
MINUTES OF 44th MEETING COUNCIL OF GREAT LAKES RESEARCH MANAGERS

USEPA National Health and Environmental Effects Research Laboratory

Mid-continent Ecology Division

Duluth, Minnesota

October 3-4, 2006

U.S. Members Present

Stephen Brandt (U.S. Co-chair)	Great Lakes Environmental Research Lab, NOAA, Ann Arbor, MI
Leon Carl	USGS Great Lakes Science Center, Ann Arbor, MI
Steve Colman	Large Lakes Observatory, University of Minnesota, Duluth, MN
Christopher DeRosa	Division of Toxicology, CDC / ATSDR, Atlanta, GA
Paul Horvatin	U.S. EPA-Great Lakes National Program Office, Chicago, IL
Janet Keough	U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory Mid-Continent Ecology Division - Duluth
Jan Miller	U.S. Army Corps of Engineers, Great Lakes & Ohio River Division
James Nicholas	USGS Water Resources Division
Jeff Reutter	Ohio Sea Grant College Program; Ohio State University, Research Center, Columbus, OH

Canadian Members Present

Dan Bondy	Science and Innovation Partnerships, Health Canada, Tunney's Pasture, Ottawa, ON
Saad Jasim	Walkerton Clean Water Centre, Walkerton, ON
William Meades	Forest Ecology, Natural Resources Canada, Canadian Forest Service, Sault Ste. Marie, ON

Other Invited Attendees

Carl Richards (Presenter)	U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory Mid-Continent Ecology Division - Duluth
Jack Kelly (Presenter)	U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory Mid-Continent Ecology Division - Duluth
Jeff Gunderson (Presenter)	Minnesota Sea Grant, Duluth, MN
Eil Kwon (Presenter)	Great Lakes Maritime Research Institute
Richard Stewart (Presenter)	Great Lakes Maritime Research Institute

Fred Luckey (Presenter)

USEPA Region 2, Freshwater Protection Section

Secretary

Mr. Mark Burrows

IJC Great Lakes Regional Office, Windsor, ON.

Introductions & Approval of Agenda

The Council members introduced themselves. Jan Keough welcomed everyone to the USEPA National Health and Environmental Effects Research Laboratory as host for the meeting and provided logistical information. The meeting agenda was reviewed and approved and it was agreed that the order of presentations could be adjusted to accommodate the schedules of those joining by teleconference, or arriving late.

Overview of the Mid-Continent Ecology Division

Carl Richards, Director of the USEPA National Health and Environmental Effects Research Laboratory Mid-Continent Ecology Division began the meeting with an overview of the facility, which employs 92 federal staff and has a budget of approximately \$22.4 million. The Mid-Continent Ecology Division is responsible for providing leadership in ecotoxicology and freshwater ecology by advancing scientifically-sound approaches for monitoring trends in ecological condition within the Great Lakes and Rivers, identifying impaired watersheds and diagnosing causes of degradation, and establishing risk-based assessments to support restoration and remediation decisions. He briefly described the USEPA budget process, the organizational structure, the relationship between the lab and its branches and reviewed research currently being conducted within each area of emphasis. These areas of emphasis include water quality, contaminated sites, and communities and ecosystems. Research is carried out on a very wide range of subjects including ecosystem recovery, endocrine disruptors, pesticides, Great Lakes invasive species forecasting and many more.

