THE INSTITUTE FOR BIRD POPULATIONS
www.birdpop.org

MAPS Chat

The annual newsletter of the Monitoring Avian Productivity and Survivorship Program

Number 18 – April 2018

By Graham Montgomery

White-eyed Vireo by Kristina Mitchell

Bushtit by Graham Montgomery

Banding Station Safety:

For Both Birds and People

by Danielle Kaschube

Safety should always be the top priority at your station(s), for both birds and people. The 2013 MAPS Chat (which we encourage you to read or re-read) focused on specific safety guidelines you could implement at your station. This year, we want to discuss the overall mindset of keeping your station safe. This issue contains a 1-page checklist you can post at your station to help keep safety as a focus. A more detailed look at all of these topics can be found in the North American Banding Council's (NABC) manuals which are available online.

Have a good safety plan and keep lines of communication open – This can't be emphasized enough. It's not unusual to have something go wrong during a day of banding. At stations where there are good contingency plans and good communication among the crew, the outcome is usually okay, and the story ends up being about how everyone overcame a stressful situation. However, if there is inadequate planning, communication protocols are not well established, or if someone feels they cannot speak up, this usually leads to bad feelings. There will always be unexpected events – all one can do is prepare for them.

Be properly trained – Make sure it is clear to each crew member what you believe their level of ability is, what tasks they can handle alone, what tasks they can handle with supervision, and what should not yet be attempted. Be kind but clear, and be open to others providing feedback on your abilities as well. The North American Banding Council's Bander's Report Card is a great reference to see which skills you and your fellow banders have or need to acquire or improve upon.

Check the weather – How many times have you had a scheduled banding day and you've sat riveted to the weather channel trying to determine if you'll get your banding day in? Err on the side of caution. It is

Banding Station Safety - Continued on page 2

In advance of your banding day:

1) Check the weather

2) Determine how many birds you and your crew can safely handle

3) Decide what to do if a bird or a crew member gets hurt

4) Make it clear to each crew member what their responsibilities are, both during everyday operations and in emergency situations

Also in this issue:

Results of 2017 MAPS Operator Survey	3
Bird Banding Classes	3
Cooperative Projects—Caterpillar Counts	4
Yellow Warbler Genetics Study in *Science* and Feather Pull Project	5
Welcome New MAPS Operators	5
MAPS Cooperator Profile: Strawberry Plains	6
MAPS Contributors for 25 or More Years!	8

annoying have to reschedule, but it is much better than the possible consequences of trying to conduct operations in bad weather. Good weather can present its own challenges too, especially at the beginning and end of the season when many migrants are moving, and a station can become overwhelmed. Have a plan in place for these very busy days when you could encounter a fallout or have many more birds than normal.

Keep your equipment in good condition – There are few people (God bless them!) that love net repair, but it needs to be done. Nets with tears can let birds escape, or cause them to become more tangled, leading to difficult extractions and additional stress on the birds. In addition, having smoothly-operating banding pliers, calipers and scales, and clearly readable rulers makes the banding process more efficient. Keep your station and its equipment organized to help processing go more smoothly as well.

Learning net repair techniques

Get a grip – A proper grip on each bird is essential to keeping it safe. A loose or incorrect grip could allow the bird to twist and injure itself in any number of ways or to escape. If a bird does slip out of your grasp, let it go. It is better to have it escape rather than to injure it as you try to re-grasp it. If you see your fellow crew members regularly using less than ideal grips, work together to fix the problem.

Practicing the photographer's grip by Crystal Conway

Learn from your mistakes (and those of others) – Even the best banders make mistakes, but we can learn from them, and implement protocols to reduce or eliminate the chance of that error re-occurring. Listen to your fellow banders. Almost everyone has a "horror" story - talk about how to avoid the steps that led there. Some stories are funny (my favorite: the time some volunteers thought it was a good idea to put the nets in the dryer); others more sobering (the bander with the rough hands that caused wing strain one too many times before being asked to step down); but all have a helpful kernel to tuck away so you don't have to learn things the hard way.

Banders working together to learn more

Always keep learning – The banding community is always coming up with new innovations to improve the banding process. It is important to communicate with other banders and learn how they go about their day. You might find they do things the same way as you do, that they do things differently and you prefer your way, or that they have a perfect solution to the problem that has been bugging you at your station. The regional bird banding association meetings are great places to learn new things. There is usually a bird walk exploring the unique location at which the meeting is being held, banding workshops to improve all your skills, and paper presentation sessions at which new research and techniques are unveiled. If you haven't already, we highly recommend you join the Western, Inland, or Eastern Bird Banding Association (click on region to be directed to the association's websites) and meet new (and old) banders and become excited about learning more.

