

SPECIES: Scientific [common]	<i>Gila robusta</i> [Roundtail Chub]
Forest:	Bridger-Teton National Forest
Forest Reviewer:	Patrick M. Barry, Masako Wright
Date of Review:	1/22/2020, 6/24/2025
Forest concurrence (or recommendation if new) for inclusion of species on list of potential SCC: (Enter Yes or No)	YES

FOREST REVIEW RESULTS:

1. The Forest concurs or recommends the species for inclusion on the list of potential SCC:
Yes X No ___
2. Rationale for not concurring is based on (check all that apply):
Species is not native to the plan area _____
Species is not known to occur in the plan area _____
Species persistence in the plan area is not of substantial concern _____

FOREST REVIEW INFORMATION:

1. Is the Species Native to the Plan Area? Yes X No ___

If no, provide explanation and stop assessment.
2. Is the Species Known to Occur within the Planning Area? Yes X No ___

If no, stop assessment.

Table 1. Known Occurrences, Years, and Frequency within the Plan Area.

Year Observed	Number of Individuals	Location of Observations (USFS District, Town, River, Road Intersection, HUC etc.)	Source of Information
1934	Unknown	Wind River Range, Fremont Lake South, Pinedale Ranger District	WYNDD (2019)
1934	Unknown	Fremont Lake, Pinedale Ranger District	WYNDD (2019)
1954	Unknown	Burnt Lake, near Pinedale, Pinedale Ranger District	WYNDD (2019)
1968	Unknown	Wind River Range, west slope, Brunt Lake area, Pinedale Ranger District	WYNDD (2019)
2008–2009	~0–0.7 CPUE (fish 100m ⁻² h ⁻¹)	Little Halfmoon Lake	Laske et al. (2011)
2008–2009	~0–1.7 CPUE (fish 100m ⁻² h ⁻¹)	Halfmoon Lake	Laske et al. (2011)
2017	~200	Burnt Lake	WGFD 2018

Table 2. Number of Individuals by Waterbody and Year Within the Plan Area (WGFD 2025).

Year	Burnt Lake	Fremont Lake	Green River (Below New Fork River)	Halfmoon Lake	Halfmoon Lake, Little	Meadow Lake	New Fork Lake, Lower	New Fork Lake, Upper	Scab Lake	Willow Lake	Total
1991			1								1
2000		49		48	58						155
2001					15		2				17
2003	25	24		5	50		1			39	144
2004	9	7									16
2005	62				391					23	476
2006	8			112	307			1			428
2007	7	75		1	350						433
2008	103										103
2009	2			61	612						675
2010		93		105	126						324
2011	37	49		55							141
2012							2				2
2013	10	226		58	18						312
2014	83			7	78				4		172
2016		1		2							3
2017	239			10			2				251
2018					101						101
2019	959			6							965
2020	649						5				654
2021	328										328
2022		22		8	107						137
2024	244			223		40					507

a. Are all Species Occurrences Only Accidental or Transient?

Yes___ No X

If yes, document source for determination and stop assessment.

b. For species with known occurrences on the Forest since 1990, based on the number of observations and/or year of last observation, can the species be presumed to be established or becoming established in the plan area?

Yes X No___

If no, provide explanation and stop assessment

c. For species with known occurrences on the Forest predating 1990, does the weight of evidence suggest the species still occurs in the plan area?

