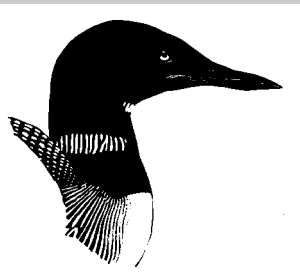


1994-2004



Minnesota Loon Monitoring Program (MLMP)

NONGAME WILDLIFE PROGRAM

Otter Tail Index Area

2004 is the 11th year of the Minnesota Loon Monitoring Program (MLMP). The MLMP was designed to detect changes both in our loon population and in the health of their lake habitats in Minnesota. With the help of over 1000 experienced volunteers, we have completed loon surveys in six 100-lake "Index Areas" annually since 1994. These Index Areas were chosen to represent the different factors which may affect loons and their habitat throughout the state, including: human population growth, acid rain sensitivity, densities of humans and roads, and predominantly public or private land ownership.

The Otter Tail Index Area is located in the northwest part of Minnesota (Fig. 1), and in 2004, 106 lakes were surveyed. This Index Area is known for slow human population growth, moderate density of humans and roads, low acid rain sensitivity, and predominantly private lands.

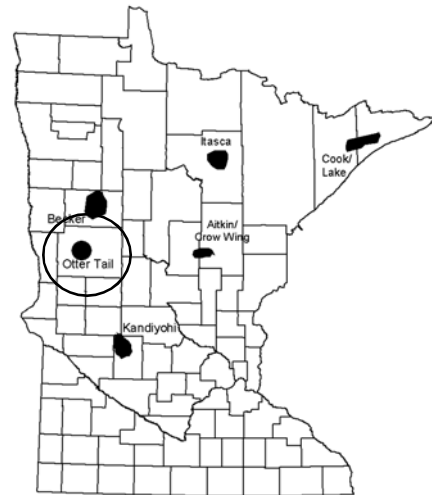


Figure 1. The six Index Areas in the MLMP, with the Otter Tail Index Area circled.

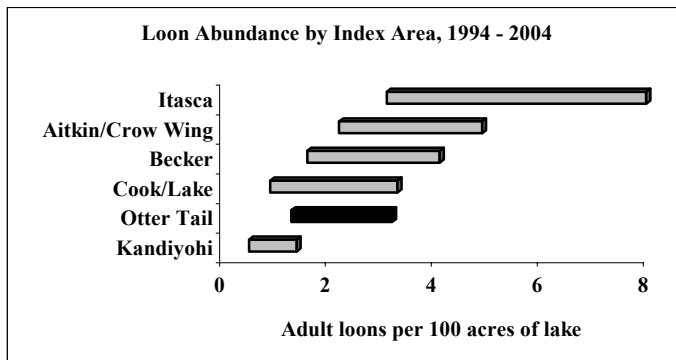
Methods

Our MLMP volunteers are assigned to survey a lake (or multiple lakes) during the morning hours (between 6 a.m. and 12 p.m) of one day within a 10-day period in July (in 2004, this period was from July 3rd to July 13th). Only lakes over 10 acres in size and deep enough to sustain loons were surveyed within each Index Area. Depending on the size of the lake, the survey styles vary widely, with some volunteers using boats or canoes, and others surveying from the shore. Similarly, some use binoculars or spotting scopes, and others don't. However, Nongame Wildlife Program staff standardizes methods by providing survey guidelines to all volunteers. In addition to the numbers of loons seen, observers are asked to report on such things as weather and shoreline conditions. Once the survey is completed, data forms are returned to the Nongame Wildlife Program for compilation and analysis.

1994-2004 Results

Overall, the MLMP results indicate that Minnesota's loon population in the six Index Areas is remaining stable (Figs. 3-5). In fact, adult loons have significantly increased in numbers in the Becker Index Area, and as of this year, a slight increase has been detected in the Itasca Index Area. Juveniles loons have remained stable, with small increases identified in the Aitkin/Crow Wing Index Area, the Cook/Lake Index Area, and the Itasca Index Area. The abundance of loons varies greatly across the state, and continues to be lowest in the southwestern (Kandiyohi) index area, and highest in the north central (Itasca) index area (Fig. 2).

Figure 2. Loon abundance comparison amongst MLMP Index Areas. The Otter Tail Index Area has the 2nd to lowest loon abundance amongst the Areas.



