitat was to determine, in accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, the physical and biological habitat features (PCEs) that are essential to the conservation of the species as explained in the previous section.

2. We then identified areas occupied by the Oregon chub at the time of listing. Of the 5 populations known at the time of the 1993 listing (58 FR 53801), and the 12 additional sites confirmed by post-listing survey data to be occupied with one or more Oregon chub at the time of listing, 10 still support Oregon chub (Scheerer *et al.* 2007, p. 2; Scheerer 2008a, p. 2) and contain at least one PCE.

3. Since, based on the recovery plan criteria described above, we found that areas occupied at time of listing were not sufficient to conserve the species, the next step was the identification of any additional sites that were not occupied at the time of listing, but that are currently occupied and contain PCEs, and which may be essential for the conservation of the species. Surveys conducted in 2007 and 2008 indicate that 15 additional sites are currently occupied with one or more Oregon chub (Scheerer *et al.* 2007, p. 2; Scheerer 2008a, p. 2).

4. Next we identified sites that support introduced populations that also contain the PCEs, and which may be essential for the conservation of the species, which resulted in 11 additional sites being identified (Scheerer *et al.* 2007, p. 2; Scheerer 2008a, p. 2). Collectively, the above efforts resulted in the identification of 36 occupied sites that met the above criteria.

5. Our final step was to evaluate the 36 occupied sites within the context of the 1998 Oregon Chub Recovery Plan, to determine which areas contained the physical and biological features in the amount and spatial configuration essential to the conservation of the species. This step involved the application of the following criteria:

- Sites that support large, stable populations: From the list of occupied sites that contain PCEs, we selected sites that support populations meeting the delisting population criteria outlined in the 1998 Recovery Plan (i.e., establishing 20 populations of at least 500 adults with a stable or increasing trend over seven years (USFWS 1998, p. 28)), and also sites that are likely to meet the delisting criteria in the near future. Of the 18 sites meeting this selection criterion, 9 sites were occupied at the time of listing:
  - Unit 2B(5), Finley Gray Creek Swamp
  - Unit 3B, Elijah Bristow State Park—Berry Slough
  - Unit 3E, Dexter Reservoir RV Alcove—DEX3
  - Unit 3F, Dexter Reservoir Alcove—PIT1
  - Unit 3G, East Fork Minnow Creek Pond
  - Unit 3H, Hospital Pond
  - Unit 3I, Shady Dell Pond
  - Unit 3J, Buckhead Creek, and
  - Unit 3K, Wicopee Pond.

  Three other sites supported naturally occurring populations but were not occupied at the time of listing:
  - Unit 1B(1), Geren Island North Channel
  - Unit 1B(4), Gray Slough, and
  - Unit 3D, Elijah Bristow State Park Island Pond.

  In addition, six sites supported introduced populations:
  - Unit 1C, Foster Pullout Pond
  - Unit 2A(1), Russell Pond
  - Unit 2B(1), Ankeny Willow Marsh
  - Unit 2B(2), Dunn Wetland
  - Unit 2B(4), Finley Cheadle Pond, and
  - Unit 3A, Fall Creek Spillway Ponds.
- Sites that are capable of supporting large populations: Because the 1998 Recovery Plan for Oregon chub calls for establishing and maintaining a minimum of 20 populations that meet the recovery criteria, we identified seven currently occupied sites not already selected under the first criterion (above) that have the greatest potential to contribute to the long-term conservation and recovery of the species. Sites meeting this selection criterion include five sites that support naturally occurring populations: Unit 1A, Santiam I–5 Side Channels; Unit 1B(2), Stayton Public Works Pond; Unit 2A(2), Shetzline Pond; Unit 2A(3), Big Island; and Unit 3C, Elijah Bristow State Park Northeast Slough. In addition two sites that support introduced populations met this criterion: Unit 1B(3), South Stayton Pond; and Unit 2B(3), Finley Display Pond. Each of these sites either currently, or in the past, has supported populations of over 500 adults.

• Sites representative of the geographic distribution of Oregon chub: The delisting criteria outlined in the 1998 Recovery Plan require that at least four populations be located in each of three sub-basins. We determined that the 25 sites selected under the preceding critical habitat criteria also met this objective (USFWS 1998, p. 28). Six units are being proposed as critical habitat in the Santiam River watershed, 8 sites are being proposed as critical habitat in the Mainstem Willamette River watershed, and 11 sites are being proposed as critical habitat in the Middle Fork Willamette River watershed. By protecting a variety of habitats throughout the species' historical range, we increase the probability that the species can adjust in the future to various limiting factors that may affect the population, such as predators, disease, and flood events exceeding annual high water levels.

Based on this analysis, we are proposing to designate 25 units as critical habitat. Although the 1998 recovery plan calls for establishing and maintaining a minimum of 20 populations, we believe that establishing additional populations will allow the Service to mitigate the potential that some units may become unable to support the species or primary constituent elements over time because of predation issues or other factors.

After applying the above criteria, we mapped the critical habitat unit boundaries at each of these 25 sites. Mapping was completed using a Geographic Information System (GIS), and involved several steps. Critical habitat unit boundaries were delineated to encompass the extent of habitat containing the physical and biological features essential to the conservation of the species that may require special management considerations or protection. Polygon vertices (points where two lines meet) were collected along the annual high water mark at least every 30 meters (98 ft) around the perimeter of the site, and at a greater frequency in areas of complexity or where higher resolution was necessary. The full extent of each pond or slough was mapped; islands were mapped with the same method as the perimeter of the site. At sites where tributaries or channels entered or exited a site, only the extent of suitable Oregon chub habitat was mapped. The extent of chub use in open systems was defined by habitat features and by previous experience sampling in those areas. Habitat features that defined the limit of Oregon chub use in a channel included increased gradient, the absence of aquatic vegetation, and areas where gravel, cobble, or other large substrate was present. We combined the polygon data with information from aerial photos to determine the proposed critical habitat unit boundaries of each site.

Special Management Considerations or Protections

The term critical habitat is defined in section 3(5)(A) of the Act, in part, as geographic areas on which are found those physical or biological features essential to the conservation of the species and ''which may require special management considerations or protections.'' Accordingly, in identifying critical habitat in occupied areas, we assess whether the primary constituent elements within the areas determined to be occupied at the time of listing may require any special management considerations or protections. Although the determination that special management may be required is not a prerequisite to designating critical habitat in areas essential to the conservation of the species that were unoccupied at the time of listing, all areas being proposed as critical habitat require some level of management to address current and future threats to the Oregon chub, to maintain or enhance the physical and biological features essential to its conservation, and to ensure the recovery and survival of the species.

The primary threats impacting the physical and biological features essential to the conservation of the Oregon chub that may require special management considerations within the proposed critical habitat units include: Competition and predation by nonnative fish; the potential for initial or further introduction of nonnative fish; vegetative succession of shallow aquatic habitats; possible agricultural chemical runoff; possible excessive siltation from logging in the watershed; other threats to water quality (including threat of toxic spills, low dissolved oxygen); and fluctuations in water levels due to regulated flow management at flood control dams, as well as low summer water levels.

Some additional threats to the continued survival and recovery of the Oregon chub, such as the potential for reduced genetic diversity due to the low level of mixing between populations, will likely be addressed by direct management of populations (e.g., translocation of individuals) rather than by management of the physical and biological features of the habitat. Such threats, therefore, are not addressed in this section specific to the special management required of the physical and biological features of the proposed critical habitat areas.

Special management considerations or protections are needed in most of the units to address the impacts of competition and predation by nonnative fishes in Oregon chub habitat or to avoid the potential introduction of nonnative fishes into areas occupied by Oregon chub. Predatory nonnative fishes are considered the greatest current threat to the recovery of the Oregon chub. Management for the Oregon chub has focused on establishing secure, isolated habitats free of nonnative fishes. Nonnative fishes are abundant and ubiquitous in the Willamette River Basin, and monitoring and management are required to remove nonnative fishes from Oregon chub habitat when possible, and to protect Oregon chub populations that have not yet been affected by nonnative fishes from invasion.

Special management is needed to reduce or eradicate the threat posed by nonnative fishes already present in the following proposed units:

• Unit 1A Santiam I–5 Side Channels
• Unit 1B(1) Geren Island North Channel
• Unit 1B(2) Stayton Public Works Pond
• Unit 1B(4) Gray Slough, Unit 2B(5) Finley Gray Creek Swamp
• Unit 3C Elijah Bristow State Park—NE Slough
• Unit 3D Elijah Bristow State Park Island Pond, and
• Unit 3F Dexter Reservoir Alcove—PIT1.

Special management or protections are needed to prevent the introduction or further introduction of nonnative fishes into the following proposed units:

• Unit 1A Santiam I–5 Side channels
• Unit 1B(2) Stayton Public Works Pond
• Unit 1B(3) South Stayton Pond
• Unit 1B(4) Gray Slough
• Unit 1C Foster Pullout Pond
• Unit 2A(2) Shetzline Pond
• Unit 2A(3) Big Island
• Unit 2B(1) Ankeny Willow Marsh
• Unit 2B(3) Finley Display Pond
• Unit 2B(4) Finley Cheadle Pond
• Unit 2B(5) Finley Gray Creek Swamp
• Unit 3A Fall Creek Spillway Ponds
• Unit 3B Elijah Bristow State Park—Berry Slough
• Unit 3C Elijah Bristow State Park—Northeast Slough
• Unit 3D Elijah Bristow State Park Island Pond
• Unit 3E Dexter Reservoir RV Alcove—DEX3
• Unit 3F Dexter Reservoir Alcove—PIT1, Unit 3H Hospital Pond

- Unit 3I Shady Dell Pond, and
- Unit 3J Buckhead Creek.

Although Oregon chub require some aquatic vegetation for cover and spawning, some areas of Oregon chub habitat are threatened by succession to wet meadow systems due to a lack of natural disturbance (such as floods) or excessive siltation. If vegetation completely fills in the open water areas of Oregon chub habitat, these areas are no longer suitable for the Oregon chub. Special management is required to prevent or set back vegetative succession in Unit 3G, East Fork Minnow Creek Pond, to alleviate this threat to the Oregon chub's aquatic habitat.

Some units require special management to avoid the degradation of water quality in Oregon chub habitats due to agricultural chemical runoff. Elevated levels of nutrients and pesticides have been found in some Oregon chub habitats (Materna and Buck 2007, p. 67). The source of the contamination is likely agricultural runoff from adjacent farm fields (Materna and Buck 2007, p. 68). Special management will be needed to reduce the incursion of potentially hazardous agricultural chemicals into Oregon chub habitats and maintain water quality in Units 1B(4) Gray Slough, Unit 2B(2) Dunn Wetland, and Unit 2B(4) Finley Cheadle Pond.

Although Oregon chub utilize fine silty substrates, an overabundance of siltation resulting from activities such as logging poses a threat to Oregon chub habitat by filling in the shallow aquatic areas utilized by the species. Excess sedimentation can also lead to the succession of open water habitats to wet meadow, as discussed above. Special management to alleviate the threat posed by excess watershed siltation due to logging and other activities is needed in Unit 1B(1) Geren Island North Channel, Unit 2A(1) Russell Pond, Unit 2B(5) Finley Gray Creek Swamp, Unit 3G East Fork Minnow Creek Pond, Unit 3J Buckhead Creek, and Unit 3K Wicopee Pond.

Special management is required in several of the proposed critical habitat units to maintain the water quality required by Oregon chub and protect against the impacts of several potential threats to water quality. Many Oregon chub populations occur near rail, highway, and power transmission corridors, agricultural fields, and within public park and campground facilities, and there is concern that these populations could be threatened by chemical spills, runoff, or changes in water level or flow conditions caused by construction, diversions, or natural desiccation (58 FR 53800, U.S. Fish and Wildlife Service 1998, p. 14). Water quality investigations at sites in the Middle Fork and Mainstem Willamette subbasins have found some adverse effects to Oregon chub habitats caused by changes in nutrient levels. Elevated nutrient levels at some Oregon chub locations, particularly increased nitrogen and phosphorus, may result in eutrophication and associated anoxic conditions unsuitable for chub, or increased plant and algal growth that severely reduce habitat availability (Buck 2003, p. 12). Monitoring and special management are needed to ameliorate the effects of excessive nutrient levels in Oregon chub habitats, as well as provide protection against accidental sources of contamination to the extent possible, in the following units:

- Unit 1A Santiam I–5 Side Channels
- Unit 2B(5) Finley Gray Creek Swamp
- Unit 3E Dexter Reservoir RV Alcove—DEX3
- Unit 3F Dexter Reservoir Alcove—PIT1
- Unit 3G East Fork Minnow Creek Pond
- Unit 3H Hospital Pond
- Unit 3I Shady Dell Pond, and
- Unit 3J Buckhead Creek.

Although the Oregon chub evolved in a dynamic environment in which frequent flooding continually created and reconnected habitat for the species, currently most populations of Oregon chub are isolated from each other due to the reduced frequency and magnitude of flood events and the presence of migration barriers such as impassable culverts and beaver dams (Scheerer *et al.* 2007, p. 9). Historically, regulated flow management of flood control dams eliminated many of the slough and side channel habitats utilized by Oregon chub by reducing the magnitude, extent, and frequency of flood events in the Willamette River Basin. Currently, flow management activities impact Oregon chub in many of their remaining habitats by inadvertently raising or lowering the depth of water bodies to levels above or below the optimum for the species. Water depths in the summer may be reduced to levels that threaten the survival of Oregon chub due to flow management in adjacent reservoirs or rivers, or from natural drought cycles. Special management is required to ameliorate the effects of fluctuating or reduced water levels for the Oregon chub in:

- Unit 1A Santiam I–5 Side Channels
- Unit 1B(1) Geren Island North Channel
- Unit 1B(2) Stayton Public Works Pond
- Unit 1B(4) Gray Slough
- Unit 2A(3) Big Island
- Unit 2B(5) Finley Gray Creek Swamp
- Unit 3A Fall Creek Spillway Ponds
- Unit 3C Elijah Bristow State Park—Northeast Slough
- Unit 3D Elijah Bristow State Park Island Pond
- Unit 3E Dexter Reservoir RV Alcove—DEX3
- Unit 3F Dexter Reservoir Alcove—PIT1, and
- Unit 3I Shady Dell Pond.

In summary, we find that each of the areas we are proposing as critical habitat contains features essential to the conservation of the Oregon chub, and that these features may require special management considerations or protection. These special management considerations and protections are required to eliminate, or reduce to a negligible level, the threats affecting each unit and to preserve and maintain the essential features that the proposed critical habitat units provide to the Oregon chub. A more comprehensive discussion of threats facing individual sites is in the individual unit descriptions.

The designation of critical habitat does not imply that lands outside of critical habitat do not play an important role in the conservation of the Oregon chub. Federal activities that may affect those unprotected areas outside of critical habitat are still subject to review under section 7 of the Act if they may affect Oregon chub. The prohibitions of section 9 against the take of listed species also continue to apply both inside and outside of designated critical habitat. Take is broadly defined in the Act as to harass, harm, wound, kill, trap, capture, or collect a listed species, or to attempt to engage in any such conduct.

Proposed Critical Habitat Designation

The areas we are proposing as critical habitat currently provide all habitat components necessary to meet the primary biological needs of the Oregon chub, as defined by the primary constituent elements. The areas proposed for designation are those areas most likely to substantially contribute to conservation of the Oregon chub, and when combined with future management of certain habitats suitable for restoration efforts, will contribute to the long-term survival and recovery of the species.

Under the Act, we can designate critical habitat in areas outside of the geographical area occupied by the species at the time it is listed only when

(1) the inclusion of specific areas occupied at the time of listing defined by the essential physical and biological factors are not sufficient to conserve the species; and (2) we determine that those areas outside the geographical area occupied by the species are essential for the conservation of the species.

We have determined that 25 units totaling approximately 53 ha (132 acres) meet our definition of critical habitat for the Oregon chub, including land under State, Federal, other government, and private ownership. Nine of the critical habitat units described below constitute our best assessment of areas determined to be occupied at the time of listing that contain the primary constituent elements and require special management (units 2B(5), 3B, 3E, 3F, 3G, 3H, 3I, 3J, 3K). Because the nine occupied units do not alone contain physical and biological features sufficient to conserve the species, we are proposing an additional 16 units. The other 16 proposed units constitute our best assessment of areas that were not occupied or not known to be occupied at the time of listing but were within the species' historical range, which were found to be essential to the conservation of the Oregon chub. These additional areas include natural and introduced populations. The *Critical Habitat Selection Criteria* and *Special Management Considerations or Protections* sections above address why the inclusion of specific areas occupied at the time of listing defined by the essential physical and biological factors are not sufficient to conserve the species; and, for the additional 16 proposed units, why we determine that those areas outside the geographical area occupied by the species are essential for the conservation of the species.

