Northern Inland Lakes Citizens
Fishery Advisory Committee

Established by the Michigan Department of Natural Resources, to improve and maintain fishery resources through better communication and partnership.

Northern Inland Lakes Citizens Fishery Advisory Committee Minutes

Friday April 10, 2015
Tuscarora Township Hall
3546 S Straits Hwy, Indian River MI
12:00 pm – 4:30 pm

Attendees: Brenda Archambo, Gil Archambo, David Bock, Paul Borg, Gina Burke, Jim Burke, Rick Colonna, Ron Dulak, Doug Dingey, Dennis Fauver, Dave Borgeson, Tim Cwalinski, Irv Dedow, Maxwell Field, Neal Godby, Patrick Hanchin, Seth Herbst, Rick Johnson, Brad Kessel, Frank Krist, Theresa Krist, Bill Parsons, Kevin Prediger, Roger Selvig, Virgil Smith, David Steenstra, Roy Tassava, Alan Terry, Terry Weber.

Welcome and Introductions: Frank Krist called the meeting to order. Attendees introduced themselves.

A look back and review of the comprehensive walleye study in the Inland Waterway. What did we learn and how do we move forward? (Seth Herbst, DNR Invasive Species Coordinator).

The following is a summary of the walleye study in the Inland Water (Burt, Mullett, Crooked and Pickerel Lakes) during 2011-2013. See the attached presentation for more details.*

A State/Tribal survey of Mullett Lake in 2009 resulted in an estimate of adult walleye substantially lower than an estimate in 1998. This led to the concern that more information was needed to better provide estimates of the number of adult walleye not only in Mullett Lake but also in the other three connected lakes within the Waterway so a major study was undertaken.

The **major questions** needing answering to better determine walleye abundance in each lake were the following: 1) What is the amount of movement of walleye between each lake during spawning and at others times? 2) How many adult walleye return to the same sites each year to spawn? 3) What is the reproductive success at the various spawning sites in the Waterway? 4) What factors limit successful reproduction and early life survival?

To gain answers to these questions, 12,906 walleye were captured and tagged while spawning in the lakes and rivers in the Waterway including: Burt Lake, Mullett Lake, Crooked Lake, Pickerel Lake, Lower Black River, Sturgeon River, Cheboygan River above the dam, Indian River and Crooked River. Approximately 10 to 21.5% of the tags were returned depending on the tagging site during the 3 years of the study.

The tagging results below show the movement of walleye between the lakes based on angler catches. Assumptions were made that walleye tagged in the Crooked and Sturgeon Rivers were Burt Lake fish, while walleye tagged in the Indian River were assigned in equal numbers to both Burt and Mullett lakes:

Walleye Tagged in Pickerel Lake

- 70% caught in Pickerel Lake
- 20% caught in Crooked Lake
- 9% caught in Burt Lake
- 1% caught in Mullett Lake

Walleye Tagged in Crooked Lake

- 87% caught in Crooked Lake
- 6% caught in Pickerel Lake
- 7% caught in Burt Lake

Walleye Tagged in Burt Lake

- 90% caught in Burt Lake
- 8% caught in Mullett Lake
- 2% caught in Crooked Lake

Walleye Tagged in Mullett Lake

- 86% caught in Mullett Lake
- 6% caught in Burt Lake
- 7% caught in Cheboygan and Black Rivers

Walleye Tagged in Black River

- 18% caught in Black River
- 77% caught in Mullett Lake
- 3% caught in Burt Lake
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There was substantial movement of walleye after spawning:

- About 80% movement out of Black River after spawning
- About 15% movement out of Mullett Lake after spawning
- About 10% movement out of Burt Lake after spawning
- About 15% movement out of Crooked Lake after spawning
- About 30% movement out of Pickerel Lake after spawning

To ensure a healthy year to year walleye population, fisheries science states that no more than 35% (exploitation rate) of each adult spawning population may be harvested annually on a regular basis. The State and Tribes have agreed to divide the fishery so that the State could potentially receive 25% and the five Tribes a combined total of 10%.

