



Cass Lake Fisheries

Information

Newsletter

Winter 2011-2012

An annual fisheries e-newsletter for the Cass Lake Chain of Lakes

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Interesting Links

Lake Associations

Lake Andrusia Watershed Association

www.paulbunyan.net/users/quam/andrusia

Turtle River Watershed Association

www.trwa.ws/

From the Editor

Greetings, Cass Lake enthusiasts. I hope everyone had a great summer, enjoyed the mild fall, and is ready for winter. I apologize for the tardiness of this newsletter (usually I send it out in April or May), but this past year has been busy.

In March, we held a public information meeting at the Pike Bay Town Hall and presented results from the walleye study we concluded in 2010. The results improved our understanding of walleye population dynamics in the Cass Lake Chain and were well received by the audience.

Also this past spring, we conducted ice-out trap netting for northern pike. Just a couple weeks later we were back to complete phase 1 of a muskie trap net and electrofishing survey to provide us with size distribution data and a population estimate.

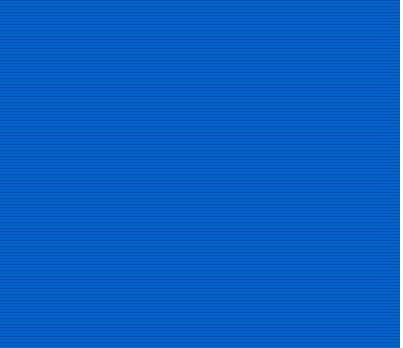
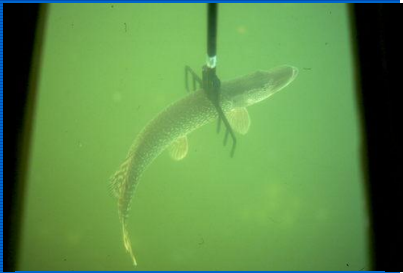
I was pleased to hear many good fishing reports from the lake this past year. Walleye fishing in particular was, by and large, good throughout the year. Our walleye assessments suggest that adult walleye abundance is up a bit and that a good number of young-of-year walleye were produced in 2011. I haven't had a chance to crunch all of the numbers yet, but things are looking good.

As I write this, folks are starting to venture out on the ice. As always use extreme caution, particularly when venturing out the first time, and avoid areas that are likely to have thinner ice (inlets, outlets, narrows, etc.).

As many of you know by now, there was legislation passed earlier this year to repeal the spearing ban on Cass Lake. To document the effects of this regulation change, we will be conducting a creel survey this winter to estimate angling and spearing pressure and harvest.

As always, if we run into each other around the lake, please take time to introduce yourself.

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Spearing Ban Removed by Legislature

During the past legislative special session, the spearing ban that has been in place since 1988 on Cass Lake was removed. Staff in our office were very busy throughout the last legislative session providing information requested for discussion with legislators and testimony in committee hearings. Historical information was provided on the original process, the previous regulation review, and potential impacts to the northern pike fishery.

Regardless of your personal opinion on this issue, and the outcome, be assured that we did our best to provide fair and objective analysis of the available biological data. However, we do not control the social and political factors that also influence these decisions.

In an effort to continue to collect information to evaluate the future effects of the removal of the spearing ban, we sampled the northern pike and muskie populations in spring 2011 (i.e., prior to the removal) and will be conducting a winter creel survey during winter 2011-2012.

Cass Lake Chain Walleye Study Summary

At a public information meeting in March, we presented the results of a two-year study of the walleye population in the Cass Lake Chain. The objectives of the study were to generate two population estimates of the abundance of adult walleye in the Chain and compare them, estimate the abundance of mature females, and determine how many wild fry were produced by these spawning females. The results were well-received by attendees...it's always nice to report on a fishery when things are going well! I should stress that we did this study to understand walleye population dynamics in the Chain at a time when the population is perceived to be doing well.

Here are some of the highlights of what we learned:

- The walleye population throughout the Chain is functioning as a single population and thus will be managed as one system.
- Our two independent population estimates for the Chain were in agreement (approximately 40,000 adult walleye)
- The current abundance of mature female fish is near the midpoint observed since 1983. This level of mature female fish appears to be sufficient given current stocking levels in the Chain.
- During the fall assessment, the majority of the mature female population (89%) was found in Cass Lake.
- Approximately 1 million wild walleye fry were produced in 2010. This was less than predicted, but within the range expected given the abundance of mature females. Early indications are that the 2010 year class was below average, but we won't really know for a few more years when these fish are sampled in future gill net assessments and year class strength can be calculated.
- The majority of wild fry were produced in the Mississippi River and associated lakes (i.e., Big Wolf, Andrusia), which suggests the presence of high quality spawning habitat. However, there is likely annual variations that influence where fry are produced due to other factors (e.g., flow conditions, timing of ice out, etc.).
- The level of stocking currently taking place throughout the Chain is significant given the level of natural reproduction. It also appears our stocking efforts are well directed as the lakes with the lowest wild fry estimates (Kitchi and the Rice Lakes) are the ones stocked.

