



Billing Code 4333–15

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R6–ES–2018–0081; 4500030113]

RIN 1018–BD47

Endangered and Threatened Wildlife and Plants; Reclassification of the Humpback Chub from Endangered to Threatened with a Section 4(d) Rule

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to reclassify the humpback chub (*Gila cypha*) from an endangered species to a threatened species on the Federal List of Endangered and Threatened Wildlife, due to partial recovery. Based on the best available scientific and commercial data, threats to the humpback chub identified at the time of listing have been eliminated or reduced to the point that the species no longer meets the definition of an endangered species under the Endangered Species Act of 1973, as amended (Act), but is likely to become an endangered species within the foreseeable future. We also propose a rule issued under section 4(d) of the Act that is necessary and advisable to provide for the conservation of the humpback chub.

DATES: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

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 [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

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

(1) *Electronically:* Go to the Federal eRulemaking Portal:

<http://www.regulations.gov>. In the Search box, enter FWS–R6–ES–2018–0081, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rule box to locate this document. You may submit a comment by clicking on “Comment Now!”

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R6–ES–2018–0081; U.S. Fish and Wildlife Service, MS: BPHC, 5275 Leesburg Pike, Falls Church, VA 22041-3803.

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

Document availability: Supporting documentation used to prepare this proposed rule, including the 5-year review and the species status assessment (SSA) report, are available on the Internet at <http://www.regulations.gov> under Docket No. FWS–R6–ES–2018–0081. Additionally, supporting documentation is available for public inspection by appointment at our Upper Colorado River Endangered Fish Recovery Program Office (see **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Tom Chart, Director, U.S. Fish and Wildlife Service, Upper Colorado River Endangered Fish Recovery Program, P.O. Box 25486, DFC, Lakewood, CO 80225; telephone: 303–236–9885. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, if a species is determined to be an endangered or threatened species throughout all or a significant portion of its range, we are required to publish a proposal in the *Federal Register* and make a determination on our proposal within 1 year. Reclassifying a species as an endangered or threatened species can only be completed by issuing a rule.

This rule proposes to reclassify the humpback chub from endangered to threatened (i.e., to “downlist” the species) on the Federal List of Endangered and Threatened Wildlife, with a rule issued under section 4(d) of the Act, based on the

species' current status, which has been improved through implementation of conservation actions. This proposed rule and the associated species status assessment (SSA) report reassess all available information regarding the status of and threats to the humpback chub.

The basis for our action. Under the Act, we determine whether a species is an “endangered species” or “threatened species” based on any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We may reclassify a species if the best available commercial and scientific data indicate the species no longer meets the applicable definition in the Act. For the reasons discussed below, we believe the humpback chub no longer meets the Act’s definition of an endangered species, but does meet the Act’s definition of a threatened species. The actions of multiple conservation partners over the past 30 years have improved the condition of humpback chub and reduced the threats to the species.

Over the last few decades, management programs implemented by a variety of partners and stakeholders in the Colorado River basin delivered natural flow regimes; provided suitable water temperatures; and managed predatory, nonnative fish species to improve habitat conditions for the humpback chub. These programs improved habitat resource conditions such that the humpback chub now has multiple, resilient populations,

including a large, stable population in the Grand Canyon and four persisting populations upstream of Lake Powell. Therefore, conditions have improved, and the species now has sufficient resiliency, redundancy, and representation such that it is not currently at risk of extinction throughout its range (i.e., it does not meet the Act's definition of an endangered species). However, in the future, management of the species and the conditions of the resources required by the species are likely to change such that the species is likely to become an endangered species in the foreseeable future (i.e., the species meets the Act's definition of threatened).

Supporting analyses. We conducted an SSA for the humpback chub, with input and information provided by a variety of partners and stakeholders. The results of this assessment are contained in an SSA report, which represents a compilation of the best scientific and commercial data available concerning the status of the species, including the past, present, and future stressors to this species (Service 2018b, entire). Additionally, the SSA report contains our analysis of required habitat and the existing conditions of that habitat.

Peer review. We sought comments from independent specialists on our SSA report for the humpback chub to ensure that we based our listing determination on scientifically sound data, assumptions, and analyses. We received feedback from three experts that have knowledge and/or experience with the species or similar species biology as peer review of the SSA report. The reviewers were generally supportive of our approach and made suggestions and comments that strengthened our analysis. We

incorporated these comments into the SSA report, which can be found at <http://www.regulations.gov> under Docket No. FWS–R6–ES–2018–0081.

Information Requested

Public Comments

Any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate as possible. Therefore, we request comments or information from other concerned governmental agencies, Native American Tribes, the scientific community, industry, or other interested parties concerning this proposed rule. The comments that will be most useful and likely to inform our decisions are those supported by data or peer-reviewed studies and those that include citations to, and analyses of, applicable laws and regulations. Because we will consider all comments and information we receive during the comment period, our final determination may differ from this proposal. We particularly seek comments concerning:

(1) Reasons we should or should not reclassify the humpback chub as a threatened species.

(2) New information on the historical and current status, range, distribution, and population size of the humpback chub.

(3) New information on the known and potential threats to the humpback chub, including flow regimes and predatory, nonnative fish.

(4) New information regarding the life history, ecology, and habitat use of the humpback chub.

(5) Current or planned activities within the geographic range of the humpback chub that may impact or benefit the species.

(6) The appropriateness of a rule issued under section 4(d) of the Act (a “4(d) rule”) to allow certain actions to take humpback chub.

(7) Any additional actions that we should consider for inclusion in a 4(d) rule, especially research, monitoring, and additional management and restoration activities.

(8) Any additional information pertaining to the promulgation of a 4(d) rule to allow certain actions that may take humpback chub.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act (16 U.S.C. 1531 *et seq.*) 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 <http://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 <http://www.regulations.gov>.

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

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposed rule in the *Federal Register* (see **DATES**, above). 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.

Peer Review

In accordance with our July 1, 1994, peer review policy (59 FR 34270; July 1, 1994), the Service's August 22, 2016, Director's Memo on the Peer Review Process, and the Office of Management and Budget's December 16, 2004, Final Information Quality Bulletin for Peer Review (revised June 2012), we solicited independent scientific reviews of the information contained in the humpback chub SSA report. Results of this structured peer review process can be found at <https://www.fws.gov/mountain-prairie/science/peerReview.php>. The SSA report was also submitted to our Federal, State, and Tribal partners for scientific review. In preparing this proposed rule, we incorporated the results of these reviews in the final SSA report, as appropriate, which is the foundation for this proposed rule.

Previous Federal Actions

By the time the humpback chub was scientifically described between the 1940s and 1970s, the Colorado River ecosystem supporting the species had been greatly altered by large dams; smaller agricultural irrigation diversions; substantial water depletions for municipal and agricultural uses; and predatory, nonnative fish species. By the 1960s, researchers concluded that the humpback chub was likely in decline; they suspected extirpation of a population near Hoover Dam, constructed in the 1930s, and they predicted possible extirpation resulting from the construction of Glen Canyon and Flaming Gorge Dams in the 1960s. Therefore, on March 11, 1967, the Secretary of the Interior published a final rule (32 FR 4001) listing the humpback chub as an endangered species in accordance with the Endangered Species Preservation Act of 1966 (80 Stat.

926; 16 U.S.C. 668aa(c)). Subsequently, the humpback chub retained classification as an endangered species under the Endangered Species Conservation Act of 1969 (16 U.S.C. 668aa) and the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), and on January 4, 1974, the species was included in a final rule (39 FR 1158) establishing a list of endangered native wildlife at 50 CFR part 17.

We issued the first recovery plan for humpback chub on August 22, 1979; that document described the primary reasons for the decline of humpback chub as numerous flow and habitat alterations caused by the construction and operation of several large Colorado River basin dams, including the Flaming Gorge, Glen Canyon, and Hoover Dams. The 1979 recovery plan also recognized the possible impacts to humpback chub from hybridization with other native chub species and from competition with nonnative fish species. We revised the recovery plan on September 19, 1990, and we further amended and supplemented the 1990 revised plan with new recovery goals on August 1, 2002. The 2002 recovery goals provided objective and measurable demographic and threats-based recovery criteria, site specific recovery actions, and estimates of time needed to implement the recovery actions for two recovery units, the upper and lower basins, which are physically demarcated by Glen Canyon Dam and have unique demographic trends and management actions. The 2002 recovery goals lacked estimates of cost needed for recovery, and were withdrawn by court order on January 18, 2006, (*Grand Canyon Trust et al., v. Gale Norton et al.*, No. 04-CV-636-PHX-FJM). The adequacy of the recovery goals, however, was not reviewed by the court, because the

court found that the plaintiffs could not challenge an alleged failure for a recovery plan to provide for the conservation of the species. The recovery criteria presented in the 2002 recovery plan remain reasonable measures to gauge progress towards recovery and a valuable reference as we refine our vision of recovery for the humpback chub, and work to update the recovery plan.

Humpback chub inhabit discrete canyon areas of the Colorado River basin characterized by swift currents and rocky habitats, including portions of the Yampa, Green, and Colorado rivers. On March 21, 1994, we designated critical habitat for the species along 610 kilometers (km) (379 miles (mi)) of the Colorado River basin (59 FR 13374). Designated critical habitat units include Dinosaur National Monument (the Yampa and Green rivers in Utah and Colorado), Desolation and Gray Canyons (the Green River in Utah), Black Rocks, and Westwater Canyon (the Colorado River in Utah and Colorado), Cataract Canyon (the Colorado River in Utah), and Grand Canyon (the Colorado and Little Colorado rivers in Arizona).

We completed a status review (“5-year review”) under section 4(c)(2)(A) of the Act for humpback chub on March 19, 2018 (Service 2018a). The 5-year review recommended that the humpback chub be downlisted (i.e., reclassified from an endangered to a threatened species), which prompted this proposed rule.

