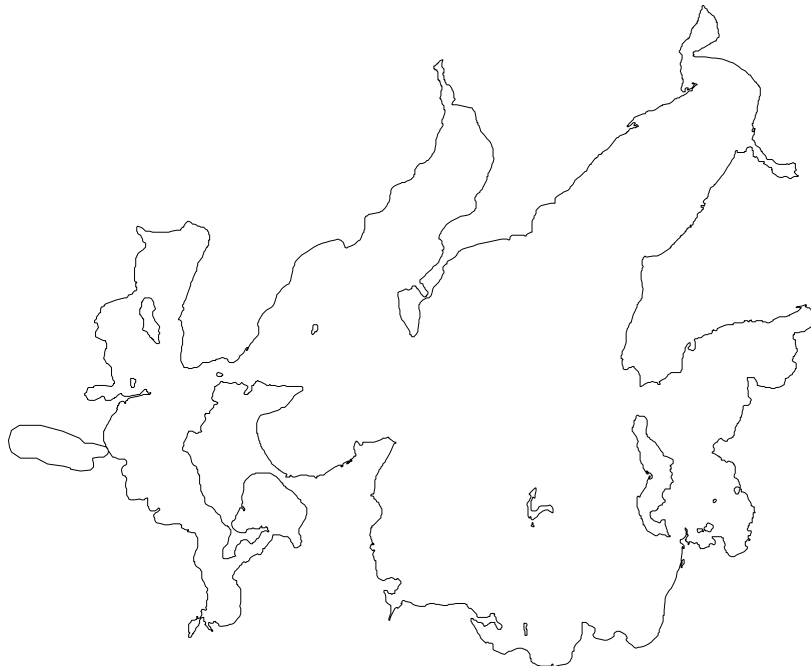


# Leech Lake Advisory Committee

Report to Minnesota Department of Natural  
Resources

March 10, 2010



## Charge for Leech Lake Advisory Committee

The Minnesota Department of Natural Resources (DNR) requested a group of stakeholders with diverse interests to work as an advisory committee to make recommendations on four key areas pertaining to the Leech Lake walleye population including walleye stocking, fishing regulations, cormorant management, and habitat protection. The specific charge for this committee as indicated in the August 2009 letter of invitation to committee members was:

“... to develop and recommend, as appropriate, a management framework that identifies objectives, management actions, thresholds, models, and monitoring plans for each of these four key areas. DNR seeks recommendations pertaining to the biological and social aspects related to Leech Lake and will consider the committee’s recommendations and other public input when approving a 2011 – 2015 plan for Leech Lake.”

## Committee Members and Alternates

The Leech Lake Advisory Committee (LLAC) was comprised of 17 members and 10 alternates (see Table 1.). DNR staff support included Doug Schultz (Large Lake Biologist) and Kathy DonCarlos (Fish and Wildlife Policy/Planning Unit).

Table 1. Leech Lake Advisory Committee members and alternates

Committee Member	Stakeholder Group	Alternates
Joe Mix	DNR Fish and Wildlife	
Larry Anderson	Leech Lake Fishing Task Force	Chris Anderson, Tim Anderson, Danna Pitt, Joe Sherman
Larry Jacobson	Leech Lake Fishing Task Force	
Tom Johnson	Leech Lake Fishing Task Force	
Ted Gwinn	Leech Lake Fishing Task Force	
Terry Holly	Leech Lake Fishing Task Force	
John Annexstad	Leech Lake Association	Bob Gisvold, Dennis Leff, Dave Laursen
Ivan Paulsen	Leech Lake Association	
Steve Mortensen	Leech Lake Band of Ojibwe	Bruce Johnson
Brad Michaud	Leech Lake Band of Ojibwe	
Jim Bedell	Leech Lake Watershed	Ray Payne
Larry Wannebo	Izaak Walton League	Dale Yerger
Tom Neustrom	Guide, Walleye Advisory Committee	
Michael Scott Dosch	Game and Fish Fund Budget Oversight Committee; statewide angler	
Greg Kvale	Anglers for Habitat	
John Dainsberg	Local Resident	
Richard Hess	Statewide Angler	

## Meeting Schedule and Presentations

LLAC met ten times in Walker during August 2009 through February 2010. All meetings were scheduled for four hours except for the tenth meeting which was scheduled for six hours. An eleventh meeting was held in March 2010 to provide the opportunity for LLAC to present and discuss recommendations with DNR leadership.

