■ 2. Add § 100.501T05–0051 to read as follows:

§ 100.501T05–0051 Special Local Regulation; Choptank River, Cambridge, MD.

(a) *Definitions.* As used in this section:

Captain of the Port (COTP) Maryland-National Capital Region means the Commander, U.S. Coast Guard Sector Maryland-National Capital Region or any Coast Guard commissioned, warrant or petty officer who has been authorized by the COTP to act on his behalf.

Coast Guard Patrol Commander (PATCOM) means a commissioned, warrant, or petty officer of the U.S. Coast Guard who has been designated by the Commander, Coast Guard Sector Maryland-National Capital Region.

Official Patrol means any vessel assigned or approved by Commander, Coast Guard Sector Maryland-National Capital Region with a commissioned, warrant, or petty officer on board and displaying a Coast Guard ensign.

Participants means all persons and vessels registered with the event sponsor as participating in the Flying Point Park Outboard Regatta or otherwise designated by the event sponsor as having a function tied to the event.

Spectators means all persons and vessels not registered with the event sponsor as participants or assigned as official patrols.

(b) *Location.* All coordinates reference Datum NAD 1983.

(1) *Regulated area.* All navigable waters of the Choptank River, from shoreline to shoreline, within an area bounded on the east by a line drawn from latitude 38°35′14.2″ N, longitude 076°02′33.0″ W, thence south to latitude 38°34′08.3″ N, longitude 076°03′36.2″ W, and bounded on the west by a line drawn from latitude 38°35′32.7″ N, longitude 076°02′58.3″ W, thence south to latitude 38°34′24.7″ N, longitude 076°04′01.3″ W, located at Cambridge, MD.

(2) Reserved.

(c) *Special local regulations:* (1) The COTP Maryland-National Capital Region or PATCOM may forbid and control the movement of all vessels and persons, including event participants, in the regulated area. When hailed or signaled by an official patrol, a vessel or person in the regulated area shall immediately comply with the directions given by the patrol. Failure to do so may result in the Coast Guard expelling the person or vessel from the area, issuing a citation for failure to comply, or both. The COTP Maryland-National Capital Region or PATCOM may terminate the event, or a participant's operations at any time the COTP Maryland-National Capital Region or PATCOM believes it necessary to do so for the protection of life or property.

(2) Except for participants and vessels already at berth, a person or vessel within the regulated area at the start of enforcement of this section must immediately depart the regulated area.

(3) A spectator must contact the PATCOM to request permission to either enter or pass through the regulated area. The PATCOM, and official patrol vessels enforcing this regulated area, can be contacted on marine band radio VHF–FM channel 16 (156.8 MHz) and channel 22A (157.1 MHz). If permission is granted, the spectator must pass directly through the regulated area as instructed by PATCOM. A vessel within the regulated area must operate at safe speed that minimizes wake. A spectator vessel must not loiter within the navigable channel while within the regulated area.

(4) A person or vessel that desires to transit, moor, or anchor within the regulated area must obtain authorization from the COTP Maryland-National Capital Region or PATCOM. A person or vessel seeking such permission can contact the COTP Maryland-National Capital Region at telephone number 410–576–2693 or on Marine Band Radio, VHF–FM channel 16 (156.8 MHz) or the PATCOM on Marine Band Radio, VHF–FM channel 16 (156.8 MHz).

(5) The Coast Guard will publish a notice in the Fifth Coast Guard District Local Notice to Mariners and issue a marine information broadcast on VHF–FM marine band radio announcing specific event date and times.

(d) *Enforcement officials.* The Coast Guard may be assisted with marine event patrol and enforcement of the regulated area by other Federal, State, and local agencies.

(e) *Enforcement period.* This section will be enforced from 8 a.m. to 11 a.m. on May 11, 2019.

Dated: February 19, 2019.

Joseph B. Loring,

Captain, U.S. Coast Guard, Captain of the Port Maryland-National Capital Region.

[FR Doc. 2019–03254 Filed 2–25–19; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R1–ES–2017–0035; FXES11130900000–189–FF09E30000]

RIN 1018–BA43

Endangered and Threatened Wildlife and Plants; Removing the Borax Lake Chub From the List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service or USFWS), propose to remove the Borax Lake chub (currently listed as *Gila boraxobius*), a fish native to Oregon, from the Federal List of Endangered and Threatened Wildlife on the basis of recovery. This proposal is based on a review of the best available scientific and commercial information, which indicates that the threats to the Borax Lake chub have been eliminated or reduced to the point where the species no longer meets the definition of an endangered or threatened species under the Endangered Species Act of 1973, as amended (Act). We are seeking information and comments from the public regarding this proposed rule.

DATES: We will accept comments received or postmarked on or before April 29, 2019. Please note that if you are using the Federal eRulemaking Portal (see **ADDRESSES**, below), the deadline for submitting an electronic comment is 11:59 p.m. Eastern time on this date. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by April 12, 2019.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter FWS–R1–ES–2017–0035, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment Now!'' Please ensure that you have found the correct rulemaking before submitting your comment.

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R1–ES–2017–

0035, U.S. Fish and Wildlife Service, MS: BPHC, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

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

Document availability: This proposed rule is available on *http://www.regulations.gov.* In addition, the supporting file for this proposed rule will be available for public inspection, by appointment, during normal business hours, at our Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266; telephone 503–231–6179.

FOR FURTHER INFORMATION CONTACT: Paul Henson, State Supervisor, telephone: 503–231–6179. Direct all questions or requests for additional information to: BORAX LAKE CHUB QUESTIONS, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, a species may warrant removal from the List of Endangered and Threatened Wildlife (*i.e.,* ''delisting'') if it no longer meets the definition of endangered or threatened. A species is an ''endangered species'' for purposes of the Act if it is in danger of extinction throughout all or a significant portion of its range and is a ''threatened species'' if it is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Borax Lake chub is currently listed as endangered, and we are proposing to delist the species because we have determined it no longer meets the definition of endangered and is not likely to become endangered in the foreseeable future. We can only delist a species by issuing a rule to do so.

The basis for our action. A species may be determined to be an endangered species or threatened species because of any one or a combination of the five factors described in section 4(a)(1) of the Act: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that the Borax Lake chub is no longer at risk of extinction, and the following criteria for delisting described in the species recovery plan have been met or exceeded:

- The presence of a naturally reproducing population of Borax Lake chub in Borax Lake that is free of exotic species;
- Permanent protection of the 160-acre (ac) (65-hectare (ha)) parcel of land surrounding and including Borax Lake;
- Removal of threats to subsurface waters from geothermal energy exploration or development;
- Reestablishment of ponds and natural marshes adjacent to Borax Lake in order to create more chub habitat;
- A viable, self-sustaining population of Borax Lake chub;
- Permanent protection of the 160-ac (65-ha) parcel of land to the north of Borax Lake;
- Withdrawal of Borax Lake waters from appropriation (*i.e.,* diversion and use under water right);
- Establishment of a fence around the 640-ac (259-ha) critical habitat area to prevent vehicle entry;
- Establishment of monitoring programs to survey habitat and fish population status; and
- Lack of any new threats to the species or ecosystem for 5 consecutive years.

Information Requested

Public Comments

We intend that any final rule resulting from this proposal will be based on the best available scientific and commercial data and will be as accurate and effective as possible. Therefore, we invite Tribal, State, and governmental agencies; the scientific community; industry; and other interested parties to submit comments or recommendations concerning any aspect of this proposed rule. Comments should be as specific as possible. We are specifically requesting comments on:

(1) Biological information concerning the Borax Lake chub and information on the Borax Lake ecosystem;

(2) Relevant data concerning presence or absence of current or future threats to the Borax Lake chub and its habitat;

(3) Information regarding management plans or other mechanisms that provide protection to the Borax Lake chub and its habitat;

(4) Information on the potential for changes in precipitation levels and air and water temperatures to affect the Borax Lake chub due to changes in the climate or other reasons (including any modeling data and projections for the Alvord Basin);

(5) Information regarding potential for geothermal energy development in the vicinity of Borax Lake, and any information useful for determining the extent of potential effects to Borax Lake; and

(6) Any information relevant to whether the species falls within the definition of either an endangered species under section 3(6) of the Act (16 U.S.C. 1531 *et seq.*) or a threatened species under section 3(20) of the Act, including information on the five listing factors under section 4(a)(1) of the Act and any other factors meeting the criteria to support the recovery and removal of the species from the List of Endangered and Threatened Wildlife (List; 50 CFR 17.11(h)).

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

We will take into consideration all comments and any additional information we receive. Such information may lead to a final rule that differs from this proposal. All comments, including commenters' names and addresses, if provided to us, will become part of the administrative record.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We will not consider comments sent by email, by fax, or to an address not listed in **ADDRESSES**. If you submit your comments electronically, your comments must be submitted through the Federal eRulemaking Portal (*http://www.regulations.gov*) before 11:59 p.m. Eastern time on the date specified in **DATES**. We will not consider hand-delivered comments that we do not receive by the date specified in **DATES**, or mailed comments that are not postmarked by that date.

We will post your entire comment—including your personal identifying information—on *http://www.regulations.gov.* If you provide

personal identifying information in your comment, 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.

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

Public Hearing

Section 4(b)(5)(E) of the Act provides for one or more public hearings on this proposal, if requested. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** within 45 days after the date of this **Federal Register** publication (see **DATES**, above). We will schedule at least one public hearing on this proposal, if any are requested, and announce the date, time, and place of the hearing(s), as well as how to obtain reasonable accommodations, in the **Federal Register** at least 15 days before any first hearing.

Peer Review

In accordance with our policy, ''Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities,'' which was published on July 1, 1994 (59 FR 34270), we will seek the expert opinion of at least three appropriate independent specialists regarding scientific data and interpretations contained in this proposed rule. We will send copies of this proposed rule to the peer reviewers immediately following publication in the **Federal Register.** This assessment will be completed during the public comment period. The purpose of such review is to ensure that our decisions are based on scientifically sound data, assumptions, and analysis. Accordingly, the final decision may differ from this proposal.

Background

Previous Federal Actions

On May 28, 1980, we published a rule in the **Federal Register** to emergency-list the Borax Lake chub (as *Gila* sp.) as endangered and to designate critical habitat for the species (45 FR 35821). The emergency rule provided protection to this species for 240 days, until January 23, 1981.

On October 16, 1980, we proposed to list the Borax Lake chub (as *Gila boraxobius*) as an endangered species and to designate critical habitat (45 FR 68886). The distribution of the Borax Lake chub is limited to Borax Lake, its outflow, and Lower Borax Lake in Harney County, Oregon. The proposed listing action was taken because proposed geothermal development in and around Borax Lake, and human modification of the lake, threatened the integrity of the species' habitat and, hence, its survival.

On October 5, 1982, we published a final rule in the **Federal Register** (47 FR 43957) listing the Borax Lake chub (as *Gila boraxobius*) as endangered and designating areas totaling 640 acres (ac) (259 hectares (ha)) in and around Borax Lake as critical habitat for the Borax Lake chub. A recovery plan for the species was completed on February 4, 1987 (USFWS 1987).

