

## **BOARD OF TECHNICAL EXPERTS**

of the

Great Lakes Fishery Commission

### **TERMS OF REFERENCE**

Approved 9 June 2005

#### *NAME*

**Board of Technical Experts**

#### *PURPOSES*

The Board:

- serves in an independent, expert, and professional capacity to advise the commission about scientific and technical matters relevant to the Convention.
- identifies broad areas of research in the biological and social sciences to support the information needs essential to the achievement of a healthy Great Lakes ecosystem vision and milestones.
- formulates a program of research, entitled “Fishery Research Program” to address the information needs for achieving healthy Great Lakes ecosystem vision statement, including the research priorities identified by lake committees and the Council of Lake Committees, Fish Health Committee, and other priorities as determined by the commission.
- identifies broad areas of thematic research that incorporates the research priorities and that addresses major information needs.
- formulates a program, entitled “Science Transfer Program” to promote the transfer of science to managers of Great Lakes fisheries.
- contacts and encourages investigators and project leaders to submit proposals.
- solicits peer reviews of fishery research proposals submitted to its programs.
- acts as executor of the commission’s annual fishery research plan.
- performs expert reviews of operational programs, management initiatives, and other science-related inquiries as requested by the commission.
- holds meetings to review proposals, to formulate recommendations to the commission, to identify new research theme areas, and to address other issues as deemed necessary by the Board or the commission.
- reports to the commission at its annual and interim meetings regarding progress, achievements, emerging issues, and information needs.

## ***AREA OF CONCERN***

For deliberations of this Board, the area of concern is as defined in the *Convention on Great Lakes Fisheries*:

"Lake Ontario (including the St. Lawrence River from Lake Ontario to the 45th parallel of latitude), Lake Erie, Lake Huron (including Lake St. Clair), Lake Michigan, Lake Superior and their connecting waters..." and the area of concern "shall also apply to the tributaries of each of the above waters to the extent necessary to investigate any stock of fish of common concern, the taking or habitat of which is confined predominantly to the Convention Area."

## ***BOARD MEMBER APPOINTMENT***

*Core Group* – The core group is composed of five or more members and includes, at a minimum, one or more representatives of the Council of Lake Committees (Council). The Council representatives will be selected based on their ability to advance the research priorities of the lake committees, especially those priorities expressed periodically at State-of-the-Lake conferences and more often in the research priorities of the lake committees. Other members will represent scientific disciplines needed to review the Fishery Research Program and will be scientists with demonstrated strength in peer-reviewed research. Core-group members are responsible for formulating and recommending a program of research to the commission.

*Members-at-Large* – The members-at-large are term-appointed members. Members-at-large include those who lead research themes and one or more of the commission's PERM professors. Members-at-large report on progress within their research themes, participate in securing peer reviews of proposals, and provide advice to the core group.

*Nomination* – The chair and other members are nominated by the commission's Science Director from candidates who are recognized as leading scientists by their peers. The Council representatives for the core group will be nominated by the Science Director in consultation with the Council. The Council representatives will have science backgrounds, be familiar with the information needs of Great Lakes fishery management agencies, and participate regularly in lake committee and Council meetings. Members must agree to follow the code of ethics established for the Board.

*Appointment and terms* – The commission appoints all members. The commission will appoint the chair. All members, including the chair, are appointed by the commission for two-year terms beginning after the Interim (December) Meeting in odd-numbered years. Composition of the Board should

approximate a balance between Canadian and U.S. scientists. Prospective members are advised that appointments will involve a major commitment of time and effort. The chair is to be available to advise commissioners during the commission's annual meeting.

## ***DECISIONS***

Decisions shall be made by a consensus within the core group. When consensus cannot be achieved, the majority opinion shall be the recommendation and the concerns of all members shall be described in the Board's report to the commission.

## ***ROLE OF SECRETARIAT***

The secretariat

- provides guidance regarding research direction with respect to the convention and the commission's Strategic Vision.
- assists or leads development of research theme areas.
- ensures that commission contractual arrangements and policies are followed.
- provides liaison between the Board, the commission, and its cooperators.
- prepares and distributes meeting agendas, reports, and briefing material and is responsible for meeting arrangements and the Board's websites.