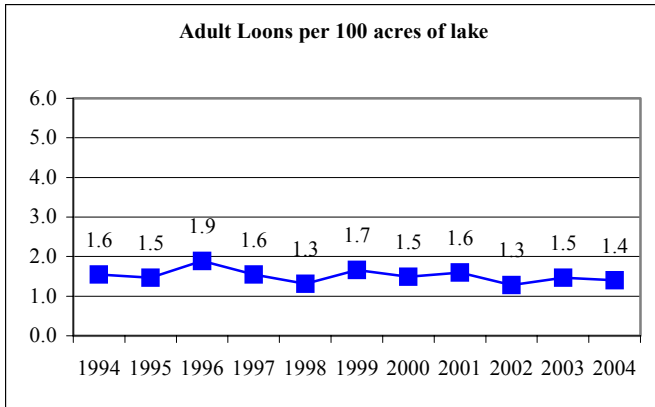


Figure 3. LOON ABUNDANCE: Adult loons seen per 100 acres of lake within the Otter Tail Index Area. Loon abundance has ranged between 1.3 and 1.9 in the past 11 years. There has not been any significant change to loon abundance within the Otter Tail Index Area during the MLMP.

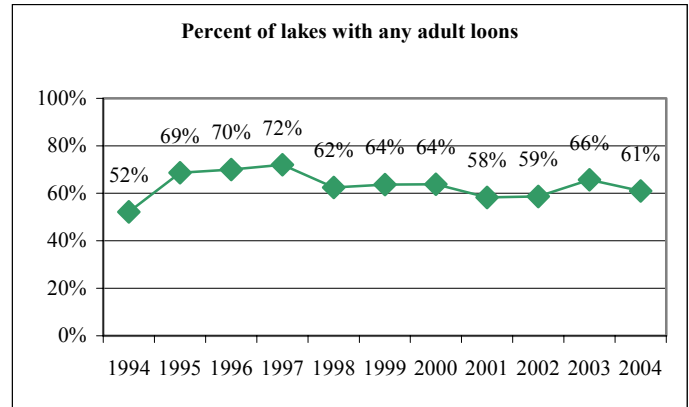


Figure 4. LOON OCCUPANCY: Percent of lakes in the Otter Tail Index Area with any adult loons. Loon occupancy has ranged from 52% to 72% during the period of the MLMP, with no significant change.

Otter Tail Index Area Points of Interest:

- There have been no significant changes in the loon population over the MLMP.
- Percent developed shoreline and human population density has a negative relationship with the presence of loons.
- Larger lakes and longer shoreline are associated with more loons.

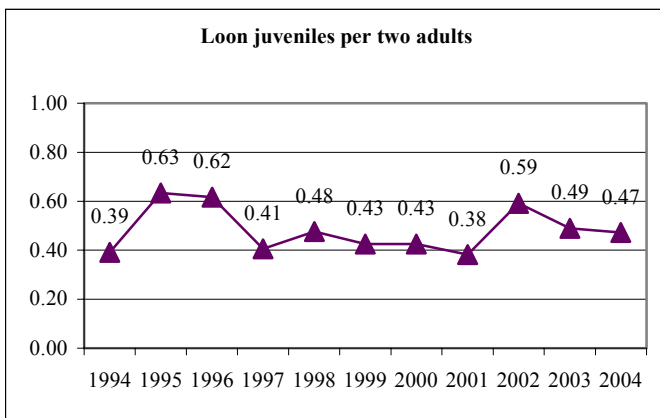


Figure 5. LOON REPRODUCTIVE SUCCESS: The ratio of juvenile loons per every two adults has ranged from 0.38 to 0.63 in the Otter Tail Index Area, with no significant change.

In Summary....

The loon populations within our six Index Areas are remaining stable. The Minnesota state bird enchants us on our visits to our beautiful lakes across the state, so this is good news. The DNR's Nongame Wildlife Program plans to continue monitoring loons through the MLMP while human population and lake shore development continue to grow throughout Minnesota.

Acknowledgements....

THANK YOU MLMP VOLUNTEERS!!!

We extend our heartfelt thanks to the hundreds of volunteer observers who continue to make the MLMP a success. Without your persistence and hard work, the DNR would be without a means of reporting on the health of our state bird. We and Minnesota's loons appreciate your commitment!

The MLMP is supported with donations to the Nongame Wildlife Checkoff on Minnesota's tax forms.

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