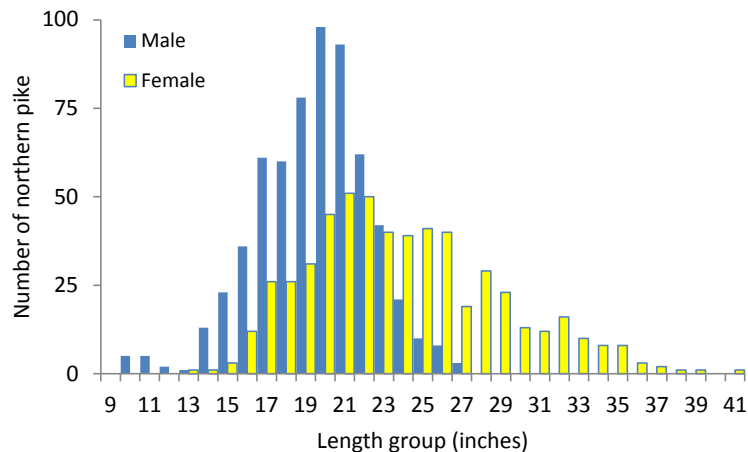
Overall, the walleye population in the Chain appears to be in good shape. The abundance of spawning females is good, but not excessive. Natural reproduction was less than anticipated, but may be the result of unusual spring conditions in 2010 and production of a below average year class (if indeed 2010 turns out to be below average). Because there is much variability in factors affecting wild fry production, we have plans for follow up studies to further evaluate wild fry production as well as the effects of our stocking practices throughout the Chain on the walleye population.

Winter Creel Survey

Our winter creel survey began December 9th. Many of you are familiar with creel (angler) surveys and have been interviewed as part of a summer survey on Cass Lake (the last one was in 2009). This will be our first ever winter creel survey of Cass Lake. Historically, fishing pressure was too low to warrant a winter survey. However, with the increasing popularity of ice angling as well as the re-opening of the lake to darkhouse spearing we will be conducting a survey this winter to measure angling pressure, spearing pressure, and fish harvest. Our creel clerk will be traveling the lake on a 4-wheeler or snowmobile and may ask for your participation in the survey. He will ask questions regarding what species you are targeting, how long you have been fishing, how many fish of each species you harvested, released, etc. He may also ask you estimate the lengths of released fish and measure your harvested fish. The information collected allows us to estimate total harvest and the size distribution for each species. Participation is optional, but we encourage and appreciate your cooperation.

Spring Northern Pike Assessment

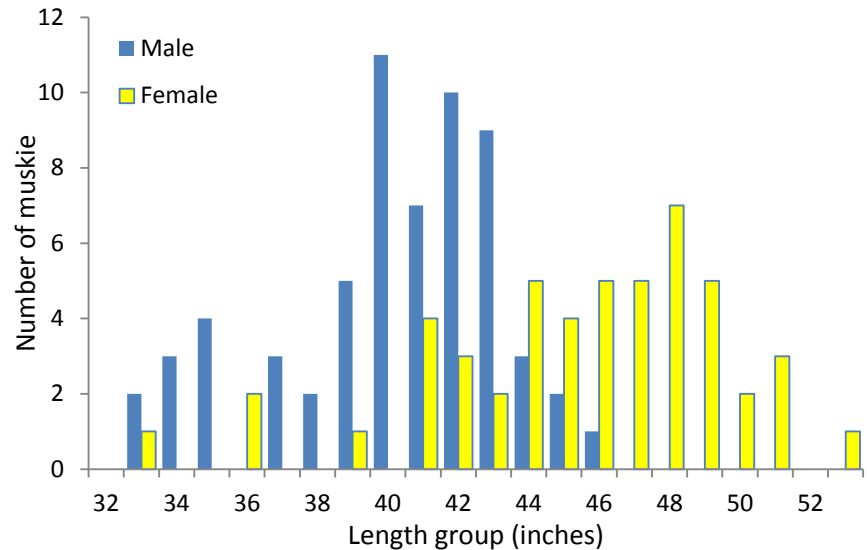
Last spring's sampling season started out with an ice-out netting effort for northern pike. The key to sampling northern pike efficiently is to be out there as soon as the ice starts to pull away from shore. Fish were captured in trap nets (and subsequently released) as they move along the shoreline looking for a place to spawn. We started sampling in mid-April and captured almost 1,200 northern pike in a little over a week of sampling. Most fish were sampled in Allen's Bay, though efforts were made to sample fish throughout the lake. There were a number of quality-sized fish sampled, though few fish over 36 inches were observed. One thing is for sure, what Cass Lake pike lack in length they make up for in girth – they were very chunky! These data provide baseline length information prior to the removal of the spearing ban against which to compare future length data.





