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MAPS Chat

The annual newsletter of the Monitoring Avian Productivity and Survivorship Program

Number 17 – April 2017



A busy net run! By Robert Thobaben



Red-naped Sapsucker by Spencer Hardy.



Orange-crowned Warbler by Graham Montgomery

Confounding Juveniles!

by Danielle Kaschube and Peter Pyle

It's spring and the breeding season is just around the corner! And with it, the arrival of the first juvenile birds — and of course the start of the MAPS season.

It's fun to see newly hatched birds hopping about in the yard. Seeing them in the net, however, causes trepidation in even the most seasoned banders — when they realize they to identify them.

It's a given that a passerine's juvenile plumage is often quite different from its formative, basic or alternate plumages. Wood warblers wear their juvenile plumage for only a very short time, making it even more difficult to familiarize oneself with it.

To help banders with these tricky IDs, we've come up with some generalized, perhaps surprising, rules. For example, did you know that warblers that have no wing bars as adults often have wing bars in juvenile plumage? And sparrows that are not streaky as adults *are* streaky in juvenile plumage?

So, next time you pull an unknown species out of the net, remember: it could be a juvenile.

Does the bird have **soft, wispy juvenile feathers**? Juvenile feathers are produced in the nest, and because

the bird is developing a lot of other body parts (the skeletal and musculature systems, the brain and other organs, etc.), feather growth can't be allotted all the resources necessary to produce ideal feather quality.

Additionally, the follicle is transitioning from producing down to "real" feathers and the process is not yet perfected. The wispieness of the feathers, and possibly heavy molt, should be your first clue that you have a bird in juvenile plumage.

If you suspect you are holding a juvenile, confirm this with other clues before trying to determine species. These can include:

Gape: The gape is a bright fleshy swelling at the corners of the beak. Studies have shown that nestlings with the biggest, brightest, open mouth are fed first and more regularly. There is some evidence that the gape is rich in ultra-violet color, making them



Chipping Sparrow with wispy feathers of the juvenile. Photo by Powdermill Nature Reserve.

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extra vivid to birds but not to the human eye. The puffy gape shrinks over time but recent fledglings often have some remaining in the corners of their mouths.



Gape on recently fledged Northern Mockingbird. Photo by Cathy Miller.

Bare skin between tracts: Feathers grow in tracts on most birds and the spaces between tracts (apteria) are bare or filled sparsely with tiny feathers. In birds in juvenile plumage, the spaces between the tracts are often larger and/or completely bare. The bare belly is often misleading to beginner banders who mistake it for a brood patch. Beware! Do a second check to see if the thighs, sides, and underwing areas are also unfeathered. If so, this suggests it is a bird in juvenile plumage.



Bare belly on a juvenile Blackcap. This could easily be mistaken for a brood patch. Photo by merseysiderg.org.uk.

Eye color: The eye color of juveniles is often much duller than in adults. This hint is very helpful for birds with brilliant eye colors. For example, both juvenile Red-eyed Vireos and White-eyed Vireos have brown eyes. Eye color can also be helpful for species that don't have such brilliant eye colors, e.g. woodpeckers.

There are many more areas to look at for juvenile characteristics that you can expect to coincide with the previous clues, such as tapered rectrices, bill

color, mouth color, and non-pneumatized skull.

Once you have determined you do indeed have a bird in juvenile plumage, you need to determine which species it is. Most popular bird guides are pretty good about including pictures of sparrows in juvenile plumage, but they often fail us when it comes to warblers. Many field guides provide tail pictures for warblers which are similar in adult and juvenile birds. We find it very helpful to have tails of all species on one page, such as in the Peterson's Warblers field guide or in the Warbler Guides (see image on the next page). Besides the tail patterns, the colors of the secondary feather edging and soles of the feet are also good clues to identifying juvenile warblers (see link to article on the next page).