We hope every banding session is full of beautiful birds and smooth data collection and that the topics above will help your station be even safer than it already has been. ●

Follow us on Facebook, Twitter or sign up for our Contact Calls Newsletter.

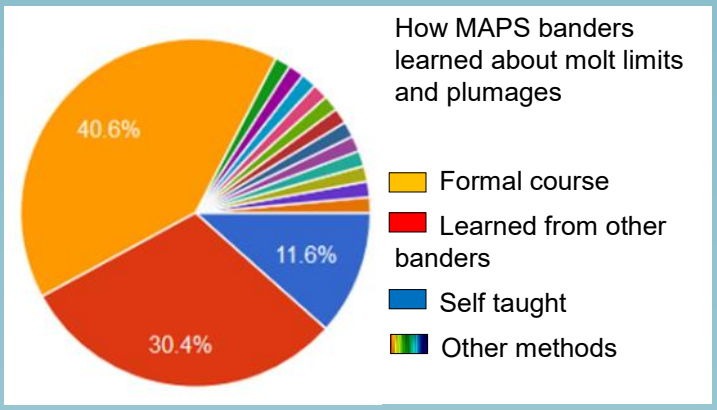
MAPS Participant Survey:

by Danielle Kaschube

Last year's MAPS Chat included a link to a MAPS Participant Survey. Thank you to all who participated. It was very interesting to learn more about MAPS banders. The winner of the t-shirt was Jennifer Tyrell!

We found that MAPS banders are of all ages and their experience levels range from just a few years to most having over 10 years of both MAPS and general banding experience. About half of the banders have only banded at one MAPS station but the other half have operated 2 or more stations. While most banders have a science or natural history background, banders come from all walks of life and almost half of MAPS banders are volunteers.

Most banders are concerned with bird conservation but they also appreciate the beauty of the birds and being able to be outdoors. There are even a good number of MAPS banders that enjoy seeing the sunrise and use MAPS as an excuse to be up at that time of day!



The two most difficult things about operating a MAPS station are keeping a steady source of funding and keeping a good pool of skilled banders. These are difficult problems which we haven't solved but we're still working on them. MAPS operators would also like more feedback/help with data analysis. We have made strides on this front and continue to work on this project.

Thank you again to all those who participated in the survey and thank you to all who participate in the MAPS program!●

IBP Teaches Bird Banding Classes!

Each year IBP teaches several bander training classes for both beginning and advanced banders. Here's what we're offering in 2018.

April 21-27, Beginner Class at the Opossum Creek Retreat in south central West Virginia, minutes from the New River Gorge National River. Please contact, Keith Richardson (phone: 888-488-4836) or see the class information sheet for more information.

June 10-15, Beginner Class at the Missisquoi National Wildlife Refuge in northern Vermont. Please contact the class host, Judy Sefchick Edwards (phone: 802-868-4781) or see the class information sheet for more information.

June 16-20 Advanced Class; and **June 22-29** Beginner Class at Wolf Ridge Environmental Learning Center in northeastern Minnesota. Please contact the class host, Peter Harris or check out the banding class page on Wolf Ridge's website for more information.

July 10-14, Advanced Class; and **July 15-21** Beginner Class on Hurricane Island off the coast of central Maine. Please contact Phoebe Jekielek, (phone: 207-867-6050), or see the banding class registration page on Hurricane Island Foundation's website for more information.

August 12-18, Beginner Class at the Beaver Creek Reserve in northwestern Wisconsin. Please contact the class host, Jeanette Kelly (phone: 715-877-2212) for more information.

September 10-14, Advanced Class at Southern Sierra Research Station in south central California, near Sequoia National Park. Please contact the class host, Michelle Johnson (phone: 760-378-3345) for more information.