The following presentations were given at the meetings. Those presentations requested by LLAC are preceded with an asterisk (\*). All presentations and summaries/analyses considered in this process were placed on the DNR website for easy access by LLAC and other interested parties.

Meeting 1, 25 August 2009:

“History and Current State of Leech Lake Walleye Management” presented by Doug Schultz, Large Lake Specialist, MN DNR.

Meeting 2, 01 September 2009:

“2005-2010 Leech Lake Action Plan Summary” presented by Doug Schultz, Large Lake Specialist, MN DNR.

\* “Red Lake Adaptive Management: Working With What We Knew and Learning From What We Did” presented by Gary Barnard, Bemidji Area Fisheries Supervisor, MN DNR.

Meeting 3, 28 September 2009:

“Impacts of Walleye Fry Stocking on Year-class Strength in Lakes with Walleye Spawn-take Operations” presented by Dale Logsdon, Research Scientist, MN DNR.

“Leech Lake Genetic Concerns” presented by Dr. Loren Miller, University of Minnesota.

Meeting 4, 20 October 2009:

\* “Economic Impacts of Fishing on Leech Lake” discussion led by Mayor Brad Walhof and Pastor John Dainsberg, City of Walker.

LLAC members began discussing walleye population objectives.

Meeting 5, 19 November 2009:

“Overview of Double-Crested Cormorant Use of Leech Lake” presented by Steve Mortensen, Fish and Wildlife Director, Division of Resource Management, Leech Lake Band of Ojibwe.

“Double-Crested Cormorant Consumption Model for Leech Lake” presented by Doug Schultz, Large Lake Specialist, MN DNR.

Meeting 6, 17 December 2009:

“Aquatic Invaders: Leech Lake Prevention, Awareness, and Management” presented by Darrin Hoverson, Aquatic Invasive Species Specialist, MN DNR.

“Sensitive Shorelines Project” presented by Paul Radomski, MN DNR.

Habitat presentations by Leech Lake Band of Ojibwe (Bruce Johnson and Susan Kedzie), Leech Lake Association (Jane Ekholm), Leech Lake Watershed Foundation (Jim Bedell), Leech Lake Task Force (Larry Anderson).

Meeting 7, 13 January 2010:

\*“Local Needs and Future Walleye Management Options for Leech Lake” presented by Leech Lake Fishing Task Force members, sub-committee of City of Walker.

Meeting 8, 26 January 2010:

LLAC members continued to discuss walleye population objectives.

Meeting 9, 10 February 2010:

LLAC members complete walleye population objectives and begin discussing walleye stocking options.

Meeting 10, 22 February 2010:

Larry Wannebo reviews LLAC sub-committee recommendations for Habitat with broader LLAC membership. Habitat recommendations are completed.

Double-crested cormorant recommendations are completed.

Walleye regulation recommendations are completed.

Walleye stocking recommendations are completed.

In addition, a group of four LLAC members met with Charles Anderson, DNR Fisheries Research Supervisor, and Brian Herwig, DNR Fisheries Research Biologist, on 10 November 2009 in Walker to discuss the methodology for calculating spawning stock biomass, year-class strength indices, walleye population models, and other topics.

## Principles

LLAC identified core principles for developing recommendation for the Leech Lake walleye population at the first meeting. These include the following points.

1. Do what is best for Leech Lake.
  - a. Economy
  - b. Fishing
  - c. The “lake”
2. The issues are complex. Bottom line – work towards the “total picture”.
3. The plan/committee should consider the total fishing experience.

LLAC also recognized the challenging nature of their task and identified the following expectations of each other.

1. The process and committee should be open minded about new ideas.
2. The Committee should be intellectually honest. “Tee up” the tough questions.
3. It is OK for DNR in this process to say, “I don’t know.”

LLAC initially agreed to use consensus for their recommendations. Consensus or general agreement was reached for all recommendations except those pertaining to stocking.

## Stakeholder Interests

Through the various discussions at the LLAC meetings, different interests were expressed by Committee members. These included:

1. A desire/need for a naturally reproducing and healthy walleye population
2. A desire/need to learn from management actions (given that because of natural variation, resource systems are often extraordinarily difficult to control with management actions and “cause and effect” relations are usually unclear and difficult to recognize.)
3. A desire/need for a healthy local economy (for resorts, guides, other businesses), and
4. A desire/need to manage in a manner that supports collaboration and open communication between DNR and stakeholders despite uncertainty in natural and economic systems.

