

Lake Michigan Volunteer AMBLE

Avian Monitoring for Botulism Lakeshore Events



2012 AMBLE Data Summary, with Comparisons to 2011

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USGS National Wildlife Health Center

Thanks!

These data would obviously not be available without the dedication of the 2011 and 2012 AMBLE volunteers.

Thanks also to the AMBLE partner organizations that have helped in many, many ways!



Summary of 2012 Walks

(with 2011 numbers in grey parentheses)



Photo credit: Pat Schutt



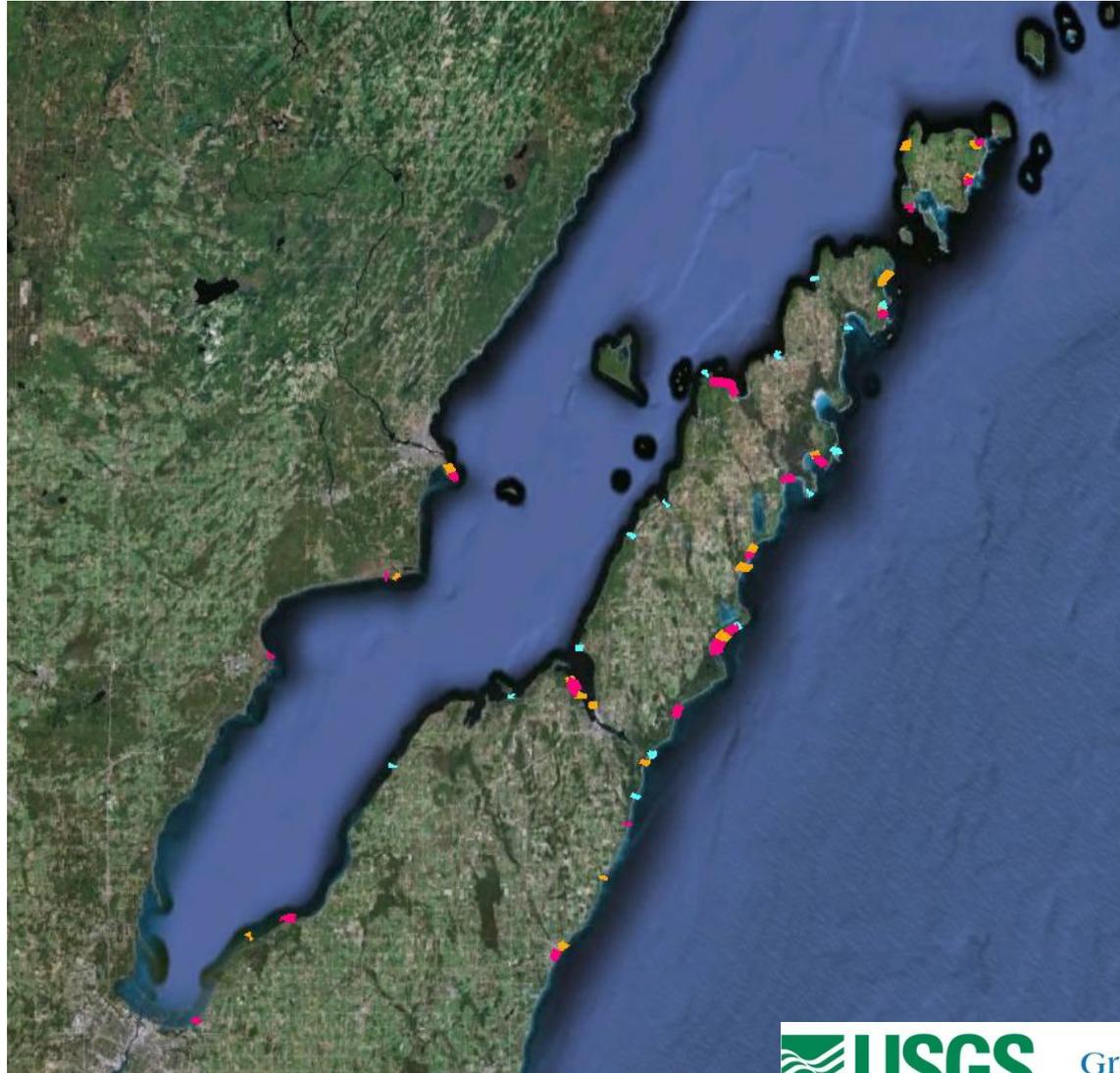
Photo credit: Tom Alt

- 42 volunteers trained (52)
 - 25 returning volunteers
 - 17 new volunteers
- 539 (446) walks on 36 (34) beaches
- Avg beach is 0.8 miles (0.5)
- Total of 22.0 miles (15.4) monitored
 - 306.8 miles (223.9) walked
 - If count by people: 470.4 miles (307.9)
 - 575 hours (475) volunteered