Area 1: Santiam River Basin—Linn and Marion Counties, Oregon

A. Mainstem

Unit 1A, the Santiam I–5 Side Channels: This site consists of three ponds totaling 1.4 ha (3.3 ac), located on a 27-ha (66-ac) property on the south side of the Santiam River upstream of the Interstate Highway 5 bridge crossing in Linn County, Oregon. The areas containing Oregon chub include a small backwater pool, a gravel pit, and a side channel pond. This unit is owned by the Oregon Department of Transportation (ODOT) and Oregon chub were first observed here in 1997. Although only 22 Oregon chub were counted at the site in 2007, the habitat contains 3 of the 4 PCEs and has exhibited capability of supporting a substantial population of the species based on past survey population estimates of over 500 individuals. The maximum water depth is approximately 3 m (9.8 ft), averaging 1.5 m (4.9 ft), and the temperature was recorded at between 19.5 and 21 °C (60 and 67 °F) on July 30, 2008. The substrate is composed of 80 percent silt and organic material, and there is a variety of emergent and submergent vegetation covering 65 percent of the surface area. Beaver have been observed at this location. This site is at risk of the vegetation expanding to levels detrimental to Oregon chub habitat. The site is periodically connected to the Santiam River, and its water levels can be affected by hydrologic changes in the river, particularly the low summer levels common in the drainage. Competing and predatory nonnative species have been observed; nonnative predators are suspected to be a major factor in the drop in Oregon chub population estimates at this site between the 2006 and 2007 surveys (Scheerer 2008d).

B. North

Unit 1B(1), Geren Island North Channel: This site totals approximately 0.8 ha (1.9 ac) and is located on the grounds of a water treatment facility owned by the City of Salem in Marion County, Oregon. The species was first observed at this site in 1996. Although only 207 Oregon chub were counted at the site in 2008, the habitat contains 3 of the 4 PCEs and has exhibited capability of supporting a substantial population of the species based on past survey population estimates of over 500 individuals. The maximum water depth is 2.2 m (7.2 ft), averaging 1.8 m (5.9 ft), and the temperature was recorded at 26 °C (79 °F) on July 10, 2008. The substrate is composed of 90 percent silt and organic material, and there is a variety of emergent and submergent vegetation covering 65 percent of the surface area. Beaver have been observed at this location. The site is screened and isolated from other water bodies, but water levels are influenced through water releases at Detroit and Big Cliff Dams. Competing and predatory nonnative species have been observed at the site. There is also a risk of excess sedimentation due to logging in the watershed.

Unit 1B(2), the Stayton Public Works Pond: This site totals approximately 0.4 ha (1.0 ac) and is located in and owned by the City of Stayton, in Marion County, Oregon. The species was first observed at this location in 1998. Although only 68 Oregon chub were counted at the site in 2008, the habitat contains 3 of the 4 PCEs and has exhibited capability of supporting a substantial population of the species based on past survey population estimates of over 500 individuals. The maximum water depth is 2 m (6.6 ft) deep, averaging 1.2 m (3.9 ft), and the temperature was recorded at 25.5 °C (77.9 °F) on July 9, 2008. The substrate is composed of 90 percent silt and organic material, and there is a variety of emergent and submergent vegetation covering 100 percent of the surface area. Beaver have also been observed at this location. The site is periodically connected to the North Santiam River and is therefore at risk of low summer water levels and nonnative fish introduction. Competing and predatory nonnative species have been observed at this site.

Unit 1B(3), South Stayton Pond: This site totals approximately 0.1 ha (0.2 ac), is located in Linn County, Oregon, and is owned by the Oregon Department of Fish and Wildlife (ODFW). This site was the location of a 2006 introduction of 54 Oregon chub and a supplemental 2007 introduction of 67 additional individuals. The population is currently estimated at 1,705 individuals and appears to be stable or increasing. The habitat contains all of the PCEs. The maximum water depth is 1.6 m (5.3 ft), averaging 0.9 m (3 ft), and the temperature was recorded at 24.5 °C (76.1 °F) on July 9, 2008. The substrate is composed of 90 percent silt and organic material, and there is a variety of emergent and submergent vegetation covering 100 percent of the surface area. The site is isolated from other water bodies and currently has no competing or predatory nonnative species. Because of the easy public access to the site, it may be at risk of illegal introduction of nonnative fish.

Unit 1B(4), Gray Slough: This privately owned site totals approximately 2.5 ha (6.2 ac) and is in Marion County, Oregon. The species was first observed at this site in 1995. The population is currently estimated at 655 individuals, has been stable for 5 years, and the habitat contains 3 of the 4 PCEs. The maximum water depth is 2.5 m (8.2 ft), averaging 1.2 m (3.9 ft), and the temperature was recorded at 23.5 °C (74.3 °F) on July 31, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent vegetation covering 55 percent of the surface area. Beaver, and also competing or predatory nonnative fish species, have been observed at this location. The site is periodically connected to the North Santiam River and is therefore at risk of low summer water levels and additional nonnative fish invasion. The

site's location on a property with agricultural activity places it at risk of chemical runoff.

C. South

Unit 1C, Foster Pullout Pond: This site totals 0.4 ha (1.0 ac), and is owned by the United States Army Corps of Engineers (USACE). The pond is located in Linn County, Oregon, on the north shore of Foster Reservoir in the South Santiam River drainage. The pond is perched several meters above the reservoir full pool level, is spring-fed, and the water level is maintained by a beaver dam at the outflow. This site was the location of a 1999 introduction of 85 Oregon chub, and the population is currently estimated at 2,636 individuals. The population has been stable for 5 years, and the habitat contains all of the PCEs. The maximum water depth is 2.0 m (6.6 ft), averaging 1.2 m (3.9 ft), and the temperature was recorded at 21 °C (70 °F) on July 23, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent vegetation covering 100 percent of the surface area. Beaver have been observed at this location. The site is isolated from other water bodies and has no competing or predatory nonnative species, but the site's accessibility to the public raises the risk of illegal introduction of nonnative fish.

Area 2: Mainstem Willamette River Basin-Benton, Lane and Marion Counties, Oregon

A. McKenzie River

Unit 2A(1), Russell Pond: This privately owned site totals approximately 0.1 ha (0.1 ac) and is located in the Mohawk River drainage, Lane County, Oregon. In 2001, 350 Oregon chub were introduced into the pond, followed by an additional introduction of 150 individuals in 2002 as part of a Safe Harbor Agreement with the Service. The population is currently estimated at 651 individuals, has been stable for 5 years, and the habitat contains all of the PCEs. The maximum water depth is 2 m (6.6 ft), averaging 1.5 m (4.9 ft), and the temperature was recorded at 18.5 °C (65.3 °F) on July 23, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 40 percent of the surface area. The site is isolated from other water bodies, and has no competing or predatory nonnative species. Threats to the site include possible excess sedimentation resulting from logging in the watershed.

Unit 2A(2), Shetzline Pond: This privately owned site totals approximately 0.1 ha (0.3 ac), and is in the Mohawk River drainage, Lane County, Oregon. The species was first observed at this site in 2002. The site originally consisted of three manmade ponds, one of which (the south pond) contained Oregon chub. A restoration project was conducted in 2006 in the north and middle ponds to connect the ponds and create a more natural wetland. Nonnative fish in these ponds were removed with a rotenone treatment. However, to date the restored wetland has not been connected to the Oregon chub pond, although the site has a small inflow channel connecting it to Drury Creek (a tributary of the Mohawk River). Although only 130 Oregon chub were counted at the site in 2008, the habitat contains all of the PCEs and has exhibited capability of supporting a substantial population of the species, based on past survey population estimates of over 500 individuals. The maximum water depth is 2.5 m (8.2 ft), averaging 2 m (6.6 ft), and the temperature was recorded at 20 °C (68 °F) on July 23, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic vegetation covering 100 percent of the surface area. The site currently has no competing or predatory nonnative species but, because of previous fishing for nonnative species that was allowed in the ponds, the site is at risk of illegal introduction of nonnative fish.

Unit 2A(3), Big Island: This site totals 3.3 ha (8.2 ac), is owned by the McKenzie River Trust, and is located along the McKenzie River in Lane County, Oregon. The species was first observed at this location in 2002. Although only 200 Oregon chub were counted at the site in 2008, the habitat contains all of the PCEs and has exhibited capability of supporting a substantial population of Oregon chub based on past survey population estimates of over 500 individuals. The maximum depth is 1.5 m (4.9 ft) deep, averaging 0.6 m (2.0 ft), and the temperature was recorded at 19 °C (66 °F) on July 23, 2008. The substrate is composed of 90 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic vegetation covering 72 percent of the surface area. Beaver have been observed at this location. Because the site has annual connectivity to the McKenzie River, its water levels can be affected by hydrologic changes in the river and it is at risk of the introduction of nonnative fish. No competing or predatory nonnative species have been observed to date.

B. Willamette River Mainstem

Unit 2B(1), Ankeny Willow Marsh: This site totals 14.0 ha (34.5 ac), and is located in Marion County, Oregon at the Ankeny National Wildlife Refuge where an introduction of 500 Oregon chub took place in 2004. The population is currently estimated at 36,455 individuals and has been increasing. The habitat also contains all of the PCEs. The maximum depth is 2 m (6.6 ft), averaging 0.7 m (2.3 ft), and the temperature at the site was recorded at 25 °C (77 °F) on July 8, 2008. The substrate is composed of 100 percent silt and organic material and there is a variety of aquatic vegetation including emergent, submergent, floating and algae covering 100 percent of the surface area. Beaver and turtles have been observed at this location. Water is supplied to the pond from Sidney Ditch, which contains nonnative fish. The pump is screened, and the site currently has no competing or predatory nonnative species, although a high water event could foster the introduction of nonnative fish.

Unit 2B(2), Dunn Wetland: This privately owned site in Benton County, Oregon, totals 6.1 ha (15.2 ac). In 1997, 200 Oregon chub were introduced to the site, followed by the introduction of 373 additional individuals in 1998 as part of a Safe Harbor Agreement with the Service. The owners restored the wetland in 1994 when a permanent (year round) spring-fed pond was constructed. Two additional permanent ponds were constructed in 1997 and 1999. The entire wetland floods during the winter, and the ponds are interconnected. The population is currently estimated at 34,530 individuals and has been stable for 5 years. The habitat contains all of the PCEs. The maximum depth is 1 m (3.3 ft), averaging 0.6 m (2.0 ft), and the temperature was recorded at 23 °C (73 °F) on July 28, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 100 percent of the surface area. Beaver have been observed at this location. The site is isolated from other water bodies and has no competing or predatory nonnative species, but it is at risk of chemical runoff from agricultural activities.

Unit 2B(3), Finley Display Pond: This site totals 1.0 ha (2.4 ac) and is located in Benton County, Oregon, on the William L. Finley National Wildlife Refuge. This unit was the subject of

several introductions of Oregon chub: 60 in 1998, 45 in 1999, 49 in 2001, and 75 in 2007. The current population estimate of 832 individuals along with past survey population estimates of over 500 individuals establish the site's capability of supporting a substantial population of the species. The habitat contains all of the PCEs. The maximum depth is 2.5 m (8.2 ft), averaging 1.5 m (4.9 ft), and the temperature was recorded at 19 °C (66 °F) on June 20, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 75 percent of the surface area. While this pond currently has no competing or predatory nonnative species, easy public access makes it vulnerable to illegal introductions of nonnative fish. Beaver have been observed at this location.

Unit 2B(4), Finley Cheadle Pond: This site totals 0.9 ha (2.3 ac) and is located in Benton County, Oregon, on the William L. Finley National Wildlife Refuge. In 2002, 50 Oregon chub were introduced to this unit, followed by the introduction of 53 additional individuals in 2007. The population is currently estimated at 3,519 individuals, has been stable or increasing for 5 years, and the habitat contains all of the PCEs. The maximum depth is 3.3 m (10.8 ft), averaging 1.5 m (4.9 ft), and the temperature was recorded at 18.5 °C (65.3 °F) on June 20, 2008. The substrate is composed of 100% silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 86 percent of the surface area. The site is isolated from other water bodies and has no competing or predatory nonnative species. Beaver have been observed at this location. The pond's proximity to agricultural areas puts it at risk of chemical runoff and easy public access makes it vulnerable to illegal introductions of nonnative fish.

Unit 2B(5), Finley Gray Creek Swamp: This site totals 3.0 ha (7.4 ac) and is located in Benton County, Oregon. Most of the unit is located on the southwest corner of the William L. Finley National Wildlife Refuge, however, a small portion of the unit is located on private property. The site was occupied by Oregon chub at the time of listing and the population is currently estimated at 2,141 individuals and has been stable for 5 years. The habitat contains 3 of the 4 PCEs. The maximum depth is 2.2 m (7.2 ft), averaging 1 m (3.3 ft), and the temperature was recorded at 22 °C (72 °F) on July 28, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 100 percent of the surface area. Beaver have also been observed at this location. The site is periodically connected to other water bodies, and competing and predatory nonnative species have been observed. Gray Creek originates on the slopes west of Bellfountain Road, an area owned by private timber companies. The creek flows under Bellfountain Road onto Finley NWR where three dikes have been constructed to form Beaver Pond, Cattail Pond and Cabell Marsh. The waters of Gray Creek empty into Muddy Creek which drains into the Willamette River south of Corvallis. Extensive damming by beavers occurs between Bellfountain Road and the first dike at Beaver Pond, creating a narrow band of marsh habitat less than 1 mile in length, with a silty, detritus-laden substrate. The refuge boundary in this area is irregular, and portions of the marsh are within the refuge boundary while other portions are located on private land. Steep, forested slopes rise up on either side of the marsh; the north slope is refuge land, while a large portion of the southern slope is private land. The creek's location put the habitat at risk of excess sedimentation from logging activities and other water quality issues, including threat of spills and low dissolved oxygen.

Area 3: Middle Fork Willamette River Basin—Lane County, Oregon

Unit 3A, Fall Creek Spillway Ponds: This site totals 1.5 ha (3.8 ac), is owned by the USACE, and is the location of a 1996 introduction of 500 Oregon chub. The ponds, located in the overflow channel below Fall Creek Dam, were formed by beaver dams that blocked the spillway overflow channel. The current Oregon chub population estimate of 3,052 individuals along with past survey population estimates of over 500 individuals establish the site's capability of supporting a substantial population of the species. The habitat contains all of the PCEs. The maximum water depth is 1.8 m (5.9 ft), averaging 0.7 m (2.3 ft), and the temperature was recorded at 23.5 °C (74.3 °F) on July 2, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 89 percent of the surface area. Because the site is supplied with water from seepage out of Fall Creek Reservoir spillway and flows into Fall Creek, it is at risk of impacts from flow management for flood control and low summer water levels. Although the site currently has no competing or predatory nonnative species, it is at risk of nonnative fish introduction if flood control measures at the Dam cause reservoir water to infiltrate the ponds.

Unit 3B, Elijah Bristow State Park Berry Slough: This site totals 5.2 ha (12.7 ac) measured at the annual high-water elevation, is owned by the Oregon Parks and Recreation Department (OPRD), and was occupied by Oregon chub at the time of listing. Berry Slough appears to be an abandoned river channel consisting of a chain of shallow ponds connected by a spring-fed flow of several cubic feet per second, entering the Middle Fork Willamette River about 4.0 kilometers (km) (2.5 miles (mi)) below Dexter Dam. Almost the entire 1.6-km (1-mile) length of the slough lies within Elijah Bristow State Park. The population is currently estimated at 5,459 individuals, and has been stable for 5 years, and the habitat contains all of the PCEs. The maximum water depth is 2.5 m (8.2 ft), averaging 1.2 m (3.9 ft), and the temperature was recorded at between 20 and 25 °C (68 and 77 °F) on July 16, 17, and 29, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 100 percent of the surface area. The upper portion (beaver pond) at the site is isolated from other water bodies during most high-water events by a beaver dam and has no competing or predatory nonnative species. The site's connection to the Middle Fork Willamette River creates the risk of nonnative fish introduction and threatens fluctuations in the site's water level due to hydrologic changes in the river.

Unit 3C, Elijah Bristow State Park Northeast Slough: This site totals 2.2 ha (5.4 ac), is owned by the OPRD, and Oregon chub were first observed here in 1999. Although only 230 Oregon chub were counted at the site in 2008, the habitat contains 3 of the 4 PCEs and has exhibited capability of supporting a substantial population of the species based on past survey population estimates of over 500 individuals. The maximum depth is 2 m (6.6 ft), averaging 0.8 m (2.6 ft), and the temperature was recorded at 22 °C (72 °F) on July 22, 2008. The substrate is composed of 10 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic vegetation covering 100 percent of the surface area. Beaver have also been observed at this location. Competing and predatory nonnative species have also been observed. Because of its connection to the Middle Fork Willamette River, the water levels at this site can be affected by hydrologic changes in the river and the site is at

risk of infiltration by additional nonnative fish.

