

Notes from 25th Annual Science Vessel Coordination (GLASS) Workshop

February 18, 2021

Virtual Workshop

Morning recording- https://thegreatlakescommission-my.sharepoint.com/:v:/g/personal/kgibbons_glc_org/EfZJheb16lpNktUwouvWaUUBhu2GMam-199nZ4SnJMO8Lw?e=MVNBCG

Afternoon recording- https://thegreatlakescommission-my.sharepoint.com/:v:/g/personal/kgibbons_glc_org/EbQCNz1-Uk5IkX8zKojZhl4BiPTHtL2JHtSY4RZ9TJvNMg?e=kD3479

Welcome and Introductions – Review of Workshop Agenda

Tom Crane, Great Lakes Commission (GLC) and Mark Burrows, International Joint Commission (IJC) welcomed attendees to the 2021 workshop of the Great Lakes Association of Science Ships (GLASS). Crane thanked everyone for participating virtually and noted that this was the 25th time this workshop has occurred. Crane and Burrows gave a brief overview of the agenda and communicated logistics for the virtual meeting.

Fleet Assessment, Management & Science Support – Report out, observations from February 17, 2021 virtual fleet assessment and science support meeting – Dennis Donahue, NOAA GLERL/Lake Michigan Field Station

Dennis Donahue provided an overview of NOAA's small boat recapitalization and sustainment plan, which focuses on improving how NOAA maintains and procures vessels. Donahue's overview recapped discussion that occurred on February 17 with agency officials involved with assessing the Great Lakes fleet and identifying science support needs. Donahue noted that the NOAA focuses on the complex/high-cost vessels since those account for a significant portion of the fleet cost. One of the key suggestions from the report was to create a distinct fund to maintain the vessels, which could be established as a Congressional line item. This would centralize the process since currently NOAA has relied on 60 different operating units to maintain and procure vessels. Additionally, the report suggests developing and maintaining a 10-year small boat fleet recapitalization plan.

The small boat recapitalization and sustainment plan has been completed and is undergoing final review. While the report is being reviewed, the process of working on an organizational structure and formalizing administrative relationships has begun.

Career Development/Recruiting – SUNY Maritime Institute partnership update: Recent graduates, interns, and SUNY cadets – training and staffing opportunities –Kurt Newman, USGS-Great Lakes Science Center

Newman provided an overview of USGS efforts surrounding the recruitment and retention of vessel staff. The USGS has a standing relationship with SUNY Maritime Institute and has recruited staff from that program over the past many years. In 2020, there were plans to better streamline the hiring process (e.g. conducting some HR requirements at career fairs) to recruit staff. Due to COVID restraints, there

were limited opportunities to interact with students in 2020. The USGS has expanded recruitment to include all 7 maritime academies across the countries and has also streamlined the process for hiring recent graduates for up to 2 years. In addition, recruitment has expanded to hiring veterans.

Cooperative Science and Monitoring & Great Lakes Restoration Initiative Action Plan Update – USEPA-GLNPO – Elizabeth Hinchey Malloy, Ph.D., U.S. EPA GLNPO

Dr. Hinchey Malloy provided an overview of the 2021 plans for the Cooperative Science and Monitoring Initiative (CSMI). Science priorities for each lake are identified by Annex 2 and are then provided to Annex 10, which implements CSMI to help coordinate programs to address science priorities. Each lake receives an intensive field year every 5 years and the IAGLR state of the lake conferences have recently started hosting CSMI reporting. During the project planning process for a CSMI year the group seeks to continue ongoing agency monitoring, enhance ongoing monitoring, and conduct new projects that specifically address priorities.

COVID caused significant delays in 2020 sampling, so the 2021 field year will include Lake Superior and Lake Michigan. The broad themes for both Superior and Michigan are nutrient-food web dynamics in a changing ecosystem and loading, transport, transformation and fate of chemical contaminants. Due to the missing field season, the Lake Michigan reporting will likely be delayed.

During the questions, it was asked if this program would be able to handle doing intensive field season more frequently than every 5 years. Elizabeth felt it would certainly be possible but would require increased staffing.