A 5-year review of the Borax Lake chub's status was completed on August 23, 2012 (USFWS 2012); this review concluded that the Borax Lake chub's status had substantially improved since listing, and that the Borax Lake chub no longer met the definition of an endangered species, but may meet the definition of a threatened species throughout all of its range, under the Act. Therefore, the review recommended the Borax Lake chub be reclassified from endangered to threatened (*i.e.,* ''downlisted''). However, this proposed rule, which is based on information contained in the 5-year review as well as additional information that has become available since completion of the 5-year review, proposes to remove the Borax Lake chub from the List (*i.e.,* to ''delist'' the species).

Although we acknowledged in the 5-year review that recovery criteria had largely been met, we recommended downlisting instead of delisting due to the potential threat of geothermal development that, at the time, was represented by a 2012 proposed geothermal development on private lands within 1 to 3 miles (mi) (1.6 to 4.8 kilometers (km)) of Borax Lake. In addition to the recommendation to reclassify, the 5-year review further recommended three remaining actions: (1) Completion of the Borax Lake Chub Cooperative Management Plan (CMP); (2) acquisition of groundwater and surface rights to geothermal development on private lands to complement the Federal land mineral withdrawal within the Alvord Known Geothermal Resource Area; and (3) monitoring of the Borax Lake chub and the Borax Lake ecosystem.

Since completion of the 2012 5-year review, the Service, Bureau of Land Management (BLM), Oregon Department of Fish and Wildlife (ODFW), and The Nature Conservancy (TNC) have continued to implement recovery actions; the CMP has been finalized; a fence to eliminate vehicle access to critical habitat has been completed around Borax Lake; and monitoring of Borax Lake chub and the Borax Lake ecosystem has been conducted. Although the recovery plan did not call for acquisition of groundwater and surface rights to geothermal development on private lands outside the two 160-ac (65-ha) parcels eventually acquired by TNC and designated critical habitat, the Service's 2012 5-year review and CMP make that conservation recommendation. Although we will continue to work with our partners to seek opportunities to reduce potential risk from geothermal development on private lands in proximity to Borax Lake, we no longer view geothermal development as an operative threat such that the Borax Lake chub meets the definition of an endangered or a threatened species under the Act. The Pueblo Valley Geothermal LLC (Limited Liability Company), the last entity showing interest in geothermal development in the Alvord Basin, did not file a formal permit application with the BLM or the State of Oregon's Department of Geology and Mineral Industries (DOGAMI), and the LLC was dissolved in 2013. We are unaware of any current proposals to develop geothermal energy production in the Alvord Basin.

Species Information

At the time of listing, the genus *Gila* was considered to include three subgenera: *Gila, Siphateles* (including the Borax Lake chub), and *Snyderichthys* (Uyeno 1961, pp. 84–85; Bailey and Uyeno 1964, pp. 238–239). Since our final listing determination (47 FR 43957; October 5, 1982), analysis of lepidological (scale morphology and arrangement) and osteological (structure and function of bones) characters (Coburn and Cavender 1992, pp. 344–347) and mitochondrial ribosomal RNA sequences (Simons and Mayden 1997, p. 194; 1998, p. 315; Simons *et al.* 2003, pp. 71–76) have indicated that the genus *Gila* in the broad sense was not descended from a common ancestor not shared with other groups. Therefore, the three subgenera were elevated to genera. The American Fisheries Society (Page *et al.* 2013, p. 78) has also followed this approach and classified the Borax Lake chub within the genus *Siphateles.* Consequently, the current scientific name of the Borax Lake chub is *Siphateles boraxobius.* This taxonomic

revision changed the name of the listed entity from *Gila boraxobius* to *Siphateles boraxobius,* but did not alter the description, distribution, range, or listing status of the species from what it was at the time of listing. Based on this revision, we consider *Siphateles boraxobius* to be the most appropriate scientific name for this taxon. Because we are proposing to remove the species from the List, we are not proposing to amend the species' scientific name on the List, but future documents, such as the post-delisting monitoring plan for the species, should reflect this usage.

The Borax Lake chub is a small minnow (Family: Cyprinidae) endemic to Borax Lake and its outflows. Borax Lake is a 10.2-ac (4.1-ha) geothermally heated, alkaline spring-fed lake in southeastern Oregon. The lake is perched 30 feet (ft) (10 meters (m)) above the desert floor on large sodium-borate deposits (Williams and Bond 1980, p. 297). Water depth averages approximately 3.3 ft (1.0 m), with a maximum measured depth of 88.6 ft (27 m) at the thermal vent (Scheerer and Jacobs 2005, p. 6). The lake bottom includes patches of bedrock and fine gravel, with a sparse growth of aquatic plants, and is covered with thick, fluffy silt. Average lake temperatures range from a high of 39.2 degrees Celsius (°C) (102.6 degrees Fahrenheit (°F)) to a low of 22 °C (71.6 °F) near the shoreline (Scheerer *et al.* 2013, pp. 3–6). Borax Lake chub prefer the shallow habitats along the margins of the lake (Perkins *et al.* 1996, p. 8).

The Borax Lake chub is an opportunistic omnivore. The diets of juveniles and adults are very similar and include aquatic and terrestrial insects, algae, mollusks and mollusk eggs, aquatic worms, fish scales, spiders, and seeds (Williams and Williams 1980, p. 113). Males, and some females, reach reproductive maturity within one year. Spawning occurs primarily in the spring but can occur year-around (Williams and Bond 1983, pp. 412–413). The reproductive behavior and length of incubation is unknown.

Population abundance estimates for the Borax Lake chub were conducted annually from 1986 to 1997, from 2005 to 2012, and from 2015 to 2017. Over this period, the population abundance has shown a high degree of variability, ranging from a low of 1,242 in 2015, to a record high of 76,931 in 2017 (Scheerer *et al.* 2015, p. 3; M. Meeuwig *in litt.* 2017). A pattern of population reduction followed by a 1- to 5-year period of rebuilding has been observed multiple times during the period of record. The mechanisms contributing to variability in abundance are not entirely clear, but Scheerer *et al.* (2012, p. 16) surmised that because Borax Lake chub experience water temperatures that are at or near their thermal critical maximum (Williams and Bond 1983, p. 412), survival and recruitment are likely higher during years when water temperatures are cooler in the lake. Water temperatures in Borax Lake are influenced both by air temperatures and by the water temperature of the lake's primary source of inflow, a deep geothermal aquifer.

Recovery

Recovery Planning

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of section 4 of the Act, that the species be removed from the List. However, revisions to the List (*i.e.,* adding, removing, or reclassifying a species) must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is endangered or threatened (or not) because of one or more of five threat factors. Section 4(b) of the Act requires that the determination be made ''solely on the basis of the best scientific and commercial data available.'' Therefore, recovery criteria should help indicate when we would anticipate that an analysis of the five threat factors under section 4(a)(1) would result in a determination that the species is no longer an endangered species or threatened species (see Summary of Factors Affecting the Species, below).

While recovery plans provide important guidance to the Service, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are not regulatory documents and cannot substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. A decision to revise the status of a species or remove it from the List is ultimately based on an analysis of the best scientific and commercial data available to determine whether a species is no longer an endangered species or a threatened species, regardless of whether that information differs from the recovery plan.

Recovery plans may be revised to address continuing or new threats to the species as new substantive information becomes available. The recovery plan identifies site-specific management actions that will achieve recovery of the species, measurable criteria that set a trigger for review of the species' status, and methods for monitoring recovery progress. Recovery plans are intended to establish goals for long-term conservation of listed species and define criteria that are designed to indicate when the threats facing a species have been removed or reduced to such an extent that the species may no longer need the protections of the Act.

There can be many paths to accomplishing recovery of a species, and because a status determination must be based on a current analysis of the five threat factors under section 4(a)(1), it may be possible to achieve recovery without fully meeting the recovery criteria that were identified at the time the recovery plan was completed. For example, a five-factor analysis may determine that current information on threats and species status indicates the threats have been minimized sufficiently to delist or downlist while the recovery criteria have been partially or fully met or exceeded in various combinations. In other cases, recovery opportunities may be discovered that were not known when the recovery plan was finalized. These opportunities may be used instead of methods identified in the recovery plan. Likewise, information on the species may be learned that was not known at the time the recovery plan was finalized. The new information may change the extent that earlier criteria need to be met for recognizing recovery of the species. Recovery of a species is a dynamic process requiring adaptive management that may, or may not, fully follow the guidance provided in a recovery plan.

The Borax Lake Chub Recovery Plan (USFWS 1987, pp. 27–30) described an ''interim objective'' for potential reclassification to threatened status, as well as a ''primary objective'' for recovery that could result in removal of the species from the List (*i.e.,* delisting). It established the following four conditions as criteria for reclassification from endangered to threatened status (*i.e.,* downlisting):

(1) The presence of a naturally reproducing population of the Borax Lake chub in Borax Lake that is free of exotic species;

(2) Permanent protection of the 160-ac (65-ha) parcel of land surrounding and including Borax Lake (T37S, R33E,

sec. 14) by TNC or other appropriate public resource agency;

(3) Removal of threats to subsurface waters from geothermal energy exploration or development; and

(4) Reestablishment of ponds and natural marshes adjacent to Borax Lake in order to create more chub habitat, and reestablishment of Lower Borax Lake by waters from Borax Lake in order to create more habitat.

The recovery plan stated that conditions to meet the primary objective of recovery (*i.e.,* delisting) include the above four downlisting conditions as well as the following six additional conditions:

(1) A viable, self-sustaining population of Borax Lake chub, which is defined as a naturally sustaining population that is free of exotic species and fluctuates in size within the seasonal ranges observed in 1986–1987;

(2) Permanent protection of the 160-ac (65-ha) parcel of land to the north of Borax Lake (T37S, R33E, sec. 11) by TNC or another appropriate public resource agency;

(3) Withdrawal of Borax Lake waters from appropriations (*i.e.,* diversion and use under water right);

(4) Establishment of a fence around the 640-ac (259-ha) critical habitat area to prevent vehicle entry;

(5) Establishment of monitoring programs to survey habitat and fish population status; and

(6) Lack of any new threats to the species or ecosystem for 5 consecutive years.

Recovery Plan Implementation

Significant conservation objectives that address the primary threats to the Borax Lake chub have been accomplished through implementing the 1987 recovery plan, including protection of the Borax Lake ecosystem from disturbances through acquisition of key private lands, protection of subsurface and surface waters, closure of fragile lands to vehicle access, removal of livestock grazing, monitoring, and other recovery actions. The following discussion summarizes information on recovery actions that have been implemented under each downlisting and delisting criterion.