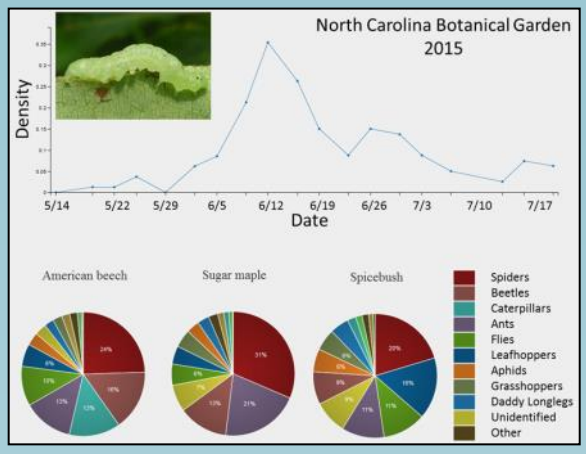
Classes are often added throughout the year so please visit IBP's banding class page for more information.

If you would like host a class at your facility, see our training web page.

The Timing of Bird Food

by Allen Hurlbert; Caterpillars Count!

Bird banding data have heavily contributed to the understanding of many aspects of bird biology, including patterns in survivorship and breeding productivity. An equally important determination is the seasonal timing, or phenology, of birds' reproductive cycles. MAPS data can help answer such questions as: when does a given species tend to show up on the breeding grounds? When do we first start seeing evidence of reproductive activity via brood patches or cloacal protuberances? When are hatch-year birds first caught in the nets? And, most importantly, has the timing shifted across the years?



Large-scale warming has meant an earlier onset of spring in many regions. Birds sometimes have the ability to adapt to these changes by shifting the timing of their reproductive cycle, but can they shift quickly enough? If they can't, it could lead to declines in productivity, survival, and population levels. Answering that question is tricky because it requires some yardstick against which shifts can be measured. One metric is the timing of the spring pulse in insects (a protein-rich food) that birds rely on to successfully raise their young.

The MAPS program is partnering with a citizen science project called **Caterpillars Count!** that aims to measure the phenology of caterpillars and other insects relative to the phenology of the birds in those same locations. Are the parts of the country where phenological mismatch between birds and their food resources also the parts of the country where bird population declines are greatest? With your help, we hope to address this question across the many MAPS stations across the United States and Canada!

Tracie Hayes conducting a survey; by Allen Hurlbert

Black-capped Chickadee by Christian Skorik

Caterpillars Count! is a standardized survey of foliage arthropods that can be completed in and around your banding station. It requires the ability to identify arthropods to Order (i.e., distinguishing them at the level of beetles, leafhoppers, caterpillars, and spiders) and can be done by anyone with some basic training. The Caterpillars Count! has provided some resources to make this easier. Data can be submitted via mobile apps or through the project website, and submitted data can instantly be visualized through the program's Maps and Graphs page.

Interested in participating?

- Check out the Get Started page to read more about details of the methodology and site set up.
- Consider how many surveys could be performed at your site. We recommend conducting at least 30 surveys on a weekly basis (or once per banding period), which should take less than 3 person-hours per period. The task is easily divisible among participants, so a group of 6 could complete the surveys in half an hour.
- **Caterpillars Count! will be offering a few select sites up to $1,000** to support staff time for implementation of this project, based on the number and frequency of surveys that a site proposes to carry out and whether the site falls within one of the target regions for this year (New England, Mid-Atlantic, Ohio, Michigan, Illinois, Ontario). Fill out this form to be considered! If you have any questions, check out the FAQ, or contact the program staff at caterpillarscount@gmail.com.

We hope you will participate!

Allen Hurlbert; (919) 843-9930
Director, Caterpillars Count!

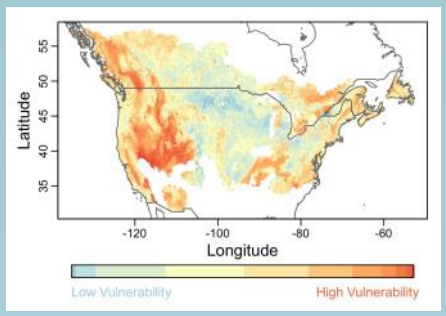
Sarah Yelton; (919) 966-0895
Project Coordinator, Caterpillars count!●

MAPS operators contribute to study on Yellow Warbler genomics published in the prestigious journal *Science*

by Steven Albert

Climate change, particularly changes in temperature and precipitation, is already altering the way bird populations decrease, increase, spread, or contract their ranges. Population models – including several that IBP has worked on – attempt to define and forecast what might happen to bird populations in the future as climate impacts become more pronounced. Predictive models are always challenging because they rely on assumptions about a species' physiology and life history, such as metabolism, breeding time, habitats, and migration routes. Less well-studied is how a species' genetic makeup plays a role in its potential adaptation to climate change.

