

Date: 11/9/2009

Subject: Notes from meeting with Leech Lake Advisory Committee (LLAC) subset group

Location: Hiawatha Beach Resort

<u>Participants:</u>	<u>Identified in notes as:</u>
Charles Anderson (Fisheries Research Supervisor, Populations and Community Ecology Group)	C.A.
Larry Jacobson (Resort Owner, Hiawatha Beach, LLAC member)	L.J.
James "Jim" Bedell (LLAC member)	J.B.
John Annexstad (LLAC member, NASA, retired)	J.A.
Ivan Paulsen (LLAC member, CA Dept. of Fish & Game, retired...was involved with the Lake Davis northern pike removal)	I.P.
Brian Herwig (Fisheries Research Biologist, observer/note taker)	

List of action items/information needs:

- Better methods for sampling small walleye...electrofishing (Parsons/Borkholder), hydroacoustics, fine-meshed gill nets (Reeves)
- Pauly's natural mortality rate for Leech Lake. LLAC asked – what about different rates for different parts of the lake. One population vs. separate populations?
- We should be evaluating slots: 1) cannibalism, suppression effects, 2) DNR should be open to dropping some slots (and adjusting others), 3) goal should be finding balance between numbers of quality-sized fish and numbers of harvestable "eater-sized" fish.
- Doug Schultz needs to be asked what he used for the QABG/spawner stock biomass – Mille Lacs parameters or Leech Lake parameters...probably he used Mille Lacs swimming speed as Charles did in his analysis???
- Adjusted estimates by size...take back to ages and estimate mortality.
- Send copies of QABG graphs – convert to lbs and inches, error-check results.
- Don Pereira and Missy Drake could run Mille Lacs model to compare different areas of Leech Lake (performance of nets in different areas of the lake).

Larry's final list of questions/points at end of day:

- 1) Why did the Walker Fisheries Office not recognize the impending collapse despite the community (and resorts) saying that there was a problem with the fishery? (they were apparently told they didn't know how/where to fish)
- 2) Spawner-stock biomass, 2/3rds drop- why not red flag? (I'm not sure what this question was entirely about ...I got lost in trying to follow this).
- 3) Is it realistic to say Leech Lake recovered in 2 years?
- 4) What does it take to recognize a future collapse? Are there any better tools? C.A. – fundamental issue/shortcoming is that we don't have good info on year class strength until we've sampled the cohort once or twice in the gill nets.
- 5) Where to set the bar (for response) for all metrics, whatever they may be? He did say it this way, but he was arguing for the "precautionary principle" ... set metrics conservatively (i.e., high), so that there's a high certainty of a stable fishery.
- 6) Why doesn't Walker work with other offices? Look to other states and provinces for expertise?
- 7) Why aren't questions being asked? In the sense of networking within the DNR. C.A. talked about the annual Large Lake Meeting, research folks accessible to management.
- 8) What new practices are being implemented? (e.g., for sampling of YOY walleye)

- 9) 2005 classified as good year – because grew fast and into protected slot? (I think this was the essence of bullet #9??)
- 10) Productivity of nets in different parts of the lake? Needs to be looked at...C.A. suggested D. Pereira and M. Drake could use Mille Lacs methodology to look at this.
- 11) Calculate new (better) mortality rates, Pauly/QABG??
- 12) Year class strength – better methods to assess?
- 13) Develop stocking rate based on mortality rate? (Essentially, a work backwards approach from the target adult population)
...issues here: mortality of age-0 and age-1 walleye poorly known and highly variable
...OTC marked vs. unmarked fish should help with understanding this...
- 14) Establish targets/thresholds based on previous years...
- 15) Correlations between growth and 50% maturity (or mortality, not sure?) and what it means for productivity of future fisheries.
- 16) Gill nets and YOY numbers...
- 17) Growth and overwinter survival – any relationship?
- 18) Any correlations between gill nets, electrofishing, trawling, and other methods? Make electrofishing more useful, adjust methods if needed –what do we need to do? New study...Parsons...YOY walleye electrofish CPE in fall & related covariables.
- 19) If more man-power needed to understand the lake better, then we should get it.
- 20) Any way to better incorporate uncertainty...e.g., confidence intervals, etc. on YCI, female spawner stock biomass, etc. Charles was going to think about this.

Unedited notes follow here: