

Preliminary Results from an Urban Bird Banding Project at Buttertubs Marsh in Nanaimo, BC



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OVERVIEW

Highly urbanized environments may not support all the bird species that occur in the surrounding native habitats. However, environmentally sensitive parklands in urban settings can serve as “oases” with high conservation values in otherwise fragmented landscapes.¹ These green spaces can provide important breeding, stopover and wintering habitats for songbirds.²

The Buttertubs Marsh wetland complex located within the City of Nanaimo, BC, is an example of a productive urban parkland habitat with significant ecological value. This 53-hectare urban park, jointly managed by the City of Nanaimo, Ducks Unlimited Canada and the Nature Trust of BC, encompasses a mixture of ecosystem types, including marsh and shallow water, riparian areas, upland forest and old-field habitats (Fig. 1).

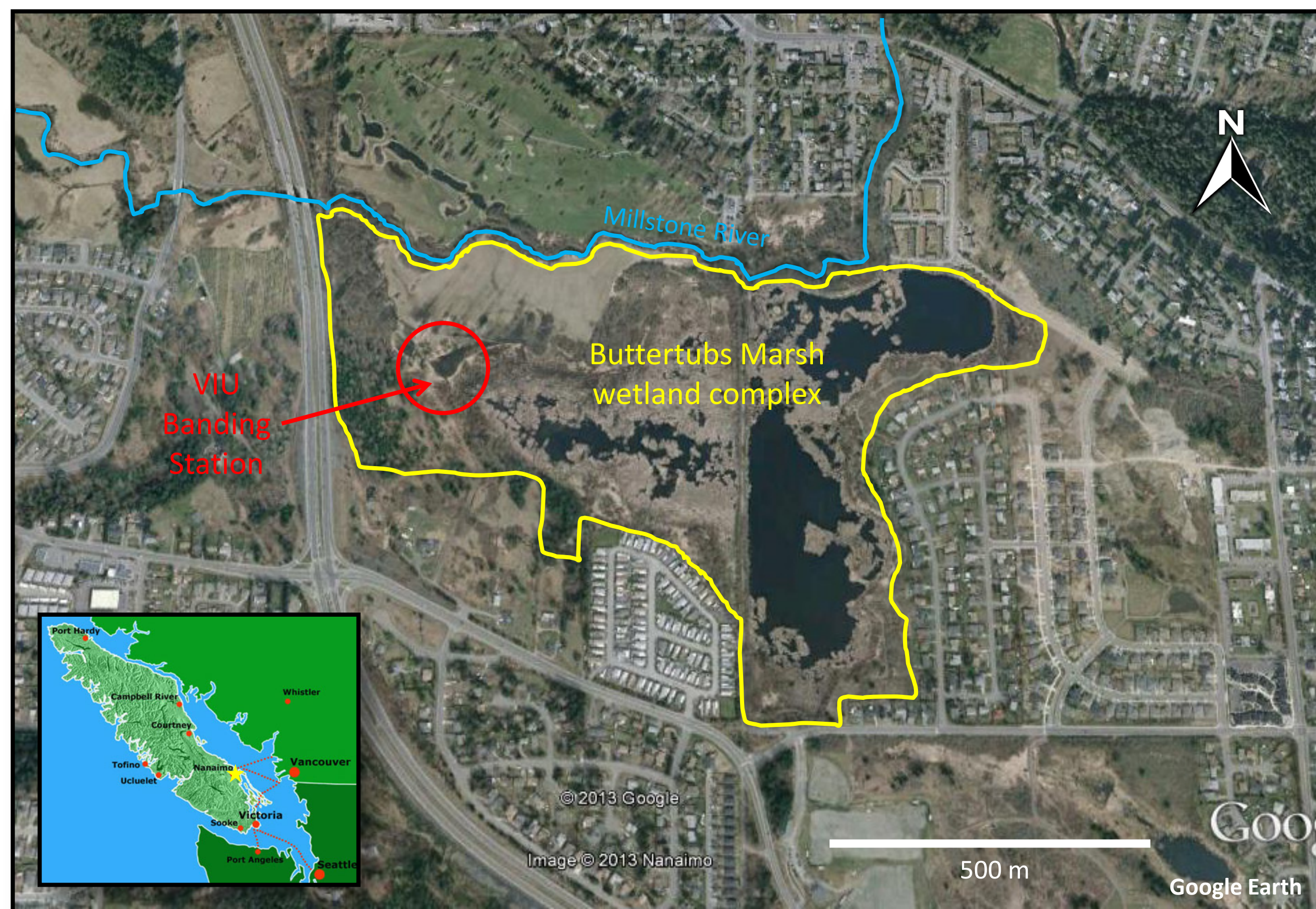


Figure 1. Aerial photograph of the Vancouver Island University (VIU) banding station within the Buttertubs Marsh wetland complex in Nanaimo, BC.

