



LAKE OF THE WOODS and RAINY RIVER INFORMATION

December 1, 2011 – April 23, 2012

Lake of the Woods is a border water, shared with the Canadian provinces of Manitoba and Ontario. The Minnesota portion of Lake of the Woods has several regulations that differ from the general statewide regulations. Please take the time to familiarize yourself with these differences to avoid inadvertently violating any regulations. Make sure that you note the effective dates of the various regulations outlined in this summary. Regulations that apply to Lake of the Woods during the summer are different than those listed here.

Minnesota Waters Fishing Regulation Summary

Walleye and Sauger

Lake of the Woods (Dec. 1, 2011 – Apr. 15, 2012)

The walleye/sauger aggregate limit is eight (no more than four may be walleye). **Walleye** from 19.5 to 28 inches must be immediately released. Only one **walleye** over 28 inches total length may be possessed.

Fourmile Bay of Lake of the Woods (Mar. 1, 2012 – Apr. 15, 2012)

The walleye/sauger aggregate limit is two (no **walleye** over 19.5 inches).

Rainy River (May 14, 2011 – Feb. 29, 2012)

The walleye/sauger aggregate limit is six (no more than four may be walleye). **Walleye** from 19.5 to 28 inches must be immediately released. Only one **walleye** over 28 inches total length may be possessed.

Rainy River (Mar. 1, 2012 – Apr. 15, 2012)

The walleye/sauger aggregate limit is two (no **walleye** over 19.5 inches).

Northern Pike

All northern pike from 30 to 40 inches must be released immediately, and only one northern pike over 40 inches may be possessed. The possession limit for northern pike is three, and the regulation applies to Lake of the Woods, the Rainy River and the Warroad, Winter Road and Baudette rivers. **There is no closed season for northern pike on Lake of the Woods or the Rainy River; however, inland seasons apply to the Warroad, Winter Road and Baudette rivers.**

Yellow Perch

The bag limit is 20 yellow perch per day, with 40 in possession. There is no closed season for yellow perch.

Lake Sturgeon

Lake sturgeon cannot be harvested from Oct. 1, 2011 through Apr. 23, 2012. Catch and release fishing is allowed during this time period.

See the "Canada-Minnesota" Border Waters section of the fishing regulation booklet for more details about lake sturgeon fishing regulations.

For a more thorough listing of the regulations that apply to the Lake of the Woods area, please see the "Canada-Minnesota" Border Waters section in the 2011 Minnesota Fishing Regulations (pp. 48-51).

Fish and Game Violations

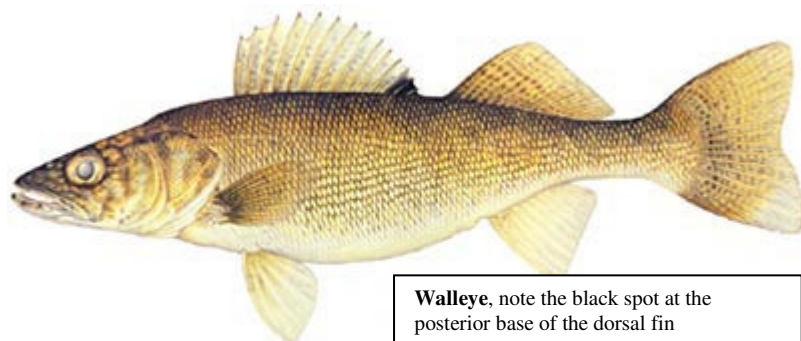
If you witness a violation, please report it. Don't let poachers steal your fish and wildlife. If you see someone violating a hunting or angling law, or hear about a violation, call the toll-free 24-hour TIP (Turn In Poachers) hotline at 1-800-652-9093

Lake of the Woods Fish Population Surveys and Status

What makes a healthy fish population? The number of year classes that are present is a major indicator of the health of a fish population. A year class is simply a group of fish that are of the same age; they were "produced" in the same year. *A population of fish with a large number of year classes is considered healthier than a population of the same species, living in similar habitat, with fewer year classes.*

So why is a population with many year classes healthier? There are several reasons. First, the existence of many year classes is an indicator of relatively low mortality. When a greater number of walleye survive from one year to the next, they have a good chance to grow old and stay in the population longer. Second, a large number of year classes suggests the environment is suitable for that species. A suitable environment allows a species to reproduce successfully annually, rather than infrequently, just when weather conditions are favorable. Research has shown that large, old fish contribute more offspring to a fish population than small fish, especially during years when weather is not optimal for reproduction. In a fish population with many year classes, there are multitudes of small fish that will produce large numbers of eggs that tend to survive when conditions are ideal, but may not in years when conditions are not as favorable. Along with these small fish, there are large old fish that produce high quality eggs that will survive in less ideal conditions.

