



December 28, 2022

Organization Name: Sugarloaf: The North Shore Stewardship Association

Project Title: Black-capped Chickadee Pit Tags

2021 Minnesota Ornithologists' Union Savaloja Grant Report

Submitted by: Molly Thompson

Grant Amount: \$655

Sugarloaf: The North Shore Stewardship Association began banding birds once a week at Sugarloaf Cove Nature Center during the summer of 2012 with great success. In the nine years we have conducted bird banding at Sugarloaf, we have expanded the program to include fall migration banding each year and have just completed our third year as a participant in the Institute for Bird Populations: Monitoring Avian Productivity and Survivorship (MAPS) study.

Our request for funds from this grant was to continue our investment in bird research and visitor education through the addition of a study of Black-capped Chickadees. In this study, Sugarloaf was added into a study that has been underway for about a year at Wolf Ridge Environmental Learning Center. The study has involved making a concerted effort to band resident Chickadees in late fall. In addition to the normal USGS bird banding lab band the Chickadees are fitted with a light-weight pit tag. This pit tag sends out a particular frequency unique to each individual bird. The frequency is then detected by a receiver attached to a feeder containing sunflower seeds. The receiver logs the individual bird tag number, date, time, and air temperature when the bird visits the feeder. This begins to provide us with specific information about individual birds and their movements through the seasons of the year and starts to answer a host of questions including:

- Are the same birds frequenting the feeder year-round?
- Which groups of birds appear to visit the feeder at the same time routinely?
- How might temperature affect how birds move, and the connection to basic biological information on individual bird's energy needs.

## **REQUEST**

We were seeking the funding for 50 pit tags to be fitted on banded Sugarloaf Chickadees, a feeder receiver, and two batteries to power the data logger. We were also requesting funds to develop a complimentary system that allows information from the receiver to be forwarded to a monitor in Sugarloaf's Visitor Center. we received funding for the purchase of 50 pit tags.

## RESULTS

Our study of resident Black-capped Chickadees began in 2020 with a few initial pit tags to begin to better understand movements of Chickadees. Receiving funds from the Savaloja Grant for more pit tags has allowed us to expand and continue our initial project. Pit tags are light-weight tags each with a unique frequency for an individual bird (see picture below). Once fitted with a tag, a receiver logs the individual bird's tag number, date, time, and air temperature for every visit to the feeder.

During the study, we have fitted a total of 42 birds with pit tags. From 12/20/2020 through 06/20/2022 these 42 Chickadees have made 58,506 visits to the feeder fitted with the receiver. In general, the number of feeder visits are much higher in the fall through the winter into spring. During the summer months feeder visits drop significantly during breeding season (see the graph below). The most visits in a single day by multiple birds was 3027, and the most made by a single bird was 237 visits in one day! In 2021, the most pit tagged individual birds to visit the feeder in a single day was 13, and 19 in 2022.

There is, of course, much more information to be gained from the data about individual birds, which we will be exploring as we continue this project.

## PHOTOS



Banded Chickadee with Green Pit Tag on other leg

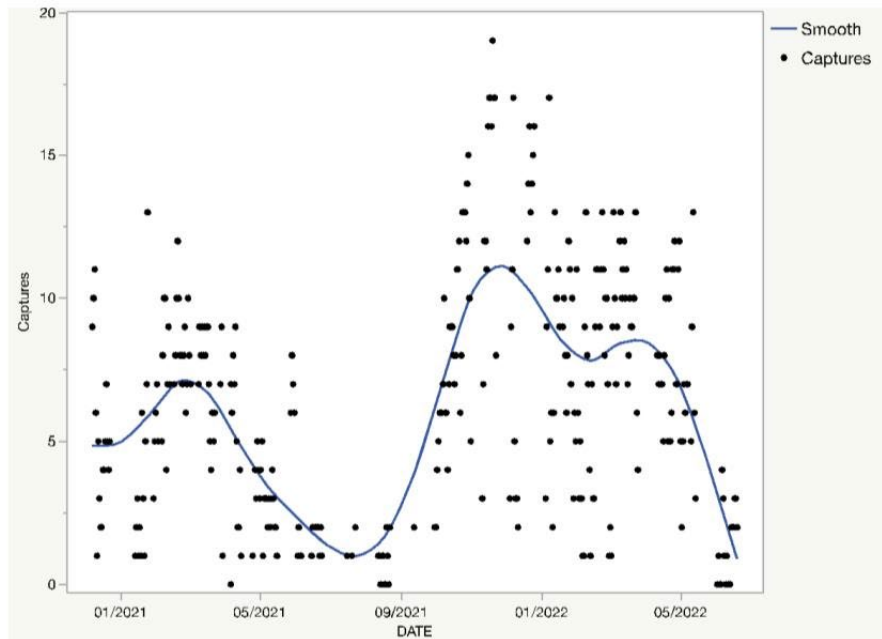


Feeder fitted with Receiver



Chickadee visiting the receiver at the feeder

## Visits of Tagged Chickadees per day



## Sugarloaf PIT TAG Numbers 12/20/2020 to 6/20/2022

- Number of BCCH PIT Taged 42
- Total Visits / 58506
- Max Visits /1 Day 3027
- Max Individuals / 1Day 13<sub>2021</sub>, 19<sub>2022</sub>
- Max Visits by Individual / 1 Day 237

## BUDGET

<b>Requested Budget</b>		<b>Actual Received</b>	<b>Actual Spent</b>	
<b>\$300</b>	<b>50 Pit tags plus shipping</b>	<b>\$655</b>	<b>\$638.76</b>	<b>150 Pit tags</b>
<b>\$750</b>	<b>Logger receiver and batteries</b>	<b>\$0</b>	<b>\$0</b>	<b>Not purchased</b>
<b>\$1000</b>	<b>Remote communication device</b>	<b>\$0</b>	<b>\$0</b>	<b>Not purchased</b>
<b>In Kind</b>	<b>Sugarloaf staff and volunteers</b>	<b>In Kind</b>	<b>300 – 500 hours</b>	<b>Margie Menzies and Joe Lutz</b>
<b>\$2050</b>		<b>\$655</b>	<b>\$638.76 (rcd \$524; balance to be paid \$114.76)</b>	