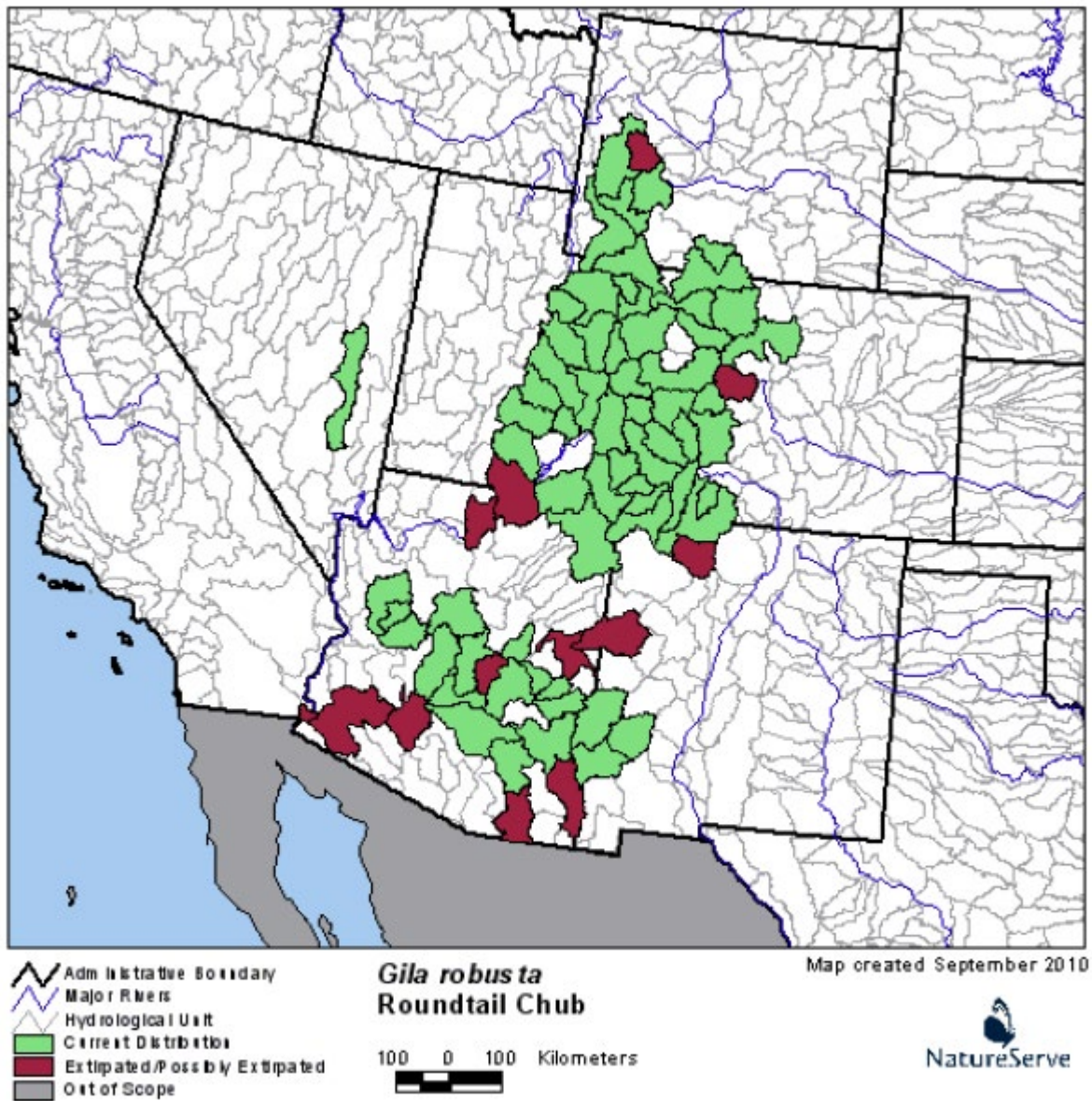
Yes ___ No ___

Provide explanation for determination

