

2009 Eastern Lake Superior Management Unit Newsletter

Newberry Operations Service Center, Newberry, MI

Dear interested angler,

Here in Newberry, we are finishing our analyses of fish growth, population dynamics, and management options for last summer's survey waters. We are also working on net and other equipment repairs. Spring is coming, although too slowly, and we are getting fired up for a new season of survey work. As a reminder, a map showing current Upper Peninsula management unit boundaries can be found on the DNR website under the Fisheries section, and also at the end of this newsletter.

A new unit manager, Todd Kalish, joined us in 2008 for three months in the summer, then transferred back to the Central Lake Michigan Management Unit in Cadillac, where he had originally been working as a fisheries biologist. So, we are still without a unit manager. Our economic situation is dire, and projected to get even worse next year. Travel will be curtailed, including some scheduled surveys and meeting attendances.

What's New with Fish Surveys

With few exceptions, historical fish surveys collected little information other than fish population data. In the early days, a fish survey involved a few hours of fishing or talking with anglers, and later evolved to the use of a few gill nets. Due to influences by man and natural changes, it is important to collect additional data to help us understand the changes that may be happening to a water body, in order to manage it for a sustainable fishery. Some of these changes are not outstandingly obvious, but over a long period of time may become apparent. By sampling additional parameters besides fish data, we may be able to identify the causes of negative changes that are occurring to a water body, and offer protection or solutions that will help to overcome these problems. Collecting additional data increases the time spent on each water body, and reduces the total number of lakes and streams that we can survey each year. However, we feel that the more comprehensive information will help us to better understand and manage the resources. Fisheries personnel now are incorporating the following data collection into many of the surveys they conduct:

Lake Surveys

Samples collected include zooplankton, chlorophyll a, alkalinity, total phosphorus, nitrogen, ammonia, and the secchi depth. All samples are collected following a very specific methodology for each. Conductivity, pH, dissolved oxygen, and temperature measurements are taken at various depths from the surface of the lake to the bottom at the deepest point. Shoreline development is monitored. The number of dwellings, size and number of docks and percentage of shoreline armoring (rip-rap, sheet piling, concrete, gabions, boulders, and wood. etc.) are counted by segment and recorded. Submerged woody debris is counted as a way of evaluating this important habitat type around the entire lake in the shallow water zone. Quantitative vegetation assessment may be utilized in the future to monitor changes in habitat as well.

Net sites are described by GPS locations, habitat (woody debris and vegetation), bottom type, and other observations, along with weather conditions. Many types of nets are now used, with

concentration on impoundment nets rather than gill nets which kill most fish they catch. Fine mesh nets and seines sample the forage species as well as young game fish in addition to the larger mesh nets historically used to sample larger fish. Electrofishing after dark for additional species sampling is sometimes utilized as well. Exotic species if found are noted and entered into a special database. Turtle and amphibian sizes and numbers are also recorded.

Stream Surveys

A specific section of the stream is sampled using the appropriate electrofishing gear. Size of the river or stream dictates which equipment is used, which may be a backpack shocker, a small barge shocker which is pulled by hand, or an 18 ft boat equipped with booms. In addition to game fish, non-game species are also sampled. Fish are stunned with the electricity, netted, data and some scales taken, then released. These stream sections are assigned cross-section transects to be surveyed in great detail. In each transect, riparian zone data including shoreline vegetative type and bank stability are recorded. Across the transect, bottom substrate, size, embeddedness, water depth and flow velocity, undercut banks, channel width, habitat type, and many other parameters are recorded. For larger rivers with non-wadeable depths, we are beginning to use underwater cameras and other devices to obtain similar information.

Fish Rearing

We did not raise any walleyes or other fish species within the unit during 2007 or 2008. Lake Superior has not yet been contaminated with Viral Hemorrhagic Septicemia (VHS), and Fisheries Division is taking steps to protect it. There are currently no Lake Superior sources for walleye eggs, and we are trying to limit our potential for transferring the VHS virus into uninfected waters. Because of the continuing VHS problem, we will not be raising walleyes in 2009, either. We are hoping to get back into the walleye rearing business during the summer of 2010.

Creel Survey

Creel census clerks in the Eastern Upper Peninsula were employed last summer and fall at Grand Marais, Munising, the St. Marys River and Cedarville. Another clerk split time between Detour and St. Ignace. Data generated by all the clerks will be analyzed at Charlevoix. For each of those areas, we will see estimates of fishing pressure, species harvested, and catch per effort.

Creel Survey on Nawakwa Lake, Alger County

A part-time creel survey was conducted on Nawakwa Lake, Alger County, during the summer months. Analysis will be conducted in Ann Arbor at the Fisheries Research office and will be available in the near future. In the meantime, the creel clerk was surprised by the low numbers of anglers targeting the lake during summer months.

