

DULUTH-SUPERIOR PORT LAND USE PLAN DECEMBER 2016



Prepared by
**DULUTH-SUPERIOR
METROPOLITAN INTERSTATE COUNCIL**

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Duluth-Superior
Metropolitan Interstate Council

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DULUTH - SUPERIOR PORT LAND USE PLAN

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Duluth-Superior area communities cooperating in planning and development through a joint venture of the Arrowhead Regional Development Commission and the Northwest Regional Planning Commission

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Acronym Guide

AOC – Area of Concern
ARDC – Arrowhead Regional Development Commission
BNSF – Burlington Northern Sante Fe
BUI – Beneficial Use Impairments
CDF – Confined Disposal Facility
CMSP – Coastal and Marine Spatial Planning
CN – Canadian National
DECC – Duluth Entertainment and Convention Center
DSPA – Duluth Seaway Port Authority
EPA – Environmental Protection Agency
FEMA – Federal Emergency Management Agency
FHWA – Federal Highway Administration
FTA – Federal Transit Administration
GLDT – Great Lakes Dredging Team
GLSLB – Great Lakes – Saint Lawrence Basin
GLWQA – Great Lakes Water Quality Agreement
HTAC – Harbor Technical Advisory Committee
IJC – International Joint Commission
MIZOD – Marine Industrial Zoning Overlay District
MnDNR – Minnesota Department of Natural Resources
MnDOT – Minnesota Department of Transportation
MPCA – Minnesota Pollution Control Agency
MTS – Marine Transportation System
NHS – National Highway System
NWRPC – Northwest Regional Planning Commission
PFW – Partners for Fish and Wildlife
PRF – Processing and Reuse Facility
SLRAOC – St. Louis River Area of Concern
USACE – United States Army Corps of Engineers
USCG – United States Coast Guard
USFWS – United States Fish and Wildlife Service
WCA – Wetlands Conservation Act
WDNR – Wisconsin Department of Natural Resources
WisDOT – Wisconsin Department of Transportation
WLSSD – Western Lake Superior Sanitary District

Chapter 1

Introduction

The Duluth-Superior Port Land Use Plan is the comprehensive port development plan for the lands which constitute the “working port” of the City of Duluth, Minnesota and City of Superior, Wisconsin waterfronts. The plan addresses existing and future conditions influential to the on-going success of the harbor’s unique position as North America’s largest fresh-water, multi-modal transportation hub for moving domestic and international freight.

Plan Purpose

The Duluth-Superior Port Land Use Plan serves a number of functions. It is designed to give guidance to both public and private interests regarding the development of lands in the working waterfront of the Duluth-Superior port. For officials at the cities of Duluth and Superior, it offers guidance on how those lands can best be managed to support and promote current and long-term protection of valuable and limited deep water berths, global waterborne connections, water dependent businesses and maritime facilities. For developers, the plan is a tool for helping to identify the various policies and regulations (local, state, and federal) that can impact development activities within or adjacent to specific parcels of land and sections of the waterway.

The Port Land Use Plan has also been developed in service of the following four goals:

Goals

1. To consider and integrate the large amount of harbor related planning work undertaken by multiple agencies.
2. To protect and enhance the economic, ecological, and recreational value of the harbor.
3. To identify potential future land use options, needs, opportunities, and complementary strategies
4. To encourage participation and direct input from all stakeholder groups with interests within the port and harbor.

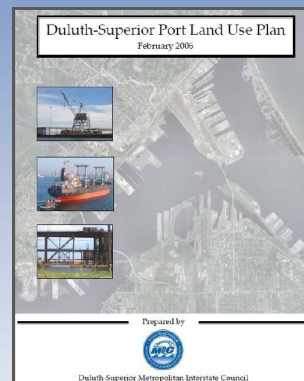
History of the Port Land Use Plan

The current Duluth-Superior Port Land Use Plan, consolidates forty years of coordinated effort to address the changing needs, and manage the continuous improvement and development of, the Duluth and Superior working waterfronts. The Duluth-Superior Metropolitan Interstate Council (MIC) developed the first formal *Land Use and Management Plan for the Duluth-Superior Harbor* in 1978 as a way to engage the area’s various jurisdictions to “approach the harbor as a single entity without dissecting it with state and municipal boundaries.”