Lastly, once you think you have the species narrowed down, confirm your ID by reading the "Juv" paragraph in the Age section for the species in your ever handy *Identification Guide to North American Birds Part I* by Peter Pyle. This paragraph will also



Unfeathered underwing of Song Sparrow. Photo by Vancouver Avian Research Center.

indicate the approximate length of time each species spends in juvenile plumage.

While identifying juveniles in hand can be a diverting challenge, we have to remember to accomplish this task quickly and efficiently. Juveniles are more prone to strains, injuries and stress in general, so working with young juveniles is probably not something for a



White-eyed Vireo adult with white iris and hatch year with dark iris. (Photos through CC2: left— Andy Reago & Chrissy McClarren; right— Kelly Colgan Azar.

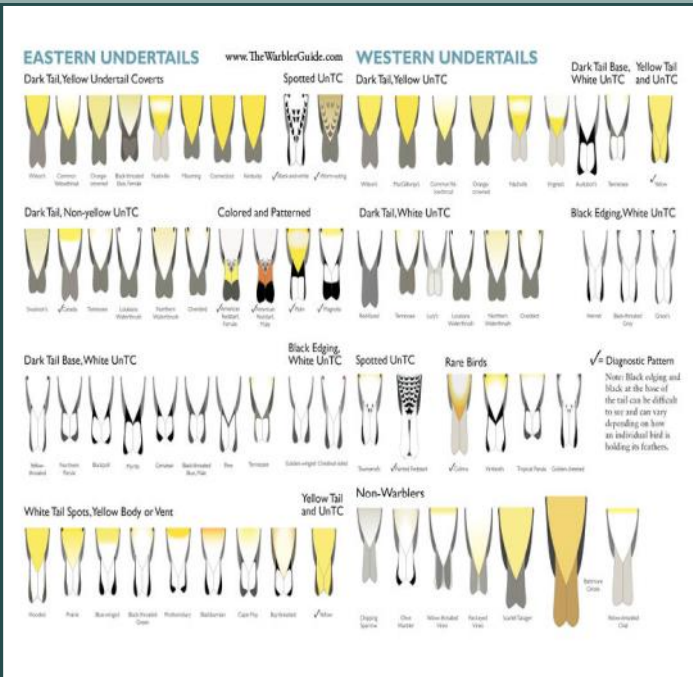
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Confounding Juveniles! - Continued from page 2

beginner to take on at first. Bird safety is top priority! Now that we've provided some rules and hints, try to tackle a few examples shown here and from the article *Identifying Juvenile Warblers: The Fun Really Begins Here* from *Birding* written by IBP Biologist Peter Pyle and MAPS Contributors Ken Foster and Christine Godwin. And, stay tuned for a sequel on juvenile sparrows, coming soon! ●



Click photo to follow link to species identification. Photo Creative Commons (CC2): Don Faulkner.



Tail guide from Warbler guides (click image to visit site).



Click photo to follow link to species identification. Photo Creative Commons (CC2): Gary Leavens.

New MAPS Operators Join the Flock — Welcome!

The following operators joined MAPS in 2016-17. 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!

Matthew Aeberhard Lydon, VT
Kayla Baker Trabuco Canyon, CA
Anne Balogh Granville, OH
Victoria Bastidas Bethlehem, PA
Kara Belinsky New Paltz, NY
Jason Bieber Summerland, BC
Matthias Bieber Summerland, BC
Rebecca A. Crow Troy, OH
Eve Loftman Cusack Bloomington, IN
John Deluca Portland, OR
Carol Good-Elliott Wolflake, IN
Benjamin Haywood Meadville, PA
Zach Hutchinson Casper, WY
Matthew Johnson Harleyville, SC
Ellen Ketterson Bloomington, IN
Alison Kocek Syracuse, NY

