



## 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 Meeting Minutes Monday, December 12, 2022 Tuscarora Township Hall Indian River MI

**Approved**

**Attendees:** Frank Krist, Tim Cwalinski, David Steenstra, Jim Burke, Brad Kessel, Gil Archambo, Carol Rose, Tom Ludwig, Paul Borg, Ron Dulak, Roger Selvig, Roger Bergstedt, Lt. Nick Torsky, Wayne Blomberg, Gary Michaud, Emily Martin, Mike Vigneau, Will Schultz, JP Van Ostenberg, Duke LeBaron, Bob Garant, Tom Baird, Emmett Sweeney, Nick Johnson, Robert Wysocki, Doug Larson, Theresa Krist, Mike Parrott, Erin McLean, Gary Isaman, Ashely Colborn, Jeff Nieuwkoup, Alan Terry, Brenda Archambo, David Cozad, John Gannon, Caroline Keson, Ed Baker, and Jay Woiderski.

#### Welcome and Introductions.

Frank and Tim opened the meeting. Everyone was alerted that the meeting was being recorded to assist in recording the minutes. Frank introduced three Natural Resources Commissioners and encouraged them to participate in the meeting. The attendees each introduced themselves.

#### Draft plan and discussion regarding muskellunge supplemental stocking in the Inland Waterway (Tim Cwalinski, DNR Northern Lake Huron Unit Manager).

Tim has been contemplating for more than 10 years the idea of developing a low level muskellunge stocking plan for the Inland Waterway. The draft plan presented today is very preliminary and he is looking for input from all sides to determine if the program should move forward. First, the following are the ***reasons why Tim feels muskellunge stocking would be beneficial:***

- It had been suspected for years that the Waterway has low densities of muskie which has been verified to some degree by tagging. Muskies are native to the Waterway.
- The Waterway has a high-quality forage base consisting of a lot of redhorse and white suckers that the muskie can eat.
- Growth rates of muskie are excellent in the Inland Waterway and Black Lake
- There has been long running support and push from Michigan Muskie Alliance with 3 members present here today.
- The state muskie stocking program is slowly building and has the potential for increased stocking.
- An increase in muskies would be beneficial for both the catch and release anglers and the spearing community.
- The plan would be a slow approach to building the population, which would be measured over time through anglers reporting their catches. There are so few muskies in the Waterway that it is not practical to conduct assessment surveys and they are more time consuming than any other species specific survey.

#### ***There are cons against stocking muskie to consider.***

- Some members of the public may feel additional predators like muskie will put extra pressure on the forage base and current game fish populations. Occasionally, someone will say that more muskie will eat a lot of walleye and yellow perch damaging those fisheries.
- The muskie population in the Inland Waterway belong to the spotted strain and that is the same strain that would be stocked (spotted strain = Great Lakes strain). There is a debate that stocking on top of a wild population could have adverse impacts on this strain in theory, but Tim feels stocking could actually strengthen the population.

**Potential stocking locations and the number that would be available to stock.** The DNR recommended the number of muskie to stock in any body of water would be 2 per acre while developing a population. For the Inland Waterway, this would be about 100,000 fish. Unfortunately, because the state muskie program can only produce a very limited number of stock fish it appears that only about 3,500 fall fingerlings would be available to stock every second or third year (at each site below) depending on success in the hatchery.

Neal Godby DNR Senior Fishery Biologist and Tim compiled the tentative list of stocking locations to build the population but they are very flexible and are looking for input:

- Crooked River/Burt Lake
- Indian River/Mullett Lake
- Upper Black River (river mouth with Black Lake) or Lower Black River (marina)
- Cheboygan River (Forks)

A point to consider is trying to keep the newly stocked muskie away from concentrations of northern pike. Muskie spawn one or two months after pike and because pike are feeding heavy at the time muskie are spawning, young muskie can be very vulnerable to pike predation. As mentioned above, with the limited production and high demand for stocked muskie around the state, asking for more fish than was discussed is not a feasible option. Thus, this is a very low level, long term stocking plan for the four sites (and their connected waters) to supplement native muskellunge populations.

## Discussion?



**Question:** What type of *habitat* do muskie need and how old are muskies when they begin *spawning*?

**Response:** Tim said that muskie spawn where there is current, and some vegetation. One of the better locations is the lower Indian River. Some muskie begin **spawning around year 8** or even older. It is estimated that about 60% of the stocked muskie would **survive** the first year but the number surviving to maturity would be much less.

**Question:** Several years ago the Muskie population in the waterway was higher so why is the population declining? Is the habitat deteriorating?

**Response:** The habitat may have declined some but muskie are extremely **inefficient at spawning** and **with increased interest in catching** Muskie all the factors are resulting in a declining population.

**Comment:** There is a definitely a decrease in the number of muskie in the Waterway. Going back 20 or so years, it was not uncommon to catch 30 or more muskie during the fall. No doubt the food web changes had a major impact but, in the past, it took years or decades to learn the best techniques to catch the fish. Today a person can **go online and learn all the fine points of fishing in an afternoon**. Also, the sophisticated electronics and maps provide a huge advantage to even the novice angler.

**Comment:** Tim mentioned that recently the capacity to raise muskie in the hatcheries has increased and Fisheries Division has been asking about potential new stocking locations around the state. If we do not **take advantage of this opportunity it may not be available in the future** since the fish will get committed to other sites. It is possible that 2 of the sites could be stocked next year but the prescriptions requesting the fish must be written within the next 2 weeks.

**Comment:** Another indication of the **muskie population being way down** is that in the past the sturgeon anglers would see a lot of muskie during the short sturgeon season but it is rare now to even see muskie on the sturgeon grounds. In the past both sturgeon and muskie preferred the same sites on the lake.

**Comment:** Nearly every lot around the lakes have houses on them and there are more people fishing. Even a person fishing for walleye and yellow perch will occasionally catch a muskie which could injure and kill them even if they are returned to the water.

**Question:** Is there ongoing studies to determine migration patterns and the growth rate of the muskie?

**Response:** Tim explained that there are both growth and migration data that were obtained but it took a tremendous amount of effort to sample the fish since there are few muskie in the Waterway. With the addition of very few fish every 2 or 3 years, there is not much chance of the results changing.

**Question:** Is there a chance that many of the **muskie will migrate into Lake Huron**?

**Response:** Tim said there is evidence that a few muskie may attempt to leave the Waterway and successfully enter Lake Huron, but it appears that **number is small**, and the stocking numbers are very small anyway.

**Comment:** Tim continued to asked the participants what sites they favored for stocking and there was strong support for Indian River, Crooked River and the Upper Black River. Since there is support for the muskie stocking program, Tim and Neal will complete the stocking prescriptions so it is possible that muskie may be stocked in the Waterway the fall of 2023 or 2024.

**Burt Lake sturgeon population estimate attempt by DNR and LTBB in 2022, and moving forward (Emily Martin, DNR Tribal Coordination Unit, Ed Baker, DNR, Gary Michaud LTBB, and Neal Godby DNR)**

Emily Martin from the DNR Tribal Coordination Unit is presenting the discussion today. Neal Godby, DNR Senior Biologist compiled the slides but was unable to attend.

