Bluehead Sucker

ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS

Bluehead suckers (*Catostomus discobolus*, Family *Catostomidae*) scrape algae and aquatic insects from rocks with specialized protractile mouths with cartilaginous scraping edges.

Species Description

Identification

Described as medium to small fish, bluehead suckers reach between 11 and 18 inches in length. Generally, bluehead suckers from larger streams grow bigger than their counterparts in smaller tributaries. As their name suggests, the broad, blue to blueish gray head contrasts with more golden-olive in the body with a lighter yellowish belly. During breeding, males may develop red bands along the lateral lines, tubercles (horny protrusions) on their anal fins, and orange or yellow fins.

Preferred Habitats

Bluehead suckers are restricted to mainstem streams and their tributaries and to riparian wetlands and backwaters connected to streams.

Diet

Larval bluehead suckers feed on zooplankton and diatoms. Juveniles and adults feed mostly on bottom-dwelling algae and small aquatic insects, both of which they scrape from rocks.

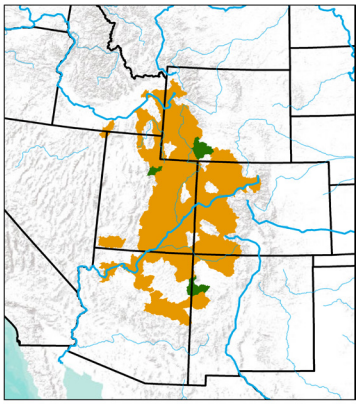
Conservation Status

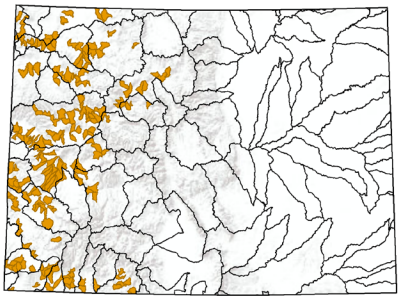
Federal: Not listed.
Colorado: Not listed, but designated Tier 1 Species of Greatest Conservation Need.
USFS: Listed as Sensitive Species.
BLM: Listed as Sensitive Species.

Species Distribution

Range

Bluehead suckers occupy mainstem streams and their tributaries in western Colorado and parts of Arizona, Idaho, New Mexico, Utah, and Wyoming. In the Upper Colorado River Basin, they inhabit approximately 45% of their historic range.





Distribution of bluehead sucker in North America and in Colorado. Map of entire range based on data provided by NatureServe. Colorado map based on CPW (2019) and represents the most current information on distribution by 12-digit hydrologic unit codes (HUCs), shown in orange with grey outline. Solid black lines indicate larger 8-digit HUCs.

Version Date: November 2020

Preferred Habitat Conditions

All fish must have connectivity among habitats, suitable for all life cycles, including spawning, rearing, feeding, and refuge. Dams and other barriers to fish movement can have both positive and negative effects for fishes of conservation concern. Barriers can block contact with non-native predatory fish or non-native fish that alter the gene pool of native fish, but they can also prevent desirable gene flow among populations. Due to the difficulty of generalizing effects of barriers, they are not included in the scorecard.

Association with other fishes	flannelmouth sucker (*Catostomus latipinnis*) and roundtail chub (*Gila robusta*) prefer similar conditions
Cover	undercut banks that provide cover
Features within streams	well defined riffles, runs, and pools
Spawning bed	gravel of 0.26 inch diameter on average
Stream type	mainstem or tributaries; small tributaries especially important for isolation from non-natives
Substrate	rocky or gravely in riffles and runs; gravely or silty in backwaters and eddies
Water depth	adults, juveniles and larval bluehead suckers require different depths that vary among sites; a diversity of depth, including 10 inches to >8 feet deep will satisfy the needs of all life cycles
Water temperature for spawning	60–75 °F
Water temperature for adults	60–76 °F, tolerating 53.5–84 °F
Water velocity	moderate to fast; juveniles also use warmer, slower-moving water and backwaters; for spawning, approximately 1.1 ft. per second

Management Recommendations

This fact sheet contains easy-to-use guidelines for understanding habitat needs of Colorado Parks and Wildlife priority wetland-dependent wildlife. Biologists with expertise in bluehead suckers have suggested numerous practical steps that can be taken to improve habitat quality for this species.

Hydrology

- Manage for natural water temperatures and flow in occupied streams.
- Avoid activities and actions that result in sedimentation and channel incision.
- Maintain in-stream habitat diversity (pools, riffles, runs).
- Manage for complete connectivity among habitats (pools, riffles, runs).

Land Use

- Although the relationship is not well understood, bluehead sucker presence has been negatively associated with land disturbances from roads and energy development; therefore, bluehead suckers might benefit from avoidance of these activities adjacent to occupied streams.

Conservation

- Avoid introductions of non-native predatory fishes.
- Avoid introductions of non-native suckers, particularly white suckers, to prevent hybridization and contamination of bluehead sucker gene pools.
- Consider all opportunities to control non-native fishes.

© M. TILDON JONES, USFWS

Acknowledgements
Nate Cathcart (Alaska Department of Fish and Game, Anchorage, AK), Michael Bower (U. S. National Park Service, Juneau, AK), and Harry Crockett (Colorado Parks and Wildlife, Fort Collins, CO) reviewed an earlier version and provided input on preferred habitat conditions.

