strike a more appropriate balance between safety benefits and costs? Please identify any specific regulatory amendments that merit consideration, as well as the technical, safety, and economic reasons supporting those recommended amendments.

2. Should ECA methodologies or elements thereof within consensus industry standards and recommended practices (*e.g.,* API RP 1183) [21] inform the ECA requirements in § 192.712? Are the safety factors, required elements, and supporting records identified in consensus industry standards and recommended practices appropriate to use in evaluating dent and mechanical damage anomalies on gas transmission lines, or are alternative approaches advisable? Please identify any specific regulatory amendments that merit consideration, as well as the technical, safety, and economic reasons supporting those recommended amendments.

3. What were the incremental, per-unit costs and benefits associated with establishing an ECA program and subsequently conducting each ECA? Were there any cost savings associated with deferred remediation due to the ECA?

4. Are part 192 repair criteria, remediation timelines, and IM requirements for gas transmission pipelines appropriate for dents with metal loss or other interacting integrity threats? What technologies or methods could be used to evaluate dent anomalies with metal loss and other interacting threats? Are there any pertinent consensus industry standards or recommended practices that should be incorporated by reference in PHMSA regulations? Please identify any specific regulatory amendments that merit consideration, as well as the technical, safety, and economic reasons supporting those recommended amendments.

5. Are the re-assessment frequencies for anomalies on gas transmission pipelines (§ 192.712(h)) that have been evaluated using an ECA appropriate? Should PHMSA consider amending those re-assessment intervals to strike a more appropriate balance between safety benefits and costs?

D. In-Service Part 195 Regulated Hazardous Liquid Pipeline Breakout Tanks

1. How should part 195 regulations address the assessment of and remediation of anomalies on in-service breakout tanks? Would incorporating the risk-based inspection interval provided for in consensus industry standards (*e.g.,* the fifth edition of API Std 653) within PHMSA regulations be appropriate for some or all breakout tanks? [22] Please identify any specific regulatory amendments that merit consideration, as well as the technical, safety, and economic reasons supporting those recommended amendments.

Issued in Washington, DC, on May 15, 2025, under the authority delegated in 49 CFR 1.97.

Benjamin D. Kochman,

Acting Administrator.

[FR Doc. 2025–09078 Filed 5–20–25; 8:45 am]

BILLING CODE 4910–60–P

[21] API, Recommended Practice 1183, ''Assessment and Management of Pipeline Dents'' (First edition 2020).

[22] API Standard 653, ''Tank Inspection, Repair, Alteration, and Reconstruction,'' 5th edition, Nov. 2014 (including addendum 1 (Apr. 2018), addendum 2 (May 2020), addendum 3 (Nov. 2023), errata 1 (Mar. 2020), and errata 2 (Feb. 2025)), section 6.4.2.2.2, Subsequent Internal Inspection Interval.

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2024–0207; FXES1111090FEDR–256–FF09E21000]

RIN 1018–BI16

Endangered and Threatened Wildlife and Plants; Endangered Species Status for Fish Lake Valley Tui Chub

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the Fish Lake Valley tui chub (*Siphateles obesus* ssp.), a fish found in Esmeralda County in southwestern Nevada, as an endangered species under the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list the Fish Lake Valley tui chub. After a review of the best scientific and commercial data available, we find that listing the Fish Lake Valley tui chub is warranted. If adopted as proposed, this rule would extend the Act's protections to the Fish Lake Valley tui chub.

DATES: We will accept comments received or postmarked on or before July 21, 2025. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. eastern time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by July 7, 2025.

ADDRESSES:

Comment submission: You may submit comments by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal: *https://www.regulations.gov.* In the Search box, enter FWS–R8–ES–2024–0207, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment.''

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R8–ES–2024–0207, U.S. Fish and Wildlife Service, MS: PRB/3W, 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 *https://www.regulations.gov.* This generally means that we will post any personal information you provide us (see Information Requested, below, for more information).

Availability of supporting materials: Supporting materials, such as the species status assessment report, are available at *https://www.regulations.gov* at Docket No. FWS–R8–ES–2024–0207.

FOR FURTHER INFORMATION CONTACT: Justin Barrett, Acting Field Supervisor, U.S. Fish and Wildlife Service, Reno Fish and Wildlife Office, 1340 Financial Blvd., Suite 234, Reno, NV 89502; telephone 775–861–6338. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States. Please see Docket No. FWS–R8–ES–2024–0207 on *https://www.regulations.gov* for a document that summarizes this proposed rule.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. The Act (16 U.S.C. 1531 *et seq.*) defines a species as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature. Under the Act, a species warrants listing if it

meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range). If we determine that a species warrants listing, we must list the species promptly. We have determined that the Fish Lake Valley tui chub meets the Act's definition of an endangered species; therefore, we are proposing to list it as such. Listing a species as an endangered or threatened species can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 *et seq.*).

What this document does. We propose to list the Fish Lake Valley tui chub as an endangered species under the Act.

The basis for our action. Under the Act, we may determine that a species is an endangered or threatened species because of any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that the Fish Lake Valley tui chub meets the Act's definition of an endangered species due to the following threats: the destruction and modification of its aquatic habitat caused by agricultural production or other land management practices (Factor A), effects of climate change on aquatic habitat availability (Factor A), and predation by and competition with invasive species (Factors C and E).

Information Requested

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

(1) The Fish Lake Valley tui chub's biology, range, and population trends, including:

(a) Biological or ecological requirements of the Fish Lake Valley tui chub, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns and the locations of any additional populations of this fish;

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

(e) Past and ongoing conservation measures for the Fish Lake Valley tui chub, its habitat, or both.

(2) Threats and conservation actions affecting the Fish Lake Valley tui chub, including:

(a) Factors that may be affecting the continued existence of the Fish Lake Valley tui chub, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors;

(b) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to the Fish Lake Valley tui chub; and

(c) Existing regulations or conservation actions that may be addressing threats to the Fish Lake Valley tui chub.

(3) Additional information concerning the historical and current status of the Fish Lake Valley tui chub.

Please include any supplemental 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, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the basis of the best scientific and commercial data available.

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

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

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *https://www.regulations.gov.*

Our final determination may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive (and, if relevant, any comments on that new information), we may conclude that the Fish Lake Valley tui chub is threatened instead of endangered, or we may conclude that the Fish Lake Valley tui chub does not warrant listing as either an endangered species or a threatened species. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the **Federal Register**. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

On March 23, 2021, we received a petition, dated March 9, 2021, from the Center for Biological Diversity (CBD) requesting that the Fish Lake Valley tui chub (*Siphateles bicolor* ssp. 4) be listed as an endangered or threatened species and critical habitat be designated under the Act. On August 23, 2022, we published a 90-day finding that the petition presented substantial scientific or commercial information indicating the petitioned action may be warranted (87 FR 51635). While the 2021 petition requested that the Service list the Fish Lake Valley tui chub as the taxonomic entity known as *S. bicolor* ssp. 4, our review of recent genetic analyses led to placing the Fish Lake Valley tui chub

within *S. obesus* ssp. instead (Campbell et al. 2024, p. 8).

Peer Review

A species status assessment (SSA) team prepared an SSA report for the Fish Lake Valley tui chub. The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the Fish Lake Valley tui chub, including the impacts of past, present, and future factors (both negative and beneficial) affecting the Fish Lake Valley tui chub.

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review in listing and recovery actions under the Act (*https://www.fws.gov/sites/default/files/documents/peer-review-policy-directors-memo-2016-08-22.pdf*), we solicited independent scientific review of the information contained in the Fish Lake Valley tui chub SSA report. We sent the SSA report to four independent peer reviewers and received two responses. The peer reviews can be found at *https://www.regulations.gov* at Docket No. FWS–R8–ES–2024–0207. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed above in Peer Review, we received comments from two peer reviewers on the draft SSA report. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the contents of the SSA report. The peer reviewers generally provided additional references, clarifications, and wording suggestions. We revised the updated SSA report based on the peer reviewers' comments, including adjusting our projections for the future scenarios, clarifying specific points where appropriate, and adding details and suggested references where needed. Peer reviewer comments are addressed in the following summary and were incorporated into the current SSA report (Service 2024, entire) as appropriate.

Comment 1: One peer reviewer recommended that we add specific quantitative data to describe the Fish Lake Valley tui chub's needs instead of using qualitative terms such as ''adequate water quality'' and ''adequate population size.'' The reviewer suggested using values obtained from the literature on similar subspecies or using the measurements taken at one of the extant sites as a baseline.

Our response: We revised the description of the Fish Lake Valley tui chub's needs to include more quantitative values where data were available for similar subspecies such as the Lahontan tui chub, Mohave tui chub, and Owens tui chub. To describe the ecological resources that each Fish Lake Valley tui chub life stage (egg, larva, juvenile, and adult) needs to breed, feed, and shelter, quantitative ranges were provided for suitable water temperature, dissolved oxygen, pH, and alkalinity.

