

Great Lakes Coastal Needs Assessment Port and Navigation Element Literature Review

Summary Analysis

Needs emerging from the literature review component of this project mirror closely those identified in the audience characterization. Most industry-published sources reflect engagement in the policy issue areas of aquatic nuisance species/ballast water legislation, navigation infrastructure investment, federal tax and fee policies, and homeland security measures. Operational issues include personnel training and recruitment, ballast management technologies and best practices, dredging, and traffic management. There is also an exhibited interest within the commercial ports and navigation sector to grow its business by identifying new markets and opportunities to augment historical markets with limited growth potential. The concept of “short sea shipping” to ease congestion in stressed highway and rail corridors is often referenced.

Public sector literature reviewed indicated needs for strategic planning, particularly in areas where needs are growing while available budget resources are either static or diminishing. At the national level, policy impacting ports and navigation interests is challenged with having to meet performance-based management requirements now pervasive throughout the federal government.

One major document produced collectively by private and public interests was the Regional Collaboration Strategy to Restore and Protect the Great Lakes. While marine transportation elements of the collaboration were largely relegated to the document appendix, other issue areas relating to Great Lakes port communities such as regional recreation and tourism, coastal land use planning and aquatic nuisance species were reflected in the collaboration’s final priorities.

Literature

Lake Carriers Association 2005 Annual Report and Objectives

URL: <http://www.lcaships.com/LCA05AR.pdf>

Summary: The Lake Carriers’ Association (LCA) represents U.S.-flag cargo vessel operators on the Great Lakes. Its 13 member companies operate 55 vessels with capacity to haul 125 million tons of bulk cargo annually. *LCA 2006 Policy Objectives:*

- Funding dredging: Shortfalls in the U.S. Army Corps of Engineers dredging budget for deep draft Great Lakes ports have resulted in inadequate water depths in many location and have caused LCA member

vessels to reduce cargo loadings 75 percent of the time over the past five years.

- Invasive species: Ballast water discharge by ocean going vessels trading in the Great Lakes has introduced scores of aquatic invasive species into the ecosystem. When ballast management technology is available to eliminate this threat, it should be mandatory on ocean vessels entering the Lakes.
- Icebreaking resources: Despite the commissioning of a new large icebreaker, the U.S. Coast Guard lacks the proper number and mix of vessels to provide adequate service. An additional 140-foot icebreaking tug should be assigned to the Great Lakes.
- Infrastructure: The most pressing infrastructure need for commercial navigation on the Great Lakes is a long-stalled second large lock at the Soo Locks. With 70 percent of the U.S.-flag carrying capacity restricted to the one existing large lock, the Poe Lock, a single point of failure exists that could bring shipping, and several major North American industries, to a standstill.
- Strong U.S.-flag fleet: The Jones Act, which requires cargo moving between U.S. ports to be carried in vessels that are U.S.-owned, U.S.-built and U.S.-crewed, ensures a level playing field leading to fair competition, guarantees adherence to high safety and environmental standards, and is a key element of the nation's defense capabilities.

Saint Lawrence Seaway Development Corp. 2004 Annual Report

URL: http://www.greatlakes-seaway.com/en/aboutus/slsdc_annrept.html

Summary: The Saint Lawrence Seaway Development Corporation is a wholly owned government corporation and an operating administration of the U.S. Department of Transportation. It is responsible for the operation and maintenance of the U.S. portion of the St. Lawrence Seaway between Montreal and Lake Ontario. Its *Operational Initiatives* include:

- Maximum sailing draft increased three inches to 26 feet, 6 inches; each addition inch of draft allows Seaway-sized vessels to carry, on average, an additional 100 tons of cargo.
- Performance levels for foreign vessel inspections continue to be met as per a Memorandum of Understanding with Canadian agencies for a coordinated inspection program. A ballast water exchange program is an important function of these inspections.
- An emergency response plan first developed in 1989 was successfully tested in a vessel spill of liquid road salt. Also, training was conducted on response to oil spill in ice conditions.
- The Great Lakes St. Lawrence Seaway Study continued under the 2003 Memorandum of Cooperation with Canada to ensure the future viability of the Seaway System as a commercial navigation waterway. The scope of the study includes economic, engineering and environmental components.
- Trade development initiatives included an SLSDC-sponsored trade mission to Belgium and the Netherlands; a trade mission to the Posidonia

Exhibition in Piraeus, Greece; a delegation to the Seatrade Cruise Convention in Miami, and a series of trade development meetings for Seaway stakeholders.