A mathematical model has been developed that estimates the number and mortality rates of walleyes present in each lake and the Black River during the spawning period and later in the angling season. The movement data assist calculating the number of walleye in each water body during and after spawning. The model predicts for each water body the number of new adults added each year, the estimated maximum spearing harvest early in the season and the estimated maximum angling harvest throughout the entire season. The information is used to predict the number of adult walleye present in each waterbody and the amount harvested by both spear fishing and angling to ensure that the safe harvest percentages noted above are not exceeded.

Under current angling and spearing exploitation rates the model indicates that there is low risk of harvesting more than 35% of the adult walleye population. Exploitation rates for all lakes, both tribal and sport fishing are currently well below the 35% level.

Management Recommendations

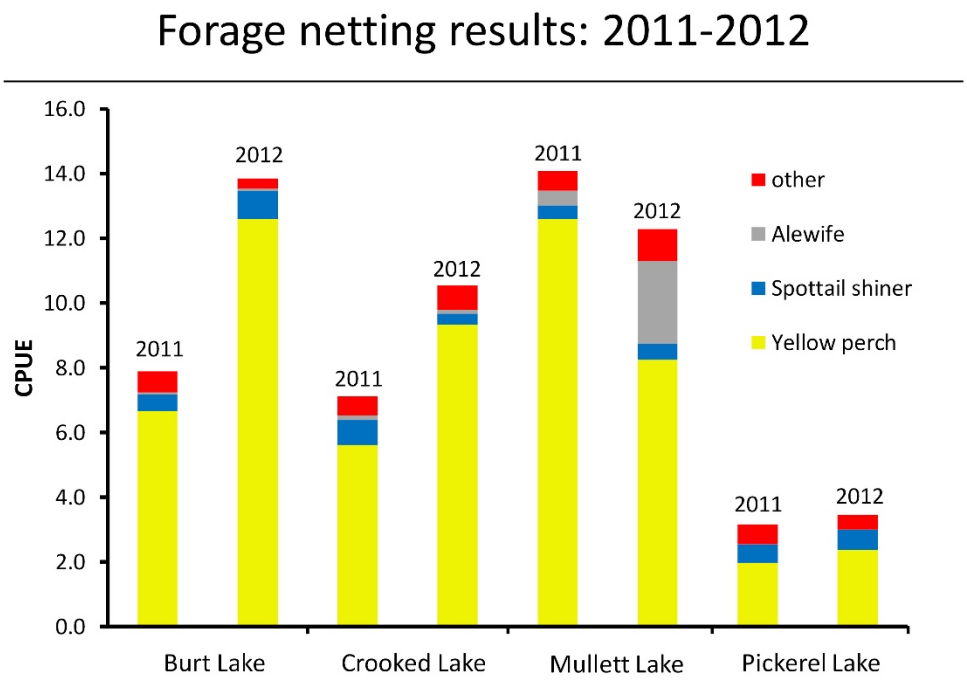
- Movement rates indicate most walleye spawning in the Black River move into Mullett Lake and this should be accounted for in harvest allocation towards Mullett Lake fish
- Periodically determine and compare post-spawn movement rates
- Continue to track walleye mortality rates within the waterway
- Gain a better understanding of stock-recruitment (successful reproduction and mortality) relationship for individual populations
- Move forward with simulation based modeling to evaluate management strategy

Walleye feeding habits in the Inland Waterway

Walleye are normally generalist feeders focusing more on insects, crayfish and other invertebrates in the spring and yellow perch in the summer, fall and winter. In lakes with cisco, walleye will often target them and benefit nutritionally because of their high energy content. The introduction of exotic forage fish species in the Waterway has impacted the walleye diets so a survey was conducted to determine the extent of the change. In the Great Lakes, several species of fish including whitefish, walleye, lake trout, smallmouth bass and others have shifted to eating round goby in large numbers.

The forage fish survey included setting in the open water several vertical gill nets with a graded mesh between 3/8 to 3/4 inches in Mullett, Burt, Crooked and Pickerel Lakes during the summers of 2011 and 2012.

The results of the study are shown in the table below.



Goby are a bottom dwelling fish and are not readily caught by vertical gill nets therefore they were not captured in the survey. Goby could, however, be a significant share of the forage fish population utilized by walleye. Yellow perch were the predominant open water forage fish followed by significantly smaller numbers of spottail shiner. In Mullett Lake, alewife may be an important forage fish some years.