Comment 2: One peer reviewer suggested that we change the temperature range for spawning preferences in the applicable table because the current conditions at the McNett spring system fall outside of that range.

Our response: We widened the range in the table to include the conditions at the McNett spring system based on similar natural history information found for other southwestern Great Basin tui chub subspecies.

Comment 3: One peer reviewer recommended that we add biological information from springsnails found in the McNett spring system. Because springsnails are highly sensitive to changes in environmental conditions, their presence is an indication that the natural conditions at the site have been constant.

Our response: We did not apply this change because the consistency of the natural, thermal conditions at the McNett spring system is explicitly described in the discussion of the Fish Lake Valley tui chub's current condition. The vulnerability of the tui chub's habitat is evident through the historical drying of habitat and the Fish Lake Valley tui chub's extirpation from five sites in Fish Lake Valley.

Comment 4: One peer reviewer suggested we revise the future conditions analysis to show that extirpation of both extant populations (*i.e.,* extinction of the Fish Lake Valley tui chub) is possible given that both populations are imminently at risk of catastrophic collapse.

Our response: We added clarifying language, such as ''high risk of extirpation,'' to the overall assessment to clarify the Fish Lake Valley tui chub's future condition. We modified the lower plausible future scenario to include the risk of extinction. For decisions related to species classification under the Act, we use scenarios that include only plausible future influences, not everything that is theoretically possible.

Plausible events are those that seem reasonable, have an appearance of truth or reason, and are credible or believable from the perspective of a rational impartial observer (O'Hagan 2019, entire). In an SSA, plausibility would be supported by literature regarding past trends or projections of influences, expert judgment, or other citable evidence and would be relevant, informative, and appropriate within the decision's context. Alternatively, possible refers to a proposition or event that is conceivable and is beyond what a rational impartial observer would consider credible, believable, or reasonable. Therefore, the possible includes lower probability events than the plausible. Future influences that are possible, but not plausible, are not included in the SSA status scenario analysis.

I. Proposed Listing Determination

Background

A thorough review of the taxonomy, life history, and ecology of the Fish Lake Valley tui chub (*Siphateles obesus* ssp.) is presented in the SSA report (version 1.0; Service 2024, pp. 14–18).

The Fish Lake Valley tui chub is a small minnow native to the Fish Lake Valley basin, which spans the Nevada/California border. The tui chubs in Fish Lake Valley have all been found in Esmeralda County, Nevada, and are geographically isolated from other forms of tui chub. The Fish Lake Valley tui chub is considered a valid subspecies (Hubbs & Miller 1948, p. 44; 87 FR 51635, August 23, 2022; Campbell et al. 2024, p. 8). While the 2021 petition requested that the Service list the Fish Lake Valley tui chub as the taxonomic entity known as *S. bicolor* ssp. 4, recent genetic analyses have placed the Fish Lake Valley tui chub within *S. obesus* instead (Campbell et al. 2024, p. 8). Therefore, we refer to the Fish Lake Valley tui chub as *S. obesus* ssp. in this document and the SSA report (Service 2024, entire). This taxonomic change does not change our understanding of the subspecies' distribution or status.

Tui chubs are small minnows with 41 to 64 scales along the decurved lateral line (Moyle 2002, p. 122). Tui chubs have 8 to 24 gill rakers and rounded, short fins (Moyle 2002, p. 122). Coloration varies from silvery to dusky olive, brown, or brassy (Moyle 2002, p. 122). Length of tui chubs is variable, although adults in springs may only reach 4 to 5 inches (10 to 12 centimeters) (Moyle 2002, p. 122). Fish Lake Valley tui chubs from the

historical population at Fish Lake were measured at up to 8 inches (20 centimeters) (Hubbs 1934, unpaginated).

The Fish Lake Valley tui chub is a narrow endemic subspecies known from six historical sites within Fish Lake Valley (see figure 1 under *Current Condition,* below). Historical records of this tui chub are from lakes and small springs, including Fish Lake, Sand Spring, McNett spring system, Pothole Springs, an unnamed spring, and several valley channels flowing into Fish Lake (Nevada Department of Wildlife (NDOW) 1991, entire; Sada n.d., unpaginated). The Fish Lake Valley tui chub is currently extant in the McNett spring system, the only currently occupied site within the historical range. A second population has been introduced into Lida Pond outside of the subspecies' historical range.

The primary life stages for the Fish Lake Valley tui chub are egg, larva, juvenile, and adult. Few specifics are known about the life history of the Fish Lake Valley tui chub, and much of what we know regarding the subspecies' life history comes from studies of other tui chub subspecies. Females lay 6,100–68,900 eggs in gravel substrate or aquatic vegetation, and males fertilize them when water temperatures reach 55–72 degrees Fahrenheit (°F) (13–22 degrees Celsius (°C)). In warmer springs and ponds, this can be late February through August, but it primarily happens between April and July (Sigler and Sigler 1987, p. 169; Moyle 2002, p. 125; Vicker 1973, p. 11). Eggs hatch in 3 to 6 days (Moyle 2002, p. 125). After the eggs hatch, the fish are considered to be in the larval stage; this stage generally occurs between February and August, depending on the environmental conditions and timing of spawning. Occasionally male tui chubs sexually mature after 1 year, but most mature at 2 years, with females maturing between 2 and 3 years of age (Sigler and Sigler 1987, p. 169). In the spring when water temperatures warm, spawning occurs again, restarting the life cycle for the next generation of tui chubs. Tui chubs can live up to 35 years in large lakes, but in smaller ponds and springs, their observed maximum lifespan is 7 years (Moyle 2002, p. 125; Crain and Corcoran 2000, p. 149).

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species.

The Act defines an ''endangered species'' as a species that is in danger of extinction throughout all or a significant portion of its range and a ''threatened species'' as a 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 any species is an endangered species or a 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.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

We use the term ''threat'' to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term ''threat'' includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term ''threat'' may encompass—either together or separately—the source of the action or condition or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an ''endangered species'' or a ''threatened species.'' In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an ''endangered species'' or a ''threatened species'' only after conducting this cumulative analysis and describing the expected effect on the species.

The Act does not define the term ''foreseeable future,'' which appears in the statutory definition of ''threatened species.'' Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis which is further described in the 2009 Memorandum Opinion on the foreseeable future from the Department of the Interior, Office of the Solicitor (M–37021, January 16, 2009; ''M-Opinion,'' available online at *https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf*). The foreseeable future extends as far into the future as the U.S. Fish and Wildlife Service and National Marine Fisheries Service (hereafter, the Services) can make reasonably reliable predictions about the threats to the species and the species' responses to those threats. We need not identify the foreseeable future in terms of a specific period of time. We will describe the foreseeable future on a case-by-case basis, using the best scientific and commercial data available and taking into account considerations such as the species' life-history characteristics, threat projection timeframes, and environmental variability. In other words, the foreseeable future is the period of time over which we can make reasonably reliable predictions. ''Reliable'' does not mean ''certain''; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.

Analytical Framework

The SSA report documents the results of our comprehensive biological review of the best scientific and commercial data available regarding the status of the Fish Lake Valley tui chub, including an assessment of the potential threats to this subspecies. The SSA report does not represent our decision on whether the subspecies should be proposed for listing as an endangered or threatened species under the Act. However, it does provide the scientific basis that informs our regulatory decisions, which involve the further application of standards

within the Act and its implementing regulations and policies.

To assess the Fish Lake Valley tui chub's viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency is the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years); redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events); and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified the Fish Lake Valley tui chub's ecological requirements for survival and reproduction at the individual, population, and subspecies levels, and described the beneficial and risk factors influencing the subspecies' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual subspecies' life-history needs. The next stage involved an assessment of the historical and current condition of the subspecies' demographics and habitat characteristics, including an explanation of how the subspecies arrived at its current condition. The final stage of the SSA involved making predictions about the subspecies' future condition, including responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best scientific and commercial data available to characterize viability as the ability of the Fish Lake Valley tui chub to sustain populations in the wild over time, which we then used to inform our regulatory decision.

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS–R8–ES–2024–0207 on *https://www.regulations.gov.*

Summary of Biological Status and Threats

In this discussion, we review the biological condition of the subspecies and its resources, and the threats that influence the subspecies' current and future condition, in order to assess the subspecies' overall viability and the risks to that viability.

Subspecies Needs

To begin this assessment, we focus on the first conservation biology principle of resiliency. For Fish Lake Valley tui chub populations to have sufficient resiliency, the needs of individuals must be met at a large enough scale to address population-level and subspecies-level needs. The Fish Lake Valley tui chub needs sufficient (1) habitat quantity, (2) habitat quality, (3) population growth, and (4) population size to support sustainable populations in a highly variable and unpredictable environment. The individual needs of Fish Lake Valley tui chub are primarily a function of habitat condition and are summarized below in table 1. All Fish Lake Valley tui chub life stages require permanent water bodies with adequate water quality, and they feed on invertebrates and algae. Successful reproduction is dependent on suitable substrates of gravel or aquatic vegetation. Much of the data presented in table 1 is derived from studies of tui chub in general because there are few specific ecological resource needs data available specifically for the Fish Lake Valley tui chub. Therefore, where we do provide a range of values, the values were determined by studies conducted on similar subspecies; otherwise, the term ''adequate'' was used for resource needs that are uncertain.