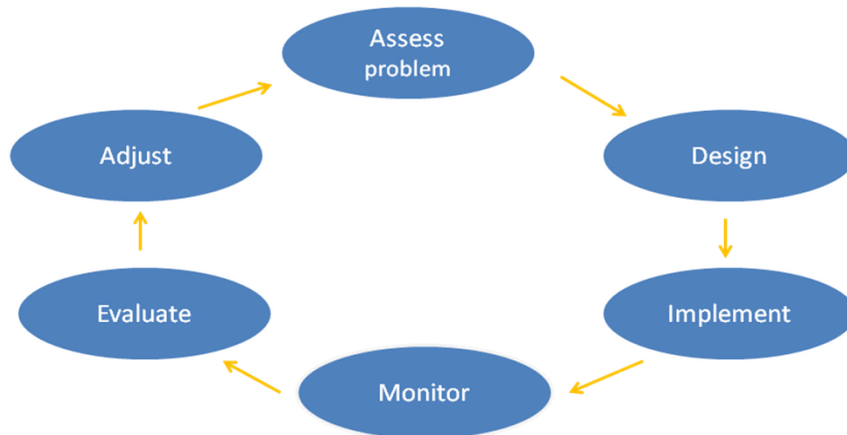
The challenge for the Committee and for future Leech Lake management is to find solutions that meet and balance all of these stakeholder interests.

# Adaptive Management

Adaptive management is a decision process that promotes flexible decision making that can be adjusted as outcomes from management actions and other events become better understood. Monitoring of these outcomes advances scientific understanding and supports adjustments in policies and operations.

Adaptive management provides for addressing biological/ecological, social, and economic goals with stakeholder involvement. Important components of effective passive management include:

- Evaluation
- Reflection
- Communication
- Incorporation of learning into planning and management



Using a more formal adaptive management framework has the potential to increase collaboration and learning among diverse interests, and increase transparent decision making.

LLAC completed 3 steps in the adaptive management framework.

1. **Stakeholder Involvement: LLAC agreed to work with an adaptive management framework for developing recommendations for DNR and recognized that:**
  - a. Stakeholders must strive for agreement on scope, objectives, and management alternatives.
  - b. Stakeholders must commit to a process for adjusting management strategy over time, based on resource status and learning.

2. **Objectives: LLAC recommendations for walleye population objectives are clear, measurable, and agreed upon. Management objectives guide decision making and support evaluation of management effectiveness over time. An objective is a desired outcome or performance measure; a purpose is a broader statement indicating why management is being undertaken. LLAC recognizes that:**
  - a. Objectives substantively influence decisions and management strategies.
  - b. Objectives should incorporate social, economic, and/or ecological values of stakeholders and reflect the value of learning over time.
  - c. To be useful as guides for decision making and evaluation, objectives should be specific and unambiguous, measurable with appropriate field data, achievable, results-oriented, and applicable over the timeframe.
  - d. Objectives can be qualitative or quantitative; quantitative objectives can be easily measured .
  - e. Multiple objectives should be ranked or prioritized. Objectives may be used to rank management actions.
  
3. **Management Actions: LLAC developed recommendations for management actions and decision making. LLAC recognized that:**
  - a. Potential actions consist of activities under management control (e.g., harvest, stocking, restoration).
  - b. Management actions typically focus on alterations of resource status or process rates.
  - c. The suite of available actions should be designed to promote learning so that future management efforts can build on the success or lack thereof of these actions.
  - d. The alternatives should be explicit and documented.
  - e. Because of natural variation, resource systems are often extraordinarily difficult to control with management actions and “cause and effect” relations are usually unclear and difficult to recognize.

## Walleye Population Objectives

The following are recommendations for walleye population objectives (not prioritized). Discussions at LLAC meetings reflected an acceptance that these objectives may not always be attainable:

1. Female spawner biomass: 1.5 – 2.0 pounds/acre

LLAC membership recognized the importance of a healthy spawner stock to natural reproduction and a self-sustaining fishery. Thus, the 2005 – 2010 objective of 1.25-1.75 pounds/acre was increased to 1.5-2.0 pounds/acre; this was a unanimous decision.

2. Gillnet catch rate: Greater than 8.5 walleye per net

The 2005 – 2010 objective of a walleye gill net catch rate of 7.4 fish/net (long-term average) or higher was considered by some to be mediocre. Thus, LLAC membership supported increasing this objective to 8.5 walleye/net.

