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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2022–0001; FXES1113090FEDR–256–FF09E22000]

RIN 1018–BG36

Endangered and Threatened Wildlife and Plants; Removal of Gila Chub From the List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to remove the Gila chub (*Gila intermedia*) from the Federal List of Endangered and Threatened Wildlife. Our review indicates that, based on the best scientific and commercial data available, the Gila chub is not a valid taxonomic entity and does not meet the definition of a species under the Endangered Species Act of 1973, as amended (Act). Accordingly, we propose to delist the Gila chub. If we finalize this rule as proposed, the prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would no longer apply to the Gila 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 public hearings, 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: *Comment submission:* You may submit comments by one of the following methods:

(1) *Electronically*: Go to the Federal eRulemaking Portal: https://www.regulations.gov. In the Search box, enter FWS–R2–ES–2022–0001, 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, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment."

(2) *By hard copy*: Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R2–ES–2022–0001, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

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

Availability of supporting materials: This proposed rule and supporting documents, such as the species status assessment (SSA) report, the SSA addendum, and comments from peer review, are available at https://www.regulations.gov under Docket No. FWS–R2–ES–2022–0001.

FOR FURTHER INFORMATION CONTACT: Heather Whitlaw, Field Supervisor, U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office, 9828 North 31st Avenue Suite C3, Phoenix, AZ 85051–2517; telephone 602–242–0210. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States. Please see

Docket No. FWS–R2–ES–2022–0001 on https://www.regulations.gov for a document that summarizes this proposed rule.

SUPPLEMENTARY INFORMATION

Information Requested

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

We particularly seek comments concerning:

(1) Reasons we should or should not remove the Gila chub from the List of Endangered and Threatened Wildlife; and

(2) Relevant data concerning the taxonomy of the Gila chub, particularly genetic relationships to other members of the genus *Gila* that occur in the Colorado River basin.

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, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act (16 U.S.C. 1533(b)(1)(A)) directs that determinations as to whether any species is an endangered species or a threatened species must be made solely on the basis of the best scientific and commercial data available.

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

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

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

Our final determination may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. For example, based on the new information we receive (and if relevant, any comments on that new information), we may conclude that the species should remain listed as endangered, or we may conclude that the species should be reclassified from endangered to threatened. We will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearing

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

hearing on our website, in addition to the *Federal Register*. The use of these virtual public hearings is consistent with our regulation at 50 CFR 424.16(c)(3).

Peer Review

A species status assessment (SSA) team prepared an addendum to the SSA report for the Lower Colorado River roundtail chub (*Gila robusta*) Distinct Population Segment (DPS) (Service 2022, entire) that summarizes information on the taxonomic status of the Gila chub (Service 2024, entire). The SSA team was composed of Service biologists, in consultation with other species experts. The SSA addendum represents a compilation of the best scientific and commercial data available concerning the taxonomic status of the Gila chub.

In accordance with our joint policy on peer review published in the *Federal Register* on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing and recovery actions under the Act (https://www.fws.gov/sites/default/files/documents/peer-review-policy-directors-memo-2016-08-22.pdf), we solicited independent scientific review of the information contained in the SSA addendum (Service 2024, entire). The Service sent the SSA addendum to three independent peer reviewers and received three responses. The peer reviews can be found at https://www.regulations.gov. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA addendum, which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed above in **Peer Review**, we received comments from three peer reviewers on the draft SSA addendum. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the information contained in the SSA addendum. All reviewers acknowledged the complexity and challenges associated with elucidating the taxonomy of the three *Gila* species in the

Lower Colorado River basin, which includes the Gila chub, roundtail chub, and headwater chub (*Gila nigra*). None of the reviewers disagreed with our interpretation of the available information that the Gila and headwater chubs are not distinct species. They also did not provide new information conflicting with our interpretation.

