

# Red-sided Garter Snake

ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS



Red-sided garter snakes (*Thamnophis sirtalis parietalis*, Family Colubridae) occur in wetlands on Colorado's northeastern plains.

## Species Description

### Identification

Red-sided garter snakes, sometimes referred to as common garter snakes, can grow as long as 49 inches. In Colorado, they are usually considerably smaller and may only grow as long as about 3 feet (36 inches). They have patches of red between their lighter stripes.

### Preferred Habitats

Garter snakes hibernate during the winter, up to seven or eight months in the more northern parts of their range. While they are active, they are wetland-dependent, occupying most wetland habitat types within Colorado.

### Diet

Red-sided garter snakes consume primarily amphibians, fish, and earthworms.

### Conservation Status

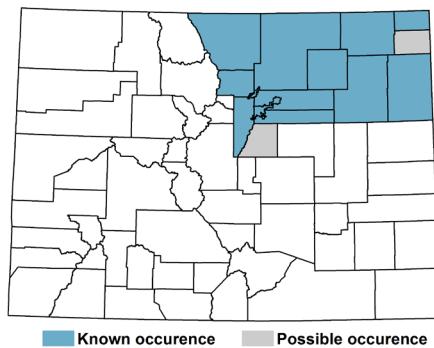
The abundance of red-sided garter snakes is mostly unknown. In Colorado, they are listed as a Species of Concern and a Tier 2 Species of Greatest Conservation Need (CPW 2015). Population declines of other garter snakes, such as the western terrestrial garter snake (*Thamnophis elegans*) that consume mostly amphibians, have apparently been tied to amphibian declines. Because the red-sided garter snake eats primarily amphibians, it is possible populations of red-sided garter snakes are associated with populations of amphibians.



## Species Distribution

### Range

The red-sided garter snake is found in Canada and the western United States, with a disjunct distribution in the western United States. In Colorado, they are found in the northeast and north-central part of the state.



North America map used from Wild Animals of Manitoba (<http://www.gov.mb.ca/conservation/wildlife/mbsp/fis/rsgarter.html>). Colorado map based on Hammerson (1999) and NDIS (2014).

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# Preferred Habitat Conditions

Dominant vegetation	emergents, sedges, grasses, and other vegetation that provides cover
Landscape context	close and unfragmented connection between upland hibernacula (hibernation sites) and wetlands (foraging habitat)
Percent emergent cover	very dense
Size of habitat	not well understood, but larger is better
Water quality	pH = 6.1–7 with no visual evidence of turbidity or other pollutants



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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 red-sided garter snakes have suggested numerous practical steps that can be taken to improve habitat quality for this species.

### Vegetation

- Provide grass buffers around breeding ponds.
- Manage for dense emergent vegetation.

### Contamination

- Reduce nitrogen loading.
- Reduce pesticides, chemicals and other toxins.
- Reduce predatory fish.
- Possibly reduce or change mosquito control.

### Land Use / Other

- Eliminate livestock access to ponds.
- Avoid or minimize clear-cutting.

### Conservation

- Translocate frogs to re-establish populations that can serve as a food source.
- Promote conservation programs to provide grassland component in the landscape.
- Promote native species in adjacent lands.

### Acknowledgements

Tina Jackson (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 Red-sided Garter Snakes (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
<b>Date of assessment</b>				
<b>Percent of emergent vegetation</b>				
>60 – 100%	36.4			
>40 – 60%	24.2			
20 – 40%	12.1			
<b>Amphibians in same habitat</b>				
Abundant amphibians present	36.4			
Only occasional amphibians noted	12.1			
<b>Water quality</b>				
No visual evidence of turbidity or other pollutants	27.2			
Some turbidity or presence of other pollutants, but limited to small and localized areas within the wetland; water may be slightly cloudy	18.2			
Water is cloudy or has unnatural oil sheen, but the bottom is still visible (note: if the sheen breaks apart when you run your finger through it, it is a natural bacterial process and not water pollution)	9.1			
<b>Total (of 100 possible): add all numbers in before or after columns</b>				