A complete overview of the Mid-Continent Ecology Division can be found at the following link: <http://www.epa.gov/med/index.htm>

National Monitoring Network (NMN)

Jack Kelly, Chief of the Ecosystem Assessment Research Branch provided a detailed briefing about the National Water Quality Monitoring Network for U.S. Coastal Waters and their Tributaries. He discussed the origin of the network, legislation that spurred development and the proposed monitoring sites. The deployment of the network is to be done in the following 4 phases:

- Phase 1: Network design (completed)
- Phase 2: Develop and carry out pilot studies (underway; anticipate completion in 2008)
- Phase 3: Demonstration projects
- Phase 4: Nation-wide implementation

The council members discussed the NMN roots in the Integrated Ocean Observing System and how the National Monitoring Network and the IOOS Great Lakes Observing System initiatives might work together. This effort was viewed as an opportunity to link the watersheds with nearshore and coastal observing systems. Key individuals were recognized that are currently working on the GLOS board of directors that could help facilitate coordination and linking of the two initiatives. Presenting a case for the Great Lakes as a "pilot" NMN area was also

discussed. It was noted that such an effort could couple with existing programs, evolve to an improved network and bring in partners if there is the will and resources to do it. It was generally agreed that such an effort should be pursued through their respective agencies.

A complete copy of Jack Kelly's presentation can be viewed at the following link:

<http://www.canamglass.org/rcs/pdf/NationalWQMonitoringNetwork.pdf>

Action item: Pursue collaboration between GLOS and NMN through liaison with GLOS board of directors (Dr. Shear).

Superior Harbor Corrosion

Jeff Gunderson made a presentation to the Council on a research project to investigate the cause of accelerated corrosion of steel sheet piling in Duluth-Superior Harbor. The problem affects approximately 12 miles of submerged steel dock within the harbor in addition to a large number of wooden docks and structures that have metal fasteners. An overview of the entire project and findings to date was presented covering a range of potential causes such as chlorides, Ph, DC electrical transmission, dissolved oxygen, biofouling, water chemistry and others. Through this project, Minnesota Sea Grant has helped to pull partners together, facilitate the work of an expert panel and aid in the procurement of research and maintenance dollars. This in turn helped focus research and management strategies for a problem that could cost over \$100 Million in repairs and upkeep.

A complete copy of Jeff Gunderson's presentation can be viewed at the following link:

<http://www.canamglass.org/rcs/pdf/CorrosionDuluthSuperiorHarbor.pdf>

Great Lakes Water Quality Agreement Review Process – Status Report

Paul Horvatin updated the Council about the progress being made by the review work groups examining the GLWQA and preparing their reports to the Agreement Review Committee. He reported that although the deadline for input to the review working group was September 25th, they were still receptive to additional input regarding monitoring and research. He invited members to provide input and participate with regular review working group discussions. The working groups will be meeting in Toronto on October 24th to report on their findings. The Agreement Review Committee will report to the Binational Executive Committee, who will in turn forward recommendations to the two governments. A decision by the governments on whether to open, review and revise the agreement is expected in 2007.

For more information, see the following sites:

http://binational.net/glwqa_2006_e.html (describes 2006 agreement review process and contains links to quarterly reports)

<http://CanAmGLASS.org/glwqa> (review group resource page, open access)

<http://akron.glnpo.net/glwqa> (log-in required)

Cooperative Monitoring & Research on Lake Ontario 2008 Upcoming Oct 23-24, 2006 Workshop & White Paper

Fred Luckey participated via teleconference and provided an update on preparations for the October 23-24, 2006 workshop being held in Kingston, Ontario. This workshop is the first of a series of research coordination workshops being sponsored by the Council to implement its research coordination strategy and is focused on developing a cooperative monitoring strategy for the Lake Ontario 2008 Intensive Year.

This represents a collaborative effort with the U.S – Canada Lake Ontario Lakewide Management Plan (LaMP) and the Great Lakes Fishery Commission’s Lake Ontario Lake Committee (LOC). Representatives of the LaMP and LOC are organizing two workshops: a biological workshop on October 23-24, 2006 in Kingston and a contaminants workshop in March 2007 in Grand Island, NY. Council members Ed Mills, Joe DePinto and Cheryl Lewis are assisting with the workshop program.