Chuck Lubelczyk Scarborough, ME
Kristina Mitchell Holly Springs, MS
Claire Nemes Quantico, VA
Alison Nevins Trabuco Canyon, CA
Michelle Ocken Penn Valley, CA
Keith Richardson Oak Hill, WV
Mitchell Robinson Holly Springs, MS
John Rohm Quantico, VA
Mike Stake Salinas, CA
Michelle Stantial Syracuse, NY
Jennifer McCarthy Tyrrell Harleyville, SC
Brandi Van Roo Framingham, MA
Nadine Varner Oklahoma City, OK
Shawn Wagoner Monterey, CA
Brad Watkins Quantico, VA

Citizen Scientists and the MAPS Program: *Contributions of citizen scientists to the MAPS program.*

by Danielle Kaschube

A Citizen Scientist is a “member of the public engaged in gathering data according to specific scientific protocols, or in the process of using or interpreting that data.” Citizen Scientists are essential to the MAPS Program; in fact, citizen scientists help at or run most MAPS stations. Since 1989, when MAPS began, over 1200 banding stations have collected over 2 million banding records, making MAPS one of the largest citizen science programs in North America.

In May of this year, MAPS Contributor **Peter Harris** will present a poster at the Citizen Science Association (CSA) conference in Saint Paul, MN. The poster will focus on how citizen science has contributed to MAPS.

The number of MAPS stations varies from year to year. Beginning with just 16 stations in its first year (1989) the program grew to more than 500 in the early 2000’s, primarily due to significant U.S. government support for numerous stations. Since 2009, the number of stations has remained fairly constant at slightly more than 300.

Since we’re avian demographers, we can say that the mean annual “station persistence” rate is 0.87, meaning that about 87% of stations continue operating from one year to the next and the average life span of a station is 7 years (see figure below). Most stations cease operating when funding expires or when an operator or proponent moves or retires. There is a

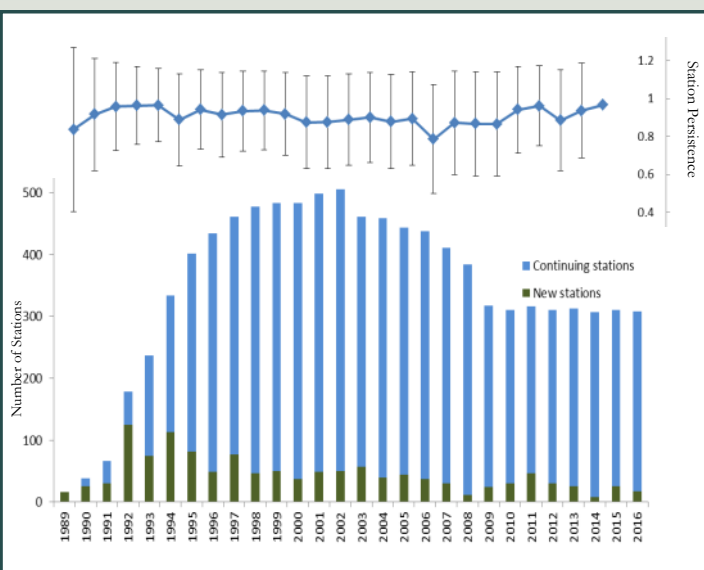
wide range in station life span. Some stations operated for just a single year — but about 20 stations have operated for 25 or more years!

Some of the challenges MAPS faces are common to many long term citizen science programs, including securing recurring funding, recruiting new volunteers (especially the highly-skilled volunteers needed for banding), and providing feedback and appreciation to encourage and inspire participants.



For the CSA poster, the story of the **Wolf Ridge Environmental Learning Center** MAPS station will serve as an example. Wolf Ridge ELC, which joined the MAPS Program in 1993, sits near the north shore of Lake Superior in Northern Minnesota. The station will operate for its 25th season in 2017! The station began with a few skilled volunteers and has continued its operation with a combination of volunteers and paid staff. The reasons for Wolf Ridge’s success are multi-faceted:

- 1) Wolf Ridge staff have incorporated banding into



Listening to a bird’s heartbeat! Photo by Wolf Ridge ELC.

