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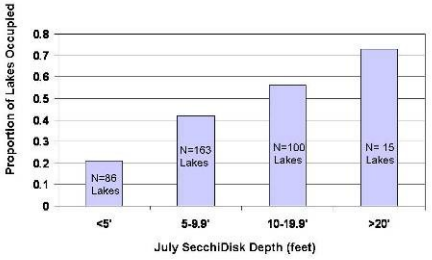
Red Eye News

New Research Grant Studies Climate Change Impact on Wisconsin Loons

NORTHWOODS LOON PROTECTION PROGRAM

The Wisconsin Department of Natural Resources and partners at the US Geological Survey Water Center in Madison and the US Geological Survey Upper Midwest Environmental Science Center in La Crosse will begin a research study this summer to investigate whether predicted changes in Northern Wisconsin climate will result in reduced nest habitat quality of Common Loons. Loons typically select lakes for breeding that have good nesting habitat and relatively clear water. Previous work has shown that loons are less likely to be found on lakes as the secchi disk reading decline.

Proportion of Lakes with Territorial Loons Present by Water Clarity Category



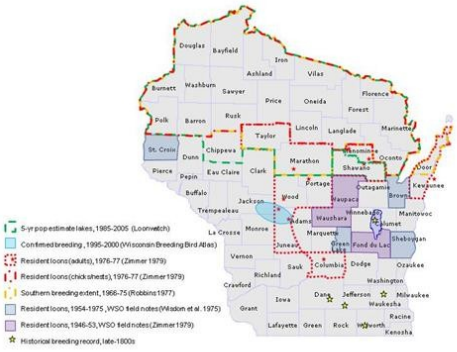
USGS Hydrologists John Walker and Randy Hunt will model the potential impacts of future climate conditions on lakes within the Trout Lake watershed in Vilas County. They will investigate whether changes in temperature and precipitation could lead to changes in lake water quality in the region. WDNR Research Scientist Mike Meyer and USGS Research Scientist Kevin Kenow will be heading up crews that will be documenting loon use of lakes within the watershed and at the southern extent of their breeding range—southern and central Wisconsin. Specifically, the research crews will be identifying which lake factors (such as water clarity) nesting loons are looking for when setting up breeding territories. They will then assess whether lake models predict these factors could change under future climate conditions, potentially reducing the amount of lakes suitable for loons in Wisconsin.

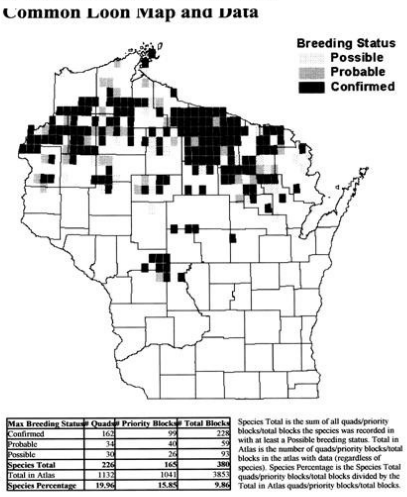
The Wisconsin breeding loon population has shifted north over the past 100 years, it is possible that reduced lake water quality is responsible for this range reduction.. Investigators will examine whether the water quality of southern lakes abandoned by breeding loons is lower than northern lakes currently used by nesting loons. By examining the current quality of lakes once used by loons but are no longer, learning what lake factors loons are currently selecting, and modeling the future condition of lakes in northern Wisconsin under a warming climate, scientists will assess how loons may fare as lake conditions change across the region. Funding for this research project was received from the Wisconsin Focus on Energy Program.

For more information, contact Mike Meyer at WDNR Rhinelander,

Michael.Meyer@Wisconsin.gov

Historical accounts and current WBBA Atlas show WI common loon breeding distribution has shifted north





Max Breeding Status	# Quads	# Priority Blocks	# Total Blocks
Confirmed	163	99	228
Probable	34	40	59
Possible	30	26	93
Species Total	226	165	380
Total in Atlas	1132	1041	3855
Species Percentage	19.96	15.85	9.86