Downlisting Criteria

Downlisting Criterion 1: The presence of a naturally reproducing population of Borax Lake chub in Borax Lake that is free of exotic species. This criterion has been met. To be considered naturally reproducing, Borax Lake chub need to reproduce in their natural habitat in Borax Lake with no human intervention, such as supplementation with hatchery- or aquarium-raised fish. The Borax Lake chub population has never been supplemented with hatchery- or aquarium-raised fish and continues to reproduce naturally on an annual basis. In the 3 decades Borax Lake chub have been monitored, there has been only one documented occurrence of an exotic fish species. In 2013, an ODFW biologist observed a nonnative fish that was believed to be a bass given observed morphology (Scheerer *et al.* 2013, pp. 2–3, 9–10). Subsequent efforts to capture or observe this fish or other nonnative fishes were unsuccessful, and none has been seen in subsequent monitoring. The survival in Borax Lake of this nonnative fish, or of any other commonly introduced nonnative fishes, is unlikely given the geothermally heated high water temperatures.

We consider this criterion met based on the lack of need for conservation actions supporting the species' reproductive success and the fact that only a single occurrence of a nonnative species has been documented. As noted above, we determined the likelihood of survival of this nonnative fish was low, and no observations or detections of this or other nonnative fishes have been made during subsequent surveys. See *Delisting Criterion 1* and *C. Disease or Predation* for additional discussion regarding the potential for exotic species introduction into Borax Lake.

Downlisting Criterion 2: Permanent protection for the 160-acre parcel of land surrounding and including Borax Lake (T37S, R33E, sec. 14) by TNC or other appropriate public resource agency. This criterion has been met. In 1983, TNC leased two 160-ac (65-ha) private land parcels, one surrounding Borax Lake and the other immediately to the north. In 1993, TNC acquired both parcels. TNC also acquired subsurface mineral rights to the land surrounding Borax Lake. TNC designated the land surrounding Borax Lake, and the 160-ac (65-ha) parcel to the north, as a preserve for the purpose of conserving the Borax Lake ecosystem. With the purchase of the two parcels by TNC, all lands designated as critical habitat are in public or conservation ownership. The diversion of water for irrigation and livestock grazing within designated critical habitat ceased. TNC no longer permits vehicular access to the preserve except for access for people with disabilities or for scientific research.

In addition to the above, in 1983, the BLM designated 520 ac (210 ha) of public land surrounding Borax Lake as an ''area of critical environmental concern'' (ACEC) to protect Borax Lake chub and its habitat. In 2005, the record of decision for the resource management plan for the Andrews Resource Area added 80 ac (32 ha), for a total 600-ac (243-ha) Borax Lake ACEC (BLM 2005a, p. 70). Following this designation, the area was fenced to exclude livestock grazing. The lake is now completely enclosed by fencing, including most of the 640 ac (259 ha) of designated critical habitat, except for a small portion that serves as a parking area for pedestrian access to the lake.

Downlisting Criterion 3: Removal of threats to subsurface waters from geothermal energy exploration or development. This criterion has been met. While this criterion does not identify a geographic area for which threats of geothermal energy exploration or development should be removed, the recovery plan's step-down outline and narrative describing recovery actions clearly identify this criterion as pertaining to Borax Lake and two 160-ac (65-ha) parcels of private land surrounding Borax Lake (USFWS 1987, pp. 30–45). These lands were eventually purchased by TNC and designated critical habitat for Borax Lake chub, thereby removing the threat of geothermal development within close proximity to Borax Lake. Although the recovery plan did not explicitly call for removal of potential geothermal development threats outside of designated critical habitat, the Service has acknowledged that geothermal development outside critical habitat, but in proximity to Borax Lake, may constitute a potential threat (USFWS 2012, p. 24).

Numerous geologic studies have been conducted in the vicinity of Borax Lake, yet there is limited detailed information regarding the extent of the geothermal aquifer and the configuration of geothermal fluid flow pathways surrounding Borax Lake (Schneider and McFarland 1995, entire; Fairley *et al.* 2003, entire; Fairley and Hinds 2004, pp. 827–828; Cummings 1995, pp. 12–19). As such, the best available scientific information does not allow us to determine the precise geographic distance over which geothermal development may represent a threat to the Borax Lake chub and the Borax Lake ecosystem. Given the lack of scientific information (*i.e.,* depth, extent, source of water, etc.) on the Borax Lake aquifer, a reasonable position is that geothermal development outside of critical habitat may represent a potential threat to Borax Lake chub and that the closer the development is to critical habitat, the greater the likelihood that development could affect the Borax Lake chub and the Borax Lake ecosystem.

With the passage of the Steens Mountain Cooperative Management and

Protection Act of 2000 (Steens Act; 16 U.S.C. 460nnn *et seq.*) and the completion of the Steens Andrews Resource Management Plan, the BLM has withdrawn the Alvord Known Geothermal Resource Area from mineral and geothermal exploration and development (BLM 2005a, p. 49). The Steens Act congressionally designated a ''mineral withdrawal area'' encompassing approximately 900,000 ac (364,217 ha) on BLM-administered lands. The mineral withdrawal area contains the majority of the Alvord Known Geothermal Resource Area (Alvord KGRA), including Borax Lake and surrounding public lands, with the exception of 332 ac (134 ha) of BLM-administered land located approximately 4.5 mi (7.2 km) from Borax Lake (BLM 2005a, p. I–2; BLM 2005b, p. 4).

Private lands within the vicinity of Borax Lake are not affected by the mineral withdrawal. Approximately 2,000 ac (809 ha) of privately owned lands occur within a radius of approximately 1 to 3 mi (1.6 to 4.8 km) from Borax Lake. Based on geothermal development investigated by various entities over the last 3 decades, it is reasonable to assume that future geothermal development may be explored on private land in the vicinity of Borax Lake. However, as of 2018 there are no active proposals in place for such development (A. Mauer, *in litt.* 2018).

The most recent exploration for geothermal resource development occurred in 2008, when the BLM received an inquiry from Pueblo Valley Geothermal LLC regarding permitting processes for geothermal exploratory drilling and the potential for developing a geothermal electrical generation plant in the Alvord Lake basin potentially within 3 to 5 mi (4.8 to 8.0 km) of Borax Lake. Pueblo Valley Geothermal LLC submitted a proposal to the BLM on January 31, 2012, for a binary geothermal plant that would produce 20 to 25 megawatts. Pueblo Valley Geothermal LLC also sought to acquire approximately 3,360 ac (1,360 ha) of BLM land via land exchange in order to develop their project. The BLM responded with a letter (Karges *in litt.* 2012) explaining that the BLM-managed lands surrounding the private lands under lease are part of the Leasable and Saleable mineral withdrawal enacted by the Steens Act and implemented under the Steens Mountain Cooperative Management and Protection Area Resource Management Plan. The BLM informed Pueblo Valley Geothermal LLC that they would not be able to complete an exchange for various reasons, including: (1) Difficulties in proposing and mitigating a project that would alter land designated as Visual Resource Management Class 2 (the visual resource management objective for class 2 is to retain the existing character of the landscape, and the level of change to the characteristic landscape should be low); (2) the lack of time and staffing to complete a feasibility analysis; and (3) the BLM's requirement that the exchange demonstrate a clear public benefit. The BLM suggested the best route would be to find a geothermal resource outside of the mineral withdrawal area and pursue exploration and development there. Pueblo Valley Geothermal LLC subsequently has become inactive and filed to dissolve their LLC status in the State of Oregon on December 26, 2013.

As stated previously, although the passage of the Steens Act designated a mineral withdrawal area on public lands surrounding Borax Lake, it does not include 322 ac (134 ha) of BLM-administered lands and 2,000 ac (809 ha) of private land located within a radius of approximately 1 to 4.5 mi (1.6 to 7.24 km) from Borax Lake. Therefore, while we view this downlisting criterion as having been met, we acknowledge there remains a potential for geothermal development on lands not formally withdrawn from geothermal or mineral development in the Alvord Basin and that future development of these resources constitutes a potential threat to Borax Lake chub. That said, we have determined the likelihood of this threat becoming operative in the foreseeable future is low.

See *Delisting Criterion 3* and *D. The Inadequacy of Existing Regulatory Mechanisms* for additional discussion regarding the threat of geothermal resource development.

Downlisting Criterion 4: Reestablishment of ponds and natural marshes adjacent to Borax Lake in order to create more chub habitat, and reestablishment of Lower Borax Lake by waters from Borax Lake in order to create more habitat. This criterion has been met with the exception of the reestablishment of Lower Borax Lake. However, the 5-year review (USFWS 2012, pp. 7, 26) concluded that Lower Borax Lake does not provide suitable habitat for Borax Lake chub due to desiccation during summers with low precipitation and to unsuitable habitat in the winter due to freezing. As a result, we no longer consider reestablishment of Lower Borax Lake to be a necessary action for Borax Lake chub recovery.

Numerous actions to maintain lake levels and restore natural outflows have occurred at Borax Lake since the Borax Lake chub was listed. Begun in 1983, TNC, with assistance from the BLM and the ODFW, repaired holes in the northern and eastern shorelines of the lake, and deepened the outflow channel on the southwestern shoreline to promote flow to Lower Borax Lake (USFWS 1987, p. 23). In 1984, the Service and TNC manually constructed several channels diverting water from the southwestern outflow channel into the adjacent marsh (USFWS 1987, p. 25). By 2003, there was no open-water connection between Borax Lake and Lower Borax Lake, but Lower Borax Lake did contain water at that time (Williams and Macdonald 2003, p. 7).

The only habitat outside of Borax Lake that provides habitat for Borax Lake chub is the wetland (referred to as ''the marsh'' in the 1982 listing rule (47 FR 43957; October 5, 1982)) to the south of Borax Lake, the overflow channel that connects the wetland to Borax Lake, and a second overflow channel on the northern end of the lake. Although the wetland at times maintains water year-round, water levels are variable and are influenced by a groundwater vent in the wetland and overflow from Borax Lake. The seasonal pattern and overall contribution of groundwater inputs to the wetland are not understood. In September 2015, the wetland was dry, due in part from reduced flow from Borax Lake caused by a vegetation plug in the overflow channel and presumably no or reduced contribution from groundwater. Later that fall, the wetland was observed to be full, presumably due to increased groundwater inputs. In response to the reduced flow in the overflow channel, the ODFW manually removed vegetation in spring 2016, to provide a more consistent flow through the overflow channel (P. Scheerer 2016, pers. comm.). Therefore, while groundwater inputs to the wetland are unpredictable, the increased flow through the overflow channel due to manual vegetation removal by the ODFW is anticipated to increase the likelihood of maintaining habitat in the wetland for the Borax Lake chub. While the wetland and several overflow channels do not represent a large amount of habitat for the Borax Lake chub, they are potentially important cool-water refuge habitats during periods of above-average air temperatures when suitable cool-water habitat in Borax Lake may be reduced. An associated discussion can be found under *Delisting Criterion 1* and *A. The Present or Threatened Destruction,*

Modification, or Curtailment of Its Habitat or Range in this proposed rule.

Delisting Criteria

In addition to the four downlisting criteria, the recovery plan also identified six additional criteria for delisting.