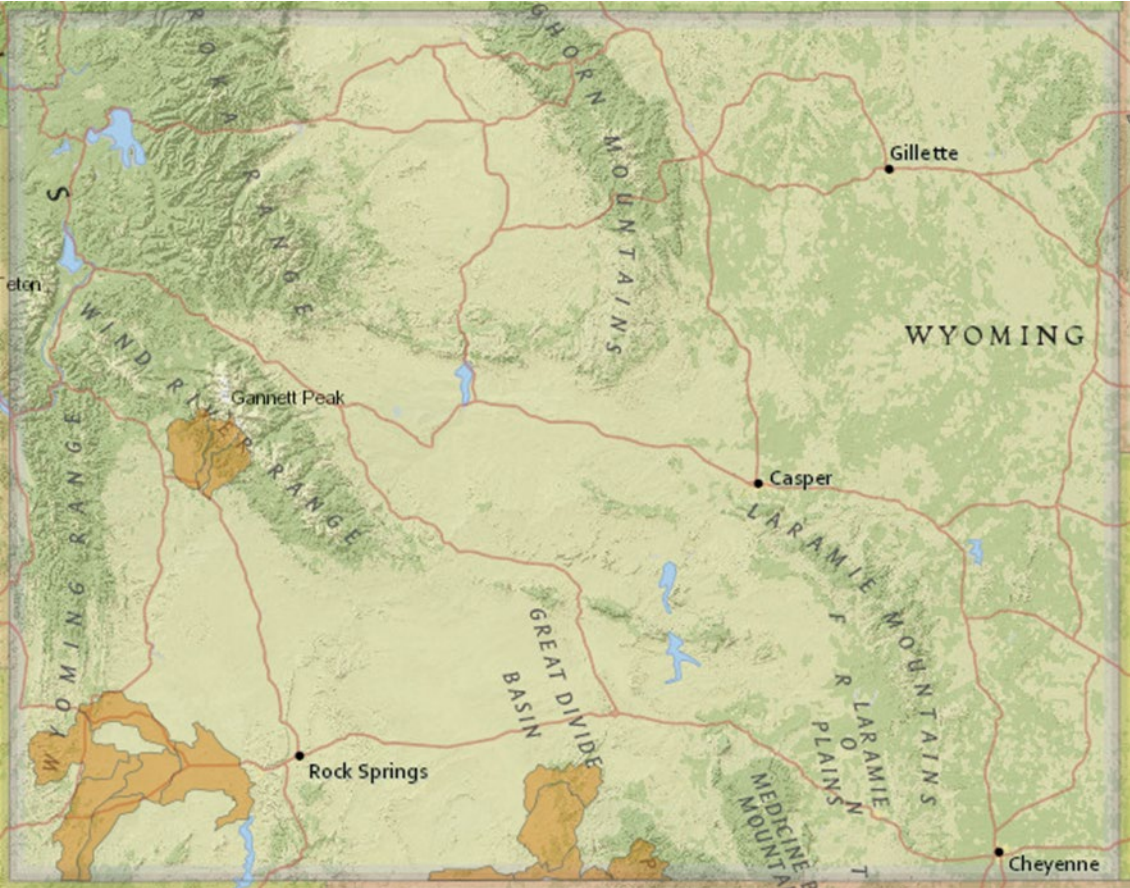
N/A-Occurrences have been documented since 1990.