- 9,367!! (1,375) pieces of trash picked up

Map of Beaches

Beach segments monitored by AMBLE volunteers (shown in pink and orange) and by the Wisconsin DNR (aqua).

Not shown: beach monitored by AMBLE volunteer in Manitowoc, Wisc.



Summary of Birds

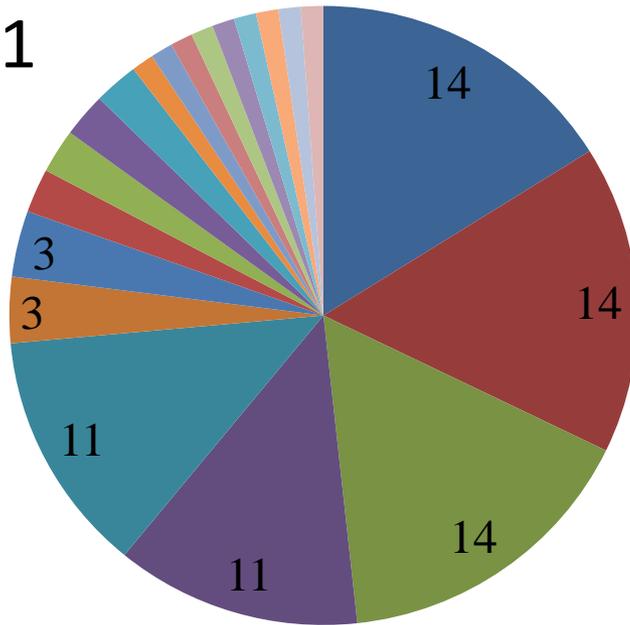
- 26,613 (15,567) live birds observed
- 84 dead birds (82)
 - 7 (10) <24 hrs dead
 - 23 (18) 24-48 hrs dead
 - 54 (54) >48 dead
- 3 (5) sick
- Not all deaths due to botulism
 - hunting, broken wing, natural causes
- GPS coordinates on 79% (52%) of sick or dead



Photo credit: John Tracey

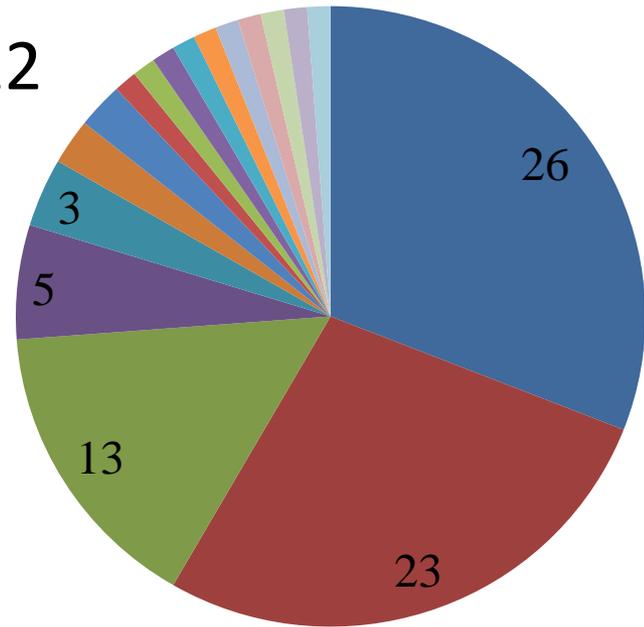
Birds Found Sick or Dead by Species

2011



- Canada Goose
- Double-crested Cormorant
- Unknown gull
- Herring Gull
- Ring-billed Gull
- Common Merganser
- Unknown duck
- American White Pelican
- Horned Grebe
- Unknown bird
- Unknown shorebird