Two of the reviewers noted that *Gila* display morphological and genetic variation that is geographically structured across the Lower Colorado River basin and this structure may be relevant for conservation. In other words, their interpretation is that the available information indicates that the geographical structuring by watershed reflects the evolutionary history of the putative species and may serve as an appropriate scale on which to base conservation, akin to evolutionary significant units. However, these reviewers did not challenge our conclusion that patterns of morphological and genetic differences across the range do not correspond to the geographic ranges of the three putative species.

One reviewer acknowledged that there may be other species concepts (i.e., definitions of a species) that could be applied to this genus that could result in continued recognition of the Gila chub as a distinct species. However, the reviewer was clear that this argument has not been made in the literature, and no evidence is available to support alternative species concepts. The reviewer provided a hypothetical argument to emphasize other potential scenarios, not to argue for continued support for recognizing the Gila chub.

One reviewer provided further interpretation and assessment of the recent genomics studies cited in the SSA addendum, specifically Chafin et al. (2021, entire) and Suchocki et al. (2023, entire). The reviewer commented that we placed too much emphasis on the influence of sampling bias in the Chafin et al. study and should focus more on the lack of statistical support for the phylogenetic groups they identified. They also provided additional interpretation on the discriminant analysis conducted by

Suchocki et al. (2023, pp. 5–8). We made changes to the SSA addendum to reflect this reviewer's perspective.

Previous Federal Actions

On August 9, 2002, we published in the *Federal Register* (67 FR 51948) a proposed rule to list the Gila chub as an endangered species and to designate the species' critical habitat under the Act. On November 2, 2005, we published in the *Federal Register* (70 FR 66664) a final rule listing the Gila chub as an endangered species and designating its critical habitat under the Act.

On October 7, 2015, following completion of an SSA, we published in the *Federal Register* (80 FR 60754) a proposed rule to list the headwater chub and the Lower Colorado River roundtail chub DPS as threatened species under the Act. Subsequently, on April 7, 2017, we published in the *Federal Register* (82 FR 16981) a document withdrawing the 2015 proposed rule. The withdrawal was based on a thorough review of the best scientific and commercial data available at that time, which indicated that the headwater chub and the roundtail chub DPS were not discrete taxonomic entities—these fish were recognized as a part of a single taxonomic species, the roundtail chub (*Gila robusta*) (Page et al. 2017, p. 459)—and did not meet the Act's definition of a species. The 2015 proposed rule and the 2017 withdrawal of the proposed rule did not address the status of the Gila chub; the Gila chub remained listed as an endangered species on the List of Endangered and Threatened Wildlife.

In 2018, the Center for Biological Diversity (CBD) challenged our 2017 withdrawal of the 2015 proposed rule to list the headwater chub and Lower Colorado River roundtail chub DPS as threatened species under the Act. On March 31, 2021, the U.S. District Court found the 2017 withdrawal of the 2015 proposed rule was arbitrary and capricious because we withdrew the proposed rule based on taxonomic revisions, but never fully reevaluated the petitioned entity, the Lower Colorado River roundtail chub

DPS. In other words, the taxonomic revisions created a new biological entity in the Lower Colorado River basin that, under the Act, we were still obligated to assess under the original 2003 petition. The court vacated the withdrawal of the proposed rule and ordered that a new 12-month finding be completed by March 31, 2022.

On April 5, 2022, following completion of an SSA, we published in the *Federal Register* our finding that listing the Lower Colorado River roundtail chub DPS as an endangered or threatened species was not warranted (87 FR 19657). Additionally, the SSA (USFWS 2022, pp. 4–5) included a review of taxonomic information for the genus *Gila* in the Lower Colorado River basin and concluded that the available information did not support recognizing the Gila chub as a distinct taxonomic entity. Accordingly, in the same April 5, 2022, *Federal Register* publication (87 FR 19657), we issued an advance notice of proposed rulemaking to gather information to support a decision on whether or not we should propose to remove the Gila chub from the List of Endangered and Threatened Wildlife.

