

Monitoring Avian Productivity and Survivorship (MAPS) at Rocky Point

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Location(s): Rocky Point

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Introduction:

The Monitoring Avian Productivity and Survivorship (MAPS) project was created by the Institute for Bird Populations in 1989 to assess and monitor the vital rates and population dynamics of over 120 species of North American breeding landbirds at more than 500 sites across North America. The site at Rocky Point has been used for MAPS since 2003, except for a hiatus in 2007. The MAPS site at Royal Roads University was not used in 2009 or 2010 due to a lack of human resources.

The purpose of the MAPS project at Rocky Point is to create an inventory of the breeding songbird populations using a standardized methodology, and to record sightings of other species to allow comparisons of populations and avian diversity over time and across MAPS sites. The data are submitted to both the Canada Wildlife Service (banding data) and to the Institute of Bird Populations (banding, observation, breeding status, and habitat structure data).

Study Area and Methods:

MAPS monitoring was conducted at Rocky Point, following the MAPS protocol (DeSante *et al.*, 2009). Songbirds were captured in mist nets and banded during standardized sampling sessions. The mist nets were located in a variety of habitat types, at prescribed distances from each other. The area covered by the MAPS station was approximately 3.25 hectares. The sessions were conducted for a six-hour period starting at sunrise once per 10-day period between 31 May and 2 August. Nets were not operated in rainy or windy conditions. A total of 400.5 net hours of banding was conducted in 2010.

Results:

A total of 228 birds (excluding birds that were recaptured) of 36 species were banded at Rocky Point during the MAPS project in 2010, making this a below average year, but comparable to 2009 when 231 birds were banded. The capture rate was 0.57 birds per net hour.

Sixteen birds captured at Rocky Point had been banded at Rocky Point in previous years. These were Chestnut-backed Chickadee (*Poecile rufescens*, two individuals from 2009), Swainson's Thrush (*Catharus ustulatus*, 2009), Bewick's Wren (*Thryomanes bewickii*, 2009), House Wren (*Troglodytes aedon*, 2009), Orange-crowned Warbler (*Vermivora celata*, 2008), American Robins (*Turdus migratorius*, 2004, 2009), American Goldfinch (*Spinus tristis*, 2009), Song Sparrow (*Melospiza melodia*, 2009), Pacific-slope Flycatcher (*Empidonax difficilis*, 2008; two individuals from 2009), Purple Finch (*Carpodacus purpureus*, two individuals from 2008) and Puget Sound White-crowned Sparrow (*Zonotrichia leucophrys pugetensis*, 2009). An additional 31 within-season recaptures were recorded.

An Olive-sided Flycatcher (*Contopus contopus*), a species listed as threatened under the federal Species at Risk Act (SARA), was captured and banded in 2010. As this was an incidental capture (i.e. was not a targeted study species), banding was allowed without a SARA permit. This species has been identified as a breeding bird at the Rocky Point MAPS site. This was the second Olive-sided Flycatcher banded during MAPS at Rocky Point.

Table 1 lists by species the number of birds captured and recaptured at Rocky Point in 2010.

Table 1: MAPS captures at Rocky Point in 2010

Species	New Band	Recapture	Unbanded	Total
American Goldfinch	4	1		5
American Robin	28	5	1	34
Bewick's Wren	4	3		7
Black-headed Grosbeak	1			1
Brown Creeper	3			3
Brown-headed Cowbird	1			1

California Quail			1	1
Cassin's Vireo	1			1
Cedar Waxwing	2			2
Chestnut-backed Chickadee	12	2		14
Chipping Sparrow	15			15
Cliff Swallow	1			1
Common Yellowthroat	2			2
House Finch	2			2
House Wren	4	3	1	8
MacGillivray's Warbler	5	2		7
Northern Flicker	1			1
Olive-sided Flycatcher	1			1
Orange-crowned Warbler	15	2		17
Oregon Junco	1			1
Pacific Wren	1			1
Pacific-Slope Flycatcher	13	5		18
Purple Finch	11	2	1	14
Red-winged Blackbird	11			11
Rufous Hummingbird	14		2	16
Savannah Sparrow	1			1
Song Sparrow	10	7		17
Spotted Towhee	1			1
Swainson's Thrush	5	4		9
Varied Thrush	1			1
Warbling Vireo	1			1
White-crowned Sparrow	39	7	6	52
Willow Flycatcher	2	1		3
Wilson's Warbler	13	3		16
Yellow Warbler	1			1
Yellow-rumped Warbler	1			1
Totals	228	47	12	287

Discussion:

Rocky Point continues to be productive in terms of the number of individuals observed and in species richness. Weather played a major factor in the reduced capture rate in 2010 as it did in 2009. On several banding days, the most productive on the site, needed to be closed due to high winds. This undoubtedly affected both the number of individuals and the diversity of species captured.

The recapture rate of birds banded in previous years is an important component of the MAPS program. Although there is no expectation that the same adult bird will be captured every year, consistency in placement of the nets, dates of monitoring and habitat structure should lead to a high recapture rate of breeding adults over time. This information is a key component of the survivorship aspect of the MAPS research. The Rocky Point site has consistently provided recaptures of birds banded in previous years.

Conclusions:

The MAPS program is providing data on the productivity and survivorship of a wide variety of species in varied habitats across North America. The MAPS database serves as an important resource for population monitoring and conservation efforts, and may also provide valuable information on range changes. The monitoring at Rocky Point should continue.

As with any longitudinal survey, sites should be chosen which have the least probability of major habitat changes during the study period.

References:

DeSante, D.F., K.M. Burton, P. Velez, D. Froehlich and D. Kaschube. 2009. MAPS Manual: 2009 Protocol. The Institute for Bird Populations, Point Reyes Station, CA. 75 pp. <http://www.birdpop.org/DownloadDocuments/manual/MAPSMANUAL09.pdf>