Walleye stomachs were examined from the lakes over the length of the study. The stomach samples were provided by individual anglers and at tournaments. In addition, samples were collected during surveys through gastric lavage (harmlessly removing the stomach contents). The following are the results based on wet weights:

Spring Diet:

Mullett Lake
- Yellow perch 62%.3
- Aquatic insects 24.6%

Burt Lake
- Aquatic insects 62.5%
- Crayfish 17.3%
- Yellow perch 10.3%
- Round goby 6.6%

Crooked Lake
- Aquatic insect 58.7%
- Unknown fish 29.1%
- Crayfish 6.3%

Pickerel Lake
- Aquatic insects 53.3%
- Crayfish 43.6%

Summer Diet:

Mullett Lake
- Yellow perch 38.8%
- Unknown fish 19.3%
- Round goby 17.2%
- Crayfish 6.9%
- Alewife 6.9%

Burt Lake
- Round goby 36.4%
- Crayfish 22.1%
- Yellow perch 21.1%
- Aquatic Insects 10.3%

Crooked Lake
- Crayfish 52.1%
- Yellow perch 13.3%
- Aquatic insect 12.6%

Pickerel Lake
- Crayfish 54.8%
- Aquatic insects 15.1%
- Unknown fish 12.8%
- Yellow perch 9.8%

Fall Winter Diet:

Mullett Lake
- Round goby 77.3%
- Yellow perch 10.2%

Burt Lake

Round goby 42.9%
Yellow perch 33.3%
Unknown fish 15.4%

Crooked Lake

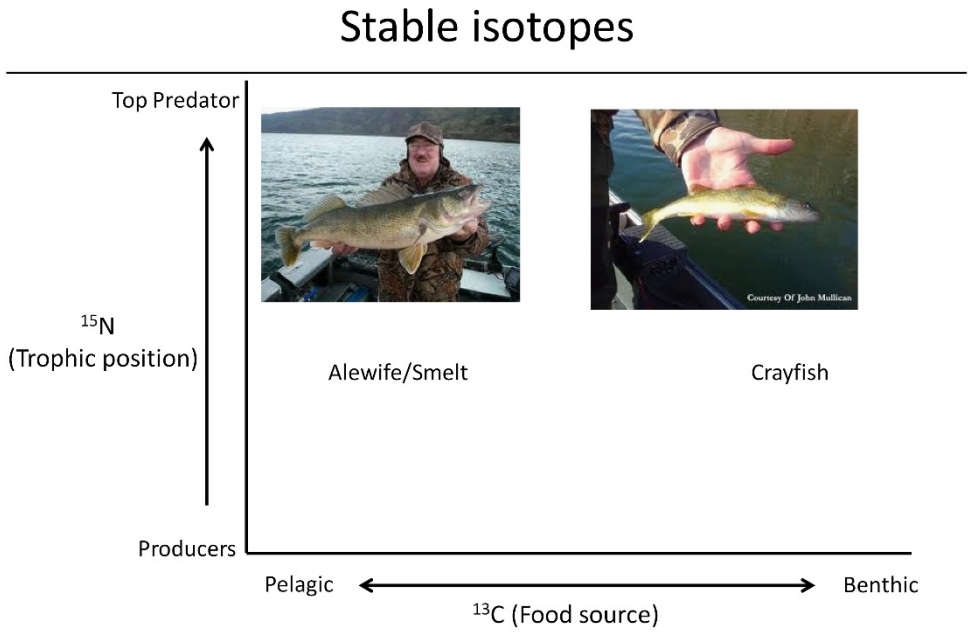
Unknown fish 84.7%
Misc. minnows 7.5%
Yellow perch 7.0%

Pickerel Lake

Not enough data

Use of the isotopes Carbon 13 and Nitrogen 15

Diet studies only catch a snapshot of the feeding habits of fish. To obtain more data, the ***isotope Carbon 13*** is used to determine if the fish are eating food that lives on or near the bottom (benthic) and shore (littoral) or the fish are eating food that lives in the mid-waters (pelagic zone). This chemical is found in living organisms and can be measured in muscle samples. If more is found in a fish, insects or other organisms that indicates the creature lives closer to the bottom or shore like a crayfish. If less is found in the muscle that indicates the creature feeds more in the mid-waters (pelagic zone) like alewife and smelt, see chart below.

