

**Alberta Conservation Association  
2019/20 Project Summary Report**

**Project Name:** Piping Plover Recovery Program

**Wildlife Program Manager:** Doug Manzer

**Project Leader:** Lance Engley

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**Partnerships**

Alberta Environment and Parks  
Cooperating landowners  
Department of National Defence

**Key Findings**

- We collaborated with other organizations to survey 33 waterbodies and located 90 adult piping plovers. This count was up 20% from 2018 but is still the second lowest count since comprehensive annual surveys began in 2000. This decline may be due to the substantial reduction in available breeding habitat since 2012 resulting from vegetation encroachment on some lakes, and from flooding of nesting habitat on other lakes.
- We worked with ACA land management staff to reduce vegetation encroachment on gravel habitat we created in 2015. We detected one breeding pair on this created gravel habitat, making it the third consecutive year breeding activity has been recorded on this habitat.
- We enhanced over 58 km of shoreline habitat since 2002, with the majority considered “critical” breeding habitat.

## **Abstract**

Piping plovers are small, stubby-billed *Endangered* shorebirds that nest and feed along gravel beaches. They face a number of threats including high rates of predation and damage to their nesting and feeding habitat. ACA is working with landowners across east-central and southern Alberta to improve habitat and promote awareness of the plight of the piping plover. Each year, we also conduct piping plover counts on key breeding lakes that allow us to monitor population numbers and distribution, and help us guide habitat improvement activities. We surveyed 33 waterbodies and found 90 adults on 15 lakes, with ten or more adults on three of these lakes. We detected one breeding pair on the gravel nesting area we created in 2015, the third consecutive year breeding activity has been recorded on this habitat. We worked with our partners to improve over 5 km of shoreline habitat through the implementation of seasonal grazing and chemical control to reduce the encroachment of vegetation that impairs this habitat for plovers. Since large-scale recovery efforts began in 2002, we have improved over 58 km of shoreline habitat, with the majority of “critical” piping plover habitat being protected or improved through fencing.

## **Introduction**

The piping plover is a small, black and white, stubby-billed *Endangered* shorebird requiring gravel-strewn beaches for nesting and rearing broods. We address threats facing piping plover populations through the enhancement of habitat and through education and outreach initiatives. We also conduct annual surveys on core breeding lakes to monitor numbers, their distribution, and the success of our recovery actions.

In 2019/20, Alberta Conservation Association’s (ACA’s) primary objectives was to survey at least 25 core breeding lakes for adult piping plovers, and complete at least two enhancement projects. All of these objectives are supported by the *Alberta Piping Plover Recovery Plan 2010 – 2020* (Alberta Piping Plover Recovery Team 2010).

## **Methods**

We conducted adult surveys by walking along select beaches approximately two-thirds of the distance between the water's edge and the inshore vegetation line (Goossen 1990). We recorded and mapped the location, number, and breeding activity of adult plovers. On known breeding lakes, we assessed select shorelines for habitat damage and prioritized enhancement needs according to type, severity and size of damage, likelihood of continued damage, and available mitigation options. We then worked with landowners to mitigate future habitat damage on identified areas.

## **Results**

In 2019/20, we worked with Alberta Environment and Parks, and the Department of National Defence to survey 33 waterbodies. We recorded 90 adults on 15 lakes, with 10 or more adults found on three of these lakes. We recorded 15 more piping plovers during the 2019 count than we did during the 2018 count ( $n = 75$ ), which amounts to an increase of 20%. However, the 2019 count is 157 fewer piping plovers than the 2011 count ( $n = 244$ ), which amounts to a decrease of 63% (Figure 1). This apparent decline may be due to the substantial reduction in available breeding habitat since 2012, resulting from vegetation encroachment on some lakes, and from flooding of nesting habitat on other lakes where water levels remain at their highest level in nearly a decade. We detected one breeding pair on the gravel habitat we created in 2015, the third consecutive year breeding activity has been recorded on this habitat.

