AGENDA
Minnesota 1837 Ceded Territory Fisheries Committee
Wednesday January 20, 2021 at 9:00 am
Thursday January 21, 2021 at 9:00am (if needed)
Zoom

1. Introductions

   Introductions made and attendance recorded by Tom Jones (attached)

2. Review and approve agenda (Action)

   Agenda approved with no changes.

3. Distribute past meeting minutes (Information)

   State book contained minutes from January 2020 and July 2020 minutes. October 2020 minutes have not been finalized. Mark Luehring will follow up on this.

4. Update 2020 Harvest (Information)

   a. State

      Included in the booklet on pages 12-15. Eric Jensen presented two sets of harvest numbers, one with Tribal angling interviews and one without. Harvest that includes Tribal interviews was used for modeling, while harvest without Tribal interviews represented State harvest. Estimated State angling kill for walleye in 2020 was 24,996 fish/ 66.748 lbs. Northern Pike harvest was 1,348 fish/6,852 lbs. Yellow Perch totals were 2,880 fish/2,564 lbs. Harvest of tullibee was 24,887 fish/33,290 lbs, and harvest of burbot was 620 fish/702 lbs.

      Walleye angling catch rates were again very high in 2020, suggesting low forage.

      Tribal angling harvest was estimated as the difference between the creel estimate that included tribal angler interviews and those that did not include tribal angler interviews. This estimate was about 1,500 lb; however, other methods should be employed to obtain more reliable estimates.

      Open water walleye angling effort has dropped from over 90% of all anglers to less than 50% in some recent years while there have been increases observed in bass and muskellunge angling effort. Most winter anglers still target walleye.

   b. Bands - Handout

      Ben Michaels presented results for 2020 Tribal harvest totals (handout attached). Harvest for walleye totaled 17,581 fish/33,113.3 lbs., northern pike harvest was 251 fish/ 1,267.0 lbs., and yellow perch harvest was 13 fish/ 13.4 lbs. Other species were also included. Catch of major species and length frequencies for walleye and pike were presented.

      No harvest occurred on lakes other than Mille Lacs in the 1837 Ceded Territories.

5. Update of 2020 assessment data (Information)

   a. Annual Fall Assessment (MNDNR) – in book

      Assessments were summarized by Eric Jensen and presented in the State book. Gill net catch rates for walleye have been fairly stable for the last few years. Catch per effort (CPE) was higher in inshore nets than in offshore nets. This difference in catch rate from past years is speculated to be related to changes in forage distribution. The 2013 year class is still the dominant year class and the abundance of the 2017 YC appears above average.

      Walleye of all lengths showed below-average condition. Growth rates are reduced and the 2013 YC females are generally shorter than expected for their age. The combination of below-average condition and slow growth suggests insufficient forage.

      Juvenile walleye sampling by electrofishing produced catches of young-of-year (YOY) walleye that

were slightly below the long term median, and few age 1 walleye were observed. Only one netter was used due to Covid protocols, which may have affected catch rates. YOY walleye in forage nets were low.

YOY perch catch in the forage nets was at median value. Walleye angling catch rates slowed in late summer, supporting the possibility of an increase in perch abundance. Most perch were caught in the shallow forage nets. This was not uncommon over the time series, but more pronounced in the last two years. There is some uncertainty over the absolute abundance of forage because high catches only occurred in parts of lake (shallow water).

Pike CPE was about median in inshore gill nets. Adult yellow perch catches in gill nets remained below historical levels.

Tullibee gill net CPE in 2020 was about the same as in 2019. John Hoenig identified a decline inshore, while offshore catch rates increased, and suggested that there may be changes in habitat suitability. YOY tullibee are occasionally more abundant than yellow perch in forage nets, from which Jon Gilbert suggested the potential importance of tullibee as an alternate prey for walleye when perch abundance is very low.

b. GLIFWC Assessments (Electrofishing) - Handout

Electrofishing stations were subsampled (instead of sampling the entire shoreline) due to fewer sampling crews because of Covid-19. Sampled 121 YOY per mile, but few age 1 walleye. High catch rates of YOY walleye in 2020 may be related to the change in sampling locations. GLIFWC, FDL, and MLB expect to employ some form of subsampling in the future.