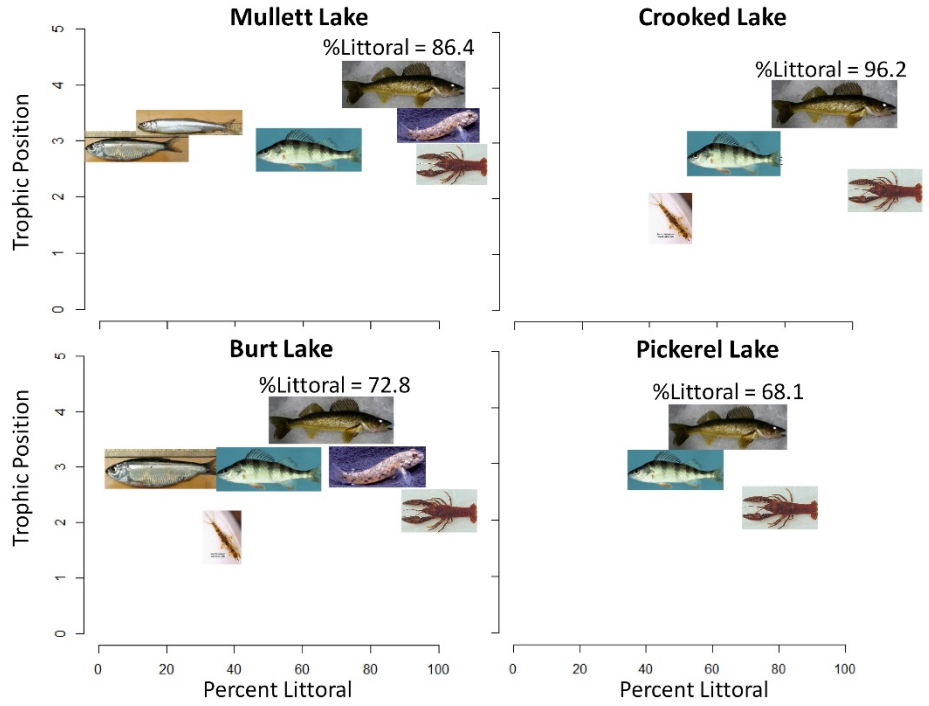


The ***isotope Nitrogen 15*** is also present in organisms and can be measured to determine the trophic level of a creature. As Nitrogen 15 increases in muscle samples the organism shifts to a higher trophic level. Creatures at higher trophic levels including predator fish such as walleye and pike eat other organisms like perch that also eat other creatures like crayfish and insects. Therefore, predator fish are often at the highest trophic level or at the top of the food chain. A walleye that fed mostly on yellow perch over a period of time would have more Nitrogen 15 in its muscles and therefore, be at a higher trophic level than a walleye that ate mostly insects and crayfish (see above table). An organism of a certain size that is at a higher trophic level requires more energy to grow to that size than an organism of the same size that is at a lower trophic level. This is because, for example, it requires less energy to grow a certain amount (weight) of crayfish or insects than it does to grow the same amount (weight) of walleye.

Organisms like insects and zooplankton are at much lower trophic levels than predator fish while algae are at the lowest trophic levels or at the bottom of the food chain.

The ***isotope Nitrogen 15*** was used to determine the trophic level of walleye in each lake to see if the walleye ate more fish (higher trophic level) or insect and crayfish (lower trophic level). In addition, the isotope **Carbon 13** was used to see if the walleye fed more on food found near the bottom or littoral zone like crayfish and goby which contain higher Carbon 13 levels or did the walleyes feed more in the mid-water (pelagic zone) on items like smelt and alewife as shown in the charts below.

Diets of walleye in the Waterway are more of a benthic or littoral nature, despite the fact that some pelagic prey (cisco, smelt and alewife) exist in a few of the lakes (Burt and Mullett).



<u>The Black Lake Sturgeon Management Plan Direction. A brief discussion on its progress and future plans for Mullett and Burt lakes</u> (Dave Borgeson, DNR Northern Lake Huron Management Unit Supervisor and Maxwell Field, Little Traverse Bay Band).