TABLE 1—FISH LAKE VALLEY TUI CHUB'S INDIVIDUAL NEEDS

[Service 2024, p. 19]

Need	Function and description of the resource need
Water temperatures suitable for reproduction.	Eggs are laid when water temperatures reach 55–72 °F (13–22 °C), primarily between April and July. In warmer springs and ponds, it can be late February through August. Eggs hatch in 3 to 6 days, usually at temperatures between 66–68 °F (19–20 °C).
Adequate year-round water quality and flow.	Adequate year-round water quality (pH of 7.6–9.6 and dissolved solids <900 milligrams per liter (mg/L)) and flow are critical for survival of all life stages. Eggs require adequate dissolved oxygen (>4.5 mg/L). Water must be low velocity and must have sufficient quantity (at least about 1 meter deep year-round) and limited sedimentation.
Gravel or aquatic vegetation substrates.	Eggs are laid in gravel substrate or aquatic vegetation. Aquatic vegetation and/or gravel substrate is required for successful spawning.
Aquatic vegetation for shelter	Aquatic vegetation also forms the base of the food chain, supporting invertebrate survival. Larvae, juveniles, and adults require aquatic vegetation for shelter from predators. Aquatic vegetation also provides a cooler microenvironment when open water temperatures get too high.
Zooplankton, invertebrate larvae, detritus, and algae.	Larvae require zooplankton for food. Juveniles and adults require invertebrates, detritus, and algae for food.

Populations need an abundance of individuals within habitat patches of adequate area and quality to survive and reproduce despite disturbance. For the Fish Lake Valley tui chub, the abundance of individuals depends upon adequate surface water habitat. Having multiple populations increases the subspecies' redundancy and helps mitigate impacts from localized threats. The Fish Lake Valley tui chub needs a sufficient quantity and quality of habitat to sustain populations. The subspecies has historically inhabited a small area, making the amount of suitable habitat important for the resiliency of the subspecies. Quality of habitat depends upon the presence of suitable water temperature and chemical parameters (*e.g.,* dissolved oxygen, pH), adequate food resources, and suitable spawning habitat, as well as the absence of nonnative and invasive species.

For the Fish Lake Valley tui chub to have high viability, the subspecies needs to maintain its representation (adaptive capacity) by having multiple, highly resilient populations (redundancy) to withstand catastrophic events. As a narrow endemic, the Fish Lake Valley tui chub inherently has low redundancy. However, it is still important to have multiple, highly resilient populations to help mitigate impacts from threats and stochastic

events. Having multiple populations also helps maintain genetic diversity and adaptive capacity.

Threats

We identified agricultural production, lithium mining, geothermal development, changes in habitat management, climate change, and invasive species as the primary threats currently affecting the Fish Lake Valley tui chub. The following discussion provides a summary of the threats and stressors that are affecting or may be affecting the current and future condition of the Fish Lake Valley tui chub throughout some or all of its range. A more detailed description may be found in the SSA report (Service 2024, pp. 25–36).

Agricultural Production

Agriculture has been a historically important component of the economy of Fish Lake Valley and continues to this day (Suverly 2001, unpaginated). The principal crop is alfalfa, comprising 58 percent of the total agricultural sales in Esmeralda County, with other hay products constituting another 2 percent (Suverly 2001, unpaginated). Alfalfa is a water-intensive crop, requiring 4.2 feet (1.3 meters) of water per year to be grown in the Fish Lake Valley (Huntington and Allen 2010, p. 252). Between 2008 and 2023, alfalfa crop cover in the Fish Lake Valley hydrologic basin increased nearly 250 percent from 4,509 acres (1,825 hectares) to 11,142 acres (4,509 hectares) (U.S. Department of Agriculture n.d., unpaginated).

Primarily due to groundwater pumping for agricultural use, groundwater levels in Fish Lake Valley have declined up to 2.0 feet (0.6 meter) per year resulting in over 75 feet (23 meters) of drawdown (Esmeralda County 2022, pp. 45, 51) from the late 1960s to about 2010 (Esmeralda County 2022, p. 51), which has significantly reduced Fish Lake Valley tui chub habitat throughout the subspecies' range (NDOW 1991, p. 1; Nevada Division of Natural Heritage (NDNH) 2020, unpaginated; Pedretti et al. 1985b, p. 7; Sada n.d., unpaginated). Groundwater has been pumped for decades for agricultural purposes on both sides of the Nevada/California border within the Fish Lake Valley hydrographic basin. Permitted allocations exceed available water resources, and actual groundwater withdrawals must be reduced within Nevada and California until groundwater withdrawals are sustainable (Esmeralda County 2022, p. 49). In 2023, the Nevada State Engineer's Office assessed the Fish Lake Valley groundwater basin to be overappropriated by 150 to 250 percent of the perennial yield (Nevada Division of Water Resources 2023, p. 7). Ninety-nine percent of the groundwater resources pumped in Fish Lake Valley are devoted to irrigation of agricultural crops (Nevada Division of Water Resources 2019, p. 8). As agricultural production has increased in both the Nevada and California portions of Fish Lake Valley in recent decades, the groundwater level in the Fish Lake Valley basin has continued to decline from groundwater pumping that exceeds annual recharge (Department of Agriculture n.d. unpaginated; Nevada Division of Water Resources 2023, pp. 7–8; Esmeralda County 2022, pp. 49–50). This overdraft is causing the collapse of the aquifer and damaging the ability of the aquifer to store water in the future (Esmeralda County 2022, p. 49).

The drawdown of groundwater has direct negative effects on the habitat of the Fish Lake Valley tui chub. Surveyors routinely reported (1985, 1989, 1991, 1995, 2001, 2023) desiccation of known tui chub habitats in the central Fish Lake Valley in the late 20th century (NDOW 1991, p. 1; NDNH 2020, unpaginated; Pedretti 1985b, p. 7; Sada n.d., unpaginated; NDOW 2023, pp. 3–6). Fish Lake, the body of water for which the valley is named and that was historically occupied by the Fish Lake Valley tui chub, was affected by human modification of the springhead and reduced flows (NDOW 1991, p. 1). By 1995, a site visit revealed no fish were present as the lake had become too dry (NDNH 2020, unpaginated). Although the lakebed still holds ephemeral water following heavy rains or periods of snowmelt, groundwater levels dropped too low to provide consistent surface water coverage, and, as a result, the tui chubs at Fish Lake were extirpated. Other nearby springs formerly supporting tui chubs have also been affected by groundwater drawdown, with the Pothole Springs and the unnamed springs drying up between the mid-1980s and early 2000s (Pedretti et al. 1985b, p. 7; NDOW 1991, p.1; Sada n.d. unpaginated).

Lithium Mining

The only currently active large-scale lithium mine in the United States is operating at Silver Peak in Clayton Valley, Nevada, approximately 30 miles (50 kilometers) east of Fish Lake Valley. The Clayton Valley groundwater basin has been permanently losing storage due to groundwater withdrawals for evaporative mineral concentration, the process that has commonly been used for lithium extraction in this area (Esmeralda County 2012, p. 43; Pennington 2021, p. 2). Lithium mining operations have caused water levels in Clayton Valley to decline, with some wells drying completely (Pennington 2021, p. 2). Additional lithium claims have been proposed in Fish Lake Valley, Clayton Valley, and Columbus Salt Marsh (approximately 20 miles (30 kilometers) north of Fish Lake Valley), indicating that lithium mining operations are likely to expand in this area in the future.

Lithium claystone mining was recently permitted to proceed at Rhyolite Ridge, approximately 8 miles (13 kilometers) east of the Fish Lake Valley tui chub site at the McNett spring system (Ioneer 2024, pp. 1–72; Bureau of Land Management (BLM) 2024, entire). Claystone mining is an alternative method of extracting lithium through the excavation of ore and processing the ore with acid to leach out the lithium (Ioneer 2024, pp. 1–72). Lithium claystone mining is considered to be less water intensive than the traditional evaporative lithium brine extraction methods (Ioneer 2024, p. i). However, water is still necessary for production of the acid used in the processing facility, for construction of infrastructure, and for dust suppression (Ioneer 2024 pp. 1–72). The Rhyolite Ridge mine proposes to use approximately 4,032 acre-feet (over 4 million cubic meters) of water annually (Ioneer 2024, p. 33). Water necessary for mining operations could include pumping groundwater from Fish Lake Valley to the Rhyolite Ridge mine site (Ioneer 2024, p. 33). In 2023, mining companies began exploratory drilling for lithium resources at the Fish Lake Valley playa, 7 miles (11 kilometers) northeast of the McNett spring system, and seismic surveys have been conducted for lithium resources 2 miles (3 kilometers) east of the McNett spring system (Morella Corporation 2024, p. 8).

