



Great Lakes Maritime Research Institute

A University of Wisconsin - Superior and
University of Minnesota Duluth Consortium

Co-Directors:
Richard D. Stewart
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January 2012

Quarterly Update (October-December 2011)



Mark Your Calendars!

Marine Community Day/
GL Waterways Conference
22-23 February 2012

SNAME Section Meeting
23-24 February 2012
Cleveland, OH

GLMRI partnered with USCG and Duluth Seaway Port Authority for Security Analysis

The Duluth Seaway Port Authority has awarded a contract to GLMRI to review and identify gaps in the U. S. Coast Guard's existing recovery plan for re-opening the maritime transportation system in the Duluth/Superior Harbor following a critical incident. The study is funded through a federal port security grant. As part of the project, critical supply chains will be developed and reviewed with the port's terminals, the transportation network and various agencies.

STUDY UNDERWAY TO LOOK AT NATURAL GAS CONVERSION FOR GREAT LAKES STEAMSHIPS

In August, GLMRI received a five year cooperative agreement with the Maritime Administration (DOT/MARAD) to address environmental issues that face shipping and marine transportation. Specific study topics will be directed by MARAD that will benefit not only maritime commerce in the Great Lakes region, but other transportation modes along with ports and vessels operating on the inland rivers and coastal waters.

MARAD, in partnership with industry, has directed that during the first year, GLMRI research the feasibility of converting the existing steam propelled vessels to using natural gas, either compressed (CNG) or liquefied (LNG), as their primary fuel source. Initial efforts are underway to pursue this topic.

A conceptual study to analyze the engineering, financial, environmental and energy issues associated with steamship conversion is being led by Dr. Michael Parsons, Professor Emeritus from the University of Michigan's Naval Architecture and Marine Engineering Department.

Dr. Stewart, GLMRI Co-director is working with gas suppliers and pipeline companies to explore the LNG supply chain needed to support the fuel demand for the fleet with the potential for this fuel to be used by other modes of transportation.

GLMRI is working with the Lake Michigan Carferry Service and marine engineering experts in exploring the feasibility of converting the *S.S. Badger* to run its engines on natural gas. The team will be modeling the vessel's fuel consumption, routes, shore fueling station(s) and engineering to look at the viability of using natural gas. The demonstration project will also consider training needs and shipyard implications of the power conversions. The *S.S. Badger* is the only coal-fired steamship in operation in the United States.

GLMRI and the Great Lakes and Rivers Section of the Society of Naval Architects and Marine Engineers will co-host a multi-day education and information transfer session in Cleveland, Ohio on 23-24 February 2012 that will bring in academics, industry and government agencies from the U.S., Europe and Canada. Also, GLMRI with MARAD will host a panel at the Great Lakes Waterways Conference (22-23 Feb) where panelists will discuss LNG studies on-going in the U.S. and European Union in using natural gas as a maritime fuel. Registration information and the agendas about the meetings are available at:

www.greatlakeswaterwaysconference.com

www.sname.org/SNAME/GreatLakesGreatRiversSection/Meetings/

GLMRI Extended Research: Ballast-Free Ship Design

Professor Emeritus Michael G. Parsons of the University of Michigan presented an invited seminar entitled "**The Variable Buoyancy Ship: Reducing the Threat of Nonindigenous Aquatic Species Introductions**" to the faculty and graduate students of Stanford University's Hopkins Marine Station in Pacific Grove, CA, on November 4, 2011. The seminar was also transmitted back to the Palo Alto campus by a live television link. The seminar reported on the **Ballast-Free Ship** concept development and the results of recent GLMRI supported investigations.

New Addition to the GLMRI Team

Ms. Cassie Roemhildt, a recent graduate from the University of Wisconsin-Superior's Business and Economics Department was recently hired to work as a research specialist for GLMRI projects at UW-S. She is very excited about her new position with a family history in Great Lakes shipping: her father sailed as a wheelsman on the *Arthur M. Anderson* from 1990-1997. We welcome her!

Coming to Your Mailbox Soon!

The GLMRI 2011 Annual Report is in the final edit process. The reports are scheduled to be mailed in the latter part of February. If you have any address updates, please send to Ms. Hartwick at: jhartwic@d.umn.edu

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Key Outreach, Events, Presentation, Meetings

- Carol Wolosz met with the President and the Chief Engineer of the Lake Michigan Carferry Service, and received an in depth tour of the *S.S. Badger*. Manitowoc, WI and Ludington, MI. 2-3 Oct.
- Dr. Tom Brady (University of Purdue North Central) and Carol Wolosz participated as panelists at the "**Rebuilding the North American Economy Together: Driving a New Era in Canada and U.S. Relations**" sponsored by the Urban Transportation Center at the University of Illinois - Chicago. Dr. Brady discussed his GLMRI study for a Bi-State truck ferry between Milwaukee, WI and Muskegon, MI. Carol's topic was Intermodal and Maritime Transportation in the Great Lakes Region. Also, GLMRI Advisory Board member from the St. Lawrence Seaway Development Corporation, Craig Middlebrook was the keynote speaker for the conference. Chicago, IL. 12 Oct.
- Dr. Stewart visited the US Coast Guard Academy. New London, CT. 14-16 Oct.
- Dr. Stewart presented a paper, *Regulations and Policies That Limit the Growth of the U.S. Great Lakes Cruising Market*, at the International Association of Maritime Economists (IAME) annual conference in Santiago, Chile. He also toured the Port of Valparaíso on his visit. 24-31 Oct.
- Dr. Stewart and Ms. Wolosz teleconference/met with MARAD representatives to discuss the plans and progress on the LNG study. 19 Oct.
- Carol Wolosz attended the Ship Operations Cooperative Program (SOCP) meeting and provided a brief update on the GLMRI educational projects as part of the Maritime Primary and Secondary Education Coalition presentations, and an overview of the LNG study to the SOCP membership. Linthicum, MD. 2-3 Nov.
- Carol Wolosz and Mr. Yuska/MARAD met to discuss the plans and progress of the LNG study. Linthicum, MD. 2 Nov.
- Carol Wolosz met with Mr. Rick Harkins, Engineer for the Great Lakes Fleet/Key Lakes Shipping to provide an update on the engineering study for the LNG project. Mr. Harkins was a presenter at the annual Gales of November conference hosted by the Lake Superior Marine Museum Association, discussing the *M/V Gott* re-engining project. Duluth, MN. 5 Nov.
- Dr. Stewart toured the Port of Gaeta, Italy. 15-23 Nov.
- Dr. Parsons attended the Annual SNAME mtg., and met with several LNG industry contacts. Houston, TX. 17-18 Nov.



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