In a study recently published in the journal *Science*, Rachel Bay of the UCLA Center for Tropical Research – a long-time collaborator with IBP – along with colleagues Thomas Smith, Kristen Ruegg, and others, combined DNA analysis, population trends, and global climate predictions to estimate the genetic variation that Yellow Warblers need to adapt to coming climate change, and to predict future population changes. Many of the samples used in the study were collected at MAPS stations in North America and MoSI stations in the Neotropics.



Yellow Warblers are widespread in many habitats in North America in the summer, but some populations are declining faster than others, and may be more susceptible to climate change. Bay and her colleagues found the strongest associations between genetic and environmental variation were those related to precipitation. This intuitively makes sense, because changes in precipitation directly influence biomass, which in turn affects other factors, such as shelter and food availability.


Yellow Warbler by Mdf CC

Rising temperatures around the world may affect migratory and resident birds by changing regimes of precipitation that species have adapted to over thousands of years. Bay and her colleagues were able to determine which populations have the greatest mismatch with their environment: in other words, which were most vulnerable. Their results suggest that Yellow Warbler populations in the Rocky Mountains – a region particularly affected by droughts over the past decade – may be the most at risk. The research also showed that some populations can evolve in response to climate change, but this response is limited by the adaptive potential and genomic vulnerability in those populations.

You can read the full article at https://www.leonardodicaprio.org/can-birds-genes-predict-their-response-to-climate-change/

UCLA continues to need both feather and/or blood samples from target species to continue this important research. If you are interested and willing to participate in the program, please click here.●

New MAPS Operators Join the Flock — Welcome!

The following operators joined MAPS in 2017-18. Most are beginning operations at new stations but others have inherited a previously operated station or are starting a new station after being away for awhile. We look forward to including them as part of the MAPS family for many years to come!

Kim Geissler Trabuco Canyon, CA
Fawn Bauer Ashford, WA
Gilles Burelle Saint-Adolphe-D.Howard, QC
Ronald A. Canterbury Cincinnati, OH
Tara Chestnut Ashford, WA
Adam Fudickar Bloomington, IN
Lorraine Bondi Goldsmith Seaford, NY
Audrey Heagy St. Williams, ON
Stephen Lange Cotulla, TX
Sarah Malick Ely, MN
Adam McCosham Cincinnati, OH
Martine Mercier Chateauguay, QC
Rick Schmid Omaha, NE
Jennifer McCarthey Tyrrell Harleyville, SC
Patricia Pelkowski-Manzi Seaford, NY
David Stone Moapa, NV
Jeanne Tinsman Moapa, NV
Lauren Walker Gardiner, WY
Mary Whitfield Weldon, CA
Patti Wohner Weldon, CA
Lisa Zinn Eden, VT

MAPS Operator Profile: Strawberry Plains Audubon Center

By Kristina Mitchell (Biologist) and Mitch Robinson (Conservation Education Manager)

Strawberry Plains Audubon Center (SPAC), in north-central Mississippi, encompasses over 2,600 acres near the town of Holly Springs in the Mississippi Hill Country, about 50 miles southeast of Memphis, TN.

The early land use history of the sanctuary is typical for the region: former Chickasaw Indian land that was later converted into a prosperous antebellum cotton plantation. Agriculture remained the dominant land use for over 150 years until 1998 when sisters Ruth Finley and Margaret Finley Shackelford donated the property to the National Audubon Society. Their intent was that Strawberry Plains be set aside as a refuge to protect native wildlife and habitats from encroachment and urbanization. Their foresight has enabled SPAC to be a regional leader in environmental education, and protect habitat for birds and other wildlife. After 20 years of restoration and protection, the landscape contains a mix of upland oak-hickory forests, bottomland hardwood forests, early successional fields, and native warm-season grasslands. This mix of habitats has led to use by a diverse group of birds. SPAC staff and volunteers were inspired to inventory and monitor bird populations by starting their MAPS station in 2017, managed by Mitch Robinson and Kristina Mitchell.