Unit 3D, Elijah Bristow State Park Island Pond: This site totals 2.1 ha (5.2 ac), is owned by the OPRD, and Oregon chub were first observed here in 2003. The population is currently estimated at 1,619 individuals and has been stable for 5 years. The habitat contains 3 of the 4 PCEs. The maximum depth is 2 m (6.6 ft), averaging 1.2 m (3.9 ft), and the temperature was recorded at 18 and 25 °C (64 and 77 °F) at various locations within the site on July 17, 2008. The substrate is composed of 96 percent silt and organic material, and there is a variety of emergent and submergent aquatic vegetation covering 92 percent of the surface area. Competing and predatory nonnative species have been observed at this location. Because of its connection to the Middle Fork Willamette River, the water levels at this site can be affected by hydrologic changes in the river and the site is at risk of infiltration by additional nonnative fish.

Unit 3E, Dexter Reservoir RV Alcove (DEX 3): This site totals 0.4 ha (0.9 ac) and is owned by the USACE. The site is located on the south side of Highway 58 off Dexter Reservoir next to a recreational vehicle (RV) park, and was occupied by Oregon chub at the time of listing. The population is currently estimated at 4,024 individuals, and has been stable for 5 years, and the habitat contains 3 of the 4 PCEs. The maximum depth is 1 m (3.3 ft), averaging 0.7 m (2.3 ft), and the temperature was recorded at 22.5 °C (72.5 °F) on July 1, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent, submergent and floating aquatic vegetation covering 87 percent of the surface area. Competing and predatory nonnative species have been observed at this location. The site is periodically connected to Dexter Reservoir and is therefore subject to impacts from regulated flow management, as well as low summer water levels, and the risk of infiltration by additional nonnative fish. Because of the site's close proximity to both the RV park and the highway, the water quality is at risk of contamination by spills and garbage.

Unit 3F, Dexter Reservoir Alcove (PIT1): This site totals 0.1 ha (0.3 ac) measured at the annual high-water elevation and is owned by the USACE. The site is located on the south side of Highway 58 off Dexter Reservoir, and was occupied by Oregon chub at the time of listing. PIT1 is an embayment adjacent to the south shoulder of State Hwy 58 and connected by culvert beneath the highway to Dexter Reservoir. The area is owned by the State of Oregon but under USACE jurisdiction via a flowage easement. The site has gradually sloping banks, woody debris, and supports shrubs, emergent and submergent vegetation. There is also a large boulder riprap revetment on the highway side. A small, intermittent stream enters from the south. The population is currently estimated at 684 individuals and has been stable for 5 years. The habitat contains 3 of the 4 PCEs. The maximum water depth is 1 m (3.3 ft), averaging 0.5 m (1.6 ft), and the temperature was recorded at 18 °C (64 °F) on July 2, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of aquatic vegetation including emergent, submergent, and algae covering 100 percent of the surface area. Competing and predatory nonnative species have been observed at this location. Because of its connection to Dexter Reservoir, the site is subject to impacts from regulated flow management, as well as low summer water levels, and the risk of infiltration by additional nonnative fish. Because of the site's close proximity to the highway, the water quality is at risk of contamination by spills.

Unit 3G, East Fork Minnow Creek Pond: This site totals 1.3 ha (3.3 ac), is owned by the ODOT, and was occupied by Oregon chub at the time of listing. East Minnow Creek Pond is a large beaver pond on a small tributary to Minnow Creek that drains into Lookout Point Reservoir. The pond enters Minnow Creek just south of Highway 58, after which the creek flows under the highway through a large box culvert. The population is currently estimated at 2,156 individuals and has been stable for 5 years. The habitat contains all of the PCEs. The maximum depth is 1.2 m (3.9 ft), averaging 0.5 m (1.6 ft), and the temperature was recorded at 19 °C (66 °F) on July 2, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic vegetation covering 100 percent of the surface area. The site is isolated from other water bodies and has no competing or predatory nonnative species but is under several threats including excess sedimentation resulting from timber harvest in the watershed, vegetation displacement of open water habitat and, due to the site's close proximity to the highway, contamination-related water quality issues. The ODOT is in the process of implementing a conservation bank for Oregon chub at this site; the bank includes the restoration, construction, and enhancement of Oregon chub habitat and other regionally significant habitats.

Unit 3H, Hospital Pond: This site totals 0.5 ha (1.1 ac), is owned by the USACE, and was occupied by Oregon chub at the time of listing. The pond is located on the north side of the gravel road on the north shore of Lookout Point Reservoir and spring-fed Hospital Creek flows into the east end of the pond. The population is currently estimated at 3,682 individuals and has been stable for 5 years. The habitat contains all of the PCEs. The maximum water depth is 3 m (9.8 ft), averaging 2 m (6.6 ft), and the temperature on the flooded terrace was recorded at 15 °C (59 °F) on July 1, 2008. The substrate is composed of 100 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic vegetation covering 100 percent of the surface area. Although the site currently has no competing or predatory nonnative species, its connection to the reservoir puts it at risk of nonnative fish introduction. Beaver activity is evident in the pond. A culvert and gate at the outflow culvert maintains the high water level of the pond, but water levels in the pond can fluctuate due to its connection with the reservoir. Contamination-related water quality issues are also of concern due to the site's close proximity to the road.

Unit 3I, Shady Dell Pond: This site totals 1.1 ha (2.8 ac), is owned by the United States Forest Service (USFS), and was occupied by Oregon chub at the time of listing. Shady Dell Pond is located in the far southeast end of Lookout Point Reservoir along the south side of State Highway 58 in a USFS campground. The pond was a former slough that was partially isolated from the Middle Fork Willamette River during highway construction. The site has gradually sloping banks, slightly turbid water, moderately abundant aquatic vegetation, and a substrate mix of detritus, silt, and boulders. The pond was fed only by rainfall and seepage, with no obvious outlet, but the USFS installed a diversion pipe from Dell Creek to Shady Dell Pond to maintain adequate summer water levels and counteract the surface area shrinkage caused by evaporation, leakage, or both. The population is currently estimated at 7,249 individuals, has been stable for 5 years, and the habitat contains all of the PCEs. The maximum depth is 1.1 m (3.6 ft), averaging 0.5 m (1.6 ft), and the temperature was recorded at 21 °C (70 °F) on July 22, 2008. The substrate is 100 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic

vegetation covering 82 percent of the surface area. The site is isolated from other water bodies and has no competing or predatory nonnative species. Beaver have been observed at this location. Because of its proximity to the campground and its connection to Dell Creek the site is at risk from nonnative fish introduction and contamination-related water quality issues.

Unit 3J, Buckhead Creek: This site totals 3.8 ha (9.3 ac), is owned by the USFS, and was occupied by Oregon chub at the time of listing. Buckhead Creek is a tributary flowing into the Middle Fork Willamette River at the northeast end of Lookout Point Reservoir. Access to the site is via a Lane County gravel road and USFS Road 5821 that skirts the east side of the river. The channel varies from a few meters (feet) to over 16 m (50 feet) wide with both sloping and undercut banks, a bottom composed of silt, boulders, gravel and detritus, with some woody debris and aquatic vegetation. The lower 2.4 km (1.5 miles) of the creek flows through a slough-like, abandoned channel of the Middle Fork Willamette River and is wide, shallow, slightly turbid and low gradient, with marshy habitat. The population is currently estimated at 1,258 individuals and has been stable for 5 years. The habitat contains all of the PCEs. The maximum depth is 1.5 m (4.9 ft), averaging 0.8 m (2.6 ft), and the temperature was recorded at between 18 and 24 °C (64 and 75 °F) on July 15 and July 21, 2008. The substrate is composed of 98 percent silt and organic material, and there is a variety of emergent, submergent, and floating aquatic vegetation covering 80 percent of the surface area. Beaver frequent the area and Oregon chub are often found in beaver ponds on the lower 2.4 km (1.5 mi) of the creek. Although the site currently has no competing or predatory nonnative species, its connection to the river puts it at risk of nonnative fish introduction. Other threats include excess sedimentation from logging in the watershed as well as contamination-related water quality issues due to the site's close proximity to the road.

Unit 3K, Wicopee Pond: This site totals 1.4 ha (3.3 ac), is owned by the USFS, and was occupied at the time of listing as a result of a 1988 introduction of 50 Oregon chub. The pond, a former borrow pit adjacent to Salt Creek in the upper Middle Fork Willamette River drainage, was created when a bridge crossing was constructed on a small logging road that crosses Salt Creek, along Highway 58. The population is currently estimated at 5,431 individuals and has been stable for 5 years. The habitat contains all of the PCEs. The maximum depth is 2 m (6.6 ft), averaging 1.2 m (3.9 ft), and the temperature was recorded at 17 °C (63 °F) on June 30, 2008. The substrate is 100 percent silt and organic material, and there is a variety of emergent, submergent and floating aquatic vegetation and algae covering 100 percent of the surface area. Beaver have been observed at this location and the site has no competing or predatory nonnative species. The site is at risk of excess sedimentation resulting from logging in the watershed.

Table 1 provides a summary of the approximate area (hectares/acres) of sites by County and ownership determined to meet the definition of critical habitat to the Oregon chub. Table 2 provides ownership information and the area of each proposed critical habitat unit.

TABLE 1—AREAS IN HECTARES (ACRES) DETERMINED TO MEET THE DEFINITION OF CRITICAL HABITAT FOR THE OREGON CHUB (DEFINITIONAL AREA) BY COUNTY AND OWNERSHIP (TOTALS MAY NOT SUM DUE TO ROUNDING)

County	Private	State	Federal	Other government	Definitional area
Benton	7.3 (18.1)		3.7 (9.2)		6.3 (27.3)
Lane	3.5 (8.6)	10.8 (26.5)	8.7 (21.6)		23.0 (56.7)
Linn		1.4 (3.6)	0.4 (1.0)		1.8 (4.6)
Marion	2.5 (6.2)		14.0 (34.5)	1.2 (2.8)	17.6 (43.6)
Total	13.3 (32.9)	12.2 (30.11)	26.8 (66.3)	1.2 (2.8)	53.5 (132.1)

TABLE 2—CRITICAL HABITAT UNITS PROPOSED FOR THE OREGON CHUB (TOTALS MAY NOT SUM DUE TO ROUNDING)

[Area estimates reflect all land within critical habitat unit boundaries]

Critical habitat unit	Land ownership	Hectares	Acres
1A	State of Oregon, ODOT	1.4	3.3
1B(1)	City of Salem	0.8	1.9
1B(2)	City of Stayton	0.4	1.0
1B(3)	State of Oregon, ODFW	0.1	0.2
1B(4)	Private	2.5	6.2
1C	USACE	0.4	1.0
2A(1)	Private	0.1	0.1
2A(2)	Private	0.1	0.3
2A(3)	Private	3.3	8.2
2B(1)	USFWS	14.0	34.5
2B(2)	Private	6.1	15.2
2B(3)	USFWS	1.0	2.4
2B(4)	USFWS	0.9	2.3
2B(5)	USFWS & Private	3.0	7.4
3A	USACE	1.5	3.8
3B	State of Oregon, OPRD	5.2	12.7
3C	State of Oregon, OPRD	2.2	5.4
3D	State of Oregon, OPRD	2.1	5.2
3E	USACE	0.4	0.9
3F	USACE	0.1	0.3
3G	State of Oregon, ODOT	1.3	3.3

TABLE 2—CRITICAL HABITAT UNITS PROPOSED FOR THE OREGON CHUB (TOTALS MAY NOT SUM DUE TO ROUNDING)—Continued

[Area estimates reflect all land within critical habitat unit boundaries]

Critical habitat unit	Land ownership	Hectares	Acres
3H	USACE	0.5	1.1
3I	USFS	1.1	2.8
3J	USFS	3.8	9.3
3K	USFS	1.4	3.3
Total		53.5	132.1

[Key of abbreviations in Table 2:
ODOT—Oregon Department of Transportation
ODFW—Oregon Department of Fish and Wildlife
USACE—United States Army Corps of Engineers
USFWS—U.S. Fish and Wildlife Service
OPRD—Oregon Parks and Recreation Department
USFS—U.S. Forest Service]

Effects of Critical Habitat Designation

Section 7 Consultation

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

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. This is a procedural requirement only, as any conservation recommendations in a conference report or opinion are strictly advisory. However, once proposed species become listed, or proposed critical habitat is designated as final, the full prohibitions of section 7(a)(2) of the Act apply to any Federal action. The primary utility of the conference procedures is to maximize the opportunity for a Federal agency to adequately consider proposed species and critical habitat and avoid potential delays in implementing their proposed action as a result of the section 7(a)(2) compliance process, should those species be listed or the critical habitat designated.

The primary utility of the conference procedures is to allow a Federal agency to maximize its opportunity to adequately consider species proposed for listing and proposed critical habitat and, if we list the proposed species or designate proposed critical habitat, to avoid potential delays in implementing their proposed action because of the section 7(a)(2) compliance process. We may conduct conferences either informally or formally. We typically use informal conferences as a means of providing advisory conservation recommendations to assist the agency in eliminating conflicts that the proposed action may cause. We typically use formal conferences when the Federal agency or the Service believes the proposed action is likely to jeopardize the continued existence of the species proposed for listing or adversely modify proposed critical habitat.

We generally provide the results of an informal conference in a conference report, while we provide the results of a formal conference in a conference opinion. We typically prepare conference opinions on proposed critical habitat in accordance with procedures contained at 50 CFR 402.14, as if the proposed critical habitat was already designated. We may adopt the conference opinion as the biological opinion when the critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (*see* 50 CFR 402.10(d)).

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10 of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or permitted, do not require section 7(a)(2) consultations.

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. As a result of this consultation, compliance with the requirements of section 7(a)(2) of the Act will be documented through the Service's issuance of:

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

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

When we issue a biological opinion concluding that a project is likely to

result in jeopardy to a listed species or the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define ''reasonable and prudent alternatives'' at 50 CFR 402.02 as alternative actions identified during consultation that

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

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

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

Application of the Jeopardy and Adverse Modification Standards

Jeopardy Standard

Currently, the Service applies an analytical framework for Oregon chub jeopardy analyses that relies heavily on the importance of known populations to the species' survival and recovery. The section 7(a)(2) of the Act analysis is focused not only on these populations but also on the habitat conditions necessary to support them.

The jeopardy analysis usually expresses the survival and recovery needs of the Oregon chub in a qualitative fashion without making distinctions between what is necessary for survival and what is necessary for recovery. Generally, the jeopardy analysis focuses on the range-wide status of the Oregon chub, the factors responsible for that condition, and what is necessary for this species to survive and recover. An emphasis is also placed on characterizing the condition of the Oregon chub in the area affected by the proposed Federal action and the role of affected populations in the survival and recovery of the Oregon chub. That context is then used to determine the significance of adverse and beneficial effects of the proposed Federal action and any cumulative effects for purposes of making the jeopardy determination.

Adverse Modification Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or would retain its current ability for the PCEs to be functionally established. Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that appreciably reduces the conservation value of critical habitat for the Oregon chub. Generally, the conservation role of Oregon chub critical habitat units is to support the various life-history needs and provide for the conservation of the species.

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 may also jeopardize the continued existence of the species.

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore result in consultation for the Oregon chub include, but are not limited to:

1. Actions that would adversely affect the Oregon chub's space for individual and population growth and normal behavior. These include altering the flow, gradient, or depth of the water channel by way of activities such as channelization, impoundment, road and bridge construction, mining, dredging, and destruction of riparian vegetation. These activities may lead to changes in water flows and levels that would degrade, reduce, or eliminate the habitat necessary for the growth and reproduction of Oregon chub.

2. Actions that would significantly alter areas for reproduction, shelter, and food (habitat for prey). These include:

- Reducing or eliminating vegetative cover of the water channel by activities such as release of contaminants into the surface water or connected groundwater at a point source or by dispersed release (non-point source). These activities can result in loss of the vegetative cover that is vital to the Oregon chub's ability to spawn and hide from predators.
- Altering the substrate within the water channel through sediment deposition from livestock grazing, road construction, channel alteration, timber harvest, off-road vehicle use, and other watershed and floodplain disturbances. When these activities increase the sediment deposition to levels that begin to change open-water habitat to emergent wetland, the habitat necessary for the growth and reproduction of these fish is reduced or eliminated.
- Significantly decreasing the populations of minute organisms in the water channel that make up the food base of the Oregon chub.