Lithium mining in the Fish Lake Valley area is likely to impact groundwater resources in Fish Lake Valley regardless of the type of mines developed in the area, as both lithium brine and claystone mining require substantial groundwater use (Pennington 2021, p. 2; Ioneer 2024, p. 33). In conjunction with continuing agricultural uses and potential geothermal development discussed below, water use for lithium mining will likely exacerbate the already overallocated Fish Lake Valley groundwater basin that supplies water for tui chub habitat in the McNett spring system.

Geothermal Development

Geothermal energy production has not yet occurred in Fish Lake Valley. However, there has been interest in geothermal development, with multiple active geothermal leases with exploratory wells being drilled in the valley near the tui chub population in the McNett spring system (BLM 2022a, p. 9). The Fish Lake Geothermal Project area is located 0.3 miles (0.5 kilometer) northwest of the McNett spring system, and the project is currently in the early permitting phase, with energy production possible within the next several years (BLM 2023, p. 9). The Lone Mountain Geothermal project area is located 4.1 miles (6.6 kilometers) northeast of the McNett spring system and is also in the early exploration and permitting phase (BLM 2022a, p. 9).

Prior to geothermal development of a particular area, the flow path of water beneath the land surface is usually not known with sufficient detail to understand and prevent surface impacts that may be caused by such development (Sorey 2000, p. 705). However, changes associated with surface expression of thermal waters from geothermal production have been commonly observed, including, but not limited to, changes in water temperature, flow, and water quality (Bonte et al. 2011, pp. 4–8; Chen et al. 2020, pp. 2–6; Kaya et al. 2011, pp. 55–64; Sorey 2000, entire), which could all be direct changes to the necessary parameters of the habitat needs of the Fish Lake Valley tui chub. Conversely, there have also been geothermal production plants that did not result in any measurable effects to surface water characteristics (Kaya et al. 2011, pp. 55–64; Sorey 2000, p. 706).

In an effort to minimize these changes in water temperature, quantity, and quality, and to maintain pressure of the geothermal reservoir, geothermal fluids may be reinjected into the ground to reheat the used fluids and maintain local geothermal reservoir pressure (U.S. Department of Energy n.d., entire). This practice entails much trial and error in an attempt to equilibrate subsurface reservoir pressure, and it can take several years to understand how a new geothermal field will react to production and reinjection wells (Kaya et al. 2011, pp. 55–64).

The aforementioned type of changes in surface-expressed water temperature and flow from geothermal production areas have been documented in several places in California and Nevada, including the Long Valley Caldera roughly 40 miles (64 kilometers) southwest of Fish Lake Valley (Sorey 2000, entire). For example, the geothermal water component in springs at Hot Creek Fish Hatchery has been reduced by 30 to 40 percent since 1990 (Sorey 2000, p. 706). Geothermal pumping between 1985 and 1998 at Casa Diablo Geothermal Plant, part of Ormat Technologies, Inc., Mammoth Geothermal Complex, resulted in flow ceasing at Colton Spring (1.2 miles (1.9 kilometers) east of Casa Diablo) and declines in water level at Hot Bubbling Pool (3.1 miles (5 kilometers) east of Casa Diablo) (Sorey 2000, p. 706). Similarly, a large geothermal power plant in Jersey Valley, Nevada, located approximately 170 miles (274 kilometers) north of Fish Lake Valley, caused the cessation of a thermal spring flow just 3 years after production began (BLM 2022b, p. 1).

It is also possible that geothermal energy production may have no discernible effect to the local spring systems as has been observed for some projects. For example, at the Casa Diablo Geothermal plant, the project-related decline in thermal component did not result in the lowering of temperature of the thermally influenced Hatchery Springs (2.5 miles (4 kilometers) east of Casa Diablo), probably due to the moderating influence of rock conductivity (Sorey 2000, p. 706). Additionally, the Casa Diablo plant did not produce any change in thermal water discharge of the Hot Creek Gorge, located 3 miles (4.8 kilometers) from the well field, from the period 1988–1998 (Sorey 2000, p. 706).

Preliminary geothermal well pumping tests for the Fish Lake Geothermal Project failed to detect a measurable response in water levels or spring flows within the McNett spring system (UES Consulting Services, Inc. 2024a, p. 16), although a numerical groundwater model predicted minimal project-related drawdown (UES Consulting Services, Inc. 2024b, p. 65). This may be due to the limitation of short-term (approximately 2 months) monitoring or the confounding effects of precipitation events during the testing period (UES Consulting Services, Inc. 2024a, p. 16). It may also be that the geothermal connection at McNett spring system is so diffuse that spring flows are not sensitive to pumping from the geothermal resource (UES Consulting Services, Inc. 2024b, p. 15).

The highly varied effects of geothermal energy production on thermal waters are likely going to depend on many factors including the unique hydrogeology of the project site and methodology used. Springs within the same proximate geographic area or wetland system may respond differently to the geothermal plant, for example, depending on the relative contribution of geothermal fluids to the spring discharge. The hydraulic connection between geothermal reservoirs and shallow groundwater basins cannot be inferred based on distance alone but is rather determined by multiple and synergistic factors such as the presence of faults or fractures, the transmissivity of the underlying material, and other local surface water and/or groundwater extraction.

Despite the variation in potential impacts from geothermal projects on nearby spring systems, for the McNett spring system, the best available information suggests that nearby geothermal development will utilize the source of discharge at the spring. We infer this based on the recorded temperatures and geochemical analyses of the McNett spring system, which indicate that there is some level of geothermal input. During the winter months, water temperatures at the McNett spring system routinely register above the ambient air temperature. For example, in late March of 2021, the water temperature at the main pool was measured as 67 °F (19.3 °C) and the water temperature at an outflow well was 71 °F (21.68 °C) (NDOW 2021, p. 4). The ambient air temperature that day registered 56 °F (13.6 °C) (NDOW 2021, p. 7). Additionally, recent geochemical analysis of fluids from the McNett spring system suggests that the waters are between 7 to 11 percent geothermal in source (UES Consulting Services, Inc. 2024b, p. 144). This is an indication that the habitat within the McNett spring system is partially sustained by the geothermal reservoir.

Even if the springs are only partially supplied by the geothermal reservoir, changes in the pressure or flow paths of groundwater due to nearby geothermal production and injection wells may alter discharge, water temperature, and water quality of surface springs at the McNett spring system, as has been seen elsewhere in Nevada. While short-term flow tests did not detect a response to the spring flows at McNett for the Fish Lake Geothermal Project, longer term pumping associated with the future plant may produce an effect on water quality or spring flows. The combined geothermal pumping associated with two nearby geothermal plants (Fish Lake Geothermal and Lone Mountain) may increase the risk of habitat desiccation or deterioration over time such that the McNett Spring system may no longer support the Fish Lake Valley tui chub; however, there is significant uncertainty that geothermal development will

become a threat to the viability of the Fish Lake Valley tui chub.

Changes in Habitat Management

Historical and recent oversight and management practices at the McNett spring system have resulted in suitable conditions for the Fish Lake Valley tui chub at this one remaining historical site, evidenced by the persistence of a population maintaining around 2,000 individuals for approximately 20 years (NDOW 2002, p. 1; NDOW 2005, p. 1; NDOW 2021, p. 6). Most of the McNett spring system is privately owned and used for cattle grazing (Red Spring Allotment, under grazing permit NV00091). Cooperation between the landowner and NDOW has ensured accurate estimates of the tui chub's current population and the gathering of additional information about the life history of the fish.

Current levels of grazing may have contributed to the current availability of open water at the McNett spring system by preventing encroachment of aquatic vegetation (NDOW 2022, pp. 2–3). In contrast, Lida Pond, which is located on BLM land and falls within the Magruder Mountain Allotment (permit number NV00099), had recently been overutilized by trespass cattle, causing bank erosion and reduction of open water habitat, before the BLM became aware of and excluded the trespass cattle (Strother 2024, pers. comm.). An increase in grazing pressure may result in sedimentation and reduced water quality due to heavy livestock use, while a complete absence of grazing may cause an overgrowth of marshy vegetation at the expense of open water habitat used by the Fish Lake Valley tui chub.

Since the early 1990s, the springhead at McNett has been modified with dams and water control structures (NDOW 1991, p. 1). To date, these structures have likely improved Fish Lake Valley tui chub habitat at the site by deepening the main pool where the majority of the tui chubs live, although future property management may not have the same beneficial effects. In the past, and as recently as 1993, surveys by NDOW noted goldfish (*Carassius auratus*) in the McNett spring system (NDOW 1993, p. 1). In the early 20th century, other nonnative fish, including black bass (*Micropterus* spp.) and common carp (*Cyprinus carpio*), were also documented from the site (Hubbs 1934, unpaginated). The most recent NDOW survey data from 2021 did not indicate the presence of nonnative fish in the spring system (NDOW 2021, entire). A deeper pool may encourage property managers or trespassers to introduce sportfish or aquarium fish for recreational or aesthetic purposes. The risk of the public introducing nonnative fish may also increase if public access to the McNett spring system is allowed in the future (see ''Invasive Species,'' below).