This workshop builds on previous efforts by the LaMP and LOC, who brought together a wide range of government and university experts to carry out the binational Lake Ontario Lower Aquatic Food Web Assessment project (LOLA) in 2003. A fall 2005 workshop was held to discuss LOLA results and to make recommendations on how to improve collaborative efforts. The October 23-24 workshop is being structured around these LOLA study recommendations. Information regarding the LOLA study can be found at:

<http://epa.gov/glnpo/lakeont/lola2006.pdf>.

10 white papers were drafted with a U.S. and Canadian lead on each topic. The proceedings of the workshop and white papers will be published by the Council and made available on the internet. The goals of the workshop are to refine and publish papers, to spark research proposals and to prompt funding support. Organizers hope to spark more day-to-day exchanges between ongoing monitoring programs in order to carry the momentum forward between 5 year rotational intensive field years.

Great Lakes Regional Research Information Network (GLRRIN) Progress Report

Jeff Reutter briefed members on the background and purpose of the Great Lakes Regional Research Information Network and reported on the progress made during the September GLRRIN meeting in Chicago. A meeting of a GLRRIN communications sub-committee is being planned for December 2006 at the Tom Ridge Center in Erie, Pennsylvania. A complete copy of Jeff Reutter’s presentation can be viewed at the following link:

<http://www.canamglass.org/rcs/pdf/GLRRINReutter100306.pdf>

Following the presentation, the Council discussed the interaction between the Council and GLRRIN. The following points were noted:

- GLRRIN is looking to help implement the Council’s research coordination strategy.
- The Council should look to GLRRIN for assistance and should not hesitate to make demands on GLRRIN to serve as an “entry point,” a single point of contact to “get the word out” to researchers in the Great Lakes basin.
- The Lake Erie LaMP has provided funding to the Lake Erie Millennium Network to address environmental issues and in a similar fashion, GLRRIN funding could help facilitate funding proposals.
- Should get the GLRRIN Lake Ontario Coordinators involved with the workshops being sponsored by the Council for Kingston, Ontario and Grand Island, New York. Gary Sprouls can serve as a link and other CGLRM members should facilitate.
- The Council should examine the research coordination strategy and define how GLRRIN can help support the strategy; likewise the CGLRM should define how it can assist GLRRIN.
- Each GLRRIN lake group will be working independently (decentralized approach)
- GLRRIN could help facilitate proposals “in between” 5 year coordinated monitoring efforts.
- Lake Superior GLRRIN group can provide support to the Lake Superior LaMP.

- GLRRIN provides opportunities for improvements in education and outreach; coordination with the academic community by leveraging Sea Grant resources is a unique opportunity afforded by GLRRIN. Sea Grant extension agents could also assist in pulling in private sector group.
- GLRRIN provides a means to increase involvement with economics and social scientists and should provide unrestricted communications with Great Lakes scientists.
- The Walkerton Clean Water Centre is interested in getting involved with the Lake Huron GLRRIN group.

GLRRIN aims to enable networking on a lake-by-lake basis, but to also identify and address regional issues by highlighting the needs of States, Provinces, cities, etc. via the Lake Advisory Committees.

Action item: Include slide on GLRRIN for IJC meeting scheduled for October 18, 2006 and maintain collaboration with GLRRIN through Council Secretary.

Groundwater Research White Paper

Jim Nicholas provided a brief status report on the groundwater research white paper being completed for the Council. Work is proceeding slowly as per the written agreement and Norm Grannemann will be prepared to participate in the groundwater workshop scheduled for SOLEC on November 3rd. Details of the proposed work are posted as Enclosure 3 to the minutes of the 43rd CGLRM meeting minutes at the following link:

<http://canamglass.org/rcs/pdf/43rdMeetingCGLRMDraftNotes.pdf>

Great Lakes Maritime Research Institute

Richard Stewart and Eil Kwon, co-directors of the Great Lakes Maritime Research Institute participated in the Council meeting and Dr. Stewart made a presentation about current research activities at the Institute. Dr. Stewart described how the GLMRI was formed and funded. In May 2005 GLMRI was awarded \$750,000 in Federal funding, in June 2005 GLMRI was designated a National Maritime Enhancement Institute (NMEI) by the US Department of Transportation Maritime Administration (MARAD). In 2006 GLMRI was awarded \$2 million in additional Federal funding. The institute has conducted outreach to stakeholders for research needs using presentations, surveys and interviews. Although it is funded by the U.S., the institute has drawn in participation from Transport Canada and other Canadian interests and can be viewed as a binational effort.

