Alberta Conservation Association
2015/16 Project Summary Report

Project Name: Piping Plover Recovery Program

Wildlife Program Manager: Doug Manzer

Project Leader: Lance Engley

Primary ACA staff on project:

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Partnerships

Alberta Environment and Parks
Co-operating landowners
ConocoPhillips
Department of National Defence
Ducks Unlimited Canada
Government of Canada

Key Findings

- We collaborated with other organizations to survey 28 waterbodies and located 163 adult piping plovers.
- The piping plover count in Alberta was up 20% from 2014, but it is still down 33% from 2011. 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 remained at their highest level in more than a decade.
- After consulting with Alberta Public Lands, we worked with ACA Land Management staff to spread about 224 tonnes of gravel, rock and sand along the shoreline of a small waterbody at Junction Lake Conservation Site, creating ~1,500 m^2 of piping plover breeding habitat. We also installed a viewing platform with interpretive signage at this site.
- We worked with ACA Land Management staff to reduce vegetation encroachment on existing piping plover breeding habitat on a second waterbody at Junction Lake Conservation Site.
- 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 population numbers and distribution, and the success of our recovery actions. In 2015/16, our primary objectives were to survey at least 25 core breeding lakes for adult piping plovers and complete at least four 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. 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 and used wildlife-friendly fencing techniques (Paige 2008) where possible.

Results

In 2015/16, we worked with Alberta Environment and Parks, and the Department of National Defence to survey 28 waterbodies. We recorded 163 adults on 15 lakes, with 10 or more adults found on seven of these lakes. We recorded 28 more piping plovers in 2015 than we did in 2014 (n = 135), but 81 fewer piping plovers than in 2011 (Figure 1), which amounts to a decrease of 33%. 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 remained at their highest level in more than a decade. Annual counts may also be affected by our ability to detect individuals, which may be exacerbated by changing habitat conditions (e.g., vegetation affects sightability).

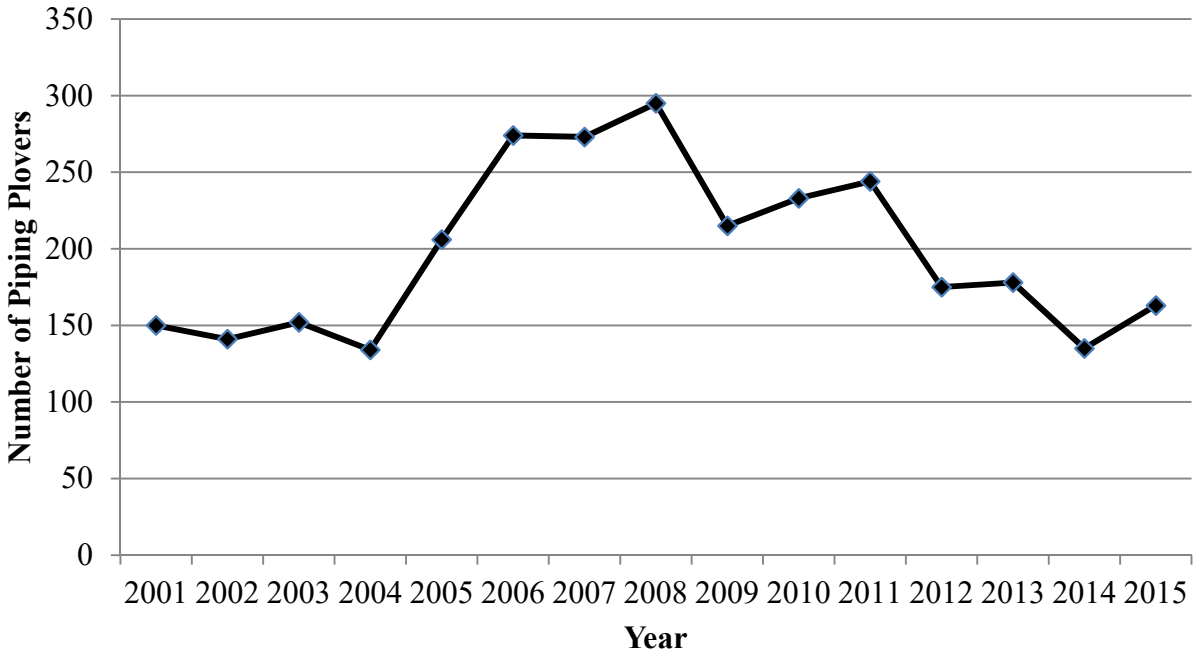

Figure 1. Piping plover counts in Alberta since 2001, with large-scale recovery efforts beginning in 2002. Survey effort is comparable among years, with the exception of international census years 2001, 2006 and 2011 where survey coverage was more extensive.

We evaluated habitat on 28 lakes and contacted over 20 landowners during the piping plover breeding season. We completed one temporary electric-fencing project, and we repeated an annual vegetation reduction effort using livestock grazing at one site. After consulting with Alberta Public Lands, we worked with ACA Land Management staff to create piping plover breeding habitat at the Junction Lake Conservation Site by spreading gravel, rock and sand along the shoreline of a small alkali waterbody. We also installed a viewing platform with interpretive signage and reduced vegetation encroachment on existing piping plover breeding habitat at this site. Overall, we improved over 6 km of shoreline habitat for plovers in 2015 (Figure 2).