Because there are currently no formal agreements in place protecting the McNett spring system, uncertainty exists regarding the maintenance of habitat conditions conducive for the future persistence of Fish Lake Valley tui chub at this site.

Climate Change

Climate change has already impacted Fish Lake Valley and will continue to do so at an increasing rate in the future. In general, warmer temperatures and greater extremes in precipitation amounts are modeled for this region of the western United States (Marvel et al. 2023, pp. 11–20). Current climate change forecasts for the southwestern United States, including Nevada and California, predict warmer air temperatures, more intense precipitation events (both drought and flooding), and increased summer continental drying by the year 2100 (Intergovernmental Panel on Climate Change (IPCC) 2014, entire; Gonzalez et al. 2018, pp. 1109–1110; McAfee et al. 2021, entire; Frankson et al. 2022, entire; Runkle et al. 2022, entire; Marvel et al. 2023, pp. 11–20).

Average annual temperatures have increased almost 1.9 °F (1.1 °C) over the past decade compared to the preindustrial period of 1850–1899, and an increase of 3.6 to 6.7 °F (2.0 °C to 3.7 °C) is predicted to occur by the year 2100 (Garfin et al. 2014, p. 464; Arias et al. 2021, p. 60; Marvel et al. 2023, pp. 10, 29). Mean annual temperature within Fish Lake Valley is projected to increase between 5.7 and 10.3 °F (3.2 and 5.7 °C) by 2100 compared to the historical average, reflecting a pattern where the contiguous United States is warming faster than the global average (Marvel et al. 2023, p. 11). The models are projected under two different emission scenarios: a high emissions scenario in which greenhouse gas emissions continue to increase into the next century (representative concentration pathway (RCP) 8.5) and a low emission scenario in which greenhouse gas emissions stabilize by mid-century and then decline to levels seen in the 1990s by the end of the century (RCP4.5).

Increased temperature and more variable precipitation within the range of the Fish Lake Valley tui chub will place additional stress on groundwater resources and aquatic habitat availability. The Fish Lake Valley tui chub now only occurs in sites that are completely dependent on spring outflows. Desert springs support relatively small aquatic systems, as surface flows are sustained by groundwater. The springs range widely in size, temperature, water chemistry, morphology, landscape setting, and persistence. Springs occur where subterranean water under pressure reaches the Earth's surface through fault zones, rock cracks, or orifices that occur when water creates a passage toward the surface. In general, springs are uniquely influenced by aquifer geology, morphology, discharge rates, and regional precipitation. Most valley aquifers in the Great Basin are recharged by springtime runoff during snowmelt from adjacent mountain ranges. Specifically, the White Mountains, which form the north and west boundary of Fish Lake Valley, provide the springtime runoff and recharge to the groundwater basin.

A spring's size is generally a function of discharge, which can be affected by precipitation and evapotranspiration. Also, springs can be characterized as an endpoint in a continuous spectrum of groundwater discharge processes (van der Kamp 1995, pp. 5–6), or points of focused groundwater discharge from groundwater flow systems. These flow systems transport groundwater from recharge areas to discharge areas under the influence of gravity. The rate of spring flow averaged over several years equals the average rate of recharge to the flow systems that feed the spring. The annual rate of groundwater recharge is always less than the annual precipitation and can be estimated on the basis of precipitation and evapotranspiration. Overall, any evapotranspiration loss results in reduced flow from springs, which is the principal reason many small springs dry up entirely during hot, dry weather.

Evapotranspiration is higher for alfalfa in warmer growing regions, meaning that climate change may result in increased groundwater use for continued alfalfa production in Fish Lake Valley in the future (Huntington and Allen 2010, p. 70). In recent decades, reductions in winter precipitation and snowpack have been observed, and this pattern is expected to continue (Garfin et al. 2014, p. 465; Marvel et al. 2023, pp. 11, 22). The frequency and intensity of these reductions have increased on a global scale, and climate change is projected to reduce surface and groundwater resources in most deserts, such as the Great Basin (Marvel et al. 2023, p. 25; IPCC 2014, pp. 14, 77).

Invasive Species

Aquatic invasive species have long been demonstrated to have a high impact on range-restricted desert fishes. Invasive species have been noted in the Fish Lake Valley for an extended period of time. Early settlers introduced common carp, bullhead catfish (*Ameiurus* spp.), black bass, and Sacramento perch (*Archoplites interruptus*) to Fish Lake and the McNett spring system in the late 19th century (Hubbs 1934, unpaginated). Goldfish and sunfish (*Lepomis* spp.) were introduced to Fish Lake Valley shortly thereafter (Sada 2024, pers. comm.). By the early 20th century, the populations of tui chubs at both Fish Lake and the McNett spring system were observed to be in decline due to predation by introduced fishes (Hubbs 1934, unpaginated). Common carp were observed in Fish Lake and in the ditches draining into the lake into the 1980s and 1990s, and populations of tui chub continued to diminish at both sites (Pedretti et al. 1985b, p. 6; NDOW 1993, p. 1). As the habitat of the tui chub dried, competition with invasive carp may have resulted in larger proportional impacts to the tui chub. Invasive bullfrogs became abundant by the early 1990s at Fish Lake, simultaneous with the crash of the tui chub population at that site (NDOW 1991, p. 1). At the same time, populations of predatory fish, including bass and sunfish, contributed additional pressures on the tui chub population at Fish Lake (Sada 2024, pers. comm.).

As discussed above, goldfish, black bass, and common carp have been introduced in the McNett spring system, although only the goldfish persist there today. Currently, invasive species including bullfrogs and goldfish are located less than 2 miles (3 kilometers) from the McNett spring system at an artificial well and wetland complex known as the Fish Lake Valley Hot Well or ''Hot Box,'' constructed in the early 1990s for recreational bathing and fishing opportunities (NDOW 1991, p. 2). The 2-mile (3-kilometer) proximity of these invasive species enhances the risk that flash flooding events will allow them to disperse or be intentionally introduced to the McNett spring system. Alternatively, if the Hot Well dried up as a result of water production in the valley, the invasive bullfrogs may disperse to the nearest aquatic habitat, which may include the McNett spring system. Additionally, goldfish and mosquitofish have already been introduced to Lida Pond, where Fish Lake Valley tui chubs were translocated outside of the subspecies' historical range. Lida Pond is especially vulnerable to the introduction of additional invasive species because it may be easily accessed by public roads and it is very close to Indian Spring, 6.6 miles (10.7 kilometers) away, where introduced populations of predatory American bullfrogs, largemouth bass (*Micropterus salmoides*), and bullhead catfish exist.

Overall, the direct impact of invasive species on the Fish Lake Valley tui chub is difficult to quantify, but in combination with the decline in habitat size and quality due to dewatering, the increased competition with and predation by invasive species are highly likely to affect the Fish Lake Valley tui chub, which evolved without other native fish in Fish Lake Valley (Hubbs 1934, unpaginated).

Conservation Efforts and Regulatory Mechanisms

The Fish Lake Valley tui chub is designated as a protected fish species by the State of Nevada (Nevada Administrative Code at section 503.065.1). Protected wildlife species are prohibited from being taken or hunted without authorization from NDOW. However, there are no protections for the habitat of protected species or for indirect killing of protected species incidental to otherwise lawful activities. No known conservation actions have been undertaken for Fish Lake Valley tui chub (NDOW 2012a, p. 19; West 2024, pers. comm.).

Cumulative Effects

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have analyzed the cumulative effects of identified threats and conservation actions on the Fish Lake Valley tui chub. To assess the current and future condition of the species, we evaluate the effects of all the relevant factors that may be influencing the species, including threats and conservation efforts. The best available science indicates that there are synergistic and cumulative interactions among the factors influencing the Fish Lake Valley tui chub's viability. The Fish Lake Valley tui chub is limited to two extremely small populations, one within the historical range and one introduced outside of the historical range. Groundwater decline and reduction in spring flow due to dewatering associated with current and ongoing projects could cause further decline in habitat availability in this already limited habitat. Additionally, increased competition with and predation by invasive species would likely further negatively affect the Fish Lake tui chub by decreasing the quality of the available habitat. Cumulatively, these factors diminish the amount of suitable habitat for the Fish Lake Valley tui chub, thus impacting the subspecies' viability. Because the SSA framework considers not just the presence of the factors influencing this subspecies, but to what degree they collectively influence risk to the entire subspecies, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative-effects analysis.