3. Actions that would significantly alter water temperature, thereby negatively affecting the Oregon chub's physiological processes for normal spawning and survival. Such activities could include, but are not limited to, release of chemicals, biological pollutants, or heated effluents into the surface water or connected groundwater at a point source or by dispersed release (non-point source). These activities could alter water quality to conditions that are beyond the tolerances of Oregon chub and result in direct or cumulative adverse effects to these individuals and their life cycles.

4. Actions that would disturb the habitat of Oregon chub by introducing, spreading, or augmenting nonnative competitive or predatory aquatic species into any of the proposed designated units. Such activities may include, but are not limited to, stocking for sport, aesthetics, biological control, or other purposes; the illegal use of live bait fish, aquaculture, or dumping of aquarium fish or other species; and connection of a designated critical habitat unit to another water body known to contain nonnative aquatic species. These activities could cause Oregon chub fatalities, displace Oregon chub from their habitat, and/or cause Oregon chub to spend a disproportionate amount of time hiding at the expense of foraging.

We consider all of the units proposed as critical habitat to contain features essential to the conservation of the Oregon chub. All units are within the geographic range of the species and are currently occupied by the Oregon chub. To ensure that their actions do not jeopardize the continued existence of the Oregon chub, Federal agencies

already consult with us on activities in areas currently occupied by the Oregon chub, or in unoccupied areas if the species may be affected by the action.

Exemptions

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

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

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

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

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

There are no Department of Defense lands with a completed integrated natural resources management plan within the proposed critical habitat designation. Therefore, there are no specific lands that meet the criteria for being exempted from the designation of critical habitat pursuant to section 4(a)(3) of the Act.

Exclusions

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

Section 4(b)(2) of the Act states that the Secretary must designate or make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact, of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the legislative history is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If, based on this analysis, we determine that the benefits of exclusion outweigh the benefits of inclusion, we can exclude the area only if such exclusion would not result in the extinction of the species.

Under section 4(b)(2) of the Act, we must consider all relevant impacts, including economic impacts. In addition to economic impacts, we consider a number of factors in a section 4(b)(2) analysis. For example, we consider whether there are lands owned by the Department of Defense (DOD) where a national security impact might exist. We also consider whether landowners have developed any Habitat Conservation Plans (HCPs) for the area, or whether there are conservation partnerships that would be encouraged or discouraged by designation of, or exclusion from, critical habitat in an area. In addition, we look at the presence of Tribal lands or Tribal Trust resources that might be affected, and consider the government-to-government relationship of the United States with the Tribal entities. We also consider any social impacts that might occur because of the designation.

We have preliminarily considered the potential economic impacts of this proposed critical habitat designation, and are not proposing to exclude any areas under section 4(b)(2) of the Act because of economic, national security, or other considerations. Although some sites have a level of management for Oregon chub in place, none of the sites currently have the type of comprehensive management plan required to ensure the conservation of the species on site, such as any legally operative HCPs that cover the species, draft HCPs that cover the species and have undergone public review and comment, State conservation plans that cover the species, or National Wildlife Refuge System Comprehensive Conservation Plans that specifically mention and plan for Oregon chub conservation. Additionally, none of the lands or waters within the proposed designation are owned or managed for purposes of national security by the Department of Defense, and the proposed designation does not include any Tribal lands or trust resources. Therefore, we anticipate no impact to national security, Tribal lands, partnerships, or habitat conservation plans from this proposed critical habitat designation. Based on the best available information, we have preliminarily determined that all of the units proposed as critical habitat contain the features essential to, or are otherwise essential for the conservation of, this species. However, to ensure our final determination is based on the best available information, we are soliciting comments on any foreseeable economic, national security, or other potential impacts resulting from this proposed designation of critical habitat from governmental, business, or private interests, and in particular, any potential impacts on small entities. We are also soliciting comments on whether the benefits of exclusion of a particular area outweigh the benefits of inclusion.

Economic Analysis

Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for economic reasons if the Secretary determines that the benefits of such exclusion exceed the benefits of designating the area as critical habitat. However, this exclusion cannot occur if it will result in the extinction of the species concerned.

In compliance with section 4(b)(2) of the Act, the Service is preparing an economic analysis of the impacts of proposing critical habitat designation and related factors for the Oregon chub, to evaluate the potential economic impact of the designation. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for

downloading from the Internet at *http://www.regulations.gov,* or from the Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT** section). Based on public comment on that document, areas may be excluded from critical habitat by the Secretary under the provisions of section 4(b)(2) of the Act. This is provided for in the Act, and in our implementing regulations at 50 CFR 242.19.

Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we are obtaining the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed designation of critical habitat.

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

Public Hearings

The Act provides for one or more public hearings on this proposal, if we receive any requests for hearings. We must receive your request for a public hearing within 45 days after the date of this **Federal Register** publication. Send your request to the address listed in **FOR FURTHER INFORMATION CONTACT**. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the first hearing.

Required Determinations

Regulatory Planning and Review—Executive Order 12866

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

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

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

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

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

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

Under the Regulatory Flexibility Act (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 available 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 ESA 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. 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.

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 their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted

by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

b. We do not believe that this rule will significantly or uniquely affect small 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 for this species we believe 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.

Takings

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for the Oregon chub in a takings implications assessment. The takings implications assessment concludes that this proposed designation of critical habitat for the Oregon chub does not pose significant takings implications for lands within or affected by the designation.

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. The designation of critical habitat in areas currently occupied by the Oregon chub 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 areas that contain the features essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the conservation 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 Oregon chub.

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 (NEPA)

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).

Clarity of the Rule

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

a. Be logically organized;

b. Use the active voice to address readers directly;

c. Use clear language rather than jargon;

d. Be divided into short sections and sentences; and

e. Use lists and tables wherever possible.

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

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, 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 occupied at the time of listing that contain the features essential for the conservation of the Oregon chub and no Tribal lands that are unoccupied areas that are essential for the conservation of the Oregon chub. Therefore, designation of critical habitat for the Oregon chub has not been designated on Tribal lands.

Energy Supply, Distribution, or Use

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 Oregon chub is not expected to significantly affect energy supplies, distribution, or use. Although there are some hydroelectric operations on dams operated by the USACE adjacent to several critical habitat units along the Middlefork Willamette River, the USACE recently completed a formal consultation with the Service regarding the effect of those operations on Oregon chub. The Biological Opinion On the Continued Operation and Maintenance of the Willamette River Basin Project and Effects to Oregon Chub, Bull Trout, and Bull Trout Critical Habitat Designated Under the Endangered Species Act (USFWS 2008b) established strict Terms and Conditions for the conservation of Oregon chub in those

habitats that would be impacted by dam operations. These same habitats are included in this proposal. The designation of critical habitat in the areas adjacent to the hydroelectric operations will not change current Oregon chub conservation practices surrounding dam operations. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

References Cited

A complete list of all references cited in this rulemaking is available upon request from the Field Supervisor, Oregon Fish and Wildlife Office (*see* **FOR FURTHER INFORMATION CONTACT**).

Author(s)

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

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; Public Law 99–625, 100 Stat. 3500; unless otherwise noted.

2. In § 17.11(h), revise the entry for ''Chub, Oregon'' under ''Fishes'' in the List of Endangered and Threatened Wildlife 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						
*	*	*	*	*	*	*	
FISHES							
*	*	*	*	*	*	*	
Chub, Oregon	*Oregonichthys crameri.*	U.S.A. (OR)	entire	E	520	17.95(e)	NA
*	*	*	*	*	*	*	

* * * * *

3. In § 17.95(e), add an entry for ''Oregon Chub (*Oregonichthys crameri*)'' under ''Fishes'', in the same alphabetic order as this species appears in § 17.11(h), to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(e) *Fishes.*

* * * * *

Oregon Chub (*Oregonichthys crameri*)

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

(2) The primary constituent elements of critical habitat for the Oregon chub are the habitat components that provide:

(i) Off-channel water bodies such as beaver ponds, oxbows, side-channels, stable backwater sloughs, low-gradient tributaries, and flooded marshes, including at least 500 continuous square meters (0.12 ac) of surface area and water depth between approximately 0.5–2.0 m (1.6–6.6 ft). This PCE provides space for individual and population growth and normal behavior.

(ii) Aquatic vegetation covering a minimum of 250 m^2 (.061 ac) (or between approximately 25 and 100 percent of the total surface area of the habitat). This vegetation is primarily submergent for purposes of spawning, but also includes emergent and floating vegetation, and algae, which is important for cover throughout the year. This PCE provides areas for reproduction, shelter, and food (habitat for prey). Areas with sufficient vegetation are likely to also have the following characteristics:

(A) Gradient less than 2.5 percent;

(B) No or very low water velocity in late spring and summer;

(C) Silty, organic substrate; and

(D) Abundant minute organisms such as rotifers, copepods, cladocerans, and chironomid larvae.

(iii) Late spring and summer subsurface water temperatures between 15 and 25 °C (59 and 78 °F), with natural diurnal and seasonal variation. This PCE enables optimal physiological processes for spawning and survival.

(iv) No or negligible levels of nonnative aquatic predatory or competitive species. Negligible is defined for the purpose of this proposed rule as a minimal level of nonnative species that will still allow the Oregon chub to continue to survive and reproduce. This PCE provides Oregon chub habitat free from disturbance and, therefore, sufficient reproduction and survival opportunities.

(3) Critical habitat does not include man-made structures (including, but not limited to, docks, seawalls, pipelines, or other structures) and the land on which they are located existing within the boundaries on the effective date of this rule.

(4) Critical Habitat Map Units. The data layer defining critical habitat was created using a Trimble GeoXT GPS unit. These critical habitat units were mapped using Universal Transverse Mercator, Zone 10, North American Datum 1983 (UTM NAD 83) coordinates. These coordinates establish the vertices and endpoints of the boundaries of the units.

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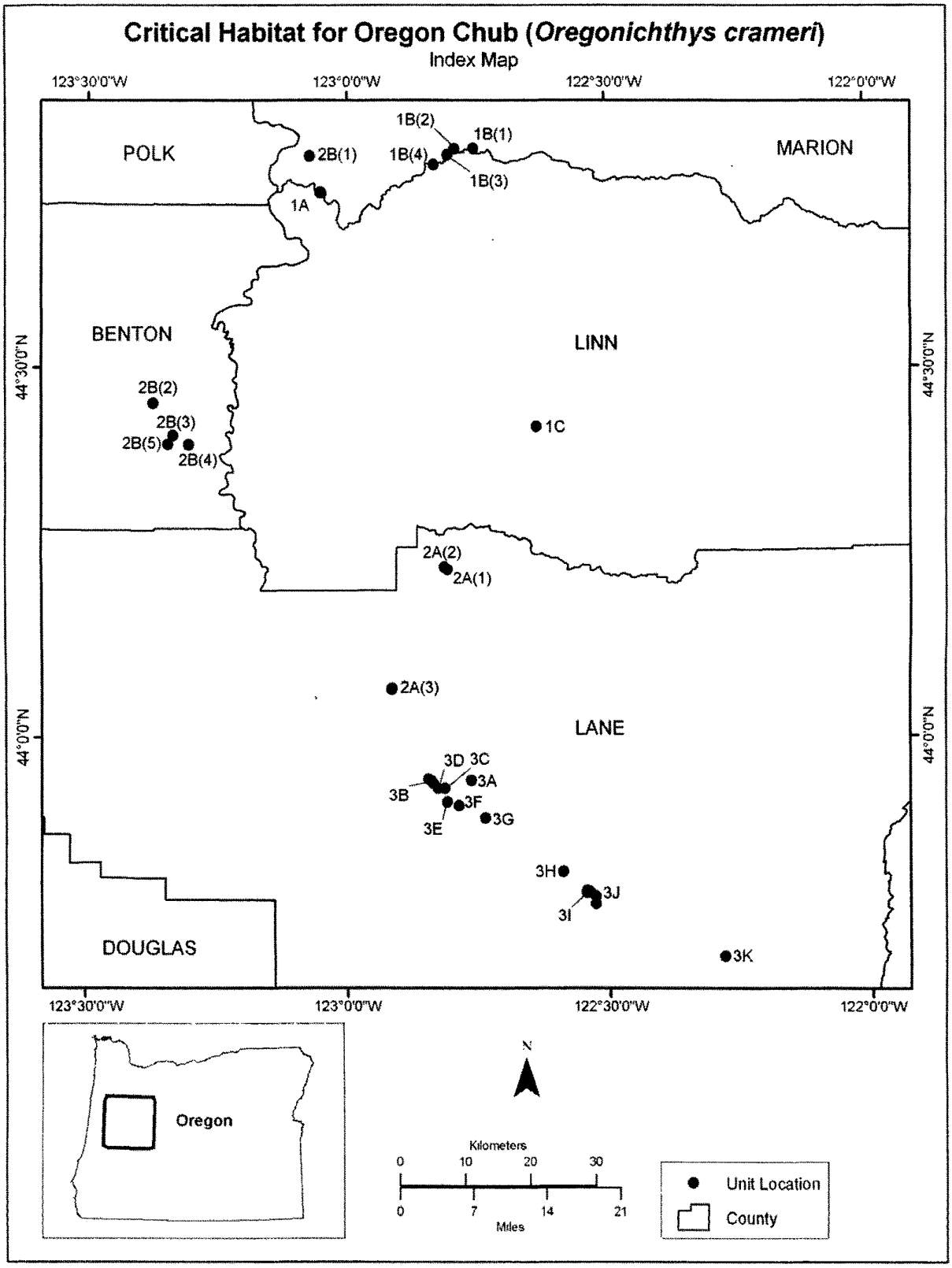
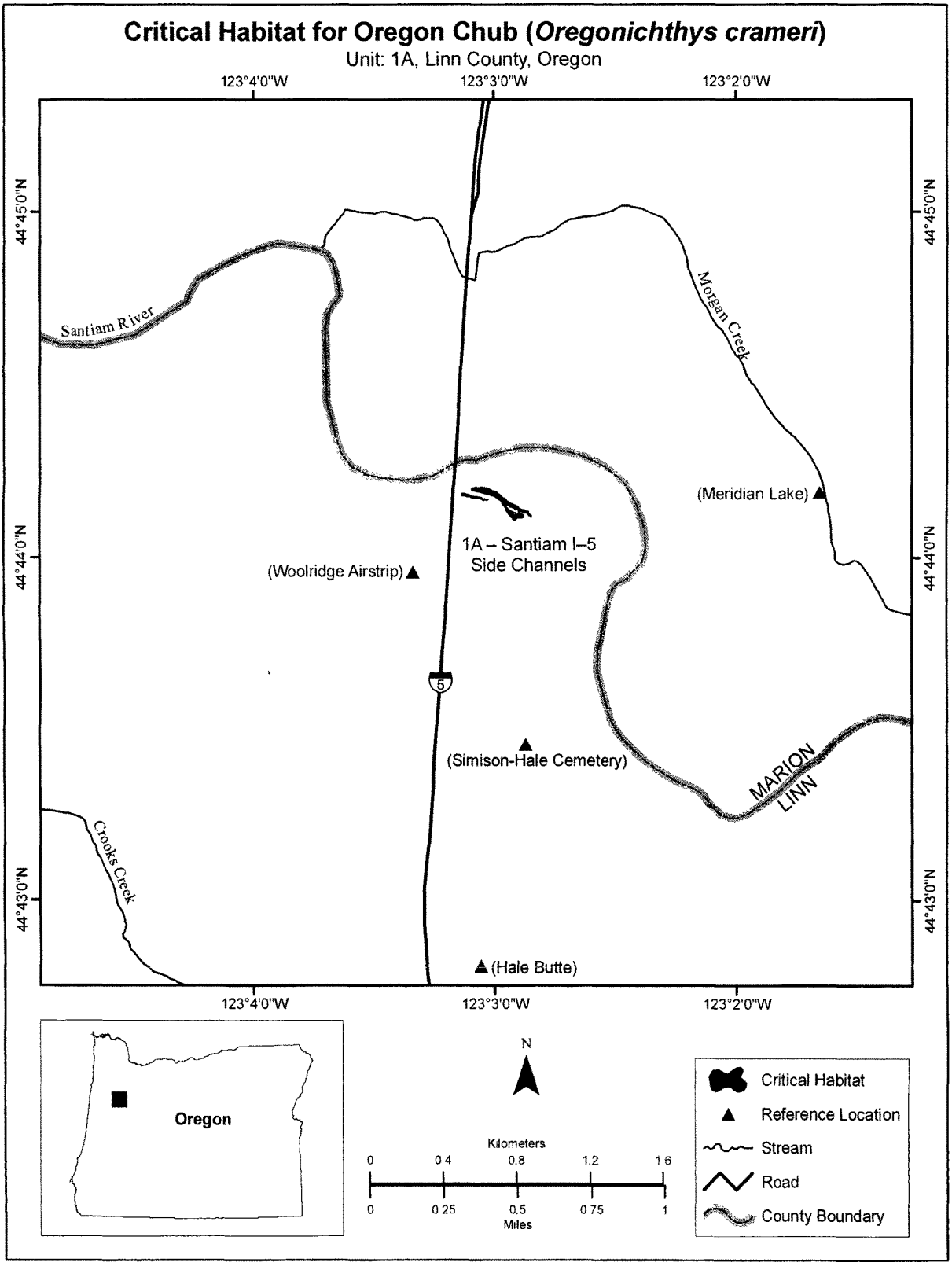
(5) **Note:** Index map for critical habitat for the Oregon chub follows:



(6) Unit 1A: Santiam I–5 Side Channels, Linn County, Oregon.