If determination is no, stop assessment

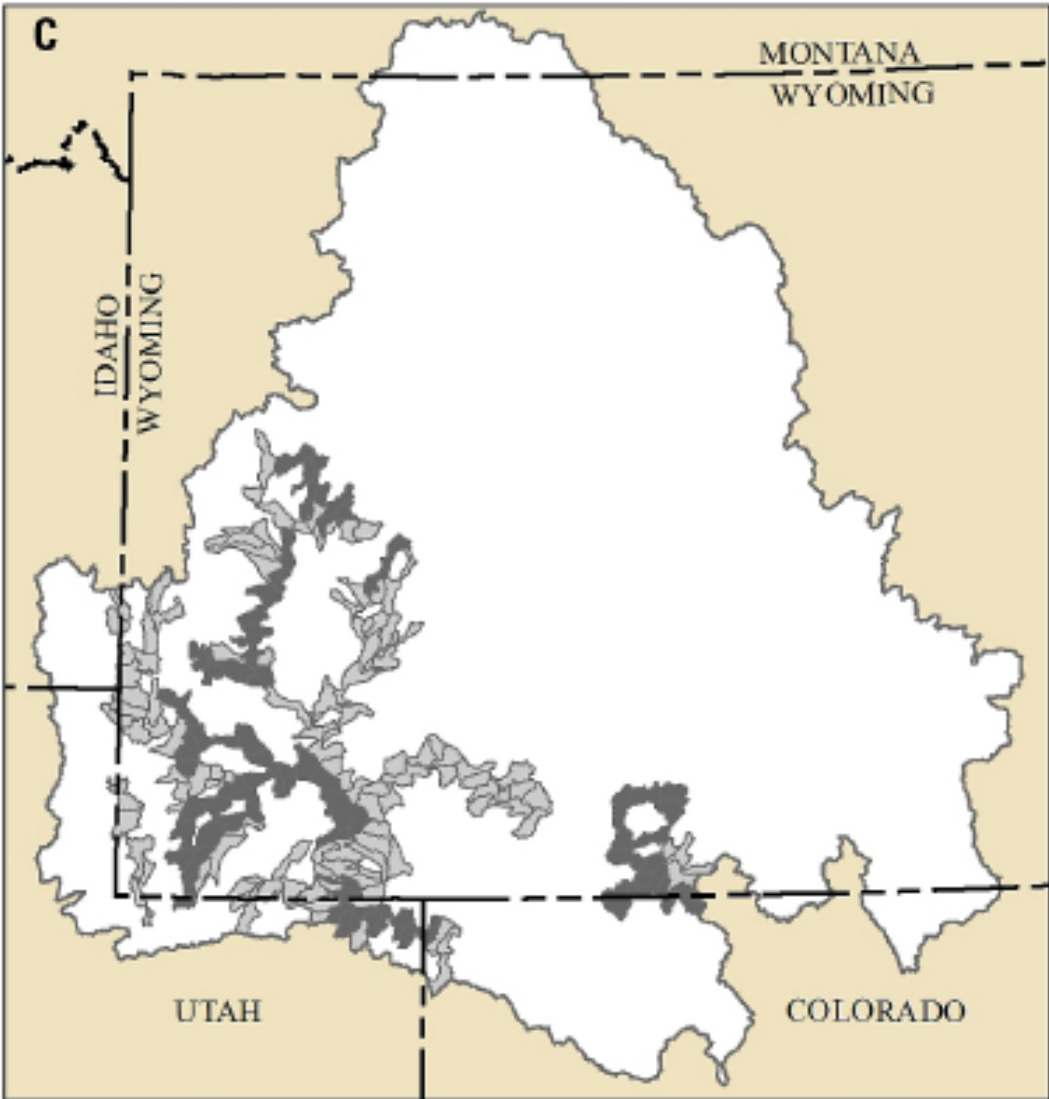
d. **Map 1.** Range of Roundtail Chub (*Gila robusta*) in the western United States (NatureServe 2019).