Muskie Assessment and Population Estimate

In addition to the northern pike assessment, we conducted a muskie assessment last spring. It was the first muskie assessment since 1997. Our 16-day effort consisted of trap nets and night electrofishing. We captured a total of 112 muskies and each received a small internal tag with a unique number before release. These tags are detected with a small handheld scanner, similar to one used at a grocery store. We will repeat the sampling this spring (2012) and compare the number of marked (tagged) to unmarked fish. From this information we can produce a population estimate of muskies for spring 2011. The largest fish (pictured top left) was just shy of 54 inches.



2011 Population Assessment

The walleye population of Cass Lake is healthy, and consists of good numbers of fish distributed among many different year classes. The 2011 gill net catch rate of 13.2 fish/net was near the long-term median catch rate (12.9 fish/net), and greater than 2010 (9.5 fish/net). Angler catch and harvest rates should remain good in 2012, as we still have an abundance of eater-sized walleyes in the 12 to 16-inch size range. The lower end of this size range is comprised of fish from the strong 2008 year class. These smaller fish will make for a good fish fry or two and, as always, there should also be a scattering of quality-sized fish available up through 28 or maybe even 30 inches.

Our young-of-year (YOY) walleye sampling efforts (trawling and electrofishing) suggest that walleye spawning success in 2011 was good. Electrofishing catch rates of YOY walleye have proven to be a pretty good predictor of future year class strength and this year's catch rate (91.8 YOY walleye/hr) suggest the 2011 year class will be moderate to good.

The yellow perch population in Cass Lake is cyclic and appears to be driven by periodic strong year classes. Currently, the yellow perch population is near average for both numbers and size distribution. Anglers should still have no trouble finding some keeper-sized perch for the frying pan, but it may take a bit of sorting.

See the last page of this newsletter for more information from the 2011 population assessment.

Minnesota DNR

MN DNR Website

www.dnr.state.mn.us

Permits and Contacts

http://www.dnr.state.mn.us/permits/water/water_permit_contacts_wrapper.html?id=BELT

Lakeshore Management

<http://www.dnr.state.mn.us/shorelandmgmt/index.html>

Bemidji Area Fisheries

www.dnr.state.mn.us/areas/fisheries/bemidji/

2012 Fishing Seasons

This year the season opener for walleye and northern pike is on Saturday, May 12. Largemouth bass season opens on May 26, and muskellunge opens on June 2. Anglers should remember the statewide "one-over" rule for walleye and northern pike. That rule states that an angler may have only one walleye larger than 20 inches and one northern pike larger than 30 inches in possession (even if each fish was caught on different days). Anglers should also be aware of the 48-inch minimum length limit for muskellunge, which is now in effect statewide.

Thank You Volunteers!