Background

A thorough review of the taxonomy, range and distribution, life history, and ecology of the humpback chub is presented in the SSA report (Service 2018b, pp. 5–12;

available at <http://www.regulations.gov> at Docket No. FWS-R6-ES-2018-0081), and is briefly summarized here. The humpback chub is a fish endemic to the warm-water portions of the Colorado River basin of the southwestern United States. Humpback chub live in discrete, rocky, canyon-bound river reaches characterized by swift currents in portions of Utah, Colorado, and Arizona. Multiple adaptations allow humpback chub to survive the highly variable flow conditions of these desert river ecosystems, such as a long lifespan of approximately 20 to 40 years, large body size up to 480 millimeters (mm) (19 inches (in)), high reproductive potential by producing up to 2,500 eggs per year, tolerance to a wide range of water qualities, and a variable diet.

The species is known from eight historical canyon locations. Two populations, Hideout Canyon (the Green River in Utah) and Black Canyon (the Colorado River in Arizona and Nevada), were extirpated following the construction of Flaming Gorge and Hoover Dams, and their associated reservoirs, respectively. The continued operation of these dams make these habitats currently inhospitable to humpback chub. An additional population, Dinosaur National Monument (the Yampa and Green rivers in Utah and Colorado), declined after the construction of Flaming Gorge Dam and became extirpated in the mid-2000s. Although the species is considered extirpated, or absent from this geographic location, Dinosaur National Monument could possibly still support humpback chub and therefore the SSA report considered the area as an unoccupied habitat unit. The species is currently monitored at the remaining five extant, or occupied, locations: Desolation and Gray Canyons (the Green River in Utah), Black Rocks (the Colorado

River in Colorado), Westwater Canyon (the Colorado River in Utah), Cataract Canyon (the Colorado River in Utah), and Grand Canyon (the Colorado and Little Colorado rivers in Arizona). The Dinosaur National Monument, Desolation and Gray Canyons, Black Rocks, Westwater Canyon, and Cataract Canyon populations are the “upper basin populations,” and the Grand Canyon population is the “lower basin population.”

Summary of Biological Status and Threats

The Act directs us to determine whether any species is an endangered species or a threatened species because of any of the factors set forth at section 4(a)(1) of the Act affecting the species’ continued existence. The SSA report provides a thorough account of the species’ overall viability (Service 2018b, entire). The SSA report documents the results of the comprehensive biological status review for the humpback chub and provides an account of the species’ overall viability through forecasting of the species’ condition in the future (Service 2018b, entire). In the SSA report, we summarized the relevant biological data and a description of past, present, and likely future stressors and conducted an analysis of the viability of the species. In the SSA, we define viability as the ability of the species to persist over the long term and, conversely, to avoid extinction. In this discussion, we summarize the conclusions of that assessment, which can be accessed at Docket No. FWS–R6–ES–2018–0081 on <http://www.regulations.gov>.

To evaluate the biological status of the humpback chub both currently and into the future, we evaluated the overall viability of the humpback chub in the context of resiliency, redundancy, and representation (Smith *et al.* 2018, p. 306). Species viability,

or the species' ability to sustain populations over time, is related to the species' ability to withstand catastrophic events (redundancy), the ability to adapt to changing environmental conditions (representation), and the ability of populations to withstand stochastic disturbances of varying magnitude and duration (resiliency). Species viability also depends on the likelihood of stressors that act to reduce a species' redundancy, representation, and resiliency and the species' overall ability to withstand such stressors in the future. Having a greater number (redundancy) of self-sustaining populations (resiliency) that are distributed (redundancy and representation) across the known range of the humpback chub would be associated with an overall higher viability of the species into the future.

Individual humpback chub need diverse, rocky, canyon river habitat for spawning, rearing, feeding, and sheltering; suitable river flow and water temperature regimes for spawning, egg incubation, larval development, and growth; and an adequate and reliable food supply, including aquatic and terrestrial insects, crustaceans, and plant material (Service 2018b, pp. 15–33). Populations of humpback chub need habitats with few predatory, nonnative fish species that allow the young to survive and recruit; suitable water quality with few toxic inputs, such as fire ash or other contaminants, to allow for survival of all life stages; and unimpeded range and connectivity between discrete canyon habitats that provides free movement of individuals among populations. At the species level, humpback chub needs multiple populations to provide adequate redundancy against

potential catastrophic events and genetic diversity (representation) to ensure adaptive traits of the species (Service 2018b, pp. 15–33).

To evaluate the condition of humpback chub populations, we evaluated a number of stressors that influence the resiliency of humpback chub populations, such as river flows and predatory, nonnative fish in the upper basin populations, and river flows, water temperature, food supply, and predatory nonnative fish in the lower basin population (Service 2018b, pp. 34–100). Some stressors, such as low river flows and warm water temperatures, may also act cumulatively to increase predatory, nonnative fish.

Additionally, certain needs or stressors require continued management, such as river flow and nonnative fish in all five extant populations, and water temperature and food supply in the Grand Canyon population. Ongoing management actions are primarily undertaken by two multi-stakeholder management programs, the Upper Colorado River Endangered Fish Recovery Program (Upper Basin Recovery Program) and the Glen Canyon Dam Adaptive Management Program (Glen Canyon Dam AMP). Below, we summarize the conditions for the upper and lower basins.

The Upper Basin—In the upper basin, the four extant populations (Desolation and Gray Canyons, Black Rocks, Westwater Canyon, and Cataract Canyon) and one extirpated population (Dinosaur National Monument) currently have high-quality rocky canyon habitat, an adequate food base, and unimpeded connectivity. Federal, State, and tribal land ownership largely protects humpback chub’s canyon habitats in the upper basin, and recreation is the primary activity in these canyons. Water temperature is

suitable and unaltered by reservoir releases in the four extant populations, but a portion of the extirpated Dinosaur National Monument population in the Green River is cooled by releases from the Flaming Gorge Dam. Fish passage structures ensure that there are no impediments to movement between populations.

The resources of highest concern in the upper basin are river flows. Dam installations in the 20th century altered river flow regimes by reducing spring peak flows. Additionally, large municipal and agricultural depletions reduced the amount of water in the rivers. Since the early 2000s, management of river flows has restored much of the important intra- and inter-annual variability of river flow that the humpback chub needs to breed, feed, and shelter. Human demand for water has remained relatively the same over the last 20 years, but recent and ongoing drought has reduced river flows.

Another primary stressor in the upper basin is predatory, nonnative fish. Over 50 nonnative fish species have been introduced into the upper basin, some of which prey on or compete with young humpback chub, effectively reducing juvenile survival rates. Smallmouth bass (*Micropterus dolomieu*) are the largest concern because they prey on native fish (Johnson *et al.* 2008, p. 1946) and colonize humpback chub habitats. However, nearby populations of smallmouth bass have not colonized Black Rocks, Westwater Canyon, or Cataract Canyon. Smallmouth bass do inhabit Dinosaur National Monument and Desolation and Gray Canyons, and periodically increase in density by dispersing from nearby production areas. Low river flows and warm water temperatures

may also act cumulatively to promote the expansion and establishment of predatory, nonnative fish.

The Upper Basin Recovery Program is responsible for overseeing the management actions needed to improve conditions for the humpback chub in the upper basin. Actions that the Upper Basin Recovery Program implements to support recovery of humpback chub include, but are not limited to: Providing and protecting river flows; managing and removing predatory, nonnative fish; and installing and operating fish passage structures. For example, within the past 15 years, both Flaming Gorge Dam (the Green River) and the Aspinall Unit (the Colorado River) changed release patterns to provide downstream flows to benefit the humpback chub. The Upper Basin Recovery Program also acquired water stored in reservoirs in the Yampa and Colorado rivers to support the humpback chub when needed, such as during low flow periods during the summer. The Upper Basin Recovery Program also implements nonnative fish management actions, such as removing predatory fish from approximately 966 km (600 mi) of river and screening reservoirs to prevent predators from escaping into the downstream habitats used by humpback chub. State partners in the Upper Basin Recovery Program no longer stock certain nonnative predators and instead implement harvest regulations that promote the removal of predatory fish throughout the upper basin. Finally, fish passage structures installed over the last 20 years in the Colorado and Green rivers allow the humpback chub to move between habitats.

Upper basin populations have been monitored using catch per unit effort (CPUE) protocols since the mid-1980s, but more rigorous mark-recapture population estimation techniques began in some populations in the late 1990s. Abundance estimates generally have some uncertainty, with wide confidence intervals in older estimates. Despite the uncertainty associated with population monitoring techniques, these abundance estimates and associated CPUE data provide important demographic information about humpback chub populations.

The Black Rocks and Westwater Canyon populations declined from around 2000, when they were first estimated, through about 2006 (Service 2018b, p. 101). However, over the past 10 years both of these populations have stopped declining and have stabilized (Service 2018b, p. 101). The most recent preliminary estimates of the Black Rocks population, for years 2016 and 2017, indicate a stable population of around 425 to 450 adults (Francis *et al.* 2018, p. 21). The most recent preliminary estimates of the Westwater Canyon population, for years 2016 and 2017, indicate a stable population of around 2,800 adults (Hines 2017, p. 4; Hines 2018, pp. 12, 14). The preliminary estimates for both of these populations were released after the SSA report was complete, and although they have not yet undergone peer review, they are based on previously used and widely accepted modeling techniques, so are the best available science.

Adult abundance trends in Desolation and Gray Canyons are generally similar to those for Westwater and Black Rocks because they were highest around year 2000 and subsequently declined through about 2006 (Service 2018b, p. 101). However, estimates

from 2001 to 2003 have low precision and are unreliable due to the difficulty of surveying these canyons. Using estimates from 2006 to 2015, the adult abundance estimates for Desolation and Gray Canyons show no conclusive pattern because estimates are too variable (Service 2018b, p. 109). Abundance estimates for the Desolation and Gray Canyons population were approximately 1,750 adults in 2014 and 2015 (Howard and Caldwell 2018, p. 18).