Dr. Stewart discussed many projects underway at the institute including use of biodiesel by commercial ships, hydrodynamic testing of a ballast-free ship design, shipbuilding/repair analysis, expansion of the Detroit – Windsor ferry service, Green Marine and Great Ships initiatives. He also covered the concept of a maritime information delivery system and work with the University of Toledo and the Midwest freight view data repository. Dr. Stewart's complete slide presentation is posted at:

<http://canamglass.org/rcs/pdf/GLMaritimeResearchInstitute.pdf>; additional information about the institute can be found at <http://www.glmri.org/glmri/main.htm>. Information about the University of Toledo & upper Midwest freight study may be found at: <http://www.geography.utoledo.edu/maritime.htm>; <http://www.uppermidwestfreight.org>

Action item: Pursue nomination of GLMRI representative to CGLRM.

Great Lakes Observing System Update

Harvey Shear was not able to attend the meeting; however he forwarded two documents that provide a status report on the Great Lakes Observing System. The Council reviewed the documents and discussed further involvement with GLOS. It was decided that new GLOS proposals for collaborative efforts with the CGLRM, for example science vessel coordination and ship observations, should be made in writing to the Council. Dr. Shear will continue to serve as the Council's liaison with the GLOS board of directors. Links to GLOS briefing papers:

<http://www.canamglass.org/rcs/pdf/GLOSstatusOct06.pdf>

<http://www.canamglass.org/rcs/pdf/GLOSProgressRpt31May2006.pdf>

Action Item: Monitor progress on revision to the Canada Ocean Action Plan; make copy of revision available to CGLRM (Burrows). Maintain liaison with GLOS through board of directors (Dr. Shear).

International Field Years on Lake Erie

Steve Brandt provided a brief update on the International Field Years of Lake Erie. This project began in 2005 and was the subject of a detailed briefing during the 43rd CGLRM meeting in March. Recent developments include:

- Tentative commitment by NOAA to provide \$500K in ship time for 2007
- USEPA has indicated that the research vessel Lake Guardian can be made available for work in Lake Erie during 2007
- NOAA has recently awarded \$2.5 Million for a modeling project on ecosystem forecasting in Lake Erie; a model will be developed to predict anoxia and ecosystem changes

There will be an investigators meeting the second week of October to help plan work in Lake Erie for 2007.

For more information see: <http://www.glerl.noaa.gov/ifyle/>

Large Lakes Observatory

Steve Colman, Director of the Large Lakes Observatory and a CGLRM since October 2004, made a presentation about the development and operation of the LLO, the importance of pure scientific research and important recent discoveries. The LLO was founded in 1994 by Tom Johnson who established a graduate program in oceanography with a special emphasis on fresh water. The LLO operates the research vessel Blue Heron, the only UNOLS registered research vessel in the basin, conducts research on a wide variety of topics funded by outside grants and has no internal research funding. There are 10 scientists and technicians and from 8 to 15 graduate students working at the LLO.