Great Lakes/Seaway Review, Vol. 34, Nos. 1-3

URL: <http://www.greatlakes-seawayreview.com>

Summary: Great Lakes/Seaway Review is a quarterly magazine published by Harbor House Publishers Inc. that has covered the Great Lakes St. Lawrence Seaway maritime transportation system since 1969. *Relevant articles:*

- “Finding security in uncertain times: Transport Canada’s approach to securing the Great Lakes Seaway system,” an address by Margaret Purdy, Special Advisor to the Deputy Administrator of Transport Canada (34/1, p. 11).
- “The Mighty Mac in transition: New U.S. Coast Guard icebreaker undergoing sea trials,” (34/1, p. 13)
- “Five decades later: The Great Lakes Commission enters a new era,” (34/1, p. 18).
- “Investigating underwater steel corrosion: Duluth-Superior harbor structures experience accelerated corrosion,” (34/1, p. 24).
- “Short sea shipping: Businesses from Canada, the Netherlands and U.K. form partnership to construct vessels for short sea shipping,” (34/2, p. 6).
- “Windy business: renewable energy in the form of wind generators brings business into the Great Lakes Seaway System,” (34/2, p. 13).
- “Great Lakes St. Lawrence Seaway Study: draft binational study results to be ready in 2007,” (34/3, p. 6)
- “Maritime security: U.S. and Canadian ports look for funding to enhance security,” (34/3, p. 17).
- “Looking for alternatives: Open water placement of dredged material faces increased restriction,” (34/3, p. 23)
- “Navigation monitoring systems: Great Lakes/Seaway observation systems need support,” (34/3, p. 51)
- “Training and recruitment: Report shows worldwide seafarer shortage,” (34/3, p. 53)

Proceedings, Great Lakes Panel on Aquatic Nuisance Species, May 9-10, 2006 (draft)

Prepared by: Great Lakes Commission

URL: <http://glc.org/ans/panel.html>

Summary: The Great Lakes Panel on Aquatic Nuisance Species is comprised of U.S. and Canadian federal, state and provincial agencies as well as other stakeholders. The Panel convened in Chicago from May 9-10, 2006. Panel provided updates on public and private initiatives to mitigate and prevent the spread of aquatic nuisance species (ANS). Initiatives of note to the ports and navigation community are:

- The International Maritime Organization approved 2 ballast water treatments methods

- Coast Guard in collaboration with Canadian government will board ships in the St. Lawrence where the Coast Guard has no jurisdiction.
- The U.S. marine industry established a Green Marine Industry Environmental Partnership which is a voluntary program showing industry's commitment to address environmental issues such as ANS.
- The Michigan Public Act 33 of 2005 requires all vessels entering Michigan ports to have a permit beginning January 1, 2007, certifying that the vessel will not discharge ANS by using state approved water ballast methods.

U.S. Army Corps of Engineers Navigation Five Year Development Perspective FY06-FY11 (draft)

Summary: The Five Year Development Perspective (FYDP) is a newly developed instrument to guide the U.S. Army Corps of Engineers (USACE) in planning for Great Lakes navigation system needs over a given five-year span, defined in this report as the years 2006-2011. The intent is to work with system stakeholders to identify and prioritize the system's most critical needs in a cohesive, regional approach, and then structure optimum funding requirements accordingly.

Proposed actions are specific to elements of the USACE Great Lakes navigation program including system value and needs; program goals; risk and reliability metrics; prioritization metrics; stakeholder outreach and communication; information technology; regional business center; and business process. A few, key recommendations are listed below:

- Prepare a general overview of the Great Lakes navigation system to communicate the value and needs of the Great Lakes navigation system and as a baseline to establish regional program goals and requirements.
- Develop analytical tools and models that add rigor to the system overview.
- Work with navigation stakeholders such as the Great Lakes Commission, Lake Carriers Association, and United States Great Lakes Shipping Association to incorporate real-time business perspective and outlook into system value and needs assessment.
- Analyze the Great Lakes system for at least five years to validate that overall risk is being reduced and that reliability has improved.
- Work with subject matter experts to develop/refine analytical tools that evaluate risk and reliability of Great Lakes navigation features (breakwaters, CDF's, piers, channels, etc.)
- Refine proposed metrics (transportation savings and ton-miles) on a system-wide approach. Incorporate National Program goals adapted to the Great Lakes Navigation system.
- Formally identify and request primary navigation stakeholders to work with the USACE to develop and implement the FYDP.
- Continue to expand and develop new ways of considering stakeholder needs and requirements for the Great Lakes navigation system.
- Establish regional standard for document sharing.

- Continue to develop regional business center.

Final Report: Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes, December 2005, Sustainable Development Section

Prepared by: Sustainable Development Strategy Team, Transportation Work Group for the Regional Collaboration, Executive Order

URL: http://www.glrc.us/documents/GLRC_Strategy.pdf

<http://www.glrc.us/documents/Sustainable-Development-Appendix.pdf>

Summary: One recommendation put forth in the main report related to ports and navigation calls for a comprehensive study to integrate long-term invasive species control and management with sustainable intermodal transportation for the Great Lakes – St. Lawrence basin. The Sustainable Development Appendix reviews the transportation resources available within the Great Lakes States Transportation Corridor and summarizes the current understanding of the opportunities and threats posed by existing systems. Current practice and potential expansion of maritime transportation present adverse impacts from maintenance dredging, introduction of invasive species, and other environmental and social factors. The appendix states that it is imperative to create an integrated Great Lakes transportation plan. It lists a number of transportation practices to be considered in developing such a plan including coordinated multi-modal regional planning; prevent/control introductions of invasive species as a national priority; apply environmentally sound dredging practices; reduce energy consumption by applying energy efficient technology; and apply other best practices in port development and shipping. Factors that limit the effectiveness of these practices are lack of investment; lack of leadership; uncertain roles; lack of planning; short sightedness; and no incentives. Six detailed recommended action to overcome these obstacles were presented.

