

Alberta Conservation Association 2013/14 Project Summary Report

Project Name: Piping Plover Recovery Program

Wildlife Program Manager: Doug Manzer

Project Leader: Lance Engley

Primary ACA staff on project:

Lance Engley, Stefanie Fenson, Velma Hudson, Nikki McPhee, Stephen Nadworny, Sue Peters, Mike Ranger, Amanda Rezansoff, Dan Sturgess and Erin VanderMarel

Partnerships

Alberta Environment and Sustainable Resource Development
Alberta Tourism, Parks and Recreation
Department of National Defence
Ducks Unlimited Canada
Government of Canada
Landowners
TD Friends of the Environment Foundation

Key Findings

- We collaborated with other organizations to survey 26 waterbodies and located 178 adult piping plovers.
- The piping plover count in Alberta was virtually unchanged from 2012 but was still down 27% from 2011.
- We completed fencing projects on four lakes to protect breeding habitat from livestock and predators. Three of these fencing projects followed wildlife-friendly guidelines; the fourth was a temporary electric fence.
- We enhanced over 57 km of shoreline habitat since 2002, with the majority considered key 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 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 2013/14, our primary objectives were to survey at least 25 core breeding lakes for adult piping plovers and complete at least five 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 surveys for adult plovers 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 2013/14, we worked with Alberta Environment and Sustainable Resource Development and the Department of National Defence to survey 26 waterbodies. We recorded 178 adults on 19 lakes, with 10 or more adults found on seven of these lakes. Even though the number of adults found in 2013 ($n = 178$) was similar to 2012 ($n = 175$), we recorded 66 fewer piping plovers in 2013 than we did in 2011 (Figure 1), which amounts to a decrease of 27%. This apparent decline may be due to the substantial reduction in available nesting habitat in 2012 and 2013 resulting from vegetation encroachment on some lakes and flooding of nesting habitat on other lakes, where water levels were 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).

QUICK SUMMARY OF PLOVER ADULT SURVEY COUNTS

| Year | # of Lakes Surveyed in AB | # of Adults Seen in AB | # of Lakes Surveyed in SK | # of Adults Seen in SK | TOTAL # OF LAKES SURVEYED (AB+SK) | TOTAL # OF ADULTS SEEN (AB+SK) |
|-------------|--|---|--|---|--|---|
| 1986 | 58 | 288 | 0 | 0 | 58 | 288 |
| 1987 | 5 | 117 | 0 | 0 | 5 | 117 |
| 1988 | 4 | 120 | 0 | 0 | 4 | 120 |
| 1989 | 9 | 192 | 0 | 0 | 9 | 192 |
| 1990 | 8 | 171 | 0 | 0 | 8 | 171 |
| 1991 | 44 | 180 | 0 | 0 | 44 | 180 |
| 1992 | 8 | 135 | 0 | 0 | 8 | 135 |
| 1993 | 9 | 172 | 0 | 0 | 9 | 172 |
| 1994 | 9 | 242 | 0 | 0 | 9 | 242 |
| 1995 | 8 | 190 | 0 | 0 | 8 | 190 |
| 1996 | 101 | 281 | 0 | 0 | 101 | 281 |
| 1997 | 58 | 47 | 0 | 0 | 58 | 47 |
| 1998 | 8 | 56 | 1 | 5 | 9 | 61 |
| 1999 | 10 | 96 | 1 | 6 | 11 | 102 |
| 2000 | 12 | 104 | 1 | 17 | 13 | 121 |
| 2001 | 115 | 150 | 1 | 26 | 116 | 176 |
| 2002 | 46 | 141 | 1 | 12 | 47 | 153 |
| 2003 | 33 | 152 | 1 | 19 | 34 | 171 |
| 2004 | 38 | 134 | 1 | 18 | 39 | 152 |
| 2005 | 27 | 206 | 1 | 34 | 28 | 240 |
| 2006 | 71 | 274 | 1 | 28 | 72 | 302 |
| 2007 | 28 | 273 | 1 | 35 | 29 | 308 |
| 2008 | 25 | 295 | 1 | 28 | 26 | 323 |
| 2009 | 26 | 215 | 1 | 20 | 27 | 235 |
| 2010 | 26 | 233 | 1 | 23 | 27 | 256 |
| 2011 | 70 | 244 | 2 | 30 | 72 | 274 |
| 2012 | 28 | 175 | 2 | 23 | 30 | 198 |
| 2013 | 26 | 178 | 2 | 9 | 28 | 187 |

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 26 lakes and contacted over 20 landowners during the piping plover breeding season. We completed wildlife-friendly fencing projects at three lakes, one temporary electric fencing project on a fourth lake, and repeated an annual vegetation reduction effort using livestock grazing at one site. We improved 15 km of shoreline habitat for plovers in 2013 (Figure 2). We also completed year two of a vegetation control project on two lakes, with

intention of using chemical treatments to restore over 4 ha of previously suitable breeding habitat to its former state. Results after the second year of the study show the desired reduction of vegetation more clearly at one of the two lakes.

