

Sharing knowledge and stewardship outcomes with users of Piping Plover breeding beaches in NS

Report to NS Species at Risk Conservation Fund
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1.0 Project Goal

Promote and improve stewardship practices by recreational users on beaches that are critical to the recovery of endangered Piping Plovers in Nova Scotia.

2.0 Project Objectives

Objective 1. Collect data on key outcomes of beachgoer stewardship and compliance during 2013 Piping Plover breeding season at a minimum of five beaches in NS.

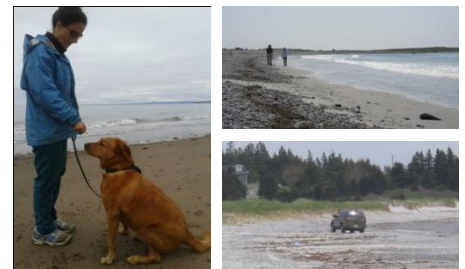
Objective 2. Develop and pilot a seasonal sign for beaches that communicates site-specific information on the current status of breeding Piping Plover and key outcomes of beachgoer stewardship and compliance.

Objective 3. Use feedback from beachgoer surveys conducted in 2013 to inform final sign template.

3.0 Results

Objective 1.

We collected data from Nova Scotia beaches with breeding Piping Plover in 2013 to evaluate use by walkers, dogs, motorized vehicles, which are known to cause disturbance and harm to habitat and breeding Piping Plover. We also collected data on specialised recreational users (e.g., kite surfers, kite buggies and kite flyers), for which we found little to no use on beaches. We present a summary of results from 2013 as well as comparisons, where possible, with 2012 (Figures 1-2 and Tables 1-2).



Key beach stewardship indicators: dogs, walkers and vehicles.

We compared stewardship outcomes at seven focal beaches between 2012 and 2013: Cherry Hill, Lunenburg Co.; Sandy Bay & Thomas Raddall Prov. Park, Queens Co.; Louis Head, Shelburne Co.; Round Bay & Roseway, Shelburne Co.; Crow Neck, Shelburne Co.; and Daniels Head, Shelburne Co. (Table 2). The majority of sites showed positive stewardship trends between 2012 and 2013 in percentage of dogs on-leash, walkers outside of signed nesting areas, and motorized vehicle use. However, for unknown reasons, we documented a decrease in stewardship indicators between years at Pomquet Provincial Park and Crow Neck. Based on this information, we worked closely with NS Dept. Natural Resources enforcement and biologists to adapted signage to clarify regulations and best practices for walkers and dog owners.

Objective 2.

We developed and piloted seasonal signs to communicate site-specific information on the status of breeding Piping Plover and stewardship outcomes at beaches in Nova Scotia. We focused communication of key stewardship results to beach users at seven NS beaches: Cherry Hill, Lunenburg Co.; Sandy Bay & Thomas Raddall Prov. Park, Queens Co.; Louis Head, Shelburne Co.; Round Bay & Roseway, Shelburne Co.; Crow Neck, Shelburne Co.; and Daniels Head, Shelburne Co. Key stewardship results for these beaches are presented in Table 2. We also communicated with beachgoers in Shelburne Co. (which supports almost half of breeding pairs in NS) through the local paper, *The Coast Guard*. In addition, we shared relevant stewardship data with conservation partners who manage beach habitat, including NS Nature Trust and NS Environment. A presentation was given to NS Environment staff that shared stewardship outcomes for beaches that are proposed protected areas.

Objective 3.

We surveyed 26 beach users on Southwest NS beaches to assess their level of knowledge about Piping Plovers as well as their familiarity with current signs and best practices. Results provide some insight into what beach users may or may not be learning from current signs used on beaches; however, it's important to note that the survey was not designed by a social scientist and was delivered on beaches by Bird Studies Canada staff. We present a summary of survey results in Table 3. Information gathered from surveys as well as other interactions with beach users and key stakeholders (e.g., businesses and municipal governments) informed our communication approaches.

A total of 21 out of 26 beachgoers surveyed saw signs used to communicate about Piping Plover and best practices on beaches. Of these 21 beachgoers responding, 13 (62%) could recall two things learned from signs, 6 (29%) recalled one thing, one recalled three things, and one recalled nothing. Over one third (38%) knew to walk on the wet sand, which is one of the most important best practices for reducing disturbances to Piping Plover. Another 38% knew that they can cause disturbances to plovers.

