



# The BULA News

A publication of the Burke Lake Banding Station  
Department of Fisheries and Wildlife, Michigan State University

*A non-profit organization dedicated to research of avian health and migration, education of current and future ornithological professionals, and outreach for our community at a unique place to learn about, connect with, and appreciate a diverse bird community*

*Spring 2014*



*Connecticut Warbler*





# SPRING 2014

Spring is finally here and we are excited to announce that between private donations and funds from the Michigan Department of Natural Resources we anticipate opening again in fall 2014! We will begin banding on **August 1<sup>st</sup> and run everyday (weather permitting) until October 31<sup>st</sup>**. We are so thankful for all those that have donated to the station and we hope to get your continued support as we further try and establish BULA as a long-term banding station.

This fall we expect to host more school groups and have more public visitors. If you have a group larger than 10 please email us at **bukelakebanding@gmail.com** and we will do our best to properly accommodate your group.

For all those curious about our **spring banding**, we will be operating a few days per week mid-May until mid-June. We welcome any visitors during those banding sessions. These specific dates will be announced on our Facebook page as the dates approach. Despite a lower capture rate in the spring, we will see birds in their colorful breeding plumage!

If you would like to visit the banding station during the spring, please contact Jen Owen at the Burke Lake email address to schedule your visit.

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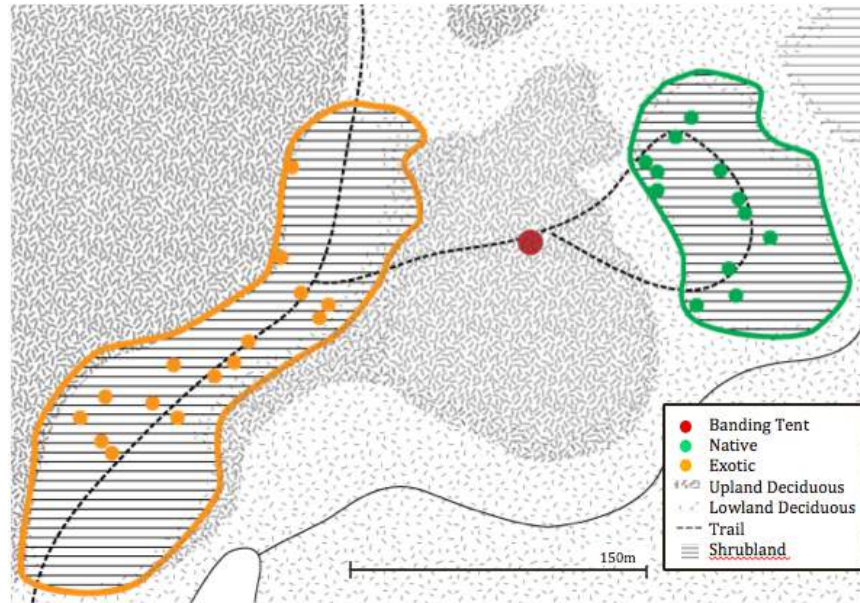
*Song Sparrow caught and banded during our participation in the 2014 MSU Science Festival. Photo by Zak Pohlen*

# Does Exotic Vegetation Affect Migrating Birds?

## *Ongoing Research of the Physiological and Immunological Health of Landbirds in Relation to Vegetation Use and Food/Nutrient Availability*