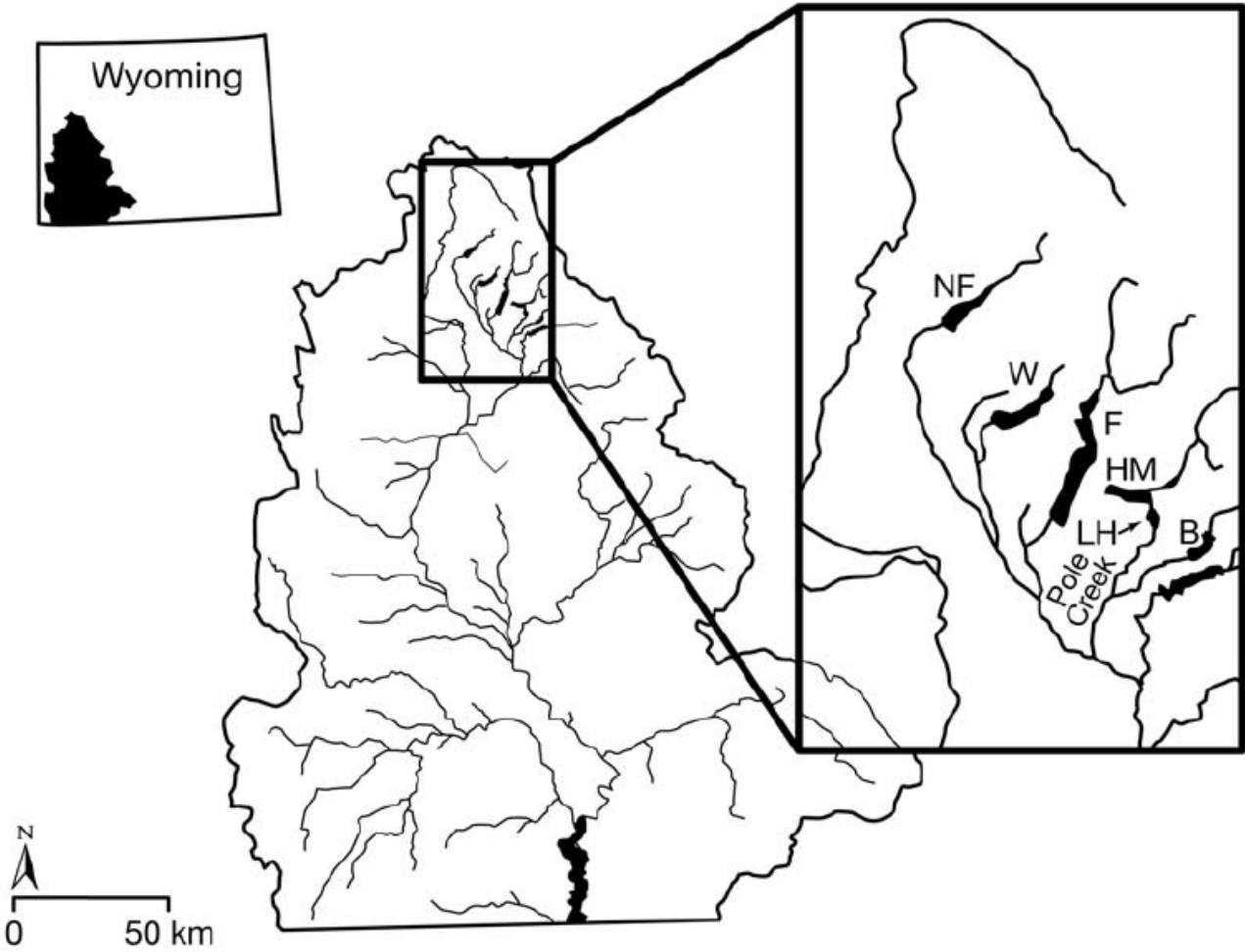
Map 2. Range of Roundtail Chub (*Gila robusta*) in Wyoming (WYND 2025).



Map 3, Baseline distribution of Roundtail Chub derived from occurrence in sixth-level watershed, in the Wyoming Basin Rapid Ecoregional Assessment project area (~51,604.87 mi² in portions of Wyoming, Colorado, Utah, Idaho, and Montana) (Walters et al. 2017).



Map 4, Lakes of the upper Green River basin, Wyoming, with populations of Roundtail Chub: New Fork Lake (NF), Willow Lake (W), Fremont Lake (F), Halfmoon Lake (HM), Little Halfmoon Lake (LH), and Burnt Lake (B) (Laske et al. 2011).



3. Is There Substantial Concern for the Species' Capability to persist Over the Long-term in the Plan Area Based on Best Available Scientific Information?

Table 2. Status summary based on existing conservation assessments

Entity	Status/Rank (include definition)
NatureServe Global Status	G3—Vulnerable <i>At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.</i>
NatureServe State Status	S3—Vulnerable <i>At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.</i>
WGFD	SGCN, NSS1 (Aa), Tier #I <u>Population Status:</u> <i>Imperiled - Population size or distribution is restricted or declining and extirpation is possible.</i> <u>Limiting Factors:</u> <i>Extreme - Limiting factors are severe and continue to increase in severity</i> <u>Tier I:</u> <i>High priority</i> <i>[The WGFD's Species of Greater Conservation Need (SGCN) designation process is based upon its Native Species Status (NSS) classification system that compares population and limiting factor variables using a 16 cell matrix. As a species moves from a placement closest to the upper left corner of the matrix (Aa/NSS1) toward the lower right corner (Dd/NSS7) the species' population status in Wyoming is considered more secure. Numerical scores were assigned to each of these variables and summed to provide a total score (i.e. NSS3). SGCN were placed into one of three tiers based on their total score: Tier I – highest priority, Tier II – moderate priority, and Tier III – lowest priority.]</i> (WGFD, 2017 - Wyoming Species of Greatest Conservation Need)
WYNDD	Species of Concern <i>Species vulnerable to extirpation at the global or state level due to:</i> <ul style="list-style-type: none"> <i>a. their rarity (e.g., restricted distribution, small population size, low population density)</i> <i>b. inherent vulnerability (e.g., specialized habitat requirements, restrictive life history)</i>