Citizen Scientists - Continued on page 5

their educational programs for elementary, junior high, and high school students. Each year over 8000 students participate in their Birds class and/or Raptor Program, learning about the amazing birds that inhabit the world around us and giving students the unique experience of seeing a live bird up close. In addition, the public is invited to observe, and to learn how to help, on summer MAPS banding days.



Chestnut-sided Warbler is one species from which feathers are sampled for DNA studies. Photo by Amanda Durbin.

- 2) Wolf Ridge has hosted banding workshops for adults in cooperation with IBP since 2013. Students have come from both the surrounding communities and from all over North America for these beginner and advanced courses. These classes have helped produce many cohorts of new banders.
 - 3) Wolf Ridge ecologists participate in cooperative, nationwide research projects, such as the [UCLA Bird Genoscape Project](#), which uses genetic information to link summer, migratory, and winter bird routes and populations for 100 species. Establishing these links is a critical step in understanding population drivers and habitat needs for migratory species across the full annual cycle.
 - 4) Data collected at Wolf Ridge also become part of the MAPS database, which has allowed researchers to assess population trends and demographic parameters across the US and Canada. Recent studies using these data have assessed the effects of West Nile Virus and avian flu on bird populations, and formulating habitat management strategies to benefit birds.
 - 5) In addition to MAPS, other programs Wolf Ridge participates in include state water quality testing, the NOAA weather station program, avian point counts, an annual BioBlitz, and more.
- Many Wolf Ridge volunteers have banded at the station for years. The volunteers keep coming back both for the birds and because the staff shows great

appreciation for the work they do. Because Wolf Ridge has many different programs, the volunteers can work on a variety of projects and people with varying experience or physical abilities are always welcome and needed. Volunteers work with experienced staff or trainers to improve their skills.

What Makes A Successful MAPS Station?

Based on the program at Wolf Ridge and other sites, we believe successful MAPS stations have certain common elements. Here are some suggestions:

- 1) Choose a site that your volunteers can navigate easily. This helps retain volunteers and doesn't discourage those unable to hike long distances or rough terrain.
- 2) Use the data collected and banding experience for many different purposes, such as education or tracking your own local populations, as well as contributing to the larger continental MAPS data base.
- 3) Let your volunteers know they are appreciated often and in a variety of ways.
- 4) Provide learning/training opportunities so your station becomes better and better.
- 5) Reach out to the community around you for new volunteers. This will build the community and help your station last into the future.

What has been your station's secret to success? What has been its biggest challenge? We want to know your stories, successes, and challenges. To this end, we have created a survey, which MAPS operators will receive this spring. We will summarize these results and hopefully provide some ideas that can help other operators overcome challenges and help build a blueprint for success. Expect to see the survey in your email inbox in April! ●



Junior high students examining birds with a volunteer (left, photo by Kate Young); adult students examining a Magnolia Warbler.

MAPS Operator Profile: Starr Ranch Audubon Sanctuary

By Danielle Kaschube and Sandy DeSimone, Starr Ranch Director of Research and Education

Starr Ranch Sanctuary is located on 4,000 acres in the mountains near Irvine, CA, and is owned and managed by Audubon California. Native Americans' use of the area dates back at least 8,000 years. The Spanish Catholic Church acquired authority over the area in



1776 and, when Mexico achieved independence from Spain in 1810, large land tracts were awarded to select families by the new Mexican government. In 1882, the land on which the Starr Ranch sits was sold to a local family, the O'Neills. When the U.S. claimed California,

which soon became a state, the land was parceled out to homesteaders. Beginning in 1927, Eugene Grant Starr purchased parcels of land from the homesteaders to use as a ranch and hunting retreat. In 1973, ten years after Starr's death, the National Audubon society was given stewardship of 3,900 acres of his estate. (More details of this rich history can be found on the [Starr Ranch website](#).)