Updates from Sea Cadet and Educational Programs, Challenges from 2020 and Operations Ahead

- **Inland Seas - Ben Hale**
 - The Inland Seas' vessel is used to provide educational opportunities at various locations and the second ship named Utopia is docked near Traverse City and can be used for public and student engagement. Near Traverse City, there are labs available for researchers and amenities for overnight stay. In 2020, the Inland seas was able to operate some cruises, but had limited capacity. In addition, the Inland Seas had some significant repairs done during 2020 after a thin spot in the hull was found. For 2021, the Inland Seas will travel into Lake Superior as well as some stops in Lake Michigan, Lake Huron, and Lake St. Clair.
- **Grand Valley State University – Janet Vail and Tony Fiore**
 - Due to COVID, no K-12 or public trips were conducted and only limited research trips. Utilizing the downtime, maintenance and lab upgrades were conducted on the vessels. Virtual experiences helped to provide some opportunities. Janet provided an overview of the education program and explained why Muskegon provided an ideal environment to study a wide range of water quality. Since COVID has not improved, operations are having similar issues as last year. COVID restrictions have forced staff to rethink the education program, since the program typically had people working together in small spaces.
- **Noble Odyssey Foundation - Luke Clyburn**
 - This past year was the 49th year of training cadets, with the purpose of the program to develop maritime interest in youth. The Noble Odyssey Foundation has always been

working on research projects in the Great Lakes. Due to COVID, they were not able to sail, so training sessions were conducted in the parking lot. For 2021, they are facing some of the same issues with COVID. The current plan for 2021 is to look for shipwrecks in Lake St. Clair and participate in a project highlighting the value of Lake St. Clair. Currently working to do training remotely.

Latest Developments - Marine Technology (Fluid Power, Multi-Beam, ROV/UUV/USV) – Training Opportunities and Certification for Project Managers – Hans Van Sumeren, Northwestern Michigan College (NMC) Great Lakes Water Studies Institute

Hans Van Sumeren from the NMC Great Lakes Studies Institute provided an update on the training and certification programs offered through the NMC Geospatial Center (formerly the Marine Center). Hans focused on what skills and certificates graduates of the program were getting and how it would benefit the science vessel community. The Marine Center has been rebranded as the “Geospatial Center” since skills taught and developed through the program are applicable to land, air, and sea. Due to COVID 19, some face-to-face training had to be cancelled in 2020, however being held virtually may have been more informative and reached a broader audience. The program is offering micro-credentials as an alternative or addition to a degree to help with job opportunities. After graduation, there is a 100% employment rate with many students receiving multiple job offers.

Conducting Operations with COVID-19 Protocols – Lessons Learned. Moderated by Brandon Bastar, Wisconsin DNR, Sturgeon Bay Service Center

Brandon Bastar gave a few introductory remarks and mentioned that this session is one that has been well-received by the captains and crew members that attend the annual science vessel workshops. It provided an opportunity to learn from one another and share experiences regarding vessel design, vessel refits and maintenance and drydock/shipyard contacts.

Vessel and Shipyard Drydock updates and lessons learned:

- **Kiyi and Arcticus** – Joe Walters, USGS
 - In the past, USGS vessel maintenance was troublesome, however maintenance has been emphasized and improvements have occurred in the maintenance schedule. Currently, the Kiyi is in a Cleveland shipyard to undergo substantial maintenance, which includes repowering (service life extension) and numerous other upgrades for longevity and increased research capacity. The Arcticus is also receiving maintenance and utilizing the downtime to get needed upgrades.

- **Inland Seas** – Ben Hale, Inland Seas
 - Damage to the hull on the Inland Seas vessel was discovered just prior to 2019 after interior renovations revealed severe corrosion in an area of the vessel that was not easily accessible. It was difficult to find a shipyard to do the work since this was too small of a job for commercial shipyards and a bit too big of a job for smaller yards. Additionally, to save costs some prep-work needed to be conducted by Ben himself. Mackinaw marine works is where Inland Seas was ultimately repaired and overall, it was a great experience. During the repair process there were a fair number of hurdles that

were encountered, and Hale would've benefitted from the GLASS community's experience with shipyards. A suggestion for the group is to create a platform where vessel operators can communicate throughout the year.

- **New OMNRF Vessels** – Jon Chicoine, OMNRF

- Two vessels are currently being built, which will be 40 feet in length, 11.9 feet in width, powered by twin engines. Ultimately one vessel will be in Lake Ontario and the other one in Lake Huron.
- Erin Brown, OMNRF is collaborating with the GLATOS network and the new vessel will be used assist. A lot of the operational coordination happens at the lake level.