The Cataract Canyon population is small, with fewer than approximately 500 adults and swift currents make this population difficult to monitor. Abundance of humpback chub in Cataract Canyon is estimated by CPUE rather than more robust mark-recapture techniques, which makes estimating a population trend for Cataract Canyon difficult. Consistent catches of adult and young life stages indicate that this population persists. Monitoring efforts from 2017 documented the highest annual CPUE for humpback chub in Cataract Canyon over the last 26 years (Ahrens 2017, p. 7). New sampling techniques documented an unprecedented number of juvenile chubs in Cataract Canyon, further indicating that this population persists (Ahrens 2017, p. 2). Although humpback chub and roundtail chub cannot be distinguished in the field when they are small, researchers assume that a meaningful amount of these young fish are humpback chub.

Unlike the other four populations in the upper basin, the Dinosaur National Monument population is currently below detection limits and is now considered functionally extirpated. By 1998, humpback chub were absent or rare in habitats where

the species was likely common in the 1940s (Tyus 1998, p. 192), and the decline in the Dinosaur National Monument population likely was the result of the construction of the Flaming Gorge Dam. Humpback chub in the Green River portion of the Dinosaur National Monument population were negatively affected by the cold releases from the Flaming Gorge Dam starting in 1963, and the Yampa River portion was negatively affected by low river flows, especially in the early 2000s. Operational changes since 2006 at Flaming Gorge Dam have improved the water temperature and flow conditions in the Green River, and releases from Elkhead Reservoir since 2006 support improved flow conditions in the Yampa River. Furthermore, the rocky canyon habitats that the humpback chub rely on in Dinosaur National Monument are still present. Although management actions have improved resource conditions in Dinosaur National Monument, immigration from other humpback chub populations is too low for the species to recolonize naturally, and the population is considered extirpated. Because habitats could potentially support a population, the Upper Basin Recovery Program is considering translocation or stocking to restore humpback chub to Dinosaur National Monument. Dinosaur National Monument may now have suitable resource conditions to support a re-establishment effort.

Summary of the Upper Basin—There are currently four extant populations of humpback chub in the upper basin and one extirpated population at Dinosaur National Monument. The Upper Basin Recovery Program’s conservation and management actions have maintained and improved resource conditions for the four extant populations in the

upper basin over the last 15 years. Monitoring data indicate that Black Rocks and Westwater Canyons have stabilized over the past decade and that the Cataract Canyon population persists and is likely also stable. But the trend of the Desolation and Gray Canyons population is uncertain, with conflicting data indicating that the population is either stable or declining. In terms of habitats, improved river flows in the upper basin indicate that resource conditions are now of adequate quantity and quality to support populations. Although nonnative smallmouth bass have been documented near multiple populations of humpback chub, smallmouth bass have yet to establish in most humpback chub habitats.

The Lower Basin—Although the Grand Canyon population is the only population of humpback chub in the lower basin, this population includes: A core population area in the Little Colorado River and nearby mainstem Colorado River; multiple aggregations of humpback chub in the Colorado River downstream; and individuals translocated into tributary habitats in Havasu Creek and the upper Little Colorado River. The Grand Canyon population has high-quality canyon reaches that foster unimpeded connectivity between habitats. In this population, there are no barriers to movement except for those created by natural falls or chutes, and translocated humpback chub placed above these natural barriers helped improve connectivity. Landownership surrounding the Grand Canyon population is Federal and tribal, so access and use are well-regulated.

Releases from the Glen Canyon Dam alter the flow and temperature regimes of the Colorado River throughout much of the Grand Canyon population. The Long-Term

Experimental and Management Plan prescribes the release patterns from the Glen Canyon Dam, helping to reduce and minimize impacts to Grand Canyon habitats. Starting in 2004, the temperature of water released through the Glen Canyon Dam increased in the summer and fall periods to 16 degrees Celsius (°C) (61 degrees Fahrenheit (°F)). Warmer temperatures generally allow individual humpback chub to grow larger and more quickly, but warmer water may also allow predatory warm-water, nonnative fish to invade and expand into humpback chub habitats. Nonnative fish in the lower basin, primarily cold-water brown trout (*Salmo trutta*) and rainbow trout (*Oncorhynchus mykiss*), mostly live in the colder water immediately below Glen Canyon Dam and tributaries of the Colorado River in the Grand Canyon, and not in humpback chub habitat. These two species do overlap with humpback chub in portions of the mainstem Colorado River. However, the majority of the areas inhabited by humpback chub, including the Little Colorado River and western Grand Canyon, are dominated by native fish (van Haverbeke *et al.* 2018, p. 8; Pillow *et al.* 2018, p. 7).

In the lower basin, the Glen Canyon Dam AMP coordinates the protection of natural resources of the Colorado River flowing through the Grand Canyon, including the humpback chub, from Glen Canyon Dam to the Lake Mead inflow. Actions undertaken to support recovery of humpback chub include, but are not limited to, removal of nonnative trout; altering dam releases to study possible improvements of important food sources such as mayflies, stoneflies, and caddisflies; and the translocation of humpback chub to new tributary habitats.

The Grand Canyon population of humpback chub is the largest and most extensively distributed population of all the populations across the species' range, with broadly distributed groups of humpback chub in mainstem and tributary habitats between Glen Canyon Dam and Lake Mead. The core area includes the Little Colorado River and nearby portions of the mainstem Colorado River. This core group has likely remained relatively stable since 2008, with a high abundance of approximately 11,500 to 12,000 adults. Monitoring documented a substantial population decline in this area during the 1990s from unknown causes, but most likely due to limited recruitment, followed by a strong increase in the 2000s (Service 2018b, pp. 117–119). The subsequent increases in adult abundance were likely due to increased recruitment corresponding with warmer temperatures of released water and reduced nonnative, predatory trout numbers near the confluence with the Little Colorado River.

In addition to the core population in and near the Little Colorado River, the Grand Canyon population also has multiple aggregations of adult and sub-adult humpback chub distributed in the mainstem Colorado River. Recent monitoring efforts up to 2017 documented increases in relative abundance of these aggregations and associated catch rates since 2014 (Pillow *et al.* 2018, p. 8). In fact, preliminary abundance estimates were approximately 1,500 adult humpback chub in 2017, for a 6-km (4-mi) long reach in the vicinity of Fall Canyon and Pumpkin Spring in western Grand Canyon (Pillow *et al.* 2018, p. 8). Length frequencies for the humpback chub from these aggregation sites indicate that there are four distinct size groups, suggesting there is local, natural

recruitment. Evidence of natural recruitment indicates that the western Grand Canyon aggregations could be an extension of the core Grand Canyon population, or potentially a second, reproducing population in the Colorado River.

Since 2003, young humpback chub have been translocated from the Little Colorado River to tributaries in the Grand Canyon above natural barriers, such as chutes and waterfalls. Many of the translocated fish have either remained resident in new habitats or moved into the mainstem. Successful translocation efforts into Havasu Creek and upstream portions of the Little Colorado River have expanded the range of the species into new habitats. Translocated humpback chub have spawned in Havasu Creek, which increased the distribution of the humpback chub in the Grand Canyon population. Unfortunately, fish that were translocated into Shinumo Creek, a third site, were killed or displaced to the mainstem by a series of large, ash-laden floods after a wildfire burned in the drainage. These translocation efforts demonstrate that given suitable, available habitats, humpback chub can establish residency and reproduce in new locations.

Summary of the Lower Basin—The large population of humpback chub in the Grand Canyon, which includes a dense core population in the Little Colorado River, multiple downstream aggregations in the mainstem Colorado, and successful translocation efforts, indicates that resource conditions in the lower basin are of sufficient quality and quantity to support population resiliency. Individuals are reproducing in many of these broadly distributed areas, demonstrating that the species can complete its entire life history in multiple, diverse locations within the Grand Canyon.

The humpback chub has many traits that enable individuals to be resilient in the face of environmental or demographic stochasticity, including a long life span, high reproductive potential, use of habitats and water quality that are arduous to other species, adaptation to a wide variety of flow and thermal regimes, and a variable omnivorous diet. Population resiliency is demonstrated by the persistence of small populations (Cataract Canyon), population increases after previous declines (Grand Canyon), population establishment after translocations (Havasu Creek), and potential stabilization after previous declines (Black Rocks and Westwater Canyon). In addition, the large, current population size of the Grand Canyon population buffers it from a variety of threats and environmental stochasticity.

The current distribution of the humpback chub in five extant populations across the upper and lower basins provides redundancy, although at a low level. Existing populations in the upper basin are mostly independently susceptible to catastrophe because they are located in different river basins and are many miles apart. Black Rocks and Westwater Canyon are the only two populations in close proximity. In the lower basin, where we define only one extant population, the population is widespread. New locations of humpback chub are being discovered (western Grand Canyon) or established (Havasu Creek) in the lower basin, providing resiliency to the large Little Colorado River core area.

Humpback chub populations also have adequate representation, as the multiple populations distributed across the range support the genetic diversity of the humpback

chub. A preliminary technical report that is currently undergoing peer review recommends that genetic diversity of the species be managed as three units: Black Rocks & Westwater Canyon, Desolation and Gray Canyons and Cataract Canyons, and the Grand Canyon (Bohn *et al.* 2019, p. 8). These three units support the genetic diversity of the species and there is adequate exchange of individuals between populations in the upper basin.

We predicted the resiliency, redundancy, and representation of the humpback chub under three plausible future scenarios. The future scenarios we used to evaluate the future condition of the humpback chub are summarized below and are discussed in greater detail in the SSA report (Service 2018b, pp. 134–135).