(i) [Reserved for textual description of unit.]

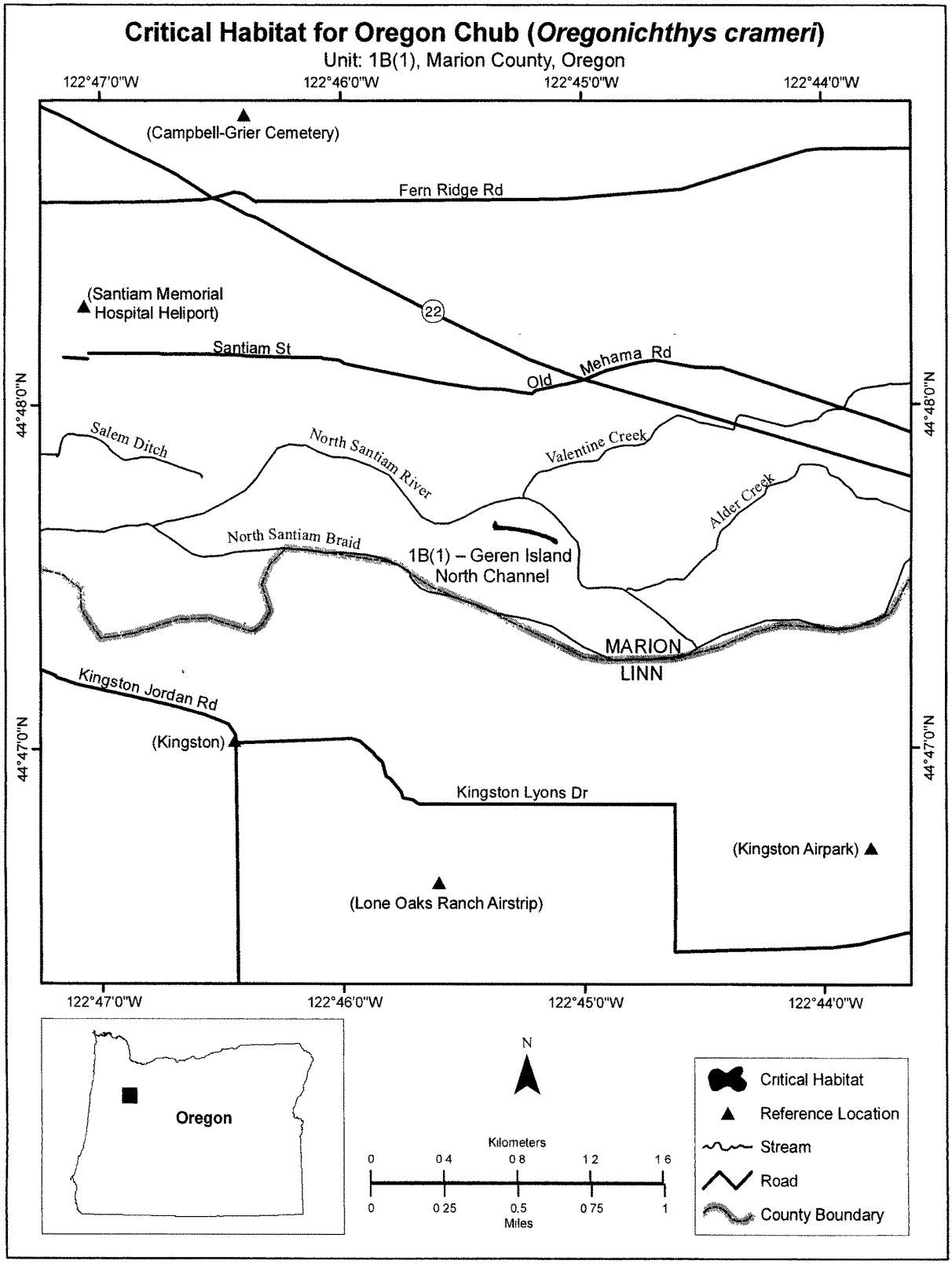
(ii) **Note:** Map of Unit 1A Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(7) Unit 1B(1): Geren Island North Channel, Marion County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Unit 1B(1) Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(8) Unit 1B(2): Stayton Public Works Pond, Marion County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 1(B)(2) is found at paragraph (10)(ii) of this entry.

(9) Unit 1B(3): South Stayton Pond, Linn County, Oregon.

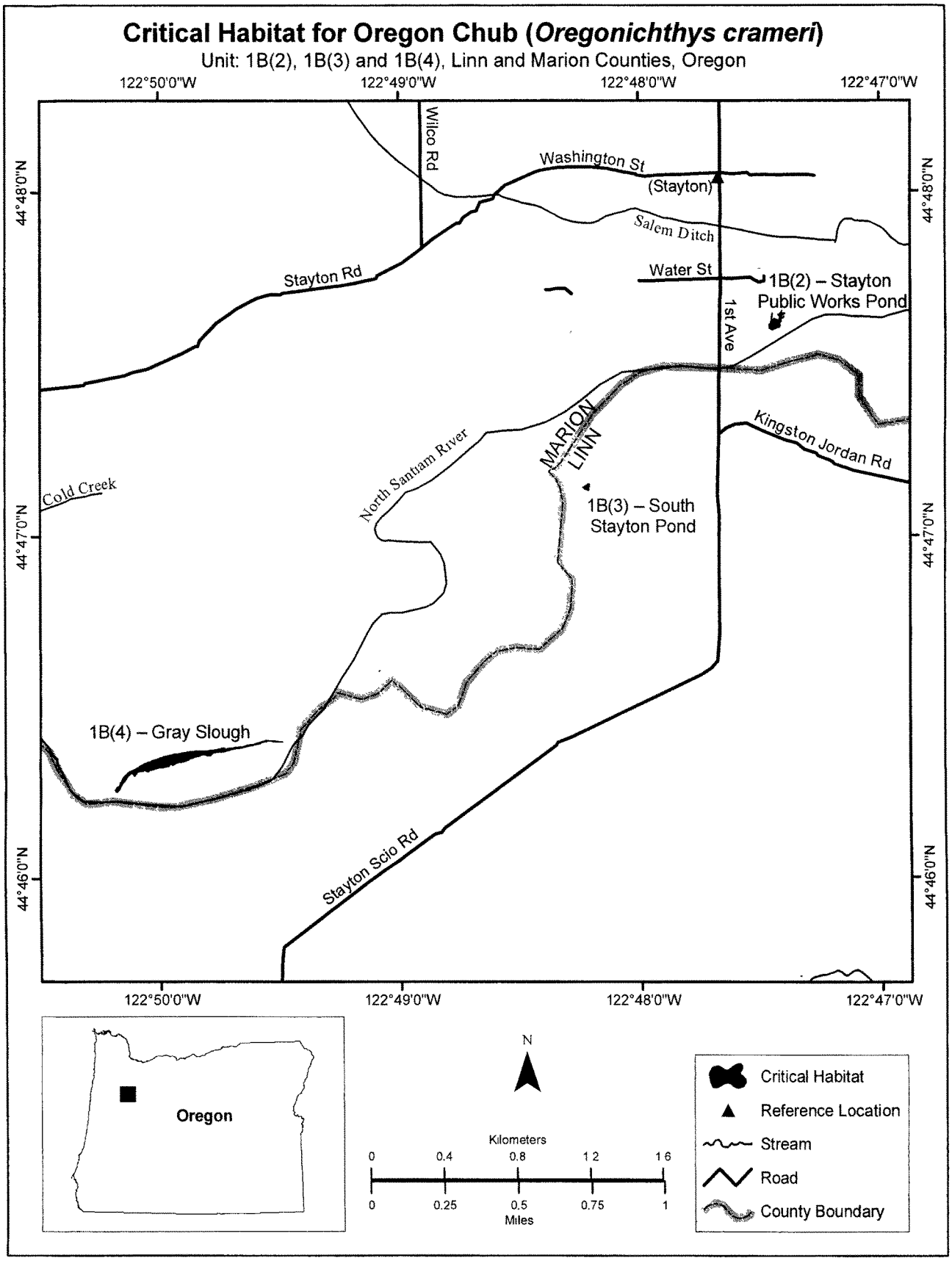
(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 1(B)(3) is found at paragraph (10)(ii) of this entry.

(10) Unit 1B(4): Gray Slough, Marion County, Oregon.

(i) [Reserved for textual description of unit.]

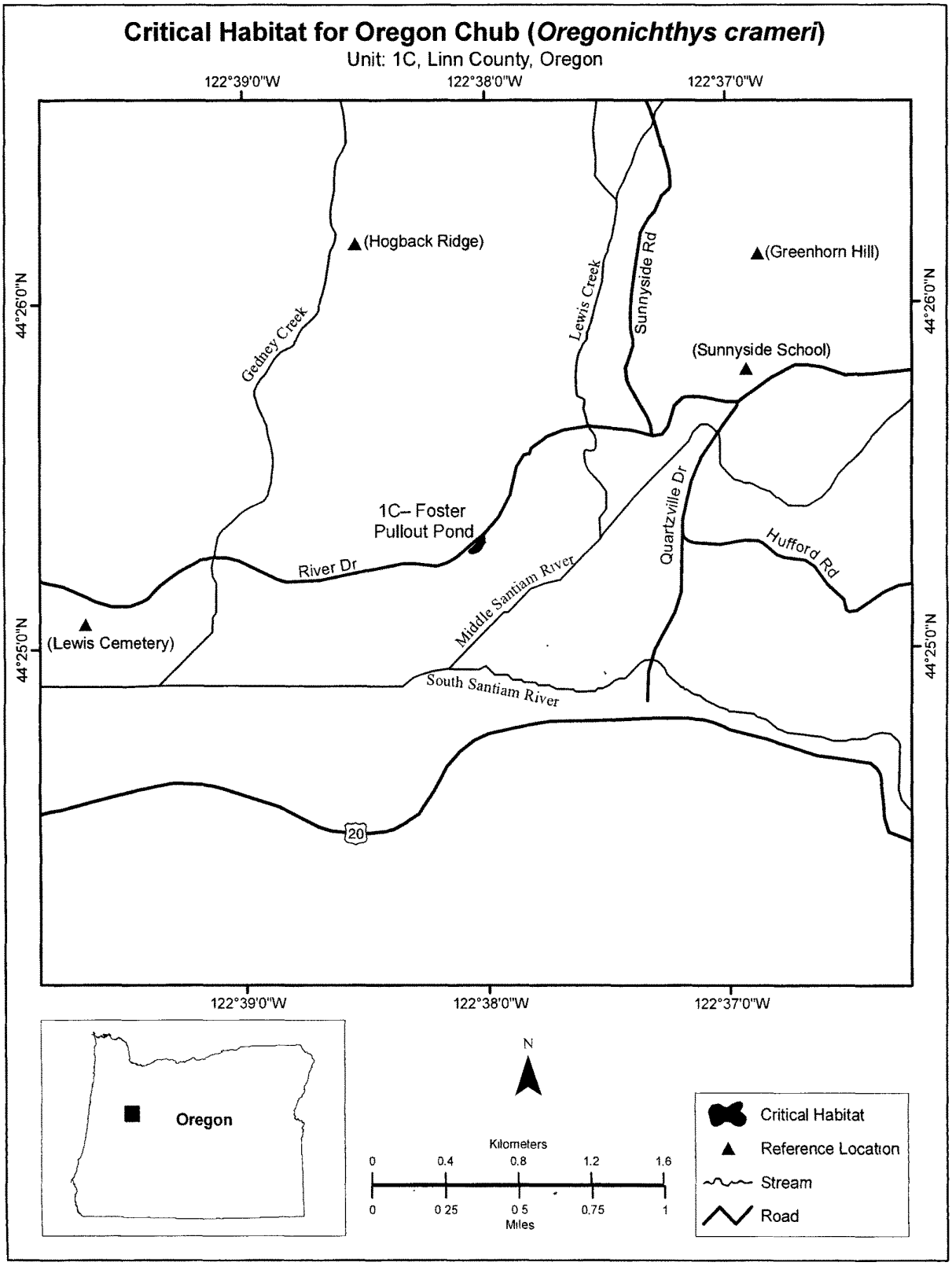
(ii) **Note:** Map of Units 1B(2), 1B(3), and 1B(4) of critical habitat for Oregon chub (*Oregonichthys crameri*) follows:


Critical Habitat for Oregon Chub (Oregonichthys crameri)
Unit: 1B(2), 1B(3) and 1B(4), Linn and Marion Counties, Oregon
122°50'0"W
122°49'0"W
122°48'0"W
122°47'0"W
44°48'0"N
44°47'0"N
44°46'0"N
Wilco Rd
Washington St
(Stayton)
Salem Ditch
Stayton Rd
Water St
1B(2) – Stayton Public Works Pond
1st Ave
MARION
LINN
Kingston Jordan Rd
North Santiam River
Cold Creek
1B(3) – South Stayton Pond
1B(4) – Gray Slough
Stayton Scio Rd
Oregon
N
Kilometers
0 0.4 0.8 1 2 1 6
0 0.25 0.5 0.75 1
Miles
Critical Habitat
Reference Location
Stream
Road
County Boundary

(11) Unit 1C: Foster Pullout Pond, Linn County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Unit 1C Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(12) Unit 2A(1): Russell Pond, Lane County, Oregon.

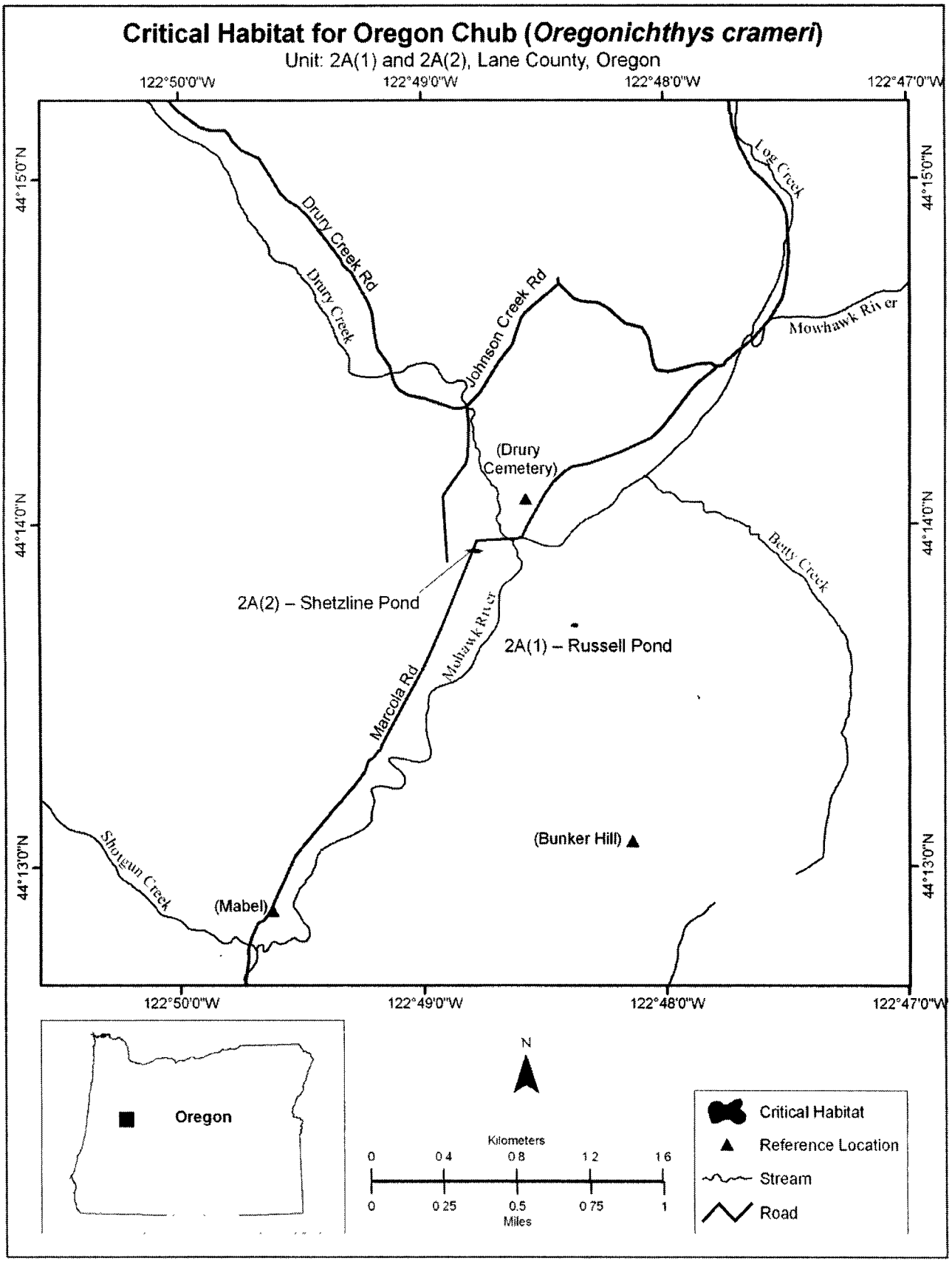
(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 2(A)(1) is found at paragraph (13)(ii) of this entry.

