

## **Minnesota Ornithologists' Union – Savaloja Grants Program**

### **Final Report from Sugarloaf: The North Shore Stewardship Association**

#### **PROJECT GOALS AND OBJECTIVES**

On March 19, 2013, Sugarloaf received a grant of \$1000 for bird banding supplies. These supplies were to be used for our very popular weekly bird-banding program at Sugarloaf Cove Nature Center, located near Schroeder, MN. We are very grateful the MOU Savaloja grants committee provided this support as it allowed us to expand and improve our bird-banding program.

The goals of our bird-banding program are two-fold: research and education. The research goal is to gather information about the birds living and visiting the North Shore of Lake Superior. Data collected is used as a way of monitoring, year to year, how North Shore avian populations are changing. Data is submitted to the USGS Bird Banding Laboratory and shared with local researchers studying bird populations along the North Shore. The data is also helping Sugarloaf and North Shore forest managers understand how birds are using North Shore habitats. This data can be used to provide baseline information to agencies and companies studying wind power development along the North Shore.

Our education goal of bird banding at Sugarloaf Cove is to provide a unique educational opportunity for our visitors resulting in greater stewardship of birds and bird habitats. During our bird banding sessions, our naturalist provides visitors with ongoing information about the banding process and its importance as a research tool. Our naturalist also uses this close-up experience to teach visitors about avian morphology and behavior and habitat use. The visitor's interest in birds and their conservation is stimulated due to their close encounter with the birds.

#### **RESULTS**

The following is a report on the bird-banding program from our bird bander and naturalist, Margie Menzies:

##### **Bird Banding 2013 Season Sugarloaf Cove Summary**

This is the second year of bird banding at Sugarloaf Cove. We were able to get an earlier start this year and had a better idea of where mist nets were most functional from our experiences in 2012. Banding began on Memorial Day weekend, May 25, 2013 and continued once weekly for 24 weeks. All banding procedures followed the standards set forth by the US Banding Laboratory. Peter Pyle, Volume I was used for aging and sexing all captured birds.

As of October 26, 2013 we had captured 776 birds with 51 species represented, banded 616 birds, and recaptured 160 birds (some birds on multiple occasions, see information below). During this season we captured and banded 7 new species for Sugarloaf (Black and White Warbler, Canada Warbler, Bay-breasted Warbler, Olive-sided Flycatcher, Eastern Wood Peewee, Connecticut Warbler, and Northern Flicker) bringing the ongoing species record for birds caught at Sugarloaf to 60 (See appendix list). Figure 1, is a monthly comparison of 2012 and 2013 banding seasons.

Figure 1: Monthly Summary of Numbers of Captured, Banded, and Recaptured Birds

<b>Month</b>	<b>Year</b>	<b>Year</b>
<b>May</b>	<b>2012</b>	<b>2013</b>
Birds Captured	0	34
Birds Banded	0	28
Birds Recaptured	0	6
Species	0	12
<b>June</b>	<b>2012</b>	<b>2013</b>
Birds Captured	5	200
Birds Banded	5	68
Birds Recaptured	2	132
Species	3	27
<b>July</b>	<b>2012</b>	<b>2013</b>
Birds Captured	79	67
Birds Banded	75	39
Birds Recaptured	4	28
Species	16	18
<b>August</b>	<b>2012</b>	<b>2013</b>
Birds Captured	179	263
Birds Banded	158	242
Birds Recaptured	21	21
Species	23	30
<b>September</b>	<b>2012</b>	<b>2013</b>
Birds Captured	125	150
Birds Banded	82	135
Birds Recaptured	43	15
Species	34	32
<b>October</b>	<b>2012</b>	<b>2013</b>
Birds Captured	136	58
Birds Banded	107	39
Birds Recaptured	29	19
Species	19	9

Some general observations are possible comparing the two different years. During breeding season, feeder traffic was slow so it was generally ineffective to use walk-in traps through the latter half of June, July, and early August. We used both mist nets and walk-in feeder traps during the spring and fall migrations when feeder traffic picked up. This pattern was observed in both years, excluding the early portion of the season when no banding happened in 2012. This year we were able to capture some of the migrating spring birds, which we were not able to do in 2012, largely due to logistics and getting the banding operation going for the first time. Therefore, the months reflecting the greatest numbers of birds are August and June respectively.

Most months this year were significantly different than those same months in 2012. For May and June, the major reason for this difference is the earlier start to the season, and being able to catch some of the spring migration this year. During the breeding season this year (largely later June and July), we were able to see for the first time recaptured birds in large numbers. This will begin to give us better information about the birds that are returning to Sugarloaf to breed, and over time ideas of their success.