Mitch, a Mississippi native, joined SPAC in 2014 as the Conservation Education Manager after serving as a land manager and educator within the Balcones Canyonlands Preserve in Austin, Texas. There, he monitored breeding birds and assisted with banding endangered Golden-cheeked Warblers. Kristina discovered SPAC through the Hummingbird Migration and Nature Celebration held annually at the sanctuary. She has been involved in various bird research projects across the country for over 18 years. She has banded thousands of birds and managed four banding stations, including a MAPS station near Mountain Home, Arkansas. Mitch and Kristina's shared passion for bird conservation sparked discussions for utilizing SPAC for regional bird research, and they thought that the MAPS program was a great fit. Assisted by volunteers, the donation of banding equipment by the University of Southern Mississippi, and contributions from SPAC supporters, the Strawberry Plains MAPS station was born.

Mitch Robinson and Kristina Mitchell working on a Prothonotary Warbler

The station covers about 87 acres of native grasslands and mature forests, interspersed with ephemeral pools and ponds. To effectively manage the large number of nets at the station (20!), bird extractors drive electric golf carts along mowed hiking trails that traverse the banding station. The bird processing station is centrally located in a shaded forest clearing. During the station's first year, the crews captured and processed a total of 393 newly-banded birds and 79 recaptures from 36 species. The most frequently caught were Yellow-breasted Chat, Indigo Bunting, White-eyed Vireo and Orchard Oriole.

Some of the lessons the crew learned during that first year include:

- Read, then re-read the MAPS Manual thoroughly before the season begins to help prevent errors and expedite bird processing.
- Plan well before each session to help ensure that each volunteer has a job they are enthusiastic and qualified to do.
- Use colored clothespins on bird bags to demarcate priority processing for females with brood patches and very young fledglings.

Operator Profile - Continued on page 7

Operator Profile - Continued from page 6

SPAC banding crew hard at work!

Examining a Northern Cardinal wing

- Equip extractors with emergency supplies for difficult extractions such as stressed hummingbirds [e.g., two-way radios, crochet hooks, tiny scissors, sugar water].
- Equip extractors with clipboards and datasheets to record which birds were extracted from which net and to record net status updates (e.g., closing certain nets due to sun exposure).
- Be aware of the sun's track across the banding station as the season progresses. Changes over the course of the summer will affect net exposure.
- Encourage creativity and openness among participants to resolve problems. Be ambitious yet realistic, especially the first year. Learning the unique "rhythm" of your station, including volunteer coordination, data management, and aging criteria takes time and patience.
- Do not attempt to enter data into MAPSPROG without consulting the manual first!
- Finally, it is essential to demonstrate appreciation, respect, and enrichment opportunities to all MAPS volunteers. One successful SPAC achieved this was by creating an online platform where volunteers could share and access photos and reference materials.

Overall, the inaugural year of the Strawberry Plains MAPS station was an overwhelming success. Operators and volunteers gained confidence in all aspects of bird banding and shared in the common mission of gathering important avian demographic data, all while building lasting friendships and connecting to the larger bird conservation community. The crew is eager to start MAPS 2018! ●

Yellow-throated Vireo

Prairie Warbler

Kentucky Warbler

****** REQUEST FOR NETS ******

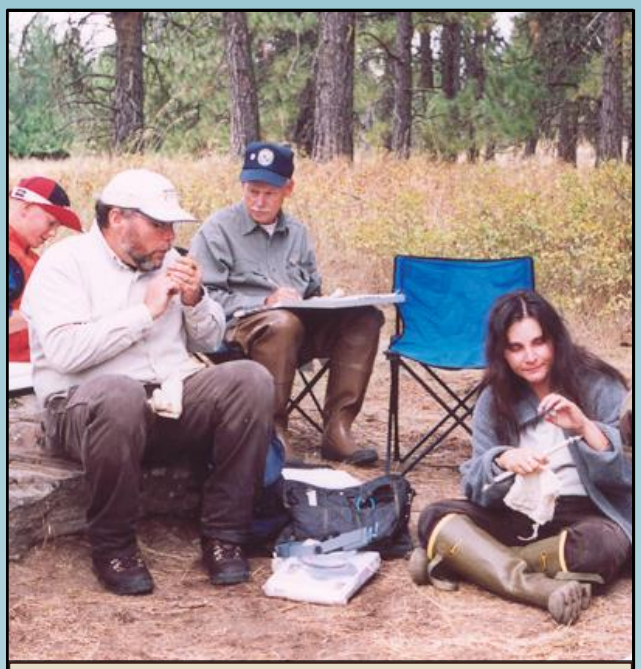
We asked and you delivered! A while ago we requested your used nets to send to Latin American and Caribbean banders as part of IBP's MoSI Program. The response was generous indeed, but the MoSI Program has grown so much that now we need more! Do you have any lightly-to-moderately used, repairable nets you no longer need? Please send them to Steve Albert at PO Box 1346, 11435 SR1, Point Reyes Station, CA 94956. If you have any questions, please email Steve at salbert@birdpop.org.