(13) Unit 2A(2): Shetzline Pond, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

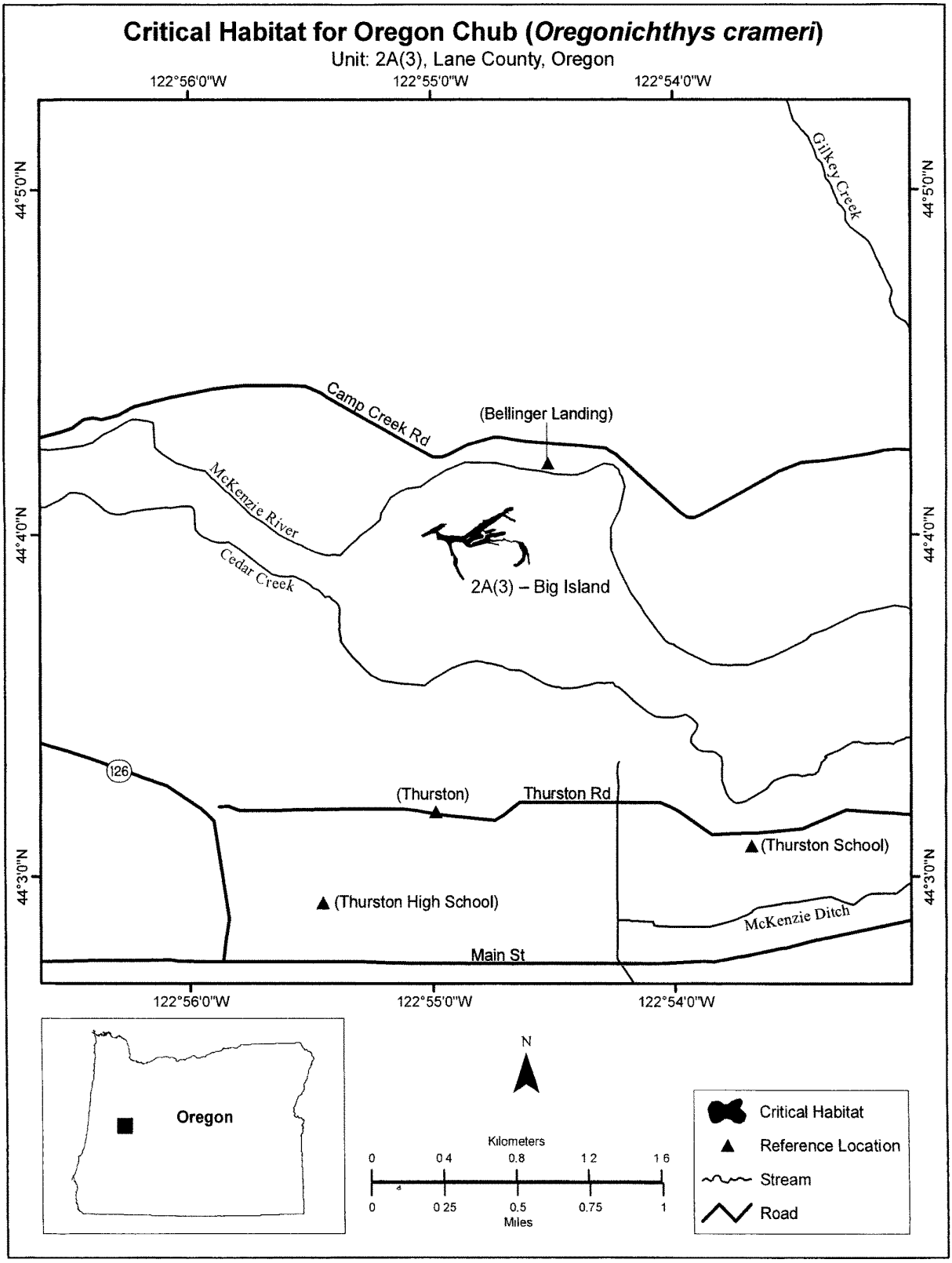
(ii) **Note:** Map of Units 2A(1) and 2A(2) of critical habitat for Oregon chub (*Oregonichthys crameri*) follows:


Critical Habitat for Oregon Chub (*Oregonichthys crameri*)
Unit: 2A(1) and 2A(2), Lane County, Oregon
122°50'0"W
122°49'0"W
122°48'0"W
122°47'0"W
44°15'0"N
44°14'0"N
44°13'0"N
Drury Creek Rd
Drury Creek
Johnson Creek Rd
Log Creek
Mowhawk River
(Drury Cemetery)
Betty Creek
2A(2) – Shetzline Pond
2A(1) – Russell Pond
Mohawk River
Marcola Rd
Shotgun Creek
(Mabel)
(Bunker Hill)
Oregon
N
Kilometers
0 0.4 0.8 1.2 1.6
0 0.25 0.5 0.75 1
Miles
Critical Habitat
Reference Location
Stream
Road

(14) Unit 2A(3): Big Island, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

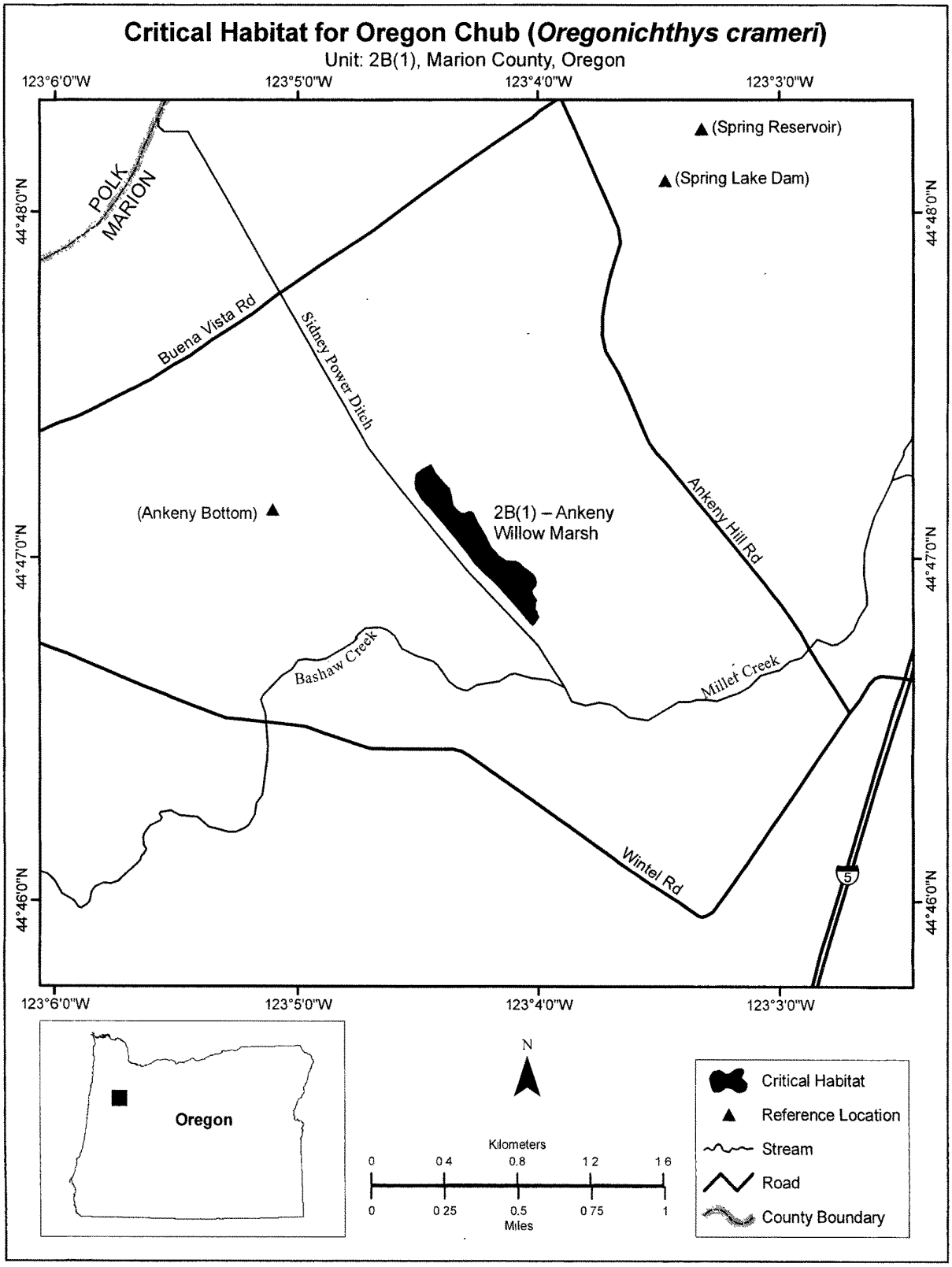
(ii) **Note:** Map of Unit 2A(3) Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(15) Unit 2B(1): Ankeny Willow Marsh, Marion County, Oregon.

(i) [Reserved for textual description of unit.]

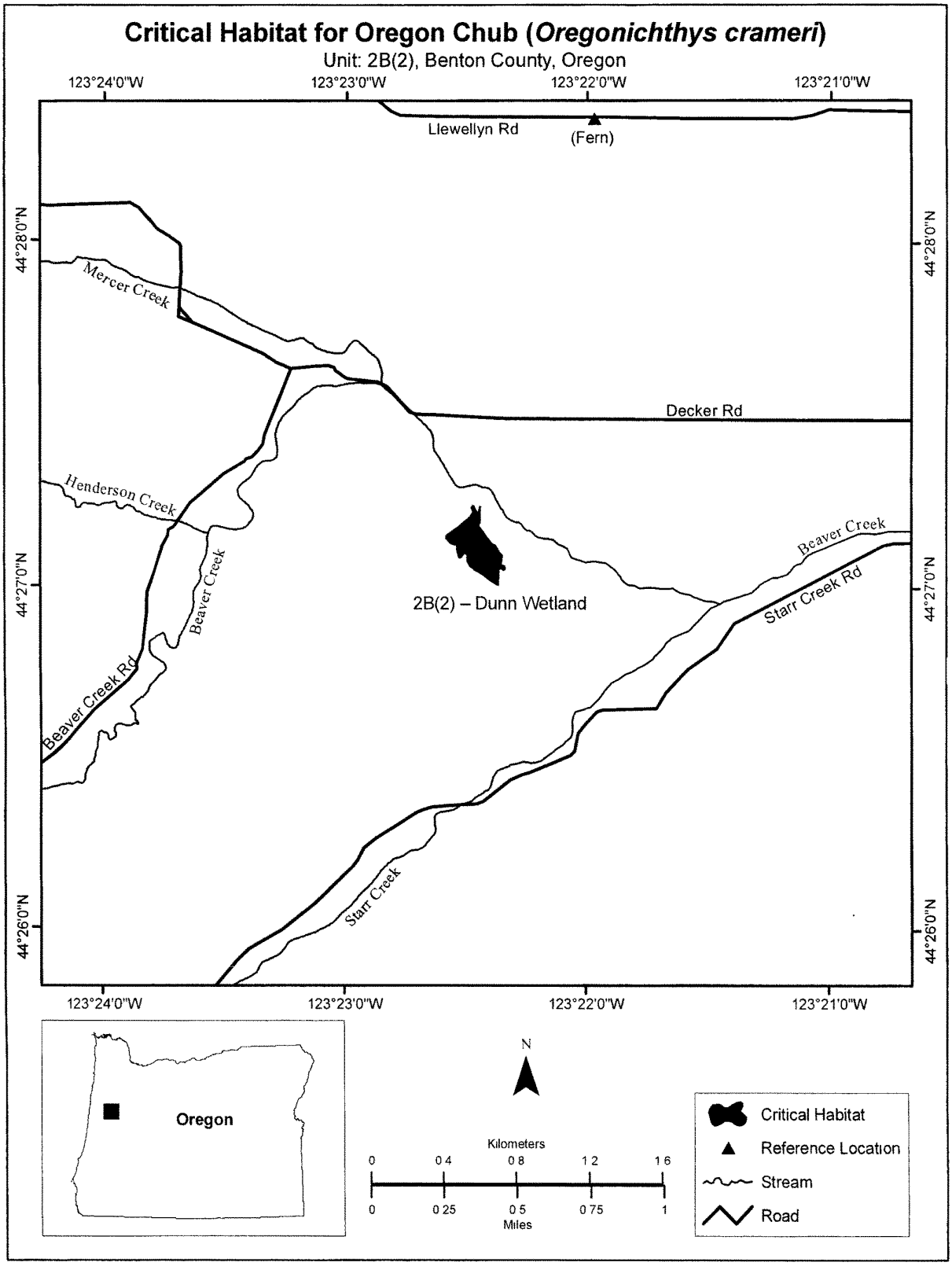
(ii) **Note:** Map of Unit 2B(1) Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(16) Unit 2B(2): Dunn Wetland, Benton County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Unit 2B(2) Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(17) Unit 2B(3): Finley Display Pond, Benton County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 2(B)(3) is found at paragraph (19)(ii) of this entry.

(18) Unit 2B(4): Finley Cheadle Pond, Benton County, Oregon.

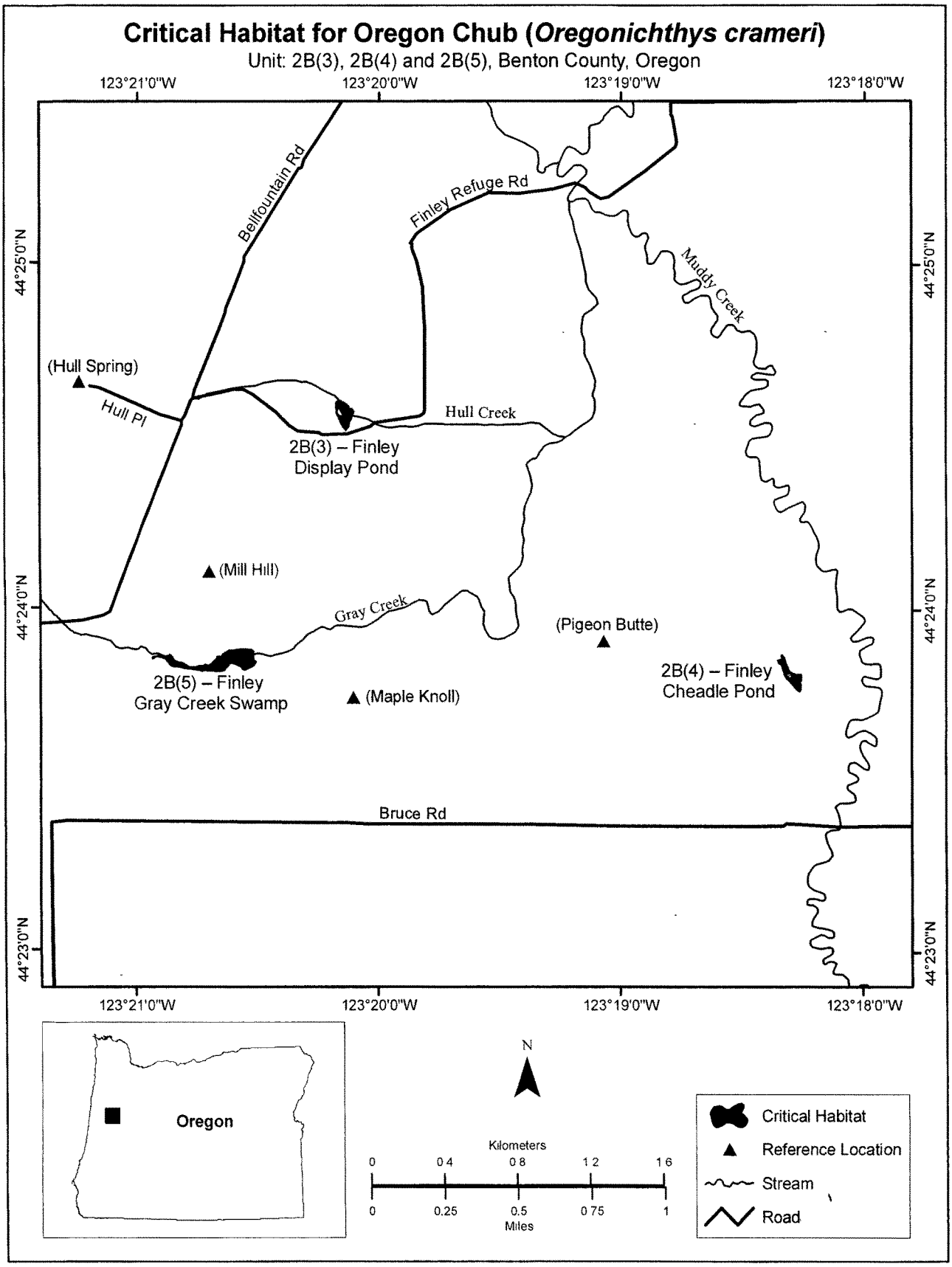
(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 2(B)(4) is found at paragraph (19)(ii) of this entry.