Delisting Criterion 1: A viable, self-sustaining population of Borax Lake chub, which is defined as a naturally sustaining population that is free of exotic species and fluctuates in size within the seasonal ranges observed in 1986 to 1987. This criterion has been met. Data collected from 1986 through 2017 show a self-sustaining population persists at Borax Lake. (In 2013 and 2014, surveys were not conducted based on an assessment of the need for annual population data in relation to potential take associated with monitoring.) The population is naturally sustaining without the need for supplementation, such as propagation in a hatchery or in aquaria.

The Borax Lake chub is a species that demonstrates high annual variability in population abundance, ranging from a low of 1,242 estimated fish in 2015, to a high of 76,931 in 2017 (see table, below). As recently as 2010 and 2011, the population estimates were 25,489 and 26,571, respectively. Prior to 2015, the lowest population estimate was 4,132 in 1988. Such population variability, with opportunistic demographic resilience, is relatively common for small desert fishes (Winemiller 2005, pp. 878–879). In the case of the Borax Lake chub, population variation likely results from a combination of short life span and occurrence in water temperatures at the edge of the species' thermal tolerance. Given our improved knowledge of natural variability as described above, we have concluded that the portion of this delisting criterion that called for population levels to fluctuate within the narrow range of population estimates conducted in 1986 and 1987 is unrealistic, and is no longer reasonable to maintain as a recovery goal for this species.

TABLE OF POPULATION MARK—RECAPTURE ESTIMATES FOR BORAX LAKE CHUB FROM 1986 TO 2017, INCLUDING ADJUSTED LINCOLN-PETERSON AND HUGGINS CLOSED CAPTURE MODELS (1)

Year (2)	Estimate	Lower 95% confidence limit	Upper 95% confidence limit
1986	15,276	13,672	17,068
1987	8,578	7,994	9,204
1988	4,132	3,720	4,589
1989	14,052	13,016	15,172
1990	19,165	18,117	20,273
1991	33,000	31,795	34,251
1992	25,255	24,170	26,388
1993	35,650	34,154	37,212
1994	13,421	12,537	14,368
1995	35,465	33,533	37,510
1996	8,259	7,451	9,153
1997	10,905	10,377	11,459
2005	14,680	12,585	17,120
2006	8,246	6,715	10,121
2007	9,384	7,461	11,793
2008	12,401	10,681	14,398
2009	14,115	12,793	15,573
2010	25,489	23,999	27,071
2011	26,571	24,949	28,301
2012	9,702	9,042	10,452
2015	1,242	1,077	1,456
2016	9,003	8,045	10,560
2017	76,931	68,444	86,952

(1) Adjusted Lincoln-Peterson and Huggins closed capture models are referenced in Scheerer *et al.* 2012, p. 7. See Salzer 1992, p. 17; Salzer 1997, no pagination; Scheerer and Bangs 2011, p. 4; Scheerer *et al.* 2012, pp. 6–7; Scheerer *et al* 2015, p. 3; Scheerer *et al.* 2016, p. 5; and M. Meeuwig *in litt.* 2017.

(2) Surveys were not conducted from 1998 to 2004, and from 2013 to 2014.

In the summer of 2015, above-average air temperatures may have influenced water temperatures in Borax Lake, causing a population decline. In 2016, however, perhaps supported by cooler air and water temperatures, the population estimate rebounded to over 9,000 individuals (Scheerer *et al.* 2016, p. 3). These observations indicate that temperature may annually affect Borax Lake chub survival and abundance in Borax Lake. Borax Lake chub frequently experience water temperatures that are at or near their thermal critical maximum of 34.5 °C (94.1 °F) (Williams and Bond 1983, p. 412). Therefore, Borax Lake chub survival and recruitment appear to be higher during years when lake temperatures are cooler. In prior years, when Borax Lake's daily maximum water temperatures were substantially cooler than the 12-year average (for example, in 2010 and 2011, there were fewer days above the 12-year mean), Borax Lake chub abundance estimates exceeded 25,000 fish and were some of the highest abundance estimates recorded (Scheerer *et al.* 2016, p. 8). Borax Lake water temperatures were substantially higher than the 12-year average in June and July of 2015. The elevated temperatures may have contributed to the substantial decline in Borax Lake chub abundance observed between 2012 and 2015 (Scheerer *et al.* 2016, p. 9). In late July through the rest of the summer 2015, and in the mid to late summer of 2016, water temperatures in the lake were typically at or below the 12-year average, which may have contributed to improved Borax Lake chub survival and the significant increase in abundance (625 percent) observed in 2016 (Scheerer *et al.* 2016, p. 8). The population estimate in 2017 was 76,931, the largest count on record (M. Meeuwig *in litt.* 2017). While air and water

temperature information for 2017 has not been analyzed, given the recent trend of increasing abundance and prior observations, we speculate lake temperatures were likely cooler than the 12-year average during 2017. Thus, while the 2015 estimate of 1,242 fish represents the lowest estimate on record, the pattern of variability observed over 3 decades of monitoring population abundance underscores the resiliency of this species and its ability to rebound quickly (see table, above).

With one exception, periodic surveys since 2005 have not identified any exotic species within Borax Lake (Scheerer and Jacobs 2005, 2006, 2007, 2008, 2009, and 2010; Scheerer and Bangs 2011; Scheerer *et al.* 2012, 2015, and 2016). However, in 2013, during shoreline surveys conducted by the ODFW, biologists noted a large fish with paired dorsal fins (presumably a bass) (Scheerer *et al.* 2013, p. 10). No additional sightings of the bass occurred during the ODFW surveys (S. Hurn *in litt.* 2014, unpaginated) or during subsequent efforts to capture the bass (see *C. Disease or Predation,* below). Survival of the bass is believed to be unlikely given the high water temperatures in Borax Lake. No known occurrence of disease or predation affecting the population of Borax Lake chub has occurred since the time of listing (47 FR 43957; October 5, 1982). The best available scientific data indicate Borax Lake chub are a viable, self-sustaining population in habitat currently free from exotic species.

Delisting Criterion 2: Permanent protection for the 160-acre parcel of land to the north of Borax Lake (T37S, R33E, sec. 11) by TNC or other appropriate public resource agency. This criterion has been met. In 1983, TNC leased two 160-ac (65-ha) private land parcels, one surrounding Borax Lake and the other immediately to the north of the lake. TNC purchased these two parcels in 1993, placing both parcels in public or conservation ownership and protection.

Delisting Criterion 3: Withdrawal of Borax Lake waters from appropriations. This criterion has been met. With the acquisition of Borax Lake by TNC, surface waters on their land cannot be appropriated by others. Additionally, in 1991, the ODFW filed an application for the water rights to Borax Lake for conservation purposes. The water right was certified and issued to the Oregon Water Resources Department on December 16, 1998, for the purpose of providing habitat for the Borax Lake chub (Oregon Water Resources Department *in litt.* 2018).

Delisting Criterion 4: Establishment of a fence around the 640-acre critical habitat area to prevent vehicle entry. This criterion has been mostly met. The Andrews/Steens Resource Area, Burns District BLM, has constructed facilities to modify public access and enhance public understanding of the Borax Lake area. The Burns District BLM closed access roads in the vicinity of Borax Lake, realigned the fence surrounding Borax Lake to limit vehicle access, and designated visitor parking. Partial funding for the fencing project came from the BLM's Threatened and Endangered Species Recovery Fund, an initiative started in 2010 that supports projects targeting key recovery actions for federally listed and candidate species occurring on BLM lands. The BLM plans to install interpretive signs at the designated parking area (USFWS *et al.* 2018, p. 7). The lake is now completely enclosed by fencing, although approximately 30 ac (12 ha) of critical habitat remains outside the fenced portion of the critical habitat, leaving approximately 0.6 mi (1 km) of road accessible to vehicles within designated critical habitat. The remaining area of the critical habitat will remain unfenced to provide for vehicle access, parking, and interpretative signs, while still protecting the Borax Lake environment. The BLM and ODFW will continue to assess the effectiveness of the vehicle closure for protection of the Borax Lake area. Barring any new information indicating that the existing fencing is insufficient to protect the Borax Lake chub, fencing of the remaining critical habitat appears to be unnecessary.

Delisting Criterion 5: Establishment of monitoring programs to survey habitats and fish population status. This criterion has been met. Numerous studies of the ecology and habitat of Borax Lake have been conducted (Salzer 1992; Scoppettone *et al.* 1995; Furnish *et al.* 2002; Scheerer and Jacobs 2005, 2006, 2007, 2008, 2009, 2010; Scheerer and Bangs 2011; Scheerer *et al.* 2012, 2013). TNC conducted abundance estimates from 1986 through 1997. The ODFW conducted mark-recapture population surveys from 2005 through 2012, and again in 2015 and 2016; developed a survey protocol; and recommended a long-term monitoring strategy (Scheerer and Jacobs 2005, 2006, 2007, 2008, 2009, 2010; Scheerer and Bangs 2011; Scheerer *et al.* 2012, 2013, 2015, 2016). The ODFW also conducted surveys to monitor the condition of the lake shoreline, outflows, and adjacent wetlands. Additional physical data, including hydrologic information, substrate mapping, outflow monitoring, tracking of water levels, and geological and slope stability, were gathered in the 1990s (Scoppettone *et al.* 1995; Wilson 2000).

The Service, ODFW, and BLM collaboratively developed the Borax Lake Chub CMP to outline individual agency roles and responsibilities, and commitments into the future, regarding Borax Lake chub, the Borax Lake ecosystem, and surrounding lands (USFWS *et al.* 2018). While this proposed rule does not rely on the CMP, the CMP significantly enhances progress made towards meeting this delisting criterion and other delisting criteria, including ongoing conservation actions.

Delisting Criterion 6: Lack of any new threats to the species or ecosystem for 5 consecutive years. This criterion has been met. Although this proposed rule identifies climate change as a new potential stressor in the future, we have determined it is not operative on the species or its habitat currently, and is not anticipated to negatively affect the species in the foreseeable future. While potential increases in ambient air temperatures may cause warming of Borax Lake water or, more accurately, slow the cooling of the geothermal waters, we anticipate that thermal refuge associated with shallow margin habitat and cool and cold water vents in the lake along with the species' ability to rebound quickly following periods of higher than normal air and water temperatures, will provide resilience against any future potential effects of climate change. See our discussion under *A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range,* below, for a more detailed description on potential effects of climate change.

Summary of Factors Affecting the Species

Section 4 of the Act and its implementing regulations (50 CFR part 424) set forth the procedures for listing species, reclassifying species, or removing species from listed status. ''Species'' is defined by the Act as including any species or subspecies of fish or wildlife or plants, and any distinct vertebrate population segment of fish or wildlife that interbreeds when mature (16 U.S.C. 1532(16)). A species may be determined to be an endangered or threatened species because of any one or a combination of the five factors described in section 4(a)(1) of the Act: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational

purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or human made factors affecting its continued existence. We must consider these same five factors in delisting a species. We may delist a species according to 50 CFR 424.11(d) if the best available scientific and commercial data indicate that the species is neither endangered nor threatened for the following reasons: (1) The species is extinct; (2) the species has recovered and is no longer endangered or threatened; and/or (3) the original scientific data used at the time the species was classified were in error.