Background

The Gila chub (*G. intermedia*) was first described as *Tigoma intermedia* (Girard 1856, p. 42) and underwent numerous taxonomic placements but was later treated as a subspecies of the roundtail chub (*G. robusta*) (Miller 1945, p. 109). *G. intermedia* was then recognized as a distinct species, and its range was described as a series of populations distributed in central and southern Arizona within the Gila River basin, located within the Lower Colorado River basin (Rinne 1969, entire). It was one of three species of *Gila* recognized from the Lower Colorado River basin at that time, including the roundtail chub and the headwater chub (*G. nigra*) (Minckley and DeMarais 2000, entire).

The authoritative description of these three putative species is based on mean counts of meristic characters (i.e., countable physical features) such as number of lateral

line scales, fin rays, and vertebrae (Minckley and DeMarais 2000, p. 253). This description included an identification key for differentiating among *Gila* in the Lower Colorado River. Crucially, substantial overlap occurs in the variation of these meristic characters among the three putative species. Thus, accurate identification of these putative species requires knowledge of the watershed from which the specimens originated, as character differences vary across the Lower Colorado River basin. In other words, when two or more of these putative species occur in the same watershed, there are specific differences that can be used to differentiate between them within that watershed. However, these same differences cannot be applied universally across the Lower Colorado River basin.

The extensive overlap in meristic characters between the three putative species and watershed-specific differences has challenged attempts to accurately identify individual *Gila* in the field (Carter et al. 2018, entire). Subsequent studies have documented substantial overlap in morphological characteristics among the three putative species (Carter et al. 2018, entire; Copus et al. 2018, pp. 12–15; Moran et al. 2017, pp 307–309). There are no diagnostic characters that distinguish the three putative species. Based on these findings, a joint report from the American Fisheries Society and the American Society of Ichthyologists and Herpetologists concluded that the available morphological data do not indicate that populations of *Gila* within the Lower Colorado River basin constitute more than one species.

Genetic studies have arrived at similar conclusions. As with the morphological data, the three putative species do not form distinct genetic groups (DeMarais 1992, pp. 131–151; Schwemm 2006, entire; Schönhuth et al. 2014, pp. 215–217; Dowling et al. 2015, pp. 12–14; Copus et al. 2018, entire; Suchocki et al. 2023, entire). These studies have found that genetic variation is partitioned by geography, namely watershed, rather than putative species relationships (Schwemm 2006, p. 19; Dowling et al. 2015, p. 9;

Copus et al. 2018, pp. 15–17; Suchocki et al. 2023, pp. 4–5). In other words, there are greater genetic differences between *Gila* occurring in different watersheds than between putative species that occur in the same watershed.

Chafin et al. (2021, entire) used genome-wide markers to test several hypotheses regarding the evolution of *Gila* in the Colorado River basin, with an emphasis on populations in the lower basin. In several of their analyses, they found three distinct genetic clades (i.e., groupings) in the lower basin that generally corresponded to the three putative species. Populations assigned to same species using the Minckley and DeMarais (2000, p. 253) key fell within the same clade. However, statistical support for these three clades was low relative to the clades formed by other *Gila* species across the broader Colorado River basin (Chafin et al. 2021, p. 5). This means that there was weak statistical support for the Gila and headwater chubs forming lineages distinct from the roundtail chub. Their conclusion was that populations of *Gila* rapidly diversified in the Lower Colorado River basin following their initial colonization, resulting in shallow genetic differences (Chafin et al. 2021, pp. 8–12). While they interpreted this as support for the three putative species, their results paralleled those of other genetic studies in finding substantial genetic variation among watersheds and weak differentiation among the species.

As noted by nearly all researchers investigating the systematics of *Gila*, the taxonomic situation is complicated and problematic (Holden and Stalnaker 1970, pp. 418–419; Minckley 1973, pp. 102–103; Minckley and DeMarais 2000, p. 251; Gerber et al. 2001, p. 2028; Schönhuth et al. 2014, p. 210; Copus et al. 2018, p. 2; Chafin et al. 2021, p. 7; Suchocki et al. 2023, pp. 7–11), and ongoing genetic and morphologic analyses of chubs in the Gila River basin continue to yield conflicting results (Page et al. 2017, entire; Copus et al. 2018, entire; Chafin et al. 2021, entire; Suckocki et al. 2023, entire). There are several conclusions that can reasonably be drawn based on the available