Current Condition

The Fish Lake Valley tui chub is a narrow endemic subspecies known from six historical sites (see table 2, below) within Fish Lake Valley in Esmeralda County, Nevada, and a seventh more recently introduced site outside of the historical range. All but one (McNett spring system) of the six historical sites are now extirpated. A second population was introduced at Lida Pond outside of Fish Lake Valley roughly 39 miles (63 kilometers) southeast of McNett spring system (see figure 1, below). Both sites are spring-fed systems. The year-round flow and relative stability in temperature and water quality provided by the springs (*e.g.,* not freezing over in winter) have likely played a large role in maintaining these populations. Because of the small spatial scale (*i.e.,* one extant population within the historical range and one introduced population outside the historical range) and limited survey data, we assessed the current condition qualitatively by discussing rangewide factors affecting viability (*e.g.,* the number of extant sites) and by summarizing the available demographic and habitat information for each site. We use the terms sites and populations interchangeably given the lack of hydrologic connectivity between extant sites; however, the historical population structure is unknown. We supplemented the limited demographic and habitat quality data with a threats analysis for each population. Below, we provide qualitative descriptions of the factors influencing viability and highlight the major threats and their expected impacts on each of the two extant sites. Please refer to the SSA for a full discussion of the extirpated Fish Lake Valley tui chub sites (Service 2024, pp. 53–61).

TABLE 2—SUMMARY OF CURRENT CONDITION OF THE FISH LAKE VALLEY TUI CHUB AT EACH KNOWN SITE. MOST OF THE AVAILABLE DATA ON THE SUBSPECIES' CONDITION IS QUALITATIVE. THE LAST YEAR SURVEYED REFERS TO A RANGE OF METHODS, INCLUDING QUANTITATIVE SURVEYS, VISUAL SURVEYS, AND SITE VISITS TO CONFIRM THE SUBSPECIES' PRESENCE

Site name	Current condition	Confidence in condition	Last year observed	Last year surveyed	Ownership
McNett spring system	Extant	Confident	2023	2023	Private, BLM.
Lida Pond*	Extant	Confident	2024	2024	BLM.
Fish Lake	Extirpated	Confident	1992	2023	Private.
Valley Channels	Extirpated	Confident	1985	1991	Private, BLM.
Pothole Springs	Extirpated	Confident	1986	1991	Private.
Unnamed spring	Extirpated	Confident	1993	2001	Private.
Sand Spring	Extirpated	Uncertain	Pre-1991	1995	Private.

* Indicates population was introduced and outside of species' historical range.

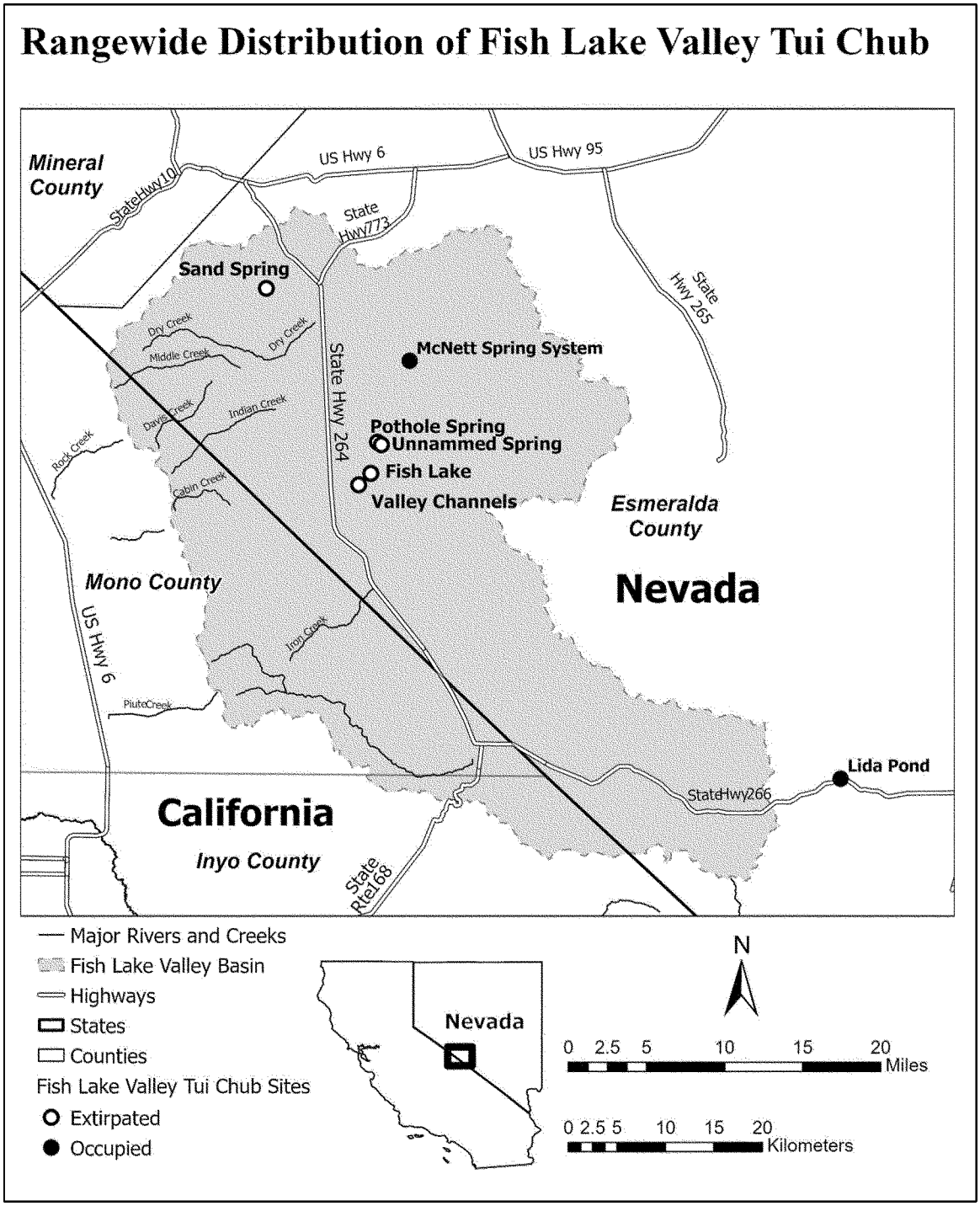

Figure 1. Map of Known Fish Lake Valley Tui Chub Occupied and Extirpated Sites

McNett Spring System

The McNett spring system is the only extant population of the Fish Lake Valley tui chub within the subspecies' historical range, and available survey data suggest that this population is currently stable. NDOW conducted surveys or visited the McNett spring system in 1998, 2002, 2005, 2007, 2021, and 2023. Survey methods varied among years, ranging from visual surveys and dip netting to mark-recapture population estimates. Population estimates for the main spring pool have ranged between 2,143 and 3,278 tui chubs, although the total population size throughout the spring complex is likely larger. The first mark-recapture survey was conducted in 2002, and it estimated a population of 3,278 chubs at this site, with a 95 percent confidence interval of 1,900–6,145 fish (NDOW 2002, p. 1). In 2005, the population was estimated at 2,210 chubs with a 95 percent confidence interval of 1,652–3,032 fish (NDOW 2005, p. 1). In 2007, 554 tui chubs were marked and released, but a population estimate was not conducted due to logistical constraints (NDOW 2007, p. 1). In 2021, mark-recapture survey efforts resulted in an estimated population of 2,143 fish with a 95 percent confidence interval of 1,847–2,485 fish (NDOW 2021, p. 6). However,

although the population appears to be stable, the limited size of the habitat (210 acres (ac); 85 hectares (ha)) in this one remaining historical site makes it vulnerable to even small changes in influences to viability, especially groundwater availability.

Most of the McNett spring system is privately owned and used for grazing cattle. Fencing excludes feral horses from entering the property from adjacent BLM lands. The main spring pool historically measured 23 by 17 feet (7 by 5 meters) with a maximum depth of 3 feet (1 meter); however, the spring was later impounded, which increased the diameter of the pool to 39.0 feet (11.9 meters) (Pedretti et al. 1985a, p. 3; NDOW 1991, p. 1; NDOW 2021, p. 4). On March 23, 2021, the depth of the main pool was measured at 6.2 feet (1.9 meters), and it had a mean temperature of 66.7 °F (19.3 °C) (NDOW 2021, p. 4). Dissolved oxygen ranged from 4.5 to 5.6 mg/L at three sites sampled across the spring complex, with total dissolved solids ranging from 287 to 730 mg/L and conductivity from 404 to 1,081 microsiemens per centimeter (µs/cm) (NDOW 2021, p. 4). Although the main spring pool contains the highest quality habitat, Fish Lake Valley tui chubs are known to disperse throughout the wetland complex.