	<p><i>c. threats (e.g., significant loss of habitat, sensitivity to disturbances)</i></p> <p>(Wyoming Natural Diversity Database - Species of Concern)</p>
USDA Forest Service	<p>Region 2: Sensitive Species</p> <p><i>Those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by</i></p> <ul style="list-style-type: none"> <i>a. Significant current or predicted downward trends in population numbers or density.</i> <i>b. Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.</i> <p>(FSM 2670.5 – Threatened, Endangered & Sensitive Species)</p>
USDOI FWS	Not Listed
USDOI BLM	<p>Sensitive (WY)</p> <p><i>1. Sensitive species must be native species found on BLM-administrated lands for which BLM has the capability to significantly affect the conservation status of the species through management, and either:</i></p> <ul style="list-style-type: none"> <i>a. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or</i> <i>b. The species depends on ecological refugia or specialized or unique habitats on BLM-administrated lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.</i> <p><i>2. All federally designated candidate species, proposed species, and delisted species in the 5 years following their delisting shall be conserved as Bureau sensitive species</i></p> <p>(BLM Wyoming Sensitive Species Policy and List; March 31, 2010)</p>
IUCN	<p>Vulnerable</p> <p>A taxon in vulnerable when it has been evaluated against the Red List criteria but does not qualify for Critically Endangered, Endangered, or near threatened, but is close to qualifying for or is likely to qualify for a vulnerable.</p> <p>(IUCN 2024)</p>

Table 3. Status summary based on best available scientific information.

Criteria	Rationale
Distribution on the Bridger-Teton National Forest	<p>Roundtail Chubs were historically distributed throughout the Colorado River Basin with two evident populations centers—one in the Lower Colorado River Basin and one in the Upper Colorado River Basin. The current distribution of Roundtail Chubs has been reduced by about 45% compared with historical distribution (Bezzerrides and Bestgen 2002), with a total of about 660 miles of stream and river habitat and 19 mi² of lake habitat in the Basin (Walters et al. 2017).</p> <p>In Wyoming, extant populations have been documented in the Green River and several tributaries above Flaming Gorge Reservoir (Bezzerrides and Bestgen 2002; Kern et al. 2007). A more recent study identified Roundtail Chub in 8% of sampled reaches (27 of 320 reaches) in the Green River drainage of Wyoming. They were identified from the Blacks Fork River sub-drainage, including the Blacks Fork River, Hams Fork River, and Muddy Creek, as well as from the Little Snake River sub-drainage, including the Little Snake River, Muddy Creek, and McKinney Creek (Kern et al. 2007).</p> <p>Roundtail Chubs are also established in several headwater lakes (New Fork Lake, Willow Lake, Fremont Lake, Halfmoon Lake, Little Halfmoon Lake, and Burnt Lake) in the upper Green River Basin within the New Fork River drainage near Pinedale, Wyoming (Map 5, Bezzerrides and Bestgen 2002; Kern et al. 2007; Laske et al. 2011); all six of these lentic populations are within the BTNF boundary. Documented WYNDD occurrences on the BTNF are on Fremont and Burnt Lakes (Table 1, WYNDD 2019), but populations are extant at all lakes (Laske et al. 2011). Roundtail Chubs were sampled and present in Halfmoon and Little Halfmoon Lakes in 2008–2009 (Laske et al. 2011). Recently, approximately 200 Roundtail Chubs were captured from Burnt Lake and transplanted into Meadow Lake, which also overlaps the BTNF and has no predaceous fish species (WGFD 2018).</p>
Abundance on the Bridger-Teton National Forest	<p>Roundtail Chubs were once common throughout the Colorado River drainage, but they presently occupy approximately 45% of their historic range in the Basin. They currently occur in relatively low numbers in the Green River drainage of Wyoming, and abundance is presumed to be rare (Bezzerrides and Bestgen 2002; WGFD 2017).</p>
Population Trend on the Bridger-Teton National Forest	<p>In the Upper Colorado River Basin, Roundtail Chub have been extirpated from approximately 45% of historical habitat, and decline has been observed in remaining populations of the Gila, Salt, San Juan, Gunnison, White, Yampa, and Green Rivers (Bezzerrides and Bestgen 2002; WGFD 2017). This species was once common in many waters around Pinedale and Green River, but their numbers have dwindled in recent decades. Introduction of non-native predacious fish probably played a large role in their decline (WGFD 2018).</p>