State and municipal boundaries, however, are not immaterial: they have implications for the policies, laws, and regulations that impact development and activities on and along the waterfront. In 1992, the MIC prepared another plan specific to the Duluth side of the harbor to satisfy a specific requirement (6115.0191, Subpart 5 of the Public Water Resource Rules) of the Minnesota Department of Natural Resources (MnDNR) that an officially recognized “comprehensive port development plan be in place before the MnDNR could authorize any fill into protected waters for port development projects. The *Duluth Comprehensive Port Development Plan* (1992) also addressed several elements required to be a part of such a plan.

In 2002, it was recognized by the MIC and other port stakeholders that Duluth's comprehensive port development plan should be updated, but there was also a desire to return to examining and planning for the harbor as a whole. In order to sufficiently address the policy, differences in policies and regulations between the Minnesota and Wisconsin sides of the harbor, a *Superior Port Land Use Plan* (2003) and a *Duluth Port Land Use Plan* (2005) were developed separately and put together under one cover.

This updated version of the plan continues to both address the policy and regulatory differences of Minnesota and Wisconsin, but has been integrated in order to make the document a more concise, useful, and user-friendly document for both public officials and private developers. It also continues to serve as the official comprehensive port development plan per (6115.0191, Subpart 5) of Minnesota statute.



Port Overview

The Port¹ of Duluth-Superior, at the western tip of Lake Superior, is 2,342 miles, about one week by ship, from the Atlantic Ocean. The bi-state port is located on the lower reaches of St. Louis River in the cities of Superior, Wisconsin and Duluth, Minnesota. Naturally protected by Park Point, the world's longest freshwater sandbar, the harbor² consists of 19 square miles of land and water with 17 miles of dredged shipping channels. It is considered the largest freshwater port in the world and is connected to the Atlantic Ocean through the Great Lakes and the Saint Lawrence Seaway. On average, 38 million metric tons of cargo moves through the port annually, making it the largest port annually on the Great Lakes and one of the premier bulk cargo ports in the United States.

According to the Duluth Seaway Port Authority, "there are 20 privately owned and operated docks in this harbor plus one general cargo terminal, a fueling depot, tug/barge services, and a shipyard with two dry docks. Primarily a natural resources port, these docks handle a diversified commodities base ranging from coal, iron ore, grain, and limestone to cement, salt, wood pulp, steel coil, wind turbine components, and other heavy lift/dimensional equipment.



Public port assets are critical to the operation of the port and include the two port entries (including the iconic Aerial Lift Bridge), public docks, the federally designated and maintained shipping channel, navigation equipment and a processing and reuse facility for dredged materials (at Erie Pier). These assets are publically financed and together help to facilitate the movement of commerce throughout the port.

Also essential to the operation of the port are the landside connections that allow freight to move seamlessly to and from land-based transportation modes (roads and rail) to water-based transportation. Ports are one element of the larger freight movement system of North America and they provide critical transshipment points for moving large quantities of freight. The Duluth-Superior port is fortunate to have connections to four class one railroads. While not every port facility has connections to all four railroads, different parts of

1. A port is a facility for loading and unloading vessels

2. A harbor is a body of water where ships, boats, and barges can seek shelter from stormy weather; ports are located in harbors

the port are serviced by some or all of the class one railroads. The Duluth-Superior port communities have also invested in improvements to port area roads and connections to the National Highway System to provide access for the trucking industry to port area freight facilities.

The lower St. Louis River estuary, which includes the Duluth-Superior port, also has a long list of recreational facilities and access points including marinas, docks and boat landings. It also contains critical aquatic and terrestrial habitat and an exceptional fishery. These assets have a high value and are recognized as part of the complex harbor system.