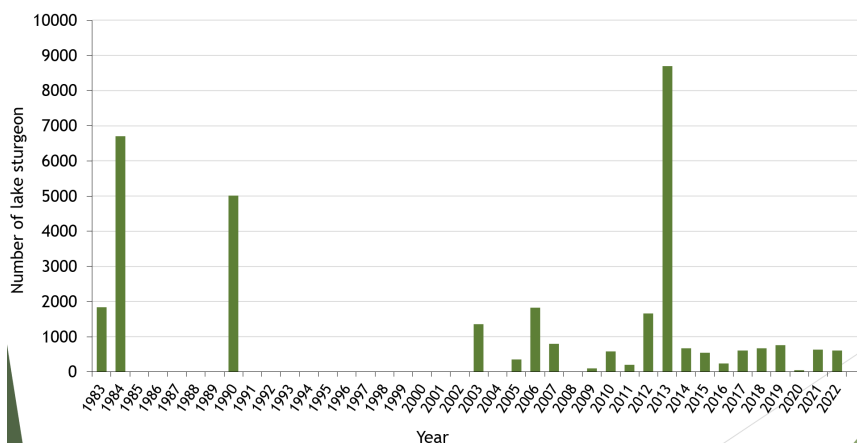
**Why are Sturgeon Surveyed in Burt Lake?** Surveys enable managers to determine how well the fish are surviving, both the wild remnant population and stocked sturgeon. In order to know if more or less fish should be stocked, it is important to determine the number of fish in the lake, their growth rate, age, and the contribution of stocked fish. This information will be used to develop a lake sturgeon management plan for Burt Lake that incorporates the objectives below:

- Sustain an adult Lake Sturgeon population of 2,000.
- Support a potential sport fishery with defined harvest limits that will not adversely impact sustainability.
- Enhance natural spawning habitat.

These objectives parallel the objectives established by the Burt Lake Sturgeon Club. Without updated population data, it is not feasible to begin establishing a lake management plan for sturgeon.

**The slide below shows the stocking history for Burt Lake.** The large numbers are primarily spring fingerlings. When fewer fish were stocked those were fall fingerlings which are much larger. Over the years sturgeon have been stocked in Burt Lake, the Sturgeon River, and the Maple River. The fish have been stocked by the DNR and LTBB. Most of the sturgeon rearing and stocking during the last five years has been done by LTBB.

## Lake Sturgeon Stocking History - Burt Lake and Sturgeon River



Before discussing the 2022 sturgeon survey, the previous three Burt Lake sturgeon surveys conducted in 2009, 2011, and 2015 will be briefly reviewed.

### **2009 Survey results:**

- The survey was conducted by MDNR and MSU
- 20 fish were captured
- The fish ranged in Total Length from 21 - 65 inches.
- The Mean Length was 39 inches.
- There was no quality population estimate since too few fish were marked.

### **2011 Survey results:**

- The survey was conducted by MDNR and MSU
- This was a preliminary test survey on both Burt and Mullett Lakes to determine the best approach to surveying so less time was spent on each lake compared to future surveys.

- 108 fish were captured
- The fish ranged in total length from 17 – 71 inches
- The Mean Length was 42 inches
- Population estimate was 1,535 but with a large amount of variance on the efforts
- There was mostly small and immature stocked fish, thus it was more of an estimate of young fish (stocking) than adults.

#### **2015 Survey results:**

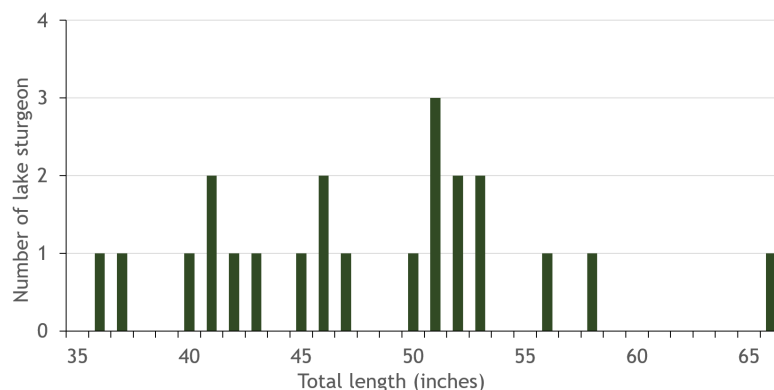
- The Survey was conducted by LTBB, MDNR, Bay Mills Indian Community, and Sturgeon for Tomorrow.
- A smaller net mesh size of 4.5 inch was added .
- 63 fish were captured.
- Total length ranged from 24-63 inches
- The population estimate was 644 fish with much variance, and was mostly young fish.
- The survey indicated that the fish grew about 4 inches since the last survey.

#### **2022 Survey results:**

- The results of the survey are shown in the slide below
- The survey was scheduled for three weeks in July working from Monday through Thursday.
- Most fish (19) were caught in 8" and 10" mesh and only 3 were caught in 6" mesh. Both the smallest and largest fish were caught in the 8" mesh net. The large mesh sizes were demonstrated at the meeting by DNR.
- There were three netting crews including two from the DNR and another from LTBB.
- Random sites were chosen but shallow water and deeper water without enough oxygen were avoided, thus allowing agencies to narrow down survey zones.
- Each fish was measured for total length, fork length, girth and an internal pit tag was inserted,
- A one-inch-long piece of dorsal fin was removed for genetic analysis and for marking purposes.
- A small section of the pectoral fin was also collected from a subsample of smaller fish to allow aging of the fish and trace back ages to stocking cohort.

## **2022 Survey - results**

- ▶ Tagged 22 individuals
- ▶ Mean total length = 47.8 inches
- ▶ Range: 36-65.5 inches
- ▶ 5 full days of net sets



#### **Reasons the 2022 survey was stopped:**

- 3 sturgeon mortalities from fish handled during the survey.
- 1 additional mortality was reported that was not handled during survey.
- There was a joint decision made to stop the survey early in the second week of sampling.

- There was a non-related sturgeon mortality reported in Mullett Lake simultaneously.
- There was concern that disease could be contributing to some of the other mortalities

More specific details of the survey can be found in the joint release, ***Burt Lake 2022 Sturgeon Netting Survey Questions and Answers fact sheet***, by the DNR and LTBB.

The previous surveys showed that the more fish that can be tagged and recaptured during a survey the more reliable the estimate is. Without reliable information on the health, ages and number of sturgeon in the population (both immature fish, and adults!) it is not possible to determine if more sturgeon should be stocked and whether there are enough fish to have a fishing season. In addition, without reliable data a meaningful Burt Lake Sturgeon Plan cannot be developed.

### ***Discussion:***

***Question:*** What ***percentage of the survey*** was completed when the survey was halted?

***Response:*** A little less than 50% of the survey was completed when it was terminated.

***Question:*** What was the ***temperature of the water during the survey?***

***Response:*** There was no thermocline down to the depth of 30 feet where the nets were set so the temperature was uniform from the top to the bottom where nets were set. The temperature ranged from high 60s to the low 70s. An oxygen profile was taken and there was plenty of oxygen to the bottom in the sampling areas.