Recent discoveries highlighted by Dr. Colman included:

- Mesoscale eddies in Lake Superior that are bringing nutrient rich water up from the cool depths,
- Climate change research studying the change in the surface temperature anomaly, the difference in temperature between the current temperature and the long term average was conducted showing a 3° C increase in the anomaly of surface water temperature since 1880. This shows that the water temperature anomaly is warming 5 times faster than the average surface temperature anomaly in Lake Superior.
- The discovery of an entirely new family of microbes in the sediments of Lake Superior

Plans to deploy an autonomous underwater vehicle “glider” to measure data over large transects of Lake Superior were discussed. Research funding, the potential for modeling Lake Superior - perhaps predicting lock opening and closing dates and partnerships with Canadian universities were also discussed. A complete copy of Dr. Colman’s presentation is available at the following link:

<http://www.canamglass.org/rcs/pdf/AboutLargeLakesObservatory.pdf>

IJC Urbanization Workshop Briefing

Jan Miller provided a brief overview of the international symposium on urban impacts entitled “Global Lessons for the Great Lakes Basin” sponsored by the IJC at the Sears Tower in Chicago on September 25-26, 2006. The program brought urban planning experts from North America, Europe and Southeast Asia together to discuss the impacts of urban growth on the quality of water and the ecosystem. Experiences with urban growth in Canada, Washington State, Europe, Japan and Australia were discussed along with lessons learned. Financial and development perspectives were also heard. The objective of the workshop was to inform the Commission’s advice to the governments on the most effective means of managing urban growth in the Great lakes basin.

Action item: Council Secretary will ensure that workshop presentation materials are distributed to the Council members.

Options for Future Research Coordination Workshops

The Council members discussed ideas for research coordination workshops that could be held during the period April – September 2007. Members debated the relative merits of each idea and decided to list options for the IJC meeting on October 18, gather additional input and organize a teleconference call when enough information was available to make a decision. The following options were discussed;

- Cyber Seminar - on research funding
- Partner with GLRRIN on Communications – request proposals
- Lake Erie 2009 research coordination planning
- Partner with CDC/ASTDR to promote science based decision making
- Reporting out results of projects, successes and mapping future directions – communicating science
- Science Based Restoration – connecting results with the goals of the Agreement including SOLEC
- Program Evaluation – What are science-based activities doing for managers?

Action items: Jan Miller will assemble list of potential invitees to a research funding seminar. Council Secretary will organize a follow-up teleconference to discuss workshops.

Council Membership, Budget and Other Activities

Mark Burrows very briefly ran through the status of membership and the budget. A status sheet was provided to attendees and participation of members was discussed. It was recommended that the Council nominate a representative from the Great Lakes Protection Fund and consider a nominee from the National Science Foundation. A nominee from Environment Canada for Canadian Co-chair also needs to be identified before January 2007 and if that is not possible, then an extension of Dr. Shear’s term should be requested. Plans for the next science vessel

coordination workshop to be held in Traverse City, Michigan January 23-26, 2007 are posted on www.CanAmGLASS.org.

New Business and Approval of Minutes

There was no new business; minutes from the last official CGLRM meeting held on March 22, 2006 at the University of Windsor were approved.

Next Teleconference/Meeting(s) -

A decision about the next teleconference and face to face CGLRM meeting was deferred until after the October 18th IJC semi-annual meeting and the October 23-24th Lake Ontario LaMP/LOC monitoring and research coordination workshop.

Enclosures: (1) Council Meeting Agenda, Revised March 20, 2006

Enclosure (1) to CGLRM October 3-4, 2006 Meeting Notes

Agenda
44th Meeting of
Council of Great Lakes Research Managers
October 3-4, 2006
USEPA National Health and Environmental Effects Research Laboratory
Midcontinent Ecology Division
6201 Congdon Blvd.
Duluth, MN 55804-2595
PH: 218-529-5025