Tahquamenon River Spring Walleye Population Estimates (Below Falls)

The fisheries crew spent April 18-25 below the lower Tahquamenon River falls, capturing, fin clipping, and releasing walleyes. The number of recaptures compared with number of non-clipped walleyes later in the week allowed research biologists to estimate the adult walleye population in that section of river. A total of 1,147 walleyes were captured, of which only 142 were females. Females generally go to the spawning site for only a short time to lay their eggs,

leaving quickly afterward. Possibly for that reason, very few females were recaptured. The data are still being analyzed, but just over 3,000 adult walleyes were estimated.

Bullhead Removal Muskellunge Lake, Luce County

A spring bullhead removal on Muskellunge Lake from May 5-19 resulted in removal of about 10,100 lbs, or 33,400 bullheads averaging 8.6 inches. The previous 2006 removal took out 10,600 lbs, consisting of about 50,000 bullheads averaging 8.2 inches. In the past, we have stocked walleyes to control the smaller bullheads, which did not seem to work. Then, we took off the minimum size on northern pike so the larger pike would prey on bullheads. If the next netting survey does not show positive results from those removals, combined with pike regulation changes, it might be time to stop the removal efforts. The next survey will also provide data about whether to put a pike minimum size back into effect.

Concurrently with the manual removal, we conducted a northern pike population estimate. We produced a rough estimate of about 12,000 northern pike in the lake.

Surveys of Interest

We conducted a number of surveys during 2008, which were all extensively analyzed. The complete analyses would require many pages of data, so the following summaries will only hit the highlights. More details from every survey are available by contacting Jim Waybrant at the Newberry Operations Service Center. Listed below are some of the surveys that we completed.

Bass Lake, Luce County, 145 acres

During late August, 2008, dissolved oxygen was present down to about 30 ft and mid-50s temperature, providing adequate cool water refuge for pike, walleye, and perch. The generally sand shoreline had many downed and partially submerged trees, providing nearshore shelter and solid substrate for algae and aquatic insect colonies. Alkalinity, however, was very low, and could easily be limiting the aquatic invertebrate production.

The lack of balance between predator/prey species observed in the 2008 Bass Lake survey was still a concern, but it was not as unbalanced as it was in 2001. Northern pike were still growing well, while yellow perch growth rates had fallen slightly. Although all growth rates were acceptable, the observed forage base still appeared incapable of sustaining the high proportion of predators. Walleye age composition data from past surveys indicated that some walleye natural reproduction was occurring. However, this lake was last stocked in 2002 and 2004, and no walleye captured in the 2008 survey was younger than age 7 (from 2001). Older walleyes appeared to represent non-stock years as well as stocked, but there was no representation from either the more recent stockings or from recent non-stock years. Non-representation in the survey may not be a simple sampling anomaly, because the walleye growth index concurrently slowed 3 inches in the last seven years. It appears time to stop stocking walleyes, at least for the next few years. If the next survey indicates a more realistic community balance and dynamics, we can consider resuming the stocking program.

Big Trout Lake, Marquette County, 27 acres

Big Trout Lake has been intensively managed for many years. It was chemically reclaimed in 1995 to get rid of fish species competing with the trout species in the lake. By 2001, it again

contained yellow perch, so manual removals were conducted in 2002 and 2004. The last removal resulted in what should have been a relatively stable fish community structure and the next survey scheduled for about 2014. This 2008 survey was outside of the local sampling interval. Statewide Status and Trends scheduling (extensive special protocol surveys) requested this survey to coincide with their previously determined schedule.

Oxygen and water chemistries were suitable for trout, although the temperature was perhaps marginal for brook trout. Although brook trout have been planted in the past, none were captured during this survey. Rainbow trout were also not caught, although riparians described catching several large rainbows during the past year. Species diversity appeared truncated compared to previous years in which largemouth bass and northern pike were also captured. Smallmouth bass and brown trout dominated the catch. The fish community appears to remain in a stable balance between cold and warm water species. We will likely continue to stock brown and rainbow trout at the previously determined rates.

Naomikong Creek, Chippewa County

This 2008 stream electrofishing survey was the last of a three-year status and trends survey protocol. However, the second year was not surveyed due to the Sleeper Lake Forest Fire and a beaver dam that inundated the whole survey site. Water temperature in 2008 averaged 62 degrees in July. There was a moderate amount of large woody structure and 2-3 ft deep scoured holes. The survey site is a natural stream supporting a "classical" brook trout dominated fish community. A total of 332 fish were captured, 163 of which were brook trout with 60 legal at 7+ inches. Three ages of brook trout were found. White sucker, creek chub, bluntnose minnow, brassy minnow, brook stickleback, longnose dace, mottled sculpin, central mudminnow, and northern redbelly dace were also present. This is an entirely natural fish community. No management changes are recommended at this time.