***Question:*** How ***often were the nets lifted*** each day and how long were they in the water each time?

***Response:*** The nets were set 3 times each day and only remained in the water about 1 to 1.5 hours each time.

***Question:*** Were all ***3 fish that died during the survey handled on the same day?***

***Response:*** Yes.

***Comment:*** Brenda Archambo mentioned that there is a ***herpesvirus*** that potentially may be newly occurring in the Great Lakes that attacks the skin of sturgeon and could be fatal. It would be prudent to investigate this disease potential.

***Response:*** Two papers have recently been published and the threat of this virus is out there and this is a potential problem that should to be monitored. More needs to be learned at what temperatures the sturgeon are most vulnerable.

***Comment:*** The sturgeon being stocked now are larger and the population might be building faster than anticipated. It is important to determine the amount of sturgeon in the lake so the population does not become too large and exceed the carrying capacity of the lake. One study showed that the virus is more active at colder temperatures.

***Response:*** That is exactly what happened in Black Lake when early in the Program surveys in the lake showed that there was more fish surviving than anticipated and stocking was reduced to adjust for potential growth issues when too many sturgeon are stocked over a small time frame.

### ***The Plan moving forward:***

The goal right now is to survey Burt Lake in 2023 and push the Mullett Lake Sturgeon Survey back a year. We are conferring with experts and revising the protocol, with emphasis on reducing handling time and stress. We may do disease testing of some fish since they will already be in the boats. One item that was different with the July survey was

that oxygen was injected directly into the tanks. The plan is to go back with the standard method of pumping water directly from the lake into the tanks. That method has worked well over the years in summer surveys

**Comment:** Jim Burke and David Steenstra from Burt Lake Preservation Association said that they have nearly 800 members and they received over 200 negative comments about the failed survey. Many of these members are professionals working in scientific fields that are very upset. Time is needed to discuss the issue and educate the public. This could end up being a public relations nightmare.

**Question:** There is good success surveying sturgeon in the Black River ***why not just survey the Sturgeon River*** since it receives a good run of Sturgeon in the spring?

**Response:** The run in the Sturgeon River is mainly adult fish and it is very important to learn the number of juveniles otherwise the population structure will not be known, the stocking success cannot be evaluated, and it will not be possible to develop a Burt Lake Sturgeon Plan. Juvenile sturgeon do not partake in the spawning run, and remain in the lake. Of course, all this information is critical because it is needed to decide if it is safe to have a fishing season.

Sturgeon do not run every year so it would take at least 5 or 6 years before even a modest estimate of the adults could be made. Another challenge on the Sturgeon River is the fish are not concentrated in a relatively short section of the river like occurs in the Black River so it would take a lot of workers and resources to cover enough water. Also, funding would be needed to support the survey crew each spring. The Black River is unique since it is managed in conjunction with Michigan State University, and through an already established long running grant (which is not available for other spawning runs). The most efficient way of obtaining the needed information in a timely manner is to conduct a lake survey.

**Comment:** Jim Burke and David Steenstra stressed that they are ***ready anytime to discuss postponing the Burt Lake Survey***. They are willing to go to the Gaylord DNR Office or anywhere else to discuss the issue.

**Response:** Tim mentioned that a decision needs to be done within a week or two since time is needed to prepare.

**Frank:** emphasized that the debate has been going on for nearly an hour trying to decide whether to move the Burt Lake survey to another lake in 2023. David Steenstra and Jim Burke have been stressing they need another year to educate its members and gain support for the survey or it could end in a public relations disaster. The DNR and LTBB are saying they could move the survey, but it would take some logistical changes. Everyone involved from all sides is here in the room. The discussion has gone around and around several times and now is the ***time to make a decision***.

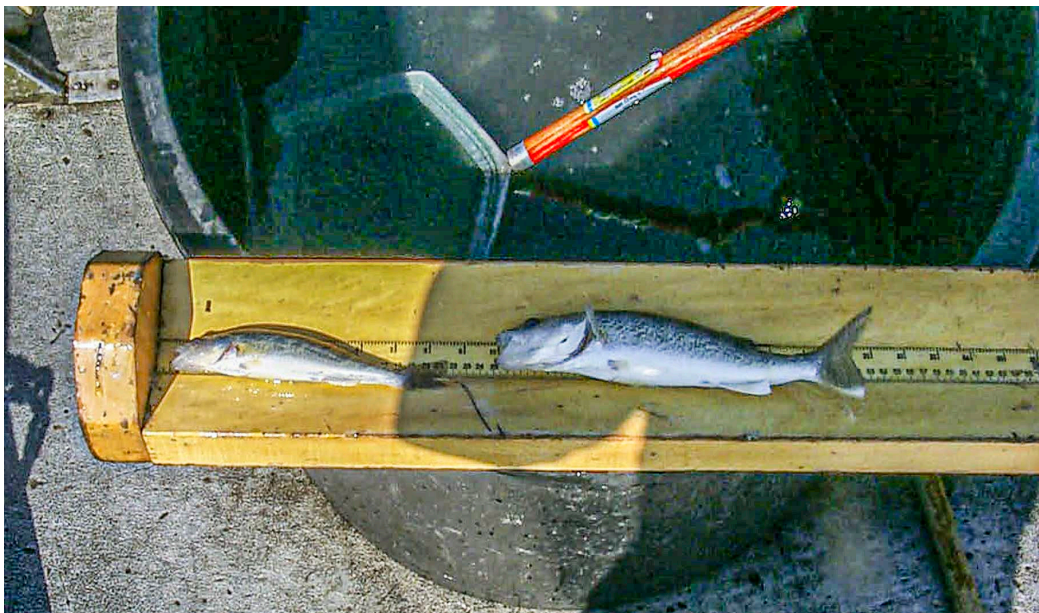
**Decision:** Tim said that he would discuss the potential of moving the survey with the DNR and LTBB representatives and make a decision within 2 weeks or less.

**Note:** It was decided that the Burt Lake Sturgeon Survey would be postpone this year and the efforts would move to Black Lake which was already on the schedule for 2023. Mullett Lake would be moved to 2024, and likely Burt again in 2025

#### **Juvenile walleye electrofishing assessments fall 2022 for Burt, Mullett and Black lakes (Tim Cwalinski, DNR; Gary Michaud LTBB)**

Tim showed the photo directly below of a shocking boat used to sample the Juvenile walleye along shorelines. The second photo below shows the typical size of the juvenile walleye caught in the survey