## ***FISHERY RESEARCH PROGRAM***

*Purpose* – To conduct research and develop recommendations for achieving healthy Great Lakes ecosystems.

*Theme-area definition* – Most projects supported by Board's Fishery Research Program are organized under broad theme areas that describe a topic important for achievement of healthy Great Lakes ecosystems. These theme areas establish key research questions and hypotheses, organized into a logical sequential progression, that become the focus of specific projects. Theme areas are often developed in part through workshops and are broad enough to justify and support the research of several investigators. Research themes are described in documents that provide a review of the relevant literature and identify research questions or hypotheses pertinent to the Great Lakes. Research themes may be endorsed by multiple funding agencies and therefore offer the opportunity for investigators to consider multiple funding sources.

*Theme-area development* – The development and leadership for theme areas are provided by the core group and members-at-large. Any researcher or Board member may propose new theme areas. Research priorities from lake committees

should either be integrated into existing research theme areas or stimulate the development of new theme areas. When not represented in existing research theme areas, project support for these priorities will be earmarked for funding under lake committee research (see below).

*Lake Committee Research* – The Board also develops and executes a program of research in support of the immediate information needs identified by the lake committees, the Council of Lake Committees, and the Fish Health Committee [LINKS].

*Non-Theme Area Research* – Projects that do not fall under any current theme area are also eligible for support. This category provides an opportunity for researchers with highly meritorious concepts, not connected to existing theme areas, to receive commission funding. It also provides a process for initiating projects that may develop into new research theme areas.

*New Great Lakes Researchers* – New-investigator research funding is provided to encourage new researchers to focus their programs on the Great Lakes. New researchers are those who within the past three years were hired by a university or governmental agency in the Great Lakes basin and those outside the basin. New investigators are characterized by never being awarded a commission project costing more than \$15,000 USD.

*Networking* – In addition the Board sponsors meetings in each theme area for investigators engaged in related research, regardless of whether they are supported by commission funds. Principal investigators of commission-supported projects are expected to participate. Theme-area leaders are expected to help organize these meetings and report results.

*Pilot Projects* – The Board administers a program to provide rapid support for pilot research projects designed to explore new hypotheses and concepts and to acquire preliminary data to guide the development of full research proposals. Pilot projects proposals can be submitted at any time, must be less than \$10,000 USD, will be acted upon at both the March and October Board meetings, and Board recommendations will be forwarded immediately to the executive secretary of the commission for funding decision.

*Project Ranking Criteria for the Fishery Research Program* – Every research proposal submitted to the Fishery Research Program except pilot projects will be subjected to a review by scientific peers. Recommendation for funding of a project by the Board to the commission will depend upon positive, favorable reviews of the proposal. Research projects supported by the Board will encourage the restoration and rehabilitation of Great Lakes fisheries as directed by the Convention and reaffirmed in the commission's Strategic Vision. Of particular importance are research projects that support the commission's Healthy Great Lakes Ecosystems Vision Statement. Research projects also must be consistent

with Fish Community Objectives and with the intent of the Joint Strategic Plan. High-priority research topics and questions also are identified within the research priorities developed by the lake committees and the Council of Lake Committees.

*Schedule for Research Proposals* – The Board evaluates research projects via a seven-step process: 1) request for pre-proposals, 2) pre-proposal submission, 3) oral presentation of research, 4) full proposal submission, 5) peer review, 6) Board review and recommendation, and 7) commission approval. The time frame for these steps is as follows:

Any time	Principal investigators discuss potential project submissions with the commission science director, the Board chair, or theme-area leaders.
Mid-October	Board issues request for pre-proposals.
Mid-December	Principal investigators submit pre-proposals.
Late February	Principal investigators present (10 min) their proposed research to the Board (by invitation only).
March	Principal investigators who are successful in the pre-proposal process are invited to submit a full proposal.
Late May	Principal investigators submit full proposal.
June – September	Board arranges for peer review.
October	Board recommends proposals for funding to commission.
Early December	Commission decides which proposals to fund.
Mid December	Board notifies principal investigators of outcome.