The primary threat to Fish Lake Valley tui chubs at the McNett spring system is continued groundwater extraction driven by agricultural operations in Fish Lake Valley, which has led to the drying of habitat and extirpation of other tui chub populations (Pothole Springs and unnamed spring) within the valley. In 1950, the well had a flow rate of 195 gallons per minute (gpm) (738 liters per minute) (Eakin 1950, p. 25), and in 2023 to 2024, the flow rate had decreased to 89 to 91 gpm (337 to 344 liters per minute) (UES Consulting Services, Inc. 2024a, p. 9). A numerical groundwater model predicted that the McNett spring system will experience a drawdown of approximately 5 feet (2 meters) within the next 50 years due primarily to existing agricultural pumping within Fish Lake Valley (UES Consulting Services, Inc. 2024b, p. 65). This same model predicts a total reduction in flow of approximately 56 gpm (212 liters per minute) within 50 years, representing an approximate 22 percent reduction in flow (UES Consulting Services, Inc. 2024b, p. 66). There is potential for additional stress on groundwater from the development of nearby geothermal power facilities or lithium mines.

Another major threat to this population is the potential introduction of invasive species. American bullfrogs and goldfish are within 2 miles (3 kilometers) of the McNett spring system, located at a constructed well outflow complex known as the Fish Lake Valley Hot Well (NDOW 2020, p. 4). This outflow complex was constructed in the early 1990s for recreational bathing and fishing opportunities (NDOW 1991, p. 2). NDOW has previously recommended the eradication of nonnative species from the Fish Lake Valley Hot Well for the protection of endemic aquatic species including the Fish Lake Valley tui chub (NDOW 1991, p. 2; NDOW 2020, p. 8). Proximate populations of invasive species can spread to nearby tui chub habitat in large flash flooding events, which may become increasingly common due to anthropogenic climate change. Invasive species may also be deliberately moved by humans to sensitive natural habitats for enhanced recreational opportunities. The current land management and grazing levels at the McNett spring system appear to pose a low risk to the Fish Lake Valley tui chub population, as evidenced by the stable tui chub abundance estimates in the main spring pool.

Lida Pond

Fish Lake Valley tui chubs were first reported and collected at Lida Pond in 1993 (NDOW 1993, p. 1). Genetic results indicate that the tui chubs at Lida Pond are Fish Lake Valley tui chubs (Campbell et al. 2024, entire). The site is located at the townsite of Lida on BLM land adjacent to Timbisha Shoshone Tribal lands. Lida Pond is located roughly 4 miles outside of the Fish Lake Valley basin. The best available information suggests that the entire historical range of the Fish Lake Valley tui chub was restricted to the Fish Lake Valley basin. Therefore, the population of Fish Lake Valley tui chub at Lida Pond is outside the subspecies' historical range, likely introduced by humans although details about the introduction are unknown.

No estimates of population size are available for Lida Pond, but 22 Fish Lake Valley tui chubs were collected in 30 minutes of trapping in 2022 (NDOW 2022, p. 1). Presence of tui chubs in Lida Pond was confirmed in 2023 and 2024, based on visual surveys by NDOW, BLM, NDNH, and Service biologists, suggesting that the population has been extant at this site since 1993. It is unknown if the tui chub population at Lida Pond has persisted since the original introduction or if additional introductions of tui chub were made in subsequent years. Lida Pond is a natural spring that has been modified with an earthen berm to create a larger pond. No information is available on habitat quality within Lida Pond (NDOW 2023, p. 10).

Current threats to the tui chub population at Lida Pond include competition from goldfish present in the pond and the spread of emergent vegetation, mainly cattails (*Typha* sp.), which can limit available open water habitat at the pond. Mosquitofish (*Gambusia* spp.) were first observed in the pond by Service and NDOW biologists in 2012 (NDOW 2012b, p. 3) and were observed to be the most abundant fish in the pond in 2022 (NDOW 2022, p. 1). Competition with these two species (goldfish and mosquitofish) is likely having a small effect on the Fish Lake Valley tui chub; however, as described in ''Invasive Species,'' above, competition can exacerbate other threats. In addition, Lida Pond is especially vulnerable to the introduction of additional invasive species because it may be easily accessed by public roads, and invasive species, especially those valued for recreational fishing (*e.g.,* largemouth bass), have potential to be intentionally introduced.

The risk of groundwater depletion leading to desiccation of the spring at Lida Pond is lower relative to sites within Fish Lake Valley. In addition to being in a different groundwater basin, Lida Pond is more than 6,100 feet (1,860 meters) above sea level while the McNett spring system, which is on the Fish Lake Valley floor, is approximately 4,700 feet (1,433 meters) above sea level. Thus, Lida Pond is a farther distance from agricultural operations and has a cooler climate with reduced evapotranspiration (Nevada Division of Water Resources 2023, p. 15).

Summary of Current Condition

The Fish Lake Valley tui chub is a narrow endemic subspecies known from six historical sites within Fish Lake Valley in Esmeralda County, Nevada. All but one of the six historical sites are now extirpated due to drying of the aquatic habitat. A second population has been introduced at Lida Pond outside of the subspecies' historical range. The one extant population within Fish Lake Valley (McNett spring system) has remained stable at roughly 2,000 individuals (95 percent confidence interval of 1,652–6,145 individuals) for two decades. Although this observed stability suggests that this population has historically had some resilience to threats such as invasive species and local land management practices, the primary concern is risk of a catastrophic loss of aquatic habitat similar to the loss of Fish Lake and surrounding springs

(this loss is discussed under ''Agricultural Production,'' above).

Although the historical population structure is not known, there has been a large decrease in redundancy and representation due to the drying of Fish Lake and the surrounding water bodies. Resiliency of the Fish Lake Valley tui chub has been reduced such that the subspecies occurs in only a single population within its historical range (McNett spring system) and an introduced location outside its historical range (Lida Pond). The loss of redundancy has left each remaining population vulnerable to catastrophic threats. For example, the extirpation of the historical populations has reduced the connectivity among the two populations such that they cannot disperse from either drying of the spring or the introduction of an invasive competitor or predator, nor can they recolonize after a catastrophic event has taken place.

Representation has been reduced through the loss of connectivity and loss of habitat types, which have reduced the evolutionary potential. These losses compromise the ability of the subspecies to adapt to novel changes in the environment, which increases the risk of extinction. Because the threats that have impacted populations in the past have not been abated, continued groundwater declines and the introduction of invasive species both present a high risk to the current viability of the Fish Lake Valley tui chub.

Future Condition

As part of the SSA, we also developed two future-condition scenarios to capture the range of uncertainties regarding future threats and the projected responses by the Fish Lake Valley tui chub. Our scenarios assumed continued or enhanced groundwater declines, occurrence of mining operations extracting groundwater, occurrence of geothermal operations decreasing surface water expression, presence of invasive species leading to extirpation of Fish Lake Valley tui chub, a higher emission scenario (shared socioeconomic pathways (SSP)5–8.5 or RCP8.5) or a lower emission scenario (SSP2–4.5 or RCP4.5), and status quo and alternative property management changes. Because we determined that the current condition of the Fish Lake Valley tui chub is consistent with an endangered species (see Determination of Fish Lake Valley Tui Chub's Status, below), we are not presenting the results of the future scenarios in this proposed rule. Please refer to the SSA report (Service 2024, pp. 56–60) for the full analysis of future scenarios.

Determination of Fish Lake Valley Tui Chub's Status

The Act defines a species as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature. Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of an endangered species or a threatened species. The Act defines an ''endangered species'' as a species in danger of extinction throughout all or a significant portion of its range and a ''threatened species'' as a species 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 an endangered species or a 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.

Status Throughout All of Its Range

After evaluating threats to the subspecies and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that the viability of the Fish Lake Valley tui chub is currently at risk. Our analysis revealed several threats that have caused the Fish Lake Valley tui chub's range to become greatly reduced, resulting in the majority of its historical habitat becoming uninhabitable. The most important factors affecting the subspecies' current status and trend are the destruction and modification of its aquatic habitat caused by agricultural production or other land management practices (Factor A), effects of climate change (*i.e.,* warmer temperatures and greater extremes in precipitation amounts) on aquatic habitat availability (Factor A), and predation by and competition with invasive species (Factors C and E).

The primary threat affecting the Fish Lake Valley tui chub currently is the loss of aquatic habitat driven by both diversion of surface water and declines in groundwater levels. This reduction in available water within Fish Lake Valley has historically been driven by agricultural use, which has led to the drying of Fish Lake and the small streams that historically fed the lake. Pressure on limited groundwater resources from changes in habitat management is expected to increase in the near-term future. Springs in Fish Lake Valley are fed by aquifers dependent on snowmelt for recharge. In recent decades, climate change has reduced precipitation and winter snowpack, and thereby has affected groundwater levels in the valley. In combination, these threats are expected to increase the risk that the limited remaining tui chub habitat within Fish Lake Valley (McNett spring system) will become dry.

Although a complete loss of aquatic habitat is the primary concern, decreases in available habitat exacerbate the other threats affecting the Fish Lake Valley tui chub. Predation by and competition with invasive species have likely contributed to extirpations of historical tui chub populations, especially in Fish Lake, and invasive species remain a risk for the two extant populations of the Fish Lake Valley tui chub. Fish Lake Valley tui chubs currently compete with goldfish and mosquitofish in Lida Pond. The proximity of invasive predators, such as American bullfrogs and largemouth bass, means there is a high risk of these predator species becoming introduced and having catastrophic impacts on one or both of the extant Fish Lake Valley tui chub populations. Although the direct impact of invasive species on the Fish Lake Valley tui chub is difficult to quantify, the increased competition with and predation by nonnative, invasive species are considerable current threats to the Fish Lake Valley tui chub.

