

# AMBLE Ramble

Newsletter for Lake Michigan Volunteer AMBLE (Avian Monitoring for Botulism Lakeshore Events)

2012 • Aug - Oct

## Contents

- Loon Mortality in Michigan
- Wisconsin Data Summary
- Birder Certification Online Website
- USGS-EPA Challenge Grant Monitoring
- Lake Levels and Avian Botulism
- AMBLEing to Conferences

USGS National Wildlife Health Center  
6006 Schroeder Rd.  
Madison, WI 53711  
608-270-2473  
AMBLE@usgs.gov  
www.nwhc.usgs.gov/AMBLE

## Loon Mortality in Michigan

Written by Dan Ray, Biological Technician at the National Park Service's Sleeping Bear Dunes National Lakeshore in Michigan

Volunteers-in-Parks (VIP) monitors noticed a marked increase in activity on Sleeping Bear National Lakeshore (SLBE) beaches during the first two weeks of October, as strong westerly winds appeared to bring ashore ever greater numbers of sick and dead migratory birds. We were all surprised, however, by the losses recorded from October 15 to October 18, when over 300 loons were found dead on SLBE beaches [32 miles of shoreline], and many others were reported along coastlines nearby.

Avian mortality rates at SLBE from June through September were similar to those of previous years. However, in the first week of October, volunteer reports of dead birds increased to 62, including four loons, the next week the total was 121, with 50 loons. After the third week of October there were 451 dead birds reported, including 324 loons.

*Continued on page 3....*



Eleanor Comings, National Park Service volunteer at Sleeping Bear Dunes National Lakeshore in Michigan, with four loons found during her October 18, 2012 walk on the section of beach she monitors near the Platte River. Photo credit: Dan Ray

# Wisconsin Data Summary

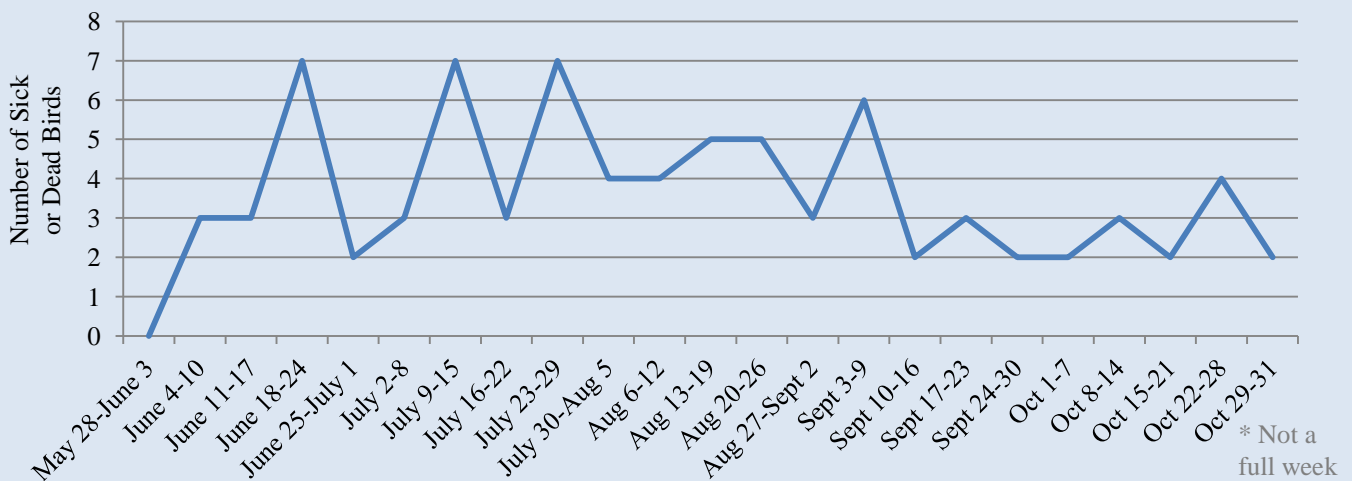
There have been 480 walking surveys reported by AMBLE volunteers for May through October, 2012. Multiplying the length of each beach by the number of times it has been monitored results in a total of 276.0 miles walked collectively by AMBLers!