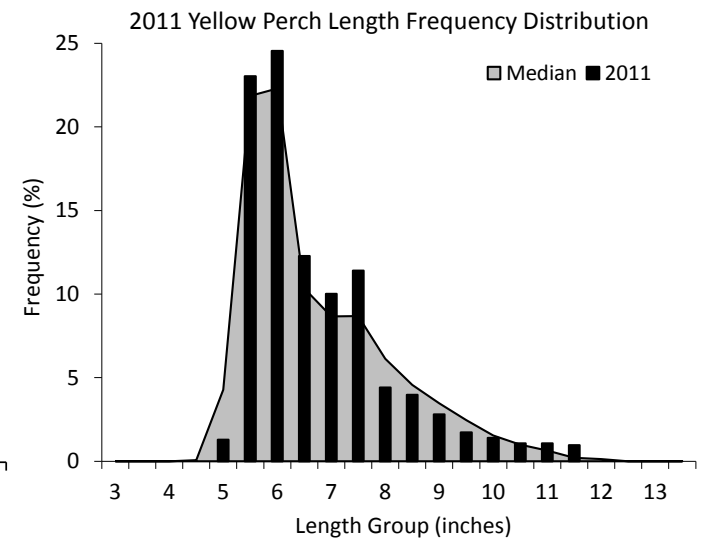
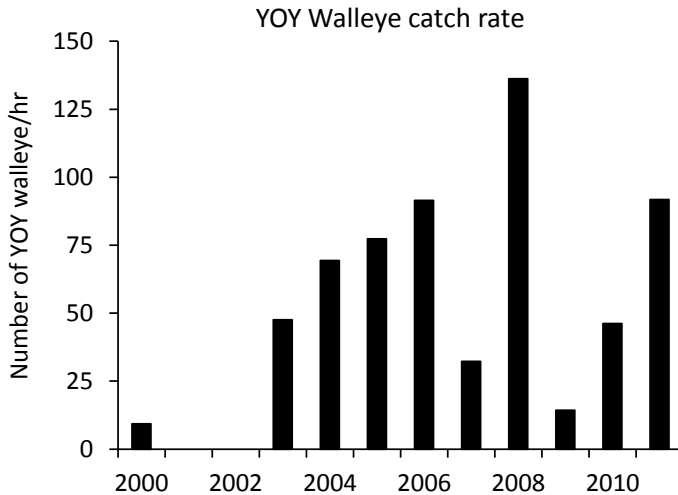
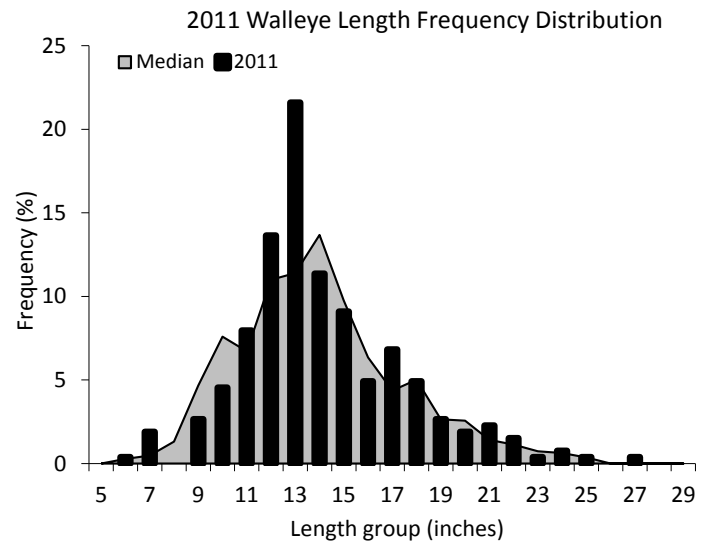
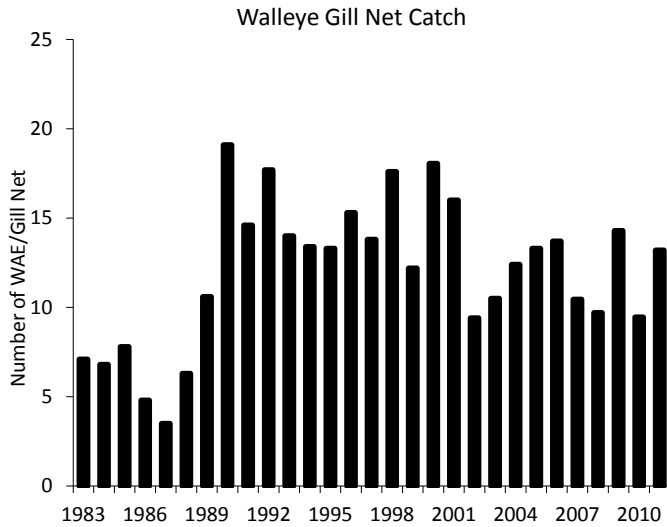
I want to thank all of the volunteers who donated their time to assist with our assessments this past year - particularly the northern pike and muskie sampling. Spring is an extremely busy time of year with a small window of time to complete sampling. Volunteer assistance on Cass Lake helped increase the number of days and fish we were able to sample and ensured that the focus of other Fisheries staff could remain on our "normal" spring activities. I don't have room to list the names of all of the volunteers, but know you are appreciated. If you are interested in assisting with future sampling efforts, feel free to contact me using the information below.

Area Fisheries Office Contact Information

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Cass Lake 2011 Walleye Population Assessment Summary



- The 2011 walleye gill net CPUE (13.2 WAE/net) was greater than the 2010 catch rate (9.5 WAE/net) and similar to catch rates during the 1990s.
- Size structure of the 2010 walleye sample showed a wide distribution. There were more fish in the 12- to 13-inch range compared to the median distribution, which reflects good numbers of age-3 fish in the population (i.e., a strong 2008 year class). There were also slightly more 17-inch fish in the sample compared to the median.
- The electrofishing catch rate for young-of-year walleye suggests that the 2011 year class will be good to strong. Note the catch rate of YOY walleye in 2008 that produced the above-average abundance of 12- to 13-inch fish in the 2011 length frequency distribution graph above.
- The length distribution of the yellow perch population was similar to the median distribution with a few less fish in the 8- to 10-inch length groups. There appears to be good numbers of fish just under 8 inches that should grow into “keeper” sizes in the next few years.