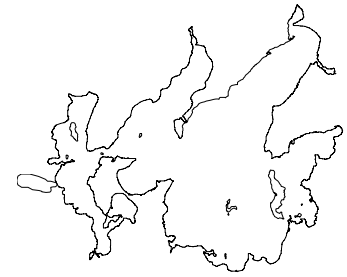




Leech Lake Update 2/6/2007

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Greetings!

This update is the fifth in a series of reports the Minnesota Department of Natural Resources (DNR) is sending to Leech Lake area resorts, businesses and others interested in DNR activities on Leech Lake. The goal of these messages is to keep you up to date with our findings and current activities on the lake. All updates are available by visiting <http://www.dnr.state.mn.us/areas/fisheries/walker/index.html>. As always, please contact our office if you have any questions or comments.

Leech Lake Action Plan 2006 Progress Report

Recent management actions and favorable environmental conditions have led to positive changes for Leech Lake's walleye and yellow perch populations. These management activities (outlined in the Leech Lake Five-Year Plan, 2005-2010) include walleye stocking, double-crested cormorant control, experimental regulations and an increased emphasis on habitat protection. Below is a summary of actions taken in 2006.

Walleye Stocking

- DNR stocked 22 million marked walleye fry in 2006. Another 206,000 marked walleye frylings (1.5-3.0 inches) were stocked in cooperation with the Leech Lake Band. Distinct marks allowed biologists to distinguish stocked fry and frylings from wild fish.
- YOY walleye were sampled throughout the main lake in July and August.
- Trawl catch rates in 2006 (240 walleye/hour) were similar to 2005 (247/hour from a stocking of 7.6 million fry).
- 86% of YOY walleye collected in 2006 were marked, compared to 39% in 2005. No marked frylings were found.
- The combination of stocked and wild fry appears to have produced another good year class.
- Current assessment methodology does not allow us to determine if stocked fish added to or displaced naturally produced fish. We do know that competition for a limited food resource plays a role in determining the strength of a walleye year class.

Double-Crested Cormorants

- US Department of Agriculture (USDA) culled 3,303 cormorants in 2006 using suppressed .22 caliber rifles and shotguns, reducing the number of nesting pairs to approximately 532. The total number culled over the past two years stands at 6,296 birds.
- On August 16, after the majority of culling efforts were completed, an aerial photo count of the island complex indicated 2,026 cormorants, a substantial reduction from a high of 10,000 estimated in 2004. 850 young cormorants fledged on Little Pelican Island in 2006.
- The cormorant diet study, funded by a US Fish and Wildlife Service (USFWS) grant to the Leech Lake Band, is fully underway. Stomach contents from birds collected through 2006 are nearly all analyzed. This study, conducted in cooperation with the DNR, is producing vital information about the relationship between cormorants and Leech Lake walleye and yellow perch populations.

Experimental Fishing Regulations

- Experimental regulations designed to protect walleye brood stock were implemented in May 2005. New regulations include a possession limit of four (4) walleye and all walleye from 18 inches to 26 inches must be immediately returned to the water. Only one (1) walleye over 26 inches is allowed in a possession limit. 2005 creel data indicate that these regulations resulted in the release of 15,000-20,000 pounds of walleye in 2005.
- Protecting walleye brood stock is key to restoring a healthy walleye fishery on Leech Lake. The regulations in place protect brood stock while allowing harvest of smaller, immature walleye.

Habitat Protection

- Rusty crayfish are an invasive species found in Leech Lake. It is unknown what impacts, if any, they may have on walleye reproduction.
- Staff and faculty from Bemidji State University are cooperating with the DNR on research to address this concern. Preliminary fieldwork in 2006 found rusty crayfish in areas where walleye spawn. Laboratory work unexpectedly found rusty crayfish more active at night and at all temperatures examined (43-60° Fahrenheit).
- In-lake and laboratory experiments are scheduled for the late-winter/early spring of 2007. These efforts should shed light on the relationship between rusty crayfish and walleye recruitment.
- Eurasian watermilfoil (EWM) was discovered in Leech Lake in 2004. Infested areas have been treated each year since.
- Follow-up inspections have found very few plants in only two locations. Inspection and treatment will continue each year in an effort to keep EWM from spreading beyond its current distribution.

2007 Leech Lake Action Plan

Management Activities planned for 2007 include:

Stocking

- Initial plans were not to stock in 2007 if the trawl catch rate for young-of-the-year walleye (YOY) exceeded 175 per hour. The catch rate was 240 per hour, nearly identical to 2005 catch rates.
- By all indications 2005 and 2006 are strong year classes.
- DNR plans to stock 5 million marked walleye fry in 2007 for the specific purpose of estimating the number of wild walleye fry produced in Leech Lake.
- Stocking at levels higher than this may obscure the true level of natural reproduction occurring in the lake by suppressing wild fish, as well as increase competition among age 0-2 walleye for a key food source, YOY yellow perch. When perch are limited, adult walleye are known to prey upon small walleye. Further, reduced growth rates of YOY walleye could reduce survival and delay the recruitment of the 2006 year-class to catchable size.
- All data indicate that Leech Lake has ample brood stock to replenish the lake through natural reproduction. If conditions favor natural reproduction, the potential is in the lake to maximize that opportunity.
- If 2007 is a weak or poor year class (a condition that is not unusual in walleye lakes) those conditions will benefit the 2008 year class.
- Plans for 2008 include stocking 20-23 million marked walleye fry.
- We are committed to returning and keeping good walleye fishing in Leech Lake.

Cormorants

- The DNR, in partnership with the Leech Lake Band of Ojibwa and the US Fish and Wildlife Service will continue control efforts on double-crested cormorants. The preliminary management goal remains 500 nesting pairs.
- An additional year of diet study is funded for 2007. This work will augment research done to date.
- Graduate students at the University of Minnesota continue to make progress on their research. These efforts will guide future management of Leech Lake fish and cormorant populations.

If you have questions or comments, please contact:

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