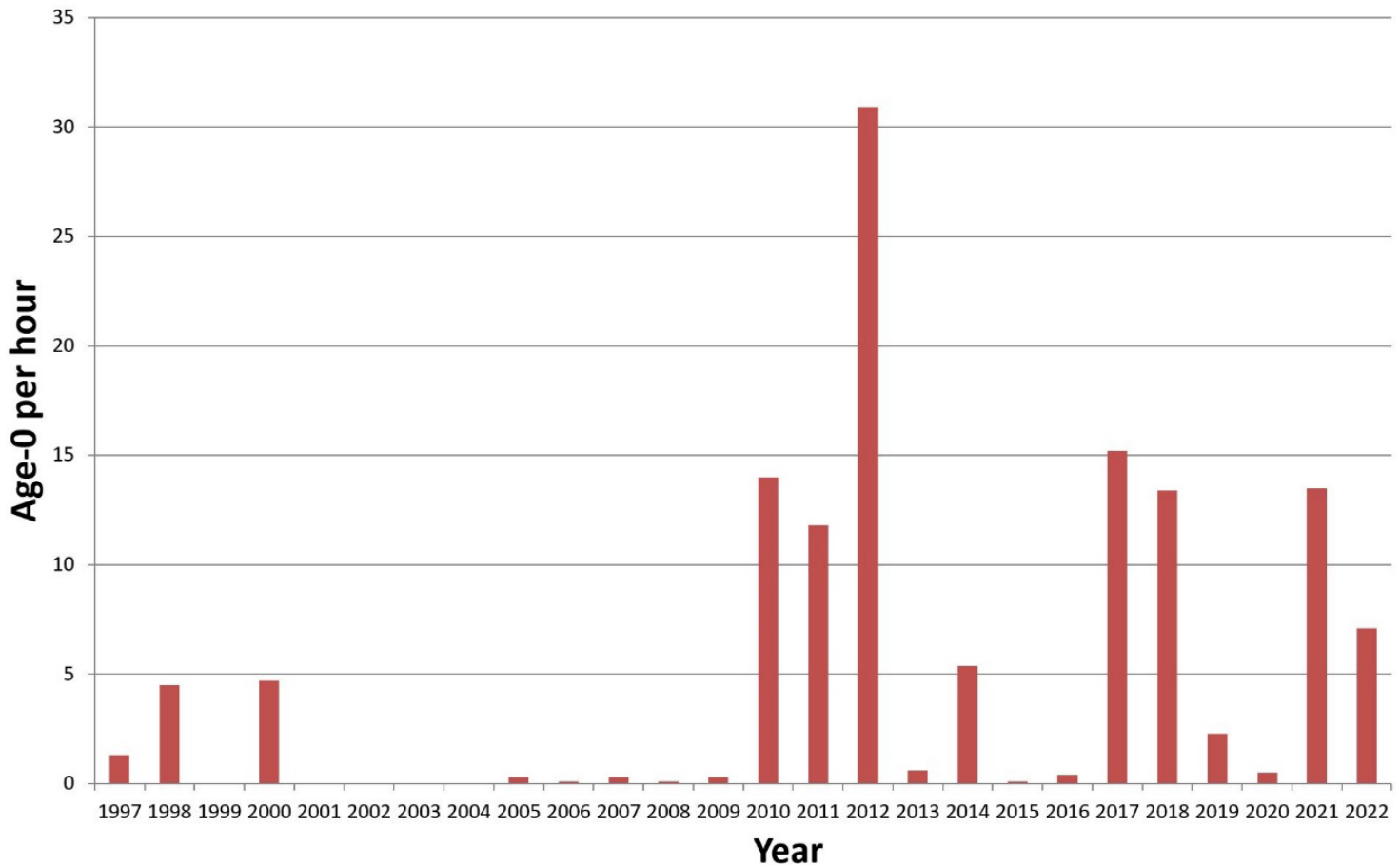


The surveys are conducted at night with a shocking boat like the one shown above. The boats use direct electrical current to stun the fish in the shallow shore areas and after recording data the fish can be returned alive to the lake. The goal is to sample at the end of the growing season the walleye that hatched (or were stocked) in the spring and survived to fall to an approximate size of about 5 to 7 inches. To reach the size of 15 inches, however, it may take 3 to 5 years. The results are only an index that is best to compare within the same lake from year to year. Often there is a lot of variation between years. The red bars show the number of juvenile age-0 walleye caught per hour.

The following are charts showing the number of age-0 walleye sampled in the index surveys over the years in Black, Mullett and Burt Lakes. In addition, there will be an explanation following each chart.

