Alberta Conservation Association
2016/17 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
Government of Canada

Key Findings

- We collaborated with other organizations to survey 66 waterbodies and located 123 adult piping plovers as part of the 2016 International Piping Plover Census.
- The 2016 census count for Alberta is lower than the previous four (1996 = 276 birds, 2001 = 150 birds, 2006 = 274 birds, and 2011 = 244 birds) and is the lowest count since 2000. This apparent decline has been occurring over the last few years and may be due to the substantial reduction in available breeding habitat since 2012 resulting from vegetation encroachment on some lakes (e.g., Muriel) and from flooding of nesting habitat on other lakes where water levels have remained at their highest level in more than a decade (e.g., Handhills).
- We worked with ACA Land Management Program staff to install a viewing platform and interpretive sign for piping plovers at Junction Lake Conservation Site and to reduce vegetation encroachment on piping plover habitat at this 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, to complement the international census conducted every five years across North America, and to evaluate the success of our recovery actions.

In 2016/17, our primary objectives were to survey at least 25 core breeding lakes for adult piping plovers and complete at least four enhancement projects. 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 2016/17, we worked with Alberta Environment and Parks (AEP) and the Department of National Defence to survey 66 waterbodies. We recorded 123 adults on 17 lakes, with 10 or more adults found on 6 of these lakes. We recorded 121 fewer piping plovers during the 2016 International Piping Plover Census than we did during the last census in 2011 (n = 244; Figure 1), which amounts to a decrease of 50%. 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 more than a decade.

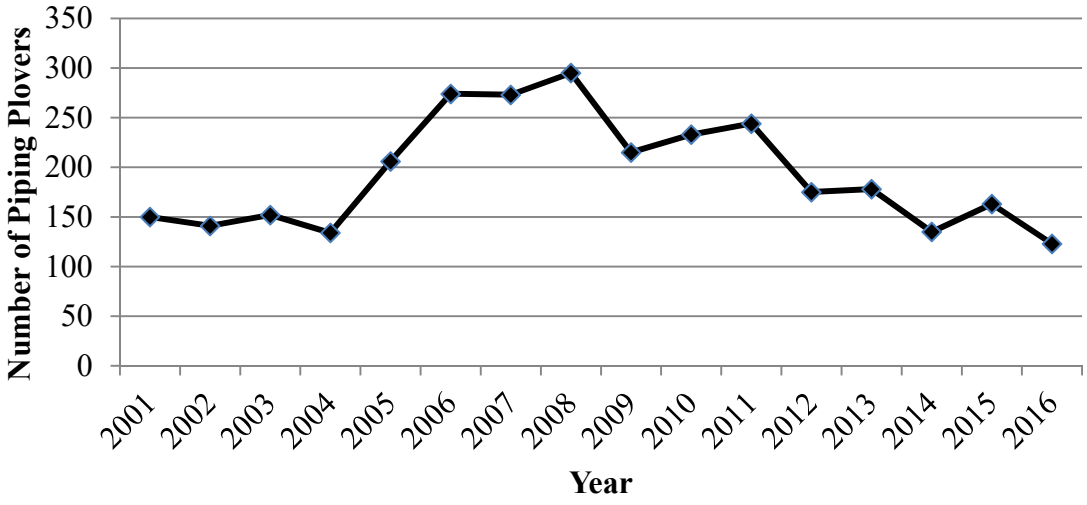

Figure 1. Piping plover counts in Alberta since 2001, with large-scale recovery efforts beginning in 2002. Survey effort is comparable among years, with the exception of international census years 2001, 2006, 2011 and 2016 when survey coverage was more extensive.

We evaluated habitat on 66 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. We also installed a viewing platform with interpretive signage and reduced vegetation encroachment on existing and created piping plover breeding habitat on the Junction Lake Conservation Site. Overall, we improved over 6 km of shoreline habitat for plovers in 2016 (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. The majority of known piping plover habitat in Alberta has now been protected through the co-operation of many landowners.