information. First, there are no clear diagnostic phenotypic or genetic characters that distinguish between the three putative species across the entirety of their ranges. Second, the putative species can only be differentiated from each other when specimens are grouped into putative species assignments (Moran et al. 2017, pp. 310–311; Suchocki et al. 2023, p. 9). Accurate taxonomic assignment of specimens is, therefore, dependent on knowledge regarding the location of collection, meaning that taxonomy is contingent on geography. Third, much of the genetic variation observed among Lower Colorado River basin *Gila* is partitioned by watershed (Schwemm 2006, p. 19; Dowling et al. 2015, p. 9; Suckocki et al. 2023, p. 3). Populations within the same watershed are more similar to each other than populations that occur outside that watershed, meaning genetic differences are more tied to geography than nominal taxonomy. These findings indicate that, at best, the differences between the three putative *Gila* species are subtle and not readily apparent to even skilled observers (e.g., Carter et al. 2018, entire). Multiple studies have shown that patterns of variation, whether phenotypic or genetic, do not unambiguously fit into the three species model proposed by Minckley and DeMarais (2000, entire).

The joint report from the American Fisheries Society and American Society of Ichthyology and Herpetology Joint Committee on the Names of Fishes, which evaluated evidence available at the time, concluded that there was no support for species-level status for Gila chub and headwater chub and recommended collapsing them into roundtail chub, recognizing only a single species (Page et al. 2017, p. 459). Recently, the American Fisheries Society published the latest edition of the accepted scientific names of North American fishes. They list *G. intermedia* and *G. nigra* as valid scientific names, while noting the taxonomic uncertainty of the *G. robusta* complex (Page et al. 2023, pp. 70, 224). However, inclusion of *G. intermedia* and *G. nigra* on this list reflects that the

names themselves are considered valid according to taxonomic convention, not that the species themselves are valid entities.

Since the publication of this report (Page et al. 2017, entire), more information has become available that supports the conclusion that Gila chub and headwater chub are not distinct taxonomic entities (Moran et al. 2017, entire; Carter et al. 2018, entire; Copus et al. 2018, entire; Suchocki et al. 2023, entire; but see Chafin et al. 2023, entire). Minckley and DeMarais (2000, entire) defined these two putative species based on a particular analysis of phenotypic data. Subsequent studies have failed to distinguish these as two species using alternative analyses and could not even successfully assign individuals collected in the field to the supposed correct species using the Minckley and DeMarais taxonomic key (Moran et al. 2017, entire; Carter et al. 2018, entire). Genetic studies have also failed to demonstrate strong statistical support for the presence of distinct genetic lineages that correspond to the Gila and headwater chubs (Schwemm 2006, entire; Dowling et al. 2015, entire; Copus et al. 2018, entire; Chafin et al. 2021, entire; Suchocki et al. 2023, entire). In conclusion, based on the best scientific and commercial data available, *G. intermedia* (Gila chub) and *G. nigra* (headwater chub) are not valid taxonomic entities, and populations previously assigned to those two species should be reclassified as *G. robusta* (roundtail chub).

Comments on the April 5, 2022, Advance Notice of Proposed Rulemaking

In the April 5, 2022, advance notice of proposed rulemaking concerning the delisting of the Gila chub (87 FR 19657), we requested that all interested parties submit written comments by June 6, 2022. We also contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the action under consideration. We received 12 comments in total. Three State agencies provided comments, all of which were supportive of the delisting of the Gila chub based on taxonomic changes. Two of the public comments cited the

findings of Chafin et al. (2021, entire) as justification to not delist the Gila chub but did not elaborate beyond that argument. We received the most substantive comments from a group of experts who disagreed with our interpretation of the taxonomy of Gila chub. Below are their specific comments and our responses.

(1) Comment: Commenters argued that we did not give enough consideration to findings of Chafin et al. (2021, entire) in the 2022 SSA report and that the other recent genomics studies cited in the 2022 SSA report (for example, Copus et al. 2018, entire) should not be considered to be equivalent to Chafin et al. (2021) in terms of value. They contend that Chafin et al. (2021, entire) should be considered the best available information to inform taxonomy because that study included more individual samples and more populations.