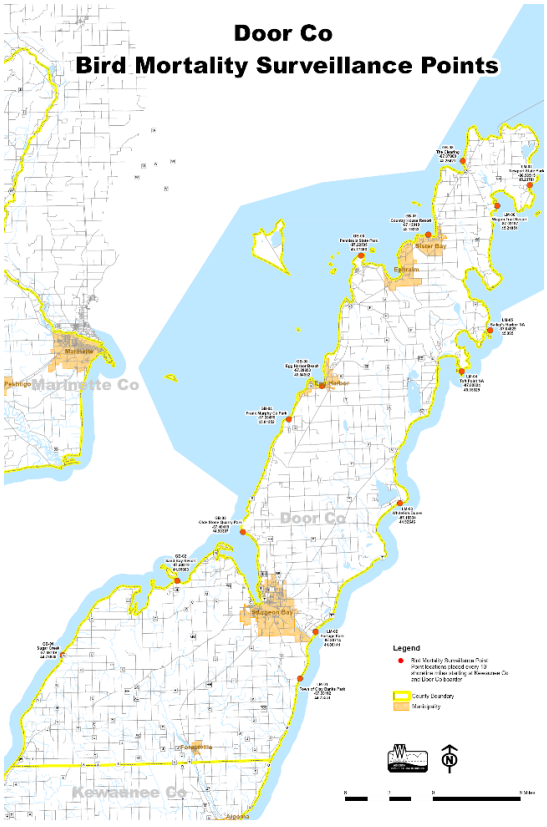
Species Total is the sum of all quads/priority blocks/total blocks the species was recorded in with at least a Possible breeding status. Total in Atlas is the number of quads/priority blocks/total blocks in the atlas with data (regardless of species). Species Percentage is the Species Total quads/priority blocks/total blocks divided by the Total in Atlas quads/priority blocks/total blocks.

Surveillance of Botulism E Related Mortality in Waterbirds of the Wisconsin Great Lakes

Sean Strom & Julie Langenberg, DVM, WDNR Wildlife Health Team; Mike Meyer, WDNR Science Services

Type E botulism has been implicated in waterbird die-offs on the Great Lakes since the 1960's and has been responsible for the deaths of thousands of birds including common loons, gulls, mergansers and other migratory waterfowl. These mortality events have been increasing in frequency, scale and scope - potentially related to the presence of non-indigenous aquatic species (quagga mussels and round gobies), low Great Lakes water levels, and excessive Cladophora (algae) growth.

This project aims to document the scope and scale of such die-offs in the Wisconsin Great Lakes region where Type E botulism has been previously documented. Specific objectives include: 1) Monitor the occurrence of waterbird mortalities associated with botulism E outbreaks along the Wisconsin shores of the Great Lakes via necropsy and diagnostic screening. 2) Understand the scale and scope of the botulism E outbreaks on Great Lakes migratory waterbirds in regards to species involved, numbers impacted and locations of the outbreaks and identify populations which may be at risk. 3) Identify populations most at risk and estimate potential population impacts for certain species. 4) Establish a network of partners to assist with the monitoring of avian mortality events in Wisconsin and coordinate with other Great Lakes botulism E surveillance programs.



We will utilize active surveillance, passive monitoring and diagnostic screening in order to understand the scale and scope of botulism E in the WI Great Lakes. We will stratify the survey approach; emphasizing areas deemed most at risk for botulism outbreaks. Satellite telemetry shows WI common loons utilize the Bot E risk regions in Great Lakes during fall migration. Loon populations can be impacted by small changes in adult survival. We will use reobservations of uniquely color-banded loons (n=2400+ banded since 1991), band recoveries, and Program Mark to compare WI adult common loon survival 1994-2001 (92%, *Mitro et al. J. Wildlife Manage 72(3):665–673*) to that measured 2002-2009 during the Bot E die-offs.

Funding for this research project has been received from the Great Lakes Fish and Wildlife Restoration Grants Program. For more information contact Sean Strom at Wisconsin DNR Madison.

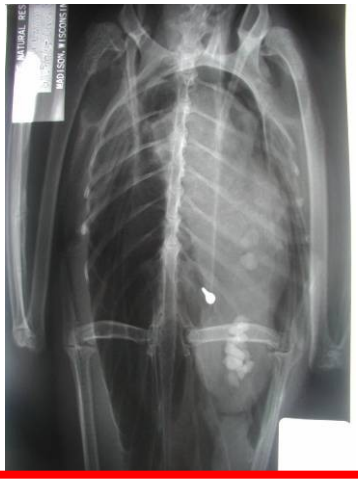
Sean.Strom@ Wisconsin.gov

Lead Exposure in Wisconsin's Common Loon Population

Sean Strom, WDNR Wildlife Health Team

Between 2006 and 2008, 26 Common Loons were submitted to the WDNR's Wildlife Health Program for necropsy. Approximately 30% of the dead loons submitted for necropsy were judged to have died from lead poisoning. Remnants of lead fishing tackle were recovered from the GI tracts of loons in all cases where lead toxicity was a major contributor to the cause of death. Based on our findings, it's likely that loons ingest lead sinkers and jigs mistakenly along with the stones they ingest to aid their digestion of fish. The lead artifacts we have recovered from lead poisoned loons are similar in size to these stones. The proportion of lead poisoning among loon fatalities in Wisconsin is comparable to that observed in Canada (26%–30%) but is slightly lower than that of breeding loons in the New England states (44%–52%). Our findings suggest that lead exposure is a major mortality factor for loons in Wisconsin. The Wildlife Health Program of the WDNR will continue to monitor lead related mortality in WI loons. Additional information regarding the impacts of lead on wildlife, including WI birds, can be found at:

http://www.peregrinefund.org/Lead_conference/2008PbConf_Proceedings.htm



Loon Citizen Scientist Notes 2008

Tomahawk Lake, Oneida County

Our first year of "officially" watching the loons on Tomahawk/Mud Lake began with the training at Kemp Station on May 11th and ended with our last trip out to check on the loons on October 28th. In between, we witnessed so many magical and poignant moments. Armed with the whereabouts of previous nesting sites and observed bands provided to us, we began scouring the lake in early May to find our possibly seven nesting pairs. Our sometimes twice weekly trips were always augmented by the presence of many intruder/rogue loons. On June 21st we were treated to a display of three loons in a close circle, swirling around and around one another, splashing and diving only to circle each other once again. By early June we thought we had it "all covered" as we had found four of the traditional nesting sites – all occupied – and we had not found sign of any activity in or near the other three. On June 14th, we observed an abandoned egg on one of the nest sites with no sign of the adult loons. We were able to retrieve that egg the following day and deliver it to Mike at the Rhinelander DNR office. We don't know what happened. Then a week later, another pair abandoned their nest site. Nearby neighbors had heard a raucous the night before and we don't know if another adult interfered – but we did observe this pair together again later that week and throughout the summer. The other two nests successfully hatched two chicks each. We were thrilled to have four chicks to observe throughout the rest of the summer. But lo and behold by early July we found two other families —clearly, despite our inability to locate the nest sites – they had nested successfully! I had the honor and thrill of a lifetime when I held the single chick on July 21st while we observed Mike, Doug and Dennis banding. We were interested to find that the adult female had one silver band and had been banded as a chick on Presque Isle Lake in Vilas County. This year was the first year she was observed with a chick since monitoring in 2002. We can't wait to see her again this year! The other family hatched two chicks and Dr. Piper observed a wound on the back of the head of the smaller one when he banded it. We watched this little one with concern all summer. It clearly had a deformed neck and was much the smaller of the two chicks. We were relieved to see it dive but concerned when as late as October 21st it was still clearly in need of its parent. It is very difficult on our lake to know if "our" loons have left successfully since Tomahawk is used as a staging lake by many loons. On several days in October we observed hundreds of loons gathered in the big part of our lake. With the days getting longer and the temperatures finally staying above zero, we are looking forward to ice out and the arrival of our first loons. We know that what we observed last summer is just the beginning of a story that unfold over the rest of our life and beyond.

by John and Judith Bloom, Lake Tomahawk, WI

The 2008 Black Fly Invasion Moon Lake,Gogebic County, Michigan

Spring was late in 2008. This created a difficult situation for the nesting pair of Common Loons on Moon Lake (Gogebic County, Michigan). While the arrival of the loons was delayed about 10 days because of late melting of the ice, they were on the artificial nesting platform at about the same time they have been in the past few years (May 15). Our observations and reports from other lake residents indicated everything was normal for the next couple of weeks.

By June 1, however, the situation had changed. Both loons were frequently seen in the water near the platform but not on the nest. Through telephone calls to Mike Meyer of the Wisconsin Department of Natural Resources (DNR) and Bob Evans of the U. S. Forest Service (USFS) in Watersmeet, Michigan, we learned that our situation was being reported throughout the region and was likely caused by a hatch of black flies. The black flies are around every year and usually cause some problems for the loons. But in 2008 it appeared that the problem was extreme, and many loons were driven from their nests by swarms of the aggressive little critters.

After observing the loons until June 4 with no sightings of either of them on the nest, and further discussions with Mike and Bob, we approached the platform by canoe. While the loons were close by, they paid no attention to us as we approached the nest. When we grabbed the bushes growing on the platform, a dense swarm of black flies erupted from the platform and surrounded us to the point it was difficult to breathe without inhaling flies! As discussed with Mike and Bob, we photographed the nest and eggs and removed the eggs.

The photograph shows the eggs with several black flies.

The eggs were given to the Michigan DNR for chemical analysis.