(19) Unit 2B(5): Finley Gray Creek Swamp, Benton County, Oregon.

(i) [Reserved for textual description of unit.]

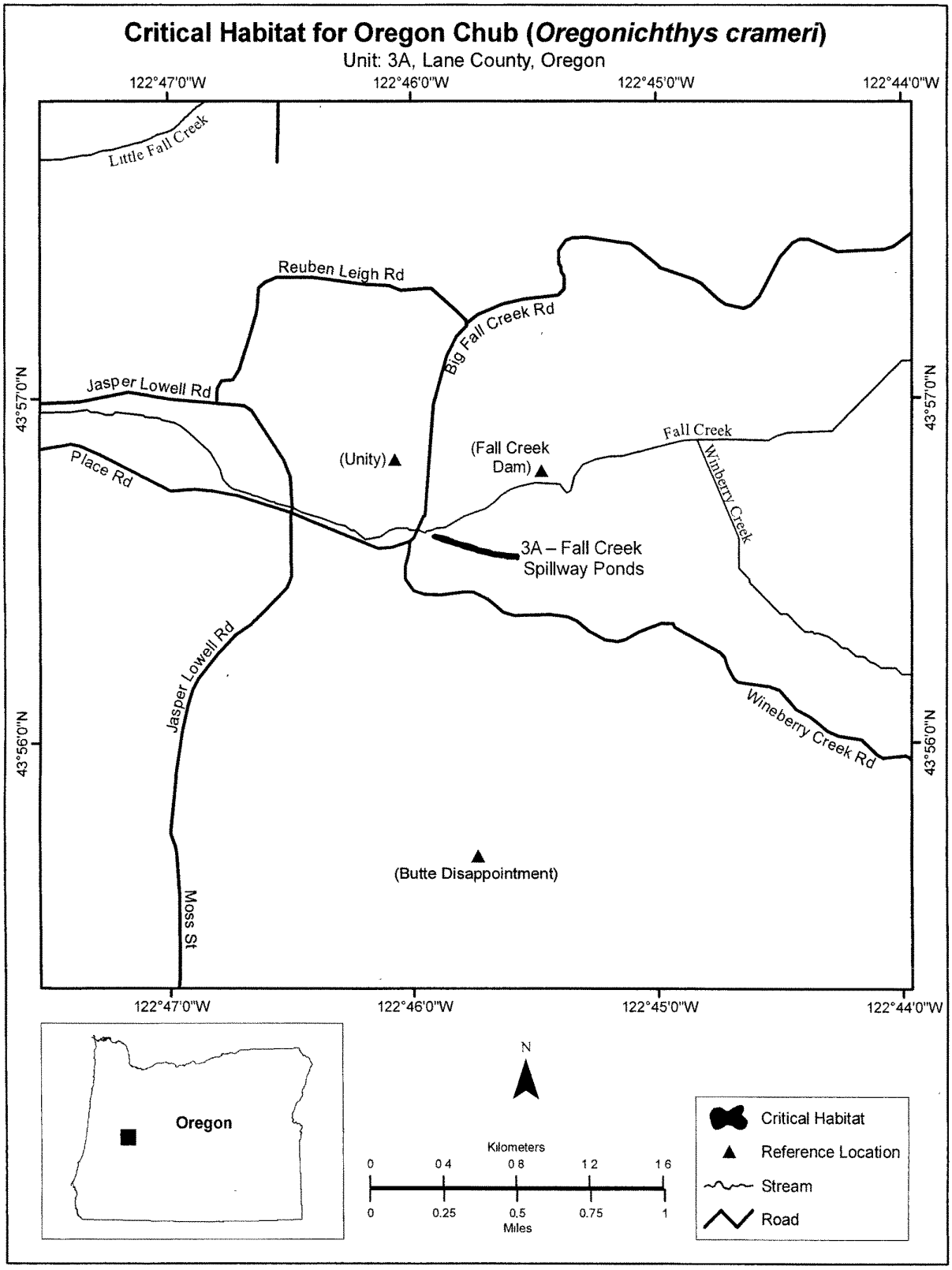
(ii) **Note:** Map of Units 2B(3), 2B(4), and 2B(5) of critical habitat for Oregon chub (*Oregonichthys crameri*) follows:


Critical Habitat for Oregon Chub (Oregonichthys crameri)
Unit: 2B(3), 2B(4) and 2B(5), Benton County, Oregon
123°21'0"W
123°20'0"W
123°19'0"W
123°18'0"W
44°25'0"N
44°24'0"N
44°23'0"N
Bellfountain Rd
Finley Refuge Rd
Muddy Creek
(Hull Spring)
Hull Pl
Hull Creek
2B(3) – Finley
Display Pond
(Mill Hill)
Gray Creek
(Pigeon Butte)
2B(5) – Finley
Gray Creek Swamp
(Maple Knoll)
2B(4) – Finley
Cheadle Pond
Bruce Rd
Oregon
N
Kilometers
0 0.4 0.8 1.2 1.6
0 0.25 0.5 0.75 1
Miles
Critical Habitat
Reference Location
Stream
Road

(20) Unit 3A: Fall Creek Spillway Ponds, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Unit 3A Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(21) Unit 3B: Elijah Bristow State Park Berry Slough, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 3B is found at paragraph (23)(ii) of this entry.

(22) Unit 3C; Elijah Bristow State Park Northeast Slough, Lane County, Oregon.

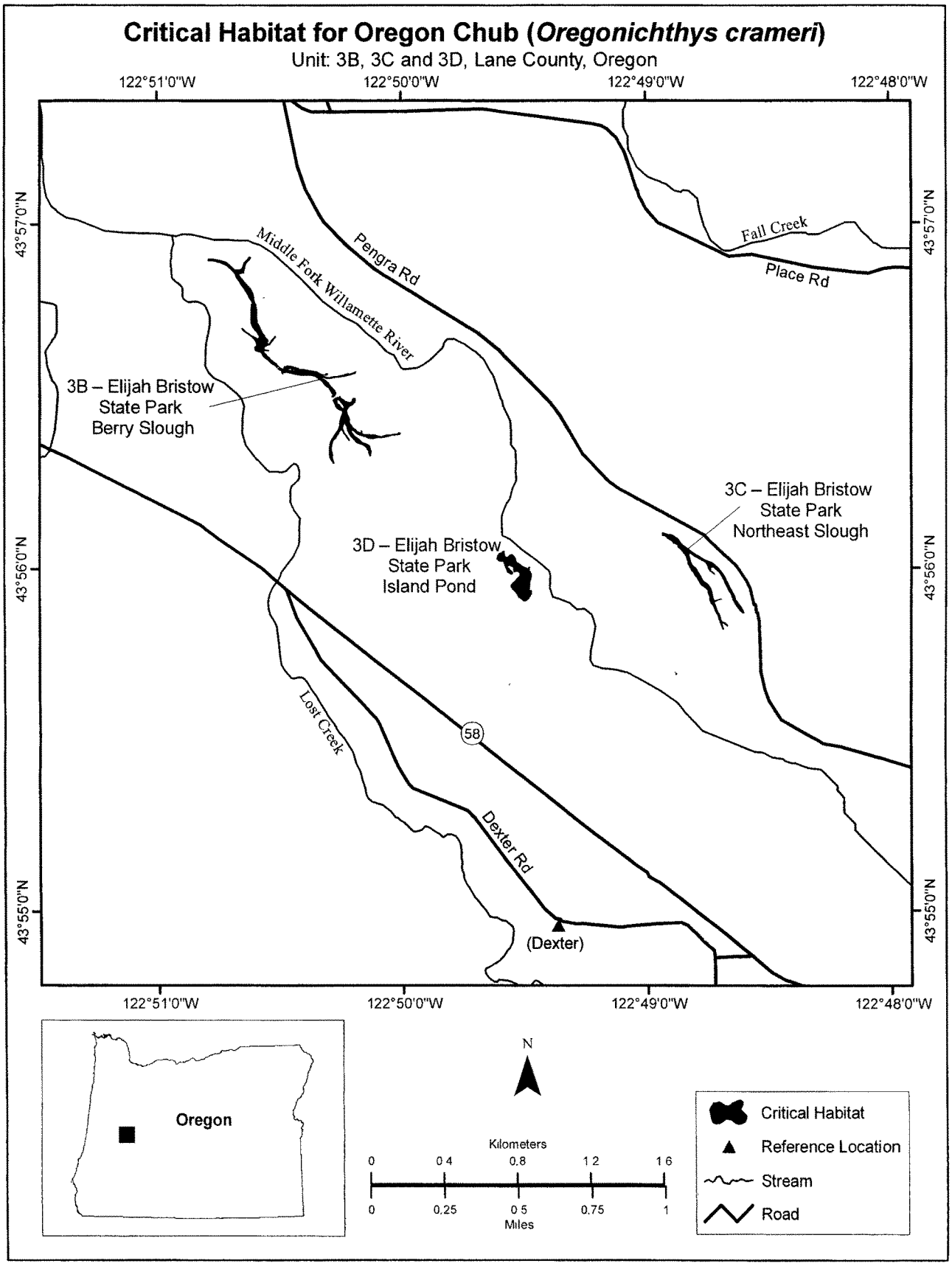
(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 3C is found at paragraph (23)(ii) of this entry.

(23) Unit 3D: Elijah Bristow State Park Island Pond, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Units 3B, 3C, and 3D of critical habitat for Oregon chub (*Oregonichthys crameri*) follows:


Critical Habitat for Oregon Chub (*Oregonichthys crameri*)
Unit: 3B, 3C and 3D, Lane County, Oregon
122°51'0"W
122°50'0"W
122°49'0"W
122°48'0"W
43°57'0"N
43°56'0"N
43°55'0"N
Middle Fork Willamette River
Pengra Rd
Fall Creek
Place Rd
3B – Elijah Bristow State Park Berry Slough
3C – Elijah Bristow State Park Northeast Slough
3D – Elijah Bristow State Park Island Pond
Lost Creek
58
Dexter Rd
(Dexter)
Oregon
N
Kilometers
0 0.4 0.8 1.2 1.6
0 0.25 0.5 0.75 1
Miles
Critical Habitat
Reference Location
Stream
Road

(24) Unit 3E: Dexter Reservoir RV Alcove—DEX3, Lane County, Oregon.

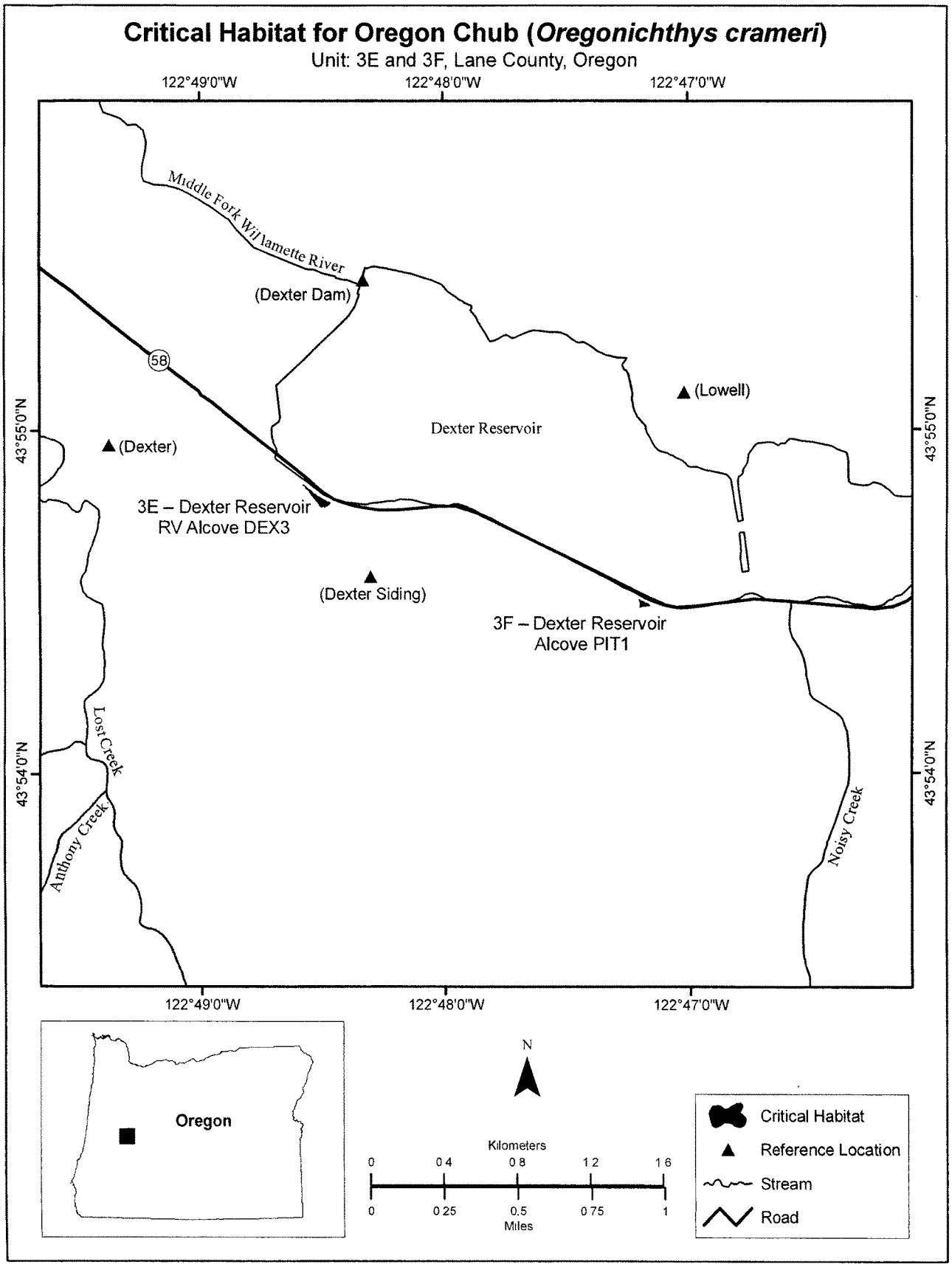
(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 3E is found at paragraph (25)(ii) of this entry.