Our response: Both the Copus et al. (2018, entire) and Chafin et al. (2021) studies differ in terms of number of individual fish and number of populations included in the analysis. However, having a larger sample size does not necessarily make the findings of a study more robust. As noted in our discussion of the available information (see **Background**), statistical support for the presence of the Gila chub was low relative to the support for clades formed by other *Gila* species across the broader Colorado River basin (Chafin et al. 2021, p. 5). Furthermore, Suchocki et al. (2023, entire) included more individual samples and populations than either study. After considering these studies, we determined that using sample size as the sole benchmark to determine best available data creates an inappropriate standard that neglects the importance of critically evaluating the methodology and conclusions of all available studies when interpreting taxonomy. Additionally, the SSA addendum provides a more thorough review of Chafin et al. (2021, entire) (see Service 2024, pp. 7–10) that is incorporated into our determination in this proposed rule.

(2) Comment: Commenters stated that we inappropriately interpreted the basis that Minckley and DeMarais (2000, entire) used to distinguish between the three species of *Gila* in the Lower Colorado River basin. They state that the diagnostic key of Minckley and DeMarais (2000, entire), which uses morphological characteristics, is based on the data and analyses reports in several other studies (Rinne 1976, entire; DeMarais 1986, entire; Douglas et al. 1999, entire).

Our response: We have adjusted the language of the SSA addendum to better reflect the origin of the data used to inform the conclusions of Minckley and DeMarais (2000, entire). Regardless, subsequent researchers have been unable to accurately assign specimens to putative species using this key (Moran et al. 2017, pp. 307–309; Carter et al. 2018, p. 286). There are two logical conclusions from this line of evidence. One is that the key itself is flawed, and due to some aspect of its development (e.g., choice of characters, measurement errors, etc.) is unable to sufficiently discriminate among three species that are indeed distinct. The second conclusion is that the three putative species themselves are not distinct from each other and thus any key would be unable to reliably assign specimens to the correct species. Based on our analysis of the best available scientific data, including morphological and genetic studies, we find that the second conclusion is most likely to be correct; the totality of information indicates that the three putative species cannot be consistently discriminated from one another using morphological data.

(3) Comment: Commenters stated that the results of Moran et al. (2017, entire) support the conclusion that the three species of *Gila* in the Lower Colorado River basin can be distinguished using morphological characteristics.

Our response: The commenters are correct that Moran et al. (2017, pp. 310–311) were able to differentiate among the three putative species (roundtail chub, headwater chub, and Gila chub) using morphological analysis. However, this was achieved only for

a specific type of analysis. When they grouped specimens *a priori* by presumed species assignment and ran multivariate tests designed to maximize differences between groups, they were able to distinguish the three putative species (Moran et al. 2017, pp. 310–311). In contrast, when they used analyses that did not consider prior species assignment of specimens, they could not discriminate between the three putative species (Moran et al. 2017, pp. 307–309). They also failed to reliably identify specimens when using the Minckley and DeMarais (2000) diagnostic key. In other words, Moran et al. (2017, pp. 310–311) were only able to distinguish among the three species when they assumed the three species were indeed present. This creates a circular argument where statistical support for the presence of three species only occurs when the three species are assumed to be present. The commenters did not provide further explanation for emphasizing one aspect of Moran et al. (2017) to support their claim while ignoring non-supporting evidence from the same study. Furthermore, the commenters did not acknowledge other morphological studies (e.g., Carter et al. 2018, entire; Copus et al. 2018, pp. 12–15) that were unable to distinguish among the three putative species using morphological data. Our SSA addendum (Service 2024, pp. 5–7) provides a more thorough synthesis of the available studies and supports our conclusion that the three putative species cannot be readily differentiated using phenotypic data.