A sturgeon plan is currently being written for Black Lake by both the Tribes and DNR, but there is much interest in actively managing sturgeon in both Burt and Mullett Lakes. Since there is much more experience and information available from managing Black Lake sturgeon than the other lakes it was decided a plan would be completed first for Black Lake so it can be used for a template for managing other sturgeon populations in Michigan. Even though developing plans for Burt and Mullett Lakes have not begun, lake sturgeon have been stocked in these systems for a number of years and sturgeon surveys have recently been conducted to determine the success of this work.

DNR and Tribal biologists have been meeting and progress has been made on the Black Lake Sturgeon Plan.

Subjects that are being addressed in the Black Lake Plan include:

- Goals
- Spawning habitat rehabilitation and understanding
- Reproductive and recruitment success
- Population capacity
- Stocking
- Fishery Opportunities
- Education and outreach
- Impediments

There is interest in learning why many larval sturgeon die while drifting out to Black Lake from the Upper Black River. This is an important period as the larvae begin to feed and grow before they leave the river. Possibly, longer open sections of streams would be helpful but that would require removing upstream dams..

Once a draft version of the Black Lake Sturgeon Plan is completed, the public will have an opportunity to review it, but this may take a year or two since there will be some negotiations involved in this process. The goal is to continue to manage and improve the sturgeon populations in Black, Burt and Mullett Lakes so that eventually (since sturgeon are slow growing the could take many years) all three lakes can support a recreational and Tribal fishery.

New chemical free approach to treating lamprey larvae in the Pigeon, Sturgeon and Maple Rivers (Nick Johnson, U.S. Geological Survey Great Lakes Science Center, Hammond Bay Biological Station).

The United States Geological Survey (USGS) has been studying the Inland Waterway population of sea lamprey for a couple years. It has recently been agreed that there is a distinct population of sea lamprey that live their adult life stage in Mullett and Burt Lakes, instead of migrating downstream further to Lake Huron. The rivers of the Inland Waterway are treated with a lampricide periodically to reduce the number of larval lamprey in these rivers. This is a costly project and the USGS is considering an alternate method of treatment in future years. This alternate method would involve the use of sterile male sea lamprey stocking. It is believed that the small number of adult sea lamprey in the Waterway could be eradicated successfully with this technique. It would require capturing adult sea lamprey from Great Lakes locations and stocking relatively low numbers of sterilized males into the waterway. The sterilized males would breed unsuccessfully with the low numbers of fertile Waterway females in the rivers (Pigeon, Sturgeon, Maple, etc.) and eventually dilute the population enough to have less adverse impact on the fish communities of these Waterway lakes. The goal would be to exterminate the sea lamprey from the Waterway. It would also reduce significant costs to the USGS, while potentially reducing the need of chemical treatment in our Waterway streams. This approach is being considered and we will have an update on this project at the fall meeting.

Officially adapting the Terms of Reference for the Committee (Frank Krist and Tim Cwalinski)

The attached* draft version of the Terms of Reference was reviewed and there was a consensus that this version should be adopted and used by the Northern Inland Lakes Citizen Fishery Advisory Committee. It was suggested by attendees that Frank and Tim continue in their roles as co-Chairs on this Committee to ensure continuity.

<u>Potential changes to the Michigan daily combined possession limit for pike, walleye, and bass</u> (Dave Borgeson, DNR Northern Lake Huron Management Unit Supervisor).

The current multi-species predator ***Combined Possession Limit*** under the general Michigan fishing regulation is:

- ***Five (5) total fish in any combination but no more than 2 northern pike. This includes: bass, walleye, pike, and flathead catfish.***

This regulation has been reviewed by DNR fishery biologists and it is recommended that the ***Combined Possession Limit*** be modified. Since in most cases these species are sought separately by anglers, it is believed that liberalizing the regulation would not biologically impact the fish populations but would provide more angling opportunities.