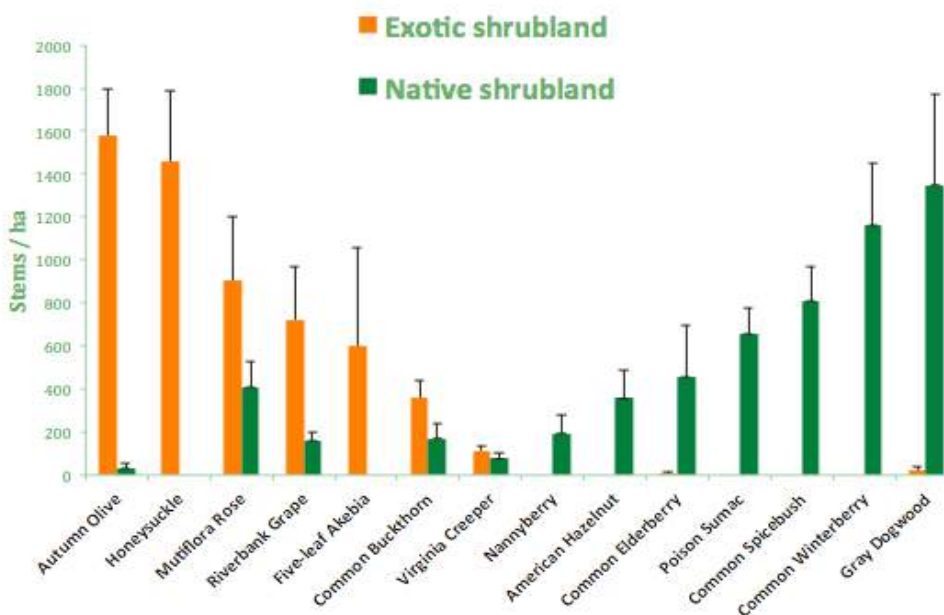
For the past two years we have been capturing birds stopping over during fall migration in two distinct shrubland areas in mid-Michigan. One area is dominated by exotic plant species while the other is primarily native species (see site map and vegetation graph). Mistnets are used to capture birds and are evenly divided between the two vegetation types (15 nets per area). Once birds are captured, we bring them to the banding tent for processing. We band each bird with a uniquely numbered aluminum band, determine sex, and age, take structural measurements, assess extent of fat and muscle stores, weigh them, and for some species collect a very small blood sample. The birds are then released.

Yushi Oguchi, a master's student in the Department of Fisheries and Wildlife at Michigan State University, has been conducting his graduate research under the direction of Jen Owen for the past 2 years. Yushi is interested in whether there are negative health consequences for birds using exotic versus native areas during stopover. To answer this, Yushi collected blood from over 1200 individual birds, ran blood work to assess immune function and health, and has been working through winter running those samples in the lab.



*Burke Lake Banding Station site map. The area outlined in orange represents exotic habitat, dominated by exotic shrubs. Each orange dot is a location of an individual mist net within the exotic side. The area outlined in green represents native habitat, dominated by native shrubs. Each green dot is a location of an individual mist net within the native side.*

To date, Yushi has run approximately half of the samples to determine differences between birds caught in native and exotic vegetation. Interestingly and not as predicted, there appear to be no significant differences in the health and physiology of birds captured in the native shrubland versus the exotic shrubland.



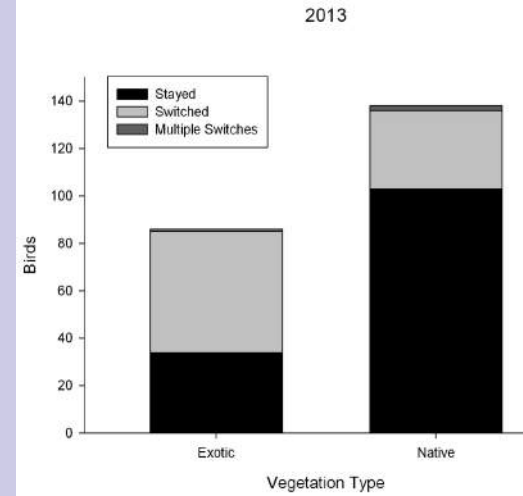
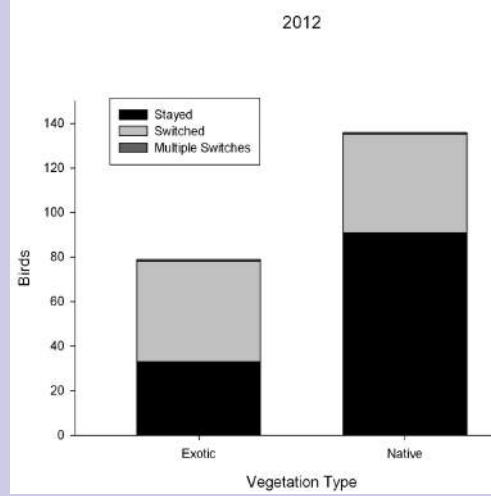
*This graph shows the most common exotic and native shrubs dominating our banding site. There is a clear distinction between the exotic and native shrublands, with an almost completely exotic plant composition within the exotic study site.*