A recovered species is one that no longer meets the Act's definition of endangered or threatened. Determining whether a species is recovered requires consideration of the same five categories of threats specified in section 4(a)(1) of the Act. For species that are already listed as endangered or threatened, this analysis of threats is an evaluation of both the threats currently facing the species and the threats that are reasonably likely to affect the species in the foreseeable future following delisting or downlisting (*i.e.,* reclassification from endangered to threatened) and the removal or reduction of the Act's protections.

A species is ''endangered'' for purposes of the Act if it is in danger of extinction throughout all or a ''significant portion of its range'' and is ''threatened'' if it is likely to become endangered within the foreseeable future throughout all or a ''significant portion of its range.'' The word ''range'' in the significant portion of its range phrase refers to the general geographical area in which the species occurs at the time a status determination is made. For the purposes of this analysis, we will evaluate whether the currently listed species, the Borax Lake chub, should be considered endangered or threatened.

The Act does not define the term ''foreseeable future.'' For the purpose of this proposed rule, we define the ''foreseeable future'' to be the extent to which, given the amount and substance of available data, we can anticipate events or effects, or reliably extrapolate threat trends, such that we reasonably believe that reliable predictions can be made concerning the future as it relates to the status of the Borax Lake chub. In considering the foreseeable future as it relates to the status of the Borax Lake chub, we consider the factors affecting the Borax Lake chub, historical abundance trends, and ongoing conservation efforts. Our period of record for monitoring the Borax Lake chub and its associated habitat extends upwards of 30 years which, when combined with our knowledge of factors affecting the species, allows us to reasonably predict future conditions, albeit with diminishing precision over time. Given the best available scientific and commercial information, for the purposes of this proposed rule we consider the foreseeable future for Borax Lake chub to be a range of 20 to 30 years.

We also expect the ODFW, BLM, and TNC to continue to manage Borax Lake and to conserve Borax Lake chub for the foreseeable future. This expectation is based on the fact that for over 3 decades, the ODFW, BLM, and TNC have taken actions benefiting the Borax Lake chub and the Borax Lake ecosystem.

In considering what factors might constitute threats, we must look beyond the exposure of the species to a particular factor to evaluate whether the species may respond to the factor in a way that causes actual impacts to the species. If there is exposure to a factor and the species responds negatively, the factor may be a threat, and during the status review, we attempt to determine how significant a threat it is. The threat is significant if it drives or contributes to the risk of extinction of the species, such that the species warrants listing as endangered or threatened as those terms are defined by the Act. However, the identification of factors that could impact a species negatively may not be sufficient to compel a finding that the species warrants listing. The information must include evidence sufficient to suggest that the potential threat is likely to materialize and that it has the capacity (*i.e.,* it should be of sufficient magnitude and extent) to affect the species' status such that it meets the definition of endangered or threatened under the Act.

In examining threats to narrowly distributed endemic species such as Borax Lake chub, we must also consider that natural rarity (*i.e.,* a species that only exists in one or a few locations, thought it may be abundant there), in and of itself, does not constitute a threat under the Act. Natural rarity may increase risk or vulnerability if threats are operative on the species or its habitat now or in the foreseeable future, but rarity alone, in the absence of an operative threat, does not warrant protection to a species under the Act.

In the following analysis, we evaluate the status of the Borax Lake chub through the five-factor analysis of threats currently affecting, or that are likely to affect, the species within the foreseeable future.

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

At the time of listing in 1982 (47 FR 43957; October 5, 1982), the primary threats to the Borax Lake chub consisted of potential impacts from geothermal energy development on BLM and private lands near Borax Lake, diversion of the lake's outflows by alteration of the shoreline crust, and potential development of a recreation facility. Since the time of listing, actions have been taken to reduce or eliminate these threats, as discussed below. We also include an analysis of the effects of climate change as a potential threat in the foreseeable future.

Recreation, Water Diversion, and Shoreline Habitat Alteration

The recreation facility discussed in the 1982 listing rule was never developed, and acquisition of the property by TNC eliminated the potential for development of a recreation facility at the Borax Lake site (Williams and Macdonald 2003, p. 12).

The ODFW filed for water rights at Borax Lake in 1991, and that water right is now certified to the Oregon Water Resources Department, to prevent further attempts at diverting the water and to ensure maintenance of the water elevation in Borax Lake (see *Delisting Criterion 3* discussion, above). The purpose of the water right is to provide the required habitat conditions for Borax Lake chub. The right is established under Oregon Revised Statute 537.341, with a priority date of August 21, 1991. The right is limited to the amount of water necessary to maintain a surface water elevation of 4,081 ft (1,244 m) above mean sea level. For purposes of water distribution, the instream right shall not have priority over human or livestock consumption. The right has been recorded in the State record of Water Right Certificates as 75919 (Oregon Water Resources Department *in litt.* 2018).

The 160-ac (65-ha) private land parcel containing Borax Lake was purchased by TNC in 1993. Subsurface mineral rights are included. Since TNC acquisition, surface waters on their land, upon which Borax Lake is located, can no longer be appropriated by others. Additionally, TNC ended the practice of actively diverting surface water from the eastern side of the lake to reduce the impact from prior water diversions. The BLM designated the adjacent 600 ac (243 ha) of public lands as an ACEC for the conservation of Borax Lake chub, and the area was fenced to exclude

livestock grazing (see *Downlisting Criterion 2* discussion, above).

Off-road vehicle damage along the lake shoreline has been documented in the past (Scheerer and Jacobs 2005, p. 6; 2006, p. 7; 2007, p. 6; 2008, p. 6; 2009, p. 8; 2010, p. 4; Scheerer and Bangs 2011, p. 9; Scheerer *et al.* 2012, p. 13; Scheerer *et al.* 2013, p. 6). As a result, in 2011, the BLM and TNC completed a perimeter fence surrounding the lake and most of the associated critical habitat to exclude unauthorized vehicles, and in 2013, they installed locks on all access gates. Due to the completion of the perimeter fence, the threat to Borax Lake chub and its habitat from shoreline habitat alteration by vehicles has been addressed.

Geothermal Development

Geothermal exploration and development has been pursued in the Alvord Known Geothermal Resource Area and specifically in the vicinity of Borax Lake from the early 1970s (Wassinger and Koza 1980, p. 1) to 2013. The Alvord Known Geothermal Resource Area is a 176,835-ac (71,563-ha) area within the Alvord Basin (Wassinger and Koza 1980, p. 7). Development of geothermal resources was considered in 1980, and exploratory wells were drilled in 1982 (47 FR 43957; October 5, 1982). In 1994, Anadarko proposed additional geothermal exploration and development, and the BLM prepared a notice of intent to prepare an environmental impact statement (EIS). After receiving public scoping comments, Anadarko withdrew its development proposal, and no EIS was written (T. Geisler 2009, pers. comm.).

The passage of the Steens Act in 2000, and the finalization of the BLM Resource Management Plan (RMP) (BLM 2005a, p. 71), withdrew mineral and geothermal resources from development on Federal lands within the Alvord Known Geothermal Resource Area. The BLM retained 332 ac (134 ha) of land with high potential for geothermal resources west of Fields and within 4.5 mi (7.2 km) of Borax Lake open for leasable mineral and geothermal development (BLM 2005a, p. I–2). Private lands within this area are not affected by the mineral withdrawal.

In 2008, the BLM and DOGAMI received inquiries on behalf of private landowners in Alvord Basin regarding the development of geothermal resources. The BLM was contacted regarding electrical transmission and right-of-way (ROW) access to cross BLM lands in order to explore and develop commercial geothermal electrical power (K. Bird 2008, pers. comm.). The developer, Pueblo Valley Geothermal LLC, met with the BLM in 2008, to discuss their interest in obtaining an ROW permit to access private land and construct a power plant. Although the Steens Act and subsequent RMP withdrew the Alvord Known Geothermal Resource Area from geothermal development, the RMP could allow a ROW permit because the area in question is not within the Cooperative Management and Protection Area boundary. ROWs are a valid use of public lands under sections 302 and 501 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*), as amended (BLM 2005a, p. 59). The BLM would be responsible under the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) to analyze any proposed ROW project, including the connected actions, such as exploratory well drilling and power line construction.

The proposed power plant was anticipated to generate 1 to 10 megawatts. Pueblo Valley Geothermal LLC acquired a 53-year lease on approximately 2,000 ac (809 ha) from landowners located south of Alvord Lake, and within 3 mi (4.8 km) and as close as 1 mi (1.6 km) from Borax Lake (P. Hall 2009, pers. comm.). Pueblo Valley Geothermal LLC also placed an advertisement in the publication ''Geothermal Energy Weekly'' seeking investors for a 20- to 25-megawatt geothermal facility (Geothermal Energy Association 2010, no pagination). The developer indicated in 2011 that they were progressing with resource assessments regarding the total megawatt and economic potential (P. Hall 2011, pers. comm.). No formal permit applications were received by the BLM or DOGAMI in 2011 (R. Houston 2008, pers. comm.; 2010, pers. comm.; R. Houston *in litt.* 2011), and as of 2018 we are not aware of such (A. Mauer, *in litt.* 2018).

Pueblo Valley Geothermal LLC submitted an informal proposal to the BLM on January 31, 2012, seeking to acquire 3,360 ac (1,360 ha) of BLM land in the vicinity of the Borax Lake geothermal aquifer in the interest of developing an air-cooled binary geothermal plant to produce 20 to 25 megawatts of electricity (T. McLain *in litt.* 2012). The BLM responded with a letter on March 14, 2012, explaining that due to various reasons including resource concerns, funding, and staffing priorities, such a land exchange was not feasible at that time (Karges *in litt.* 2012). Pueblo Valley Geothermal LLC indicated to us that the proposal to develop geothermal energy on private land in the vicinity of Borax Lake was not active (P. Hall 2014, pers. comm.). The Oregon Secretary of State Office maintains an online business registry of Limited Liability Company (LLC) companies. The list was consulted, and we found that the company, Pueblo Valley Geothermal LLC, filed an article of dissolution on December 26, 2013. A review of the Harney County Assessor's property records show that 320 ac (129 ha) of land previously leased by Pueblo Valley LLC, which is approximately 1 mi (1.6 km) west of Borax Lake, is now owned by Oregon Geothermal LLC. We do not have any new information on permit applications from Oregon Geothermal LLC or any other new geothermal proposals that may arise in the foreseeable future.