3. Gillnet size distribution: 45 – 65% of gillnetted walleye are less than 15 inches

DNR noted that the 2005 – 2010 objective of “50% of gillnetted walleye shorter than 15 inches” was strongly influenced by changes in young walleye growth rates during 2005-2010. This objective was modified to include a range based on the 2007-2009 gill net surveys that would promote a relatively balanced size structure within the population assuming no growth rate effects.

4. Year class strength: Average or stronger year classes are produced 2 out of 4 years

The 2005 – 2010 objective of “establishing two strong year classes in the next five years” was established as a step towards quickly improving the quality of walleye fishing on Leech Lake. With fishing dramatically improved, the LLAC agreed that an average or stronger year class (a year class with a measured strength above the 50th percentile) produced at least 2 out of 4 years (long-term average) would provide the consistency needed for maintaining the quality of walleye fishing on Leech Lake. LLAC membership felt that using the predicted strengths of age-0 walleye (trawl-gillnet model) in conjunction with preliminarily observed strengths for age 1-3 cohorts along a 4-year timeline would allow for recruitment variability to occur without jeopardizing the local economy.

5. Creel: Targeted summer walleye harvest rate is 0.25 walleye per hour

Although not included in the 2005 – 2010 plan, this objective is a direct measure of fish harvested by the walleye angler and removes the potential for recall or prestige biases associated with walleye catch rate. DNR noted that this metric will be influenced by special walleye regulation.

6. Natural reproduction alone can maintain a healthy, sustainable walleye population (continued next page).

During 2005-2010 wild fry hatch rates and total fry densities were estimated by stocking oxytetracycline (OTC) marked walleye fry. Estimated hatch rates have been similar to those estimated in Red Lake, where it was decided by MDNR and Red Lake Band that wild fry production alone had the capacity for supporting a self-sustaining population and fishery. Correctly characterizing natural reproduction and ultimately crafting criteria that use stocking to the best benefit of the population (eg. allowing the population to express itself in response to normal variability over the long-term, such as changes in density, forage abundance, and climate) and the economic base it supports is necessary for proper long-term management. The LLAC membership unanimously determined that a natural reproducing walleye population is an important objective during 2011-2015. With the final proposed stocking actions, evaluating natural reproduction with certainty will be more difficult than some other options considered by the committee.

## Management Actions – Walleye Stocking

In the LLAC discussions it was acknowledged that this five year plan would not include triggers for stocking. Planned stocking is expected to reduce tensions in the community. Stocking in response to changes in specific population parameters is an approach that LLAC would like to see investigated and instituted for Leech Lake walleye management after the 2011-2015 plan.

Four stocking options were identified at the ninth meeting for further discussion at the final working meeting (see Table 2). These included:

1. LL Fishing Task Force proposed production stocking 22.5 million annually until 75% of year class from natural hatch. Assessment stocking level of 7.5 million would occur the year following 75% natural hatch. Fry would be taken from Boy River run.
2. DNR proposed planned stocking of walleye fry 2 out of 4 years using Boy River run with two blank years (zero stocking) followed by two years of production stocking at 22 million annually. This sequence of two blank years and two production stocking years would be repeated once.
3. LL Fishing Task Force suggested a modification of their first proposal where 15 million would be stocked annually for four years. When 75% of year class occurs from the natural hatch, blank year would involve no fry stocking.
4. LL Fishing Task Force proposed a modification of option 2 where 5 – 7.5 million would be stocked for two years followed by two years of stocking at 22 million annually.

These stocking options reflect differences in opinion about how to evaluate the recruitment rate for the natural (not stocked) walleye population. These differences can be summarized by the following statements:

- a. The walleye recruitment rate for the wild population can be evaluated while stocking at a low level by using OTC marked stocked fry during “nonproduction” years (e.g., 5 million, 7.5 million).
- b. The walleye recruitment rate for the wild population can be evaluated while stocking at a production level by using OTC marked stocked fry (e.g., 22 million).
- c. The walleye recruitment rate for the wild population can best be evaluated by having two blank (zero) stocking years. This stocking sequence incorporating consecutive blank years allows for natural reproduction to express itself and diminishes the probability of suppression by previously established year classes.