When asked how signs have influenced their behaviour on beaches, 76% beachgoers (n=21 respondents who saw signs) said they stayed away from nest sites. About one quarter of respondents (24%) said they stayed on wet sand. This may indicate that we need to improve our "walk on wet sand" messaging.

About half of beachgoers (48%, n=26 responding) could identify a Piping Plover from a visual test that included five other birds common to beaches (Song Sparrow, Sanderling, Killdeer, Ruddy Turnstone, and Semipalmated Sandpiper). This is perhaps due to the fact that Piping Plovers are often not seen by beachgoers on beaches due to their camouflage.

Through this project, we developed a template for a beach sign to communicate key information to beachgoers. We were able to work with a graphic designer to develop visual ways to communicate information quickly. We will use these graphics in seasonal signs on beaches across NS.

Summary of key stewardship results collected on beaches in 2012 and 2013.

Figure 1. Numbers of dogs observed on and off-leash on beaches by region of Nova Scotia, 2012-13.

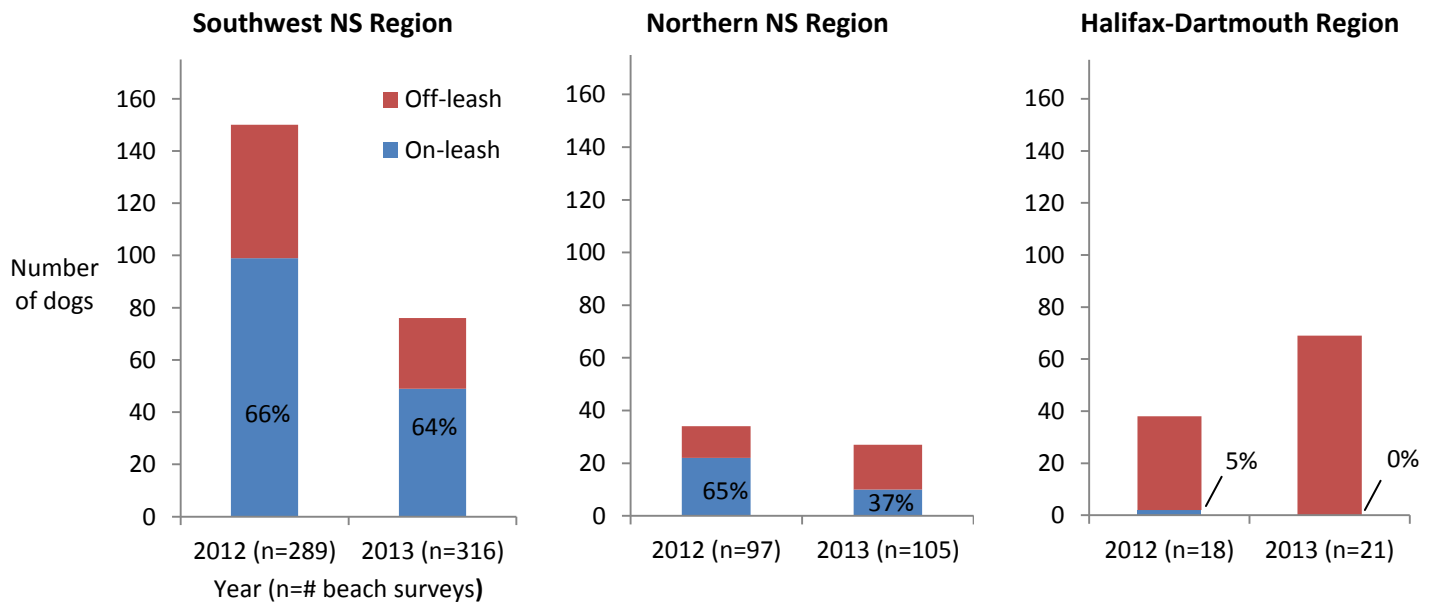


Figure 2. Number of walkers observed outside (wet sand) and within (dry sand) signed Piping Plover nesting areas by region of NS, 2012-2013. (Note: No plover nesting in Halifax-Dartmouth region, therefore, no results to report for this region).

