COLORADO PARKS & WILDLIFE

Rio Grande Sucker

ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS

In the early 1870s, explorers found abundant Rio Grande suckers (*Catostomus plebeius*, Family *Catostomidae*) in the tributaries of the Rio Grande in Colorado and New Mexico.

Species Description

Identification

Rio Grande suckers are characterized by a downturned "sucker" mouth, greenish brown backs fading to whitish bellies, and dark blotches along their back and sides. Breeding males have brilliant black and red lateral stripes and tubercles that form on the caudal and anal fins. Rio Grande suckers are small fish, with adults usually attaining a length of only 4 to 6 inches.

Preferred Habitats

Rio Grande suckers inhabit streams with clean gravel riffles, clear pools, large wood and aquatic vegetation.

Diet

Rio Grande suckers are omnivores, but largely algivorous. Facilitated by a well-adapted cartilaginous ridge in their mouth, they feed by scraping off rocks and consume mostly algae, detritus, and aquatic invertebrates. Young of the year may depend largely on macroinvertebrates until their mouth morphology develops to scrape algae.

Conservation Status

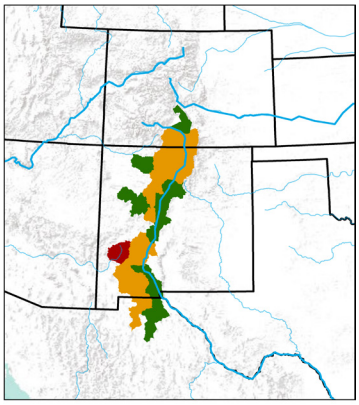
Federal: Not listed.
Colorado: Listed as Endangered and designated Tier 1 Species of Greatest Conservation Need.
USFS: Listed as Sensitive Species.
BLM: Listed as Sensitive Species.

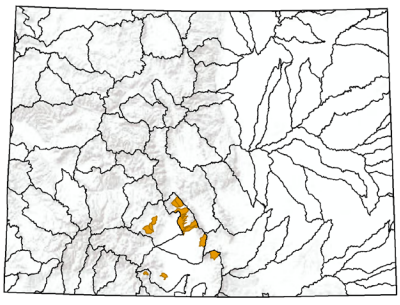
The Rio Grande sucker was petitioned for listing under the Endangered Species Act in 2013. On 15 March 2016, in a 90-day Finding on Petition, U. S. Fish and Wildlife Service assigned the Rio Grande sucker to the list of substantial findings, but currently it has no federal status.

Species Distribution

Range

Historically, Rio Grande suckers were abundant in the tributaries of the Rio Grande in Colorado and New Mexico. Today, they occur mostly in New Mexico with smaller populations extending into southern Colorado and Mexico. Since 1995, Rio Grande suckers have been repatriated in multiple streams, but natural reproduction is insufficient to sustain their population.





Distribution of Rio Grande suckers in North America and in Colorado. Map of entire range based on data provided by NatureServe. Colorado map based on Colorado Species Activity Mapping(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. While hybridization with non-native white suckers is a concern, competition seems to be the primary mechanism by which Rio Grande suckers are displaced. Rio Grande suckers prefer a mosaic of pools, riffles, and runs, mostly free of fine sediments. Course substrate may be more conducive to algal growth and provide high-quality feeding habitat, while clean gravels may serve as optimal spawning habitat.

Association with other fishes	coevolved with Rio Grande cutthroat trout and Rio Grande chub and prefers similar conditions as introduced white sucker and brown trout
Cover	abundant instream vegetation (e.g., filamentous algae and watercress), woody material, overhanging riparian vegetation
Features within streams	throughout site, includes pools, runs, riffles, and backwaters
Stream size	small to medium
Stream gradient	0.8–3%
Substrate	clean gravel, cobble, and boulder; strongly avoid fine sediments; prefer clean gravel for spawning
Water clarity	clear; no sediments
Water temperature	cool, less than 75 °F
Water temperature for spawning	51–61 °F
Water velocity	low to medium

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Daniel Cammack (Colorado Parks and Wildlife, Gunnison, CO) and John Alves (Colorado Parks and Wildlife, Durango, CO) reviewed an earlier version and provided input on preferred habitat conditions.

Suggested Reading and Citations

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

Langlois, D., J. Alves and J. Apker. 1994. Rio Grande sucker recovery plan. Colorado Parks and Wildlife, Denver, CO. 22 pp.

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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 Rio Grande suckers have suggested numerous practical steps that can be taken to improve habitat quality for this species.

Hydrology

- Enhance stream flow and avoid dewatering.
- Avoid channelization and maintain natural meanders.
- Provide development buffer for stream to migrate laterally.
- Protect springs and small connecting streams.
- Maintain processes that mimic results from natural flow regimes.

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Vegetation

- Enhance and/or restore riparian vegetation to provide cover.
- Protect integrity of existing riparian vegetation.
- Re-establish native vegetation, such as willow and cottonwood.
- Implement non-native vegetation control.
- Promote instream wood recruitment.

Contamination

- Improve and maintain water quality. Minimize use of herbicides, pesticides and fertilizer near waterways.

Habitat Scorecard for Rio Grande 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				
Stream feature				
Includes pools, runs, riffles, backwaters, especially downstream from riffles	17.7			
Includes pools, runs, riffles, backwaters that could be enhanced	11.8			
Site does not include well-defined pools or riffles	5.9			
Substrate				
Gravel and/or cobble; no fine sediments	17.7			
Mostly gravel and cobble with small amount of silt or fine sediments	11.8			
Abundant silt and sediments	5.9			
Cover				
Ample cover in the following categories: instream vegetation, instream woody debris, and overhanging vegetation	17.7			
Sparse cover in the following categories: instream vegetation, instream woody debris, and overhanging vegetation	11.8			
Little to no cover in the following categories: instream vegetation, instream woody debris, and overhanging vegetation	5.9			
Riparian condition				
Well-established riparian area; livestock is fully excluded	15.9			
Riparian area contains patchy vegetation; some livestock grazing	10.6			
Riparian area contains sparse vegetation and erosive banks; livestock grazing allowed	5.3			
Landscape context				
Land adjacent to stream is continuously vegetated by primarily native plants and consists mostly of permeable surfaces	15.9			
Land adjacent to stream has a mix of vegetation with some barren areas and/or impermeable surfaces	10.6			
Vegetation is sparse on adjacent land with large areas of impermeable surface	5.3			
Water quality				
No visual evidence of turbidity or pollutants	15.0			
Water is cloudy with localized areas of contamination	10.0			
Water is murky and has oily sheen	5.0			
Total (of 100 possible): add all numbers in before or after columns				