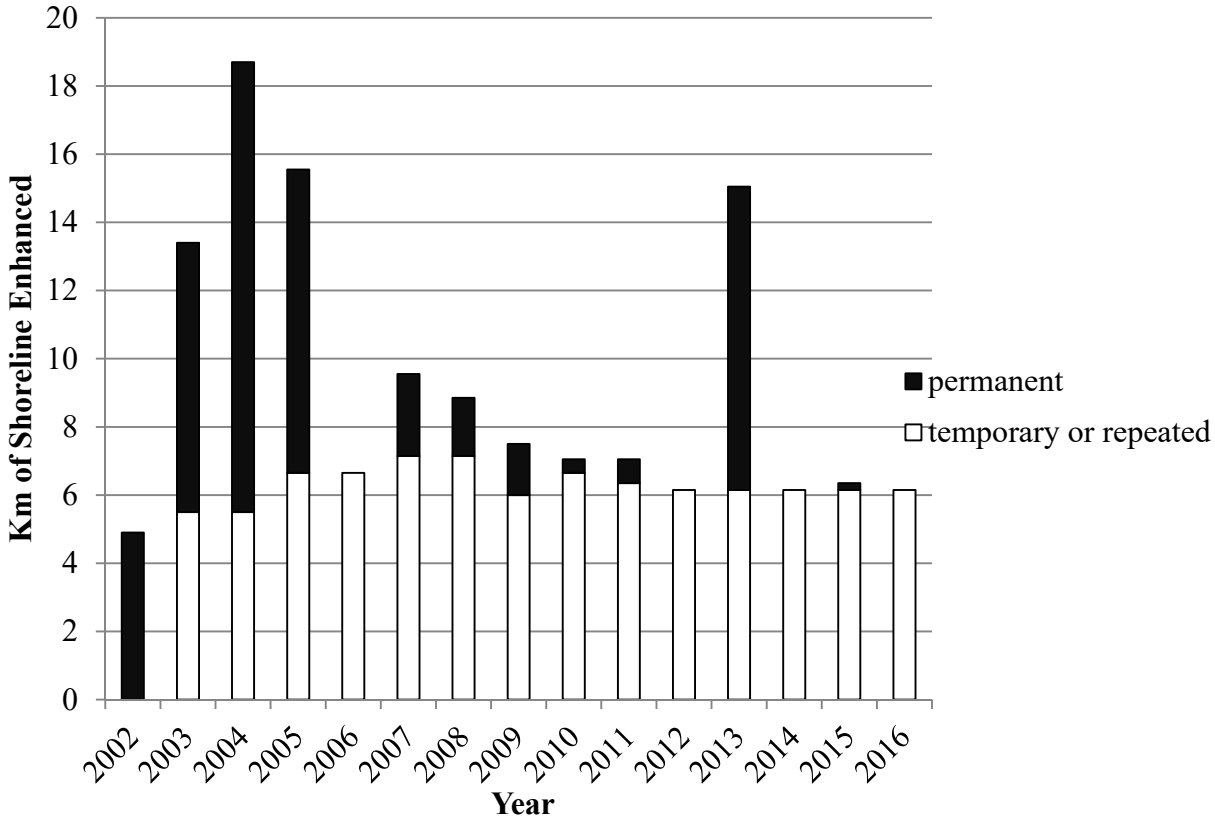

Figure 2. Kilometres of shoreline enhanced through temporary and permanent projects from 2002 to 2016.

Conclusions

The population count in 2016 was the lowest since 2000. Alberta Conservation Association discontinued its widespread predator exclosure program at the end of 2010 with the hope that habitat improvements and previous productivity enhancement efforts would lead to a self-sustaining population of plovers that does not require continuous productivity enhancements through predator exclosures. Unusually high water levels over the past five years in the south-central part of the province have greatly reduced available breeding habitat on key lakes,

while vegetation encroachment on important lakes in north-central Alberta has further reduced available breeding habitat. In addition, AEP had continued to deploy predator exclosures on the majority of plover nests throughout Alberta. As a result, it has been difficult to determine how much of the population reduction has resulted from discontinuing our predator exclosure program and how much is related to reduction in available habitat. We will continue to assess the impact of this decision by conducting annual surveys over a two-week period each spring to assess both population numbers and habitat conditions.

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.

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

We worked with Alberta Conservation Association Land Management Program staff to install a viewing platform and interpretive sign for piping plovers on the Junction Lake Conservation Site. Photo: Lance Engley

We installed a temporary electric fence on Piper Lake to protect piping plover breeding habitat from livestock and predators. Photo: Amanda Rezansoff

Alberta Conservation Association employee Mike Ranger surveying for piping plovers on Piper Lake. Photo: Amanda Rezansoff