Eighty-two sick or dead birds have been reported during this time period (see figures below). Most (51) of the dead birds found were decomposed (found > 48 hours after their death). Three sick Ring-billed Gulls have been reported, but two of these gulls had an injury and were not showing signs of botulinum poisoning. Twenty-eight freshly dead birds have been observed: eight dead < 24 hours and 20 dead 24-48 hours before being found. On average, there have been 3.7 sick or dead birds observed per mile of beach monitored. Over 20,000 healthy birds have been reported; that is roughly 900 healthy birds observed per mile of beach monitored.

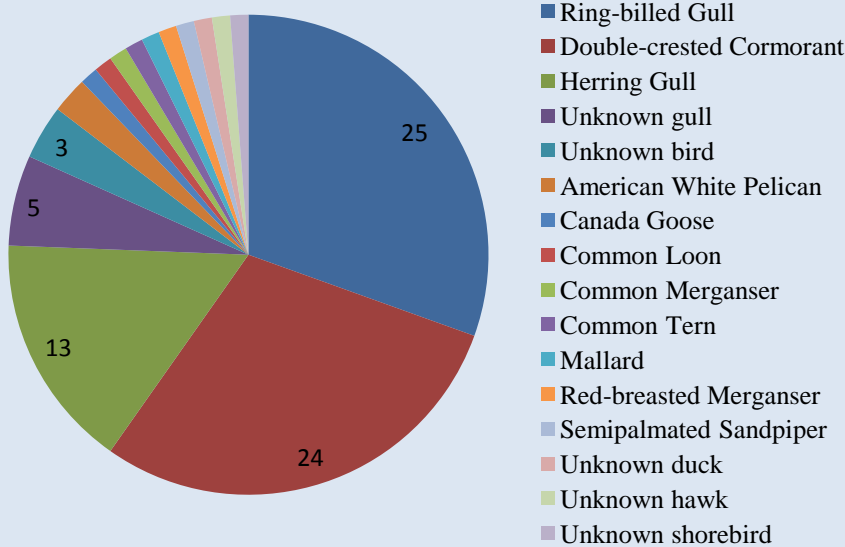
AMBLE volunteers have removed a total 8,944 items of trash from monitored beaches!

The Wisconsin DNR Wildlife Health Section continues to monitor their circuit of Door County beaches. They monitor two times per month in the fall but have not found any sick or dead birds since June.

Timeline of Birds Found Sick or Dead by AMBLE Volunteers



Species Found Sick or Dead by AMBLE Volunteers



Test Results

There have not been many freshly dead specimens for AMBLE volunteers to consider collecting this year. Bob Ryan (Algoma) and Ade Webber (Sturgeon Bay) each turned in a Ring-billed Gull in mid-August, with one testing positive (Algoma) and the other negative for botulism type E. The botulism negative gull had a puncture wound in its chest that was apparent during necropsy. A Bald Eagle (Ellison Bay) and a Mallard (Green Bay) died at Bay Beach Wildlife Sanctuary; both tested positive for botulism type E.

## Loon Mortality in Michigan (*continued...*)

Written by Dan Ray, Biological Technician at Sleeping Bear Dunes

I usually enjoy reading emails from volunteers, and their written Notes on AMBLE reports: “perfect conditions, only three birds,” “very windy, no birds,” or “saw a sundog.” But the opening line on Robert Lowing’s 9:22 pm email on October 16 set the tone for the rest of the week – “It was awful. I buried 80 loons and 4 other birds.” Simultaneously on the northern end of the same 2.8 mile transect [a transect, in this case, is a pre-defined section of beach], Dave and Lynette Grimes were busy burying 99 birds (76 loons). I helped Eleanor Comings that same day finish her adjacent 2.7 mile Transect 2. She ended that two day walk with 86 birds including 53 loons. John and Char Ester on Transect 3 would add another 85 birds, including 56 loons from their 2.8 mile stretch. The number of dead loons reported from that day surpassed the total (180) of all years combined here at SLBE since accurate records began in 2007 (see table below).