Table 2. Stocking proposals from ninth meeting (2/10/10)

Year	Option 1	Option 2	Option 3	Option 4
2010	22.5 million (legislated)			
2011	22 million	0	15 million	5 – 7.5 million
2012	22 million	0	15 million	5 – 7.5 million
2013	22 million	22 million	15 million	22 million
2014	22 million	22 million	15 million	22 million
2015	22 million	0	0	
2016		0		
2017		22 million		
2018		22 million		

LLAC considered these four options and others at their tenth and final meeting on 2/22/10. It was determined that the Committee would not be able to reach consensus or general agreement on one stocking recommendation. The Committee rejected the idea of indicating level of support for the options (e.g., support, won't block it, don't support) and instead chose a process where they indicated their preferred option for three different groupings of stocking options (see Table 3). Members chose only one preferred option during each vote sequence and some members abstained from voting. One of the 17 LLAC members was absent at this meeting. LL Fishing Task Force had six representatives voting instead of the normal five representatives thus bringing the total voting to 17. LLAC voted at the eleventh and final meeting between options A and E (see Table 3). The options selected reflect a disagreement among the Committee regarding whether and when blank years should be scheduled. However, the options reflect an effort by the Committee to find an option that would be acceptable to all members during the time available at the tenth meeting.

Table 3. Stocking options considered at tenth meeting (2/22/10)

Year	A (Table 1, Option 4)	B	C (Table 1, Option 1)	D	E		
2011	7.5 million	22 million	22 million	0	22 million		
2012	7.5 million	22 million	22 million	22 million	7.5 million		
2013	22 million	22 million	22 million	0	7.5 million		
2014	22 million	0	22 million	22 million	22 million		
2015	7.5 million	0	22 million	0	optional		
						Abstain	Total
1 <sup>st</sup> vote, 10 <sup>th</sup> meeting	3	10	2	1		1	17
2 <sup>nd</sup> vote, 10 <sup>th</sup> meeting	5	10				2	17
3 <sup>rd</sup> vote, 10 <sup>th</sup> meeting	7				8	2	17
4 <sup>th</sup> vote, 11 <sup>th</sup> meeting	2				13	1	16

## Management Actions – Walleye Regulations

DNR will complete a preliminary evaluation of potential walleye regulations using models developed by Dave Staples, DNR Fisheries Biometrician. Pending this evaluation, potential regulation options will be included as questions during the 2010 summer creel survey to solicit additional angler input. If any of the following potential regulation options fail to meet the aforementioned walleye population objectives outlined by the LLAC during the preliminary evaluation, the regulation option will be discontinued from the remaining regulation process. LLAC membership suggested that matching the walleye regulation on Leech and Winnibigoshish lakes for 2011-2015 would be desirable if supported by the analysis and public input process.

- 18-26" Protected Slot Limit, possession of 4, one over 26" allowed in possession (current).
- 20-26" Protected Slot Limit, possession of 4, one over 26" allowed in possession.
- Possession of 4, one over 18" allowed in possession.

LLAC membership also supported expanding the walleye regulation to include the Leech River from Federal Dam downstream to Mud Lake (Cass County) and also Benedict Lake (Hubbard County); proposed action would be done to facilitate enforcement/compliance with the regulation.

Note: DNR reports that Leech Lake will be posted with signs during summer 2010, informing the public that a regulation review process has begun with public input to be scheduled for fall 2010. Any proposed changes would likely start in spring 2011.

## Management Actions – Cormorant Population

The LLAC recognized the sovereignty of the Leech Lake Band of Ojibwe (LLBO), that LLBO owns the islands where the birds nest, and that the LLBO's Division of Resource Management (DRM) with concurrence of the US Fish and Wildlife Service (USFWS) has jurisdiction on cormorant management on tribal lands and waters. Therefore, the LLAC recommended the following:

1. DNR support DRM's efforts to secure funding sources for cormorant control and, in the event federal funding ceases, fund control efforts. This may also include accelerated removal of cormorants to reduce cormorant use (i.e., total bird days) of Leech Lake.
2. DNR will support, if needed, the DRM's cormorant diet study and continue to work with the DRM on modeling efforts.
3. DNR should continue to support the DRM as needed with evaluations of cormorant impacts on Leech Lake sportfish and common tern populations; this may include evaluating and possibly implementing alternative cormorant population targets ranging from 250-500 nesting pairs as deemed appropriate by the DRM.

## Management Actions – Habitat Related

The LLAC recognized the importance of quality habitat to lake health, fishing quality, and the overall recreational experience. The following recommendations (not prioritized) are offered for consideration. LLAC recognizes that additional resources may be needed to complete these efforts.