Suggested Reading and Citations

Bezzerides, N., and K. Bestgen. 2002. Status review of roundtail chub *Gila robusta*, flannelmouth sucker *Catostomus latipinnis*, and bluehead sucker *Catostomus discobolus* in the Colorado River Basin. Final Report to Bureau of Reclamation. Salt Lake City, UT.

Bower, M. R., and W. A. Hubert. 2008. Habitat features affect bluehead sucker, flannelmouth sucker, and roundtail chub across a headwater tributary system in the Colorado River Basin. Journal of Freshwater Ecology 23:347-357.

Compton, R. I., W. A. Hubert, F. J. Rahel, M. C. Quist, and M. R. Bower. 2008. Influences of fragmentation on three species of native warmwater fishes in a Colorado River basin headwater stream system. North American Journal of Fisheries Management 28:1733–1743.

CPW (Colorado Parks and Wildlife). 2015. State Wildlife Action Plan. Colorado Parks and Wildlife, Denver, CO.

CPW. 2019. Species Activity Mapping: CPW Fish Shapefile Download. https://www.arcgis.com/home/item.html?id=c1aa2ab573e34dbb86a1a1b6190abeb1.

Dauwalter, D. C., S. J. Wenger, K. R. Gelwicks, and K. A. Fesenmyer. 2011. Land use associations with distributions of declining native fishes in the Upper Colorado River Basin. Transactions of the American Fisheries Society 140: 646-658.

Gido, K. B., and D. L. Propst. 1999. Habitat use and association of native and nonnative fishes in the San Juan River, New Mexico and Utah. Copeia 1999:321-332.

Ptacek, J. A., D. E. Rees, and W. J. Miller. 2005. Bluehead Sucker (*Catostomus discobolus*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/blueheadsucker.pdf [Accessed 1 August 2018].

Utah Division of Wildlife Resources. 2006. Range-wide conservation agreement and strategy for roundtail chub *Gila robusta*, bluehead sucker *Catostomus discobolus*, and flannelmouth sucker *Catostomus latipinnis*. Utah Department of Natural Resources, Salt Lake City, UT. Publication Number 06-18.

Woodling, J. 1985. Colorado's little fish: A guide to the minnows and other lesser known fishes in the state of Colorado. Colorado Division of Wildlife, Denver, Colorado.

Habitat Scorecard for Bluehead Sucker (v. Nov 2020)

Assessment of habitat before and after restoration or management actions

Project Name: _____ Project Area (acres): _____ Habitat Area (acres): _____

Size of Contiguous Habitat outside Project Area (acres): _____ Ownership (circle): Same / Different / Conservation Easement

Scorecard Instructions: Enter one value that best describes early to mid-summer conditions of each habitat variable, using the numbers in the value column. Habitat variables are in shaded boxes; ranges of condition are directly below each variable. **If condition is outside range or is not described, enter a zero.**

Project Area and Habitat Area: The project area includes the entire area affected by the project. The habitat is the area that will provide (in case of pre-project) or does provide (post-project) habitat for each potential target species within the project area. The habitat area may be the same size as the project area or it might be smaller and it may be defined differently for different target species. If there is contiguous habitat area outside the project area, note the size and whether the ownership of the contiguous areas is the same or different and whether it is under conservation easement or other habitat protection. If the habitat area within your project area is noncontiguous and/or if sections are in very different conditions, consider using multiple scorecards so that each scorecard represents the general conditions. If you use multiple scorecards, identify each habitat area on a map.

Key habitat variable and conditions	Value	Pre-Project	Expected Post-Project	Actual Post-Project
Date of assessment				
Connectivity for all life cycles				
Complete connectivity among habitats (pools, riffles, runs)	16.1			
Disconnected only during extreme low flows	10.8			
Disconnected often	5.4			
Non-native predatory fishes				
None detected	16.1			
Detected at low level	10.8			
Conspicuously present	5.4			
Non-native suckers				
None detected	16.1			
Detected at low level	10.8			
Conspicuously present	5.4			
Prevalence of rock substrate (gravel, pebble, cobble, boulder, bedrock)				
Area with >50%	14.5			
Area with 30–50%	9.7			
Area with <30%	4.8			
Water depth				
Diversity of depth, including 10 inches to >8 feet	12.9			
Diversity of depth, including 1.5–5 feet	8.6			
< 1.5 feet throughout	4.3			
Pool surface area*				
>250–420 sq yds per 110 yds of stream length	9.7			
>165–250 sq yds per 110 yds of stream length	6.5			
85–165 sq yds per 110 yds of stream length	3.2			
Riffle surface area*				
>90–180 sq yds per 110 yds of stream length	9.7			
>60–90 sq yds per 110 yds of stream length	6.5			
30–60 sq yds per 110 yds of stream length	3.2			

**If the project area is less than 110 yds of stream length, and neighboring property is contiguous, you can include the neighboring property, but please indicate this next to the variable.*

Continued on next page.

Habitat Scorecard for Bluehead Sucker (v. Nov 2020)

Assessment of habitat before and after restoration or management actions

Bluehead Sucker Scorecard *continued*.

Key habitat variable and conditions	Value	Pre-Project	Expected Post-Project	Actual Post-Project
Undercut banks or other cover				
Present, providing ample cover	4.8			
Scattered few	3.2			
Not present	1.6			
Total (of 100 possible): add all numbers in before or after columns				