(25) Unit 3F: Dexter Reservoir Alcove—PIT1, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

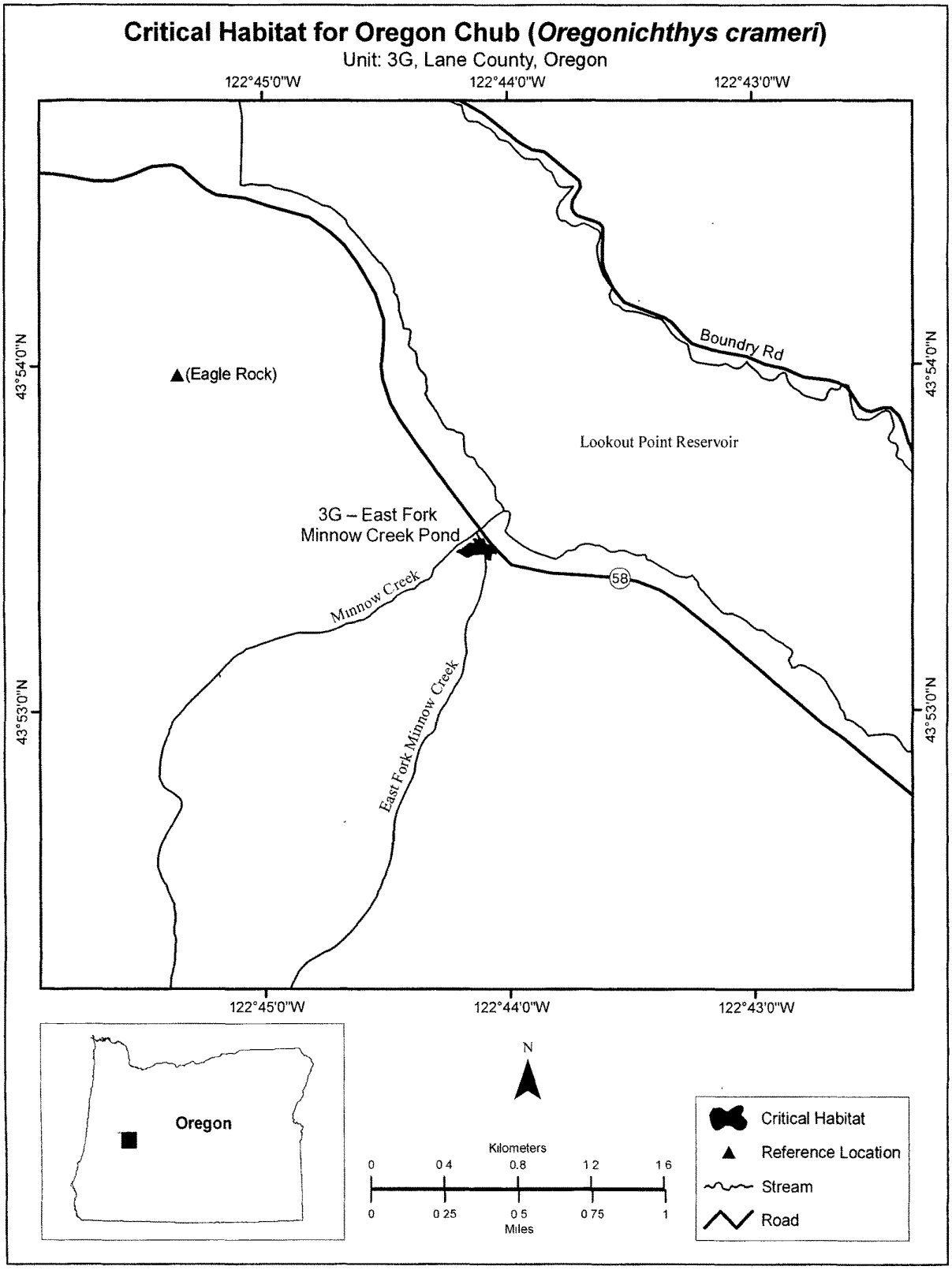
(ii) **Note:** Map of Units 3E and 3F of critical habitat for Oregon chub (*Oregonichthys crameri*) follows:


Critical Habitat for Oregon Chub (*Oregonichthys crameri*)
Unit: 3E and 3F, Lane County, Oregon
122°49'0"W
122°48'0"W
122°47'0"W
43°55'0"N
43°54'0"N
Middle Fork Willamette River
(Dexter Dam)
58
(Lowell)
Dexter Reservoir
(Dexter)
3E – Dexter Reservoir
RV Alcove DEX3
(Dexter Siding)
3F – Dexter Reservoir
Alcove PIT1
Lost Creek
Anthony Creek
Noisy Creek
Oregon
N
Kilometers
0 0.4 0.8 1.2 1.6
0 0.25 0.5 0.75 1
Miles
Critical Habitat
Reference Location
Stream
Road

(26) Unit 3G: East Fork Minnow Creek Pond, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

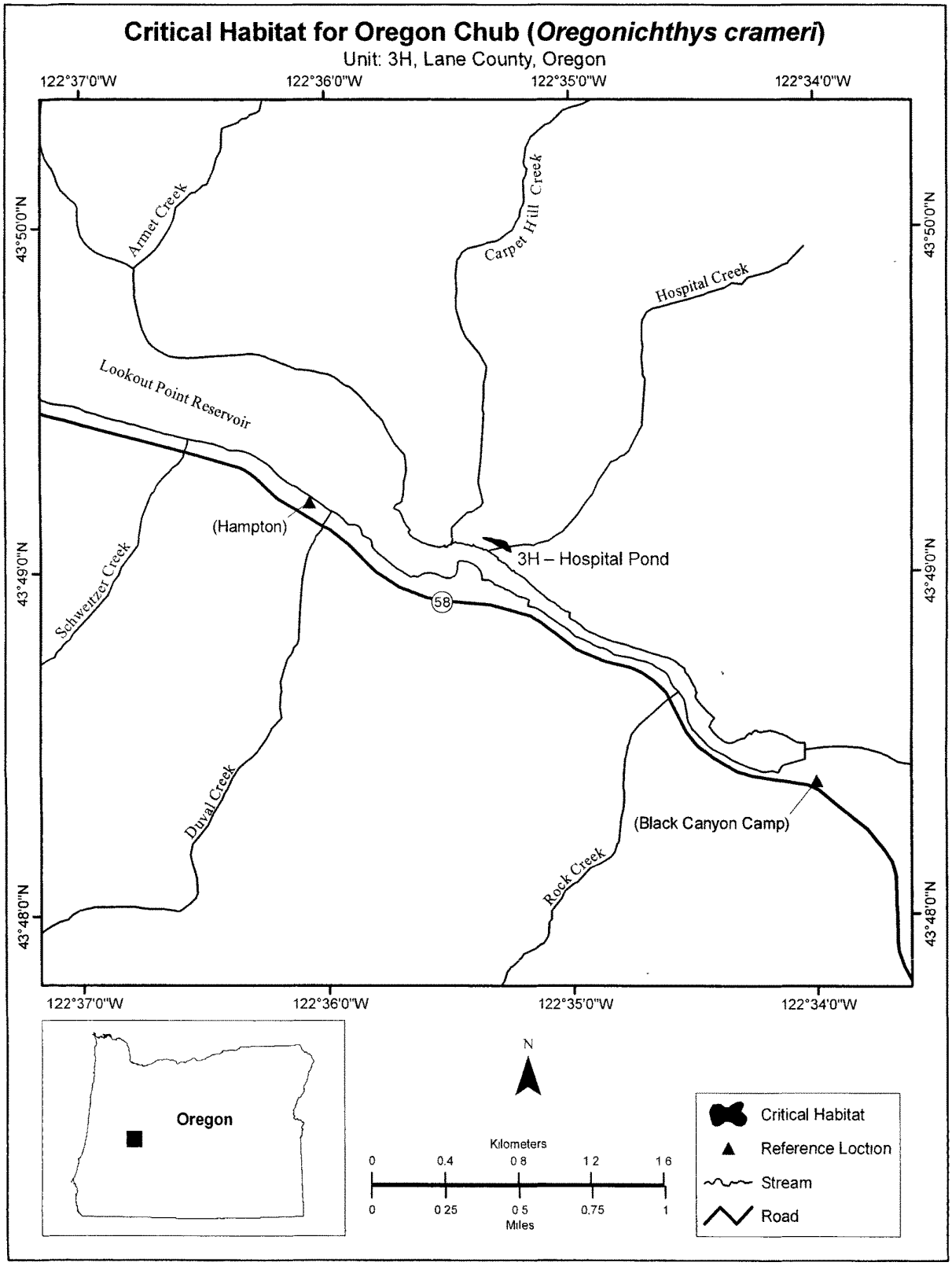
(ii) **Note:** Map of Unit 3G Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(27) Unit 3H: Hospital Pond, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Unit 3H Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



(28) Unit 3I: Shady Dell Pond, Lane County, Oregon.

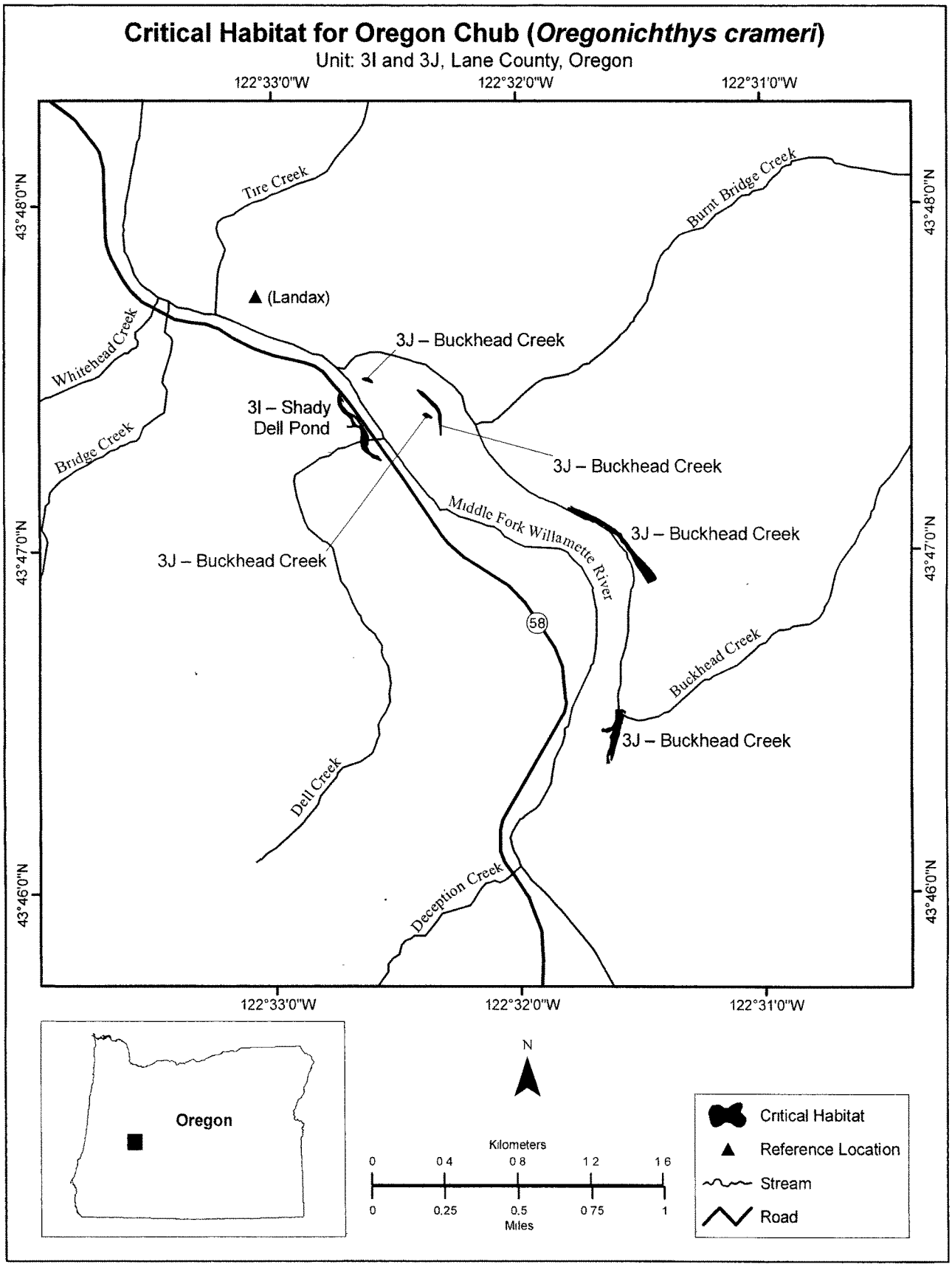
(i) [Reserved for textual description of unit.]

(ii) **Note:** A map showing critical habitat unit 3I is found at paragraph (29)(ii) of this entry.

(29) Unit 3J: Buckhead Creek, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

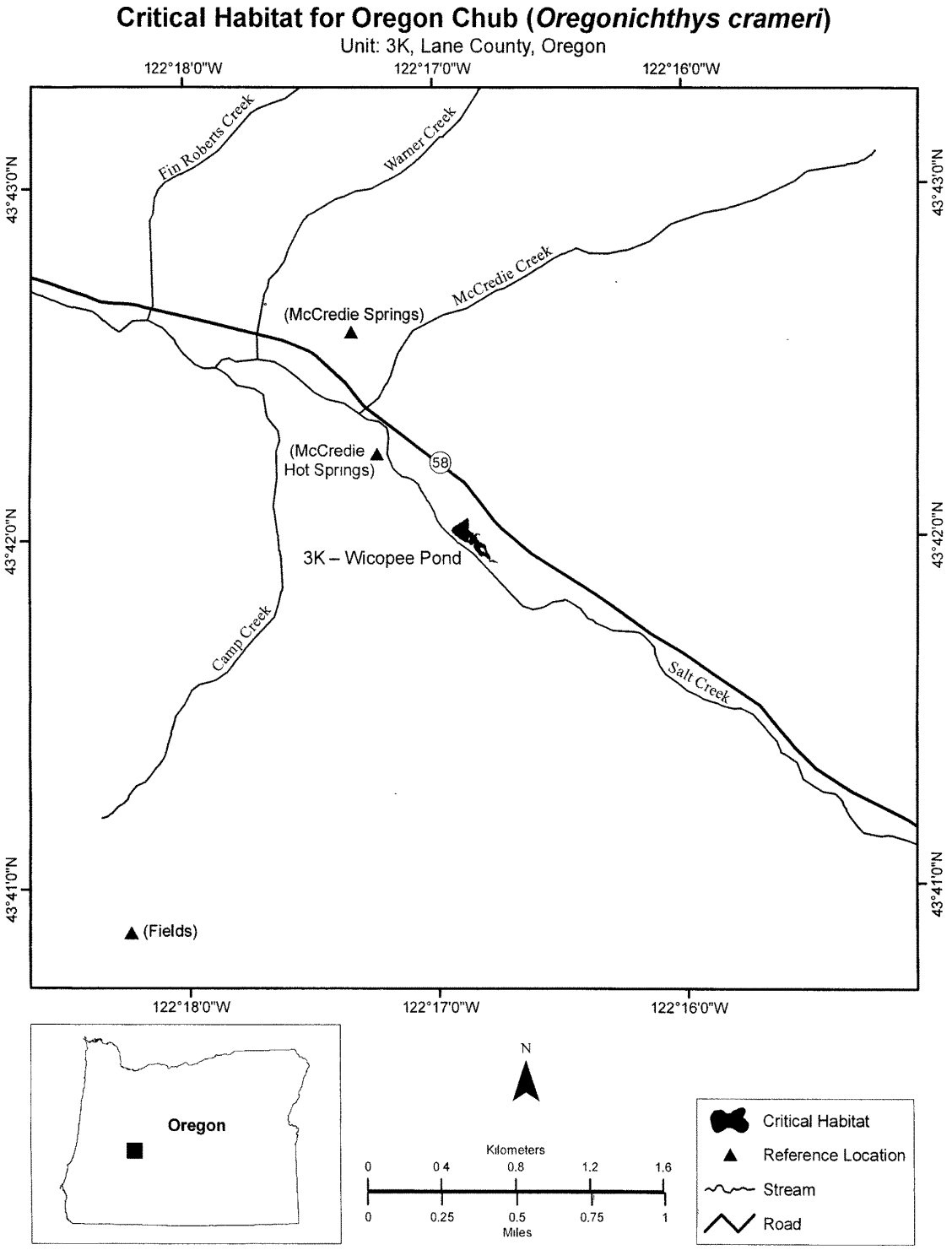
(ii) **Note:** Map of Units 3I and 3J of critical habitat for Oregon chub (*Oregonichthys crameri*) follows:


Critical Habitat for Oregon Chub (*Oregonichthys crameri*)
Unit: 3I and 3J, Lane County, Oregon
122°33'0"W
122°32'0"W
122°31'0"W
43°48'0"N
43°47'0"N
43°46'0"N
Tire Creek
Burnt Bridge Creek
(Landax)
Whitehead Creek
3J – Buckhead Creek
3I – Shady Dell Pond
Bridge Creek
3J – Buckhead Creek
Middle Fork Willamette River
3J – Buckhead Creek
3J – Buckhead Creek
58
Buckhead Creek
3J – Buckhead Creek
Dell Creek
Deception Creek
Oregon
N
Kilometers
0 0.4 0.8 1.2 1.6
0 0.25 0.5 0.75 1
Miles
Critical Habitat
Reference Location
Stream
Road

(30) Unit 3K: Wicopee Pond, Lane County, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Unit 3K Critical Habitat for Oregon Chub (*Oregonichthys crameri*) follows:



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Dated: February 26, 2009.

Jane Lyder,

Assistant Deputy Secretary, Department of the Interior.

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