As winds shifted away from our shores, mortality reports dropped drastically, with only a few birds reported from beaches last week [October 21-27]. The USGS fly-over survey [October 22] indicated some loons, alive and dead, floating still out in the Lake. Stronger winds and seasonal migrations will bring more birds back to our shores. We will be monitoring as usual; prepared for the worst, hoping for the best.

I got a call from Eleanor today [October 28], reporting a few more loons near the Platte River. Even so, I’m encouraged as I review our recent entries on the AMBLE site. VIP Notes from the latest walks include: “as nice this week as it was bad last week,” “no dead birds,” and Rob “saw a sundog.”

### SLBE MORTALITY BY YEAR

YEAR	TOTAL DEAD	LOONS DEAD
As of Oct 28		
2012	1018	410
2011	298	30
2010	687	67
2009	376	8
2008	101	12
2007	1135	63

Editor’s note: There was also October loon mortality reported from a 7-mile stretch of beach monitored weekly in the upper peninsula of Michigan (see *The Mining Journal* link at right). Loon carcasses from multiple areas of Michigan will be tested for avian botulism at the National Wildlife Health Center and contents of gastrointestinal tracts will be assessed by Northern Michigan University biologists.



A sick Common Loon observed at Sleeping Bear Dunes National Lakeshore, Michigan in October. Photo credit: Dan Ray

### Loons in the News:

October 18, 2012 - front page of the Detroit Free Press:

<http://www.freep.com/apps/pbcs.dll/article?AID=/201210180300/NEWS06/310180370>

October 18, 2012 - Traverse City Record Eagle:

<http://record-eagle.com/thursday/x1133187175/Loons-dying-due-to-avian-botulism>

September 6, 2012 - Antrim Review:

[http://www.antrimreview.net/local\\_news/article\\_d15a7c18-f78c-11e1-8b42-001a4bcf6878.html](http://www.antrimreview.net/local_news/article_d15a7c18-f78c-11e1-8b42-001a4bcf6878.html)

November 4, 2012 – The Mining Journal:

<http://www.miningjournal.net/page/content.detail/id/581408/Waterbird-die-off-hits-Lake-Michigan.html?nav=5006>

# Birder Certification Online Website

Written by Erin Giese and Dr. Robert Howe from the Cofrin Center for Biodiversity at the University of Wisconsin-Green Bay

Are you interested in testing your bird identification skills using a free, easy-to-use online tool? Then check out the Birder Certification Online website (<http://www.birdercertification.org/>)! The Birder Certification Online program provides a thorough and objective way of documenting and validating birder identification skills. This online tool not only allows birders to certify their skills, but it also assists land managers, agencies, and organizations in finding skilled birders to work on conservation and monitoring projects. Birders can validate their skills in 4 habitat categories (forest, wetland, grassland, and comprehensive) and 8 Bird Conservation Regions (BCR), covering all of the Great Lakes states and much of eastern North America. For all possible habitat and BCR test combinations, birders can take both visual and audio tests that allow them to earn 3 different certification levels, ranging from beginner to expert. Birders of all skill levels are welcome!

All you have to do is 1) register (for free!) on the “Testing Center” page (<http://www.birdercertification.org/TestingCenter.htm>), 2) login, and 3) follow instructions to begin taking the online tests. For those participating in the AMBLE program, check out the specialty Great Lakes Waterbird Visual Test (BCR 101). Test your skills at identifying waterbirds such as loons, grebes, herons, geese, ducks, rails, shorebirds, gulls, and other related species observed along the Great Lakes coastal shores. Simply login and select any habitat category in the BCR 101 visual test module.