1. Vegetation surveys: With the full point intercept vegetation survey recently completed by DNR and final report due during spring 2010, the LLAC recommended DNR monitor the aquatic vegetation in Leech Lake at specific locations (eg. sub-survey) on a more frequent basis to identify potential long-term trends, changes, and causes of change. Guides may be another source of informal or anecdotal observations on vegetation conditions.
2. Spawning areas: LLAC recommended updating information on walleye spawning areas by conducting an inventory, comparing current information with historical data, evaluating spawning habitat condition, and consider rehabilitating spawning areas as appropriate.
3. Water levels: LLAC recommended including Army Corp of Engineers and MDNR regional hydrologist at the annual meeting to consider water level impacts.
4. Environmental review: LLAC recommended continuing progressive partnerships on environmental review and standards (i.e., tribal, federal, state, local, industry) impacting environmental quality.
5. Vegetation conditions: LLAC reaffirmed the importance of natural vegetation (weed) beds and spring emerging wild rice. DNR, other agencies, organizations, and stakeholders need to continue to promote responsible and respectful boating and angling, post invasive species alerts, and distribute invasive species material at boat landings and resorts. Effective communication tools should be used (e.g., social networking) to disseminate information.
6. Enforcement: LLAC recommended continued DNR enforcement of shoreland rules, vegetation removal, and exotic species. The Committee recommended promoting the “Turn in Poachers” program and partnerships and internships with other agencies and academic institutions to deliver enforcement services.
7. Acquisition: LLAC recommended continued partnerships with Leech Lake Association, Leech Lake Watershed Foundation, The Nature Conservancy, Anglers for Habitat, Muskies Inc. , Minnesota Land Trust, and other organizations to acquire shoreland through fee title and conservation easements. Five Mile Point and Miller’s Bay (Whipholt) have been identified as high priority areas for acquisition. The following information could be used to prioritize areas for acquisition:

- a. Consider muskellunge telemetry study (repeat of Strand's) to identify additional sensitive spawning habitats, such as Miller's Bay (Whipholt) and Five Mile Point, to guide habitat acquisition (likely via funding a MS graduate student).
  - b. Also use findings from the Sensitive Shoreline project in Cass County to further prioritize habitat acquisition.
8. Shoreland development rulemaking: LLAC supported state, county, and local rulemaking related to shoreland development and recommends rapid adoption of shoreland management rules.
9. Invasive species: LLAC supported all efforts to prevent/remove invasive species. It is suggested that DNR continue to aggressively treat for removal of exotic plants (i.e., Eurasian milfoil) within harbors to reduce the likelihood of the species being spread from Leech Lake to other waters in the area. LLAC recommended stronger penalties regarding exotics transportation and strengthening law(s) statewide to stop the movement of water between bodies of water. LLAC supported increased signage at resorts to drain live wells before leaving any body of water.
10. Docks: LLAC supported state and local rulemaking related to dock development.
11. Watercraft inspection, general: LLAC suggested adding new seasonal positions specifically for Leech Lake. In addition, volunteers could be trained to assist with inspections during peak use times.
12. Tournaments: LLAC recommended coordinating watercraft inspections 3 days prior to fishing tournaments, continue to provide Enforcement presence at major tournaments, consider consistent standards for all events that promote BMPs to minimize fish mortality, distribute invasive species education materials, and pre-certify boats prior to launching on Leech Lake. LLAC supported the evolution of tournaments that "catch, photograph, and release."
13. Education and outreach: LLAC recommended education and training for guides, resorts, law enforcement, and industry (i.e., dock and marina contractors/vendors) regarding invasive species and vegetation management .

## Other Recommendations

1. Annual meetings every February were suggested to update LLAC membership with information from the prior data collection season. US Army Corps of Engineers and the DNR regional hydrologist should also be present for these meetings for issues pertaining to water levels.
2. DNR should work with stakeholders to develop and evaluate methods for obtaining observations (e.g., guide diary) from guides and resorts on fishing and fish populations and potential factors affecting fish populations.
3. DNR should consider investigating the relationship between climate trends and Leech Lake walleye population metrics.

## Conclusion

The LLAC was comprised of 17 members with diverse interests and backgrounds. All members shared a deep interest in Leech Lake. Together, LLAC learned about the fish populations and walleye management history on Leech Lake, the local cormorant population and management, habitat issues, and the local economic interests of Leech Lake community. Together, LLAC developed recommendations for walleye population objectives and management actions for walleye and other sport fish population(s). The Committee reached consensus on all management actions except walleye fry stocking.

LLAC recognized improved communication between stakeholders on the Committee and DNR and hoped that this process served to reduce tensions in the Walker community regarding walleye management on Leech Lake. The Committee thanked all of its members, alternates, and presenters for supporting this process.