Silver Creek, Luce County

Silver Creek Pond is an 11-acre, U-shaped pond located at the headwaters of Silver Creek. The pond has been managed as a brook trout pond for decades. Downstream, Silver Creek itself supports a native brook trout population. There has been some question about migration out of the pond, but the level control structure with a surface discharge and 11 ft drop, is not conducive to trout movement. This October 2007 electrofishing survey captured many brook trout within the 500 ft section. Of the 52 trout captured, 18 were legal sized at 7-9 in, and their growth rate was just over an inch slower than state average. The trout were grouped in the deeper holes, and some of the males were ripe. Other species captured were blacknose dace, northern redbelly dace, sticklebacks and sculpins. There was abundant woody structure, shelter, and brush. However, there was no gravel substrate observed in the section. This section of creek would benefit from gravel placement, but it will probably remain a low priority due to difficulty of placement and the presence of native brook trout. Other than the possibility of a gravel placement project, we recommend no management change at this time.

Rock River, Alger County

This electrofishing survey was a random site, not part of the Status and Trends fixed site protocol. It was sited at the bridge in T46N, R21W, Sec 15, considerably upstream from the fixed site. The fish community structure was similar to that observed during the three-year fixed

site surveys. Growth rates of the brook trout were all generally good. White suckers averaging 7.5 in comprised about half of the catch, while brook trout comprised almost half. Other species were blacknose dace, creek chub, mottled sculpin, central mudminnow, northern pike, rainbow trout, and yellow perch. A 2006 summer water temperature profile found average July temperature of 65 degrees. The USFS has done considerable work in this river system, and has produced a Status Report and management plan. Current survey results continue to corroborate the USFS data and plan.

Tahquamenon River, Luce County

This survey was a random status and trends boomshocking survey, sited immediately upstream from the McPhees Landing boat launch. The observed fish community is very different from previous surveys titled "McPhees Landing," which was a site several miles downstream from this random survey site. There are no holes deeper than about 3 ft within this site, and only modest amounts of downed trees. It is likely that most of the observed difference can be directly correlated to habitat differences between sites. Brown bullhead, white sucker, northern pike, and walleye were present. The 15 northern pike that were analyzed produced an annual mortality estimate of 67%.

This river has been extensively surveyed, and the large proportions of bullheads and suckers found at this site are not cause for alarm at this time. Anecdotal angling summaries from 2008 describe an excellent walleye harvest, the presence of large yellow perch and a modest muskellunge harvest. Results from this survey will help provide a better fish community profile throughout the length of the river.

Nawakwa Lake, Alger County, 399 acres

Nawakwa Lake fish community has been continually coming into better balance and dynamics since our 1994 survey. Northern pike in 2000 grew faster than they did in 1994 but similar to 2008. Pike in 2008 comprised 44% of the catch biomass, with 21% greater than 24 in. Walleye growth in 2000 had increased from 1994, and by 2008 had increased even more. Walleye comprised 19% of the catch biomass in 2008, with 88% greater than 15 in. The sucker component has remained stable at a small component of the catch biomass, enough to provide forage for the pike. Brown bullhead numbers in 2008 were much lower than in 2000, while their average size fell from 11.3 in to 10.4 in. Yellow perch were the only other species that showed a significant population change. The perch catch biomass was 0% in 2000, increasing to 9% in 2008, concurrent with a slight increase in average size.

Most management concerns for Nawakwa Lake were alleviated by the 2008 survey. Sucker numbers have been holding steady, providing soft-rayed forage for northern pike. Rock bass and scarce smallmouth bass populations are holding steady, providing secondary angling targets. Walleye numbers are good, concurrent with better growth. Yellow perch numbers have rebounded, while bullhead numbers have fallen. The remaining management concern for Nawakwa Lake is harvest regulations for northern pike. Pike currently are regulated with 0 in minimum size, despite their good growth and relatively large average size. A half-time summer creel census was conducted during 2008, which found few anglers and minimal harvest. Implications are that there is not enough angling harvest for the relaxed pike regulation to make a

significant difference. The potential change back to standard harvest regulations should be revisited in the spring.

Deadmans Lake, Luce County, 26 acres

The Deadmans Lake water level in the early 80's was much higher than it has been since then. At that time, the two opposing points were flooded, and the garage of the house on the north point (now but a foundation) was flooded and bluegills were spawning within the garage. In 2008, those opposing points came close to completely bisecting the lake. MDNR personnel estimated the lake in 2008 at 8-10 ft lower than it was in the 1980s. Such a change in level not only decreased lake volume, but also removed woody structure from the submerged shoreline. The lake had been low for so long, however, that emergent vegetation had colonized along the new shoreline. One can still navigate the small canals between each pool, but not with a large boat.

The fish community continued to be dominated by largemouth bass and bluegill. Largemouth bass and bluegills dominated the fish community. Growth rates for all species were a bit slow, but bluegills and pumpkinseeds were quite large, and half of the yellow perch were over 7 inches. Those large sizes implied minimal or modest angling harvest. In contrast, only 1% of largemouth bass were 14+ inches. That size frequency is often correlated with extensive angling harvest. The one northern pike captured was 27 inches. This lake's fish community structure is very similar to what it was in 1999. That stability implies that this lake is probably doing as well as possible, given the low lake level and extensive largemouth bass angling harvest. No change in management is recommended.