How is the health of the fish population monitored? The largest and most important lakes in Minnesota are sampled every year, in order to closely monitor their fish populations. Lake of the Woods is one of the ten lakes included in this Large Lake Sampling Program. These lakes are at least 15,000 acres in size, and typically support the best walleye fisheries in the state.



Walleye, note the black spot at the posterior base of the dorsal fin

Anglers fish the Minnesota portion of Lake of the Woods for a variety of species, including walleye, sauger, yellow perch, northern pike and lake sturgeon. Due to the importance of walleye and sauger, a great deal of population monitoring effort is focused on them. Two of these sampling programs are highlighted below.

In the spring, at the end of April, **spawning walleye electrofishing** is conducted at the Long Sault Rapids, near Birchdale, MN. This assessment monitors the size structure of the mature segment of

the walleye population. Electrofishing is a non-lethal technique, in which electric current is applied to the water. Fish exposed to the current are stunned and float to the surface, where they can be picked up with a net. The length and sex of captured fish are recorded, and the fish are released unharmed. The most recent samples depict a walleye population that has changed a great deal since the first electrofishing survey was conducted in 1982. One of the highlights is that the current spawning population has more large fish in it. In 1982 the most common length of female walleye sampled was about 17 inches. Recently, that has increased to about 26 inches. During that same period, the relative abundance of male walleye sampled has declined quite a bit. This decline may be due to the increase in angling pressure that has taken place during the spring season on the Rainy River since the early 1990s. Despite the decline, there are still enough males on the spawning run to fertilize the available eggs.

Smaller (younger) walleye (from 8 to about 22 inches long) are sampled during **fall gill net sampling**. During the first three weeks in September gill nets are set at 16 sites around the Minnesota portion of Lake of the Woods. Biologists record the sex, stage of maturity, length and weight of each fish caught in the gill nets. The otoliths (ear bone structures used to age the fish) are removed from a sample of the fish. By sampling annually, and comparing the data to past years, changes in fish populations (age distribution and age of sexual maturity) can be described and monitored. Abundance is estimated from the average number of fish caught per gill net. More fish in the gill net suggests there are more fish in the lake. Fall gill net data also allows biologists to determine how many year classes of a fish species are in the lake, and the relative strength of those year classes.

A more thorough description of the sampling programs conducted on Lake of the Woods can be viewed on the Baudette Area Fisheries page on the MN-DNR web site (<http://www.dnr.state.mn.us/areas/fisheries/baudette/index.html>).

Walleye are managed with a target harvest of 450,000 pounds per year. The long-term average annual walleye harvest from 1999-2003 was 632,976 pounds. Fifty-two percent of the walleye harvest occurs during the summer, along the south shore of Lake of the Woods. The remaining 48 percent is harvested during the winter on

Lake of the Woods, spring and fall on the Rainy River, and the Northwest Angle in the summer.

In the early 2000s, fisheries managers felt that the long-term average harvest exceeded the safe harvest level on Lake of the Woods. After more than one year of public consultation and input, a new regulation was proposed to

reduce walleye harvest to a sustainable level. The new regulation was enacted on Dec. 1, 2004, in time for the ice-fishing season. The regulation reduced the possession limit of walleye from six to four, and included a protected slot from 19.5 inches through 28 inches.

Walleye forecast. Walleye catches in the 2011 gill net sampling averaged 19.7 walleye per gill net. This level of abundance is well above the long-term average of 14.8. Walleye abundance declined steadily since from 2001, through 2009, but has increased since then. Abundance of the 2001 walleye sample was the highest measured since 1970.