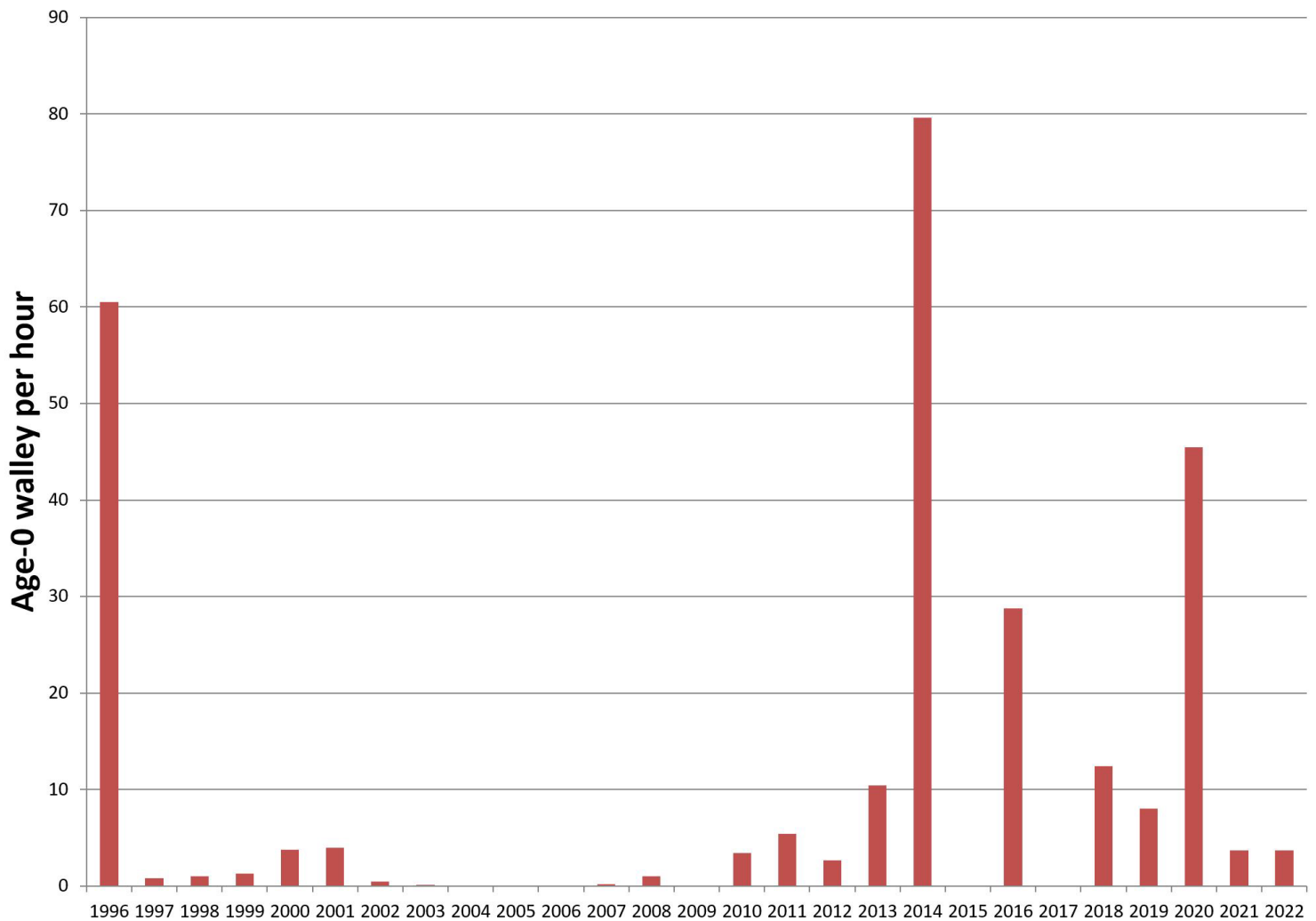


## Black Lake Age-0 Walleye



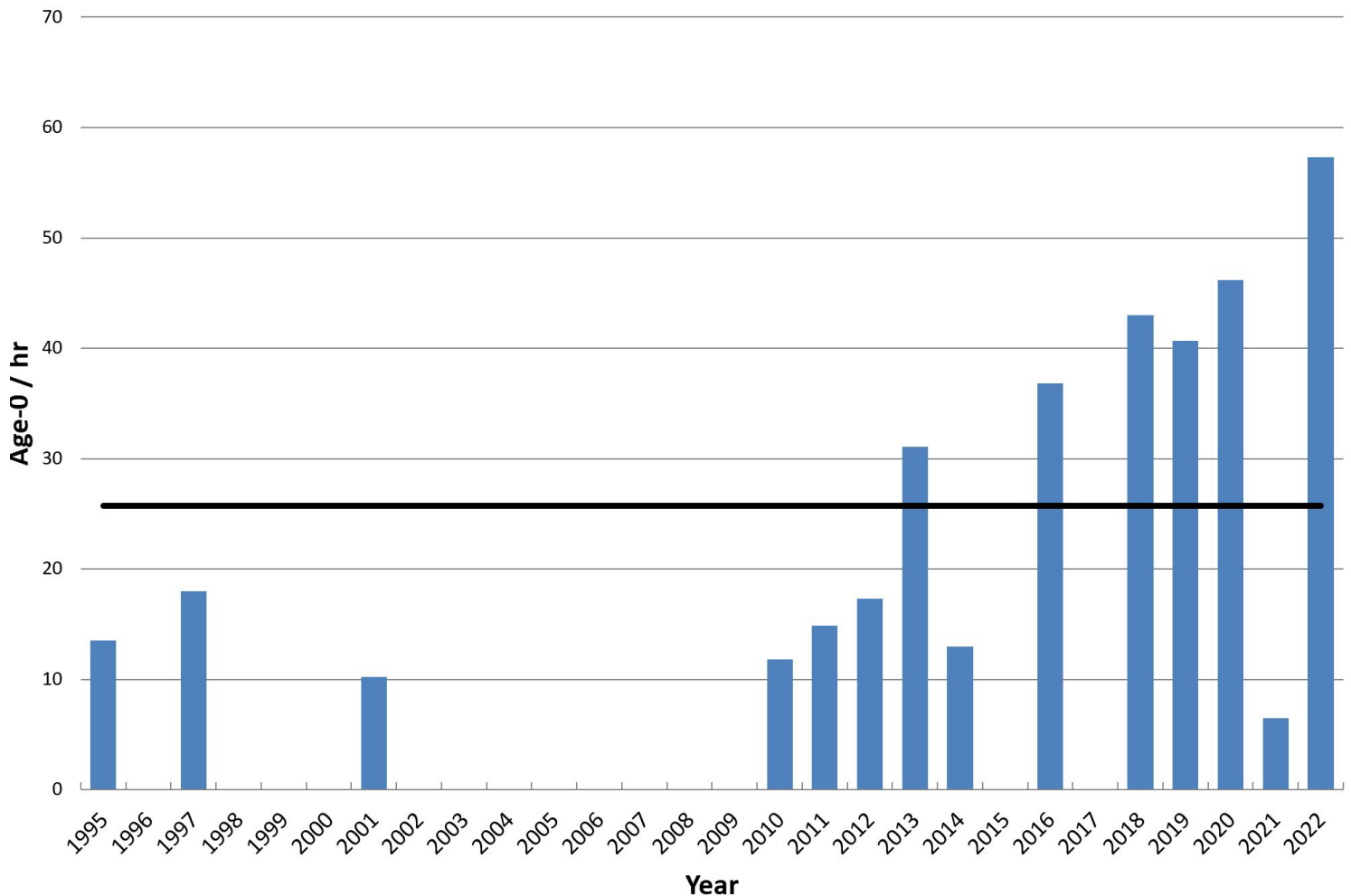
**Black Lake:** The “good” year classes in recent years correspond with DNR or Tribal stocking events. There has been no evidence of significant wild reproduction for many years. The 388,000 stocked walleye in 2021 did not produce a huge year class but an acceptable one. During 2022 another 200,000 walleye were stocked which produced an acceptable year class. After this survey, 20 juvenile fish were sacrificed to determine if they were wild and 19/20 fish were from stocked origin, with one fish origin uncertain. This again shows that if there is any current wild reproduction of walleye in Black Lake it is minimal. The source of the stocking in 2021 and 2022 was mostly from DNR downstate ponds. Black Lake is not on the stocking list for 2023 unless a major surplus is available.

## Mullett Lake fall age-0 walleye index



- **Mullett Lake** was stocked in 2010 through 2013 with marginal returns, except that 2013 was better.
- 2014 and 2016 had strong natural reproduction (Mullett Lake has not been stocked since 2013).
- 2017-2019 had good to acceptable natural reproduction, some of which was based on adult numbers later (2015 and 2017).
- 2020 very strong wild year class again.
- 2021 and 2022 weaker wild year classes, but present.
- Stocking absolutely is not warranted because of the several good to excellent wild year classes. Also, too many walleye will increase predation on yellow perch.

## Burt Lake Age-0 Walleye



**Burt Lake** is very interesting since some anglers indicate they are having problems catching walleye yet the surveys are producing some very strong wild year classes based on fall index catches of age-0 fish.

- 2016 and 2018 - strong year classes.
- 2017 – unknown.
- There were strong year classes in 2019 and 2020
- A lower survey catch rate in 2021 was recorded, but survival of a year class was documented. Survey conditions that fall were poor based on wind conditions.
- The strongest index mark produced was in 2022 but only time will tell if it produces 15-inch fish in 3 or 5 years from now.

**Comment:** For some reason the age-1 and older walleye have been difficult to catch.

**Response:** Tim mentioned that there have been studies published that provide evidence that the first winter can be a challenge (mortality bottleneck) for the juvenile fish with the mussels, water clarity, along with the warming temperatures.

### **Did the Natural Resources Commission approve liberalized northern pike regulation changes at Black and Pickerel lakes? (Tim Cwalinski and Neal Godby, DNR)**

Tim provided an overview. Two years ago, Neal Godby analyzed survey results from Crooked Lake and determined that the northern pike population was stunted, and it would be beneficial to change the existing regulations of 2 pike over 24 inches long per day to the more liberal regulations of 5 pike per day of any size but with only one fish over 24 inches long. There was support from this Advisory Committee, so the recommendation was sent to the Natural Resources Committee, it was approved, and implemented.