Since 2002, we have enhanced over 58 km of shoreline habitat to improve plover breeding habitat, with the majority of this habitat enhanced through fencing schemes.

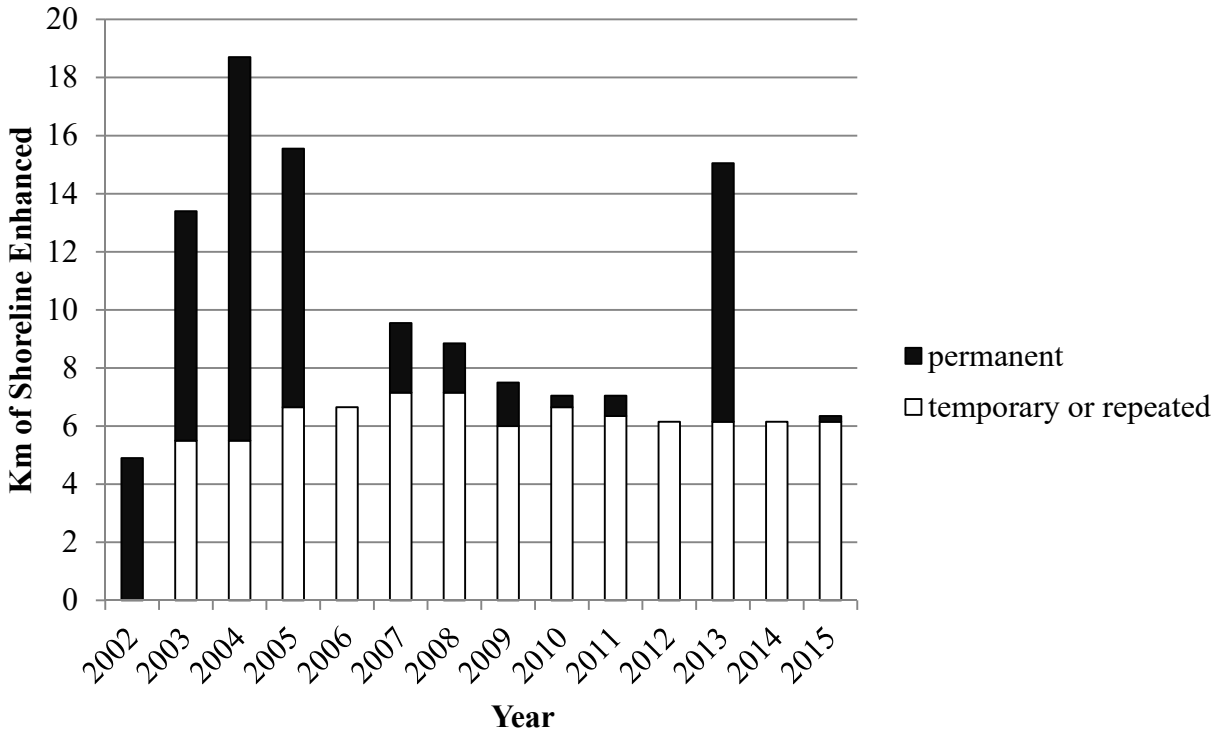

Figure 2. Kilometres of shoreline enhanced through temporary and permanent projects from 2002 to 2015.

Conclusions

This is the fifth consecutive year that we did not deliver the widespread predator exclosure program started in 1998. We recognize that we cannot continue to place predator exclosures over piping plover nests in perpetuity, and we will have to determine if the population can survive without direct intervention. Despite the population count in 2015 being slightly higher than in 2014, the count in 2015 is the second lowest since 2004. We are hopeful that habitat improvements and previous productivity enhancement efforts will lead to a self-sustaining population of plovers that does not require continuous productivity enhancements using predator exclosures. Unusually high water levels over the past four years have greatly reduced available breeding habitat in Alberta and have precluded us from accurately gauging the effects of suspending our predator exclosure program. We will continue to assess the impacts of this decision by conducting annual surveys over a two-week period each spring.

Communications

- Distributed annual Alberta Piping Plover Recovery Team newsletter to landowners and cottagers.
- Delivered presentation at Explore More event for grades 4 to 6, an environmental education event organized by the Battle River Watershed Alliance.

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.

Paige, C. 2008. A landowner's guide to wildlife friendly fences. Landowner/Wildlife Resource Program, Montana Fish, Wildlife and Parks, Helena, Montana, USA. 44 pp.

Photos

Alberta Conservation Association biologist Dan Sturgess surveying for piping plovers on Muriel Lake. Photo: Lance Engley

We spread the gravel with a bobcat in the winter, and then we made some fine-scale adjustments in the spring by hand to create piping plover breeding habitat along the shoreline of a waterbody at Junction Lake Conservation Site. Photo: Amanda Rezansoff

Newly created piping plover breeding habitat along the shoreline of a waterbody at Junction Lake Conservation Site. Photo: Roy Schmelzeisen