Criteria	Rationale
<p>Habitat Trend on the Bridger-Teton National Forest</p>	<p>Roundtail Chubs are commonly found in pool-riffle habitats of Colorado River Basin rivers and streams. Adults are associated with low current velocities, deep pools, undercut banks, woody debris, and boulders (Bestgen 1985, WGFD 2017). Lentic populations in the Upper Green River drainage in Wyoming most often used littoral and mid-depth benthic habitats (Laske et al. 2010).</p> <p>The native fish community of the Green River basin in Wyoming may be the most imperiled in the state. Three of the twelve species and subspecies historically found in the basin have been extirpated. Aquatic habitat in the basin has largely been degraded by the introduction of invasive species, water development, and altered flow regimes (WGFD 2017).</p> <p>Priority areas for the conservation of Wyoming’s Three Species, including Roundtail Chub, have been established in the following subdrainages of the Green River Basin: Muddy Creek (tributary to the Little Snake River), Big Sandy River, Little Sandy Creek, Upper Bitter Creek, Henrys Fork, and select Finger Lakes near Pinedale (WGFD 2017). Habitat restoration activities in these systems, such as nonnative removal, will help to improve conditions for native species (Walters et al. 2017; WGFD 2017).</p> <p>Additionally, the Rangewide Conservation Agreement for Roundtail Chub, Bluehead Sucker, and Flannelmouth Sucker may help to protect and enhance habitat to ensure the persistence of these species throughout their ranges (UDNR 2009).</p>
<p>Threats to the Species and its Habitat on the Bridger-Teton National Forest</p>	<p>The biggest limiting factor for Roundtail Chub is competition and predation from invasive species. This threat is increasing due to the introduction of new species and the expansion of existing species, particularly predatory fish such as burbot (<i>Lota lota</i>), brown trout (<i>Salmo trutta</i>) (Walters et al. 2017; WGFD 2017).</p> <p>Habitat degradation (e.g., dewatering, loss of connectivity) is another main threat to this species. The effects of water development and reservoir construction exacerbated by drought have cut off this species’ migratory corridors, degraded its habitat, and encouraged the spread of nonnative species (WGFD 2017).</p>
<p>Date: August 30, 2019</p> <p>Reviewer: L. Chipman</p>	