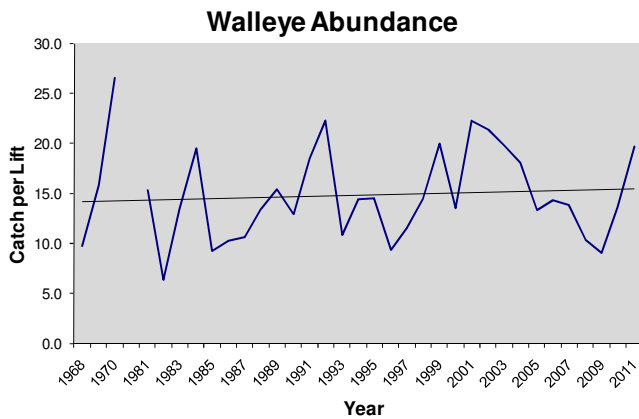


Figure 1-Average annual walleye gill net catch, from 1968 to 2011. The horizontal line through the center of the graph shows that there is no trend in overall abundance.

The high abundance measured in 2001 was the result of a series of moderate and strong year classes produced from 1994 through 2001. During that eight-year span, only one weak year class was produced, in 2000. Strong back-to-back year classes are unusual in a walleye population. Since 2000, only the 2001 and 2005 year classes have been strong. The 2001 year class is the strongest produced since 1966. From 2000 through 2010, four weak, five moderate, and two strong year classes have been produced. The bulk of the angler harvest is typically comprised of three- to six-year old walleye, so the year classes that will be of interest to anglers are the 2005 to 2008. Walleye from the 2001 year class remain somewhat abundant, but most of these fish are in the protected length slot now.

Though gill net catches have doubled since 2009, the number of catchable walleye (those greater than 12 inches) has not increased to the same degree. Much of the increase in the number of walleye sampled during fall assessment netting is due to the 2011 year class. Though this year class will likely score as very strong, individual walleye from the 2011 year class averaged 6-9 inches in length during the fall, and so will be of little interest to anglers, this winter.

The number of harvestable-size walleye in Lake of the Woods is fairly stable. Much of the variability in overall walleye abundance is due to younger year classes. In years when a strong year class is produced, a substantial portion of the walleye sample is comprised of walleye from that year class. Walleye typically grow to 5 to 8 inches long by the end of their first summer. For instance, in 2001 (a year with very high overall abundance), about 25% of the sample was of small 2001 year class walleye, while walleye from 12 to 20 inches comprised 43% of the sample. In 2009 (when overall abundance was very low), walleye from 12 to 20 inches comprised almost 70% of the sample. Despite a twofold difference in overall abundance between these years, the number of harvestable walleye was quite similar.

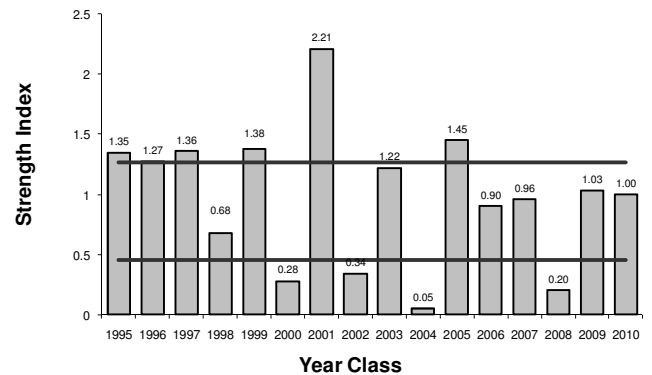


Figure 2-Walleye year class strength, 1995 to 2010. Note that the 2010 strength is predicted. The horizontal lines are the bounds of strong and weak year classes. If a bar is higher than the upper line it is a strong year class, if a bar does not reach the lower line, the year class is weak.

Anglers can expect to catch a wide range of walleye sizes this winter. Notably abundant walleye size classes this winter will be 7 inches, 10 inches, and from 14 through 17 inches. Walleye up to 29 inches long were sampled in fall assessment and up to 31 inches during spring electrofishing.