Scenario 1 describes a reduction or elimination in current voluntary management actions for the species, but recognizes that conservation actions established under binding operational plans and agreements would continue; as such, Scenario 1 can be considered a future with reduced conservation actions. Scenarios 2 and 3 include the established management actions undertaken in Scenario 1, along with currently implemented voluntary management actions, and additional proactive and adaptive management actions that may be needed in the future; both Scenario 2 and 3 can be considered as futures with continued commitment to conservation actions. Scenario 2 and 3 differ in their confidence in the effectiveness of the conservation actions. Scenario 2 considers that implemented actions are not fully effective to mitigate impacts of drought, future water development, nonnative fishes, or other threats, whereas Scenario 3 considers that

implemented actions are sufficient to mitigate impacts of drought, future water development, nonnative fishes, and other threats. Scenarios 2 and 3 were developed to recognize the uncertainty concerning management actions' ability to mitigate stressors impacting humpback chub, especially future water availability and presence of nonnative fish.

We evaluated each of these scenarios in terms of how it would be expected to impact resiliency, redundancy, and representation of the species by the years 2034 and 2058 (16 and 40 years into the future). We selected the years 2034 and 2058 for our evaluation of future scenarios because they account for multiple generations of humpback chub.

Under Scenario 1, conditions would severely degrade within both 16 and 40 years, primarily in the Upper Basin. However, if collaborative partnerships remain in place and their conservation actions are effective as described under Scenario 3, resource conditions improve at 16- and 40-year timeframes. Under Scenario 2, degradation of resources takes place, even as conservation actions continue, resulting in neutral conditions within 16 years, but poor conditions within 40 years. Although there is large uncertainty of resource conditions under Scenario 2 at 40 years, extrapolation of the conditions demonstrates a continuing decline in resource conditions. The potential extirpation of multiple populations could most likely occur in the upper basin under the short 16-year timeframe in Scenario 1 and the longer 40-year timeframe under Scenario 2. Under Scenario 3, ongoing threat management proves successful in the long term,

improving resource conditions. The health (resiliency) and distribution (redundancy) of all five extant populations reduces the risk from a potential catastrophic event under Scenario 3.

Based on the uncertain trajectory of several of the upper basin populations; the uncertainty associated with certain resource conditions, including nonnative fish, river flow, and food supply in the Grand Canyon; and the unresolved future of the Upper Basin Recovery Program, the future conditions for the populations and overall species viability is at increased risk and could decline within 40 years under Scenarios 1 and 2. Future conditions would only improve under Scenario 3 if long-term management actions are successful.

The SSA report (Service 2018b, entire) contains a more detailed discussion of our evaluation of the biological status of the humpback chub and the influences that may affect its continued existence. Our evaluations are based upon the best available scientific and commercial data.

Recovery Planning and Recovery Criteria

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include “objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of [section 4 of the Act], that the species be removed from the list.” However,

revisions to the Lists of Endangered and Threatened Wildlife and Plants (adding, removing, or reclassifying a species) must be based on determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is endangered or threatened (or not) because of one or more of five threat factors. Section 4(b) of the Act requires that the determination be made “solely on the basis of the best scientific and commercial data available.” While recovery plans provide important guidance to the Service, States, and other partners on methods of enhancing conservation and minimizing threats to listed species, as well as measurable criteria against which to measure progress towards recovery, they are not regulatory documents and cannot substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. A decision to revise the status of a species on, or to remove a species from, the Federal List of Endangered and Threatened Wildlife (50 CFR 17.11) is ultimately based on an analysis of the best scientific and commercial data then available to determine whether a species is no longer an endangered species or a threatened species, regardless of whether that information differs from the recovery plan. Below, we summarize recovery planning efforts for the humpback chub for informational purposes only.

We published the first recovery plan for the humpback chub in 1979, and published an updated plan in 1990. Many of the recovery actions in the first two recovery plans included assessing species needs, clarifying taxonomic status, defining humpback chub populations, and establishing monitoring programs in order to more fully

understand the status and needs of the species (Service 1979; Service 1990). In 2002, the humpback chub recovery goals supplemented and amended the 1990 recovery plan, and provided objective and measurable demographic criteria and recommendations for site-specific management actions needed for recovery (Service 2002). The six populations described in this proposed rule and the SSA report, including the now extirpated Dinosaur National Monument, were considered extant in the 2002 recovery goals. Today, five populations are extant and the Dinosaur National Monument population is considered extirpated. Furthermore, when the recovery goals were approved, a minimum viable population (MVP) was estimated to be at least 2,100 adults. When the 2002 recovery goals were published, robust mark/recapture population monitoring efforts had just begun in the upper basin. The recovery goals include the following demographic reclassification criteria (summarized for brevity):

Downlisting could occur if, over a 5-year period, all of the following criteria are met:

Criterion 1: Adult abundances for each of the six populations does not decline significantly.

Criterion 2: Natural mean recruitment equals or exceeds mean adult mortality in each of the six populations.

Criterion 3: Two core populations exist that exceed 2,100 adults.

Criterion 4: Site-specific management actions are identified, developed, and implemented.

For downlisting criterion 4, the recovery goals described the following management actions needed to support the species (summarized for brevity):

- (1) Provide, and legally protect, habitat and flow regimes.
- (2) Investigate the mainstem Colorado River's role in the Grand Canyon population.
- (3) Investigate warmer water temperatures in the mainstem Colorado River through the Grand Canyon.
- (4) Ensure adequate protection from overutilization.
- (5) Ensure adequate protection from diseases and parasites.
- (6) Regulate nonnative fish releases and escapement.
- (7) Control problematic nonnative fishes as needed.
- (8) Minimize the risk of increased hybridization among *Gila* spp.
- (9) Minimize the risk of hazardous-materials spills in critical habitat.
- (10) Provide for the long-term management and protection of populations and their habitats if the species were delisted.
- (11) The recovery goals further describe that delisting could occur if, 3 years after the downlisting criteria are met, downlisting criteria 1, 2, and 4 continue to be met (described above), and a third core population is added under downlisting criterion 3.

The current status of the humpback chub partially meets the 2002 recovery criteria. Although five of the extant populations of humpback chub have not declined

significantly over the past decade, criterion 1 has not been fully met because the adult population of Dinosaur National Monument declined and the population is now considered extirpated. Criterion 2 has been partially met in the five extant populations, as those populations are largely stable over the past decade, but not in the extirpated Dinosaur National Monument population. Criterion 3 is met for downlisting, because the Little Colorado River core area in the Grand Canyon population contain approximately 11,500 adults (Service 2018b, p. 77) and the most recent preliminary estimate for Westwater Canyon is a mean of approximately 2,800 adults in 2016 and 2017 (Hines 2018, p. 12). Criterion 3 is not met for delisting because the next largest population, Desolation and Gray Canyons, was last estimated as approximately 1,700 adults in 2015 (Howard and Caldwell 2018, p. 18).

Regarding the first and second recovery criteria, we now expect that a 5-year period may not be adequate to consider the demographic variability of humpback chub populations resulting from substantial environmental variability in the Colorado River ecosystem. Humpback chub evolved in and are adapted to a highly variable ecosystem with fluctuating levels of drought and flood. Consequently, the life history of the species is one in which reproductive success and mortality rates can fluctuate greatly from year to year. Certainly, over long-term time frames, the species needs a stable adult population and adequate recruitment, but these conditions are not likely to occur every year. Consequently, recovery criteria specifying little to no change in demographics for a five year period may not be appropriate for the species.

Regarding downlisting criterion 3, the MVP was established without considering each individual population's characteristics, such as river-miles and resource conditions. For example, the core Little Colorado River area in the Grand Canyon population currently supports as many as 5 times the MVP, with additional humpback chub residing in other areas. Other habitats, such as Cataract Canyon, likely could not support the MVP. This demonstrates that considering each population's resources and conditions is a more useful tool than considering one single MVP.

Finally, regarding downlisting criterion 4, a number of the management actions have been achieved, such as items (2), (3), and (6); a number of the actions are ongoing and still needed, such as items (1), (7), and (10); and a number of the actions are no longer considered needed for the species, such as items (4), (5), (8), and (9). Based on the updated scientific knowledge of humpback chub, the 2002 recovery goals should be reviewed and updated. As such, the 2018, 5-year review of the status of the species recommended revising the 2002 recovery goals to incorporate new information about the species. We expect to revise the recovery plan for humpback chub when this rulemaking process is complete.

Determination of Humpback Chub Status

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 "endangered species" or "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 a species meets the definition of “endangered species” or “threatened species” because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) Overutilization for commercial, recreational, scientific, or educational purposes; (C) Disease or predation; (D) The inadequacy of existing regulatory mechanisms; or (E) Other natural or manmade factors affecting its continued existence.

Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the section 4(a)(1) factors, we identified changes to water flow and temperature (Factor A), food availability (Factor A), and predatory, nonnative fish (Factor C) as potential stressors to the humpback chub (Service 2018b, pp. 126–133). There is no evidence that overutilization (Factor B) of humpback chub, disease (Factor C), or other natural and manmade factors affecting the species (Factor E) are occurring. Existing regulatory mechanisms (Factor D) are discussed below. We evaluated each potential stressor, including its source, affected resources, exposure, immediacy, geographic scope, magnitude, and impacts on individuals and populations, and our level of certainty regarding this information, to determine which stressors were likely to be drivers of the species’ current and future conditions (Service 2018b, pp. 126–133). We also evaluated the effects of stressors that may operate cumulatively, such as low river

flows and warm water temperatures that may act cumulatively to increase predation by nonnative predators.

We note that by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have not only analyzed individual effects on the species, but we have also analyzed their potential cumulative effects. We incorporate the cumulative effects into our analysis when we characterize the current and future condition of the species. Our assessment of the current and future conditions encompasses and incorporates the threats individually and cumulatively. Our current and future condition assessment is iterative because it accumulates and evaluates the effects of all the factors that may be influencing the species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative effects analysis.

Our analysis found that the primary drivers for the humpback chub's current and future condition are diminishing river flow, increasing water temperature, expanding populations of nonnative fish, and food availability in the Grand Canyon. Low river flows and warm water temperatures may also act cumulatively to increase predation by nonnative predators. We summarize these stressors below, with more detail provided in the SSA report (Service 2018b, pp. 126–133).