August and September showed larger numbers of birds caught and banded. The 2013 fall migration was clearly underway from the second week in August through the first week of September. The majority of

the movement was species of warblers. After the warbler movement slowed in September, the rest of the migratory birds were fewer in number particularly for October this year compared to 2012. See Figure 2.

Figure 2- Approximate totals for all birds captured, both new birds and recaptures

Week of the Month	Number of Birds Caught	Number of Species
May-Fourth week*	34	12
June- First week*	118	25
June- Second week*	29	15
June-Third week	33	11
June-Fourth week	20	8
July- First week	10	8
July- Second week	16	8
July- Third week	18	9
July- Fourth week	23	7
August- First week	37	11
Aug.- Second week	58	16
Aug.- Third week	11	8
Aug.- Fourth week	90	14
Aug.- Fifth week*	67	18
September -First week	91	21
Sept. -Second week*	20	15
Sept. -Third week*	23	10
Sept. -Fourth week	16	11
October -First week	No Banding- gale force winds and rain	0
Oct. -Second week*	7	3
Oct. -Third week*	20	6
Oct. Fourth week*	31	6

\* Nets and feeder traps both used.

At Sugarloaf, the diversity of birds caught is greatest during migratory seasons. Spring migration was definitely still in full swing during the first two weeks of banding at the end of May and the beginning of June. It was a late spring this year, with snow and ice lasting well into the month of May. Many northern lakes were still ice covered for opening of fishing season May 11. Fall migration began in Mid-August and continued with the heaviest traffic through the first week of September for Sugarloaf. Fall was a long and warm in 2013 with many days of unfavorable winds for migrating birds. Banding traffic was greater in numbers for September 2013 than 2012- though it is important to note that a large portion of the birds banded in September were caught in the first week, and much lighter traffic through the later part of the month. October 2013 was considerably slower for birds than 2012. Timing for banding days did not correspond to the days with the greatest fall movement at Sugarloaf this year, and birds that we captured during fall migration in 2012 were not caught in 2013, such as Gray-cheeked and Hermit Thrushes as well as Fox sparrows. As we gain more seasons of data, we will begin to get a better and better picture of which birds move through Sugarloaf at what points during the year.

As a whole, we captured and banded more birds in 2013 than in 2012 for most months. Figure 3 below represents the species of birds banded, and whether they were present during breeding season. Part of the explanation for more birds, is a much earlier start on the season in 2013, and the addition of two small nets in the Scientific and Natural Area (SNA) portion of Sugarloaf Cove. This area thus far has consistently yielded the largest numbers and diversity of species for birds at Sugarloaf. Of the birds captured in 2013, we captured 81% in the SNA. Additionally, 45 out of the 51 species were captured in

the SNA. In addition, this year, 33 of the species caught in 2013 were caught during breeding season. (Breeding season is designated using the standards set forth by the Institute for Bird Populations (IBP), Point Reyes, California, for their Monitoring Avian Productivity and Survivorship Program (MAPS). Sugarloaf does not currently take part in the study but we do follow many of the protocols established by the study.) The recommended dates for capturing birds that are likely to be in breeding territory for this region of the country for the MAPS program is May 31 through August 8 every year. During the 2012 season, we captured 19 species during the breeding season, compared to 33 species in 2013. This year's earlier start clearly gave us a more accurate picture of the species resident at Sugarloaf during breeding season, and the continued importance of the SNA to the birds. As we move forward from year to year with banding, we should be able to watch trends in the breeding population of birds.

Seven new species were captured at Sugarloaf during the 2013 season (Figure 3). However, nine species that were caught in 2012 were absent in 2013. The earlier start to banding this year gave us greater numbers of Goldfinches, Purple Finches, Chipping Sparrows, and Blue Jays - all of which were primarily feeder trap captures. These birds were not present in the same numbers in the fall. Gray Catbirds were absent entirely from Sugarloaf in 2013, while they were clearly breeding birds with juveniles captured in 2012. It will be interesting to see if they return to Sugarloaf in the future.

During 2013, we banded less than half of the Song Sparrows of 2012. Of the 53 Song Sparrows banded last year, four recaptures returned to breed. As a whole, we saw fewer later season migrators in 2013 such as Kinglets, Thrushes, White-crowned and White-throated Sparrows, and Juncos. Significant increases were seen in the number of American Redstarts (over 3 times as many), Tennessee Warblers (over 4 times as many), and Nashville Warblers (twice as many) this year, as well as numbers of species of warblers as a whole this year in the fall. These trends will be interesting to follow in future seasons.