Anglers are frequently interested in the **age of walleye** they have caught. It is rather difficult to provide this information with a great degree of certainty, because individual fish can grow at different rates. The sex of a fish, stage of sexual maturity and various genetic factors also influence growth within a population. Differences in growth between lakes can also be due to climatic conditions and lake productivity. The oldest walleye aged from Lake of the Woods is a 28.5-inch female that was 27 years old. A picture of the otolith used to age this fish can be seen at: http://www.dnr.state.mn.us/areas/fisheries/baudette/old_walleye.html.

In general, walleye in Lake of the Woods reach 12 inches when they are three years old. Male walleye start to mature when they are 12 inches long and three years old, but it is not until they are 16 inches long and five years old that all male walleye are sexually mature. Female walleye grow faster than male walleye after they reach three years of age. They also mature at an older age. Female walleye start to mature when they are four years old and 15 inches long, but all of them are not sexually mature until they are seven years old and 20 inches long. Generally, female walleye that are 25 inches long are about 10 years old; 30-inch females are about 20 years old.

Sauger outlook. The sauger population remains at a very high level of abundance, at 21.0 sauger per gill net lift. Sauger abundance increased steadily from 2006 through 2009 due to the recruitment of the strong year classes produced in 2005, 2006 and 2007. For perspective, the 1968 to 2010 average catch is 13.5 sauger per gill net. Overall abundance has declined since 2009 because no strong year classes have been produced since 2007. However, the 2008 through 2010 year classes are all of moderate strength, so the sauger population should remain more abundant than average for, at least, the next four years.

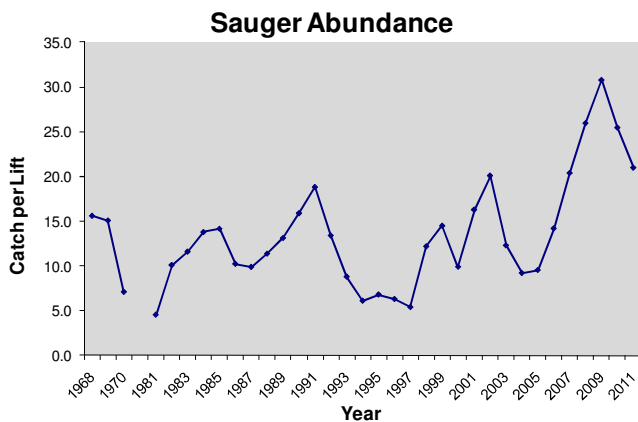


Figure 3-Sauger abundance from 1968 to 2011.

Anglers can anticipate catching good numbers of 12-15-inch-long sauger this winter, along with moderate numbers of 8-inch long “bait-stealers”. Due to the abundance of small sauger, along with small walleye from the 2011 year class, anglers can expect to go through a lot of bait this winter when the fishing is good.

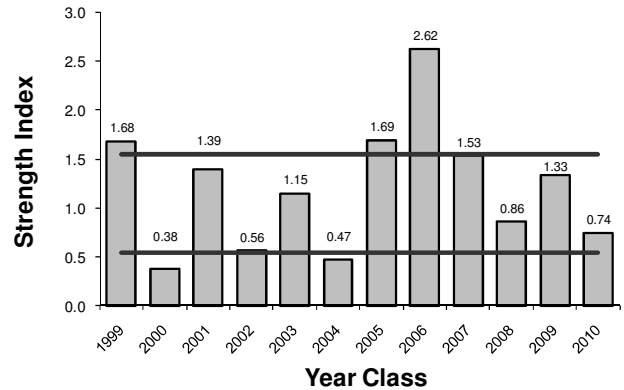


Figure 4-Sauger year class strength, 1999 to 2010. Note that the 2010 strength is predicted. The horizontal lines are the bounds of strong and weak year classes. If a bar is higher than the upper line it is a strong year class, if a bar does not reach the lower line, the year class is weak.

The average annual sauger harvest from 2002 to 2006 was 292,000 pounds. Sauger target harvest is 250,000 pounds per year. In contrast to walleye, where most fish are harvested in the summer, **87% of the sauger harvest is through the winter** Lake of the Woods fishery, while **12% is through the summer** south shore-based fishery. The remaining 1% is harvested on the Rainy River and Northwest Angle-based summer fisheries.

Sauger grow at a much slower rate than walleye, do not get as large as walleye, and do not get as old. Typical lengths for sauger sampled during the fall assessment are 6 inches for age-1, 8 inches for age-2, 10 inches for age-3 and 12 inches long for age-4. Last year the longest, and oldest, sauger sampled was a 17-inch, 16 year old female.