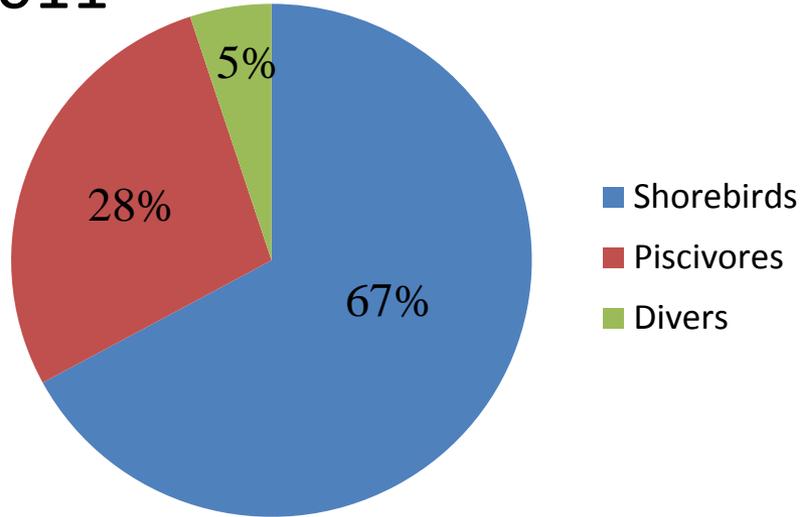
2012



- Double-crested Cormorant
- Ring-billed Gull
- Herring Gull
- Unknown gull
- Unknown bird
- American White Pelican
- Common Merganser