The DNR Fisheries Division is asking for input on the 4 potential options below:

1. Split current multi-species ***Combined Possession Limit*** into individual daily bag limits by species – **statewide** (5 bass, 5 walleye, 2 pike, 2-5 flathead catfish).
2. Leave statewide multi-species ***Combined Possession Limit*** in place and reinstate the additional 5 fish bonus for Great Lakes and connecting waters.
3. Leave statewide multi-species ***Combined Possession Limit*** in place and consider exceptions (e.g. St. Clair River, Lake St. Clair, and Detroit River for additional 5 fish).
4. Status Quo – keep current ***Combined Possession Limit.***

These options were discussed and there was strong support for Option 1 because it would encourage anglers to keep non-target species like pike when anglers are fishing for walleye or bass. There is appears to be a large population of pike in Mullett Lake currently for example, but anglers often throw legal pike back hoping to fill their bag limit with walleye. This new regulation would help maintain more healthy fisheries while allowing anglers more fishing time. This could encourage out-of-state anglers to visit Michigan.

<u>Round table discussion including agenda items for the fall meeting, fishing reports, projects, questions, comments and suggestions from the attendees</u>

Brad Kessel – Fishing was good this past fall for yellow perch on the south end of ***Mullett Lake***. During the winter large numbers of small sublegal walleye could be seen swimming while fishing in a shanty. Yellow perch fishing was slow, however, during the winter.

Neal Godby, Senior DNR Biologist – A general fish community survey will be conducted during late May or early June in Burt Lake. The fish this year will be examined for lamprey wounding marks. Survey plans include the use of a multitude of sampling gear including trap and fyke nets, short gill nets, and electrofishing. Plans are being completed to remove the Dam on the Maple River in 2016 or 2017, which is a major tributary to Burt Lake.

Rick Johnson – ***Burt Lake*** walleye fishing was decent this winter. About 1/3 of the walleye were sublegal. The perch and walleye were feeding heavily on goby.

Terry Weber – Perch fishing was slow overall in ***Mullett Lake both last fall and through the winter***. Fishing with a camera showed that most of the perch seen were in the 9 to 12 inch range with few small

perch present. There appears to be a good number of pike in the lake and there is concern very few anglers keep them. Pike are significant predators feeding on most species of fish and it is hoped that the proposed change in the predator bag limits would encourage anglers to harvest more pike. Steelhead numbers were down this past summer when compared to the two previous summers in Mullett Lake.

Irv Dedow – Fished Black Lake this past winter but no legal walleyes were caught.

Alan Terry – It was a long cold winter and fishing was rather slow in ***Burt Lake***. The average was about 1 walleye per trip.

Doug Dingey, Doug asked when another comprehensive walleye survey of the Waterway might happen again. The newly completed survey provides a framework on how to safely manage the fishery without harming the walleye spawning stock. The largest obstacle of conducting another large scale survey is the vast amount of staff and resources needed from several agencies to be successful.

Roy Tassava – Walleye fishing on the south end of Mullett Lake was very good last summer but ice fishing off of Topinabee this winter was very slow for perch.

Paul Borg – The fall walleye surveys on Grand Lake and Long Lake showed that wild reproduction is producing good numbers of fish and the club members are becoming comfortable that stocking is not needed, as suggested by DNR.

Virgil Smith – The Black Lake Association has been working for three years with the DNR Parks and Recreation Division to rebuild the ***boat launch at the Onaway State Park*** to increase the boat and vehicle flow effectiveness along with expanding the launch capacity. After much investigation, it became clear that this is the best location on the lake for a boat launch because of its unique quality of being the only site on Black Lake with deep water very close to shore.

There was a meeting last April with Keith Cheli, Regional Parks and Recreation Planer; Jeremy Spell, Onaway State Park Manager; Vigil Smith, Ron Dulak, Roger Selvig and Frank Krist. The discussion covered a two phase plan which when completed would include a 36 foot wide cement slab that would accommodate a double long dock that would allow two boats to be launched on each side with an additional waiting dock to be placed at a distance from the east side of the launching dock. In addition, the flow of the traffic and the angle of the launch approach would be improved along with adjusting the parking spaces on the lower level and providing parking opportunities near the park office. Now the message from the park manager is there is no phase two, according to Virgil.

Phase one was completed this past fall but it did not improve the ease of launching at the site. The existing 24 foot concrete slab was removed and replaced with a smaller 18 foot slab instead of the needed 36 foot wide slab. Instead of a large Great Lakes style dock being installed a small dock was installed. In addition, the angle of the new dock makes it very difficult to line up the boat and vehicle properly when backing into the ramp.