Thank you!

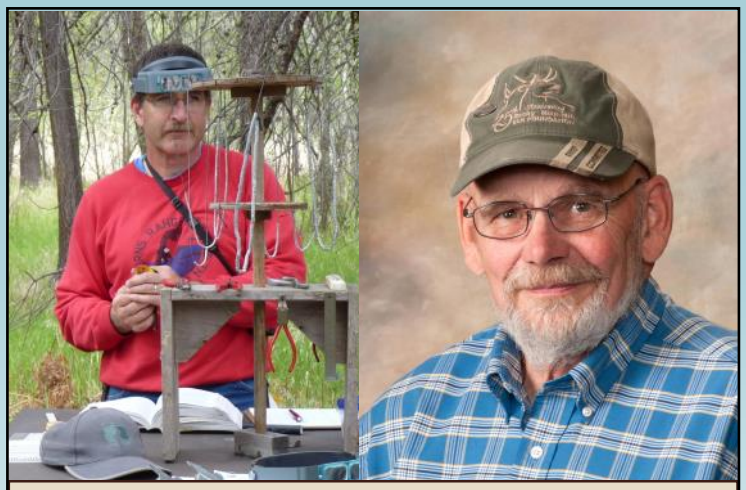
The 2018 field season marks the 30th year of the MAPS Program! It also marks the 25th year of operation for these stations and dedicated banders. Many thanks for all the time and effort they have put into the MAPS Program!

25 YEARS!

***Road** and **Far Away,** operated by the Lesser Slave Lake Bird Observatory led by Patti Campsall and Richard Krikun in Slave Lake MD., AB since 1994.*



***Turnbull NWR,** operated by Michael Rule (on rock; US Fish and Wildlife Service) and Sandy Rancourt (on ground) in Spokane Co., WA since 1994.*



***Lick Creek,** operated by David Lockman (US Forest Service) and John Ormiston in Ravalli Co., MT since 1993.*

The following stations have also reached the 25 year mark! The operators of these stations were pictured for 25 years of operations in previous MAPS Chats:

Indian Valley - operated by C.J. Ralph and the Redwood Sciences lab in Trinity Co, CA
Grove's Prairie - operated by C.J. Ralph and the Redwood Sciences lab in Trinity Co, CA
Pine Gulch Creek - operated by Point Blue Conservation Science in Marin Co, CA

Safety Checklist

Bander in Charge:

Hospital nearest to the station:

Station location in case help needs to find you (i.e. address, nearest cross road, lat-long):

Other personnel and responsibilities: e.g. Joe Smith - scribe, Joanna Smith - processing, etc.

Banders' Code of Ethics from North American Banding Council:

1) Banders are primarily responsible for the safety and welfare of the birds they study so that stress and risks of injury or death are minimized.
2) Continually assess your own work to ensure that it is beyond reproach.
3) Offer honest and constructive assessment of the work of others to help maintain the highest standards possible.
4) Ensure that your data are accurate and complete.
5) Obtain prior permission to band on private property and on public lands where authorization is required.

To be considered before and during the banding day:

1) Is the weather safe for banding?
2) Who needs extra help with extraction, processing, ageing/sexing, etc.?
3) Which nets need to be repaired after today's banding?
4) How can I improve my banding techniques? Is there something I could have done better with the last bird I handled? Who/what can help me improve?

Things to be done before leaving the field:

___ Make sure all birds have been processed and released. This may seem obvious, but people have taken birds home or left them in bags at the station by mistake.

___ Put nets individually in numbered bags or bags closed with numbered clothes-pins. Double-count your nets and make sure you have them all. (Or implement a similar system if you furl rather than take down nets.) Any nets left opened and unattended between periods will kill birds. This must never happen!!

___ Look over all banding sheets and make sure all data are entered correctly. Watch especially for mistakes that were whited-out and not re-written.

___ Assign someone bird bag washing duty so you are prepared for the next banding day.