If you have questions, please contact the Birder Certification Online staff anytime at [info@birdercertification.org](mailto:info@birdercertification.org) for assistance. And best of luck in taking the online tests!

**Birder Certification Online**

Home Page | Training Tools | Certification Levels | Instructions | Testing Center | Find Birds | Find Projects | About Us

The **Birder Certification Online** program provides a rigorous method for verifying field identification skills of both professional and non-professional bird observers. A major goal is to help validate the integrity of bird inventory and monitoring projects by improving and documenting birder identification skills. The program also provides an educational tool for students and recreational birders of all skill levels.

**Birder Certification Online** is a project of the Cofrin Center for Biodiversity at the University of Wisconsin-Green Bay, with funding and collaboration from the Wisconsin Department of Natural Resources, the Wisconsin Bird Conservation Initiative, the National Park Service, and the U.S. Fish & Wildlife Service.

**Land Managers, Agencies, Organizations ...**  
Find [certified birders](#) for your next project or job!

Certification is available in 8 separate Bird Conservation Regions. Visit the [North American Bird Conservation Initiative](#) for more information about the Bird Conservation Regions. Birders can also take a newly added specialty test called *BCR 101*, also known as the Great Lakes Waterbird Visual Test. For more information, go to the [Certification Levels](#) page.

**Bird Conservation Regions**

- 12
- 13
- 14
- 22
- 23
- 28
- 29
- 30

Certification Online website ([www.birdercertification.org](http://www.birdercertification.org)) home page. Photograph of the Hermit Thrush (*Catharus guttatus*) courtesy of Lee Karney; Website designed by J Davis Web Design.

# USGS-EPA Challenge Grant Monitoring

Written by Zac Najacht, Biological Technician at the USGS National Wildlife Health Center in Wisconsin

## Hitching a wagon to AMBLE

At the beginning of the 2012 field season, I gladly joined Jenny Chipault for a few AMBLE volunteer training sessions in beautiful Door County, Wisconsin. I was eager to learn more about AMBLE and discuss how the project I had just started working on, funded by an Environmental Protection Agency (EPA) Great Lakes Restoration Initiative Challenge Grant, is intertwined with, as well as builds upon, the work laid out by this great AMBLE volunteer network.

## Monitoring Great Lakes beaches

EPA Challenge Grant monitors were hired by the U.S. Geological Survey (USGS) in the spring to conduct daily (whenever possible) shoreline walks. Monitors record live bird observations; record environmental data; perform EPA sanitary surveys of the lake water; collect water, sediment and *Cladophora* algae samples for pathogen analysis; and submit any fresh dead carcasses they come across to the USGS National Wildlife Health Center (NWHC) for botulism type E testing.

Intensified frequency of monitoring, collection of environmental data, and increased opportunity to collect and submit fresh carcass specimens for botulism type E testing may be able to provide us with potential insight into the pathways of avian botulism.

Monitoring is currently taking place on designated areas of concern (AOCs) or federal land in Wisconsin, Illinois, Indiana, Ohio, and Michigan (lower & upper peninsula) to get a broader picture of botulism type E in the Great Lakes (see map below).