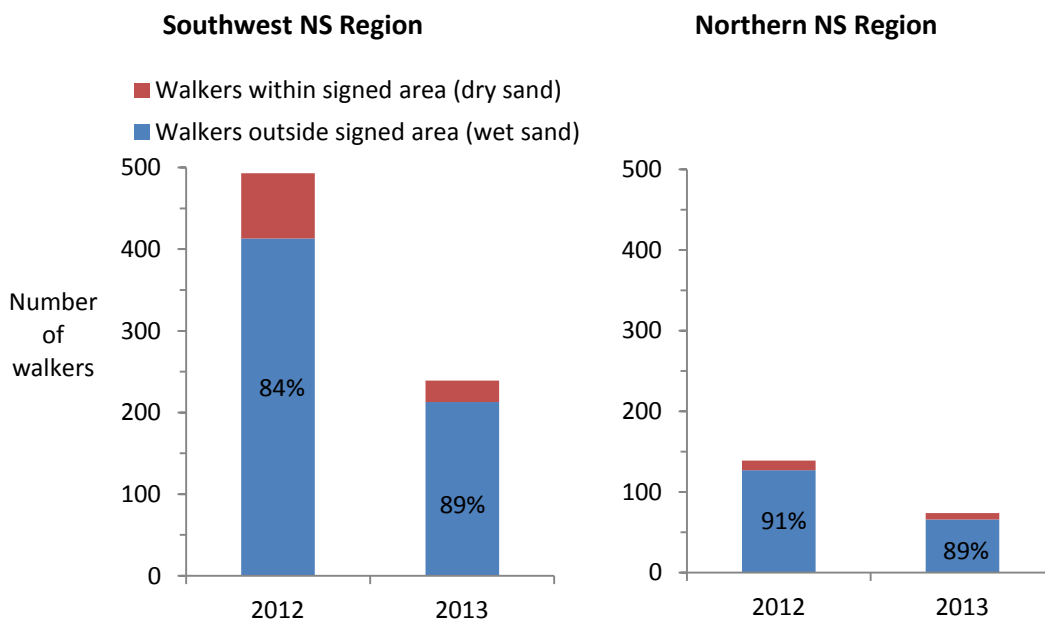


Table 1. Total dogs observed by NS region, 2012-2013.

	Southwest NS Region		Northern NS Region		Halifax-Dartmouth Region	
	2012	2013	2012	2013	2012	2013
# surveys	289	316	97	105	18	21
# dogs on-leash per survey	0.34	0.16	0.23	0.10	0.11	0.00
# dogs off-leash per survey	0.18	0.09	0.12	0.16	2.00	3.29

Table 2. Summary of key stewardship indicators from seven beaches in NS, 2012-2013.

Beach Name	2012	2013	Change between years	Trend (- no change)
Cherry Hill, Lunenburg Co.				
% dogs on-leash	57%	58%	1%	↑
% walkers on wet sand walkers	65%	97%	31%	↑
% surveys with no motorized vehicles	100%	100%	0%	-
Sandy Bay & Thomas Raddall Provincial Park, Queens Co.				
% dogs on-leash	no dogs	no dogs	N/A	N/A
% walkers on wet sand walkers	no walkers	50%	-	↓
% surveys with no motorized vehicles	100%	100%	0%	-
Louis Head, Shelburne Co.				
% dogs on-leash	79%	100%	21%	↑
% walkers on wet sand walkers	90%	100%	10%	↑
% surveys with no motorized vehicles	100%	91%	-9%	↓
Round Bay & Roseway, Shelburne Co.				
% dogs on-leash	11%	25%	14%	↑
% walkers on wet sand walkers	72%	100%	28%	↑
% surveys with no motorized vehicles	15%	15%	0%	-
Crow Neck, Shelburne Co.				
% dogs on-leash	69%	0%	-69%	↓
% walkers on wet sand walkers	95%	91%	-4%	↓
% surveys with no motorized vehicles	100%	88%	-12%	↓
Daniels Head, Shelburne Co.				
% dogs on-leash	63%	64%	1%	↑
% walkers on wet sand walkers	96%	100%	4%	↑
% surveys with no motorized vehicles	90%	81%	-9%	↓
Pomquet Provincial Park, Antigonish Co.				
% dogs on-leash	33%	25%	-8%	↓
% walkers on wet sand walkers	100%	83%	-17%	↓
% surveys with no motorized vehicles	100%	100%	0%	-

Table 3. Evaluating beachgoer knowledge about Piping Plover and best practices through surveys, 2013.