Time	Item	Topic	Responsibility
13:00 Oct 3	1	Welcome	Steve Brandt, Jan Keough
	2	Introductions	All
	3	Approval of Agenda	Steve Brandt
	4	EPA Welcome and Overview of the Mid-Continent Ecology Division	Carl Richards
	5	National Monitoring Network (NMN) Briefing	Jack Kelly
	6	Superior Harbor Corrosion Briefing	Jeff Gunderson
	7	GLWQA Review Process – Status Report	Paul Horvatin
		Break	
	8	Great Lakes Regional Research Information Network (GLRRIN) Progress Report	Jeff Reutter
	9	Groundwater Research White Paper – Status Report	Jim Nicholas
	10	Maritime Transportation Research Institute Briefing	Richard Stewart & Eil Kwon
	11	Cooperative Monitoring & Research Lake Ontario 2008 Upcoming Oct 23-24, 2006 Workshop & White Paper	Fred Luckey (via teleconf), Burrows
	12	Research Coordination Workshop Discussion	All
5 pm		Adjourn Day 1 of Meeting	
6 pm		GLC Reception, Great Lakes Aquarium	
08:30 Oct 4		Reconvene Meeting – Welcome	Steve Brandt, Jan Keough
	13	Great Lakes Observing System – Status Report	Harvey Shear (via teleconf)
	14	Large Lakes Observatory Overview	Steve Colman
	15	International Field Years on Lake Erie (IFYLE) Briefing	Steve Brandt
	16	Sept 25-26 IJC Urbanization Workshop Briefing	Jan Miller
	17	New Business	Steve Brandt
	18	Approval of Minutes from the March 22, 2006 Meeting	Steve Brandt
	19	Membership & Budget, Science Vessel Coordination Workshop, Research Inventory & NISbase-Projects – Status Report	Mark Burrows
	20	Next Meeting	Mark Burrows
Noon		Adjourn	

Hotel Information:

The Inn on Lake Superior (Note: CGLRM room block expired Sept 3rd. The room rate for the block was \$67 per night plus tax. The hotel web site is:

<http://www.theinnonlakesuperior.com/> Now that the block has expired, the rate may be higher and you may want to compare rates with the Holiday Inn GLC meeting rate. The Hotel address is 350 Canal Park Drive, Duluth, MN 55802, Phone: 218-726-1111; Fax: 218-727-3976

GLC Meeting Information: Meeting and registration information is posted on www.glc.org however please note that CGLRM members have been offered a special rate (\$85) if you want to attend both meetings. I received the following instructions from Christine Manninen regarding the GLC meeting registration:

- The full registration fee for our meeting is \$125(U.S.)/\$140(CA), which provides attendees with meeting materials including two continental breakfasts, luncheon on Oct. 4, reception and breaks. The dinner cruise on Oct. 4 is not included in the registration fee. All attendees are invited at an additional charge of \$40(US)/\$45(CA). Seating for the cruise is limited to the first 70 registrants. **We'd be happy to offer the Council attendees a reduced registration fee of \$85.** Please note, however, that if you or others want to attend the special dinner cruise on Wednesday, you'll need to pay \$40 extra. Everyone has to pay extra for this.
- Please advertise this rate to all the CGLRM members...we'd love to have as many attend as possible. We are conducting a strategic planning session on Oct 5 and would really benefit from your input! **To register, I suggest that people email our secretary (Pat Gable) directly at pegable@glc.org rather than registering online.** That way she can process the special \$85 rate by running your credit cards or you can wait and pay on site at the meeting. Have the Council members indicate that I authorized the special rate.

Transportation/Logistics:

- *There is a hotel shuttle that will take you from the airport to the hotel and from the hotel to the EPA lab. We will also have a van and rental car to help shuttle people to the hotel and the GLC meeting after the CGLRM meeting ends at noon on the 4th. The hotel requests that guests fax their flight arrival information to the hotel in advance if they care to use the hotel shuttle service. (Fax: 218-727-3976)*
- *Please bring presentations on a memory stick or CD.*
- *We are arranging for a buffet lunch for the 4th to be delivered by 11:30 (well before the end of the meeting). For no more than \$10 each, make your own sandwiches (choice of meats and cheeses), wild rice soup, a salad, and small dessert. We'll have coffee and tea available throughout the meeting and we have a soda machine in the lobby. For lunch, we'll take a head count on Oct 3 for the final catering order.*

Teleconference Information:

*For those members who need to participate via conference call -
Dial: (866) 646-2080, Conference Code: 923591*