6. Walleye modeling reports (Discussion)

a. Review from October Meeting

(Power Point Slides, **attached**) - Reviewed population status. The catch rate of mature walleyes in all 52 assessment gill nets was 19.4 lb/net SSB, similar to recent years. Juvenile index was 1.14. The walleye population was placed in category 4 (ranked from 1-5) of the decision tree, because mature walleye gill net catch rate was less than 20 lb/net.

b. Modeling subgroup summary – power point Mark

The modelling subcommittee presented slides on the stock assessment models. All models indicated a slight decline in the adult walleye population this year, but SSB was still higher than during 2013-2016. The 2016 and 2017 year classes look about average. 2017 males will start to recruit in 2021. The walleye population has not changed dramatically over last 5 years. John Hoenig added that recruitment does not look as bad as it once did, but we can't yet tell if the stock can continue to grow or not.

7. Set 2021 walleye harvest level for Mille Lacs Lake (Discussion/Action)

a. Process for recommending 2021 walleye harvest level –

The committee agreed that fishery goals should be more instrumental in setting harvest levels, however, the process of setting harvest levels based on fishery goals has not been fully established. John Hoenig proposed three areas of questioning that need to be addressed:

- What are the goals? How would you like fishery to look?
- How to set allowable catch? Consider allocation, overages, equity, etc.
- What are the danger points? How do we set thresholds?

Brad Parsons indicated that the State fishery goals are to provide maximum angling opportunity, avoid unplanned closures, and allow harvest when possible. Brad recommended considering other data, such as high catch rates and poor condition, which may suggest low forage abundance. State would like a quota that will allow some open-water harvest, although it was not decided on when that harvest should occur (May or in the fall).

Brad asked Bands about their fishery goals. Katie Draper replied that the Mille Lacs Band would like to see short-term population stability, long-term sustainability or increase if possible, and State regulations that won't lead to unplanned closure or overage. Katie noted that Mille Lacs Band is supportive of developing a plan with the State to avoid adverse local effects of State angling closure. She also noted that she believes the lake is not in a healthy state and a conservative approach should be implemented.

b. Review Regulation Projections

Patrick Schmalz presented a Powerpoint showing the evaluation of 14 angler regulation scenarios using an operating model to project walleye population responses for each scenario. All simulations assumed a tribal harvest of 62,200 lb using a mixed GN/spear selectivity similar to last year.

The median State harvests from all but one scenario were similar to last year's harvest, and most of the runs (as indicated by the 95% intervals) were below the 2020 state share of the allowable harvest. All 2021 harvest scenarios result in no appreciable change to spawning stock (biomass and number) in 2022.

When looking at changes over more than one year, most scenarios show slow, steady decrease in males with little change in females over 5 years. The "1 fish harvest all year" scenario was projected to reduce female SSB to lowest observed after five years.

Katie Draper offered another specific scenario for evaluation: A year round harvest slot of 21-23 inches with planned closures from July 16-31, August 16-31, and September 16-30. The thinking was to reduce hooking mortality during warmer times of year while providing walleye angling during holiday weekends. Katie further suggested the State should promote bass and muskellunge during closed periods.

c. Effect of 2021 harvest on 2022 spawning stock –covered in part b.

d. 2021 walleye harvest level for Mille Lacs Lake. The State proposed a 100,000 lb State quota and did not think a small decrease in SSB would hurt the walleye population. The State would impose walleye regulations expected to kill 60,000 to 70,000 pounds, but requested some breathing room to reduce angst associated with approaching quotas. The Upper 95% bound state harvest in most scenarios is around 91,000 lb.