Kingston Lake, Alger County, 100 acres

Kingston Lake is a relatively shallow lake with an extended series of relatively deep reed-lined canals extending to the northwest of the state forest campground. The lake water level has been low for almost two decades, and was very low during this May 2008 boomshocking survey. Cement planks at the boat launch were several yards upland from the water's edge. Survey data and campground observations implied that this lake was experiencing heavy angling pressure and harvest of all sports fish species. Even so, Kingston supports populations of both largemouth and smallmouth bass, some walleyes, and a good population of northern muskellunge. It also supports modest populations of perch and panfish. Age data show that all fish species were reproducing naturally, even though muskellunge and walleyes apparently had only limited success. Growth rates appeared good. For this special 2008 boomshocking study, however, we targeted only the four predator species during mark and recapture efforts. Catch biomass of muskellunge was greatest, followed by walleye, largemouth bass, and smallmouth bass. The single recapture effort did not produce enough recaptures to make valid population estimates for any of the four species.

At this time, anglers can catch good numbers and sizes of bluegill, largemouth bass, northern muskellunge, pumpkinseeds, smallmouth bass, walleyes and an occasional mature perch. Because the lake is much smaller than the previous estimate, we plan to decrease the size and frequency of the muskellunge plant. The change in stocking regime will allow anglers to continue to fish a balanced fish community.

Bone Lake, 159 acres and Mink Lake, 82 acres, Luce County

These Little Two-Hearted Lakes are very isolated and historically provided only a modest fishery. This 2008 netting survey was conducted to see if anything had changed in either Bone or Mink Lakes. All fish captured appeared to be growing slowly. Dominant age classes for pike were 3 and 5, for pumpkinseed sunfish was 8, and rock bass were 5, 6, and 8. The only perch captured was age 8. There does not seem to be significant angling related harvest. Bullheads comprised over 90% of the catch biomass in both lakes, averaging only 6.0 inches. Compared with bullheads in other local lakes, average size in these lakes implied these bullheads were extremely stunted. We recommend no change in management at this time.

Pike Lake, Luce County, 292 acres

Pike Lake has suffered from a skewed fish community structure and poor growth rates for almost twenty years. Several manual removals of bullhead and white suckers were conducted in the early 1980s, and walleye stocking was extensive. Beginning in the late 1990s, attempts were made to bring the community into a better total balance. Because there was evidence of walleye natural reproduction, stocking was stopped. In 2003, however, there was concern about the small walleye population and limited natural reproduction, so a much reduced stocking program was resumed. Unfortunately, due to VHS concerns, no walleyes have been stocked since 2005. Water chemistry profiles in 2003 showed that sufficient dissolved oxygen disappeared in August at about 16 ft. The same event occurred in 2008, which verified that 2003 was not an anomaly. For that reason, the fish community during summer months appeared to be confined to only the upper 16 ft of water volume. That depth, however, still allowed fish access to the shallow shoal areas in the east bay.

This 2008 netting survey was scheduled because of the uncertainty attached to the reinitiated walleye stocking program. The initial hesitancy concerned predation on an almost non-existent perch population, slow walleye growth rates, and competition with northern pike that never grew large enough to become legal at 24 in. Fish community structure and balance appeared much improved from the 2003 survey, which itself showed improvement over the 1999 and 1995 surveys. Growth of all sports fish species showed improvement, while younger northern pike and walleye were growing very well.

The percent of the catch biomass represented by forage species increased from 22% to 39%, compared with the 2003 survey, while predator biomass decreased from 69% to 59%. More species were represented in the 2008 forage calculation, including larger proportions of golden shiner, common shiner, and spottail shiner. Concurrently with the increased growth rates, this data implied that the lake was slowly returning to a more stable, sustainable fish community structure. There was no recommended change in management.

Tank Lake, Luce County, 36 acres

The lake was treated with rotenone late in the fall of 2002. No splake were found in the post reclamation kill estimate. The 2008 netting survey found an entirely different fish community. Species present were brook stickleback, fathead minnow, northern redbelly dace, and splake. Fathead minnows comprised 3.6% of the catch biomass, while splake comprised 96.4%. Splake were also growing quite well. Four year classes were captured with sizes up to 18 inches, with

46% legal at 10+ inches. The splake were doing very well, with the other three small species providing forage. There was no reason for a change in management protocols.