- **General Discussion (led by Brandon Bastar, Mark Burrows and Tom Crane)**

- For some vessels it is extremely hard to find funding and while we heard from a lot of vessels undergoing upgrades, it is noteworthy that some fleets need work, but are not able to do these upgrades themselves. Do we have a plan to update the GLASS plan that was completed in 2001?
 - Interesting conversations yesterday, one of the recommendations of NOAA's report to Congress is to further investigate the vessel capacity on the Great Lakes.
 - The fact that this group provided input on the Tri-Commission letter to Congress has provided serious traction. In multiple instances, Congress has asked for an update on science and science infrastructure in the Great Lakes.
- Important to keep in mind is that the Great Lakes region has done an excellent job of taking care of the resources and vessels. The successful track record should be viewed positively when resources are allocated. In the Great Lakes there is a need for new investment so that these platforms can stay in tune with the new technologies.
- To better engage with Canadian colleagues, GLASS should consider hosting a meeting like this at a border city or hosting this event in conjunction with the lake committee meetings.
- A concern voiced by the group questioned what the current guidance is for crossing the border on a vessel, specifically during COVID. There remains a lot of uncertainty on what is acceptable during this time. Burrows provided some weblinks to inform this discussion. Below are links and messages from the chat that were posted during the meeting.
 - Canada Border Services Agency, Reporting requirements for private boaters: <https://www.cbsa-asfc.gc.ca/travel-voyage/pb-pp-eng.html>
 - CBC article on Canadian tour boats entering U.S. waters: <https://www.cbc.ca/news/business/canada-u-s-border-tour-boats-covid-19-1.5685469>

- To request permission to sample in Canadian waters: Cummings, Joshua I CummingsJI@state.gov
- A USGS colleague who may be helpful with the protocol for docking in Canada waters: Kraus, Richard T rkraus@usgs.gov (he is the Lake Erie biological station chief)
- Federal Register, notification of temporary travel restrictions: <https://www.federalregister.gov/documents/2020/11/23/2020-25865/notification-of-temporary-travel-restrictions-applicable-to-land-ports-of-entry-and-ferries-service>

Note on response from governments: Following the workshop, we reached out to the USCG and Canadian authorities to get some guidance. Early in 2021, USGS worked with the US Embassy and Canada Border Services Agency on a request to enter Canadian water for the purpose of fixing a water gauge on an unmanned rock in the St. Marys River where they would have no contact or interaction with anyone on the Canadian side. This served as a nice test case for how to handle the situation and was referenced in communications we received from Global Affairs Canada.

For U.S. Science Vessels requesting to work in Canadian waters- Provided that it is transit only, with no intention to dock on the Canadian side, no physical contact with any Canadian vessels, no close proximity interaction with anyone on the Canadian side, and that the research vessel will depart Canadian waters on the same day, there are no quarantine requirements.

CBSA needs to be notified when you are entering Canadian waters. As was done by USGS, the US Government agency affiliated with the vessel can get in touch directly with CBSA for clearance. USGS did this with correspondence to CBSA-ASFC_FEAR-EERA@cra-arc.gc.ca regarding a Canada Fieldwork request.

Transport Canada advised that In general, foreign-flagged vessels wishing to conduct research in Canadian waters typically require a Marine Scientific Research permit before the research can occur, with some limited exceptions. All government owned or operated vessels (including those operating under an educational institution) require a permit. Global Affairs Canada is the federal agency evaluating requests for MSR permits. Specific requests are to be directed to Global Affairs Canada's Security and Defense Relations Division at: igr@international.gc.ca to determine whether the proposal is subject to Canada's Marine Scientific Research (MSR) regime.

For Canadian vessels transiting U.S. waters in the Great Lakes – All of the U.S. COVID-related requirements begin once a vessel announces their arrival into a US port. The U.S. has no COVID-related requirements for transits of U.S. waters by foreign vessels including research vessels in the Great Lakes. Reporting requirements to Customs and Border Protection apply.

New Business, Workshop Wrap Up and Action Items

Tom Crane, GLC and Mark Burrows, IJC closed the session and thanked everyone for participating. Despite the challenges of a virtual meeting, Crane and Burrows thought that the meeting went well. Although a virtual meeting does not replace the in-person connections, being able to continue the meeting has helped keep this effort moving forward. The group hopes to meet in-person again in

January 2022. From the discussion today, the Steering Committee will consider how to meet more frequently and possibly more in-person opportunities. In addition, the Steering Committee will work to improve the website and continue the discussion on cross border guidance regarding COVID restrictions.

Adjourn

With no further business, the meeting was adjourned at 3:00 p.m. EST.