Last year it became clear that there was public and Committee support for implementing the same regulations in Black and Pickerel Lakes, so a recommendation was sent to the Natural Resources Commission and the proposal was approved. The liberal pike regulation will become effective April 1, 2023 in both Black and Pickerel lakes.

Both Tom Ludwig and Bob Garant from Long Lake by Alpena said that the last several years the pike population has expanded greatly and there are complaints from anglers that there are too many small pike in the lake. Tim mentioned that data collected several years ago did not show an issue with stunted pike. Frank encouraged Tom and Bob to collect as much information, photos, and other documentation as possible and keep pushing DNR for a survey.

### **Roles and responsibilities of participating members to disseminate information to their lake groups/other stakeholders (Frank Krist)**

Frank began by stressing that there is a lot of productive exchange of information at these meetings between the MDNR, LTBB, universities, other agencies and the huge diverse group of stakeholders including Lake Associations, anglers, businesses, news media, interested persons and others. Tim and Frank have been wondering how to better share the discussions and decisions made at these meetings with others that do not attend.

It was suggested that the Committee create a Facebook Page. The question then came up, who would monitor and maintain the Page? It was suggested by a few members that the DNR should have not only a Facebook Page but other ways of communicating ideas to the public. Frank said that the DNR has little of no time or practical way of commenting on the various details of the Advisory Meetings and we are **asking what your organizations and individuals can do** to share the discussions that are occurring at these meetings.

Tim asked if any of the groups post the agendas and minutes on their website or Facebook Pages. Some indicated that they do share some of the information discussed at the meetings with their members in newsletters. It was also noted that it would be more timely if the minutes were completed in a month or less time.

Several Advisors commented that they could put the minutes and agenda on their websites and Facebook Pages. One reason that this has not been done sooner is it was not clear that they were free to post the minutes. If they do not want to post the entire minutes they can use the following link to direct users to the Northern Inland Lakes Citizens Fishery Advisory Committee Website page, <https://www.michigan.gov/dnr/about/boards/fish-citizens/inland> The site usually has up to 2 sets of minutes and agendas available for public review. This was a very productive discussion and we will continue to share ideas on this topic at future meetings.

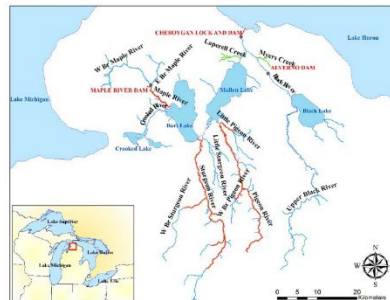
## Inland Waterway Sea lamprey control and research program update for the Inland Waterway rivers (Dr. Nick Johnson, Supervisor USGS Hammond Bay Biological Station)

Tim welcomed Dr. Nicholas Johnson as the new Supervisor at the U.S. Geological Survey, Hammond Bay Biological Station. Nick mentioned there is a lot of history at the station and he has some big shoes to fill. For example, Dr. Roger Bergstedt, who was present at this meeting, was Supervisor of the Station until 2010 and he accomplished a great deal of innovative work.

Nick began by providing a progress update on Sea Lamprey control in the Pigeon, Sturgeon, and Maple Rivers within Michigan's Inland Waterway. It has been about 7 years working with this Advisory Committee and Nick finished the discussion with future options.

## Sea Lamprey in the Inland Waterway

### Outcomes of experimental sterile male release



**Sterile Male Release** is known as a supplemental sea lamprey control method. The sterile males no longer feed on fish and mate with females. Lampreys die after spawning and their offspring dies – dead end for all. The traditional methods of controlling Sea Lamprey have been (1) lampricides (lamprey-specific pesticides) that kill larval lampreys before they transform to blood feeding parasites and (2) dams blocking the movement of spawning lamprey into suitable habitat. Other sea lamprey control methods such as releasing sterile males are being tested to determine if they can supplement the need for these primary control tactics.

These supplemental treatment methods are managed by the Great Lakes Fishery Commission through a program known as the **Supplemental Sea Lamprey Control Initiative or SupCon**. The Pigeon, Sturgeon, and Maple rivers are three of 12 streams where supplemental controls are highly desired by sea lamprey control staff (USFWS, Fisheries and Oceans Canada). Funding for sterile male release in the Inland Waterway is in place for 2023, but not in years beyond. Therefore, we are at a crossroad: Should we continue sterile male release during 2024 and beyond in the Inland Waterway and if yes, how continuing sterile male release in the Inland Waterway may limit application of sterile males in other streams where supplemental controls are desired? Feedback from stakeholders at this meeting is important. The



following outlines the Sea Lamprey control program in the Inland Waterway prior to 2017 before the sterile male program began, during the study from 2017 through 2023, and potentially continuing this work into the future.

#### ***Treatment of Sea Lamprey in the Inland Waterway prior to 2017:***

- Prior to 2017 in the Pigeon, Maple and Sturgeon Rivers, Sea Lamprey were controlled using **lampricides** applied roughly every 3 years.
  - While treatments are largely effective, they are expensive, and do not kill all sea lamprey. Hence the need for repeated treatments.
  - Recent removals of dams on the Maple and Pigeon Rives have increased the cost and challenges associated with treatments.
  - Continued reliance on lampricides could drive the population to become resistant to the application, which is a concern for sea lamprey program managers throughout the Great Lakes.
- The number of spawning Sea Lamprey in the Pigeon, Sturgeon, and Maple Rivers has been **very low** with annual abundance estimates at less than 200. This small number of adults, however, can produce many larvae that could mature and move throughout the Waterway and into Lake Huron.
- However, because the population of spawners is low, the feasibility of overwhelming the population with sterile males is high.
- If successful at stopping sea lamprey reproduction, the **sterile male release method costs less than lampricide treatment** and has minimal to no impact to non-target species or stream users.

#### ***Starting in 2017***

- Sterilized males were released in the Sturgeon, Maple, and Pigeon Rivers for the first time. This Committee provided a letter of support, funding was provided by the Michigan Invasive Species Grant Program and the Great Lakes Fishery Commission. The program continued in 2021, 2022, and 2023 with support from the Great Lakes Restoration Initiative and Great Lakes Fishery Commission through the SupCon Initiative.
- The sterile male release method has been very effective in the **Maple and Sturgeon Rivers**, so they **have not been treated with lampricide** since 2016 - eliminating about 2 chemical treatments. It was nearly impossible to find larval sea lamprey in years when sterile males were released. The results to date have been largely as effective or more effective than traditional controls.
- Sterile males reduced the abundance of larval lamprey in the **Pigeon River** but did not eliminate them. Therefore, the Pigeon River was treated with lampricide in August 2022 – a delay in treatment of 2 years. The likely reason the sterile males were less effective in the Pigeon River is because the sterile males were not maturing at the same time as the wild males because of temperature difference in the Pigeon River.