Betsy River, Chippewa County

This Betsy River electrofishing survey occurred August, 2008 downstream from the South Branch. The staff at the Newberry Office had heard periodic stories about large brook trout in the area, and decided that it was time to look into it. Water chemistry was good, with 62 degree temperature. Even so, we did not capture many brook trout, and in fact no trout larger than 8 inches, which was growing at roughly state average. This survey effort captured nine species, of which brook trout comprised only 7.5% of the catch biomass. The others were small white suckers, small yellow perch, small burbot, small pumpkinseed sunfish, longnose dace, blackside darter, creek chub, and sculpins.

The bottom substrate within this survey site was mostly sand, but there were deeper scoured holes underneath downed trees and on the outside of bends, as well as a few small grassy islands. The habitat looked like it should have supported larger fish. However, there was one apparent anomaly. Despite the appearance of good habitat, none of the submerged solid surfaces including woody structure appeared to be colonized by aquatic insects. Perhaps this situation will be worthy of a concentrated research study. Until we better understand the dynamics of the macroinvertebrate (aquatic insects and crayfish) community, no change in management is recommended at this time.

Linton Creek, Luce County

Two sites were shocked on the most southern branch of this system (the main branch). Brook trout were only found at the Camp 7 Road site, which had a few deeper holes. The Halifax road site looked like it should have held trout, but it was extremely dense with tag alder, and very difficult to shock. The south Branch of the Linton was dry when we crossed it at Halifax road, and was clearly an intermittent stream. The North Branch at M-123 had a very small pool at the culvert, but had no flow, and was intermittent as well.

The Camp 7 Road site produced 28 brook trout, of which only one was legal at 7 inches. The only other fish captured was one mottled sculpin. The Halifax Road site produced blacknose dace, creek chub, northern redbelly dace, and mottled sculpins. This is a very small, natural fish community. The lack of legal sized brook trout implies that it is either already being fished quite heavily or that the larger trout are migrating to areas of larger water volumes. No change in management is recommended.

Hendrie River, Mackinac County

Both the West Branch and South Branch were surveyed in October 2007. The Hendrie system had not been surveyed in a long time, and it was time to see what was happening in the fishery. This survey was designed to estimate the stream fish community structure as well as describe the brook trout population. We did not capture any brook trout in the West Branch. The South Branch fish species we captured were blacknose dace, blacknose shiner, creek chub, fathead minnow, and white suckers, sculpin, and brook trout. Water temperature and dissolved oxygen were good. The two brook trout captured were 8 and 9 inches. Although not a statistically valid estimate, the two individuals appeared to be growing at state average. This stretch of small

stream contains many beaver dams, but it is unknown at this time whether their removal would improve the brook trout community.

Waiska River, Chippewa County

This August 2008 electrofishing survey was conducted to verify rumors of a modest brook trout fishery in the headwaters of the South Branch Waiska River. The site was from 12 Mile Road bridge upstream (south) for 500 ft. The stream averaged 11 ft width, 1.5 ft depth, and was almost entirely silt/clay substrate, and over 90% pool. Turbidity was extensive, visibility was poor. Temperature, though, was 62 degrees. The fishery appeared to be mostly minnows and young sports fish. The largest fish captured was a creek chub at 6 inch. However, one salmonid approximately 8 inch was observed but not captured due to the turbid water. Species present were black bullhead, coho salmon, creek chub, golden shiner, longnose dace, northern redbelly dace, pumpkinseed sunfish, rock bass, and mottled sculpin. Only 21 fish were captured during this survey. Headwater tributaries drain the coarse glacial material immediately south of the clay lake plains. Water temperature implies the potential for a sparse trout fishery in those smaller, cold streams. Even so, no management changes are recommended at this time.

The Waiska River tributary between Midway Road to the east and 12-Mile Road to the north had been a designated trout stream since the 1960s. When inspected last summer, it was intermittent, and not suitable for trout stream designation. We expect to remove it from the trout stream list during 2009.

Clear Creek, Chippewa County

Clear Creek is a tributary to the West Branch Waiska River, located south of Raco. Although Clear Creek has long been designated as a trout stream, there are no survey records in the file. The August 2008 survey was a general survey to find out what the fish community looked like. The upper reach of the survey site north of USFS #3534 had been a beaver pond in the past, but is now a grassy meadow with some tag alders. The fish community was dominated by brook trout. Other species were blacknose dace, sculpins, central mudminnow, northern redbelly dace, and brook stickleback. Captured brook trout were ages 2 and 3, and were growing well, even though not enough were captured to determine a growth index. This fish community is entirely natural. It will support a modest angling effort, but the stream is so small that the brook trout population could be easily damaged by excessive harvest.

Fall Walleye YOY Surveys:

Again this year we surveyed several lakes after dark using our electrofishing boat to look for young of the year (YOY) walleyes. Lakes surveyed included Pike Lake, Muskellunge Lake, Nawakwa Lake, Big Manistique Lake, and three sites at Munuscong Bay in the St. Mary's River. Fisheries personnel found more YOY walleyes at the Munuscong Bay sites this year than they had in any other year previously surveyed.