Potential impacts resulting from geothermal development that were identified at the time of listing include effects to water elevation in Borax Lake due to the interconnecting aquifers or springs. Drilling could disrupt the hot water aquifer that supplies Borax Lake. Potential impacts from geothermal energy drilling could include changes to the aquifer pressure or temperature and the potential to lessen or eliminate inflows to the lake from the geothermal aquifer. Changes to water flow and water temperature may have an adverse impact on the Borax Lake chub. Although the species tolerates thermal waters, excessive warming of the lake's water could cause adverse effects, and, at extremes, would be lethal to the Borax Lake chub.

In summary, proposals to develop geothermal energy resources in the Borax Lake vicinity have occurred sporadically in the 1970s, in the 1980s, in 1994, and in 2008 through 2012. However, none of these proposals has moved forward with permitting and implementation over a 4-decade period, and this history leads us to conclude that the likelihood of geothermal energy development now and in the foreseeable future is low. Furthermore, while geothermal development in the vicinity of Borax Lake has been considered a potential threat to the Borax Lake chub, the precise effects of possible geothermal development on the species are uncertain and unpredictable. The potential effects to the species would depend upon the specifics, such as the scale of the project and proximity to Borax Lake, of any geothermal energy development that might proceed to the implementation phase. Depending on the particular circumstances of any particular project, such development could potentially have a negative effect on the species, or it might have no or negligible effects. The effects of any future geothermal project proposal on

Borax Lake chub would be assessed based on specific project details and other data available at the time. If an assessment suggested a future geothermal project would likely cause significant risk to Borax Lake and the well-being of Borax Lake chub, and existing regulatory mechanisms did not deter or result in modifications to the development to minimize or eliminate likelihood of impacts to the chub, we have the discretion to use the emergency listing authorities under section 4(b)(7) of the Act, such as we used in the May 28, 1980, emergency listing of Borax Lake chub (45 FR 35821). The possibility of geothermal development in the vicinity of Borax Lake will continue to represent a potential threat to Borax Lake chub and its habitat, but we have determined the likelihood of this threat becoming operative in the foreseeable future is low.

Effects of Climate Change

The terms ''climate'' and ''climate change'' are defined by the Intergovernmental Panel on Climate Change (IPCC). ''Climate'' refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements, although shorter or longer periods also may be used (IPCC 2007, p. 78). The term ''climate change'' thus refers to a change in the mean or variability of one or more measures of climate (*e.g.,* temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2007, p. 78). Various types of changes in climate can have direct or indirect effects on species. These effects may be positive, neutral, or negative and they may change over time, depending on the species and other relevant considerations, such as the effects of interactions of climate with other variables (*e.g.,* habitat fragmentation) (IPCC 2007, pp. 8–14, 18–19). In our analysis, we use expert judgment to weigh relevant information, including uncertainty, in our consideration of various aspects of climate change.

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

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

With regard to our analysis for the Borax Lake chub, we evaluated downscaled projections from the National Climate Change Viewer (Alder and Hostetler 2014, 2017). These projections are based on the mean of 30 models that can be used to predict changes in air temperature for the Alvord Lake basin in Harney County, Oregon. The models predict that during the period from 2025 to 2049, the July mean maximum air temperature will increase by 2.4 °C (4.3 °F) from the historical mean, and the January mean minimum air temperature will increase by 2.3 °C (4.1 °F). The model predicts very little change in the mean annual precipitation and runoff for the Alvord Lake basin (Alder and Hostetler 2014, pp. 3–5; 2017, unpaginated).

Increases in ambient air temperatures may cause warming of Borax Lake water or, more accurately, slow the cooling of the geothermal waters. During the warmest times of the year, this may reduce the amount and suitability of habitat available for Borax Lake chub because Borax Lake chub use the edges of the lake, areas around cool and cold water vents within the lake, several overflow channels, and a wetland where waters are shallower and the temperatures have cooled from the geothermal source to suitable water temperatures for Borax Lake chub survival. Scheerer *et al.* (2015, p. 9) suggested there is likely a correlation between water temperatures and chub population abundance. Monitoring of lake temperatures since 2005 indicates that high population abundance in 2010 and 2011 (greater than 25,000 individuals) correspond with lake temperatures that were cooler during this period when compared to temperatures recorded in 2006 to 2009 and 2012 to 2016. Higher water temperatures since 2012 and lower population abundance during this time provide additional evidence towards this potential relationship between water temperatures and annual survival rates (Scheerer *et al.* 2015, p. 8). The lowest estimated population abundance on record (1,242) for Borax Lake chub occurred in 2015, following unseasonably warm air and water temperatures in June and July of that year in conjunction with reduced access to cool water refugia through the overflow channel (Scheerer *et al.* 2016, p. 8). A similar die-off was suspected to have occurred in July 1987, during a period of unseasonably warm temperatures when mortalities were documented and fish were observed congregating in the coolest portions of the lake (Scheerer *et al.* 2015, pp. 6–7). In 2016, water temperatures and air temperatures were cooler than average and the overflow channel had been cleared; the population of Borax Lake chub then rebounded to an estimated 9,003 individuals (Scheerer *et al.* 2016, p. 3), similar to previous rebounds following population declines.

Although a specific analysis has not been conducted to determine the amount and suitability of thermal refuge habitat that may be available under various lake temperature conditions, information presented in Scheerer and Bangs 2011, pp. 5–8, and Scheerer *et al.* 2012, pp. 7–11, suggest the availability of shallow margin habitat around the perimeter of the lake, along with the outflow channel and wetland, likely provide thermal refuge (*i.e.,* cooler water) habitat for the species during these events. In addition, monitoring by the ODFW in 2011 and 2012 documented cool and cold water vents within portions of the lake that likely contribute to moderating lake temperatures and provide additional areas of thermal refuge (P. Scheerer, pers. comm. 2018). While there is evidence these cool and cold water vents, as well as warm and hot vents within the lake (in addition to the primary vent) vary in temperature year to year, the aggregate of these thermal refuge habitats, along with the species' ability to rebound quickly following periods of higher than normal air and water temperatures, are anticipated to provide resilience against potential future effects of climate change.

Changes to precipitation, drought, aquifer recharge, or vegetative community around Borax Lake as a result of climate change would not likely have an impact on the Borax Lake chub. Borax Lake is perched above the valley floor, there is no inflow of water from above-ground sources, and the

vegetative community is not likely to change due to the temperature increases predicted.

Summary of Factor A

Since the time of listing in 1982 (47 FR 43957; October 5, 1982), actions have been taken to reduce or eliminate the destruction and modification of Borax Lake chub habitat. This includes the acquisition of Borax Lake and surrounding lands by TNC, the BLM's designation of adjacent lands as an ACEC, protection of subsurface and surface waters, protection from mineral withdrawal, and closure of fragile lands to livestock grazing and unauthorized vehicle access. Although these measures have removed and minimized various threats to Borax Lake and surrounding lands, the potential for geothermal development, and consequent possible impacts to Borax Lake chub and its habitat, remains. The possibility of geothermal development in the vicinity of Borax Lake will continue to represent a potential threat to Borax Lake chub and its habitat, but we have determined the likelihood of this threat becoming operative in the foreseeable future is low.

Increase in the ambient air temperature from climate change could slow the cooling of the geothermal waters that create Borax Lake. Cooling of the waters of Borax Lake, especially the shallow margin areas including several overflow channels and the wetland, is important to the Borax Lake chub during warm times of the year given that temperatures in some areas of the lake often exceed the thermal maximum for this species (Scheerer and Bangs 2011, p. 8) reported as 34.5 degrees Celsius (94 degrees Fahrenheit) (Williams and Bond 1983, p. 412).

Above-average air temperatures in the summer of 2015 correlate with the above-average water temperatures documented in Borax Lake during the same time frame and may have contributed to the low population estimate that fall (Scheerer *et al.* 2016, p. 9). In the future, changes in water temperature due to increases in ambient air temperatures caused by climate change could result in a reduction in the amount of habitat available at suitable water temperatures, thus reducing the overall amount of habitat available for the Borax Lake chub during warm periods of the year. It is reasonable to assume the frequency of these events due to climate change may increase such that there is a possibility for consecutive year events of drought and associated abnormally warm air and water temperatures. We anticipate that thermal refuge associated with shallow margin habitat and cool and cold water vents in the lake along with the species' ability to rebound quickly following periods of higher than normal air and water temperatures, will provide resilience against potential future effects of climate change.

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

Overutilization for commercial, recreational, scientific, or educational purposes was not a factor in listing (47 FR 43957; October 5, 1982) and is currently not known to be a threat to the Borax Lake chub, nor is it likely to become so in the foreseeable future.

C. Disease or Predation

Disease was not a factor in listing of the Borax Lake chub (47 FR 43957; October 5, 1982) and is currently not known to be a threat to Borax Lake chub, nor is it likely to become so in the foreseeable future.

Likewise, predation was not noted as a factor in the listing of Borax Lake chub (47 FR 43957; October 5, 1982). Although we do not believe predation is a threat currently or in the foreseeable future, a single observation of an exotic fish did occur in 2013 (see *Delisting Criterion 1,* above, for more discussion). Exotic fish were not observed in repeated surveys, and no known impacts to Borax Lake chub occurred. The high water temperatures in Borax Lake, which likely limited the long-term survival of this exotic fish, also limit the overall likelihood of establishment of exotic species in Borax Lake. The establishment of a perimeter fence around Borax Lake by the BLM and TNC in 2011 further reduced the likelihood of purposeful or accidental introductions of exotic species to the extent that we conclude that the threat of predation has been addressed.

As noted previously in this proposed rule, the BLM, ODFW, and the Service developed a CMP that will guide future monitoring for nonnative species, monitoring of Borax Lake chub, vehicle access restrictions, and public outreach and education (USFWS *et al.* 2018). While the CMP provides agency commitments for long-term stewardship of Borax Lake and Borax Lake chub, this proposed rule does not rely on the actions described in the CMP.

D. The Inadequacy of Existing Regulatory Mechanisms

Under this factor, we examine the stressors identified within the other factors as ameliorated or exacerbated by any existing regulatory mechanisms or conservation efforts. Section 4(b)(1)(A) of the Act requires that the Service take into account ''those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species . . .'' In relation to Factor D under the Act, we interpret this language to require the Service to consider relevant Federal, State, and Tribal laws, regulations, and other such binding legal mechanisms that may ameliorate or exacerbate any of the threats we describe in threat analyses under the other four factors or otherwise enhance the species' conservation. Our consideration of these mechanisms is described in detail within each of the threats or stressors to the species (see full discussion under this section, Summary of Factors Affecting the Species).

The following provides an overview of the existing regulatory protections that protect the Borax Lake ecosystem and Borax Lake chub.

The Nature Conservancy

The 160-ac (65-ha) private land parcel containing Borax Lake and the 160-ac parcel to the north were purchased by TNC in 1993. Subsurface mineral rights are included. Since TNC acquisition, surface waters on their land, upon which Borax Lake is located, can no longer be appropriated by others. Additionally, TNC ended the practice of actively diverting surface water from the eastern side of the lake to reduce the impact from prior water diversions.

