Alberta Conservation Association (ACA)

Date: 2014-2015

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 Sustainable Resource Development
- Co-operating landowners
- Department of National Defence
- Ducks Unlimited Canada
- Government of Canada
- TD Friends of the Environment Foundation

Key Findings

- We collaborated with other organizations to survey 25 waterbodies and located 135 adult piping plovers.
- The piping plover count in Alberta was down 45% 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 were at their highest level in more than a decade.
- We worked with land management staff to reduce vegetation encroachment on existing piping plover breeding habitat on one waterbody, and spread gravel along the shoreline of a second waterbody to create breeding habitat for piping plovers.
- We enhanced over 57 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 2014/15, our primary objectives were to survey at least 25 core breeding lakes for adult piping plovers and complete at least six 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 2014/15, we worked with Alberta Environment and Sustainable Resource Development and the Department of National Defence to survey 25 waterbodies. We recorded 135 adults on 16 lakes, with 10 or more adults found on 6 of these lakes. We recorded 43 fewer piping plovers in 2014 than we did in 2013 (n = 178), and 109 fewer piping plovers than in 2011 (Figure 1), which amounts to a decrease of 45%. 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 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).

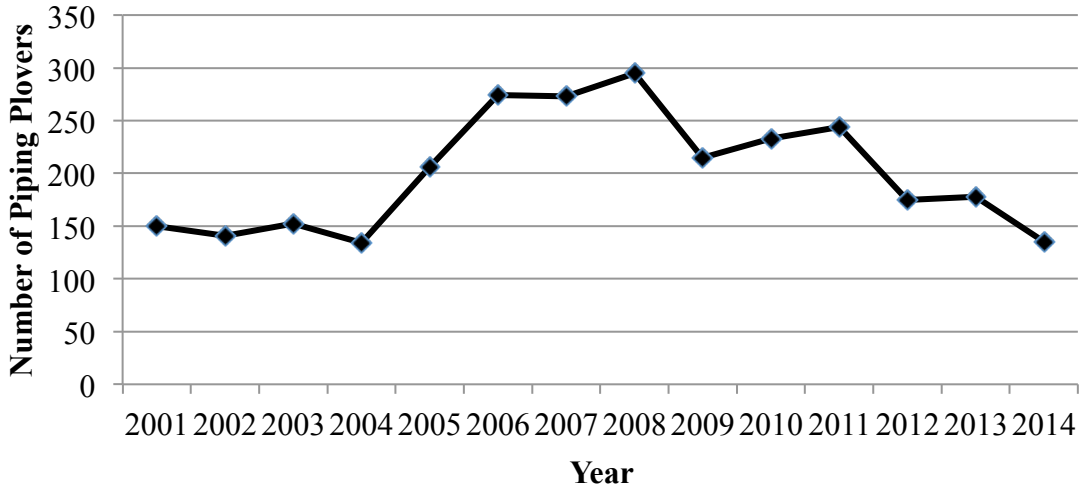

Figure 1. Piping plover counts in Alberta since 2001, with large-scale recovery efforts beginning in 2002. Survey effort is comparable among years, with the exception of international census years 2001, 2006 and 2011 where survey coverage was more extensive.

We evaluated habitat on 25 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 improved 6 km of shoreline habitat for plovers in 2014 (Figure 2). We added plastic markers to three fences built to protect piping plover habitat to make them more visible to grouse, waterfowl and other species. We worked with land management staff to reduce vegetation encroachment on existing piping plover breeding habitat on one waterbody, and we spread gravel on the shoreline of a second lake to create breeding habitat for piping plovers in spring 2015.

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

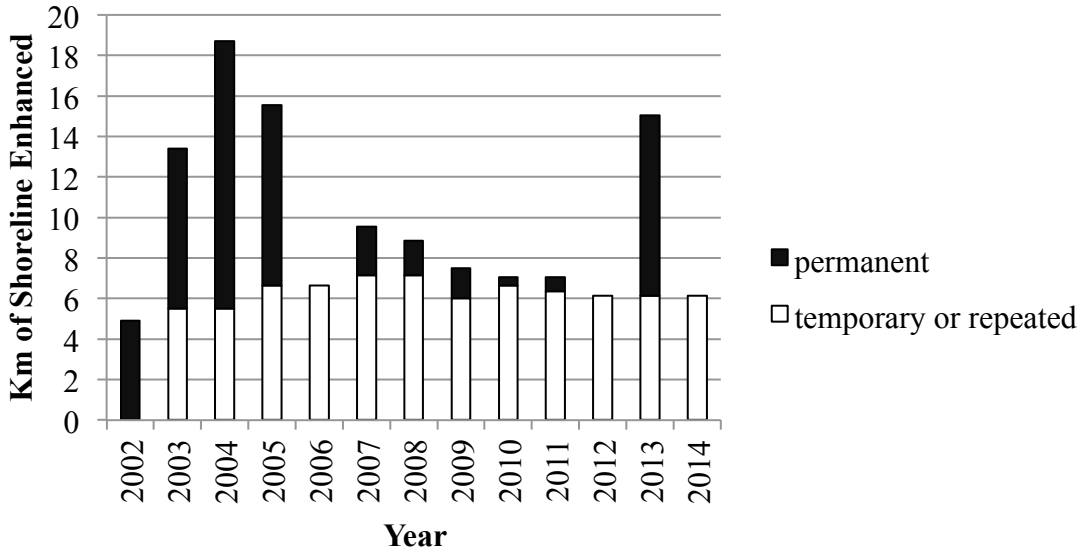

Figure 2. Kilometres of shoreline enhanced through temporary and permanent projects from 2002 to 2014.

Conclusions

This is the fourth 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 2014 being the 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 through the use of predator exclosures. Unusually high water levels over the past three 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.
- Provided an update on our work at a federal Prairie Piping Plover Recovery Team meeting.
- Delivered presentation to a Grade 5 class as part of its piping plover fundraiser.
- Toured Michael Short around piping plover lakes and shared the plover story, which aired on his *Let's Go Outdoors* radio and TV programs.

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 staff member Dan Sturgess adding plastic markers to a fence built to protect piping plover breeding habitat to make it more visible to grouse, waterfowl and other species. Photo: Amanda Rezansoff

Alberta Cons

ervation Association staff member Dan Sturgess installing a temporary electric fence to protect piping plover breeding habitat from livestock and predators. Photo: Amanda Rezansoff

Piping plover (right-hand side of photo) camouflaged in breeding habitat. Photo: Amanda Rezansoff