We looked at banding data collected in 2012 and 2013 to determine differences in capture rates between the native and exotic shrublands. In 2012 and in 2013 our capture rates were higher in the native shrubland than in the exotic shrubland; that is, more birds were caught on the native side per hour than the exotic side.

A unique feature of the banding station is the drastic difference in vegetation throughout the area. The close proximity of both exotic and native vegetation allowed us to look at how birds move between native and exotic areas. We were able to see the frequency of birds that were initially caught on one side moving to the other, or staying on the side it was initially caught. This was looked at as a transfer rate between both vegetation types. We found that birds caught in the native shrubland first, stayed in the native shrubland at a higher proportion than birds initially caught in the exotic shrubland stayed in the exotic shrubland (see transfer rates above). Furthermore, through radio-telemetry on Swainson's Thrushes and Gray Catbirds, we found that birds spent more time in the native shrublands, regardless of where they were initially captured. These results suggest that birds prefer native shrublands.

In order to explain this preference we compared birds' fat gain between the native and exotic sides. However, we found no difference in fat gain between birds caught in the native shrubland and birds caught in the exotic shrubland. Yushi's triglyceride data also supports this. Though this finding does not support our hypothesis that we would see higher fat gains in

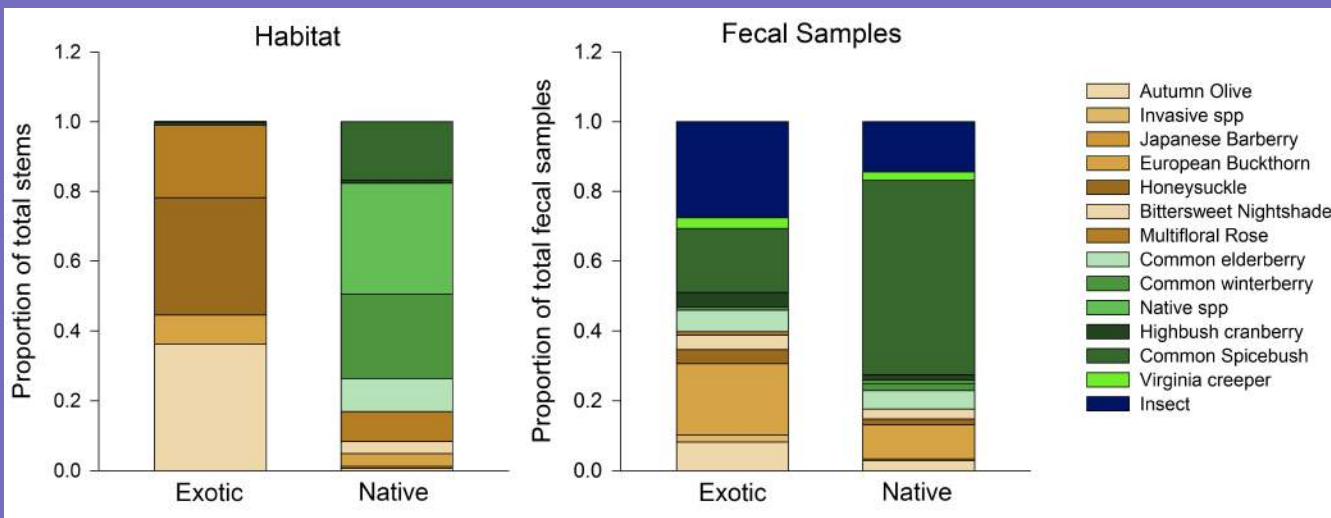


*Transfer Rates. Graphs showing the site fidelity of landbirds caught in 2012 and 2013. More birds transferred from exotic to native shrublands, and more birds stayed in the native shrublands.*

birds captured in the native shrubland, an explanation for the lack of difference may be in the birds' poop!