Since 2002, we have enhanced over 57 km of shoreline habitat to improve plover breeding habitat, with the majority of this effort enhanced through fencing.

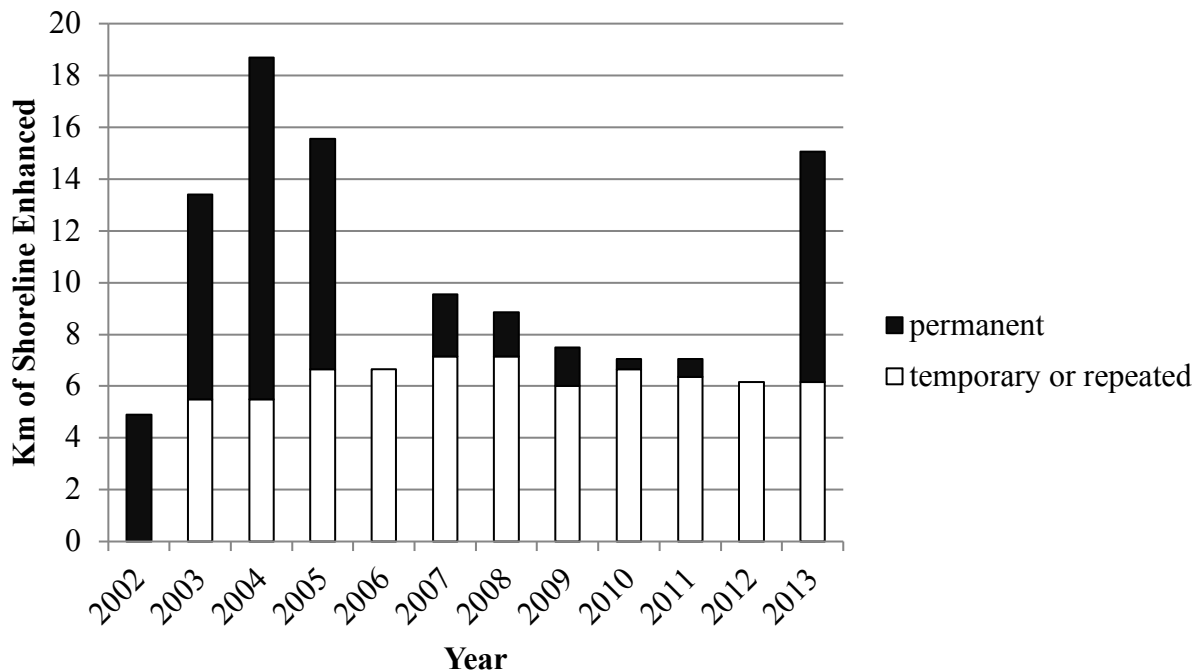


Figure 2. Kilometres of shoreline enhanced through temporary and permanent projects from 2002 to 2013.

Conclusions

This is the third 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 has recovered enough to survive without direct intervention. Despite the population count in 2013 being relatively similar to the population count in 2012 where it was the lowest since 2004, we are hopeful that habitat improvements and previous productivity enhancement efforts, along with receding water levels, will lead to a self-sustaining population of plovers that does not require continuous productivity enhancements through the use of predator exclosures. 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.

- Provided an update on our work to the federal Prairie Piping Plover Recovery Team.
- Delivered presentation to Buffalo Lake Naturalists in Stettler.
- Delivered presentation to Camrose Wildlife Stewardship Society.

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.

Photo Captions



Wildlife-friendly fencing installed to protect piping plover breeding habitat from livestock.

Photo: Amanda Rezansoff

[filename: Photo1_P IPL_2013-14_Amanda Rezansoff.jpg]



Alberta Conservation Association staff member Stefanie Fenson preparing a site to install a temporary electric fence to protect piping plover breeding habitat from livestock and predators.

Photo: Amanda Rezansoff

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Alberta Conservation Association staff member Amanda Rezansoff installing a temporary electric fence to protect piping plover breeding habitat from livestock and predators. Photo: Stefanie Fenson

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Alberta Conservation Association staff member Mike Ranger conducting a piping plover survey.
Photo: Amanda Rezansoff
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