Regional and Global Context

A resource for direct global access and trade, the Great Lakes-St. Lawrence Seaway System extends from Duluth-Superior eastward to the Gulf of St. Lawrence on the Atlantic Ocean and beyond. The system ties together the five Great Lakes—Superior, Michigan, Huron, Erie and Ontario serving eight states and two Canadian provinces with access to 15 major Great Lakes ports. Since it opened to navigation in 1959, over 2.5 billion metric tons of both domestic and international cargo has passed through the St. Lawrence Seaway System.

The port of Duluth-Superior plays a vital role in the region's status as an international maritime transportation system. The port hosts up to 1,100 lake-carrier and oceangoing ship visits each year, loading or delivering approximately 38 million tons of bulk cargo (it is regularly in the top-20 U.S. tonnage ports). Maintaining the Port of Duluth-Superior's high level of function is critical in supporting the bi-national Great Lakes-St. Lawrence Seaway maritime transportation system. The economic value of both the current, and future potential, of the port of Duluth-Superior cannot be understated. It offers Minnesota and Wisconsin regional businesses the ability for direct access to both national and international markets.

The importance of Great Lakes shipping was highlighted in a recent study by the U.S. Department of Homeland Security that emphasized the economic impact of closing the Poe Lock at Sault St Marie. "The scenario projected catastrophic impacts on both the regional and national economy." Economic modeling calculated that approximately \$1.1 trillion in economic output and over 10.9 million jobs would be lost in the first year of closure." The Poe Lock's importance is a matter of geography, infrastructure, and the nation's manufacturing supply chain. For example, automakers and manufacturers of construction and farm equipment, appliances, and rail cars all rely on steel. That steel largely comes from mills on or around the Great Lakes that get their iron ore from mines in Northeastern Minnesota. While commodity values shift and cargo needs vary, the one constant is the need for efficient, low impact, secure transportation of goods made even more critical as we seek to reduce our carbon footprint and address climate change.

Economic Impact of the Port

The port accommodates a wide range of economic activities, from the movement of basic commodities such as western grain from the Dakotas and surrounding region, iron ore of the Mesabi range, low-sulphur western coal from as far away as Montana, Wyoming and Utah, and a variety of wood, pulp, and paper products from the region. Also important are the special "heavy-lift" or "project cargos" that support the international movement of manufactured equipment and construction materials (such as wind and oil energy equipment). In addition, new cargo opportunities continue to develop as new trading markets are opened and pressure to promote a green-supply chain encourage break-bulk and container shipping opportunities. Today, the primary commodities shipped through the port are coal, iron ore, grain and project cargos. The economic effects of these port activities flow outward through Minnesota, Wisconsin and the Great Lakes region, providing both direct and indirect business, income, and jobs. According to a 2011 Economic Impact Study by Martin Associates of Lancaster, Pennsylvania, 11,510 jobs in Minnesota and Wisconsin were supported by the cargo moving via the marine terminals located at the Port of Duluth-Superior either as a result of direct, induced, or indirect impacts of the port (<http://www.duluthport.com/PORTofDULUTH-SUPERIOR.pdf>). The economic impact

impact of the Duluth-Superior Port contributes heavily to both the local and regional economies. In 2010, the direct business revenue received by firms dependent upon the cargo handled at the marine terminals located in the Port of Duluth-Superior was \$1.5 billion a key link in a \$34 billion Great Lakes maritime industry. Combining the direct, induced and indirect income impacts, the cargo handled at the Port of Duluth-Superior generated \$545.7 million in wages and salaries, and local consumption expenditures in the Great Lakes regional economy in 2015.

Besides direct economic impacts, there are several other benefits generated by the port. Any loss of marine transport capacity would have serious external consequences as cargo would be shifted to road and/or rail, such as slowed cargo velocity and transport bottlenecks, increased fuel consumption, reduced cargo security, etc. There would also be serious environmental and social consequences, such as increased air pollution and carbon footprint, increased costs for transportation, more traffic fatalities and accidents, longer transit times for citizens, etc. In a study titled *Environmental and Social Impacts of Marine Transport in the Great Lakes-St. Lawrence Seaway System*, researchers provided marine stakeholders, transportation planners and government policy makers with a description of the potential environmental and social impacts that could occur if cargo carried by marine vessels on the Great Lakes-St. Lawrence Seaway navigation system shifted to road and/or rail modes of transport. The study concluded that marine transportation on the Great Lakes uses less fuel, emits less greenhouse gases and other pollutants, has more system capacity, lower impact on infrastructure and produces less noise.