Figure 3: Species Caught by Families (Italicized birds captured in the SNA)

<b>Species</b>	<b>Number caught</b>	<b>During Breeding Season?</b>
Woodpecker- 2 Species		
<i>Downy Woodpecker</i>	4	Yes
<i>Yellow-shafted Flicker</i>	1	No
Flycatchers -6 species		
<i>Alder Flycatcher</i>	13	Yes
<i>Eastern Wood Peewee</i>	2	Yes
<i>Least Flycatcher</i>	21	Yes
<i>Olive-sided Flycatcher</i>	1	Yes
<i>Trails Flycatcher*</i>	40	Yes
<i>Yellow-bellied Flycatcher</i>	7	Yes
Vireos – 2 species		
<i>Philadelphia Vireo</i>	3	No
<i>Red-eyed Vireo</i>	15	Yes
Jays- 1 specie		
Blue Jay	4	Yes
Chickadees -1 specie		
<i>Black-capped Chickadee</i>	35	Yes
Creepers/Nuthatches 2-species		
<i>Brown Creeper</i>	1	No
Red-breasted Nuthatch	16	No
Kinglets -2 species		
<i>Golden Crowned Kinglet</i>	1	Yes
<i>Ruby Crowned Kinglet</i>	2	No

Thrushes -2 species		
<i>Swainson's Thrush</i>	4	No
<i>Veery</i>	6	Yes
Waxwings -1 specie		
<i>Cedar Waxwings</i>	11	Yes
Warblers -15 species		
<i>American Redstart</i>	123	Yes
<i>Black and White Warbler</i>	3	Yes
<i>Bay-breasted Warbler</i>	1	No
<i>Blackpoll Warbler</i>	17	No
<i>Black-throated Green Warbler</i>	10	Yes
<i>Canada Warbler</i>	5	Yes
<i>Cape May Warbler</i>	1	No
<i>Common Yellowthroat</i>	11	Yes
<i>Connecticut Warbler</i>	1	No
<i>Chestnut-Sided Warbler</i>	11	Yes
<i>Magnolia Warbler</i>	13	Yes
<i>Mourning Warbler</i>	8	Yes
<i>Myrtle Warbler</i> <sup>#</sup>	4	Yes
<i>Nashville Warbler</i>	60	Yes
<i>Orange-crowned Warbler</i>	1	No
<i>Ovenbird</i>	4	Yes
<i>Tennessee Warbler</i>	51	Yes
<i>Wilson's Warbler</i>	9	Yes
<i>Western Palm Warbler</i>	7	No
<i>Yellow Warbler</i>	3	Yes
Sparrows -7 species		
<i>American Tree Sparrows</i>	9	No
<i>Chipping Sparrow</i>	11	Yes
<i>Lincoln's Sparrow</i>	3	No
<i>Slate-colored Junco</i>	1	No
<i>Song Sparrow</i>	22	Yes
<i>Swamp Sparrow</i>	3	No
<i>White-crowned Sparrow</i>	2	No
<i>White-throated Sparrow</i>	11	Yes
Finches -2 species		
<i>Rose Breasted Grosbeak</i>	1	Yes
<i>American Goldfinch</i>	22	Yes
<i>Pine Siskin</i>	1	No
<i>Purple Finch</i>	10	Yes

#### Notes

\* Trails Flycatcher is a designation used by banders because *Epidomax* flycatchers Alder and Willow can be difficult to determine species unless the song is heard. Banders are not permitted by the Banding Laboratory to use Alder Flycatcher as a species designation past the breeding season. Sugarloaf is out of the normal range for Willow Flycatchers so they are unlikely to have flown through the area even during migration, so the Trails are more than likely Alder Flycatchers.

#Myrtle Warbler is a regional speciation used by the Bird Banding Laboratory to differentiate between subspecies of Yellow-rumped Warblers.

Perhaps some of the most exciting moments for a bird bander at a place like Sugarloaf is to recapture birds that you banded a previous year. This year at Sugarloaf, some of the first birds captured during the 2013 season were birds that had been banded in 2012. Some of these birds were resident birds such as Black-capped Chickadees, and Red-Breasted Nuthatches. However, some of the recaptures were birds such as Song Sparrows, Alder Flycatchers, Yellow Warblers, and American Redstarts, all migratory species, who had resided at Sugarloaf during the summer, but flew south to winter elsewhere, and now returned to the same location a year later. The Sparrows fly to states to the south of Minnesota, and may not have gone long distances. However, others like the Redstarts, Yellow Warblers, and Alder Flycatchers all migrate to the tropics for the winter, some as far as South America. Therefore, to recapture these birds again at Sugarloaf is exciting in itself, but many of these birds also stopped in regularly for “check-ups.”

