



Pilot Bird Banding Project at the Calvert Island Field Station



VANCOUVER ISLAND UNIVERSITY

Hakai
Science on the Coastal Margin

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OVERVIEW

Concerns have been raised about the decline of many Canadian bird populations. Conservation of these species is often hindered by a lack of information on regional- or ecosystem-level declines. A network of strategically-located bird banding stations can provide essential baseline information on avian populations.

North of Vancouver Island there are no bird monitoring stations, leaving a large gap in the knowledge of coastal bird breeding and migratory patterns. Calvert Island, which is situated ~100 km north of Port Hardy, has the potential for being an important coastal site for birds (Figure 1A).

RESULTS

Over 22 days of banding, a total of 585 individuals of 24 species were captured and processed (Table 1). Total captures (354 and 231) and capture rates (47.6 and 34.9 birds / 100 net-hours) decreased between June and August, respectively. However, recaptures rates remained consistent between periods.

Table 1: Capture statistics for the 2015 Calvert Island banding project.

Parameter	June 2015	August 2015	Totals
Number of birds banded	222	144	366
Number of recaptures	132	87	219
Total captures	354	231	585
Recapture rate	37.3%	37.7%	37.4%
Number of species	21	16	24
Capture effort (net-hours)	744	661	1,405
Capture rate (birds per 100 net-hours)	47.6	34.9	41.6

PUBLIC EDUCATION

Several public demonstrations were provided during the two banding sessions to over 100 visitors including school groups, the general public, lodge staff and fellow researchers. Individuals of all age groups were offered opportunities to not only see birds up-close but to also learn about bird biology, identification, ecology, evolution, and behaviour.

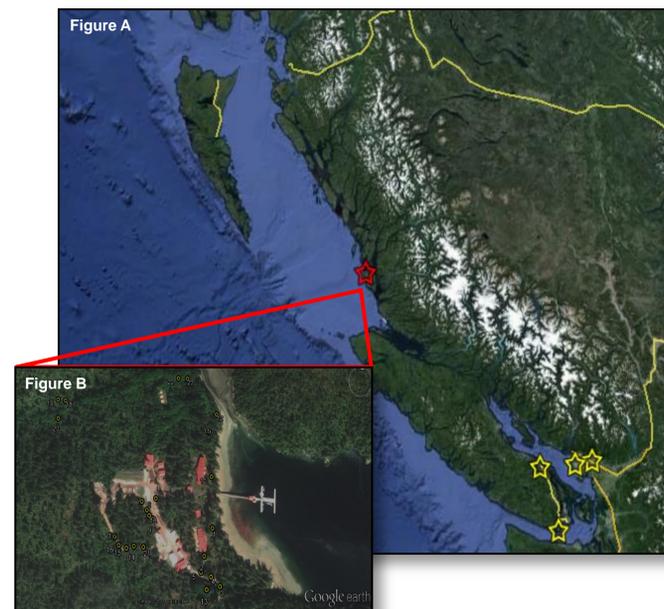


Figure 1: Aerial photograph of the BC Central Coast. Figure A shows the location of current bird banding stations (yellow stars) and Calvert Island (red star). All net lanes established around the Hakai Institute for this project are indicated by yellow dots in Figure B.



Overall, Orange-crowned Warbler, Oregon Junco and Golden-crowned Kinglet were the most common species. The top ten species stayed the same for between periods, but the rankings for each species changed slightly (Table 2). Orange-crowned warbler was the most common species captured in June ($n = 102$), but ranked 4th in August ($n = 24$).

Table 2: Number captured and rank (in parentheses) of the ten species most captured in mist nets during each banding session at Calvert Island in 2015.

Species	June 2015	August 2015
Orange-crowned Warbler	102(1)	24 (4)
Oregon Junco	66 (2)	53 (1)
Golden-crowned Kinglet	55 (3)	30 (2)
Song Sparrow	35 (4)	17 (5)
Pacific Wren	14 (6)	29 (3)
American Robin	27 (5)	11 (6)
Steller's Jay	12 (7)	4 (10)
Yellow Warbler	8 (8)	5 (8)
Wilson's Warbler	5 (10)	8 (7)
Pacific-slope Flycatcher	8 (8)	5 (8)

SOCIAL MEDIA

Wordpress blogs were created for both banding periods, allowing online followers to not only learn about the project but gain insight on banding procedures, species identification, bird behaviour, and more.

June 2015

<http://wordpress.viu.ca/viubirdbanding/>



August 2015

<https://calvertislandbanding.wordpress.com/>



Statistics showed the blogs were viewed over 600 times by individuals all over the world, including Canada, USA, UK and the Netherlands. Other online venues included regular posts to Facebook, specifically to the VIU Bird Banding page, Twitter and through the Hakai Institute website.

METHODS

- Banding was conducted during two periods (June 11-22, 2015 and August 12-24, 2015) to assess breeding and migrating birds.
- Twenty-three mist net locations were set up around the Hakai Institute Lodge on Calvert Island (see Figure 1B).
- Each captured bird was processed as follows: species identification, band application, age / sex determination, fat score, and biometrics (e.g., wing chord, tail length, and mass).

Other interesting captures included:

- Gray Catbird:** rare bird for the BC central coast.
- Song Sparrow:** two different subspecies were banded (subspecies *rufina* and subspecies *kenaiensis*).
- Belted Kingfisher:** three hatch-year individuals were banded.
- Common Raven:** species often not caught in mist nets due to its cautious nature and high level of intelligence.
- Eurasian Collared-dove:** an introduced species from Europe which has rapidly spread across North America.

Most species captured were local breeders and/or migrants, suggesting that the Calvert Island Field Station is a productive area for birds, and could potentially be suitable as a long-term monitoring site.

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- Bird banding activities were conducted in accordance with Canadian Wildlife Service permits 10885 and 10885A, and Vancouver Island University Animal Use Protocol No. 2012-10-R.