The **Yellow Perch** population of Lake of the Woods can best be characterized as having highly variable abundance. Yellow perch appear to go through periods of poor recruitment with infrequent periods of high recruitment. From 2003 through 2010 yellow perch abundance declined, due to poor recruitment. Fall 2011 sampling seems to show that a strong year class of yellow perch was produced in 2010. Despite not being fully recruited to the sampling gear (many are still too small to be captured efficiently in the gill net), these 5-inch long perch comprised 34% of the sample and were a major contributor to the increase in yellow perch abundance.

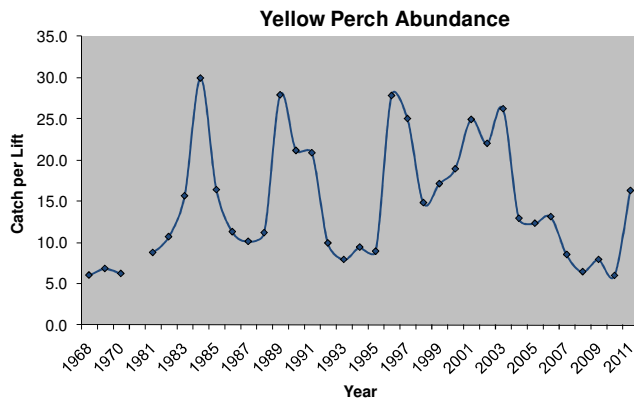


Figure 5-Yellow perch abundance from 1968 to 2011.

Long-term average yellow perch abundance is 14.7 per gill net. In 2011, yellow perch abundance increased to 16.3 perch per net, from 6.0 in 2010.

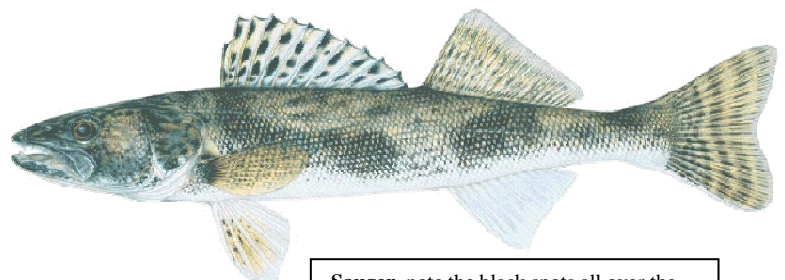
Though typically not as abundant on Lake of the Woods as they are on better known yellow perch lakes, the perch population on Lake of the Woods has a high quality component to it. Almost 30% of the sample collected in fall 2011 was longer than 10 inches. The longest yellow perch sampled in fall 2011 was a 13.2-inch female, and individuals of over 14 inches long have been sampled, though infrequently.

Creel Survey

Creel Survey is the assessment tool used to measure the number and pounds of fish anglers harvest from a water body. The value of a creel survey is twofold. First, since a safe level of harvest has been determined for Lake of the Woods, creel survey gives insight into where actual harvest is relative to the safe level. Secondly, creel survey provides the ability to see what the consequences of management actions are on anglers. The most significant management action that has been undertaken on Lake of the Woods is the implementation of a reduced limit and the protected slot (for walleye). This action was undertaken to reduce harvest to the safe level. In other water bodies creel survey may be used to gauge the effectiveness of regulations designed to improve the size structure or overall abundance of a fish population.

Summer creel surveys were annual on Lake of the Woods from 1981 through 2007, and winter surveys were conducted most years between 1989-90 and 2006-07. Annual creel surveys on Lake of the Woods were discontinued after 2007 due to the funding shortfalls affecting the Fisheries Section. A winter survey, followed by a summer survey have been planned and scheduled for the winter of 2011-12 and the summer of 2012.

During your fishing day you may be contacted by a creel survey clerk. You will be asked to provide the time you started fishing, how many fish you have kept, and how many were released. A subset of all interviews will also require that kept fish are measured, and you may be asked for approximate lengths of any released fish. Though participation in the creel survey is voluntary, your voluntary cooperation would be greatly appreciated!