(4) Comment: Commenters stated that we misinterpreted Dowling et al. (2015, entire) and that study should not be used to inform taxonomy. They argue that given the rapid rate of microsatellite deoxyribonucleic acid (DNA) evolution, it is not unexpected that there are no diagnostic markers for the three species.

Our response: Dowling et al. (2015, entire) used nuclear microsatellite DNA markers to assess patterns of genetic variation among *Gila* in the Lower Colorado River basin. They generated genotypes for populations that had been previously identified as roundtail, Gila, or headwater chub and performed several genetic analyses to ascertain

differences among these populations. Across the various analyses they performed, they failed to identify genetic groupings that correspond to the three putative species. In fact, one analysis (an analysis of molecular variance) specifically compared whether patterns of genetic variation were best explained by putative taxonomy (i.e., three distinct species) or differences corresponding to river drainages. They found stronger statistical support for genetic variation being partitioned among drainages and populations than species groups (Dowling et al. 2015, p. 9). Other analyses, such as their neighboring-joining network and Bayesian clustering analysis, did not group populations by putative species identity. Instead, these analyses grouped populations by watershed (Dowling et al. 2015, pp. 12–14), indicating that patterns of genetic structure correspond with river drainages instead of putative taxonomy. A similar pattern has been observed in other genetic studies (Copus et al. 2018, entire; Suchocki et al. 2023, entire).

We agree with the commenters that basing taxonomic decisions solely on genetic information generated with nuclear microsatellites can be problematic given the characteristics of these markers. However, microsatellites have long been used to characterize population differentiation, even at species-level differences, and if the three presumed species were genetically distinct, they likely would have been observed in the dataset generated by Dowling et al. (2015, entire). The commenters argue that we should ignore the findings of Dowling et al. (2015, entire) when it comes to informing taxonomy, but the findings fit a pattern observed in other genetic studies that there is a lack of genetic differentiation among the three putative species. Aside from Chafin et al. (2021, entire), there have been multiple studies using mitochondrial sequences (DeMarais 1992, pp. 131–151; Schwemm 2006, entire; Schönhuth et al. 2014, pp. 215–217, 219), microsatellite markers (Dowling et al. 2015, entire), and/or single nucleotide polymorphisms (Copus et al. 2018, entire; Suchocki et al. 2023, entire) that were unable to identify diagnostic markers unique to any of the three putative species or failed to

observe patterns of genetic differentiation that correspond to the three putative species. Thus, we conclude that the best available scientific and commercial data indicate there are no observable genetic differences among the three putative species, which questions recognition of their taxonomic validity.

(5) Comment: Commenters cited the following statement from Dowling et al. (2015, p. 15): "these results highlight the role that local evolution has played in shaping patterns of variation in these taxa and the importance of accounting for this variation when managing the complex [i.e., *Gila* in the Lower Colorado River basin]." They argue our 12-month finding (87 FR 19657) ignored the potential value this variation has in conservation and adaptive capacity of these putative species.

Our response: We agree that *Gila* in the Lower Colorado River basin display a complex genetic structure that would promote the adaptive capacity of the species and should inform conservation activities. Current management plans for the roundtail chub emphasize the importance of maintaining genetic diversity and preserving genetically distinct populations (Colorado River Fish and Wildlife Council 2019, pp. 41–42). Thus, consideration of local adaptation is built into on-going conservation efforts for *Gila* populations in this basin. As per our statutory requirements, for this proposed rule we are only assessing whether the Gila chub is a valid taxonomic entity, not evaluating alternative groupings that may be relevant for the management and conservation of *Gila*.

(6) Comment: Commenters noted that Douglas et al. (1999, entire) was not cited in the SSA report. They argue that the findings of Douglas et al. (1999, entire) are consistent with those of Chafin et al. (2021, entire) and provide support for the recognition of the three species.

Our response: Douglas et al. (1999, entire) explicitly tested several evolutionary hypotheses to explain observed patterns of phenotypic variation among *Gila* in the Lower Colorado River basin. In other words, they statistically tested whether specific

evolutionary scenarios were correlated with patterns in body shape variation. They concluded that the vicariance hypothesis was most supported, meaning that ancient hydrology (i.e., prehistorical waterways) facilitated colonization of distinct phenotypes of *Gila* at various points in time over the past 16 million years.