#### ***COVID lapse in sterile male release in 2020***

- **Sterile males were not released in 2020** due to complications caused by Covid. Because of this, there is evidence of Sea Lamprey spawning during 2020 in both the Sturgeon and Maple Rivers. To be effective, sterile males must be released every year so the missed sterile male release treatment in 2020 will probably require a lampricide treatment to kill the lamprey larvae that were produced that year.
- **Note:** After the meeting, Nick learned the USFWS is planning to treat the Sturgeon River with lampricide in 2023. The need to treat the Maple will be determined after surveys in summer 2023. Treatment plans will be communicated with partners as dates and timing firm up.

#### ***Plan for 2023 and Beyond***

- Hundreds of streams around the Great Lakes have sea lamprey and there is interest in testing sterile males in as many as 9 streams starting in 2024. The challenge is the **number of sterile males is limited** by how many are captured in sea lamprey traps, so the study team needs to weigh options and seek feedback from partners on where sterile males can do the most good for controlling sea lamprey in the Great Lakes.
- Also, it needs to be stressed that sterile males only work in specific situations – those where adult spawning populations are low and therefore can be overwhelmed with sterile males. The Inland Waterway happens to be a location where using the supplemental method of releasing sterile males appears to be well suited to reducing dependence on lampricides because of a low abundance of spawning adults.

- The experimental release of **sterile males is scheduled to end in the Waterway after 2023** unless it can be authorized again. **Without the use of sterile males**, the probabilities are very high that lampricide treatments will be needed again every 3 to 4 years.
- There is **funding** to release sterile males in the Waterway **during 2023** but we are at a crossroads as to where the sterile males can best be used beyond 2024. Feedback from the public is important: If there is little support in continuing, our decision to test the technique elsewhere becomes easier; if there is strong support, the team will take a hard look at options for continuing beyond 2023.

### Committee Open Discussion of the Sterile Male Release Program:

**Question:** Can more lampreys be sterilized at the Biological Station?

**Answer:** Since 2017, our goal has been to sterilize 3 - 4,000 males with a small 'hotshots crew' from USFWS for release in the Inland Waterway. Nick said that in the early 2000s, as many as 20,000 male sea lamprey were sterilized for release in the St. Marys River. However, a major **obstacle to sterilizing a larger number of lampreys** is that the lamprey program has worked so well there are much fewer Sea Lamprey caught in the traps in the Cheboygan River. There is potential, however, to possibly sterilize 10,000 Sea Lamprey annually if the program was scaled up to levels used in the early 2000s. Feasibility of doing so would need to be determined together with USFWS. In addition, the building where males are sterilized was built in the 1990s and needs significant upgrades. We are currently looking into funding options for upgrading the facility to streamline sterilization and study other aspects of sea lamprey biology/control.

**Question:** Is it **more expensive to treat the Waterway with sterile males or chemicals**?

**Answer:** The annual cost for **sterile male release** is about **\$50,000 - \$75,000** depending on how long it takes to source and sterilize the lampreys. The cost to apply lampricide to the Pigeon, Sturgeon, and Maple (combined) is about \$500,000 to \$750,000 depending on the distribution of sea lamprey and water levels. So, if **lampricide treatments** occur every 3 years, the annual cost is roughly **\$200,000 per year**.

**Question:** The lampricide is a chemical so is it toxic to other species living in the rivers?

**Answer:** The chemical selectively kills lampreys and requires highly experienced staff for applications. A specially trained crew of USFWS sea lamprey control agents carry out all treatments in Michigan waters. For example, if applied at the wrong time of year very young sturgeon can be killed. Native lampreys (American Brook, Northern Brook, Silver lampreys) are also susceptible to the chemical. There is some evidence that it can affect mayfly hatches, but populations can recover a year or two after treatment. Stressed spawning fish like salmon can be killed if the lampricide is applied at the wrong time. While the chemical is expensive and challenging to apply, the USFWS crews are highly trained and do everything in their control to minimize non-target mortality. Lampricides are the reason sea lamprey control has been a major success in the Great Lakes for the past 60 years.

**Question:** Is there still interest in taking **photos** of fish in the Waterway that have **lamprey wounds** and if Sea Lamprey are captured should they be given to Nick?

**Response:** Nick mentioned that both the photos of wounds and any captured Sea Lamprey would **definitely be useful**, and Nick will provide a factsheet on collecting the information to Frank and he will send it to everyone.

**There was very strong support for continuing the Sterile Male Program in the Inland Waterway.**

There was much discussion followed by overwhelming support that the Sterile Male Program be extended into another treatment cycle. The Advisors and other participants wanted to be notified if there will be a comment period so they could express their strong support for the program. Frank asked Nick to be sure to notify him if there is any comment opportunities for the Committee and individual members to express support. Nick will definitely keep us informed.

**Roundtable Discussion**

Frank began this session by encouraging everyone to participate.

***Little Traverse Bay Bands of Odawa Indians:*** Gary Michaud, mentioned that after adjustments in staff 2022 was a good year and the crew was able to survey 7 lakes and 3 rivers working with walleye, sturgeon and whitefish. At the next Advisory meeting in the spring, he will share the workplan for the 2023 season. If anyone has comments or questions Gary will be available throughout the meeting.

***MDNR Law Enforcement:*** Frank introduced Nickolas Torsky from the Great Lakes Law Enforcement Unit and he was recently promoted to Lieutenant. Even though Lt. Torsky is assigned to the Great Lakes Unit he is a liaison and shares Law Enforcement updates and activities, and answers questions at both inland and Great Lakes Advisory Committee meetings and other gatherings. Law Enforcement has been expanding their work with aquatic invasive species and education of the public is an important aspect of that program. Lt. Torsky is from the area and grew up fishing the local lakes and he has a vested interest in them. The officers in the area were contacted and no significant arrests or complaints related to overfishing or other fishing violations happened since the spring meeting. During Covid and coming out of it there has been a lot more boating pressure in general and a lot of that activity was not necessarily all fishing related. There were a lot more arrests for boating under the influence and investigations of crashes. The boating safety patrols have been very busy.

Frank mentioned that when he drives down the road that some people are very considerate but there are others that are totally rude and inconsiderate. Do you and the other officers notice that poor attitude in the field when working with the public?

Lt Torsky responded that there has been no significant anti-police or anti-government attitude that they encountered. The public has actually been very good and considerate to work with.

***USGS Hammond Bay Biological Station:*** Nick Johnson reported that work is beginning on an interpretive center that will highlight the work that is conducted at the Station. It will be open to public tours but most likely will not be completed until 2025. This will be a great opportunity for kids and grandkids to see and handle lamprey and learn about ecology. The station is located on Ray Road just about 2 miles east of the Ocqueoc River mouth.

***MDNR Tribal Coordination Unit:*** Emily Martin indicated that it appears that next year they will be involved with a Sturgeon survey again working with the other crews.

***Black Lake:*** Ron Dulak said that the lake level control issue is being successfully worked out between the owner of the Dam and the DNR so the Association is pleased. The agreement will be finalized in another year and it will be good for the lake. Fishing around the lake has been about the same, if you know where and how to fish you can catch them. An angler commented that he did not catch even one undersized walleye this year, which is not good for the future.