John Hoenig countered that a conservation cap should alleviate angst, and that State quota should be based on scenario medians (about 62,000 lb), with a higher level as a conservation cap that will not require shutdown, but will require payback. John remarked that last year's harvest level of 150,000 lbs would give the State 87,800 lbs, which would not be a conservation problem, so it becomes a policy question for others. After hearing that a 97,000 lb State kill would result in a population decline of 3%, John concluded that a 100,000 lb conservation cap did not seem harmful.

Jon Gilbert noted that the allocation was divided as 70/30 for first 64K of the harvest level and 50/50 for any remaining harvest above 64K in the Consensus Plan, but that a higher Tribal quota would be more attractive to members that travel farther.

Proposal: Harvestable surplus could remain the same as in 2020 (150,000 lb); state share 87,800 lb, tribal share 62,200 lb, conservation cap for the state fishery at 100,000 lb. Fishery committee reconvenes if state approaches 87,800 lb to see if something can be done to prevent exceeding 87,800 lb.

Some tribal representatives expressed frustration with the concept of overage. Brad explained that the flexibility prevents unplanned closures in the absence of biological need. The state does not intend to implement a regulation targeting the full quota because that increases the chance of requiring an unplanned closure. Equity can be achieved through balancing the books. Tribes would like to engage with the state to discuss ways to potentially eliminate overages in the long-term.

A draft overage plan needs to be shared with committee so that both sides know what will occur if

State exceeds quota (Jones).

8. Northern pike information (Discussion)

    a. Northern Pike surplus production models – GLIFWC

    Results from this year's run of the Northern Pike surplus production models were presented. Handout provided.

    Low harvest over the last few years results in model output indicating an increasing pike population while gill net catches suggest that the population has gone down. Management goal is to have a pike population between 120,000 and 200,000 lb. A population estimate would be useful to anchor model output.

    b. Northern Pike harvest level goals – The committee did not revisit the harvest target range of 35,000-50,000 lb at this meeting. A population estimate is needed to determine how close the population is to the goal range.

    c. Northern Pike 2021 harvest limit

    Leave at 100,000 lb. This harvest, while not sustainable, would be safe for one year, and low harvests in recent years suggests that substantial harvest is unlikely.

9. Harvest limits for other species in Mille Lacs Lake (Action)

    a. Tullibee – stock assessment model (handout attached)

    Recent high harvest in 2020 initiated concern over allowable harvest levels. Tribal biologists ran a surplus production model for tullibee. Model and gill net data agree that biomass has been increasing since 2002. Two high harvests (2011 and 2020) caused dips in modelled biomass. Actual population responses to high harvests are not known. Equilibrium yield for 2021 is estimated at approximately 18,000 lb.

    GLIFWC noted that increasing the tullibee population is possible, and the break-even harvest level this year is about 18,000 lb. Additional protection could eliminate the occasional high harvest.

    Tribes expressed a desire to maintain and increase the tullibee population as an important part of the Mille Lacs Lake fish community. They believe the population will increase faster if the State initiated more restrictive regulations to eliminate the occasional high harvest. The State believes that the ongoing population increases despite the occasional high harvest indicate that the restrictive regulations implemented in 2002 are sufficiently conservative as long as high harvests continue to be sporadic.

    Yellow Perch – State and Tribes agreed that the current allowable harvest is probably too high. State is interested in exploring perch dynamics. Gill net data appears inconsistent over time. Tribes did try to model the perch population, but could not obtain good model fit.

    b. Burbot – Both sides agreed that burbot numbers are very low, and agreed to curtail burbot harvest via a catch and release regulation.

10. 2021 Inland Waters (Information/Discussion)

    a. Walleye harvestable surplus and threshold values

    Values for 2021 in State book and Tribal handout.

    b. Proposal to handle inland waters outside technical committee –

    No objection. Ben Michaels and Tom Jones will make annual estimates and check numbers. Anything unusual will be brought back to this committee.