For example, during the 2013 season there were 160 recaptured birds representing 17 species. A closer look at records of birds recaptured provides further information that indicates there were only 70 individual birds recaptured, and that some of them were recaptured through the summer breeding season up to three, four or even five times to account for the total number of 160 recaptured birds. Of these 70 birds recaptured through the season, 26 of them were birds from the 2012 banding season. The remaining were newly banded during the 2013 season. Figure 4 below summarizes the species and numbers of individual birds recaptured and details the number of incidents of recapture.

Figure 4- Recaptures

<b>Species and Number Recaptured</b>	<b>Banded 2012 Season</b>	<b>Banded 2013 Season</b>
Alder Flycatcher- 4 recaptured		
Recaptured 3 Times	1 bird	
Recaptured 4 Times	1 bird	1 bird
Recaptured 6 times		1 bird
American Goldfinch- 4 recaptured		
Recaptured 1 time		3 birds
Recaptured 2 times	1 bird	
American Redstart- 17 recaptured		
Recaptured 1 time	2 birds	5 birds
Recaptured 2 times		6 birds
Recaptured 3 times	1 bird	1 bird
Recaptured 5 times	2 birds	
Black-capped Chickadees- 14 recaptured		
Recaptured 1 time	2 birds	
Recaptured 2 times	2 birds	2 birds
Recaptured 3 times	2 birds	1 bird
Recaptured 4 times	2 birds	3 birds
Cedar Waxwing- 1 recaptured		
Recaptured 1 time		1 bird
Chipping Sparrow- 3 recaptured		
Recaptured 1 time		2 birds
Recaptured 2 times		1 bird
Common Yellowthroat- 2 recaptured		
Recaptured 1 time		1 bird
Recaptured 4 times		1 bird
Mourning Warbler- 1 recaptured		
Recaptured 1 time		1 bird
Nashville Warbler- 1 recaptured		
Recaptured 1 time		1 bird

Ovenbird- 1 recaptured		
Recaptured 1 time		1 bird
Purple Finch- 2 recaptured		
Recaptured 1 time		2 birds
Red-Breasted Nuthatch- 5 recaptured		
Recaptured 1 time	2 birds	
Recaptured 2 times	1 bird	1 bird
Recaptured 5 times	1 bird	
Red-eyed Vireo- 1 recaptured		
Recaptured 1 time	1 bird	
Song Sparrow- 4 recaptured		
Recaptured 1 time	1 bird	
Recaptured 2 times	1 bird	
Recaptured 4 times	1 bird	1 bird
Veery- 2 recaptured		
Recaptured 1 time		1 bird
Recaptured 3 times		1 bird
White-throated Sparrow- 5 recaptured		
Recaptured 1 time		4 birds
Recaptured 3 times		1 bird
Yellow Warbler- 2 recaptured		
Recaptured 3 times	1 bird	1 bird
<b>73 individual birds recaptured in 2013</b>	<b>2012 birds- 25 total</b>	<b>2013 birds- 45 total</b>

The number of Alder Flycatcher recaptures is combined with the recaptures of Traill's Flycatchers. After breeding season, banders must lump Alder and Willow Flycatchers as Traill's Flycatchers because they are so difficult to differentiate from each other out of breeding season. In this case, of all of the recaptures of Traill's Flycatchers, were birds that had already been recaptured during breeding season as Alder Flycatchers. This evidence is based on songs heard during breeding season at Sugarloaf. Alder Flycatchers are by far the predominate species heard during breeding season at Sugarloaf, while Willow Flycatchers were not heard.

As we move forward with banding at Sugarloaf, we are looking at next steps. Though many of the birds captured are caught in the SNA, we will continue to experiment with net placement in the upland portion of Sugarloaf, with the potential use of some higher aerial nets in the upland area, now that we have additional nets to make this happen. There is consistent bird traffic in the upland - but placement of nets is more difficult given tree cover and public hiking trails that are present in greater numbers in the upland habitat. We have taken steps in December 2013, to maintain greater feeder traffic at Sugarloaf during the winter months by mounting higher volume feeders on the platform feeding stations during the winter months when staff presence at Sugarloaf is highly limited. These new feeders also have slots for suet cakes, which might tempt some additional species of birds to visit the feeders. There is a hope with this increase in consistent food sources that we will be able to band more at the feeders during the winter and early spring. Time will tell. We continue to be committed to conduct bird banding at Sugarloaf Cove and watch for trends in breeding bird populations and migration trends.