The members of the Black Lake Association are very unhappy with the results and they are determined to continue working toward implementation of phase two. The Association has $25,000 that they offered toward the project and they want to work with the DNR to complete the needed improvements. Black Lake is the 8th largest lake in Michigan and it is unacceptable that there is not a quality launch site available.

The goal of the Black Lake Association is to first meet with Keith Cheli again and continue to pursue the project until a solution is found.

Dave Bock – Yellow perch fishing was good on ***Mullett Lake*** during this past fall but the fish were not in the usual fall locations and with much experimentation good catches resulted. In the areas he fished, there were good numbers of 6 to 7 inch perch.

Brenda Archambo– Sturgeon for Tomorrow will be managing Sturgeon in the Classroom for the DNR. There is much interest so the goal is to expand the program significantly. Currently, a juvenile sturgeon about 6 inches long is given to each school in the program during October, and after caring for the fish until May, the fish is released in the wild.

Sturgeon for Tomorrow offers several opportunities for young students to visit the outdoors and experience directly not only spawning sturgeon but other aspects of the food web and related ecology. There will be a summit this spring with about 250 scouts when the adult sturgeon are in the Upper Black River. These education events are popular with both the students and teachers.

The ***Black Lake Sturgeon Shivaree*** during the winter fishing season was very successful this past February. The heated tent brought a large crowd together and there was much outreach and education.

Sturgeon ***poaching*** appears to be way down in the Black River. However, a few injured sturgeon have been discovered in the spawning runs in recent years.

Gil Archambo– Gil mentioned that there is land available along Black Lake and adjacent to Zolner Rd that may be acceptable for a ***public boat launch***. The owner is willing to donate the property for such a use. It was mentioned that the shallow water in the area would require regular extensive dredging to allow larger boats to utilize the site. The advantage to expanding the launch site at the Onaway State Park is the deep water near shore. Soundings have shown water 4 feet deep within about 50 feet of shore in front of the existing landing. These favorable conditions at the State Park landing would require little dredging compared to the rest of the shoreline around Black Lake.

Tim Cwalinski – Fishing was slow last spring on Burt Lake for walleye early on, but picked up a bit as the spring progressed into early summer. Walleye fishing on Mullett Lake in the early summer was very good with a multitude of year classes caught, including sub-legals and large walleye. Pike fishing was decent, but we caught them more incidentally. Steelhead numbers appeared down from the previous couple years. Fishing for perch in Mullett Lake this winter was up and down, like the conditions that we were presented with. A couple trips to Black Lake this late winter produced legal fish on one occasion, but not on the other. However, our cameras showed the fish were down there but not aggressive.

DNR Fisheries Division and Tribal updates

Dave Borgeson – DNR Northern Lake Huron Management Unit Supervisor **–** The Unit will have seasonal workers available. A walleye survey is being conducted at the Twins Lakes by Lewiston and the fee increase provided for a clerk to conduct a creel survey at these lakes this year.

Maxwell Field – Fisheries Biologist, Little Traverse Bay Band (LTBB) **–** There are plans for a sturgeon survey between September and October of this year at Burt Lake. Both the State and Tribes are working

together to determine how well stocked fish are surviving so that the stocking numbers each year can be optimized. The ideal number of years between surveys is not known yet, but the plan is to determine a work schedule template for sturgeon population assessments around the State. If anyone is interested in assisting or watching the Tribal crew during the survey, Maxwell may be contacted at 231 242-1677. Gill nets will be tended to by the tribal agency to ensure high survival of the fish captured. It will also be conducted during the fall months when water temperatures are cooler, and fish would be less stressed.

The LTBB survey crew will participate in the sturgeon egg collection in the Black River and walleye egg collection in the Sturgeon River. The goal is to raise these eggs to stocking size at their hatchery and stock the fish in the area. Only about 10 pairs of spawning walleye are needed to obtain enough eggs from the Sturgeon River, however, if they are not successful additional eggs will be used from walleye obtained from the Muskegon River by the DNR.

A microscope capable of determining OTC marked fish bones has been obtained so they can now analyze their samples when determining stocked versus wild origin.

Adjourned 4:35 pm.

***The handouts may be obtained by emailing Frank Krist at krists@speednetllc.com**

Remaining Meeting Date for 2015
Monday October 12, 2015 Meeting location to be announced