We do not contest the findings of Douglas et al. (1999, entire), but instead contend that they have little relevance to the question of Gila chub taxonomy. They tested whether body shapes, composed of 10 measured traits, among 1,106 *Gila* specimens were correlated with three different evolutionary hypotheses. The study does not specifically address taxonomic relationships or distinctness between the three putative species; instead, it makes inferences about evolutionary drivers of phenotypic diversity among *Gila*. It is not clear from Douglas et al. (1999, entire) whether the phenotypic diversity they observed even corresponded to the three putative species. Thus, they only infer that the phenotypes they analyzed correlated with ancient waterways, which may or may not match the putative distributions of the roundtail, Gila, and headwater chubs. In fact, it provides further support to the claim that patterns of diversity among *Gila* in the Lower Colorado River basin are associated with watershed (Dowling et al. 2015, entire; Copus et al. 2018, entire; Suchocki et al. 2023, entire; Service 2024, pp. 9–10). Although valuable for informing evolutionary drivers of phenotypic diversity, Douglas et al. (1999, entire) does not address the distinctness or taxonomic validity of the Gila chub.

Furthermore, contrary to the commenters' claim, the findings of Douglas et al. (1999, entire) and Chafin et al. (2021, entire) are not congruent. Douglas et al. (1999, p. 243–244) concluded that phenotypic diversity was most strongly associated with the mid Miocene and Pliocene epochs, indicating multiple colonization events during those time periods. The mid-Miocene covers a period of geological history spanning from 16 to 11.5 million years ago and the Pliocene from 5.3 to 2.5 million years ago. However, based on genomic data, Chafin et al. (2021, p. 9) estimated that the roundtail, Gila, and headwater

diverged from each other less than 2 million years ago. These incongruent findings do not invalidate either study but reveal that there is still uncertainty in the evolutionary history of *Gila* in the Lower Colorado River basin. Therefore, we conclude that Douglas et al. (1999, entire) and Chafin et al. (2021, entire) do not provide congruent, uncontestable evidence that the Gila chub is a distinct species and valid taxonomic entity.

(7) Comment: Commenters stated that in the 2022 SSA report we deferred to the American Fisheries Society and American Society of Ichthyology and Herpetology Joint Committee on the Names of Fishes (hereafter "Committee") decision to reject the taxonomic validity of the Gila chub rather than providing our own review of the literature. They also argue we have been inconsistent in our application of the Committee's list of species to other situations, such as our continued recognition of the scientific name *Tiaroga cobitis* for the loach minnow rather than *Rhinichthys cobitis* as recommended by the Committee.

Our response: Under our implementing regulations at 50 CFR 424.11(a), we rely on standard taxonomic distinctions and the biological expertise of the Department of the Interior and the scientific community concerning the relevant taxonomic group. Thus, we are charged with basing our decisions on interpretations provided by taxonomic authorities and the biological expertise of the Department of the available information. When taxonomic opinion is not unanimous, we use that biological expertise and provide a rational basis to arrive at our own conclusions. Our listing determination for the Gila chub is based on our review of the best available scientific and commercial data, which is provided in the SSA addendum (Service 2024, entire). We did not defer to any taxonomic authority in basing our decision. In fact, the most recent publication of the Committee lists *G. intermedia* and *G. nigra* as valid scientific names, while noting the taxonomic uncertainty of the *G. robusta* complex (Page et al. 2023, pp. 70, 224). However, inclusion of *G. intermedia* and *G. nigra* on the Committee's list reflects that the names themselves

are considered valid according to taxonomic convention, not that the species themselves are valid entities. When asked to review the available information on the taxonomy of *Gila* in the Lower Colorado River basin, the Committee concluded that the Gila chub was not a distinct species (Page et al. 2017, p. 459). After reviewing the same information as the Committee, as well as information that has published since then, we have independently concluded that the Gila chub is not a distinct species (i.e., does not meet the definition of a "species" in the Act), is not a listable entity under the Act, and therefore should be delisted (50 CFR 424.11(e)(4).