We collected fecal samples from birds caught on both the native and exotic sides during the 2012 and 2013 field seasons. Those samples were examined to determine plant species present in the fecal sample and then compared to the presence of those plants in the exotic and native shrublands. We found that birds caught in the exotic shrubland had eaten Common Spicebush, a native species only found in our native shrubland. The take home message from this (and the colorful graph below) is that birds captured in both areas are primarily foraging on Common Spicebush, suggesting that birds captured in the exotic shrubs may be feeding and gaining fat in the native shrubs.

However, there are still many more samples to analyze and we will have an even more complete story in our 2014 fall newsletter!



*The fecal samples graph shows the proportion of plant species present in fecal samples between the exotic and native habitats. The habitat graph shows the proportion of plant species present in the exotic and native habitats.*



## Outreach at Burke Lake Banding Station

In fall 2013 we opened our doors to the public, allowing visitors to come out and see the banding process up close. We were thrilled with the interest from those that visited the site and, as many of you know, have since decided to pursue the establishment of Burke Lake as a long-term banding station. In doing so, we have begun to focus on outreach and education (in addition to our ongoing research) as part of our mission.

This winter we dove into our community outreach goals by creating a bird-related program to present to and interact with local elementary

schools. This “Winter Program” consisted of an interactive presentation introducing students to common birds in the area, the different migratory strategies of birds, and the importance of avian science; as well as included a banding demonstration that allowed students to see birds up close. The students were very enthusiastic, loved sharing their knowledge and stories about birds, and already had an impressive grasp on bird identification. Our “Winter Program” was a huge success, and we hope to continue to be able to provide fun and interactive programs for all to enjoy.



*(Above) Smiling students from Stepping Stones Montessori School in East Lansing, MI pose next to a Carolina Wren. Photo by Zak Pohlen*

*(Below) Jen Owen places a Dark-eyed Junco on the palm of a student from Red Cedar Elementary School in East Lansing, MI. Photo by Callie Gesmundo*







In early April we participated in the second annual Michigan State University Science Festival. With just 5 mist nets we caught 30 birds, of 10 different species. We had an excellent turn out with over 90 visitors who stopped by our banding demonstration. Through the Science Festival we were able to engage with the greater MSU community in a fun and unique educational experience.

We hope these education and outreach opportunities will further establish Burke Lake as an integral part of the mid-Michigan community. We strive to integrate avian research with fun, science-based educational programs for all ages. Consider donating to Burke Lake Banding Station so we can continue to provide these opportunities.

*"My children, husband, and elderly mom came to the bird banding session [during the MSU Science Festival] and they LOVED it[...].my kids have never had an experience with birds as they did this morning with you. Thanks so much."*

*- MSU Science Festival visitor*



*Some of the crowd during the 2<sup>nd</sup> day of our banding demonstration during the MSU Science Festival. Photo by Zak Pohlen*



*(Top) Zak Pohlen places a Black-capped Chickadee on a visitor's hand for release during the MSU Science Festival. Photo by Callie Gesmundo*

*(Left) Kaitlyn Wilson having just put an American Tree Sparrow on two young visitors hands for release during the MSU Science Festival. Photo by Zak Pohlen*



# BULA in the News



Callie Gesmundo and Zak Pohlen stand in front of their newly created Burke Lake Banding Station display in the Department of Fisheries and Wildlife wing of the Natural Resources Building on the MSU campus. Photo by Yushi Oguchi



A Carolina Wren caught during our "Winter Program" at Stepping Stones Montessori School in East Lansing, MI. Photo by Zak Pohlen

Burke Lake Banding Station was featured in the January/February 2014 edition of *Jack Pine Warbler*, Michigan Audubon's six-yearly magazine. The article highlights the research being conducted by graduate student Yushi Oguchi and undergraduate student Zak Pohlen at Burke Lake Banding Station. The ongoing research focuses on the health and physiology of land-bird migrants that stop over in exotic or native dominated shrublands during fall migration (as highlighted in our research section of this newsletter).