ANS Early Detection and Monitoring: A Pilot Project for the Lake Michigan Basin Survey Summary and Recommendations (draft), October 2004

Prepared by: Great Lakes Commission with guidance from the Early Detection and Monitoring Project Advisory Team

URL: <http://glc.org/ans/pdf/EDM-final-Oct-28-04.pdf>

Summary: The purpose of the *Aquatic Nuisance Species Early Detection and Monitoring Pilot Project for the Lake Michigan Basin* is to produce a set of guidelines and recommendations for a coordinated system to detect new ANS invasions and track the spread of established ANS populations in the Lake Michigan basin. The report presents 21 recommendations which, if implemented, would vastly improve ANS detection monitoring in the Lake Michigan basin. The recommendations are based on the survey results of current ANS monitoring efforts.

National Ports and Harbors Extension Program Report, January 20, 2006

Prepared by: The National Ports and Harbors Extension Review Panel

URL:

http://www.seagrant.noaa.gov/other/greenbook_doc/port_harbor_ext_report.pdf

Summary: The National Sea Grant College Program convened a Ports and Harbors Extension Review Panel in 2005 to review and assess National Sea Grants Ports and Harbors Extension Program established in 2001. The panel was co-chaired by Dr. Geraldine Knatz and Dr. Frank Kudrna, and also included Dr. Mary Baker and Mr. Tom Chase. The panel issued its report on January 20, 2006. Objectives of the 2001 initial request for proposals by National Sea Grant Program for a National Ports and Harbors Extension Program:

- Serve as a focal coordinating point for expanding Sea Grant activities in national ports & harbors and marine transportation issues.
- Help develop network of Sea Grant researchers and extension staff working on ports and harbors issues.
- Conduct research and analysis on ports and harbors issues.
- Provide outreach and services to Sea Grant, NOAA, other agencies and industry.
- Represent Sea Grant at national and regional meetings, briefings and hearings.
- Collect and disseminate information through periodic workshops and conferences.
- Maintain contact with trade associations and leaders in the port community.

The Review Panel recommended that the National Sea Grant College Program strengthen the Sea Grant Ports and Harbors initiative by taking the following actions:

- Re-establish Natl. Sea Grant Ports & Harbors Specialist position in Washington, D.C.
- Re-title existing specialists as Regional Ports and Harbors Specialists
- Establish an ongoing advisory body to provide oversight and direction
- Formally partner with a marine transportation industry organization such as the American Association of Port Authorities to host the National Sea Grant Ports and Harbors Specialist

An Ocean Blueprint for the 21st Century Final Report, September 20, 2004,
Chapter 13: Supporting Marine Commerce and Transportation

Prepared by: U.S. Commission on Ocean Policy

URL:

http://www.oceancommission.gov/documents/full_color_rpt/13_chapter13.pdf

Summary: Chapter 13 presents an overview the United States marine transportation system including the system's value and components. To improve the current marine transportation system, the report noted the need for better coordination, planning, decisionmaking and allocation of resources at the federal level. The dredging of harbors, channels and waterways, and an ecosystem-based management approach to ports were noted as important to the future of the marine transportation system. The chapter concluded with six recommendations:

1. Designate U.S. Dept. of Transportation (DOT) as lead federal agency for the marine transportation system.
2. Establish the Interagency Committee for the Marine Transportation System under the National Ocean Council as a coordinative body for the 18 federal agencies with maritime responsibilities.
3. U.S. DOT should develop a new national freight transportation strategy linking marine transport with other modes.
4. U.S. DOT should study the societal and economic benefits of increased short sea shipping.
5. U.S. DOT should establish a national data collection, research and analysis program of freight flows in the U.S.
6. U.S. DOT should incorporate emergency preparedness requirements into a national freight transportation strategy.

Excerpts from LCA/CSA International Joint Conference, 2006

Summary: The International Joint Conference is sponsored annually by the Canadian Shipowners Association representing Canadian fleets operating in the Great Lakes/Seaway system, and the Lake Carriers' Association comprised of the U.S.-flag fleets on the Lakes. The theme of the 2006 conference was "At a Crossroads: Environmental Challenges and a Sustainable Marine Industry."

Topics addressed at the conference include:

- Challenges to the Great Lakes maritime industry: stricter air quality regulations and ballast-borne invasives
- New industry initiatives:
 - The Chamber of Maritime Commerce's Green Marine to strengthen industry environmental standards
 - MARAD economic impact assessment of the U.S. maritime industry and Great Lakes seaway infrastructure needs assessment