Regarding the commenters' assertion of our inconsistencies, we acknowledge that the circumstances surrounding every taxonomic situation are unique. Under our regulations at 50 CFR 17.11(c), we rely, to the extent practicable, on the Integrated Taxonomic Information System (ITIS) to determine a species' scientific name. Further, recognition of a particular scientific name requires rigorous taxonomic review that may be subject to changes with new information. Translating these changes into official agency usage requires rulemaking to amend text in the Code of Federal Regulations and revisions to our databases. There is often a lag between official changes in scientific naming convention and agency adoption of those changes.

Regulatory and Analytical Framework

Regulatory Framework

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

"Species" is defined by the Act as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife that interbreeds when mature (16 U.S.C. 1532(16)).

Our regulations at 50 CFR 424.11(e) identify four reasons why, after conducting a status review based on the best scientific and commercial data available, we will delist a species: (1) The species is extinct; (2) the species has recovered to the point at which it no longer meets the definition of an endangered species or a threatened species; (3) new information that has become available since the original listing decision shows the listed entity does not meet the definition of an endangered species or a threatened species; or (4) new information that has become available since the original listing decision shows the listed entity does not meet the definition of a species.

Determination of Gila Chub's Status

In accordance with our regulations at 50 CFR 424.11(e)(4), our review of the best scientific and commercial data available indicates that the Gila chub does not meet the Act's definition of a species (16 U.S.C. 1532(16)). Therefore, we propose to remove Gila chub from the Federal List of Endangered and Threatened Wildlife. The Gila chub does not require a post-delisting monitoring (PDM) plan because the requirements for PDM only apply to species delisted due to recovery (16 U.S.C. 1533(g)(1)), not those delisted due to the listed entity no longer meeting the statutory definition of a species.

Effects of This Rule

This proposed rule, if made final, would revise 50 CFR 17.11(h) by removing the Gila chub from the Federal List of Endangered and Threatened Wildlife. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would no longer apply to the Gila chub. Federal agencies would no longer be required to consult with the Service under section 7 of the Act in the event that activities they authorize, fund, or carry out may affect the Gila chub.

In addition, if this proposal is made final, 50 CFR 17.95(e) would be revised by removing the designated critical habitat for the Gila chub.

Required Determinations

Clarity of the Proposed Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

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

Government-to-Government 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, May 4, 1994), Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), the President's memorandum of November 30, 2022 (Uniform Standards for Tribal Consultation; 87 FR 74479, December 5, 2022), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes and Alaska Native Corporations on a government-to-government basis. In accordance with Secretary's

Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We coordinated with several Tribes, most notably the White Mountain Apache Tribe and the San Carlos Apache Tribe, in development of the Lower Colorado River roundtail chub DPS SSA (Service 2022, entire). We also contacted these Tribes, along with others in the region, following publication of the advance notice of proposed rulemaking to delist the Gila chub (87 FR 19657). No Tribes provided comments during the public comment period. We will continue to work with Tribal entities during the development of a final delisting determination for the Gila chub.

References Cited

A complete list of references cited in this rulemaking is available on the internet at https://www.regulations.gov and upon request from the Arizona Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT)**.

List of Subjects in 50 CFR Part 17

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

Signing Authority

Paul Souza, Regional Director, Region 8, Exercising the Delegated Authority of the Director of the U.S. Fish and Wildlife Service, approved this action on May 1, 2025, for publication. On June 9, 2025, Paul Souza authorized the undersigned to sign the document electronically and submit it to the Office of the Federal Register for publication as an official document of the U.S. Fish and Wildlife Service.

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

§ 17.11 [Amended]

2. In 17.11, in paragraph (h), amend the List of Endangered and Threatened Wildlife under FISHES by removing the entry for "Chub, Gila".

§ 17.95 [Amended]

3. In § 17.95, amend paragraph (e) by removing the entry for "Gila Chub (*Gila intermedia*)".

Madonna Baucum,
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