River flow and temperature—The presence and operation of large dams alter suitable river flow and temperatures. Historical dam operations did not always provide river flow conditions that supported humpback chub, but recent modifications to operations have reduced some impacts from the presence of dams. We evaluated how the effects of global climate change could impact river flows and water temperatures using hydroclimate projections of future water resources in the Colorado River basin. Hydroclimate projections predict that decreased warm-season runoff will reduce river flows, primarily from increased frequency and severity of drought, which further result in warmer water temperatures (U.S. Bureau of Reclamation 2016, i-ii). Warmer, lower flows in the upper basin increase the risk of nonnative fish species impacting humpback chub populations. Warmer releases from Lake Powell could also impact abundance and distribution of nonnative fish in the Grand Canyon. However, current river flow conditions and temperatures are largely adequate for humpback chub in both basins because reservoir operations have had the flexibility and commitment to support humpback chub when making dam releases. Future conditions of river flow and temperature are uncertain because conditions are shaped by regional climatic patterns and water availability, and regulated by the operation of large dams.

Food availability—Humpback chub require an adequate and reliable food supply, which can consist of a variety of insects, crustaceans, and plants. Food is supplied by the instream production of invertebrates, insect emergences, and floods laden with debris. In the upper basin, food supply has not been measured, but is not believed to be a limiting

factor. Conversely, below Glen Canyon Dam in the lower basin, the condition of the humpback chub populations has decreased due to low aquatic insect diversity and declining stream productivity. It is unclear if management could improve food availability below the Glen Canyon Dam, but altered release patterns from the dam could potentially increase instream production of food resources for humpback chub.

Predation—Predation and competition by nonnative fish are stressors to humpback chub in both the upper and lower basins. Because of the species' slow growth and late sexual maturity, juvenile humpback chub are vulnerable to predation from predatory, nonnative fish during the first few years of life. Nonnative fish can also compete for resources with adult humpback chub, reducing the species breeding, feeding, and sheltering. The humpback chub evolved in an environment relatively free of predators and competitors. Therefore, it is ill-adapted to living with the many nonnative fish that have been introduced into the Colorado River basin because it is a soft-rayed fish with no defense mechanisms for protection from predators. Although the species has no natural defense mechanisms, the habitats occupied by humpback chub may limit impacts from nonnative species because of the more arduous hydrological conditions of canyons. Predation from nonnative fish may also increase when warm water temperatures act cumulatively with low flows.

Predation from nonnative fish, particularly smallmouth bass in the upper basin, is a potential threat to the viability of humpback chub. Currently, through active flow management and nonnative predator removal, nonnative predators are not limiting four of

the five extant humpback chub populations, but are moderately impacting two (one extant and one extirpated) populations. Although current resource conditions are acceptable in the upper basin, the risk for substantial and rapid degradation is present.

In the lower basin, current densities of nonnative predators are low, and management actions are in place to prevent establishment of new species. However, recent increases in brown trout density in the Lees Ferry reach of the Colorado River and the discovery of green sunfish (*Lepomis cyanellus*) immediately below Glen Canyon Dam demonstrate that risks do exist in the lower basin, primarily related to operations of Glen Canyon Dam and escapement from Lake Powell. Lower elevations of Lake Powell enhance risk of nonnative predator establishment in the Grand Canyon via increased risk of fish escaping through Glen Canyon Dam and warmer water releases that support nonnative predators.

All upper basin humpback chub populations have dense nonnative predator populations nearby, but only one of the four extant populations and the site of the extirpated population currently undergo periodic increases in densities of nonnative predators within humpback chub habitats. Those two populations, Dinosaur National Monument (extirpated) and Desolation and Gray Canyons (extant), experience periodic fluctuations in smallmouth bass density, demonstrating the latent risk. If environmental conditions change, such as reduced river flow or increased water temperature from long-term drought, nearby populations of nonnative predators could rapidly colonize upper basin humpback chub habitats. Similarly, if management of nonnative predators is

reduced or eliminated, nonnative predators could rapidly colonize humpback chub habitats. Smallmouth bass colonization of multiple humpback chub populations would significantly decrease the viability of the species, especially in the upper basin. Therefore, although current resource conditions related to nonnative predatory fish are acceptable, there is risk associated with predators in the future.

Regulatory mechanisms—Regulatory mechanisms (Factor D) and other management efforts benefit the humpback chub. Most resources affecting humpback chub are strictly regulated through Federal, State, and tribal mechanisms. The humpback chub’s canyon habitats are largely protected by Federal, State, and tribal land ownership, and humans primarily use humpback chub habitats for recreation. Releases from large dams, primarily operated by the U.S. Bureau of Reclamation, are now operated to promote river function and fish habitat under binding operational and management plans described in the Records of Decision for the Aspinnall Unit (US Bureau of Reclamation 2012, pp. 1), Flaming Gorge Dam (US Bureau of Reclamation 2006, pp. 1–2), and Glen Canyon Dam (US Department of the Interior 2016, pp. 1–2). Water use and delivery in the Colorado River basin is strictly regulated under existing Federal, State, and tribal laws commonly referred to as the “Law of the River”, including, but not limited to, the Colorado River Compact of 1922, the Upper Colorado River Basin Compact of 1948, the Colorado River Storage Project Act of 1956, the Colorado River Basin Project Act of 1968, and individual state and tribal statutes that regulate water appropriation.

The Upper Basin Recovery Program coordinates and implements the majority of management actions for the four extant and one extirpated upper basin populations, while the Glen Canyon Dam AMP undertakes management actions for the mainstem Colorado River in the lower basin. These programs are considered regulatory mechanisms because they are authorized through or comply with Federal legislation. The Upper Basin Recovery Program was authorized under Public Law 106-392 and has been renewed on a periodic basis by acts of Congress. The Glen Canyon Dam AMP was established under the Record of Decision to operate Glen Canyon Dam needed to comply with the Grand Canyon Protection Act of 1992 (US Bureau of Reclamation 1996, pp. G-3 to G-4).

Commitment to management actions for the benefit of humpback chub is strong among the various partnerships; nevertheless, uncertainty of continued implementation does exist. For example, the cooperative agreement establishing the Upper Basin Recovery Program expires in 2023. Elimination of the Upper Basin Recovery Program would introduce severe uncertainty about continued implementation of important management actions for humpback chub in the upper basin. In the lower basin, the Long-Term Experimental and Management Plan and other legally binding mechanisms provide more certainty for humpback chub conservation actions, but additional adaptive actions are still likely needed to respond to changing resource conditions (Service 2018b, pp. 12–14).

The Upper Basin Recovery Program and Glen Canyon Dam AMP are key regulatory mechanisms that shape the current and future condition of humpback chub.

Both programs implement management actions that benefit all resource needs of the humpback chub. For example, both programs provide adequate habitat conditions by managing river flow and water temperature and by managing nonnative fish species. Although it is likely that both programs will continue to implement management actions, there is uncertainty regarding the status of the Upper Basin Recovery Program over the next 16 to 40 years.

Currently, resource conditions are adequate and support a large, stable population in the lower basin and multiple persistent populations in the upper basin. Although the current risk of extinction is low, there is enough risk associated with the potential loss of important management actions such that the species is vulnerable and likely to become endangered throughout all of its range within the foreseeable future.

We find that endangered species status is not appropriate for the humpback chub because the species currently demonstrates sufficient individual and population resiliency, redundancy, and representation across both the upper basin and lower basin populations, such that the potential extirpation of multiple populations is not likely to occur now or in the short term. The current resiliency of the large core population in the lower basin and the current resiliency and redundancy of the four populations in the upper basin decrease the risk to the species from stochastic and catastrophic events, such that the species currently has a low risk of extinction. Therefore, the risk of extinction is currently low, and therefore the species is not in danger of extinction.

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

Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. Because we have determined that the humpback chub is likely to become an endangered species within the foreseeable future throughout all of its range, we find it unnecessary to proceed to an evaluation of potentially significant portions of the range. Where the best available information allows the Services to determine a status for the species rangewide, that determination should be given conclusive weight because a rangewide determination of status more accurately reflects the species' degree of imperilment and better promotes the purposes of the Act. Under this reading, we should first consider whether the species warrants listing "throughout all" of its range and proceed to conduct a "significant portion of its range" analysis if, and only if, a species does not qualify for listing as either an endangered or a threatened species according to the "throughout all" language. We note that the court in *Desert Survivors v. Department of the Interior*, No. 16-cv-01165-JCS, 2018 WL 4053447 (N.D. Cal. Aug. 24, 2018), did not address this issue, and our conclusion is therefore consistent with the opinion in that case.

Determination of Status

Our review of the best available scientific and commercial information indicates that the humpback chub meets the definition of a threatened species. Therefore, we propose to reclassify the humpback chub as a threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

Proposed 4(d) Rule

Background

Section 4(d) of the Act states that the “Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation” of species listed as threatened. The U.S. Supreme Court has noted that very similar statutory language demonstrates a large degree of deference to the agency (see *Webster v. Doe*, 486 U.S. 592 (1988)). Conservation is defined in the Act to mean “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Act] are no longer necessary.” Additionally, section 4(d) of the Act states that the Secretary “may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1), in the case of fish or wildlife, or section 9(a)(2), in the case of plants.” Thus, regulations promulgated under section 4(d) of the Act provide the Secretary with wide latitude of discretion to select appropriate provisions tailored to the specific conservation needs of the threatened species. The statute grants particularly broad discretion to the Service when adopting the prohibitions under section 9.