Pete DeSimone, came to the Sanctuary in 1985 as an assistant manager, and became Sanctuary Manager in 1988. His initial focus was remodeling and restoring the ranch buildings but he soon become a strong voice for preservation and sustainable development in Southern California. Sandy DeSimone, the MAPS station lead, began research on the endangered coastal sage scrub on the Sanctuary in 1993 and is now the director of Research and Education. She has created innovative applied research, land management, and education programs since she began work for Audubon in 1997. Both DeSimones have worked to uphold the mission of the



Sandy DeSimone, friend, Pete DeSimone.

Sanctuary:

- to offer innovative approaches to land management and environmental education that will influence the way Southern Californians appreciate, conserve, and manage wildlands;
- to instill a love of nature through education programs that involve people of all ages in wildlife research; and

- to provide a model of rigorous, sustainable land management through applied research.

The Starr Ranch Bird Observatory (SRBO) was created to provide science-based educational programs that stimulate an interest in birds and conservation of bird habitat and to contribute to avian conservation through applied and basic research.

SRBO joined the MAPS program in 1999. Through 2016, they have logged nearly 18,000 mist-net hours and contributed nearly 10,000 banding records! Starr Ranch also joined the [Monitoring Overwinter Survival \(or MoSI\) Program](#) in 2005 to monitor the birds that winter on the ranch. They are one of a very few MoSI stations north of Mexico.

Starr Ranch has a dedicated core of volunteers that run both MAPS and MoSI banding operations.



Black Phoebe and Pacific-slope Flycatcher by Tom Sheffield.

Operator Profile - Continued on page 7

Operator Profile - Continued from page 6

This photo shows a few of the volunteers that have contributed their time, skills and knowledge. Six of the longtime volunteers pictured below recently purchased new nets, poles, and other equipment for SRBO's MoSI and MAPS stations. Starr Ranch also has a seasonal ornithologist to coordinate SRBO banding operations and offer bander training courses, which they have done since 2004.

A few other notes about Starr Ranch:

- The oldest known Lesser Goldfinch in North America (7 years at the time) was cap-



tured during a MAPS day at Starr Ranch in 2015.

- Starr Ranch hosts live webcams of Barn Owls, American Kestrels, Red-shouldered Hawks, Black Phoebes, and House Finches.
- The Starr Ranch night cameras often catch video of animals you wouldn't necessarily expect in a relatively densely populated area of Southern California, such as cougars and foxes,

as cougars and foxes,

We thank Starr Ranch for their participation in MAPS and MoSI, and for their work to keep safe an important habitat island in southern California, where the public can celebrate birds and nature. ●

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 2017.

Summer 2017

April 10-14, Advanced Banding Class at the Southern Sierra Research Station near Weldon, south central California, in the foothills of the Sierra Nevada. More information is available here. Please contact Michelle Johnson (phone: 760-378-3345) to register.

April 22-28, Beginner Banding 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) for more information.

June 13-17 Advanced Class; and **June 18-25** 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 12-15, Advanced Class; and **July 16-22** 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.

Fall 2017

September 10-14, Advanced Banding Class at Environmental Studies on the Piedmont near Warrenton, Virginia. Please contact Environmental Studies for more information.

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

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



Photo by Edye Kornegay

Connecting Researchers and MAPS

Contributors: *Feather sampling project*

by Steve Albert

One of the great benefits of the MAPS Program is the ability to connect researchers to the extensive network of MAPS banders – you! One of the longest-running and most successful collaborations to date has been with the [UCLA Center for Tropical Research](#). The Center is in the midst of a multi-year effort, called the [Bird Genoscape Project](#), to map the connections between summer, migratory/stopover, and wintering areas for more than 100 species of birds. DNA is collected from feathers sampled from birds in these various areas, and then the genetic signature of sub-populations is compared

Mapping these connections is important because without information on all major stages of a species' life history – usually referred to as the Full Annual Cycle – it can be difficult to know where and when to focus conservation efforts. In a very real and tangible way, many of the birds that MAPS cooperators capture and band during the summer are dependent on habitats thousands of miles away. In addition to samples collected by MAPS banders, contributors to the MAPS Program's sister network, the Monitoring Overwinter Survival (MoSI) Program, collect feathers on the wintering grounds in the tropics.