Foraging Preferences of Birds Found Sick or Dead

2011



2012

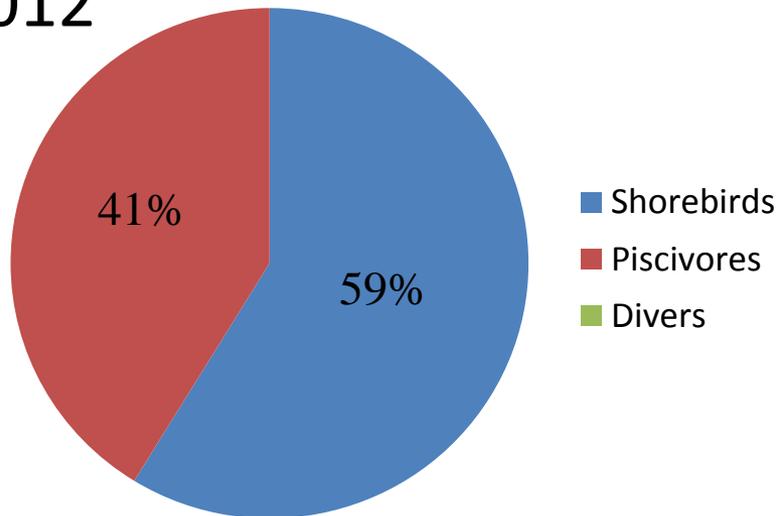


Photo credit: Mandy Cyr



Photo credit: John Tracey

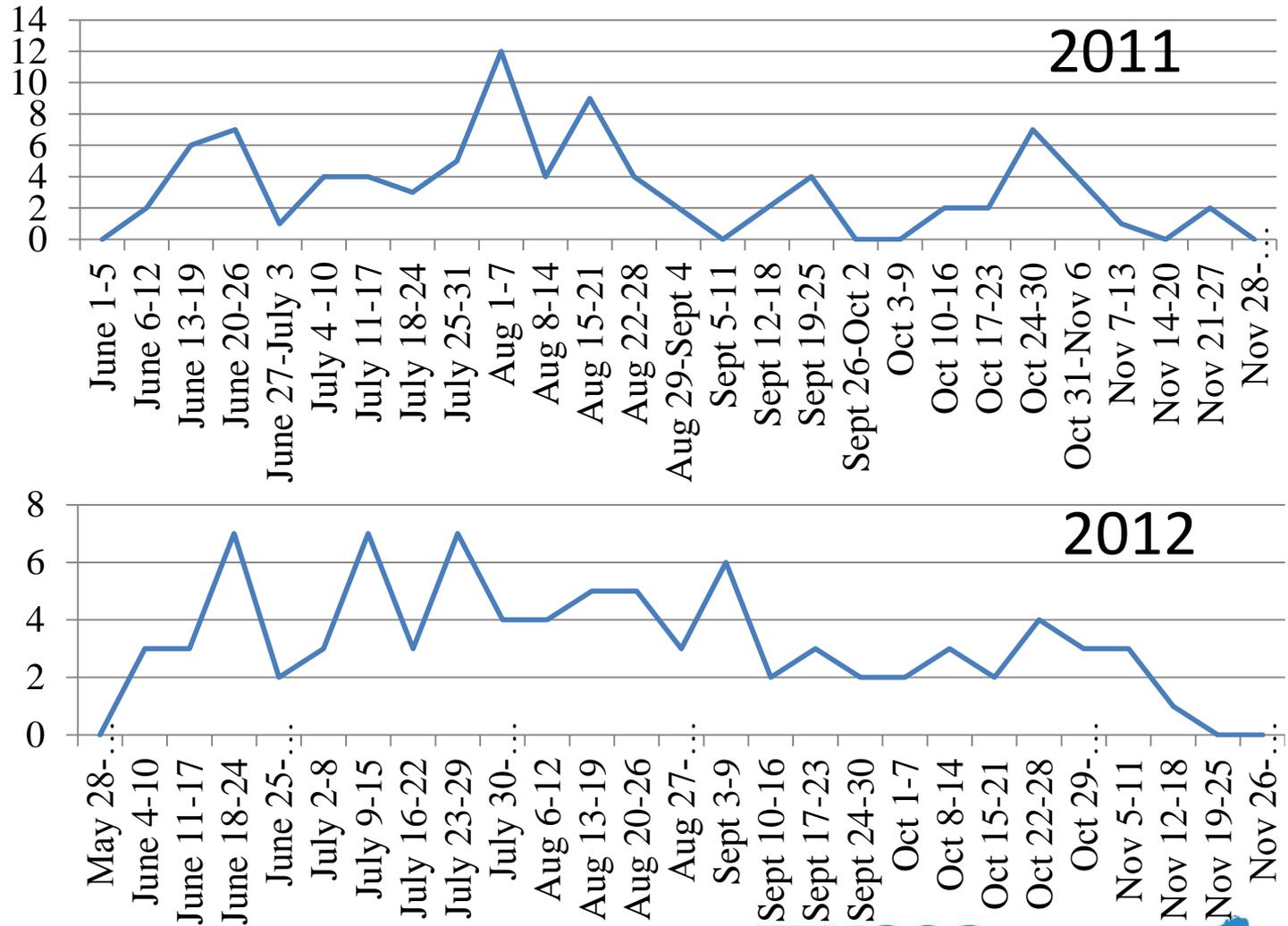


Photo credit: George Cobb

Number of Sick or Dead Birds Found by Week

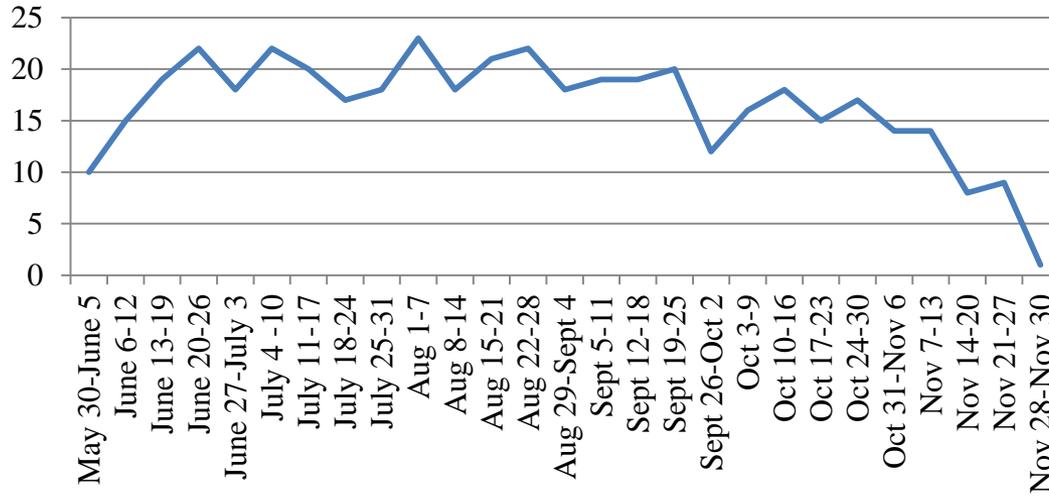


Photo credit: Paula Sullivan



Number of Walks by Week

2011



2012

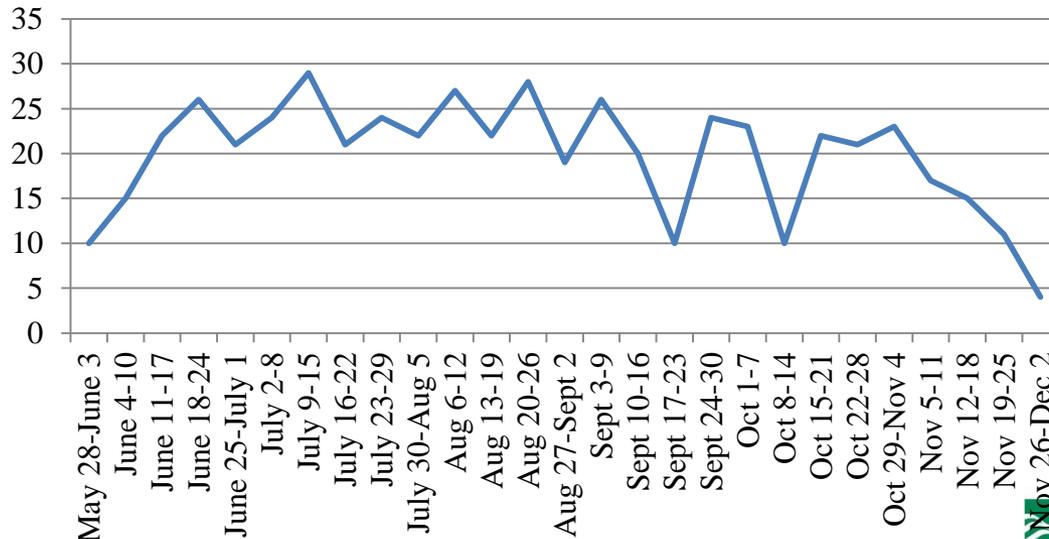


Photo credit: Becky Konkol

Summary of 2012 Tests

Collected for testing

- 4 AMBLE, 1 WDNR, 1 park, 9 Bay Beach

Tested to date

- 2 AMBLE, 1 WDNR, 1 park, 2 Bay Beach

Positive for Botulism type E

- Ring-billed Gull (AMBLE)
- Herring Gull (WDNR)
- Bald Eagle (Bay Beach)
- Mallard (Bay Beach)

Negative for Botulism type E

- Ring-billed Gull (AMBLE)
- Ring-billed Gull (park)



Compare to Other Locations

Door County AMBLE

- 87 (87) sick or dead along 22 (17) miles
→ 4 (5) per mile

Sleeping Bear Dunes National Lakeshore

- 1,496 (259) sick or dead along 32 miles
→ 47 (8) per mile

Common Coast & Seney NWR in U.P.