BLM—Federal Land and Rights-of-Way

The passage of the Steens Act of 2000 and the completion of the Steens Andrews Resource Management Plan (RMP) withdrew the Alvord KGRA from mineral and geothermal exploration and development (BLM 2005). The Steens Act congressionally designated a mineral withdrawal area encompassing 900,000 ac (364,217.1 ha) of the planning area on BLM-administered lands. The mineral withdrawal area contains the majority of the Alvord KGRA, including Borax Lake and surrounding public lands, with the exception of 332 ac (134.4 ha) located approximately 4.5 mi (7.242 km) from Borax Lake (BLM 2005). Private lands within this area are not affected by the mineral withdrawal. Approximately 2,000 ac (809.4 ha) of privately owned land occur within a 3-mi (4.83-km) radius of Borax Lake and are not subject to BLM's withdrawal. The BLM has responsibility to review all applications for geothermal development within the Alvord KGRA that occur on BLM lands and some applications for development on private lands if the development

requires ROW for access or transmission lines across BLM-managed lands. ROWs are a valid use of public lands under sections 302 and 501 of the Federal Land Policy and Management Act of 1976 (BLM 2005). The BLM would be responsible under the National Environmental Policy Act to analyze any proposed ROW project including the connected action (*i.e.,* energy development on private lands).

In 1983, the BLM designated 520 ac (210 ha) of public land surrounding Borax Lake as an ACEC to protect Borax Lake chub and its habitat. In 2005, the record of decision for the RMP for the Andrews Resource Area added 80 ac (32 ha), for a total 600-ac (243-ha) Borax Lake ACEC (BLM 2005a, p. 70).

Off-road vehicle damage along the lake shoreline has been documented in the past (Scheerer and Jacobs 2005, p. 6; 2006, p. 7; 2007, p. 6; 2008, p. 6; 2009, p. 8; 2010, p. 4; Scheerer and Bangs 2011, p. 9; Scheerer *et al.* 2012, p. 13; Scheerer *et al.* 2013, p. 6). As a result, in 2011, the BLM and TNC completed a perimeter fence surrounding the lake and most of the associated critical habitat to exclude unauthorized vehicles, and in 2013, they installed locks on all access gates. Due to the completion of the perimeter fence, the threat to the Borax lake chub from shoreline habitat alteration by vehicles has been addressed.

State of Oregon, Department of Geology and Mineral Industries (DOGAMI)

In Oregon, Oregon Revised Statute (ORS) chapter 522 authorizes DOGAMI to control drilling, re-drilling, and deepening of wells for the discovery and production of geothermal resources. Under this authority, a developer undertaking geothermal exploration on all land (public and private) must first obtain a permit from DOGAMI (Oregon Administrative Rule (OAR) 632–020–0028). DOGAMI process requires circulation of any permit application to other State agencies that manage natural resources such as the Water Resources Department, ODFW, Department of Environmental Quality, State Parks and Recreation Department, Department of Land Conservation and Development, Department of State Lands, and the governing body of the county and geothermal heating district in which the well will be located (ORS 522.125(1)). Any of these agencies can suggest conditions under which a permit should be granted or denied. DOGAMI is required to take State agency comments into consideration when deciding to grant a permit (OAR 632–020–0170). As part of the conditions for geothermal development on private land, a developer is required by DOGAMI to provide baseline information needed to show there would be no connection to geothermal or groundwater continuity in areas of environmental concern (*i.e.,* Borax Lake or the BLM's designated ACEC near Borax Lake). Therefore, the DOGAMI is required to accept comment, and consider protective measures. This additional review through the DOGAMI process may benefit the Borax Lake chub through the addition of conservation measures necessary to obtain a permit for geothermal exploration.

State of Oregon, Oregon Department of Energy's Energy Facility Siting Council (EFSC)

The EFSC has regulatory and siting responsibility for proposed generating facilities greater than 35 megawatts in Oregon. The OAR–345–022–0040 prohibits the EFSC from issuing site certificates for energy development in protected areas such as BLM ACECs and State natural heritage areas such as TNC's Borax Lake Preserve. For proposed energy developments in unprotected areas, the EFSC applies Division 22 siting standards for fish and wildlife habitat (OAR 345–022–0060), threatened and endangered species (OAR 345–022–0070), and general standards of review (OAR 345–022–000). Specific to Borax Lake chub, OAR 345–022–0060 requires that a proposed facility comply with the habitat mitigation goals and standards of the ODFW as defined in OAR 635–415–0025. The ODFW defines Borax Lake chub habitat as a Habitat Category 1 under the habitat mitigation standard. The mitigation goal for Habitat Category 1 is no loss of either habitat quantity or quality. The ODFW is required to protect habitats in Category 1 by recommending or requiring: (1) Avoidance of impacts through alternatives to the proposed development action, or (2) no authorization of the proposed development action if impacts cannot be avoided. To issue a site certificate, the EFSC must find that the design, construction, and operation of the facility, taking into account mitigation, are consistent with the fish and habitat mitigation goals and standards of OAR 635–415–0025 (OAR 345–022–0060 Fish and Wildlife Habitat).

State of Oregon, Oregon Department of Fish and Wildlife

The Borax Lake chub was listed as endangered in 1987, and then reclassified to threatened in 2017 under the Oregon Endangered Species Act (Oregon ESA), which prohibits the ''take'' (killing or obtaining possession or control) of listed species without an incidental take permit. The State of Oregon determined that Borax Lake chub fit the definition of threatened rather than endangered due to substantial progress in conservation and recovery of the species. The State criteria for recovery of Borax Lake chub is met due to (1) the protected ownership by TNC; (2) natural reproductive potential is not endangered; (3) primary habitat is protected; (4) habitat is protected from commercial use; (5) public access is restricted to foot traffic; (6) no harvest is allowed; (7) only infrequent scientific or educational use occurs; (8) most surrounding land is protected from geothermal development on Federal lands; and (9) water rights of the lake were obtained by the ODFW for the purpose of conserving Borax Lake chub.

The Oregon ESA applies to actions of State agencies on State-owned or leased land, and does not impose any additional restrictions on the use of private lands (ORS 496.192). The Oregon ESA is implemented by the State independently from the Federal Endangered Species Act; thus, if finalized, this proposed rule would not directly impact the current State listing of Borax Lake chub. Under the Oregon ESA, State agencies (other than State land-owning or land-managing agencies) determine the role they may serve in contributing toward conservation or take avoidance (OAR 635–100–0150). The Oregon Endangered Species List is a nonregulatory tool that helps focus wildlife management and research with the goal of preventing species from declining to the point of extinction (ORS 496.171, 496.172, 496.176, 496.182, and 496.192).

Per OAR 635–415–0025 (Habitat Mitigation Policy), the ODFW would provide comments and recommendations on risks to all native fish and wildlife from a proposed geothermal development project in the Alvord Basin through all State and county permitting processes. If there was any indication that a proposed geothermal development project would have a geothermal or groundwater connection with Borax Lake, the ODFW would recommend that alternatives be developed or that the action not be permitted (ODFW 2012, p. 9).

The ODFW filed for water rights at Borax Lake in 1991, and that right is now certified to the Oregon Water Resources Department, to prevent further attempts at diverting the water and to ensure maintenance of the water elevation in Borax Lake (see *Delisting Criterion 3* discussion, above). The

purpose of the water right is to provide the required habitat conditions for the Borax Lake chub. The right is established under Oregon Revised Statute 537.341, with a priority date of August 21, 1991. The right is limited to the amount of water necessary to maintain a surface water elevation of 4,081 ft (1,244 m) above mean sea level. For purposes of water distribution, the instream right shall not have priority over human or livestock consumption. The right has been recorded in the State record of Water Right Certificates as 75919.

Thus, the protections of the Oregon ESA, ODFW policy on geothermal development permitting, and the establishment of a dedicated water right for conservation at Borax Lake provide for significant ongoing protection and allow for critical review of future development projects.

Summary of Factor D

Conservation ownership of Borax Lake and surrounding lands by TNC (320 ac; 129 ha), withdrawal of Borax Lake waters from appropriation, the mineral withdrawal within the Alvord KGRA under the 2000 Steens Act, and the mineral withdrawal and management guidelines under the BLM's ACEC around Borax Lake (600 ac; 243 ha) provide significant regulatory protections to the Borax Lake ecosystem that would remain unchanged should this proposal to delist the Borax Lake chub be finalized. While State and Federal regulatory mechanisms exist that would protect the Borax Lake ecosystem from potential effects of development of geothermal resources on 2,000 ac (809 ha) of private land in proximity to Borax Lake, these regulatory mechanisms do not guarantee a development proposal would not legally proceed to implementation. However, these regulatory mechanisms ensure State and Federal natural resource agencies will be made aware of any proposals moving forward for permitting (*e.g.,* DOGAMI) and that comments by applicable State and Federal resource agencies will be considered. As noted previously, DOGAMI requires geothermal developers to provide baseline information to show there would be no connection to geothermal or groundwater in areas of environmental concern (*e.g.,* Borax Lake or the BLM's designated ACEC near Borax Lake). Similarly, the EFSC requires that a proposed facility comply with the habitat mitigation goals and standards of the ODFW as defined in OAR 635–415–0025. These regulatory mechanisms do not completely remove potential risk to the Borax Lake chub from geothermal development, but they do reduce the likelihood of impact from development on private lands in the vicinity of Borax Lake.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The 1982 listing rule (47 FR 43957; October 5, 1982) did not identify any other natural or human-made factors affecting Borax Lake chub or its habitat. No threats have arisen under this threat factor since that time, and none is anticipated in the foreseeable future. Potential impacts of climate change are addressed in this proposed rule under *A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range,* above.

Overall Summary of Factors Affecting the Borax Lake Chub

The primary factors that threatened the Borax Lake chub at the time of listing (47 FR 43957; October 5, 1982) were potential impacts from geothermal energy development, diversion of the lake's outflows by alteration of the shoreline crust, and potential development of a recreation facility. Most of these threats or potential threats have been removed or ameliorated by implementing actions identified in the Borax Lake Chub Recovery Plan (see the discussion of downlisting criteria under *Recovery,* above). Actions that have been taken to reduce or eliminate the destruction and modification of Borax Lake chub habitat (Factor A) include acquisition of Borax Lake by TNC, the BLM's designation of adjacent lands as an ACEC, protection of subsurface and surface waters, protection from mineral withdrawal, and closure of fragile lands to livestock grazing and unauthorized vehicle access.

Proposals to develop geothermal energy resources in the Borax Lake vicinity have occurred sporadically over the last 4 decades, and for that reason, it is reasonable to expect additional proposals to develop geothermal energy are likely in the foreseeable future. However, none of these proposals has moved forward with implementation over a 4-decade period, and this history leads us to conclude that the likelihood of geothermal energy development in the vicinity of Borax Lake in the foreseeable future is low. Furthermore, while geothermal development in the vicinity of Borax Lake is considered a potential threat to Borax Lake chub, the precise effects of possible geothermal development on the species are uncertain and unpredictable given the unknown nature of geothermal fluids and their behavior deep underground. The response of the species would depend upon the specifics of any geothermal energy development that might proceed to the implementation phase (*e.g.,* scale of the project and proximity to Borax Lake). Depending on the circumstances of any particular project, such development could potentially have a negative effect on the species or it might have no or negligible effects. The possibility of geothermal development in the vicinity of Borax Lake will continue to represent a potential threat to Borax Lake chub and its habitat, but we have determined the likelihood of this threat becoming operative in the foreseeable future is low.