Sauger, note the black spots all over the dorsal fin. Many sauger have some white on the caudal (tail) fin

The most important information that creel survey provides on Lake of the Woods is the level of harvest. If harvest can be maintained at a safe level, fish populations will remain abundant and healthy, and continue to provide a high-quality angling experience.

Additionally, creel survey provides concrete information (such as angler success rates and size of fish caught) about the fishery, and therefore provides an unbiased picture of how management actions influence angler participation and experience.

Finally, let me share that Lake of the Woods is a healthy system, and for that reason alone should be studied. Knowing how a healthy system looks and behaves can provide guidance for the rehabilitation of perturbed systems.

The Fisheries Section is funded almost entirely by angling license fees and an excise tax on fishing and boating equipment. Angling license fees have not increased since 2001, and inflation has decreased the purchasing power of the fees that have been collected. To continue to fund science-based management, increased funding, through a fee increase on angling licenses, is needed. Please consider supporting the license fee increase proposed by Governor Dayton. For a more thorough look at current and proposed license fees, please see: <http://www.dnr.state.mn.us/heritage/index.html> on the Minnesota DNR web site.

Miscellaneous Regulations

Eating fish while you are on the ice. In Minnesota, many lakes and rivers have length restrictions governing fish harvest. When ice fishing on these waters, including Lake of the Woods and the Rainy River, all harvested walleye and northern pike must be intact and measurable, *unless a person is in the act of preparing and using the fish for a meal on the ice*. Don't forget that any fish you catch and consume, during a day, are part of your possession limit. Also, it is illegal to dispose of fish carcasses on or under the ice in any public waters. Finally, it is required that anglers retain measurable carcasses (don't cut off heads and/or tails when cleaning) of any fish consumed to confirm compliance with size restrictions.

Fish house licenses. Fish houses or dark houses require shelter licenses only if they are left unattended/unoccupied, on the ice, overnight. "Overnight" is defined as the hours between sunset and sunrise. These times are available in the Sunrise/Sunset Tables in the fishing regulation book. The owner's name and address, or driver's license number, or Minnesota DNR number must still be affixed to all fish houses. Fish houses left on the ice overnight also need to have at least two square inches of reflective material on each side of the house.

For other regulations, and some safety tips, specific to fish houses, see pages 61-64 in the 2011 fishing regulations guide.

Common Fish and Game Violations

Possession of northern pike within the protected slot. On Lake of the Woods, the Rainy River, Baudette River, Winter Road River and Warroad River, possession of northern pike from 30 through 40 inches is illegal. Only one northern pike longer than 40 inches may be possessed. The possession limit is three.

Possession of filleted fish on the ice/water. Fish with length restrictions may be filleted on the water/ice immediately prior to being cooked and consumed in a meal. It remains illegal to transport filleted walleye or northern pike on the water/ice. This regulation is enforced "on the water/ice" for walleye and northern pike. For other species with length limits (such as lake sturgeon or muskellunge), it is illegal to cut up the fish in a way that length cannot be determined while the fish is being transported.

Another common violation related to filleting fish occurs when **transporting sauger**. Unless packaged by a licensed fish packer, sauger must be transported in the round (gutted and gilled only). If sauger are reduced to fillets for transport, they will be counted as walleye.

Finally, don't forget to **leave a one-inch square patch on all fillets**, and package fillets so that the number of fish they represent can be easily determined. *Fish can only be reduced to two fillets.*

In order to prevent the spread of a disease (Viral Hemorrhagic Septicemia or VHS) from waters where it has been identified, to Minnesota, **only preserved rainbow smelt and cisco may be used for bait**, when those species are used as bait fish. To qualify as preserved, the bait fish must be labeled, and the label must be retained by the angler until the bait has been used up. Preservation can only be done by DNR permit. Note that rainbow smelt purchased from grocery stores, and packaged for human consumption, **do not comply with this requirement**.

DNR Web Site

The DNR maintains a Web site at: <http://www.dnr.state.mn.us/index.html> . This Web site is loaded with information regarding not only fisheries and wildlife management, but also all of the other services that the DNR provides. For information specific to the Baudette fisheries management area, go to <http://www.dnr.state.mn.us/areas/fisheries/baudette/index.html> .