Summary and Recommendations

The Roundtail Chub, *Gila robusta*, are distributed throughout the Colorado River Basin and several other drainages throughout Utah, Colorado, Wyoming, Arizona, New Mexico, and one drainage in Nevada. Their current distribution has been reduced by approximately 45% within the Colorado River Basin in Wyoming. Current distribution on the Bridger Teton National Forest has been reduced to several lakes on the west slope of the Wind River Mountain Range and the Upper New Fork River within the Green River Basin (e.g. New Fork Lake, Willow Lake, Fremont Lake, Halfmoon Lake, Little Halfmoon Lake, Burnt Lake, and a recently introduced population in Meadow Lake). Within these habitats, although once abundant and distributed well throughout rivers and lakes in the drainage, Roundtails now occur in relatively low abundance and are presumed rare. Threats to the Roundtail Chub include predation from non-native species, introductions of non-native piscivorous sportfish species, expansion of non-native sportfish populations, habitat degradation (e.g. dewatering rivers/streams, loss of connectivity), and reservoir construction and minimum pool elevation manipulation within those reservoirs. With shrinking habitats, increasing non-native sportfish populations preying existing Chub populations, and increasing irrigation needs downstream of occupied habitats on the Bridger Teton National Forest, the persistence of the Roundtail Chub is in peril and therefore recommended as a Species of Conservation Concern.

Summary and Recommendation Provided by: P.M. Barry (January 22, 2020)

References

- Bestgen, Kevin. 1985. Distribution, biology, and status of the Roundtail Chub, *Gila robusta*, in the Gila River basin, New Mexico. Bestgen, B.K.R., 1985. 601, Thesis for Master of Science, Colorado State University.
- Bezzerrides, N., and K.R. Bestgen. 2002. Final Report: Status Review of Roundtail Chub *Gila robusta*, Flannelmouth Sucker *Catostomus latipinnis*, and Bluehead Sucker *Catostomus discobolus* in the Colorado River Basin. Submitted to U.S. Department of the Interior, Bureau of Reclamation, Salt Lake City, Utah. Larval Fish Laboratory Contribution 118, Colorado State University, Ft. Collins.
- IUCN. 2024. *Gila robusta*. Roundtail Chub. The IUCN Red List of Threatened Species 2019.
- Kern, A., R. Keith, and K. Gelwicks. 2007. Green River watershed native non-game fish species report: phase II. Wyoming Game and Fish Department, Laramie, WY.
- Laske, S. M., Rahel, F. J., Hubert, W. A, and P. A. Cavalli. 2011. Ecology of Unique Lentic Populations of Roundtail Chub, *Gila Robusta*. *Western North American Naturalist* 71(4): 507–515.
- NatureServe. 2019. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.0. NatureServe, Arlington, VA. U.S.A. Available <http://explorer.natureserve.org>.
- UDNR (Utah Department of Natural Resources). 2006. Rangewide Conservation Agreement and Strategy for Roundtail Chub (*Gila robusta*), Bluehead Sucker (*Catostomus discobolus*), and Flannelmouth Sucker (*Catostomus latipinnis*). Salt Lake City, Utah. Available at: [https://ocs.fortlewis.edu/drd/pdf/Appendix-D%20Rangewide-3-Species-Conservation-Agreement 3-7-12.pdf](https://ocs.fortlewis.edu/drd/pdf/Appendix-D%20Rangewide-3-Species-Conservation-Agreement%203-7-12.pdf)
- Walters, A. K. Sherrill, and J. Hickey. 2017. Chapter 19. Three-Species Fish Assemblage. In: Carr, N.B., and Melcher, C.P., eds., Wyoming Basin Rapid Ecoregional Assessment: (ver. 1.1, April 2017) U.S. Geological Survey Open-File Report 2015–1155, 896 p., <https://doi.org/10.3133/ofr20151155>.

WGFD (Wyoming Game and Fish Department). 2017. State Wildlife Action Plan. Available at:
<https://wgfd.wyo.gov/media/8339/download?inline>

WGFD (Wyoming Game and Fish Department). 2018. Pinedale Region Angler Newsletter. Available at:
https://wgfd.wyo.gov/sites/default/files/content/PDF/Fishing/PINEDALE_ANGLERNEWS_2018.pdf

WGFD (Wyoming Game and Fish Department). 2025. WGFD Fish Database. Roundtail Chub.

WYNDD (Wyoming Natural Diversity Database). 2019. Wyoming Natural Diversity Database; Data Explorer. Laramie, WY: University of Wyoming.

WYNDD 2025. Wyoming Natural Diversity Database; Data Explorer. Laramie, WY: University of Wyoming. Available at: https://wyndd.org/portal/apps/data_explorer/map.