Resiliency of the Fish Lake Valley tui chub has been reduced such that the subspecies occurs in only a single population within its historical range (McNett spring system). The five other historical populations have been extirpated due to the threats outlined above. The subspecies also occurs in an introduced location outside its historical range (Lida Pond). Both extant sites currently face significant imminent threats, including groundwater decline (McNett spring system) and invasive species (McNett spring system and Lida Pond). The reduction in the subspecies' range (from six sites to one within the historical range) has also reduced redundancy and representation. Both the McNett spring system and Lida Pond are at risk of catastrophic events associated with the current threats to the subspecies. The loss of habitat and

connectivity across the subspecies' historical range due to the drying of Fish Lake has resulted in loss of evolutionary potential and adaptive capacity for the Fish Lake Valley tui chub. Due to reduced resiliency, representation, and redundancy, the Fish Lake Valley tui chub is at risk of extinction in the near-term future.

Thus, after assessing the best scientific and commercial data available, we determine that the Fish Lake Valley tui chub is in danger of extinction throughout all of its range. We do not find that the Fish Lake Valley tui chub meets the Act's definition of a threatened species because the Fish Lake Valley tui chub has already shown low levels in current resiliency, redundancy, and representation due to the threats discussed above.

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 within the foreseeable future throughout all or a significant portion of its range. We have determined that the Fish Lake Valley tui chub is in danger of extinction throughout all of its range and accordingly did not undertake an analysis of any significant portion of its range. Because the Fish Lake Valley tui chub warrants listing as endangered throughout all of its range, our determination does not conflict with the decision in *Center for Biological Diversity* v. *Everson,* 435 F. Supp. 3d 69 (D.D.C. 2020), because that decision related to significant portion of the range analyses for species that warrant listing as threatened, not endangered, throughout all of their range.

Determination of Status

Based on the best scientific and commercial data available, we determine that the Fish Lake Valley tui chub meets the Act's definition of an endangered species. Therefore, we propose to list the Fish Lake Valley tui chub as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition as a listed species, planning and implementation of recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and conservation by Federal, State, Tribal, and local agencies, foreign governments, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies, including the Service, and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

The recovery planning process begins with development of a recovery outline made available to the public soon after a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions while a recovery plan is being developed. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) may be established to develop and implement recovery plans. The recovery planning process involves the identification of actions that are necessary to halt and reverse the species' decline by addressing the threats to its survival and recovery. The recovery plan identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened (''downlisting'') or removal from protected status (''delisting''), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery outline, draft recovery plan, final recovery plan, and any revisions will be available on our website as they are completed (*https://www.fws.gov/program/endangered-species*) or from our Reno Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

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

If the Fish Lake Valley tui chub is listed, funding for recovery actions may be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the State of Nevada would be eligible for Federal funds to implement management actions that promote the protection or recovery of the Fish Lake Valley tui chub. Information on our grant programs that are available to aid species recovery can be found at: *https://www.fws.gov/service/financial-assistance.*

Although the Fish Lake Valley tui chub is only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for this subspecies. Additionally, we invite you to submit any new information on this subspecies whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7 of the Act is titled, ''Interagency Cooperation,'' and it mandates all Federal action agencies to use their existing authorities to further the conservation purposes of the Act and to ensure that their actions are not likely to jeopardize the continued existence of listed species or adversely modify critical habitat. Regulations implementing section 7 are codified at 50 CFR part 402.

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Each Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. If a determination is made that the action may affect listed species or critical habitat, formal consultation is required (50 CFR

402.14(a)), unless the Service concurs in writing that the action is not likely to adversely affect listed species or critical habitat. At the end of a formal consultation, the Service issues a biological opinion, containing its determination of whether the Federal action is likely to result in jeopardy or adverse modification.

In contrast, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of critical habitat proposed to be designated for such species. Although the conference procedures are required only when an action is likely to result in jeopardy or adverse modification, action agencies may voluntarily confer with the Service on actions that may affect species proposed for listing or critical habitat proposed to be designated. In the event that the subject species is listed or the relevant critical habitat is designated, a conference opinion may be adopted as a biological opinion and serve as compliance with section 7(a)(2) of the Act.

Examples of discretionary actions for the Fish Lake Valley tui chub that may be subject to conference and consultation procedures under section 7 are management of Federal lands administered by the BLM, as well as actions that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*)) or actions funded by Federal agencies such as the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency. Federal actions not affecting listed species or critical habitat—and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or carried out by a Federal agency—do not require section 7 consultation. Federal agencies should coordinate with the Reno Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions on section 7 consultation and conference requirements.

The Act and its implementing regulations set forth a series of prohibitions and exceptions that apply to endangered wildlife. The prohibitions of section 9(a)(1) of the Act, and the Service's implementing regulations codified at 50 CFR 17.21, make it illegal for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or to cause to be committed any of the following acts with regard to any endangered wildlife: (1) import into, or export from, the United States; (2) take (which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) within the United States, within the territorial sea of the United States, or on the high seas; (3) possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such wildlife that has been taken illegally; (4) deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of commercial activity; or (5) sell or offer for sale in interstate or foreign commerce. Certain exceptions to these prohibitions apply to employees or agents of the Service, the National Marine Fisheries Service, other Federal land management agencies, and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered wildlife under certain circumstances. Regulations governing permits for endangered wildlife are codified at 50 CFR 17.22, and general Service permitting regulations are codified at 50 CFR part 13. With regard to endangered wildlife, a permit may be issued for: scientific purposes, enhancing the propagation or survival of the species, or take incidental to otherwise lawful activities. The statute also contains certain exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

II. Critical Habitat

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate a species' critical habitat concurrently with listing the species. Critical habitat is defined in section 3(5)(A) of the Act as:

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

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

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

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

Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist: (i) Data sufficient to perform required analyses are lacking, or (ii) the biological needs of the species are not sufficiently well known to identify any area that meets the definition of ''critical habitat.'' We reviewed the available information pertaining to the biological needs of the Fish Lake Valley tui chub and the habitat characteristics where this subspecies is located. A careful assessment of the economic impacts that may occur due to a critical habitat designation is still ongoing. Therefore, due to the current lack of data sufficient to perform required analyses, we conclude that the designation of critical habitat for the Fish Lake Valley tui chub is not determinable at this time. The Act allows the Service an additional year to publish a critical habitat designation that is not determinable at the time of listing (16 U.S.C. 1533(b)(6)(C)(ii)).

Required Determinations

Clarity of the Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **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.

Government-to-Government Relations With Native American Tribal Governments

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951, May 4, 1994), E.O. 13175 (Consultation and Coordination with Indian Tribal Governments), the President's memorandum of November 30, 2022 (Uniform Standards for Tribal Consultation; 87 FR 74479, December 5, 2022), and the Department of the Interior's manual at 512 DM 2, we

readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes and Alaska Native Corporations on a government-to-government basis. In accordance with Secretary's Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. The Fish Lake Valley tui chub does not occur on any land owned by Tribal entities. However, the Lida Pond site is adjacent to land owned by the Timbisha Shoshone. As part of the development of the SSA, a letter requesting information regarding the status of the subspecies and any existing management or conservation efforts was sent to the Timbisha Shoshone, the Yomba Shoshone, and the Bishop Paiute Tribes. We will continue to work with relevant Tribal entities during the development of any final rules for the Fish Lake Valley tui chub.

References Cited

A complete list of references cited in this proposed rule is available on the internet at *https://www.regulations.gov* and upon request from the Reno Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

List of Subjects in 50 CFR Part 17

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

Signing Authority

Paul Souza, Regional Director, Region 8, Exercising the Delegated Authority of the Director of the U.S. Fish and Wildlife Service, approved this action on May 6, 2025, for publication. On May 16, 2025, Paul Souza authorized the undersigned to sign the document electronically and submit it to the Office of the Federal Register for publication as an official document of the U.S. Fish and Wildlife Service.

Proposed Regulation Promulgation

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

PART 17—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.

■ 2. In § 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife by adding an entry for ''Chub, Fish Lake Valley tui'' in alphabetical order under FISHES to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
*	*	*	*	*
FISHES				
*	*	*	*	*
Chub, Fish Lake Valley tui	*Siphateles obesus* ssp	Wherever found	E	[**Federal Register** citation when published as a final rule].
*	*	*	*	*

Madonna Baucum,

Regulations and Policy Chief, Division of Policy, Economics, Risk Management, and Analytics of the Joint Administrative Operations, U.S. Fish and Wildlife Service.

[FR Doc. 2025–09127 Filed 5–20–25; 8:45 am]

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