11. 2021 Management and research activities (Discussion)

    a. Mille Lacs Band Fisheries Update

Stocked 60,000 walleye fry in Ann Lake. Walleye fry stocking goals for 2021 still in development.

Retrieved receivers and deployed data loggers in the acoustic telemetry study. Still going over telemetry data. Planning to continue tagging and tracking fish. Would like to include additional species. Hoping to tag 20 smallmouth bass this spring, and will coordinate with MN DNR staff during their SMB electrofishing this spring as a potential source of the fish. Another proposal is being prepared to continue and possibly expand on that work with wet lab studies.

Aaron Schulz and Carl Klimah have drafted a paper about setting up telemetry arrays in a large lake. Carl is also doing a paper on Native American fisheries history. Both for an upcoming AFS book. Also working on a manuscript for adult and juvenile walleye habitat use.

b. Invasive Species Monitoring

No zebra mussel surveys were conducted last summer due to MN DNR COVID protocols that prevented three people in a boat. Will resume this summer.

c. Large Lake Assessment work

State is planning on collecting zooplankton and water quality samples, conducting ice-out netting for northern pike, and running a smallmouth electrofishing survey. Tom Heinrich will coordinate with Aaron Schultz to provide some bass for the telemetry study. Also looking at forage assessment this summer. Fall sampling will include standard forage netting, electrofishing, and fall gill nets. Zooplankton samples from 2020 were not analyzed due to retirement of zooplankton biologist. Position has now been filled and samples should be enumerated soon.

Tom Heinrich proposed permanently ending the setting of the pike gill net (GNP) that were not set in 2020. Spring pike sampling probably provides better data on size structure. Relative abundance will be monitored by the standard GN assessment. A subset of assessment gill nets that historically catch pike may also be useful. Bands agreed to the State's decision to end the pike gill net survey as long as annual spring surveys and periodic pike population estimates are continued.

d. GLIFWC Sampling

GLIFWC, FDL, and MLB intend to continue spring and fall electrofishing for juvenile walleye. Still working out how best to subset shoreline sampling.

e. Modeling subcommittee

Past year, MSC worked on what it might look like to include fishery goals in setting harvest levels for walleye.

Future work…Katie Draper proposed harvest scenario with closures in 2nd half of July, August, and September. State will ask Missy Treml to run this scenario to see what harvest will result and how it would affect the walleye stock.

Katie also proposed that the MSC would discuss management structures that could result in no future overages for the State. This was determined to be a policy question and passed to leadership.

f. Research subcommittee

This subcommittee was charged with reviewing perch and tullibee data to see if reasonable methods for determining allowable harvests could be found.

g. MNDNR Research Presentation: "Walleye production Mille Lacs" – Heidi Rantala, Research Scientist

Heidi showed that walleye production has declined over time. The loss in production correlated strongly with reductions in optical habitat. Loss of optical habitat may be driving walleye production, but production is highly variable and causes of variation have not been well explored.

12. Next meeting

a. Set date and location for summer meeting (Action)

Tuesday July 20. State will attempt to host an in-person meeting, location TBD. Revisit date in May to see if Covid rules will allow in-person meetings. Date may be adjusted to accommodate.

Attendance January 20

Tribes

Jon Gilbert

Brian Borkholder

Adam Ray

John Hoenig

Ben Michaels

Aaron Schulz

Katie Draper

Kelly Applegate

Carl Klimah

Mark Luehring

Reggie Defoe

Kia Hmielewski

Lyle Chapman

Carson Akely

Conrad St. John

State

Brad Parsons

Brianne Nerbonne

Eric Jensen

Patrick Schmalz

Tom Heinrich

Tom Jones

Attendance January 22

Same as above except add Robert Gorecki for State and remove Conrad St. John from Tribes