An increase in ambient air temperatures due to climate change may reduce the amount and suitability of habitat for Borax Lake chub during the warmest times of the year (June through August) due to water temperatures that can meet or sometimes exceed thermal maximums for the species. However, shallow-water thermal refuge habitats around the margins of Borax Lake (the overflow channel and wetland), cool and cold water vents within the lake, along with the species' ability to rebound quickly following periods of low population abundance, are expected to provide resilience against potential future effects of climate change to the Borax Lake chub.

Factor B (overutilization for commercial, recreational, scientific, or educational purposes), Factor C (disease and predation), and Factor E (other natural or manmade factors affecting its continued existence) were not identified as threat factors in the listing of Borax Lake chub in 1982 (47 FR 43957; October 5, 1982), and these factors are currently not known to be threats to the Borax Lake chub now or in the foreseeable future.

We conclude that existing regulatory mechanisms (Factor D) provide significant protections to Borax Lake chub and its habitat, especially on Federal lands, and address most of the reasons that the species was listed. No regulatory mechanisms are in place that fully prevent geothermal development on private lands in the vicinity of Borax Lake. However, we determined that this potential threat is not likely to manifest in the foreseeable future; therefore, no threats remain that require regulatory mechanisms to address them in the event that the species were delisted and the protections of the Act were no longer in place.

Proposed Determination of Species Status

Introduction

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for determining whether a species is an endangered species or threatened species and should be included on the Federal Lists of Endangered and Threatened Wildlife and Plants (listed). The Act defines an endangered species as any species that is ''in danger of extinction throughout all or a significant portion of its range'' and a threatened species as any species ''that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' The Act requires that we determine whether a species meets the definition of ''endangered species'' or ''threatened species'' because of any of the following factors:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

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

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

Determination of Status Throughout All of the Species' Range

As required by section 4(a)(1) of the Act, we conducted a review of the status of the Borax Lake chub and assessed the five factors to evaluate whether it is endangered or threatened throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. Significant threats identified at the time of listing (47 FR 43957; October 5, 1982) have been eliminated or reduced. We conclude that under Factor A (the present or threatened destruction, modification, or curtailment of its habitat or range), the possibility of geothermal development in the vicinity of Borax Lake will continue to represent a potential threat to Borax Lake chub and its habitat, but we have determined the likelihood of this threat becoming operative in the foreseeable future is low. We did not identify any other threats from development on private lands in the vicinity of Borax Lake. We have identified climate change as a new potential threat to Borax Lake chub, but the magnitude and frequency of this potential threat is generally unknown at this time. We conclude that Factor B (overutilization for commercial, recreational, scientific, or educational purposes) and Factor C (disease or predation) are not threats to Borax Lake chub. We conclude that under Factor D (the inadequacy of existing regulatory mechanisms), the existing regulatory mechanisms provide significant protections to Borax Lake chub and its habitat, especially on Federal lands, but they do not address potential impacts of geothermal development on private lands. However, as discussed above, we have determined that the likelihood of the threat of geothermal development in the vicinity of Borax Lake becoming operative in the foreseeable future is low; therefore, no regulatory mechanisms are needed to address this potential threat. All of these threats apply similarly throughout the range of the species in Borax Lake.

Thus, after assessing the best available information, we conclude that the Borax Lake chub is not currently in danger of extinction, and is not likely to become so within the foreseeable future throughout all of its range.

Because we have determined that the Borax Lake chub is not in danger of extinction or likely to become so in the foreseeable future throughout all of its range, we will consider whether there are any significant portions of its range in which the species is in danger of extinction or likely to become so in the foreseeable future.

Determination of Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range (SPR). Having determined that the Borax Lake chub is not in danger of extinction now or likely to become so in the foreseeable future throughout all of its range, we now consider whether it may be in danger of extinction or likely to become so in the foreseeable future in an SPR. The range of a species can theoretically be divided into portions in an infinite number of ways, so we first screen the potential portions of the species' range to determine if there are any portions that warrant further consideration. To do this, we look for portions of the species' range for which there is substantial information indicating that: (1) The portion may be significant, and (2) the species may be in danger of extinction or likely to become so in the foreseeable future in that portion. A portion only warrants further consideration if there is substantial information that both of these statements are true for that portion. Therefore, for a particular portion, if we determine that there is not substantial information that one of these statements is true, then the species does not warrant listing because of its status in that portion of its range.

We evaluated the range of the Borax Lake chub to determine if any area may be a significant portion of the range. The Borax Lake chub is a narrow endemic that occurs in Borax Lake in the Alvord Basin. The historical known natural range of the Borax Lake chub is limited to Borax Lake and associated outflows and wetlands. Based on the small range of the Borax Lake chub, approximately 10.2-ac (4.1-ha), we determined that the species is a single, contiguous population and that there are no separate areas of the range that are likely to be of greater biological or conservation importance than any other areas due to natural biological reasons alone. Therefore, there is not substantial information that logical, biological divisions exist that would support delineating one or more portions within the species' range.

Based on our determination that no natural biological divisions are delineating separate portions of the Borax Lake chub population, we conclude that there are no portions of the species' range for which both (1) the portions are likely to be significant and (2) the species is likely to be in danger of extinction or likely to become so in the foreseeable future in those portions. This makes it unnecessary for us to undertake any further consideration or analysis of whether this species is endangered or threatened throughout an SPR. We conclude therefore that there is no significant portion of the species' range where it is an endangered species or a threatened species. Our approach to analyzing SPR in this determination is consistent with the court's holding in *Desert Survivors* v. *Department of the Interior,* No. 16–cv–01165–JCS, 2018 WL 4053447 (N.D. Cal. Aug. 24, 2018).

Our review of the best available scientific and commercial information indicates that the Borax Lake chub is not in danger of extinction nor likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Therefore, we find that the Borax Lake chub does not meet the definition of a threatened species, and we propose to remove the Borax Lake chub from the List.

Effects of the Proposed Rule

This proposal, if made final, would revise 50 CFR 17.11(h) by removing the Borax Lake chub from the Federal List of Endangered and Threatened Wildlife.

The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would no longer apply to this species. Federal agencies would no longer be required to consult with the Service under section 7 of the Act in the event that activities they authorize, fund, or carry out may affect the Borax Lake chub. Critical habitat for Borax Lake chub at 50 CFR 17.95(e) would be removed if this proposal is made final. State laws related to Borax Lake chub would remain in place, be enforced, and continue to provide protection for this species.

Post-Delisting Monitoring

Section 4(g)(1) of the Act requires the Secretary of the Interior, through the Service and in cooperation with the States, to implement a system to monitor for not less than 5 years for all species that have been recovered and delisted. The purpose of this requirement is to develop a program that detects the failure of any delisted species to sustain populations without the protective measures provided by the Act. If, at any time during the monitoring period, data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing.

A draft post-delisting monitoring (PDM) plan has been developed for the Borax Lake chub, building on and continuing the research that was conducted during the listing period. The draft PDM plan will be peer reviewed by specialists and will be available for public comment upon the publication of this proposed rule at *http://www.regulations.gov,* under docket number FWS–R1–ES–2017–0035. Public and peer review comments submitted in response to the draft PDM plan will be addressed within the body of the plan and summarized in an appendix to the plan. The draft PDM plan was developed by the Service and is based on actions outlined in the CMP developed by the Service, BLM, and ODFW. The draft PDM plan consists of: (1) A summary of the species' status at the time of proposed delisting; (2) an outline of the roles of PDM cooperators; (3) a description of monitoring methods; (4) an outline of the frequency and duration of monitoring; (5) an outline of data compilation and reporting procedures; and (6) a definition of thresholds or triggers for potential monitoring outcomes and conclusions of the PDM.

The draft PDM plan proposes to monitor Borax Lake chub following the same sampling protocol used by the ODFW prior to delisting. Monitoring would consist of three components: Borax Lake chub abundance, potential adverse changes to Borax Lake chub habitat due to environmental or anthropogenic factors, and monitoring DOGAMI for drilling applications. The PDM would consist of surveys to estimate population abundance conducted once every 3 years over a 9-year period (four population surveys total), which would begin after the final delisting rule is published. Given the Borax Lake chub is a short lived fish (few survive beyond 1 year; Scoppettone *et al.* 1995, p. 36), periodic monitoring over this time period would allow us to address any possible negative effects to the Borax Lake chub. Additionally, the chub experienced wide fluctuation in its population year-to-year. Limited data points for a widely fluctuating population can lead to weak information. Therefore, we chose to extend the time sequence to ensure we can accurately measure changes in trends.

The draft PDM plan identifies measurable management thresholds and responses for detecting and reacting to significant changes in the Borax Lake chub's protected habitat, distribution, and persistence. If declines are detected equaling or exceeding these thresholds, the Service, in combination with other PDM participants, would investigate causes of these declines, including considerations of habitat changes, substantial human persecution, stochastic events, or any other significant evidence. The result of the investigation would be to determine if the Borax Lake chub warrants expanded monitoring, additional research, additional habitat protection, or relisting as an endangered or a threatened species under the Act. If such monitoring data or an otherwise updated assessment of threats (such as specific information on proposed geothermal development projects) indicate that relisting the Borax Lake chub is warranted, emergency procedures to relist the species may be followed, if necessary, in accordance with section 4(b)(7) of the Act.

Required Determinations

Clarity of This Proposed 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 **ADDRESSES**. 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.

National Environmental Policy Act

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), need not be prepared in connection with regulations pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

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 the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Native American culture, and to make information available to Tribes.

We do not believe that any Tribes would be affected if we adopt this rule as proposed. However, we have contacted the Burns Paiute Tribe to coordinate with them regarding this proposed rule.

References Cited

A complete list of all references cited in this proposed rule is available at *http://www.regulations.gov* at Docket

No. FWS–R1–ES–2017–0035 or upon request from the Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this proposed rule are staff members of our 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 hereby propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

§ 17.11 [Amended]

■ 2. Amend § 17.11(h) by removing the entry for ''Chub, Borax Lake'' under FISHES from the List of Endangered and Threatened Wildlife.

§ 17.95 [Amended]

■ 3. Amend § 17.95(e) by removing the entry for ''BORAX LAKE CHUB (*Gila boraxobius*).''

Dated: December 7, 2018.

Margret E. Everson,

Principal Deputy Director, U.S. Fish and Wildlife Service, Exercising the Authority of the Director, U.S. Fish and Wildlife Service.

[FR Doc. 2019–02979 Filed 2–25–19; 8:45 am]

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