Muskallonge Lake, Luce County, 786 acres

No walleyes have been stocked in Muskallonge lake since 2006 due to VHS concerns. This 2008 survey was conducted to estimate the extent of natural reproduction, if any. Seven YOY fish were caught, as well as one adult. The boomshocking site covered roughly one-third of the

shoreline perimeter, clockwise (eastward) from the boat launch. Numbers were considerably better than from the 2006 survey, a stocked year, in which only one YOY walleye was captured while shocking the entire perimeter. Empirical evidence said there is a modest amount of walleye natural production in this lake, which produced better survey results than from years in which it was stocked. It will be wise to not stock for a few years to determine how well that natural reproduction can support the modest angling fishery.

Nawakwa Lake, Alger County, 399 acres

The Nawakwa Lake boomshocking survey targeted the north-central peninsula and the bay to the west. A total of 104 walleyes were captured, of which only 2% were mature adults. The growth index was slower than state average, but much faster than the estimated from the 2000 netting survey. These results described an entirely natural walleye population; stocking was stopped in 1993. Numbers were good, and growth has been improving for well over a decade. The current management protocol of standard fishing regulations should continue.

Pike Lake, Luce County, 292 acres

The Pike Lake boomshocking survey covered roughly a third of the shoreline perimeter, the same location as all of the previous boomshocking sites. No walleyes were captured or observed in this survey. Fall recruitment surveys generally are designed so that the boomshocker follows the shoreline in water as shallow as possible. For that reason, captured walleyes are generally aged 0 or 1, with occasion 2 year olds as well. Even though our summer 2008 netting survey found good numbers of older walleyes, none younger than age 3 were captured. This survey verified those results, finding no young walleye.

Big Manistique Lake, Mackinac County, 10,600 acres

The Big Manistique survey covered approximately 3.5 miles of south shoreline. A total of 77 walleye were captured during the survey, ranging from 3-20 inches in total length. There were 15 YOY walleye (4/mile) ranging from 3-5 inches in length. Results of previous fall walleye index surveys had ranged up to several hundred YOY in the same distance.

VHS Sampling

As part of an ongoing statewide effort to monitor the spread of VHS, fisheries personnel from the ELSMU collected fish samples from many of our inland lakes for analysis. The good news: none of the samples collected tested positive for this disease.

Habitat Work

Stream improvement

Again this last summer, we worked on the upper Tahquamenon River, continuing where we left off in 2007. Woody debris that was slowing water current and blocking sand movement was rearranged to protect the banks and create better habitat for trout and aquatic invertebrates. The crew worked on about four miles of stream. Results of previous years' work have been very positive with numbers of naturally reproduced brook trout and angler enthusiasm about the restored fishery.

Sand Traps

We now have two sand traps working in the upper Tahquamenon River, upstream from County Road 442. We wanted to intercept the sand that had already moved downstream past the first trap. Due to stream improvement work done in 2007 and 2008, the upper sand trap required cleaning twice this year, in mid summer and late fall. We noticed that there was not nearly as much sand in the upper river now, compared to the late 1990's before we began habitat enhancement. Even so, the lower trap is also filling with sand and will need periodic cleaning. Technicians monitored several transects on the river again this year at this lower sand trap site, and compared data from previous years. Findings indicate that substrate and water depth has improved below the sand trap in this area.

Shelldrake Dam Erosion Repairs

Approximately 180' of the Shelldrake Flooding dike shoreline had eroded this past spring due to high winds causing damage from ice and waves. Technicians armored the eroded areas with 60 tons of stone rip-rap.

Buckies Pond Dam Removal

Due to poor survival of stocked brook trout and the rising cost of dam inspections and maintenance, the existing dam and control structure on the 6 acre trout pond was removed in late July and the stream was restored to its free flowing condition. Approximately 1570 cubic yards of material was removed from this site, and the area was seeded with a mixture of native grasses. Rock rip-rap and erosion control blankets were also utilized to minimize erosion and speed up stabilization of the slopes at this site.

Salmon Egg Take

Technicians assisted the NLHMU personnel for a week, again this October at the Swan River Weir at Rogers City. They were collecting Chinook salmon eggs to meet the statewide salmon rearing hatchery needs.

Impoundment Drawdowns in 2008

Dollarville Flooding – This drawdown, in late November 2008 after most of the trapping and duck hunting had occurred, will make it possible to inspect the dam for structural problems, replace lift gate hardware if necessary, eradicate unwanted aquatic vegetation, and compact bottom sediments. To control the vegetation and consolidate soils, the flooding will have to remain down through the winter and much of the coming summer. Refilling will take place in September 2009 before hunting and trapping seasons start.

Brockies Pond – This trout pond was drawn down gradually during the summer to replace the boards in the control structure. The existing boards were approximately 25 years old, and the lower boards were rotten. Because it had not been drawn down for such a long time, we are keeping it down for a year. Artificial impoundments lose their fertility over time, and need periodic “down time.” With a dry year, the winter freezing and summer drying will kill excessive aquatic vegetation and reconsolidate the soils. The pond will be refilled in late summer, 2009.