## ***SCIENCE TRANSFER PROGRAM***

*Purpose* – To promote partnerships through the communication of information about Great Lakes ecosystems and their fish communities, sea lamprey control, and emerging ecological concepts and technologies to fishery researchers and managers, to governments, and to the public. The program provides a dedicated source of funding to support the objectives and activities described in A Joint Strategic Plan for Management of Great Lakes Fisheries and the commission’s partnership vision statement.

*Types of project.* – Science transfer projects include all forms of commission-sponsored communication related to scientific and technical information. Types of activities used to disseminate information include science-transfer and training workshops, other workshops and symposia, management objective setting, development and maintenance of lake-wide databases, development of scientific reviews, and publication of research in print, CD, and web-based media.

*Science transfer and training workshops* – These projects are aimed specifically at transferring the latest technologies and analytic techniques to scientists and managers. Projects funded include workshops on the use of fish otoliths as a data source, radio telemetry, and hydroacoustics.

*Symposia* – Scientific symposia, conferences, and workshops have a long tradition of commission support and began with Salmonid Communities in Oligotrophic Lakes (SCOL) held in 1971. Such symposia provided major syntheses of knowledge in topical areas such as salmonid ecology, sea lamprey biology, genetic stock structure, production and yield predictions, fishery economics, and lake trout ecology and management. Major scientific symposia that the commission has funded recently include SCOL II (an updated synthesis of recent changes in Great Lakes fish-community structure and function). Symposium findings are typically published as special issues of peer-reviewed scientific journals. Scientific guidance for symposia is provided by the Board and by the Sea Lamprey Research Board.

*Management planning* – The development, review, and revision of fish community and environmental objectives represents the transfer or translation of scientific information into targets to help focus the actions of natural-resources management agencies. This type of project is a high priority for funding by the commission.

*Database development and maintenance* – Databases that enhance information sharing among fishery management agencies and scientists are a high priority and are an important form of information transfer. Database-development projects are often part of a larger initiative, such as a modeling exercise. Recently, the commission funded the development of a database that spatially organizes Lake Erie fisheries data. Project proposals in this category address issues regarding responsibility for database maintenance, web-serving, updating, and quality control.

*Scientific review papers* – Scientific reviews that provide a synthesis of current knowledge about topics of special Great Lakes interest are an important communication activity. The commission recently funded a review of scientific literature and data related to marking salmonines, with special reference to oxytetracycline marking.

*Publication projects* – The commission funds the publishing of scientific information in journals (e.g., *Journal of Great Lakes Research*), books, CDs (such as the Lake Superior Fish Aging Manual), and web-based formats (such as the *Technical Report Series* and *A Guide to Integrated Fish Health Management in the Great Lakes Basin*).

*Other projects* – The commission will fund other types of projects that facilitate the description, summary, exchange, and use of information among individuals and organizations concerned about Great Lakes fishery management (projects such as development and maintenance of web sites and construction of a digital-image library). The commission secretariat should be contacted to discuss projects that are not easily placed in the categories listed above.

*Project Ranking Criteria for the Science Transfer Program* – The Board shall consider the criteria listed below when developing recommendations for the Science Transfer Program. Project proposals relevant to the Council of Lake

Committees, Fish Health Committee, and Law Enforcement Committee will be forwarded by secretariat staff to the chairs of these groups for their review, comment, and ranking.

*Fishery agency and commission programs* – Ideal projects will be responsive to the issues and needs identified by lake committees, the Joint Strategic Plan, and the commission’s Strategic Vision.

*Conservation/rehabilitation* – Projects increase in priority when they address species of special conservation or rehabilitation concern and are important to fisheries and the Great Lakes ecosystem.

*Information transfer* – Projects will be evaluated for their potential to accelerate the use of new information or the development of policies that will improve fishery management.

*Basin-wide importance* – Highest priority will be given to those projects that address basin-wide issues.

