

# Brassy Minnow



ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS

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## Species Distribution

### Range

Brassy minnows range from Canada south to Colorado and Utah and from Montana through northeast North America. In Colorado, they are found in the Lower South Platte River Basin and also in the backwaters of the Colorado River.

Brassy minnows (*Hybognathus hankinsoni*, Family *Cyprinidae*) are small native fish of the Colorado plains. They inhabit pools and channels within small streams.

## Species Description

### Identification

Adult brassy minnows are 2 ½–3 inches in length and are variously described in color, perhaps due to geographic differences or changes that occur through preservation of specimens. The majority of descriptions include a brassy color on the sides. The centers of their large eyes are even with the tips of their snouts.

### Preferred Habitats

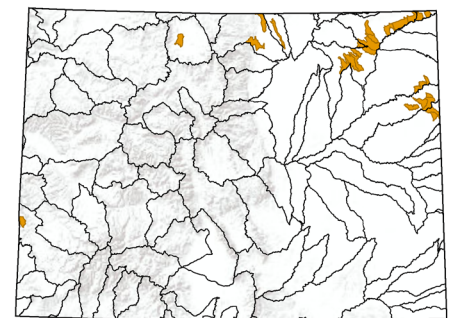
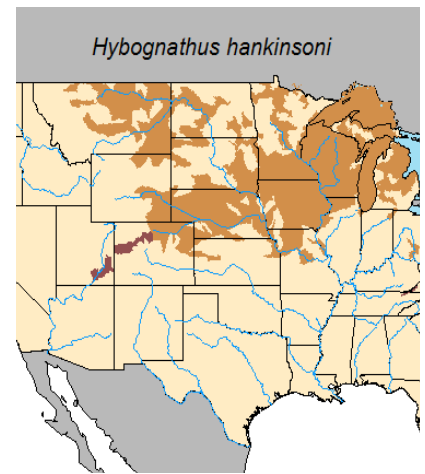
Brassy minnows occupy stream channels (particularly pools), back waters, and beaver ponds.

### Diet

The diet of brassy minnows consists primarily of plankton.

### Conservation Status

Brassy minnows occur in low numbers and are listed as a Tier 1 Species of Greatest Conservation Need (CPW 2015).



Known occurrence

North America map used from US. Geologic Survey (<http://nas.er.usgs.gov>). 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.

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# 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.

Dominant vegetation	abundant aquatic vegetation, especially submergent vegetation (plants growing fully under water)
Landscape context	connectivity with other waters through the driest months
Morphology of stream	permanent (deep) pools and backwaters
Predatory fish	absence of large predatory fish
Substrate	organic sediment on top of gravel
Water depth (predominant)	deep enough to persist through dry periods
Woody debris	abundant

## 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 brassy minnows have suggested numerous practical steps that can be taken to improve habitat quality for this species.

### Hydrology

- Manage conditions to create or maintain permanent pools.
- Increase spring flows.

### Vegetation

- Manage riparian vegetation to create root mass that prevents streambank erosion.
- Manage for conditions that favor submergent vegetation.
- Manage for conditions in riparian area that favor recruitment of native woody vegetation.

### Contamination

- Maintain native fish communities.
- Prevent invasion of exotic predators and competitors.
- Monitor streams for toxins and artificial hormones.

### Land Use / Other

- Encourage beaver where appropriate to create suitable pools.

### Conservation

- Identify suitable habitat for potential translocations.
- Relocate in suitable habitat.



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### Acknowledgements

Boyd Wright (Colorado Parks and Wildlife) 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: A Strategy for Conserving Wildlife in Colorado. Denver, Colorado.

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# Habitat Scorecard for Brassy Minnows (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 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
<b>Date of assessment</b>				
<b>Stream morphology/landscape</b>				
Permanent pools connected with other waters during driest time of summer	21.4			
Permanent pools with intermittent connection to other waters during driest time of summer	14.2			
Shallow or temporary pools with connection to other waters during driest time of summer	7.1			
<b>Dominant vegetation</b>				
Abundant aquatic vegetation, including submergent vegetation	20.2			
<b>Predatory fish</b>				
General absence of predatory fish	20.2			
<b>Predominant water depth during driest time of summer</b> Answer for ONLY ONE appropriate stream segment, below, using best option				
<b>Upstream reach of streams inhabited by brassy minnow</b>				
>15 inches	19.1			
>5 – 15 inches	12.8			
3 – 5 inches	6.4			
<b>Midstream reach of streams inhabited by brassy minnow</b>				
>25 inches	19.1			
>15 – 25 inches	12.8			
5 – 15 inches	6.4			
<b>Downstream reach of streams inhabited by brassy minnow</b>				
>40 inches	19.1			
>15 – 40 inches	12.8			
10 – 15 inches	6.4			
<b>Woody debris</b>				
Ample woody debris in water to provide cover	19.1			
<b>Total (of 100 possible): add all numbers in before or after columns</b>				