If you would like to receive future copies of Michigan Audubon's *Jack Pine Warbler*, become a member of Michigan Audubon at <http://www.michiganaudubon.org/>

During our fall 2013 banding season we had both the State News and the Lansing State Journal come out to the station and write up stories about Burke Lake and our ongoing avian research. Check out the State News article online at:

<http://statenews.com/article/2013/09/researchers-band-birds-to-study-effects-of-exotic-plants>

**Keep up with BULA by following us online!**

Check out our website!  
[www.fw.msu.edu/~bula/](http://www.fw.msu.edu/~bula/)



Like us on Facebook!  
[www.facebook.com/BULAbandingstation](http://www.facebook.com/BULAbandingstation)

We would like to dedicate this page to all those that have donated\* to Burke Lake Banding Station. We cannot run this station without public support and we are truly grateful for all the time and money spent to keep us running another season. THANK YOU!

Michigan Department of Natural  
Resources

David and Mary Anne Marvin

Capital Area Audubon Society

Cindi and Joseph Martineau

Patricia Soranno and Eric Torng

Jane and Bill Gehring

Jamie MacDonald

Kaitlyn Wilson

Lawrence and Mary Hennessey

Barb Flaherty Gesmundo

Colleen VanSlambrouck

Barb Gallagher

Nina Feirer

Billie Gunderson

Aaron Balogh

Austin Messing

Joe P. Pohlen

Kate Huyvaert

Yushi Oguchi

Michael and Patricia Otto



\*Received as of March 18<sup>th</sup>. Don't see your name on that list? Support Burke Lake Banding Station by visiting our website <http://www.fw.msu.edu/~bula/index.html> and donate online, or send in the donation worksheet attached to this newsletter and become an important part of the continuation of Burke Lake!

## We still have t-shirts!

Show off your BULA pride by purchasing a shirt! All sizes **\$18.00** with all the profits going to the future continuation of the station.

Send an email to [burkelakebanding@gmail.com](mailto:burkelakebanding@gmail.com) if you are interested in buying a shirt!

### **BURKE LAKE BANDING STATION**

A 501(c)(3) non-profit organization dedicated to the research of avian health and migration, education of current and future ornithological professionals, and outreach for our community.

*Cover photo and first page header by Callie Gesmundo, Magnolia Warbler photo (thank you page) and fourth page header by Zak Pohlen*



# Department of Fisheries and Wildlife



## Burke Lake Banding Station Pledge Form

*We strive to advance agriculture using multidisciplinary approaches to generate, teach, disseminate and provide opportunities to promising students as well as bring academic excellence to our programs and strengthen our ability to address important issues in agriculture.*

### Donor Information (please print or type)

Name			
Spouse name			
Billing address			
City			
State		Zip Code	
Telephone (home)			
E-Mail			

### My pledge:

I (we) pledge a total of \$ \_\_\_\_\_

### My pledge will be paid as follows:

\_\_\_\_ Cash \_\_\_\_ Check \_\_\_\_ Payroll Deduction ([http://www.givingto.msu.edu/media/2012\\_AllU\\_Pledge\\_Form.pdf](http://www.givingto.msu.edu/media/2012_AllU_Pledge_Form.pdf))

\_\_\_\_ Credit Card (<https://givingto.msu.edu/gift/?sid=1338>)

Gift will be matched by \_\_\_\_\_ (company/family/foundation).

\_\_\_\_ form enclosed \_\_\_\_ form will be forwarded

### Pledge is in Memory of/In Honor Of:

Name IHO/IMO:
Name and Address of IHO/IMO Contact:
Signature(s)
Date

Please make checks, or other gifts payable to: Michigan State University, College of Agriculture and Natural Resources External Relations, Justin S. Morrill Hall of Agriculture, 446 W. Circle Drive, Room 319, East Lansing, MI 48824

Appeal Code 1338 Allocation Code A11130