Western Tanager. Photo Creative Commons (CC2): USFWS Pacific SW Region.

The [Bird Genoscape Project](#) webpage includes a short, well-produced video about the project, including footage of MAPS banders at work and an interview with IBP Executive Director Rodney Siegel. You can also read more about some of the scientific results of the project to date on the [MAPS webpage](#) (see the right column, about halfway down).

You must have an addendum to your Federal Banding permit, and possibly to your state permit, to extract two tail feathers—the feathers grow back very quickly and losing them does not impact birds' health or survival. **Materials are provided before the season and post-collection shipping costs** are paid by UCLA via a pre-paid Fedex envelope, when you register for the program.

For 2017 priority species for sampling include: Blackpoll Warbler, Tricolored Blackbird, Common Yellowthroat, Virginia's Warbler, Hermit Thrush, Western Tanager, Kentucky Warbler, Willow Flycatcher, MacGillivray's Warbler, Wilson's Warbler, Painted Bunting, Yellow Warbler, and Rusty Blackbird. More information about priority species for sampling, including additional species that will be added to the priority list, will soon be posted on the [MAPS Operator Resources page](#). There is a list of target species, but samples from any species are welcome!

If you capture these species and want to participate in the program, or just want to find out more, please

Integrating MAPS and BBS data

By Steve Albert

The Breeding Bird Survey (BBS) is a cooperative effort between the U.S. Geological Survey's Patuxent Wildlife Research Center and the Canadian Wildlife Service to monitor the status and trends of North American bird populations. As with MAPS, BBS data are collected by thousands of dedicated participants (often citizen scientists) but the programs differ in the types of data they collect. BBS participants conduct standardized point counts (watching and listening for birds during the breeding season) along thousands of randomly established roadside routes across North America while MAPS Participants collect banding data.

Since its inception, the MAPS Program has aspired to provide estimates of demographic vital rates that complement and enhance population trend findings from the BBS. Until recently, formal methods for linking the data from these monitoring programs did not exist.

In a recent paper in the journal *Ecological Applications*, IBP Post-doctoral Researcher Farshid Ahrestani, along with IBP Scientist Jim Saracco and several colleagues, develop an Integrated Population Model to utilize data from the two programs, and illustrate the model's utility by exploring population dynamics of Wood Thrush and Gray Catbird. The researchers found that the Gray Catbird population was relatively stable, while the Wood Thrush population nearly halved over the 17-year study period.

You can read an abstract of the paper [here](#).

The 2017 field season marks the 29th year of the MAPS Program! Last year we recognized operators that had been with the program for 25 or more years. This year we have a new set of stations and operators that have reached that milestone and we would like to introduce them on the following pages.

25 YEARS!



Wolf Ridge, operated by Wolf Ridge ELC led by Peter Harris and Lori Walewski in Lake Co., MN since 1993. Peter Harris working with students.



Pacific Crest Trail, operated by Sam Cuenca (US Forest Service, left) and John Alexander (Klamath Bird Observatory; right) in Siskiyou Co., CA since 1993. Below: John Alexander and Taylor during the first year of the station's operation.



Spring Valley Wildlife Area; operated by Robert Thobaben in Greene/Warren Co., OH since 1993. Bob with a second-year female Pileated Woodpecker.



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25 YEARS!



Sagehen Creek; operated by Mark Reynolds (left) and Walter Clevenger (right) in Nevada Co., CA since 1992.



Inglewood; operated by Doug Collister and the Calgary Bird Banding Society in Calgary, AB since 1993.



Wright Refuge; begun by Luke George (right) now operated by Matt Johnson (left) in Humboldt Co., CA since 1993.



IBP T-shirts

Do you have an IBP t-shirt to sport during your next banding session? If you'd like one, you can order one for \$15 from our current Teespring campaign. The t-shirts are always available so you can order one at any time. Put your order in now so there is no shipping delay!

[Click here to order yours!](#)