In 2013, Vancouver Island University established a bird banding project at Buttertubs Marsh, with objectives to:

- monitor use of the park by migrant, breeding and resident birds; and,
- provide practical educational and training opportunities for students and community volunteers.

METHODS

- 14 mist-nets stratified among the old-field, riparian and upland forest habitats were operated 1-4 days weekly between March and August 2013.
- Each captured bird was processed as follows: species identification, band application, age/sex determination, fat score, biometrics (e.g., wing chord and tail length, mass).



PRELIMINARY RESULTS

Between March and August 2013, a total of 1,021 birds from 45 species were captured during 47 banding days (Table 1). Average capture rate was 39.6 birds per 100 net-hours during this period.

Parameter	Value
Number of birds banded	723
Number of recaptures	298
Total	1,021
Recapture rate (%)	29.2%
Capture effort (net-hours)	2,576
Capture rate (birds per 100 net-hours)	39.6
Number of species	45

Table 1. Mist net capture statistics at the Vancouver Island University banding station during March-August 2013.

Low numbers of winter resident species were captured initially, followed by an increase in capture rate reflecting spring migration (Fig. 2). Capture rate declined during the main breeding period in June, but increased again in August as a result of post-breeding dispersal.

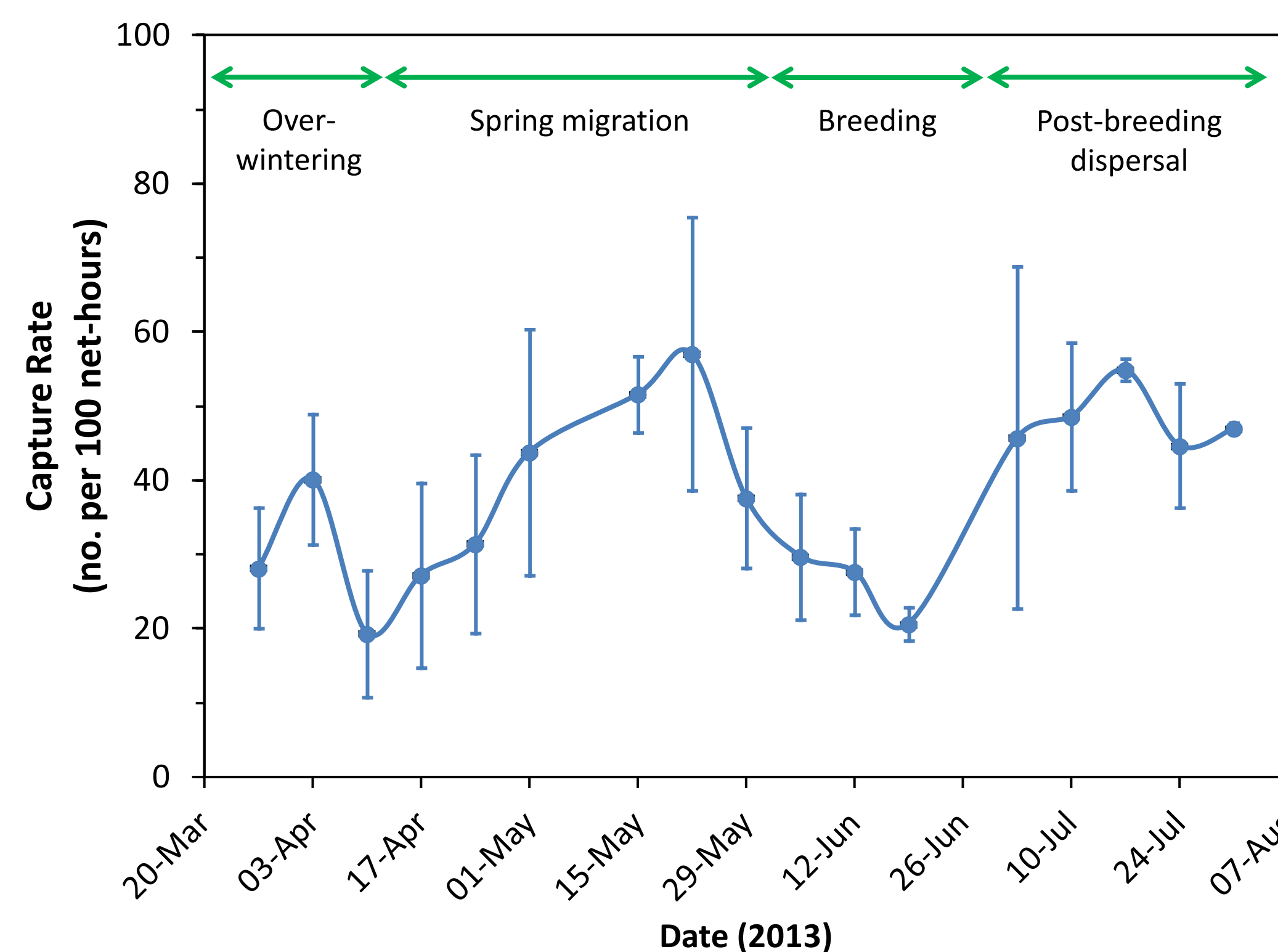
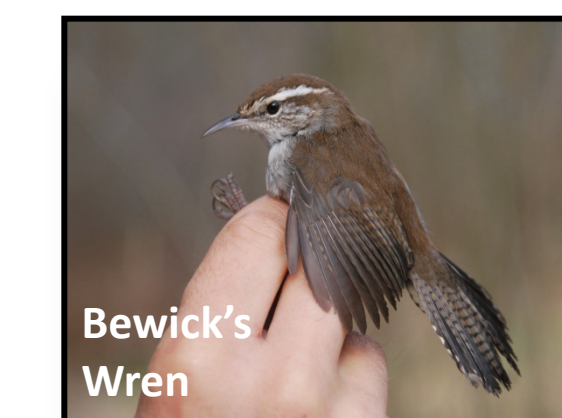