Question: What information did you learn from signs? (Five out of 26 beachgoers surveyed did not see signs, thus, 21 responded)	# Beachgoers who knew information	% Total beachgoers surveyed
Walk on wet sand	8	38%
You can cause disturbance	8	38%
Other information about plovers (e.g., chicks present, timing of nesting)	6	29%
Plovers are endangered	4	19%
Plovers nest on dry sand	4	19%
Keep dog on leash	3	14%
Do not litter	2	10%
Motorized vehicles not allowed	0	0%
Plover nests are protected	0	0%

Table 4. Assessment of Achievements: Summary of Activities, Results & Outcomes

Project Activities	Project Results	Outcomes
Collect data on beachgoer stewardship behaviors during 2013 Piping Plover breeding season and analyze to assess outcomes.	Completed: Collected stewardship data and analysed plover breeding, stewardship outcomes at five beaches in NS: <ul style="list-style-type: none"> Northeast Point, Shelburne Co. Crow's Neck, Shelburne Co. Summerville, Queens Co. Cherry Hill, Lunenburg Co. Pomquet, Antigonish Co. 	<ul style="list-style-type: none"> Collected of data on beachgoer behaviors with a focus at seven beaches. Determined outcomes on stewardship and compliance for each site as follows: 1) % dogs on-leash; 2) % walkers on wet sand within signed nesting habitat. Annual outcomes of Piping Plover breeding success for each site as follows: 1) # breeding plover pairs; 2) # fledglings produced; 3) key factors limiting breeding success (e.g., flooding or predation of nests)
Develop new seasonal sign & Coordinate with graphic designer	Completed	<ul style="list-style-type: none"> Development of seasonal signs to be used at beaches. Used feedback from beachgoers to inform final sign template and graphics.
Post first draft of sign at five beaches at end of 2013 Piping Plover breeding season.	Completed: <ul style="list-style-type: none"> Signs with site-specific information posted at five beaches in NS in summer 2013. Thank you letter to beachgoers published in local SW NS paper, The Coast Guard. 	<ul style="list-style-type: none"> New signs tested at six beaches. Beachgoers had access to site-specific, current information on the status of Piping Plover and outcomes of beachgoer stewardship during Piping Plover breeding season. Communicated with beachgoers through local newspaper, The Coast Guard.

Conduct surveys of beachgoers to assess response to signs in 2013.	Completed: 26 beachgoers surveyed in 2013.	<ul style="list-style-type: none"> • Beachgoers surveyed at a minimum of two beaches to assess response to new signs, including: 1) Visibility of sign; 2) Readability of sign; 3) What was learned from sign about plovers and stewardship. • Beachgoer feedback will inform communication.
Post signs using finalized template at onset of 2014 Piping Plover breeding season	Completed: (Note: Final template wasn't ready when signs needed to be placed in Aug 2014, so used interim template).	<ul style="list-style-type: none"> • Final version of sign were posted in 2014 at six beaches. • Signs shared Piping Plover and stewardship outcomes and, when needed, identified ongoing issues (e.g., vehicle disturbance).
Prepare report to NS SARCF	Completed: Report completed and submitted	<ul style="list-style-type: none"> • Final report completed and submitted.

4.0 Next Steps

We successfully achieved our project objectives while gaining new insight into areas for improvement with regard to communication of best practices to beachgoers. We intend to continue to collect stewardship indicators on NS beaches in order to inform beachgoers, enforcement, habitat managers and other stakeholders. We will continue to work with visual graphics and explore new ways to communicate important information on plovers and stewardship outcomes to beachgoers. We are grateful for the support from NS Species at Risk Conservation Fund as well as supporting funds from Government of Canada's Habitat Stewardship Program for Species at Risk. NS Dept. Natural Resource conservation officers and regional biologists were also key partners on this project and we thank them for their time and commitment to fostering beach stewardship.