Roger Bergstedt reported that the Tip of the Mitt Watershed Council helped the Black Lake Association obtain a grant to pay for obtaining equipment to conduct more comprehensive water quality sampling every 2 weeks. This should help

learning more about the role nutrients have and what factors may be contributing to the sporadic algae blooms. Caroline Keson from Tip of the Mitt Watershed was very helpful in obtaining the grant.

Ron Dulak said that the Onaway State Park has a new Pavilion which is an excellent facility. The Black Lake Association is working closely with the State Park and the Association is purchasing playground equipment that will be install nearby. Ron encouraged everyone to visit the new Pavilion.

Brenda Archambo said the Black Lake Sturgeon season will begin Saturday February 4, 2023. Everyone is wondering if the event will run longer than 30 minutes. Brenda announced that she is retiring as President of the Black Lake Chapter of the Sturgeon for Tomorrow in June after 28 years. Frank stressed that if Brenda was not involved, there would be no sturgeon in Black Lake because they would have all been poached. The Black River Patrols were key to protecting the sturgeon. Without Brenda there would have been no collaboration with MSU and the building of the hatchery which means there would have been much less emphasis on increasing the sturgeon populations in Burt and Mullett Lakes. Brenda with strong support from Gil deserves much credit for her remarkable leadership. Jay Woiderski, a current director of Sturgeon For Tomorrow, will be taking over for Brenda and is looking forward to the challenge.

**Tip of the Mitt Watershed Council:** Caroline Keson also mentioned that she has been working with the Black Lake Association to obtain a grant to purchase equipment for more extensive water sampling. Since there is much concern about the reoccurring harmful algae blooms in Black Lake she is applying for grants to research this issue. As a backup plan, Masters students has agreed to doing non-point source pollution monitoring in the Black Lake Watershed to start in 2023. In other parts of the Waterway, including Crooked, Pickerel, and Burt Lakes along with Douglas Lake there will be work with waterfront property owners on improving habitat and reducing non-point water pollution. A shoreline survey of Burt Lake is being completed and it does have a map of the substrate of the entire shoreline that may be of assistance for fishery managers and others.

**Michigan Muskie Alliance:** Will Schultz, JP Van Ostenberg and Duke LeBaron appreciated the opportunity to attend the meeting and provide input.

**Grand Lake: Robert Wysocki and Paul Borg** reported that fishing in the fall was good for walleye and yellow perch. There are few walleye larger than about 21 inches and there may be interest in the future discussing a 13 inch minimum size limit.

**Mullett Lake:** John Gannon from the Mullett Lake Area Preservation Society said they are working on a plan to deal with invasive species. Aloha State Park is developing on a new Master Plan and we are working on collaborating with the park to provide educational material. John is a professional scientist and has lived on the lake going back into the 1970s and has recorded the changes in the nearshore environmental conditions every year. He will be putting his report in the Association Newsletter. Frank mentioned that it would be good if he could obtain permission to send John's report to everyone.

Brad Kessel said the fishing was good on Mullett Lake during the year. There are lots of both legal and sublegal walleyes and it appears that there are many year classes. We caught several walleye over 20 inches with a couple 24 and 25 inchers. All the walleye look fat and healthy. Both the perch and walleye are feeding on gobies and small perch. The perch appear to be doing well and we caught several jumbos in the 12 to 13 inch range. No cisco were taken in the summer but we caught several in the winter jigging for walleye. Our boat caught 7 sturgeon this summer while jigging for walleye.

During 2022 Steve Phillips' boat caught loaded with his grand kids, caught 363 Pike, 103 Walleye, 19 Smallmouth, 70 Steelhead, 5 Cisco, 2 Brown Trout for a total 562 fish. The largest fish caught were a 34" Pike, 24" Walleye, 20" Smallmouth, 28½" Steelhead, 19" Cisco and a 20" Brown Trout. Seems like there are fewer pike and they are smaller. Only 1 out of 10 Pike are keepers. Most trout had nothing in their stomachs. Those that did have food in their stomachs

had spiny water fleas. Spiny water fleas are very abundant to the point of being annoying on the downrigger rigs. We caught a 19" cisco which is the largest cisco I have seen from Mullett Lake. We caught a 12 ½" rockbass, which is the largest rockbass I have ever seen in Mullett Lake. Most of the walleye were caught at night. There were more large gobies this year up to 4½". Seemed like fishing pressure was way down. It seemed like there were more weeds than ever and saw weeds in locations where we had never seen them before. Plenty of small perch, but no more than 10 jumbos all summer. Caught one steelhead with sea lamprey still attached.

***Crooked and Pickerel Lakes:*** Wayne Blomberg noted that this spring that he found dead panfish along the shore. After the winter ice melts they often see some dead panfish along shore but this year there was a few more than normal. On the open end of Crooked Lake we noticed a couple hundred cormorants but they stayed less than a week. Anglers seem to like the new liberal pike regulations. Finally, a person observing the locks on Crooked Lake noticed that for the second year small sturgeon were congregating in the new gravel below the lock. Last year and this year were the first times this has occurred.

***Long Lake: Tom Ludwig and Bob Garant*** reported that their organization is in charge of the dam that regulates the water level on Long Lake. They are responsible for maintaining the dam and it has 5 bays each with several timbers that had to be replaced. They upgrade a bay each year with 2 more bays to complete. Another problem is there are many beavers in Long Lake Creek that build dams every year that must be removed in the fall otherwise the water will back up into the lake and cause flooding. There is a public landing at the end of Parallel Ave that washes out each spring so the Association bought new concrete slabs that the Presque Isle County Road Commission volunteered to install. Along the east side of Long Lake adjacent to US 23, the County Park is being upgraded. A new launch and parking area will be installed. Fishing is good and bad in Long Lake depending on the day and what an angler is fishing for. There is a huge overabundance of smallmouth bass in the lake. A limit of bass is easy to catch in the summer and winter. On the other hand, walleye and yellow perch are becoming challenging to catch. One reliable veteran perch angler over the years has averaged 300 to 400 perch taken each year. This year he took less than 100 perch. Our Association is becoming very worried that between the large number of smallmouth bass and the expanding stunted pike population that there is too much predation to produce a thriving walleye and yellow perch fishery. Frank encouraged Tom and Bob to continue documenting the expanding pike population and keep encouraging Tim to survey the lake.

***Burt Lake:*** Jim Burke thanked everyone for the productive discussion on the issues surrounding the sturgeon survey in Burt Lake and no matter what happens this coming year their Association will work with its members and everyone else to have a good outcome. Much work is going into the sturgeon education program and there will be public displays in town when the project is completed. It was mentioned that the holiday hat on the Sturgeon at the entrance to town was impressive and no doubt was attracting a lot of attention.

Tim and Frank wrapped the meeting up by asking if there was a preference for one or two meetings each year. There was a consensus that there are always enough items to discuss and there should be 2 meetings each year.

Natural Resources Commissions Tom Baird, David Cozad and Carol Rose stressed that they all appreciated the very productive discussions during the meeting. Having respectful dialog between the advocates of resource and the management agencies is extremely effective and they are looking forward to future meetings.

Meeting adjourned at 3:20 pm.