Access to marine transport improves competitive pressure keeping overall transportation rates lower in our region. In a recent US Army Corps of Engineers report:

http://www.lre.usace.army.mil/Portals/69/docs/Navigation/GLN_Strength%20to%20the%20Nation%20Booklet2013v2_final2w.pdf

USACE noted: “compared to the next least costly mode of transportation (rail or truck), the Great Lakes Navigation System saves U.S. businesses and ultimately consumers approximately \$3.6 billion per year. This translates directly into more competitive American steel, lower cost energy and lower cost aggregate and concrete for construction in our cities and highways.”

Why preserving port industrial land is important

A priority of the Duluth-Superior Port Plan is to ensure the protection of port related industrial land from encroaching non-compatible uses. Industrial land in the port produces jobs and supports local and regional business and ultimately impacts the economic competitiveness of the North American heartland.

The encroachment of non-water dependent commercial and residential land uses on industrial port land can lead to issues relating to restricted operations and permanent disinvestment in business and infrastructure. It is important to have contiguous industrial and port capacity, and to avoid encroachment that results in lower productivity and long-term lost opportunity. Port planning and assets are 50-100 year investments. Once non-water dependent commercial or residential uses begin to encroach on the industrial waterfront, industrial uses may begin to be subject to limits on hours of operation, overall efficiencies can be reduced and manufacturing and transportation synergies can be lost as the port becomes a patch-work of properties instead of a synchronized and coordinated economic engine for the community. Disinvestment in industrial property near newly formed residential and non-water dependent commercial activities often follow once industrial property begins to see such restrictions.

Other U.S. ports have experienced disinvestments in their maritime facilities and capacity due to “gentrification.” Recognizing the threat of short-term thinking when managing a long-term asset for the community and the state, city of Baltimore created a Marine Industrial Zoning Overlay District (MIZOD) to stem the short sighted encroachment of commercial and residential uses on industrial land. This encroachment

had made banks very cautious about lending money to marine and industrial companies in areas where non-compatible uses were being developed in adjacent lands. The banks understand the political power that residents can have once they move into or near an industrial area. Complaints to the city, and eventual lobbying efforts, led to restrictions on the industrial activities along the waterfront, which put the productivity, profit and viability of industrial companies in jeopardy. Baltimore realized that the loss of maritime industrial land would impede their ability to attract port traffic, new investments and limit both existing and new employment activity. The creation of the MIZOD and the security it has given to maritime industry along with the continued dredging of shipping lanes and the impending expansion of the Panama Canal has spurred dramatic private investment and new job opportunities as Baltimore seeks to revitalize its port. Banks are now more likely to loan to the industrial operations in the areas covered by the MIZOD and within two years of MIZOD's implementation, there have been millions of dollars spent on improvements to piers and new additions of production lines in the maritime-based industries.

Stories like that of Baltimore's port lands help to illustrate the importance of making land use decisions on lands adjacent to Duluth-Superior's federally maintained shipping channel with a long-term view to future needs and opportunities. Once industrial land is converted to commercial or residential uses, it is difficult to convert that land back. Lawrence Kieck, retired from the Wisconsin Department of Transportation (WisDOT) was quoted as saying that "Once a property within a port is taken out of commercial maritime or industrial use, it is not likely to ever return. Even allowing commercial/industrial facilities in a port that do not require the use of water transportation reduces the effective size and future potential of the port causing fragmentation and reducing the synergies that might be gained from the 'clustering' of complementary resources" (*Difficult Choices: Assessing the value of 'Deep-Water Access Ports'*). Once converted from industrial use, it is hard to return. The preservation of a viable industrial land in the region is critical to both strong local and regional economies.

