

Piping Plover



ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS



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The piping plover (*Charadrius melodus*, Family *Charadriidae*) is a rare shorebird that nests on sparsely vegetated, often sandy or rocky beaches.

Species Description

Identification

The piping plover is a small shorebird (about 7 inches long). During the breeding season, the piping plover has a single black neck band and short black-tipped orange bill. The piping plover makes a distinctive high-pitched *pipe-pipe-pipe-pipe-pipe...* call, emitted during flight. Other common vocalizations include a rattling threat call (*bec, bec, bec...*) and an alarm call (*woo-up, woo-up* or *kee-ah kee-ah*).

Preferred Habitats

In Colorado, piping plovers use sparsely-vegetated sandy shores of reservoirs and gravel pits where they nest directly on the ground in simple scrapes that may or may not be lined with small pebbles or shells.

Diet

The diet of piping plovers consists entirely of invertebrates.

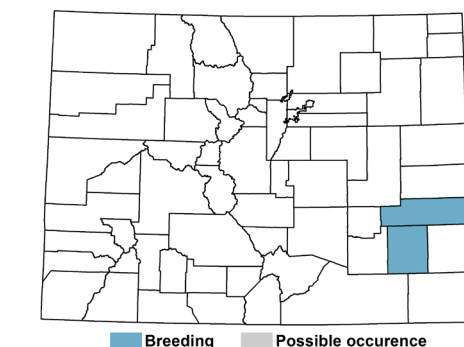
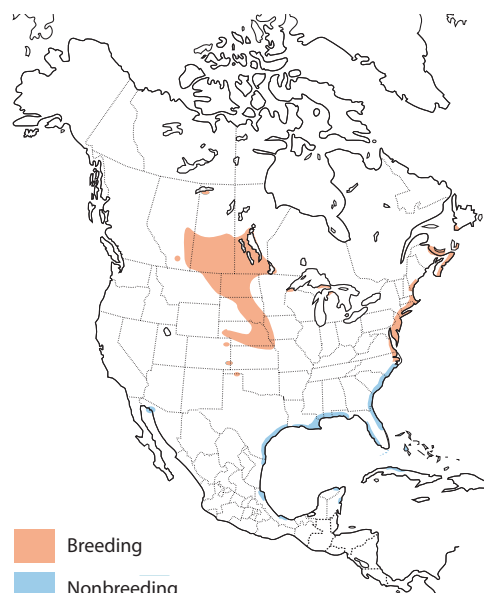
Conservation Status

The interior (non-coastal) population of piping plovers is Federally listed as threatened. In Colorado, piping plovers are listed as a threatened, Tier 2 Species of Greatest Conservation Need (CPW 2015). They nest on beaches, and are vulnerable to human disturbance and increased predation; therefore, conservation strategies include boosting reproductive success with nesting exclosures and closing nesting beaches to humans during the breeding season.

Species Distribution

Range

Piping plovers have a disjointed, narrow distribution restricted to North America with rare records in Ecuador. They occur in eastern Colorado as very rare migrants and have been known to nest at a few reservoirs: Adobe Creek, John Martin, Neegronda, and Neeskah.



North America map used by permission from Birds of the World, published by Cornell Lab of Ornithology. Colorado map based on Andrews and Righter (1992), Nelson (1998, 2016), and CFO (2020).

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Preferred Habitat Conditions

Dominant vegetation	none to very sparse clumps of short grasses or sedges
Landscape context	ungrazed and low human disturbance
Size of habitat	beaches more than 20 yards wide; the larger, the better

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

Hydrology / Substrate

- Engineer and maintain sandbars.
- Create sand and gravel river islands.
- Provide for coarse material, e.g. pebbles.
- Enlarge or widen habitat where possible.
- Lower summer flows to expose more habitat.
- Manage and time flows to benefit habitat (scouring) while minimizing nesting mortality.
- Control vegetation by flooding after breeding, and lower water level prior to arrival in spring.
- Add sand to islands as needed.

Vegetation

- Clear vegetation from existing sandbars.
- Control vegetation to create or maintain sparse vegetation.

Land Use / Other

- Exclude cattle.
- Create nutrient-rich foraging habitat.

Conservation

- Close breeding beaches to human use.
- Create educational signage to protect breeding birds from human disturbance.
- Provide exclosures where needed.
- Consider exclosure design and use with caution; monitor success.
- Remove predators.
- Create artificial habitat.
- Protect all potential habitat, regardless of size.



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Acknowledgements

Dr. James Fraser (Department of Fish and Wildlife Conservation, Virginia Tech) reviewed an earlier version and provided input on preferred habitat conditions.

Suggested Reading and Citations

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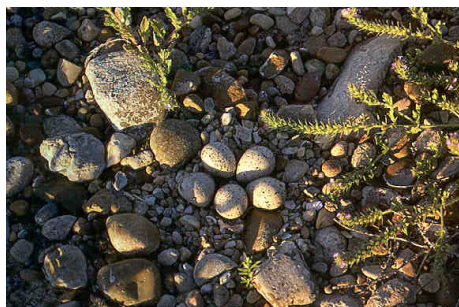
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DISCLAIMER: This scorecard is designed specifically for the Colorado Parks and Wildlife (CPW) Wetland Wildlife Conservation Program. It does not replace protocols required by U. S. Fish and Wildlife Service (USFWS). Please contact USFWS regarding questions about their required protocols for species listed under the Endangered Species Act.

Habitat Scorecard for Piping Plovers (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				
Percent open sand or gravel area				
>80 – 100%	20.2			
>50 – 80%	13.5			
40 – 50%	6.7			
Size of habitat				
>22 yards wide	20.2			
>16 – 22 yards wide	13.5			
11 – 16 yards wide	6.7			
Percent total canopy cover >6.6 feet				
0%	20.2			
1 – 5%	13.5			
>5 – 20%	6.7			
Percent herbaceous cover without woody vegetation				
0 – 5%	20.2			
>5 – 10%	13.5			
>10 – 20%	6.7			
Dominant vegetation				
Low grasses (<8 inches), annual forbs, OR open (unvegetated)	19.2			
Perennial forbs	12.8			
Total (of 100 possible): add all numbers in before or after columns				