Orangespotted Sunfish

ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS

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Orangespotted sunfish (*Lepomis humilis*, Family *Centrarchidae*) are among the most colorful fish on Colorado's eastern plains. They are typically 2-3 inches long but can be up to 6 in.

Species Description

Identification

Breeding male orangespotted sunfish have orange bellies and fins, silvery green sides with orange spots, and a blue sheen on the side of their heads. Females are silvery with orange-brown spots on their upper sides; they show a small amount of orange along their backs and have only a hint of orange in the fins. Orangespotted sunfish grow to a maximum of six inches.

Preferred Habitats

Orangespotted sunfish occur in streams, beaver ponds, other ponds, oxbows, floodplain pools, and sloughs.

Diet

Orangespotted sunfish feed throughout water column, including the bottom, consuming mostly insects but also small fish, crustaceans, and zooplankton.

Conservation Status

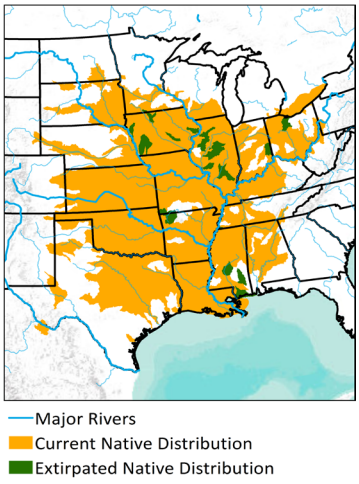
Federal: Not listed.
Colorado: Not listed, but designated Tier 1 Species of Greatest Conservation Need.

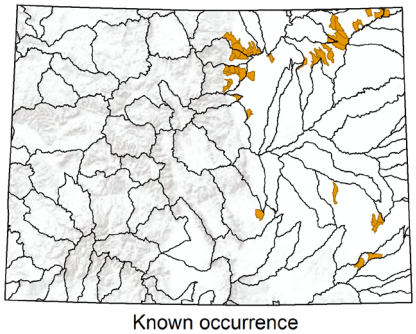
While common elsewhere, orangespotted sunfish are uncommon in Colorado. Due to a declining population trend, they were designated as a Tier 1 Species of Greatest Conservation Need in Colorado. Dewatering and siltation of streams on the eastern plains are potential concerns. The International Union for Conservation of Nature lists orangespotted sunfish as declining but stable; they consider the species to be of least concern for numerous reasons: large overall population size, large numbers of populations, and minimal threats.

Species Distribution

Range

Orangespotted sunfish range from North Dakota to Texas and from southeast Wyoming to West Virginia. Colorado is on the western edge of their range, occurring along the Front Range and eastern plains in Colorado.





Distribution of orangespotted sunfish 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.

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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. Orangespotted sunfish are tolerant of many conditions, including water temperature, water clarity, and substrate.

Features within streams	pools and eddies
Cover	prefer some cover, including riprap, root systems (e.g., cottonwood roots), and other vegetation
Substrate	rocky; within stream pools: silty or sandy
Spawning substrate	gravel
Water depth	tolerant of many flow conditions, including shallow to deep water
Water temperature	65–70 °F

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Boyd Wright (Colorado Parks and Wildlife, Fort Collins, 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.

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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 orangespotted sunfish have suggested numerous practical steps that can be taken to improve habitat quality for this species.

Hydrology

- Restore water table to promote side channels, oxbows, sloughs, and other off-channel habitats.

Vegetation

- Preserve root wads and other vegetative cover.

Contamination

- Reduce agricultural chemicals and other toxins.
- Reduce siltation.

Conservation

- Preserve existing habitat.

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Habitat Scorecard for Orangespotted Sunfish (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				
Water features				
Pools, ponds, or pools within streams	18.5			
Streams with few pools and/or eddies	12.3			
Streams without pools	6.2			
Substrate				
Mostly rocky with gravel; pool substrate with silt or sand	17.6			
Rocky mixed with areas of gravel and silt or sand	11.7			
Mostly silty with some gravel and other rocky surfaces	5.9			
Cover				
Cover within pools or slow areas (e.g., root wads, other vegetation, or riprap)	16.7			
Minimal cover or cover within faster moving water	11.1			
No discernable cover	5.6			
Riparian condition				
Riparian area thick with uninterrupted vegetation; livestock fully excluded	16.7			
Riparian area contains patchy vegetation; livestock partially excluded	11.1			
Riparian area contains sparse vegetation and erosive banks; livestock not excluded	5.6			
Landscape context				
Land adjacent to stream is continuously vegetated by primarily native plants and consists mostly of permeable surfaces	15.7			
Land adjacent to stream has a mix of vegetation with some barren areas and/or impermeable surfaces	10.5			
Vegetation is sparse on adjacent land with large areas of impermeable surface	5.2			
Water quality				
No visual evidence of turbidity or pollutants	14.8			
Localized areas of cloudiness and contamination	9.9			
Water is murky or has oily sheen	4.9			
Total (of 100 possible): add all numbers in before or after columns				