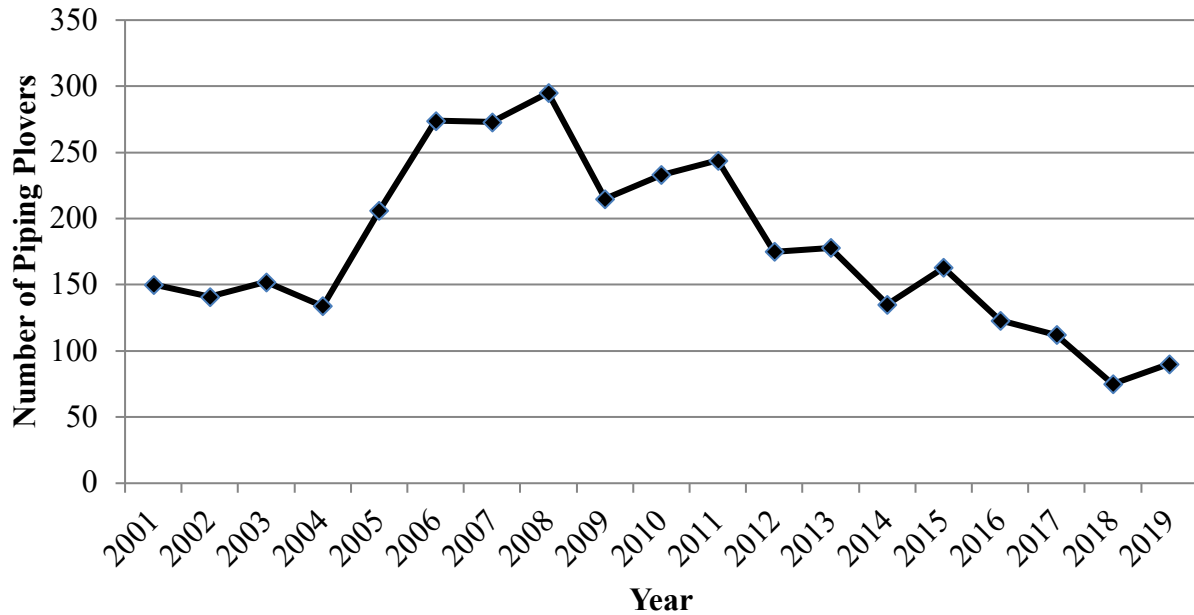


Figure 1. Piping plover counts in Alberta since 2001, with large-scale recovery efforts beginning in 2002. Survey effort is comparable among years, except for international census years 2001, 2006, 2011, and 2016 where survey coverage was more extensive.

We evaluated habitat on 33 lakes where surveys were completed and contacted over 15 landowners over the breeding season. We reduced vegetation encroachment through the implementation of seasonal grazing and chemical control. Overall, we improved over 5 km of shoreline habitat for plovers in 2019 (Figure 2). Since 2002, we have enhanced over 58 km of shoreline habitat to improve plover breeding habitat, with the majority of this enhanced through fencing schemes. Most known piping plover habitat in Alberta has now been protected through the cooperation of many landowners, though high water levels have hampered our efforts in recent years.