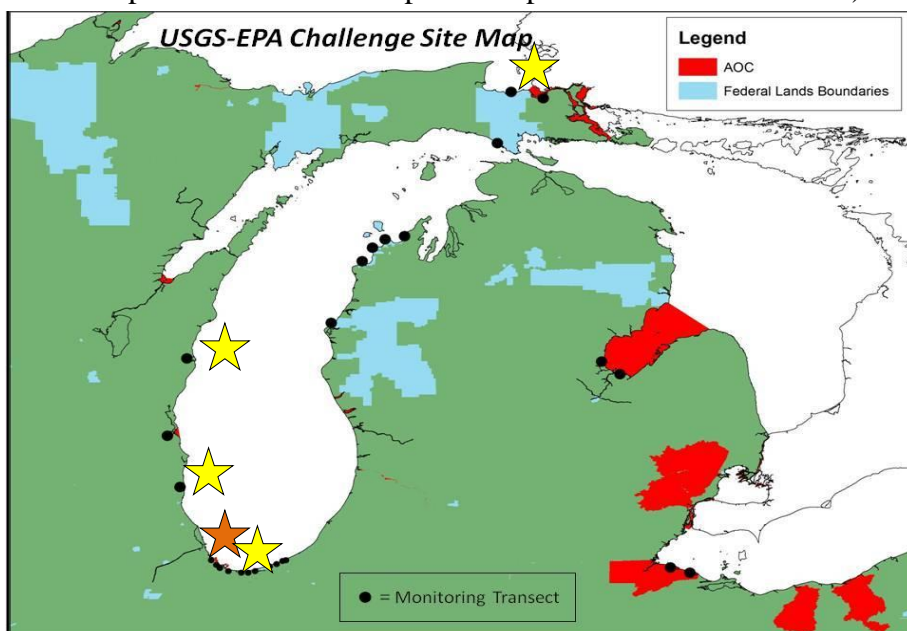
## NWHC Results

As of October the NWHC in Madison, Wisconsin has received 22 carcass submissions through the USGS-EPA Challenge Grant monitors, and tested 12, with 4 birds testing positive for botulism type E and 1 bird positive for botulism type C (see stars on map for where botulism positive specimens were recovered).

The 2012 season is not yet complete and more submissions will be received and tested. A few specimens arrived in too poor of condition to test, while a few others are being held for future diagnostic investigation and cause of death determination.

## A Note of Gratitude

The collaboration, reach, and overlap of these research projects provide a great example for how citizen science can be truly influential. Not only can concerned citizens provide an invaluable amount of data that would have been unachievable in their absence, but they are able to influence and facilitate current and future funded scientific study.



USGS-EPA Challenge Grant monitoring locations map. Yellow stars indicate locations of botulism type E positive specimens and the orange star is the location of a type C positive specimen. Map credit: Taaja Tucker, USGS in Ann Arbor, Michigan.



Low lake levels visible from the breakwater in Oconto, Wisconsin. Photo credit: Cordula Van Den Heuvel, who AMBLES the breakwater with her daughter, Amber.

## Lake Levels and Avian Botulism

AMBLE volunteers who have been frequenting Lake Michigan beaches for years (in some cases, decades!) have been reporting observations of surprisingly low water levels this year. Indeed, according to data distributed by the U.S. Army Corps of Engineers, the average October water level for the Lake Michigan and Lake Huron system during 1918-2011 was 176.44 meters, while the 2012 October average was 175.74 meters, just barely above the record low October average of 175.70 meters that occurred in 1964. See the data here: <http://www.lre.usace.army.mil/greatlakes/hh/greatlakeswaterlevels/>.

What does this have to do with avian botulism? A paper published by researchers from the National Park Service and the U.S. Geological Survey shows the correlation between low Lake Michigan water levels and a higher rate of botulism outbreak occurrence over the period of 1963-2008. The exact mechanism behind this relationship is not known, but the paper articulates some possible connections between water levels and changes in food web dynamics that might increase toxin production or accessibility. To read the full article: <http://www.sciencedirect.com/science/article/pii/S038013301000208X>.

## AMBLEing to Conferences

The AMBLE program concept, as well as observations reported by AMBLE volunteers during the 2011 botulism monitoring season, were presented at three conferences this summer and autumn:

- Midwest Bird Conservation and Monitoring - Milwaukee, Wisconsin in August
- Public Participation in Scientific Research - Portland, Oregon in August
- USGS Citizen Science Workshop - Denver, Colorado in September

## Thanks to AMBLE volunteers and partners!



## Disclaimer

Information presented in this newsletter is not intended for citation as scientific literature.

Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Unless otherwise noted, all writing and pictures in this newsletter are the product of Jenny Chipault, USGS National Wildlife Health Center.