Figure 2. Weekly capture rate (±1 SD) in mist nets at the Vancouver Island University banding station during March-August 2013.

Together, Common Yellowthroat, Song Sparrow and American Robin accounted for 43% of the birds banded at Buttertubs Marsh (Table 2). All species listed were observed to breed at the site, except for Lincoln's Sparrow which was only caught during spring migration.

Table 2. Top 10 species banded at the Vancouver Island University banding station during March-August 2013.

Species	Number Banded	% Recapture
Common Yellowthroat	155	45%
Song Sparrow	102	40%
American Robin	52	29%
Bushtit	41	5%
Chestnut-backed Chickadee	36	20%
Orange-crowned Warbler	25	14%
Yellow Warbler	24	17%
Bewick's Wren	23	44%
Spotted Towhee	21	22%
Lincoln's Sparrow	19	0%



TRAINING AND OUTREACH

Training of undergraduate students and community volunteers is an integral objective of this project. To date, over 30 volunteers have received training in bird monitoring and banding techniques.



In addition, regular public demonstrations have provided an exclusive opportunity for people of all ages to learn about bird ecology, evolution, identification and behaviour up-close and personal.



NEXT STEPS

- Continue weekly songbird monitoring and banding during fall migration.
- Conduct pilot mist-netting and banding of Northern Saw-whet Owl during Fall 2013.
- Establish a Tree Swallow nesting colony and monitoring project at Buttertubs Marsh.
- Provide undergraduate research opportunities for students at Vancouver Island University.
- Collaborate with other banding stations and researchers.
- Continue to offer regular public demonstrations.

REFERENCES

- 1 Lepczyk, C.A., and P.S. Warren. 2012. Urban Bird Ecology and Conservation. University of California Press, Los Angeles, CA.
- 2 North American Bird Conservation Initiative, Canada. 2012. The State of Canada's Birds, 2012. <http://www.stateofcanadasbirds.org/>

ACKNOWLEDGMENTS

- This project would not be possible without a dedicated group of volunteers: R. Abbott, T. Barrington, K. Barry, M. Baxter, H. Blackburn, H. Carolsfeld, R. Cathers, S. Chalmers, B. Cousens, L. Demattia, T. Douglas, B. Dudeck, G. Duncan, L. Gillis, S. Gordon, P. Greig, E. Hampshire, C. Hedden, H. Kimura, A. Kletchko, G. Klimes, M. Kondoh, C. Lee, H. McCabe, M. Morgan, L. Parker, P. Reid, J. Semper, W. Simms, R. Stevens, C. Tong, L. Ware, J. Watson, K. Wetten, A. Wilschut, S. Wood, H. van Vliet.
- The City of Nanaimo, Ducks Unlimited Canada, Vancouver Avian Research Centre and Nanaimo Science, Milner Gardens & Woodland, and Sustainability Society (NS³) are acknowledged for their support of this project.
- Funding was provided by the Vancouver Island University Research Awards Committee Research Fund and the Andy Spencer Bamfield Research Fellowship.
- Bird banding conducted in accordance with Vancouver Island University Animal Use Protocol No. 2012-10-R.



Preliminary results already highlight the importance of the Buttertubs Marsh wetland complex as breeding, stopover and wintering habitat for songbirds.