

**Alberta Conservation Association
2018/19 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
Government of Canada

Key Findings

- We collaborated with other organizations to survey 35 waterbodies and located 75 adult piping plovers, the 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, the second 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.

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 2018/19, our primary objectives were 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 2018/19, we worked with Alberta Environment and Parks, and the Department of National Defence to survey 35 waterbodies. We recorded 75 adults on 16 lakes, with ten or more adults found on three of these lakes. We recorded 37 fewer piping plovers during the 2018 count than we did during the 2017 count ($n = 112$), which amounts to a decrease of 33% (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 second consecutive year breeding activity has been recorded on this habitat.

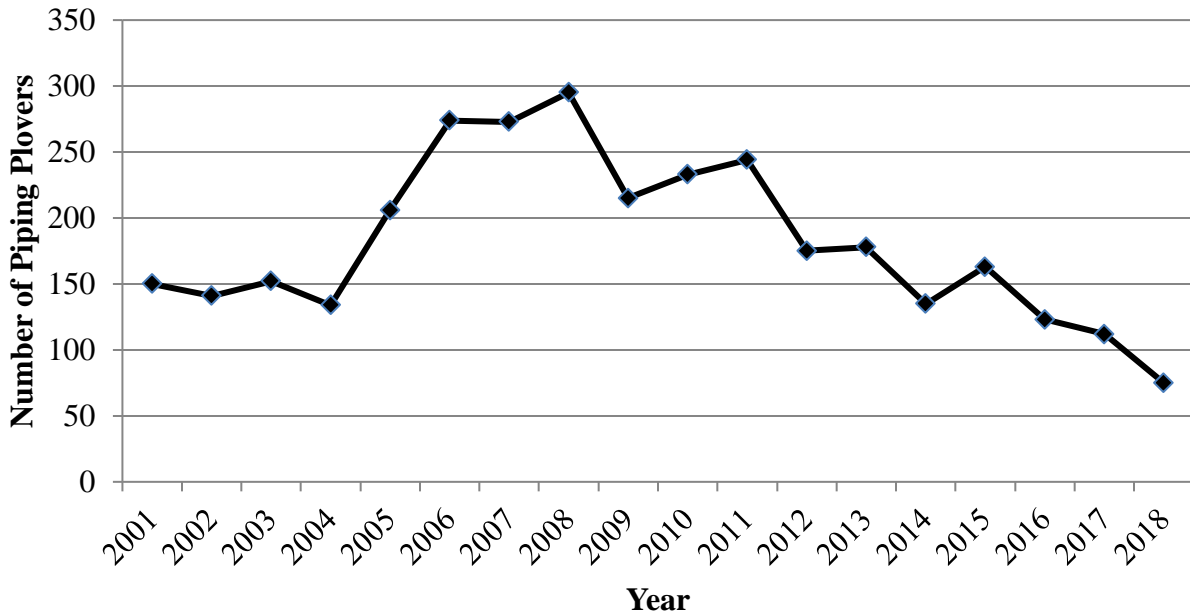


Figure 1. Piping plover counts in Alberta since 2001, with large-scale recovery efforts beginning in 2002. Survey effort is comparable among years, except for international census years 2001, 2006, 2011, and 2016 where survey coverage was more extensive.

We evaluated habitat on 35 lakes where surveys were completed and contacted over 25 landowners over the breeding season. We reduced vegetation encroachment through the implementation of seasonal grazing and chemical control. We also removed 3.8 km of submerged fencing posing a risk to cattle along flooded piping plover breeding habitat. Overall, we improved over 5 km of shoreline habitat for plovers in 2018 (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.

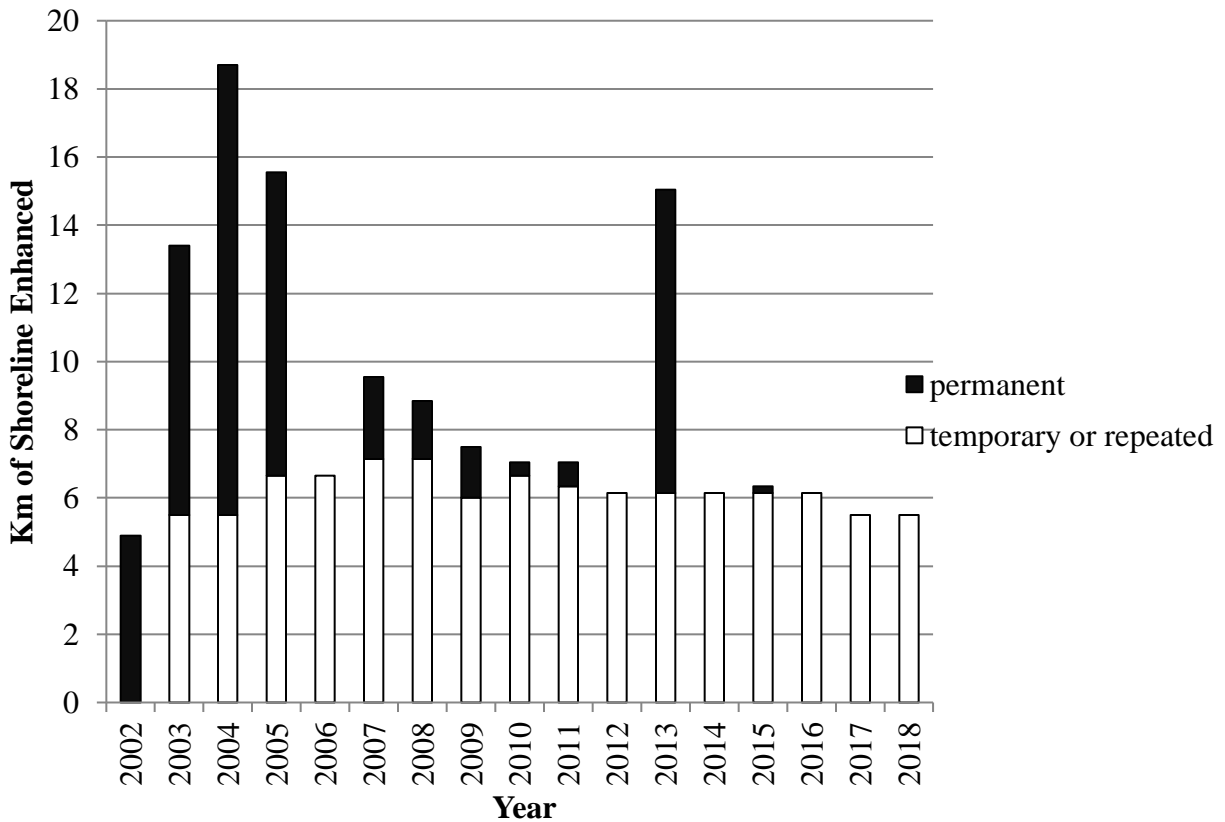


Figure 2. Kilometres of shoreline enhanced through temporary and permanent projects from 2002 to 2018.

Conclusions

The population count in 2018 was the lowest since comprehensive annual surveys began in 2000. Unusually high-water levels over the past seven years in 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



ACA employees Stephen Nadworny and Hillary Keyes surveying for piping plovers. Photo: Amanda Rezansoff