The courts have recognized the extent of the Secretary's discretion under this standard to develop rules that are appropriate for the conservation of a species. For example, courts have approved rules developed under section 4(d) that include a taking prohibition for threatened wildlife, or include a limited taking prohibition (see *Alesea Valley Alliance v. Lautenbacher*, 2007 U.S. Dist. Lexis 60203 (D. Or. 2007); *Washington Environmental Council v. National Marine Fisheries Service*, 2002 U.S. Dist. Lexis 5432 (W.D. Wash. 2002)). Courts have also approved 4(d) rules that do not address all of the threats a species faces (see *State of Louisiana v. Verity*, 853 F.2d 322 (5th Cir. 1988)). As noted in the legislative history when the Act was initially enacted, "once an animal is on the threatened list, the Secretary has an almost infinite number of options available to him with regard to the permitted activities for those species. He may, for example, permit taking, but not importation of such species or he may choose to forbid both taking and importation but allow the transportation of such species" (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

The Service has developed a species-specific 4(d) rule that is designed to address the humpback chub's specific threats and conservation needs. Although the statute does not require the Service to make a "necessary and advisable" finding with respect to the adoption of specific prohibitions under section 9, we find that this regulation is necessary and advisable to provide for the conservation of the humpback chub. As discussed in the **Summary of Biological Status and Threats** section, the Service has concluded that the

humpback chub is at risk of extinction within the foreseeable future primarily due to changes to water flow and temperature, food availability, and predatory, non-native fish. The provisions of this proposed 4(d) rule would promote the conservation of the humpback chub by providing continued protection from take and to facilitate the expansion of the species' range by increasing flexibility in management activities. The provisions of this rule are one of many tools that the Service will use to promote the conservation of the humpback chub. This proposed 4(d) rule would apply only if and when the Service makes final the listing of the humpback chub as a threatened species.

Provisions of the Proposed 4(d) Rule

This proposed 4(d) rule would provide for the conservation of the humpback chub by prohibiting the following activities, except as otherwise authorized or permitted: Importing or exporting; possession and other acts with unlawfully taken specimens; delivering, receiving, transporting, or shipping in interstate or foreign commerce in the course of commercial activity; or selling or offering for sale in interstate or foreign commerce. This proposed 4(d) rule includes actions to facilitate conservation and management of humpback chub where they currently occur, and may occur in the future, by eliminating the Act's take prohibition for certain activities. These activities are intended to encourage support for the conservation of humpback chub. Under this proposed 4(d) rule, take will continue to be prohibited, except for the following forms of take that would be excepted under the Act:

- Take resulting from creating and maintaining humpback chub refuge populations;
- Take resulting from expanding the range of the species, including translocating wild fish and stocking hatchery-reared fish;
- Incidental take from reducing or eliminating nonnative fish from habitats adjacent to, or occupied by, humpback chub;
- Take resulting from catch-and-release angling activities associated with humpback chub, including incidental take from non-humpback chub-targeted angling in the six core populations and take from humpback chub-targeted angling in any newly established areas; and
- Take associated with chemical treatments in support of the recovery of humpback chub.

Under this proposed 4(d) rule, take resulting from these activities would not be prohibited as long as reasonable care is practiced to minimize the effects of such taking. Reasonable care includes limiting the impacts to humpback chub individuals and populations by complying with all applicable Federal, State, and tribal regulations for the activity in question; using methods and techniques that result in the least harm, injury, or death, as feasible; undertaking activities at the least impactful times and locations, as feasible; ensuring the number of individuals removed or sampled minimally impacts existing extant wild population; ensuring no disease or parasites are introduced into

existing extant wild humpback chub populations; and preserving the genetic diversity of extant wild populations.

Creation and Maintenance of Refuge Populations

Establishing and maintaining humpback chub refuge populations is an important consideration for long-term humpback chub viability because refuge populations safeguard genetic diversity against catastrophic declines in wild populations and can be necessary to protect a population from extirpation. In the case of declining wild populations, refuge populations provide the flexibility to perform supplemental stocking into existing populations or reintroduction of individuals to extirpated areas. Refuge populations may also allow for stocking of individuals into new areas that expand the range of the species (see *Translocation or Stocking of Humpback Chub*, below). The process of establishing and supplementing refuge populations requires take in the form of collection of wild individuals of various life stages. Furthermore, the long-term care and maintenance of refuge populations will result in take, including death of individuals held in captivity. However, preservation of genetic diversity in refuge populations outweighs any losses to wild populations if performed in a deliberate, well-designed process.

Currently, some, but not all, of the genetic diversity of humpback chub exists in captive refuge populations. Approximately 1,000 individuals from the Grand Canyon population are managed as a refuge population at the Southwestern Native Aquatic Resources and Recovery Center (SNARRC) in Dexter, New Mexico; additionally, a small number of adults from the Black Rocks population reside at the Horsethief ponds

near Grand Junction, Colorado. In order to preserve the full breath of genetic diversity of humpback chub, creation of additional refuge populations could be suggested in the revised humpback chub recovery plan, by the Service, or in other proceedings, such as section 7 consultations between the Service and Federal agencies. We expect to revise the recovery plan for humpback chub when this rulemaking process is complete.

This proposed 4(d) rule describes creation and maintenance of humpback chub refuge populations excepted from take as activities undertaken for the long-term protection of humpback chub genetic diversity. Refuge populations must include specific genetic groupings of humpback chub as defined by the best available science and must be managed to maintain the genetic diversity of the species. Refuge populations can occur at both captive and wild locations.

The Service must approve in writing the designation of a refuge population, and any removal of individuals from wild populations. Subsequent to those approvals, under this proposed 4(d) rule, the Service would no longer regulate the take associated with maintenance of that population. Take associated with refuge populations could include harvest of wild individuals from extant populations; incidental take during the long-term care of individuals in captivity; take related to disease, parasite, genetic assessment, and management of captive populations; and natural mortality of individuals existing in refuge populations.

Translocation and Stocking of Humpback Chub

Translocating wild humpback chub and stocking hatchery-reared humpback are important management actions supporting the long-term viability of the species. Introducing individuals into new areas can provide increased redundancy and decreased risk to catastrophic events by expanding the range of the species. Introducing individuals into wild populations can provide increased resiliency for extant populations by potentially offsetting population declines or increasing genetic diversity. The process of translocating wild individuals can result in take to wild individuals, including possible mortality to fish that are moved. The process of culturing and stocking individuals can also result in take via hatchery methods or incidental mortality of stocked individuals. However, if the translocation or stocking program is performed under a deliberate, well-designed program, the benefits to the species can greatly outweigh the losses.

Translocations of wild humpback to new locations have demonstrated success in the Grand Canyon. Between 2003 and 2015, juvenile humpback chub were translocated from the Little Colorado River to Shinumo Creek, Havasu Creek, and the Little Colorado River above Chute Falls. At all three locations, translocated fish established residency, increasing the range of the species (although the Shinumo Creek population was later extirpated via ash-laden floods following a wildfire). The Havasu Creek population also demonstrated wild reproduction and recruitment, further supporting the management action of translocations for expanding the range of the humpback chub. Based on these successes, translocation appears to be a possible tool to reintroduce individuals into the

Dinosaur National Monument population or to expand the range of humpback chub into other areas.

Currently, humpback chub are not cultured in hatcheries, nor are any broodstock fish maintained at a hatchery. However, in the future, hatchery production and culture may be a necessary tool either to supplement existing populations or to introduce individuals to new locations without harvesting wild fish.

This proposed 4(d) rule describes translocation and stocking of humpback chub excepted from take as any activity undertaken to expand the range of humpback chub or to supplement existing wild populations. Take from translocation could include harvest and movement of wild individuals from extant populations to new areas and subsequent mortality of fish in new locations. Any translocation program must be approved in writing by the Service. Take from stocking programs could include take during the long-term care of individuals in captivity; take related to disease, parasite, genetic assessment, and management of captive populations while they are in captivity; and take from stocking, including subsequent mortality of stocked individuals. Any harvest of wild fish to support a stocking program must comply with the conditions described above under *Creation and Maintenance of Refuge Populations*. Any stocking of humpback must follow best hatchery and fishery management practices as described in the American Fisheries Society's *Fish Hatchery Management* (Wedemeyer 2002, entire) and be approved by the Service. Any stocking of individuals outside the six core populations must comply with State stocking regulations.

Nonnative Fish Removal

Control of nonnative fishes is vital for the continued recovery of humpback chub because predatory, nonnative fishes are a principal threat to humpback chub (see **Summary of Biological Status and Threats**, above). Removal of nonnative fishes reduces predation and competition pressure on humpback chub, increasing humpback chub survival, recruitment, and access to resources. During the course of removing nonnative fishes, take of humpback chub may occur from incidental captures resulting in capture, handling, injury, or possible mortality. However, nonnative removal activities in humpback chub habitats are designed to be selective, allowing for the removal of predatory, nonnative fish while humpback chub are returned safely to the river. Therefore, if nonnative fish removal is performed under deliberate, well-designed programs, the benefits to humpback chub can greatly outweigh losses.

Currently, active nonnative fish removal is widespread in the upper basin, but is less common in the lower basin. Control of nonnative fishes is conducted by qualified personnel in the upper basin via mechanical removal using boat-mounted electrofishing, nets, and seines, primarily focusing on removal of smallmouth bass, northern pike (*Esox lucius*), and walleye (*Sander vitreus*). Removal of nonnative fishes in the upper basin is performed under strict standardized protocols to limit impacts to humpback chub. In the lower basin, nonnative fish actions primarily focus on preventing establishment of new species (such as removal of green sunfish below Glen Canyon Dam) and controlling

populations of trout in tributary habitats (such as removal of brown trout in Bright Angel Creek). New techniques, as available and feasible, may also need to be implemented in the future.

This proposed 4(d) rule describes nonnative fish removal excepted from take prohibitions as any action with the primary or secondary purpose of mechanically removing nonnative fishes that compete with, predate, or degrade the habitat of humpback chub, and that is approved in writing by the Service for that purpose. These methods include mechanical removal within occupied humpback chub habitats, including, but not limited to, electrofishing, seining, netting, and angling, or other ecosystem modifications such as altered flow regimes or habitat modifications. All methods must be conducted by qualified personnel and used in compliance with applicable Federal, State, and tribal regulations. Whenever possible, humpback chub that are caught alive as part of nonnative fish removal should be returned to their capture location as quickly as possible.

