

<b>Rocky Point Bird Observatory Avian Monitoring – Monitoring Avian Productivity and Survivorship (MAPS)</b>	
Project Leader(s): Ann Nightingale  Organization(s): Rocky Point Bird Observatory	
Permit #: <b>P003-08</b>  Location(s): Rocky Point, Royal Roads	Start Date: 30 May 2008  Completion Date: 3 August 2008  Project Status: Completed

**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 landbirds at more than 500 sites across North America. The sites at Rocky Point and Royal Roads are two of four sites in B.C. Monitoring was resumed in 2008 after a hiatus in 2007.

The purpose of the MAPS projects at Royal Roads and 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 between the two 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 Royal Roads and Rocky Point, following the MAPS protocol (DeSante *et al.*, 2005). 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 at each study site was approximately 3.25 hectares. The sessions were conducted for a six-hour period starting at sunrise, at each location, once per 10-day period from between 31 May and 10 August. The MAPS protocol requires a minimum of five years of data (to account for annual variation in populations) before trend analysis or site comparisons can be made.

While the protocol recommends that sites be chosen that will remain relatively unchanged over the monitoring period, in some cases habitat change is beyond the control of the researchers. Invasive species removal at both sites necessitated the

relocation of some nets at both locations. The habitat change was greater at the Rocky Point site.

**Results:**

A total of 465 birds (excluding birds that were recaptured) of 41 species were banded during the MAPS project in 2008, making this an average year. As has occurred in each year of the study, the Rocky Point site was much more productive than the Royal Roads site (298 birds at Rocky Point versus 167 at Royal Roads). Species variety was also greater at Rocky Point (38 species) than at Royal Roads (24 species). A detailed list of species for both sites is shown in Table 1. The recapture rate of banded birds was higher at Royal Roads than at Rocky Point.

Table 1: MAPS captures

Species	Newly Banded		Total	Recaptures		Total
	Rocky Point	Royal Roads		Rocky Point	Royal Roads	
Anna's Hummingbird	2	5	7		1	1
Rufous Hummingbird	25	16	41	2		2
Downy Woodpecker	3	2	5			
Willow Flycatcher	1	1	2			
Pacific Slope Flycatcher	18	6	24	1		1
Hutton's Vireo	3		3			
Warbling Vireo	1		1			
Violet-green Swallow	1		1			
Northern Rough-winged Swallow	1		1			
Cliff Swallow	11		11			
Barn Swallow	1	1	2			
Chestnut-backed Chickadee	18	4	22		2	2
Bushtit		14	14		5	5
Brown Creeper	8	4	12	2		2
Red-breasted Nuthatch	1		1			
Bewick's Wren	7	23	30		14	14
House Wren	7		7	6		6
Winter Wren	6	1	7			
Swainson's Thrush	4	7	11	3	1	4
American Robin	20	22	42	3		3
European Starling	6		6			
Cedar Waxwing	11	9	20		1	1

Orange-crowned Warbler	15	6	21		2		2
Yellow Warbler		1	1				
Townsend's Warbler	3		3				
MacGillivray's Warbler	4	2	6				
Wilson's Warbler	4	4	8				
Common Yellowthroat		1	1				
Spotted Towhee	4	10	14			2	2
Chipping Sparrow	15	7	22				
Song Sparrow	22	16	38		3	10	13
Puget Sound White-crowned Sparrow	13		13		6		6
Dark-eyed Junco	3	1	4				
Rose-breasted Grosbeak	1		1				
Black-headed Grosbeak	1		1				
Red-winged Blackbird	11		11				
Brown-headed Cowbird	1		1		1		1
Purple Finch	8		8				
House Finch	9		9				
Pine Siskin	19	4	23				
American Goldfinch	10		10				
<b>Total Individuals</b>	<b>298</b>	<b>167</b>	<b>465</b>		<b>29</b>	<b>36</b>	<b>65</b>
<b>Total Species</b>	<b>38</b>	<b>24</b>	<b>41</b>		<b>10</b>	<b>8</b>	<b>16</b>

### Discussion:

Rocky Point continues to be more productive, in terms of the number of individuals and in species richness, than the Royal Roads site. As more years of data are collected, the MAPS project should prove to be a useful tool for measuring the effects of site management on songbird populations at the two sites.

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 research.

In 2008, six birds at Royal Roads and nine birds at Rocky Point had been banded in previous years. Only one of these birds was banded in 2005; the others were all banded in 2006. The most significant recapture was a Rufous Hummingbird

(*Selasphorus rufus*) originally banded in 2006. This was our first recapture of a hummingbird banded at Rocky Point.

**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. The monitoring 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 2008. MAPS Manual: 2008 Protocol. The Institute for Bird Populations, Point Reyes Station, CA. 75 pp. <http://www.birdpop.org/DownloadDocuments/manual/MAPSMANUAL08.pdf>