

Project Report

Petrie Island Turtle Nesting Site

Friends of Petrie Island & the Ottawa Stewardship Council

24 July 2009

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Acknowledgements:

This project, a joint initiative of FOPI and the OSC, was made possible through the support of the Ontario Ministry of Natural Resources Community Fisheries and Wildlife Involvement Program (CFWIP). The following individuals provided invaluable advice and/or assistance to the project: Bill Bower (FOPI), Joffre Coté (OMNR, OSC), Al Tweddle (FOPI), and Marie-Andrée Carriere (OMNR). Thanks are also extended to City of Ottawa Parks and Recreation for their co-operation.

Introduction

Surveys conducted by the Friends of Petrie Island and the Ottawa Stewardship Council in 2006, 2007, and 2008 confirmed the presence of species-at-risk (SAR) turtles in and around the recreational areas of Petrie Island, including Stuemmer park and beach, the picnic area, the parking lots and roads in close proximity to these areas, and along Holland Trail. Four SAR species (Northern Map, Blandings, Snapping, and Stinkpot) were observed, as well as two non-SAR species (Midland Painted and Red-eared Slider). All of the aforementioned species, with the exception of Stinkpot and Red-eared slider (a non-native species) were observed nesting.

In November 2008, representatives from the OMNR, FOPI, and the OSC toured the main nesting sites with an OMNR species-at-risk biologist (Marie-Andrée Carriere). The purpose of the visit was to ascertain the feasibility of enhancing nesting sites in selected areas in order to divert turtles from higher-risk areas such as the beach and parking lots, where nests and hatchlings are exposed to human-induced stresses from pedestrian and vehicle traffic, recreational activity, etc.



Figure 1: Proposed nesting site

During this visit, the area between Crappie Bay and the parking lot (Figure 1) was identified as a potential location for an enhanced nesting site.

Criteria used in making this determination included: proximity to known turtle nesting and basking sites, a southern exposure, above the high water line, high enough to attract nesting turtles, and relatively free of human activity (as compared to the beach, trails, and parking lots).

Objective

The objective of the project was to enhance and expand an existing turtle nesting site to attract SAR and other turtles in order to improve hatchling survival, away from high human use areas on Petrie Island. The idea was to see if nesting turtles would be attracted to the new site, rather than crossing the parking lot and road to highly-stressed areas such as the beach.

Implementation



Figure 2: Primary nesting site with sand, prior to landscaping

The project proposed to build a low sand and gravel mound on the grassy area between the parking lot and the canoe launch (Crappie Bay). This location (Figure 2) receives direct sunlight and is close to where some nesting activity was observed in the past. The mound was planned to be a natural extension of the existing slope, and blend in with the existing landscaping. It was initially planned to create only one site, however, a smaller secondary site was created approx. 50 m to the North.

Joffre Cote (OSC) co-ordinated aspects of the project with OMNR and the RVCA where applicable.

Project timelines were as follows:

November 2008: Site recce and project planning with OMNR, OSC, and FOPI

January 2009: CFWIP Application submitted

January 2009: City of Ottawa Parks & Recreation give permission to proceed

May 2009: CFWIP Application approved

2-3 June 2009: Sand delivered to site, main and secondary mounds created

15 June 2009: With confirmation that turtle nesting activity had begun, monitoring team commences daily surveys of nesting areas

17 June 2009: In an attempt to minimize human disturbance of the sites (i.e. children playing on the sand hills), the mounds are landscaped to reduce height

27 June 2009: After several days of minimal nesting activity, it is decided to conclude the daily surveys

Methodology

The survey team followed the same protocol as in previous years, i.e. early morning (6-8 am) tours of nesting areas in order to observe nesting activity. FOPI staff also surveyed the area during the day. For project purposes, the following were recorded as nesting activity: turtles laying eggs or digging "test pits" (nesting turtles frequently dig several test pits before depositing their eggs, and sometimes do so for several days before actually nesting); visible signs of nests or test pits even if no turtle was present; and depredated nests.