Millecoquins Pond – This trout pond was also drawn down gradually during the summer to replace the boards in the control structure. Constructed at generally the same time as Brockies Pond, the existing boards were also approximately 25 years old and becoming rotten. The pond will also be kept down for a year, and will be refilled in late summer, 2009. The extended down time will kill much of the heavy growth of chara (an aquatic plant), that makes the upper end of the pond virtually unfishable.

Forest Certification

Thousands of acres of state-owned forests are managed by the DNR. After an intense series of audits and modified documentation processes, the DNR is currently certified for forest sustainability through two separate world-wide organizations. The process of retaining certification, however, is a continuous one. As a result, every year we have many inter-divisional meetings, on-site inspections, and special documentation protocols for everything we do concerning forest and habitat management. There is much interaction between the individual MDNR divisions. Not all Forest Management Units are audited each year due to the extensive time and labor involved. The Sault/Naubinway Forest Management Unit was audited during 2008, and the Newberry Unit is scheduled for a similar intensive audit in 2009.

Eco-regional Planning

Fisheries Division continues to work with the other DNR divisions for development of an Eco-Regional Plan, a long-term, landscape scale planning process. The eco-regional plan is still being drafted, which will encompass all ownerships (public, private, and tribal) in the entire Eastern Upper Peninsula. That plan, however, is on hold while the current emphasis is on creating Management Areas in state forest lands. Management areas constitute Section 4 of the Regional State Forest Plan, with other sections also currently being drafted. A management area will consist of more than one state forest compartment, will be located all in the same watershed, will have similar geology, vegetative cover, and will generally be managed similarly. The regional state forest plan will be used to provide long-term management direction to DNR staff. It will also enhance forest sustainability and allow more opportunities for the DNR to work with private groups and other agencies. The plan will include a biodiversity conservation planning process, soon to be initiated, which will require input from all MDNR divisions. The eco-regional plan will be addressed again after completion of the regional state forest plan.

A REMINDER ABOUT EXOTICS: Exotic species such as the Zebra Mussel, Spiny Water Flea, Eurasian Water Milfoil, and others have been found in some areas around the Eastern U.P. For example, Eurasian Water Milfoil has been found in East Lake in Luce County and, more recently, Zebra Mussels were found in Twin Lake in Luce County. Please take precautions to prevent the transport and introduction of these from one lake or stream to another. They can potentially do much harm to your favorite lake. Drain all water from the livewell, bilge, and transom while on land, BEFORE leaving any water body. Empty your bait bucket there as well. Microscopic plant fragments or organisms can be undetectable to the human eye, but still can produce damaging populations in another lake. Clean your tackle, make sure they have no weeds adhered, as well as downriggers and other equipment. Before going to another water body, let your boat and trailer dry at least 5 days, longer is better. If you cannot wait, wash everything down with hot (at least 140°F) water thoroughly before entering new waters. If you

have no access to hot water, rinse everything with a mixture of one cup of chlorine bleach in 10 gallons of water to kill all exotics.

A REMINDER ABOUT TROUT LAKES: The use of minnows is prohibited in all Designated Trout Lakes. This change is necessary to eliminate contamination by non-trout species in these single-species trout lakes. Such contamination results in poor trout survival, and eradication of non-trout species is both very expensive and labor intensive. Consult your 2008 Michigan Fishing Guide for more details.

May your 2009 be filled with GREAT FISHING!

Jim Waybrant, Chuck Payment, Frank Kolson, and Shawn Sapp

Eastern Upper Peninsula fish stocking during 2008

County	Species	Water	Number	Age
Alger	Brook Trout	Addis Lakes	1500	SF
Alger	Brook Trout	Bette's Pond	175	FF
Alger	Brook Trout	Cheryl's Pond	230	Y
Alger	Brook Trout	Cox Pond	100	Y
Alger	Brook Trout	Hike Lake	650	FF
Alger	Brook Trout	Irwin Lake	2,000	FF
Alger	Brook Trout	Johns Lake East	1,500	SF
Alger	Brook Trout	Johns Lake West	1,500	SF
Alger	Brook Trout	Rock Lake	1,000	FF
Alger	Brook Trout	Sawaski Pond	200	Y
Alger	Brook Trout	Sitka Lake	620	Y
Alger	Brook Trout	E. Br. Whitefish River	1,500	Y
Alger	Brook Trout	W. Br. Whitefish R	15,000	Y
Alger	Brown Trout	Big Indian River	3,500	Y
Alger	Rainbow Trout	Ackerman Lake	800	Y
Alger	Rainbow Trout	Mirror Lake	1980	Y
Alger	Splake	Munising Bay	44,000	Y
Alger	Steelhead	E. Br. Whitefish River	13,000	Y
Chippewa	Atlantic Salmon	St. Marys River	29,079	Y
Chippewa	Brook Trout	Dukes lake	420	AD
Chippewa	Brook Trout	Naomikong Pond	450	FF
Chippewa	Lake Trout	Detour Reef	100,015	Y
Chippewa	Rainbow Trout	Dukes Lake	1,250	Y
Chippewa	Rainbow Trout	Highbanks Lake	1,000	Y
Chippewa	Rainbow Trout	St. Marys River	2,000	AD
Chippewa	Steelhead	St. Marys River	20,000	Y
Chippewa	Walleye	Barbeau Area	5,000	Y
Chippewa	Walleye	Brimley Bay	108,436	SF
Chippewa	Walleye	Caribou Lake	900	Y
Chippewa	Walleye	Osborn Camp	6,660	FF
Chippewa	Walleye	Osborn Camp	33,657	SF
Chippewa	Walleye	Potagannissing Bay	80,750	SF