Over the next three weeks we observed the pair of loons in the area; but they showed no interest in the nest. The flies disappeared from the platform by June 13. The loons continued to show no interest in the nest, so on June 20 we "refreshed" the nest with a new batch of nesting material. On June 22 neighbors reported a loon back on the nest. On June 23 one egg was observed in the nest! This is very late to be starting a family. The nesting loons survived the frenzy of lake activity over the July 4th holiday, and a chick was hatched on July 19.

The chick rearing progressed without a hitch; however, due to the late start, one of the adults (probably the female) left about September 18. From then on only the chick and one adult were observed. The chick started "wing rowing" and aggressive wing flapping in early September and was observed flying a short distance on October 3.

On October 15, late in the afternoon, both loons were seen for the last time on Moon Lake. We hope they started a successful journey to their wintering grounds off the coast of the Carolinas or

Florida, or the Gulf of Mexico.

The loons typically are gone from Moon Lake by the end of July or first part of September. The summer of 2008 demonstrated the perseverance of loons in their efforts to raise a family.

The photograph is the chick on October 5.

By Tom & Linda Wheeler, Moon Lake, Goegebic County, MI

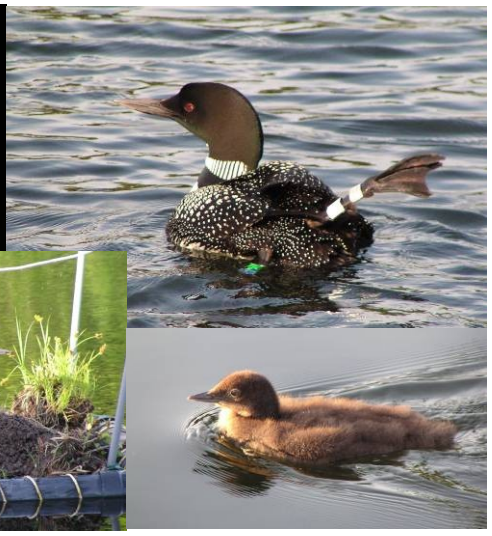
Wisconsin Loon Citizen Scientists Deliver in 2008!

The Wisconsin Loon Citizen Scientist network has been established to assist WDNR Science Services collect the data necessary to improve predictions of loon population dynamics in a region of the state impacted by multiple stressors including mercury exposure, nest habitat alteration, and increasing human disturbance.

Seven training workshops occurred in 2008 to instruct participants in proper survey protocol and data collection techniques. Seventeen citizens participated in 2007 and 85 participated in 2008.

Accuracy of data collection was assessed in 2008 by surveying a sample of the lakes with trained WDNR staff. We found citizen scientists were not always accurate identifying color-banded loons on the breeding territories—this is a difficult task! This data is required to calculate adult survival rates. However accuracy of nest monitoring data was excellent, so this data will be used in the Wisconsin Loon Population Model each year.

It is calculated the Loon Citizen Scientist project saves the WDNR $10-15,000 annually in staff and travel time, and has been shown to provide accurate nesting data. Citizen participation also promotes conservation activities and support for implementation of lake conservation policies. The Loon Citizen Science project will continue in 2009!



Northwoods Loon Protection Program and LoonWatch Training Workshop April 25, 2009

LoonWatch is teaming up with the Wisconsin Department of Natural Resource's Northwood's Loon Protection Program (NLPP) to offer a workshop for new Loon Rangers and NWLP Citizen Scientists. The day will include classroom presentations on loon behavior, ecology, and habitat, a step-by-step introduction to loon monitoring and how to enter information on-line.

Registration is required by Tuesday, April 21st.

Registration Fee: $10/person

Where: UW Kemp Natural Resources Station (Hwy 47 south of Woodruff) 9161 Kemp Road, Woodruff WI 54568-9643

When: Saturday, April 25, 2009 1 - 4 PM

Register by calling LoonWatch at 715-682-1220 or loonwatch@northland.edu

1st Annual Northwoods Loon Protection Program and LoonWatch Volunteer Appreciation Picnic August, 2009

LoonWatch and WDNR NLPP are also teaming up to host the first annual Wisconsin Loon Monitoring Appreciation Picnic. We are planning to host the picnic in August, and invite all loon monitoring volunteers to gather for an afternoon of food, fun, and most importantly, loon stories! We invite you to attend and enjoy the food, drinks, and camaraderie of fellow loon citizen scientists. We also invite you to bring along stories of "your loons" to share with the group. During our training workshops it became immediately apparent that many of you have monitored your loons for years and have many important pieces of information to share. If you have an interest in helping to organize this picnic, please contact:

Mike Meyer (715) 365-8858 or
Stacy Craig (715) 682-1220

More details to follow—stay tuned!

NORTHWOODS LOON PROTECTION PROGRAM

LoonWatch