## Ongoing Master Species List- 60 species total

### Warblers- 21 species

American Redstart (AMRE)  
Bay-breasted Warbler (BBWA)  
Black and White Warbler (BAWW)  
Blackpoll Warbler (BLPW)  
Black-throated Green Warbler (BTNW)  
Canada Warbler (CAWA)  
Cape May Warbler (CMWA)  
Connecticut Warbler (CONW)  
Common Yellow Throat (COYE)  
Chestnut-sided Warbler (CSWA)  
Magnolia Warbler (MAWA)  
Mourning Warbler (MOWA)  
Myrtle Warbler (MYWA)  
Nashville Warbler (NAWA)  
Northern Waterthrush (NOWA)  
Orange-crowned Warbler (OCWA)  
Ovenbird (OVEN)  
Tennessee Warbler (TEWA)  
Wilson's Warbler (WIWA)  
Western Palm Warbler (WPWA)  
Yellow Warbler (YEWA)

### Sparrows- 9 species

American Tree Sparrow (TRSP)  
Chipping Sparrow (CHSP)  
Fox Sparrow (FOSP)  
Lincoln's Sparrow (LISP)  
Slate-colored Junco (SCJU)  
Song Sparrow (SOSP)  
Swamp Sparrow (SWSP)  
White-Crowned Sparrow (WCSP)  
White-throated Sparrow (WTSP)

### Flycatchers- 5\* species

Alder Flycatcher (ALFL)  
Eastern Wood Peewee (EAWP)  
Least Flycatcher (LEFL)  
Olive-sided Flycatcher (OSFL)  
Yellow-bellied Flycatcher (YBFL)  
Trails Flycatcher (TRFL)

### Finches- 3 species

Goldfinch (AMGO)  
Purple Finch (PUFI)  
Pine Siskin (PISI)

### Thrushes- 4 species

Veery (VEER)  
Swainson's Thrush (SWTR)  
Grey Checked Thrush (GCTR)  
Hermit Thrush (HETR)

### Vireos-3 species

Red-eyed Vireo (REVI)  
Blue-headed Vireo (BHVI)  
Philadelphia Vireo (PHVI)

### Kinglets- 2 species

Ruby Crowned Kinglet (RCKI)  
Golden Crowned Kinglet (GCKI)

### Nuthatches- 2 species

Red-breasted Nuthatch (RBNU)  
White-breasted Nuthatch (WBNU)

### Other Birds Banded- 8 species

Cedar Waxwing (CEWA)  
Gray Catbird (GRCA)  
Black-capped Chickadee (BCCH)  
Rose-breasted Grosbeak (RBGR)  
Brown Creeper (BRCR)  
Downy Woodpecker (DOWO)  
Blue Jay (BLJA)  
Northern Flicker (YSFL)

### Species Caught But Not Banded- 3 species

Great Crested Flycatcher (GCFL)  
Ruby-throated Hummingbird (RTHU)  
Savannah Sparrow (SASP)

**EXPENDITURES**

<b>Company</b>	<b>Quantity</b>	<b>Item</b>	<b>Price</b>
Manomet	1	Leg band remover	\$ 31.00
	1	Spring Scale – 100 grams	\$ 51.00
	1	Spring Scale – 300 grams	\$ 51.00
		Shipping	\$ 10.00
Avinet, Inc.			
	4	70/2 nylon nets	\$324.00
	4	75/2 polyester nets	\$163.00
	1	ID Guide to N/A Birds Part 2	\$ 49.50
	1	Ageing and Sexing CD	\$ 39.50
	2	15cm Wing/Tail Ruler	\$ 10.50
	1	+3D 1.75x14” Visor Loupe	\$ 35.00
	1	+5D 2.25x8” Visor Loupe	\$ 35.00
	1	Net repair kit	\$ 5.50
	1	Black nylon thread – 56 yards	\$ 1.50
	1	100 yds 20# Trammel	\$ 8.75
	1	100 yds 30# Trammel	\$ 9.15
		Shipping	\$ 20.99
Buteo Books			
	1	Thayer Birds of North America gold edition DVD	\$ 99.95
		Shipping	\$ 7.85
Menards			
	3	100’ poly rope	\$ 23.97
<b>TOTAL</b>			<b>\$987.66</b>
Budget			\$1000
Difference			\$12.34

Thank you very much for funding our bird-banding program. If you have any questions regarding this report, please contact me at any time.

Sincerely,

Molly Thompson  
 Executive Director  
 Sugarloaf: The North Shore Stewardship Association  
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