*Technical or organizational merit* – Projects must be organized so as to enlist the appropriate agency partners for the task. Excellent projects will be those that have clear objectives, are designed appropriately, include appropriate partnerships, and have defined products (e.g., a database, web site, publication, and workshop recommendation and summary).

*Past performance* – Project leaders should be able to demonstrate technical expertise to complete the project or have co-investigators or appropriate partnerships with other organizations to meet all of the requirements of the project. Projects must be non-duplicative. Project and co-project leaders should possess the expertise to complete the project and have had successes with similar projects.

*Peer review* – Some proposals, as determined by the chair in consultation with the Science Director, will be externally peer reviewed. For example, model development workshops may require peer review.

*Schedule for Science Transfer Projects* – The Board evaluates science transfer projects via a five-step process: 1) request for proposals, 2) proposal submission, 3) optional peer review, 4) Board review and recommendation, and 5) commission approval. The time frame for these steps is as follows:

Any time	Project leaders may discuss potential submissions with the commission science director, chair of the Board, and members of lake committees or the Council of Lake Committees.
Mid-February	Request for proposals issued.
Late July	Proposals from project leaders are due.
August – September	Some proposals are peer reviewed.
September	Projects are ranked by the Council of Lake Committees
October	Board recommends projects for funding.

Early December	Commission decides which projects to fund.
Mid December	Investigators are notified of commission action.

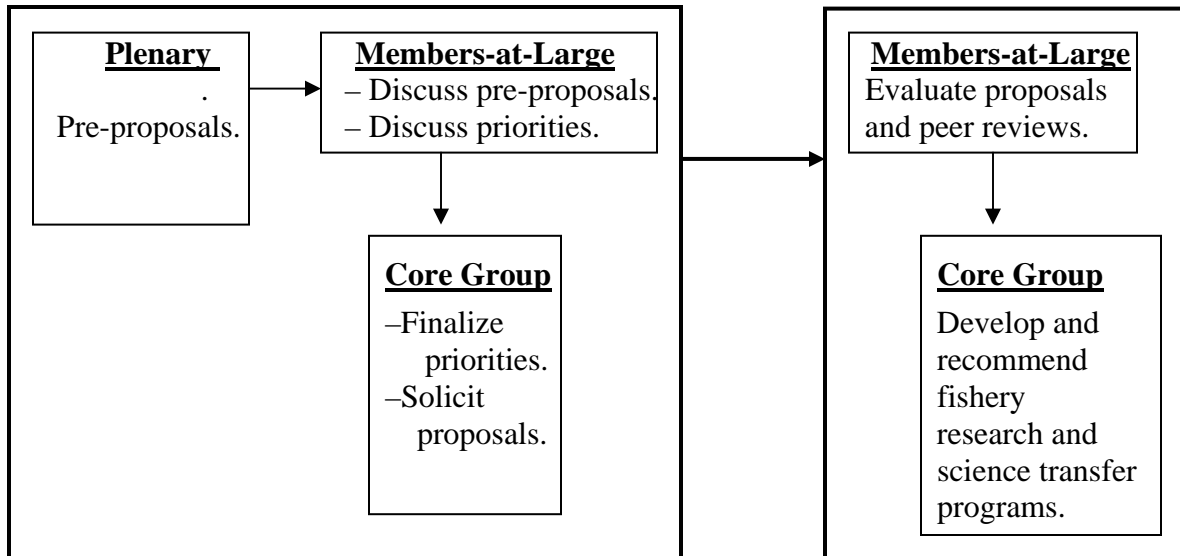
### ***MEETING SCHEDULE OF THE BOARD***

*March meeting* – The purpose of the winter meeting is to hear oral presentations of FRP pre-proposals and to decide which FRP research pre-proposals should be advanced as full proposals.

*October meeting* – The purpose of the fall meeting is to discuss the peer reviews of full research proposals, develop a recommended fishery research program and science transfer program to propose to the commission, and discuss new research directions.

### March Meeting

### October Meeting



### *TRAVEL EXPENSES*

The commission may, upon request, reimburse the member or the member's agency as appropriate.