County	Species	Water	Number	Age
Chippewa	Walleye	Raber Bay	60,025	SF
Chippewa	Walleye	Raber Bay	666	FF
Luce	Brook Trout	Bullhead Lake	280	Y
Luce	Brook Trout	Dillingham lake	310	Y
Luce	Brook Trout	Holland Lake	400	FF
Luce	Brook Trout	Moon Lake	1,100	FF
Luce	Brook Trout	Silver Creek Pond	900	SF
Luce	Brook Trout	Spring Creek Pond	600	FF
Luce	Brook Trout	Syphon Lake	300	SF
Luce	Brook Trout	Teaspoon Creek	210	Y
Luce	Brook Trout	W. Br. Teaspoon Cr	320	Y
Luce	Brook Trout	Youngs lake	575	SF
Luce	Brown Trout	Tahquamenon River	4,000	Y
Luce	Lake Trout	Perch Lake	150	AD
Luce	Rainbow Trout	Camp 8 Lake	2,200	Y
Luce	Rainbow Trout	Pratt lake	1,000	Y
Luce	Rainbow Trout	Wolverine lake	440	Y
Luce	Splake	Belle Lake 1	1,944	Y
Luce	Splake	Pretty Lake	1,000	Y
Luce	Splake	Tank Lake	2,000	Y
Luce	Steelhead	Two Hearted River	10,000	Y
Mackinac	Brown Trout	Carp River	8,700	Y
Mackinac	Brown Trout	Castle Rock Pond	610	Y
Mackinac	Rainbow Trout	Castle Rock Pond	100	AD
Mackinac	Chinook Salmon	Lake Huron	40,000	SF
Mackinac	Chinook Salmon	Nunns Creek	251,320	SF
Mackinac	Northern Muskellunge	Round (N. Manistique)	1,700	FF
Mackinac	Rainbow Trout	S. Manistique Lake	1,200	AD
Mackinac	Splake	Lake Huron	37,500	Y
Mackinac	Steelhead	Brevoort River	9,000	Y
Mackinac	Steelhead	Carp River	9,600	Y
Mackinac	Walleye	Big Manistique Lake	3,250	FF
Mackinac	Walleye	Nunns Creek	52,020	SF
Mackinac	Walleye	St. Martins Bay	50,862	SF
Mackinac	Walleye	Round (N. Manistique)	650	FF
Schoolcraft	Brook Trout	Clear Lake	1,349	Y
Schoolcraft	Brook Trout	Driggs River	6,000	Y
Schoolcraft	Brook Trout	Kings Pond	660	FF
Schoolcraft	Brook Trout	Lost Lake	605	Y
Schoolcraft	Brook Trout	Manistique Quarry Pd	525	AD
Schoolcraft	Brook Trout	Mid Br Stutt Cr	930	Y
Schoolcraft	Brook Trout	N Br Stutt Cr	1,120	Y
Schoolcraft	Brook Trout	Neds Lake	450	Y

County	Species	Water	Number	Age
Schoolcraft	Brook Trout	Twilight Lake	1,400	Y
Schoolcraft	Brown Trout	Big Murphy Cr	1,060	Y
Schoolcraft	Brown Trout	Indian River	3,500	Y
Schoolcraft	Brown Trout	S Br Stutts Cr	1,000	Y
Schoolcraft	Brown Trout	Manistique River	10,000	Y
Schoolcraft	Chinook Salmon	Manistique River	43,000	SF
Schoolcraft	Northern Muskellunge	Big Island	300	FF
Schoolcraft	Rainbow Trout	Banana Lake	880	Y
Schoolcraft	Rainbow Trout	Bear (19) Lake	1,100	Y
Schoolcraft	Splake	Dutch Fred Lake	1,000	Y
Schoolcraft	Steelhead	Manistique River	9,000	Y
Schoolcraft	Sunfish Hybrid	Manistique Quarry Pd	1,612	AD

SF = spring fingerlings, FF = fall fingerlings, Y = yearlings, AD = adult