- 871 (32) sick or dead along 7 miles
→ 124 (5) per mile

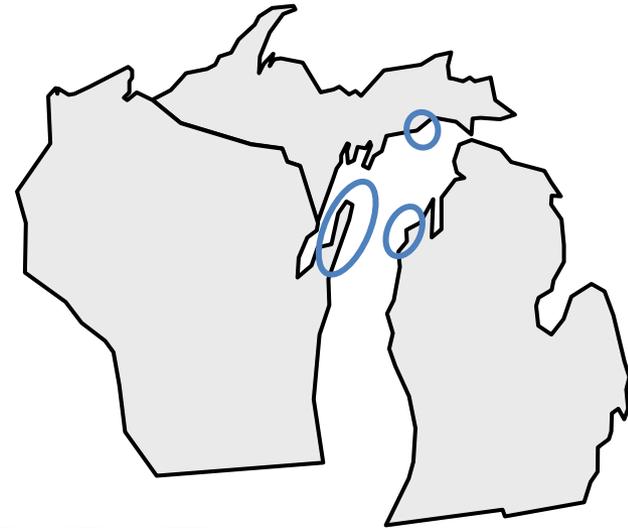
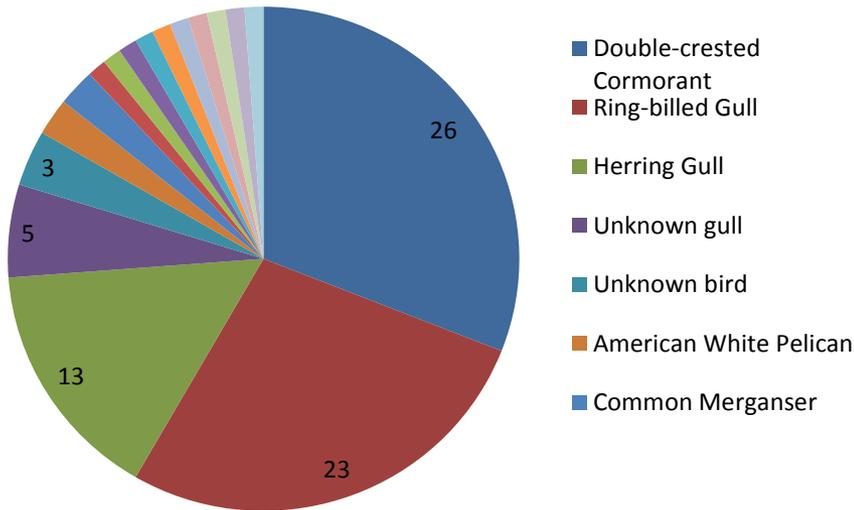