Catch-and-release Angling of Humpback Chub

Recreational angling is an important consideration for management of all fisheries, as recreational angling is the primary mechanism by which the public interacts with fishes. Furthermore, angling regulations are an important communication tool. While the humpback chub is not currently a species that is prized for its recreational or commercial value, the species is a large-bodied, catchable-sized fish that could offer

potential recreational value in certain situations. Conservation value from public support for humpback chub could arise through newly established fishing locations and public engagement with this species. Furthermore, anglers do target species that co-occur with humpback chub at some locations. As a result, otherwise legal angling activity in humpback chub habitats could result in the unintentional catch of humpback chub by the angling public. Catch-and-release angling, both intentional and incidental, can result in take of humpback chub through handling, injury, and potential mortality. However, the conservation support that angling provides can outweigh losses to humpback chub, if the angling program is designed appropriately.

Currently, State angling regulations require the release of all incidental catches of humpback chub and do not allow anglers to target the species. Therefore, current angling regulations for humpback chub by the States of Arizona, Colorado, and Utah demonstrate a willingness to enact appropriate regulations for the protection of the humpback chub. It is important to continue to protect humpback chub from intentional angling pressure in the six core populations (five extant and one extirpated) because of their importance to the recovery of the species. These populations, as described in Tables 1 and 7 of the SSA report, are Desolation and Gray Canyons (Green River, Utah), Dinosaur National Monument (Green and Yampa rivers, Colorado and Utah), Black Rocks (Colorado River, Colorado), Westwater Canyon (Colorado River, Utah), Cataract Canyon (Colorado River, Utah), and Grand Canyon (Colorado and Little Colorado rivers, Arizona). Supporting recreational fishing access to these areas for species other than humpback chub is an

important economic consideration for State and tribal entities. We propose to allow incidental take of humpback chub from angling activities that are in accordance with State and tribal fishing regulations in the six core humpback chub populations, but that do not target humpback chub. That is, incidental take associated with incidental catch-and-release of humpback chub in the core populations would not be prohibited. Reasonable consideration by the States and tribes for incidental catch of humpback chub in the six core populations include: (1) Regulating tactics to minimize potential injury and death to humpback chub if caught; (2) communicating the potential for catching humpback chub in these areas; and (3) promoting the importance of the six core populations.

Outside of the six core populations, we foresee that Federal, State, or tribal governments may want to establish a new recovery location where humpback chub could be targeted for catch-and-release angling or a new location without recovery value, where the sole purpose is recreational angling for humpback chub. Newly established locations could offer a genetic refuge for core populations of humpback chub (see *Creation and Maintenance of Refuge Populations*, above), provide a location for hatchery-reared fish (see *Translocation and Stocking of Humpback Chub*, above), and offer the public a chance to interact with the species in the wild. Therefore, we propose to allow take of humpback chub from catch-and-release angling activities that target humpback chub and are in accordance with State and tribal fishing regulations in areas outside of the six core humpback chub populations.

Sport fishing for humpback chub would only be allowed through the 4(d) rule and subsequent State or tribal regulations created in collaboration with the Service. This rule would allow recreational catch-and-release fishing of humpback chub in specified waters, not including the six core populations. Management as a recreational species would be conducted after completion of, and consistent with the goals within, a revised recovery plan for the species. The principal effect of this 4(d) rule would be to allow take in accordance with fishing regulations enacted by States or tribes, in collaboration with the Service.

Recreational opportunities may be developed by the States and tribes in new waters following careful consideration of the locations and impacts to the species. Reasonable consideration for establishing new recreational locations for humpback chub include, but are not limited to: (1) Carefully evaluating each water body and determining whether the water body can sustain angling; (2) ensuring the population does not detrimentally impact core populations of humpback chub through such factors as disease or genetic drift; (3) ensuring adequate availability of humpback chub to support angling; and (4) monitoring to ensure there are no detrimental effects to the population from angling. If monitoring indicates that angling has a negative effect on the conservation of humpback chub in the opinion of the Service, the fishing regulations must be amended or the fishery could be closed by the appropriate State.

Chemical Treatments Supporting Humpback Chub

Chemical treatments of water bodies are an important fisheries management tool because they are the principal method used to remove all fishes from a defined area. That is, chemical treatments provide more certainty of complete removal than other methods, such as mechanical removal. Therefore, chemical treatments are used for a variety of restoration and conservation purposes, such as preparing areas for stocking efforts, preventing nonnative fishes from colonizing downstream areas, and resetting locations after failed management efforts. Chemical treatments of water bodies could take humpback chub if individuals reside in the locations that are treated and cannot be salvaged completely prior to treatment. However, the overall benefit of conservation actions implemented using chemical treatment can outweigh the losses of humpback chub, if careful planning is taken prior to treatments.

Chemical piscicides (chemicals that are poisonous to fish) have been used in the upper and lower basin to remove upstream sources of nonnative fishes in support of humpback chub. For example, Red Fleet Reservoir (Green River, Utah) was treated by Utah Division of Wildlife Resources to remove walleye that were escaping downstream, and a slough downstream of Glen Canyon Dam (Colorado River, Arizona) was treated by the National Park Service to remove green sunfish before they could invade humpback chub habitat. At Red Fleet Reservoir, chemical treatment also provided the Utah Division of Wildlife Resources with the ability to establish a new fish community that supported angling interests and provided greater compatibility with downstream conservation efforts.

Chemical treatments could support a variety of activities to assist in the conservation of humpback chub, including certain other actions described in this proposed 4(d) rule. For example, chemical treatments could be used prior to introducing humpback chub to a wild refuge population, a translocation site, or a sport fishing location. Nonnative fishes can also be removed using chemical treatments, providing a faster and more complete removal than mechanical removal. Furthermore, chemical treatments offer the ability to fully restore a location after a failed introduction effort. For example, if humpback chub were stocked into a new area, but did not successfully establish, landowners may want to restore this location for another purpose.

Chemical treatments would be allowed under this proposed 4(d) rule. Necessary precautions and planning should be applied to avoid impacts to humpback chub. For example, treatments upstream of occupied humpback chub habitats should adhere to all protocols to limit the potential for fish toxicants and piscicides travelling beyond treatment boundaries. Chemical treatments that take place in locations where humpback chub occur, or may occur, must take place only after a robust salvage effort takes place to remove humpback chub in the area. Whenever possible, humpback chub that are salvaged should be moved to a location that supports recovery of the species. Any chemical treatment that takes place in an area where humpback chub may reside would need written approval from the Service, but treatments of unoccupied habitat would not need to be approved. Once the location of a chemical treatment is approved in writing by

the Service, the take of humpback chub by qualified personnel associated with performing a chemical treatment would not be regulated by the Service.

Reporting and Disposal of Humpback Chub

Under the proposed 4(d) rule, if humpback chub are killed during actions described in the 4(d) rule, the Service must be notified of the death and may request to take possession of the animal. Notification should be given to the appropriate Regional Law Enforcement Office Service or associated management office. Information on the offices to contact is set forth under **Proposed Regulation Promulgation**, below. Law enforcement offices must be notified within 72 hours of the death, unless special conditions warrant an extension. The Service may allow additional reasonable time for reporting if access to these offices is limited due to closure or if the activity was conducted in area without sufficient communication access.

Permits

We may issue permits to carry out otherwise prohibited activities, including those described above, involving threatened wildlife under certain circumstances. Regulations governing permits are codified at 50 CFR 17.32. With regard to threatened wildlife, a permit may be issued for the following purposes: scientific purposes, to enhance propagation or survival, for economic hardship, for zoological exhibition, for educational purposes, for incidental taking, or for special purposes consistent with the purposes of the

Act. There are also certain statutory exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

This proposed 4(d) rule would not impact existing or future permits issued by the Service for take of humpback chub. Any person with a valid permit issued by the Service under § 17.22 or § 17.32 may take humpback chub, subject to all take limitations and other special terms and conditions of the permit.

The Service recognizes the special and unique relationship with our state natural resource agency partners in contributing to conservation of listed species. State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist the Services in implementing all aspects of the Act. In this regard, section 6 of the Act provides that the Services shall cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act. Therefore, any qualified employee or agent of a State conservation agency that is a party to a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by his or her agency for such purposes, would be able to conduct activities designed to conserve humpback chub that may result in otherwise prohibited take for wildlife without additional authorization.

Proposed 4(d) Rule

We believe the actions and activities that would be allowed under this proposed 4(d) rule, while they may cause some level of harm to individual humpback chub, would not negatively affect efforts to conserve and recover humpback chub, and would facilitate these efforts by increasing educational opportunities and public support for the conservation of humpback chub and by providing more efficient implementation of recovery actions. This proposed 4(d) rule would not be made final until we have reviewed and fully considered comments from the public.

Nothing in this proposed 4(d) rule would change in any way the recovery planning provisions of section 4(f) of the Act, the consultation requirements under section 7 of the Act, or the ability of the Service to enter into partnerships for the management and protection of the humpback chub. However, interagency cooperation may be further streamlined through planned programmatic consultations for the species between Federal agencies and the Service. We ask the public, particularly State agencies and other interested stakeholders that may be affected by the proposed 4(d) rule, to provide comments and suggestions regarding additional guidance and methods that the Service could provide or use, respectively, to streamline the implementation of this proposed 4(d) rule (see **Information Requested**, above).

Required Determinations

Clarity of this Proposed Rule

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

- (a) Be logically organized;
- (b) Use the active voice to address readers directly;
- (c) Use clear language rather than jargon;
- (d) Be divided into short sections and sentences; and
- (e) Use lists and tables wherever possible.

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

National Environmental Policy Act

We determined that we do not need to prepare an environmental assessment or an environmental impact statement, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244). We also determine that 4(d) rules that accompany regulations adopted pursuant to section 4(a) of the Act are not subject to the National Environmental Policy Act.