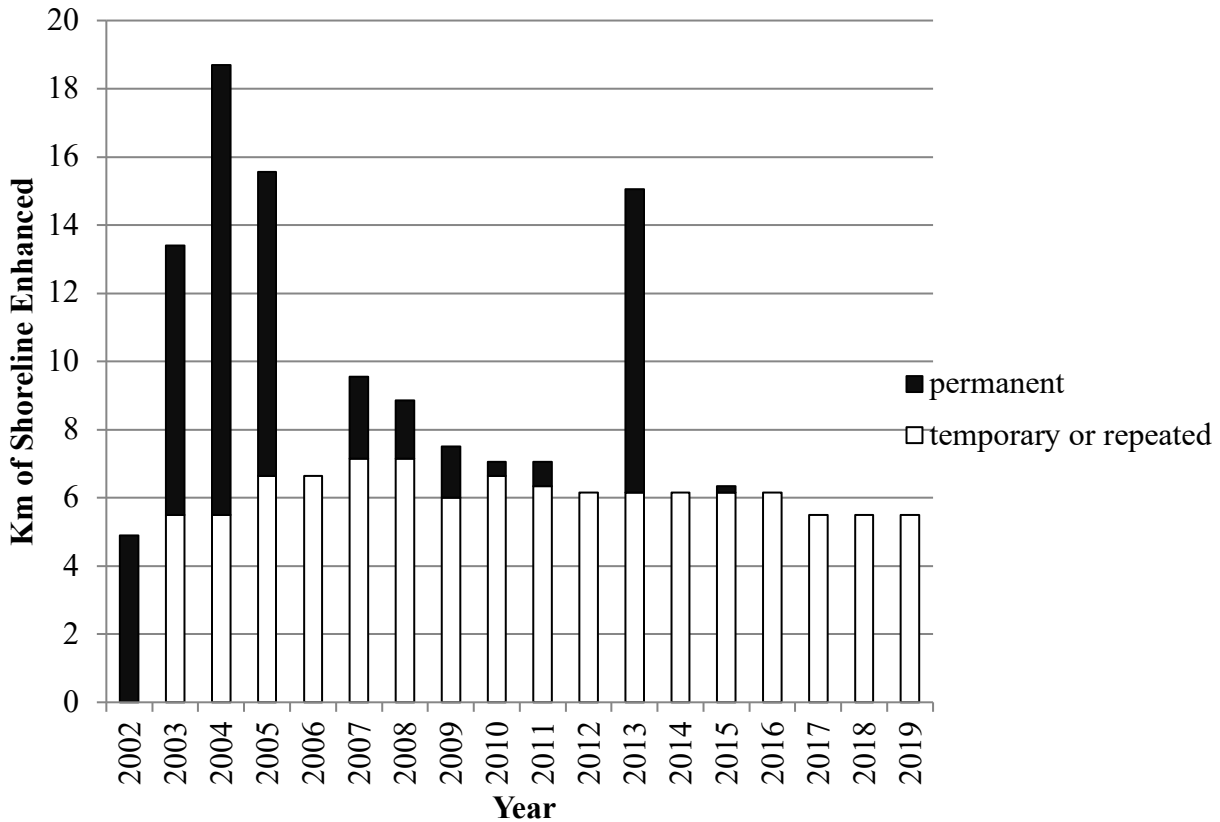


Figure 2. Kilometres of shoreline enhanced through temporary and permanent projects from 2002 to 2019.

## Conclusions

Despite the population count in 2019 being higher than in 2018, the count in 2019 is the second lowest since comprehensive annual surveys began in 2000. Unusually high water levels over the past eight years in east and southcentral Alberta have greatly reduced available breeding habitat on key lakes, while shoreline vegetation encroachment in northcentral areas have further reduced available breeding habitat. High water levels can have a detrimental effect on the population in the short-term, but are crucial in helping keep vegetation from encroaching on habitat and making it unsuitable for nesting. When water levels recede, there should be an abundance of high quality, vegetation-free habitat available for nesting. We will continue to monitor Alberta’s piping plover population and associated habitat conditions each spring, and will continue to explore alternative techniques for reducing vegetation encroachment on important breeding habitat.

## **Communications**

- Distributed annual Alberta Piping Plover Recovery Team newsletter to landowners and cottagers.

## **Literature Cited**

Alberta Piping Plover Recovery Team. 2010. Alberta piping plover recovery plan, 2010 – 2020. Alberta Sustainable Resource Development, Fish and Wildlife Division, Alberta Species at Risk Recovery Plan No. 18, Edmonton, Alberta, Canada. 28 pp.

Goossen, J.P. 1990. Prairie piping plover conservation: second annual report (1989). Unpublished report, Canadian Wildlife Service, Edmonton, Alberta, Canada. 20 pp.

## **Photos**



Piping plover breeding habitat. Photo: Amanda Rezansoff



Piping plover adult faking an injury in order to lure predators away from its nest. Photo: ACA