For the 2009 project, the survey team focused their efforts on the beach and park, the picnic area and the area near the canoe launch, and the parking lots and road in the vicinity. Comparatively little time was devoted to Holland Trail, due to the distance of Holland Trail nesting sites from the test area, and data for Holland Trail is not included in this report. For these and other reasons, such as construction traffic, differences in weather and river levels, etc., comparisons between 2009 and previous years are speculative at best.

Survey results - Nesting Activity (15-27 June 2009)

Location	Observed Nesting Activity
East Beach	1 Snapping Turtle
Main Beach	1 Painted Turtle
Pavilion Mound	7 Snapping Turtles, 1 Northern Map Turtle
Road and Parking Lots	7 Snapping Turtles, 1 Painted Turtle,
Picnic Area, Canoe Launch, & vicinity	2 Snapping Turtles, 4 Painted Turtles, 4 Map Turtles
OSC/FOPI Main Mound	3 Snapping Turtles
OSC/FOPI Secondary Mound	No observed activity

Note: In contrast to the Holland Trail, there is very little nest depredation in the picnic area, beach, and park.

Issues

Several issues arose during the project.

Protection of the nesting area: When first created, the sandy mounds were relatively high and proved to be an irresistible attraction to children. The mounds were therefore landscaped (Figure 3) to reduce their height and profile. This minimized their attractiveness as a play area, but the sites were still subject to disturbance by pedestrian and bicycle traffic. A low fence was considered, but not implemented due to concerns that it might deter nesting turtles. During the survey, however, turtles were observed nesting under the wooden barriers surrounding the parking area (Figure 4). This suggests that a simple barrier around the nesting mounds, similar in height and clearance to the parking lot barriers,

may be an effective means of discouraging human traffic (pedestrian and bicycle) while not deterring turtle movements or nesting activity.



Figure 3: Primary site, reduced height



Figure 4: Nesting in crushed stone, under barriers

Substrate mix: Although it was initially planned for a 50:50 sand/gravel mix, for logistical reasons the sites were mostly sand, with a relatively small proportion of crushed stone. In addition, washed sand was used, rather than the river sand typical of the Island. It is not known if these factors had an impact on nesting activity. The substrate in which turtles nest on Petrie Island includes packed earth and river sand (Holland Trail), river sand (beach and pavilion mound, Holland Trail), crushed stone (parking lots and road), and crushed stone/earth/sand mix (verges of parking lots).

Construction activity: The beach pavilion was under construction during the nesting season. It was anticipated that construction traffic and activity would potentially deter nesting activity, but in fact, the pavilion mound and the parking lots in the vicinity had a relatively high level of nesting activity.

Conclusions and Recommendations

The OSC/FOPI nesting mound showed some, albeit limited, potential to attract nesting turtles. Recommended improvements include the use of a simple barrier surrounding the mounds to discourage human use, with ground clearance similar to the existing wooden parking lot barriers. Also, the addition of approx. one half load of stone dust to the existing substrate mix would "harden" the mounds and may enhance their suitability for nesting, as might the use of river sand in lieu of washed sand.



Figure 5: Primary site - Snapping turtle digging test pits in sand

The number of observed nesting activities on the mounds was, however, small when compared to the pavilion mound, parking lots, and road. The small size of the nesting site relative to the other areas was certainly a factor. Nevertheless, there is relatively limited "growth potential" for initiatives such as this. The area available for suitable nesting sites away from high human use areas is limited, and

turtles and humans are competing, in a sense, for the same areas: sandy, in the sunshine, and above the high water line.



Figure 6: Snapping turtle nesting on beach pavilion mound

The pavilion mound is both larger and higher than the OSC/FOPI nesting mounds and, along with the parking lots, remains a preferred turtle nesting site. It is therefore recommended that the City of Ottawa actively explore options for protecting turtle nesting habitat and ensuring an appropriate balance between environmental and recreational needs as part of the landscaping plan for the area, and in the development of an environmental management plan for Petrie Island.