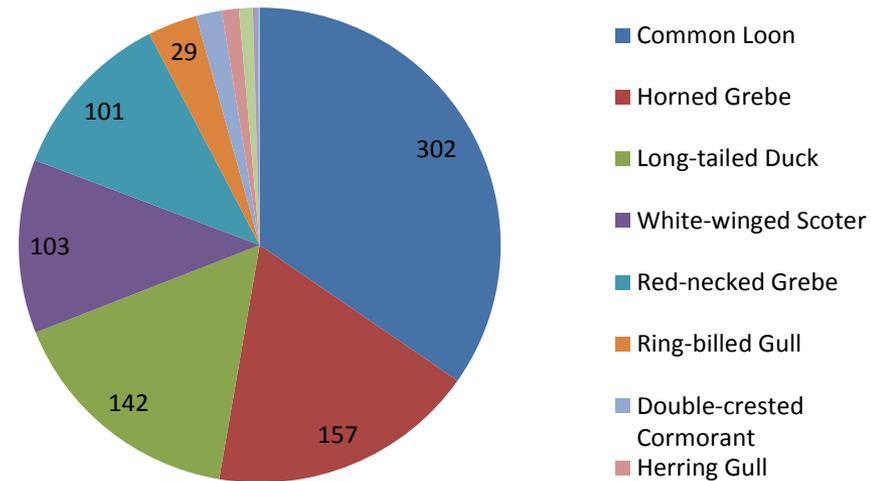
Photo credit: Alice Van Zoeren

2012 Species Mortality by Site

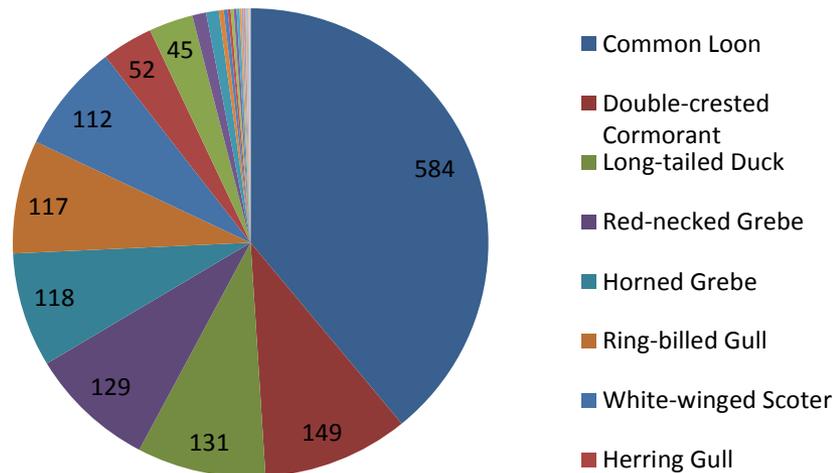
Wisconsin AMBLE



Eastern UP



Sleeping Bear



Lake Michigan Recent History



Photo credit: Barb Montgomery

Avian mortality by year:

2006 - 3,000

2007 - 4,000

2008 and 2009 - 300

2010 - 2,000

2011 - 500

2012 - 2,500

Press

- flyers, newspaper
- *AMBLE Ramble* newsletter online
- Western Assoc. of Fish and Wildlife Agencies
- Conferences
 - Western Great Lakes Resource Management
 - USGS Citizen Science
 - Public Participation in Scientific Research
- Newspaper stories
 - Dearborn Press & Guide
 - Macomb County News Herald
 - The Oakland Press
 - Etc.
- Audubon blog



USGS Great Lakes RESTORATION
science for a changing world

AMBLE Ramble

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

2012 - May - July

Coverage Area Expanded in 2012

The 2012 Lake Michigan Volunteer AMBLE beach monitoring season began in May. Twenty-five of the 2011 volunteers are AMBLEing again. They are joined by 17 new monitors. While almost exclusively in Door County in 2011, the volunteer network has expanded into Kewaunee, Brown, Oconto, Marinette, and Manitowish counties in Wisconsin in 2012. A total of 21.3 shoreline miles are being monitored by AMBLE volunteers in 2012, 20 beach segments maintained from 2011 and 16 new beach segments. The Wisconsin Department of Natural Resources (DNR) Wildlife Health Section monitors an additional 3.8 miles in Door County.

Contents

- Coverage Area Expanded in 2012
- Data Summary
- Piping Plovers
- Message in a Bottle
- Wisconsin Citizen-based Monitoring Networks
- Common Tern not Common
- JHA
- Bay Beach Wildlife Sanctuary
- Freester Update

Map of beach segments monitored by AMBLE volunteers (shown in pink and orange) and by the Wisconsin Department of Natural Resources Wildlife Health Section (equal). Not shown: beach monitored by AMBLE volunteer near Manitowish, Wisconsin.

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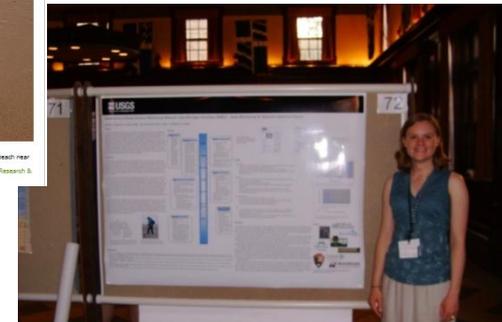
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Avian Botulism Plaguening Lake Michigan; Common Loons Suffering

By Julie Leibach
12/21/2012

Categories: Birds

Common Loons washed ashore in October 2012 along a seven-mile stretch of Lake Michigan beach near Quiliver, in Michigan's Upper Peninsula. Photo courtesy of Damon McCormick/Common Coast Research & Preservation



Future Directions

- Late February research meeting
- More dissections and testing
- Gut content analysis
- 2013 season
 - Probably no volunteer recruiting
 - Not sure if trained volunteers keep monitoring
- UW-Madison post doc running statistics
 - Pulses of mortality (by freshness, by species, etc.)
 - Time and place of heavy carcass deposition
 - Will aid other aspects of study such as carcass drift model, environmental samples, lake-wide variables, gut content, etc.



Photo credit: Zac Najacht