Government-to-Government Relationship with Tribes

In accordance with the President’s memorandum of April 29, 1994, “Government-to-Government Relations with Native American Tribal Governments” (59 FR 22951), Executive Order 13175, Secretarial Order 3206, the Department of the Interior’s manual at 512 DM 2, and the Native American Policy of the Service (January 20, 2016), we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We will coordinate with tribes in the range of the humpback chub and request their input on this proposed rule.

References Cited

A complete list of references cited in this rulemaking is available on the Internet at <http://www.regulations.gov> at Docket No. FWS–R6–ES–2018–0081, and upon request from the Upper Colorado River Endangered Fish Recovery Program Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this final rule are the staff members of the Service’s Upper Colorado River Endangered Fish Recovery Program Office.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

2. Amend § 17.11(h) by revising the entry for “Chub, humpback” under FISHES on the List of Endangered and Threatened Wildlife 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, humpback	<i>Gila cypha</i>	Wherever found	T	32 FR 4001, 3/11/1967; [Federal Register citation when published as a final rule]; 50 CFR 17.44(cc); ^{4d} 50 CFR 17.95(e). ^{CH}
* * * * *	* * *			

3. Amend § 17.44 by adding a paragraph (cc) to read as follows:

§ 17.44 Special rules—fishes.

(cc) Humpback chub (*Gila cypha*).

(1) *Prohibitions*. Except as provided under paragraph (cc)(2) of this section and §§ 17.4 and 17.5, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or cause to be committed, any of the following acts in regard to this species:

(i) Import or export, as set forth at § 17.21(b).

(ii) Take, unless excepted as outlined in paragraphs (cc)(2)(i) through (iv) of this section.

(iii) Possession and other acts with unlawfully taken specimens, as set forth at § 17.21(d)(1).

(iv) Interstate or foreign commerce in the course of commercial activity, as set forth at § 17.21(e).

(v) Sale or offer for sale, as set forth at § 17.21(f).

(2) *Exceptions from prohibitions*. In regard to this species, you may:

(i) Conduct activities as authorized by an existing permit under § 17.32.

(ii) Conduct activities as authorized by a permit issued prior to [effective date of the rule] under § 17.22 for the duration of the permit.

(iii) Take, as set forth at § 17.21(c)(2) through (c)(4).

(iv) Take humpback chub while carrying out the following legally conducted activities in accordance with this paragraph:

(A) *Definitions*. For the purposes of this paragraph:

(1) *Person* means a person as defined by section 3(13) of the Act.

(2) *Qualified person* means a full-time fish biologist or aquatic resources manager employed by any of the Colorado River Basin state wildlife agencies, the Department of Interior bureaus offices located within the Colorado River basin, or fish biologist or aquatic resource manager employed by a private consulting firm, provided the firm has received a scientific collecting permit from the appropriate state agency.

(3) *The six core populations* means the following populations of the humpback chub: Desolation and Gray Canyons (Green River, Utah), Dinosaur National Monument (Green and Yampa rivers, Colorado and Utah; currently extirpated), Black Rocks (Colorado River, Colorado), Westwater Canyon (Colorado River, Utah), Cataract Canyon (Colorado River, Utah), and Grand Canyon (Colorado and Little Colorado rivers, Arizona).

(4) *Reasonable care* means limiting the impacts to humpback chub individuals and populations by complying with all applicable Federal, State, and tribal regulations for the activity in question; using methods and techniques that result in the least harm, injury, or death, as feasible; undertaking activities at the least impactful times and locations, as feasible; ensuring the number of individuals removed or sampled minimally impacts existing extant wild population; ensuring no disease or parasites are introduced into

existing extant wild humpback chub populations; and preserving the genetic diversity of extant wild populations.

(B) *Creation and maintenance of refuge populations.* A qualified person may take humpback chub in order to create or maintain a captive or wild refuge population that protects the long-term genetic diversity of humpback chub, provided that reasonable care is practiced to minimize the effects of that taking.

(1) Methods of allowable take under this paragraph (cc)(2)(iv)(B) include, but are not limited to:

(i) Removing wild individuals via electrofishing, nets, and seines from the six core populations;

(ii) Managing captive populations, including handling, rearing, and spawning of captive fish;

(iii) Sacrificing individuals for hatchery management, such as parasite and disease certification; and

(iv) Eliminating wild refuge populations if conditions are deemed inadequate for conservation of the species or are deemed detrimental to the six core populations.

(2) Before the establishment of any captive or wild refuge population, the Service must approve, in writing, the designation of the refuge population, and any removal of humpback chub individuals from wild populations. Subsequent to a written approval for the establishment of a refuge population, take associated with the maintenance of the refuge population would not be prohibited under the Act.

(C) *Translocation and stocking of humpback chub.* A qualified person may take humpback chub in order to introduce individuals into areas outside of the six core populations. Humpback chub individuals may be introduced to new areas by translocating wild individuals to additional locations or by stocking individuals from captivity. All translocations of wild individuals and stocking of individuals from captivity must involve reasonable care to minimize the effects of that taking. Translocations of wild individuals and stocking of individuals from captivity must be undertaken to expand the range of humpback chub or to supplement existing populations.

(1) Methods of allowable take under this paragraph (cc)(2)(iv)(C) include, but are not limited to:

(i) Removing wild individuals via electrofishing, nets, and seines;

(ii) Managing captive populations, including handling, rearing, and spawning;

(iii) Sacrificing individuals for hatchery management, such as parasite and disease certification; and

(iv) Removing or eliminating all humpback chub from failed introduction areas via mechanical or chemical methods.

(2) The Service must approve, in advance and in writing:

(i) Any translocation program; and

(ii) Any stocking of humpback chub into any of the six core populations.

(D) *Nonnative fish removal.* A qualified person may take humpback chub in order to perform nonnative fish removal for conservation purposes if reasonable care is

practiced to minimize effects to humpback chub. For this paragraph (cc)(2)(iv)(D), nonnative fish removal for conservation purposes means any action with the primary or secondary purpose of mechanically removing nonnative fishes that compete with, predate, or degrade the habitat of humpback chub.

(1) Methods of allowable take under this paragraph (cc)(2)(iv)(D) include, but are not limited to:

(i) Mechanical removal of nonnative fish within occupied humpback chub habitats, including, but not limited to, electrofishing, seining, netting, and angling; and

(ii) The use of other ecosystem modifications, such as altered flow regimes or habitat modifications.

(2) The Service and all applicable landowners must approve, in advance and in writing, any nonnative fish removal activities under this paragraph.

(E) *Catch-and-release angling of humpback chub.* States and tribes may enact Federal, State, and tribal fishing regulations that address catch-and-release angling.

(1) In the six core populations, angling activities may include non-targeted (incidental) catch and release of humpback chub when targeting other species in accordance with Federal, State, and tribal fishing regulations.

(2) In areas outside of the six core populations, angling activities may include targeted catch and release of humpback chub in accordance with Federal, State, and tribal fishing regulations.

(3) Angling activities may cause take via:

- (i) Handling of humpback chub caught via angling;
- (ii) Injury to humpback chub caught via angling; and
- (iii) Unintentional death to humpback chub caught via angling.

(4) Reasonable consideration by the Federal, State, and tribal agencies for incidental catch and release of humpback chub in the six core populations include:

- (i) Regulating tactics to minimize potential injury and death to humpback chub if caught;
- (ii) Communicating the potential for catching humpback chub in these areas; and
- (iii) Promoting the importance of the six core populations.

(5) Reasonable consideration for establishing new recreational angling locations for humpback chub include, but are not limited to:

- (i) Evaluating each water body's ability to support humpback chub and sustain angling;
- (ii) Ensuring the recreational fishing population does not detrimentally impact the six core populations of humpback chub through such factors as disease or genetic drift; and
- (iii) Monitoring to ensure there are no detrimental effects to the humpback chub population from angling.

(6) The Service and all applicable State, Federal, and tribal landowners must approve, in advance and in writing, any new recreational fishery for humpback chub.

(F) *Chemical treatments to support humpback chub.* A qualified person may take humpback chub by performing a chemical treatment in accordance with Federal, State, and tribal regulations that would support the conservation and recovery of humpback chub, provided that reasonable care is practiced to minimize the effects of such taking.

(1) For treatments upstream of occupied humpback chub habitat:

(i) Service approval is not required; and

(ii) Care should be taken to limit the potential for fish toxicants and piscicides travelling beyond treatment boundaries and impacting humpback chub.

(2) For treatments in known or potentially occupied humpback chub habitat:

(i) The Service must approve, in advance and in writing, any treatment; and

(ii) Care should be taken to perform robust salvage efforts to remove any humpback chub that may occur in the treatment area before the treatment is conducted.

(3) Whenever possible, humpback chub that are salvaged should be moved to a location that supports recovery of the species.

(G) *Reporting and disposal requirements.* Any mortality of humpback chub associated with the actions authorized under this special rule must be reported to the Service within 72 hours, and specimens may be disposed of only in accordance with directions from the Service. Reports in the upper basin (upstream of Glen Canyon Dam) must be made to the Service's Mountain-Prairie Region Law Enforcement Office, or the Service's Upper Colorado River Endangered Fish Recovery Office. Reports in the lower basin (downstream Glen Canyon Dam) must be made to the Service's Southwest Region

Law Enforcement Office, or the Service's Arizona Fish and Wildlife Conservation Office. Contact information for the Service's regional offices is set forth at 50 CFR 2.2. The Service may allow additional reasonable time for reporting if access to these offices is limited due to office closure or if the activity was conducted in area without sufficient communication access.

* * * * *

Dated: December 10, 2019

Signed:

Margaret E. Everson
Principle Deputy Director, U.S. Fish and Wildlife Service
Exercising the Authority of the Director
for the U.S. Fish and Wildlife Service

[FR Doc. 2020-00512 Filed: 1/21/2020 8:45 am; Publication Date: 1/22/2020]