Working with the Regulatory Landscape

There are many local, state, and federal policies and regulations which have a bearing on land use and development along the Duluth-Superior waterfront. A priority of the Duluth-Superior Port Plan is to clarify what those are in order to help public and private stakeholders approach future development projects or issues with a clear view of what rules and regulations may impact those projects or issues, and whether the proposed developments meet their city and state needs for long-term asset optimization and support of the public good. Each state and city, as well as the federal government, has regulations and directives that are designed to protect the environment, ensure safety, and promote both current and future compatible land uses.

A Vision for 50 Years out

The vision for the port of Duluth-Superior includes maintaining our current strengths of efficiently and cost effectively moving bulk materials such as coal, iron ore, and grain as well as moving large project cargos for the wind and oil energy sectors. We will also seek to adopt new cargo opportunities as they appear in our ever-shifting global and regional marketplace. The port should continue to capitalize on its unique location as the most inland port in North America, and studies show the opportunity to build a regional, multi-modal transportation hub. Our location allows the movement of freight such as large project cargos to bypass congested highways and urban areas on both the East and West Coasts. While most rail and roadway systems are already at full capacity, the Great Lakes / St. Lawrence Seaway system has as much as 50% additional freight capacity available. Because maritime transport is recognized as the most efficient, least polluting, and safest mode of transportation, it will only grow in importance in the coming decades.

The Port Land Use Plan also examines redundancies and gaps in our national freight transportation systems, to help prepare local and state stakeholders to leverage and optimize emerging opportunities. For example, the potential exists for freight operations in the Duluth-Superior port and Seaway to help mitigate the threat of trade corridor failures caused by catastrophic events in other parts of the country. If ports fail on one of the three US coasts, what is the role for the Great Lakes and Duluth-Superior in critical freight movements? The Duluth-Superior port can and should play a role in providing resiliency within our national freight moving infrastructure.

The preservation of lands adjacent to our maintained shipping channel can help to meet new and sudden demands in freight movements to and from the port. The focus of this plan update is to ensure the port is positioned to adapt to changing economic conditions and transportation needs, as well as to ensure that our robust port economy continues to be a strong piece of the local and regional economy for future generations.

Organization of the Plan

This plan update will provide information that will help guide land use decisions along the working waterfront. It is designed as a guide that will help to optimize and balance the economic, ecological and recreation potential of the Duluth-Superior Port.

This plan update provides information on the following topics:

- Prior planning efforts that have been undertaken in the past 10-15 years
- Current land use
- Regulatory framework
- Stakeholder survey
- St. Louis River Area of Concern delisting goals and process
- Dredged materials management strategy
- Future land use
- Recommendations

Chapter 2

Port Related Planning Review

A large amount of work has been completed in the Duluth-Superior area related to the St. Louis River estuary, the Duluth-Superior port and surrounding lands and the maritime and freight movement industries. These planning studies, plans and reports are important to be able to examine the issues surrounding port land use. Below is a list of the planning efforts that were reviewed. Also contained in this chapter is a short summary of the documents and where available, a link to the document.

Document Name:

1. A Study of the St. Louis River, 2006
2. Duluth Comprehensive Plan, 2006
3. Erie Pier Management Plan, 2007
4. Northern Minnesota/ Northwest Wisconsin Freight Movement Study, 2009
5. Bayfront Small Area Plan, 2010
6. St. Louis and Lower Nemadji River Watershed-2010 Water Quality Management Plan Update
7. Superior Comprehensive Plan, 2010
8. Western Lake Superior Sanitary District - Comprehensive Wastewater Master Plan, 2010
9. Economic Impacts of the Port of Duluth-Superior, 2011
10. The Economic Impacts of the Great Lakes-St. Lawrence Seaway System, 2011
11. Great Lakes Port Matrix Tool and Case Studies, 2012
12. Multimodal Freight Transportation Report within the Great Lakes – St Lawrence Basin, 2012
13. Duluth-Superior Cruise Ship Terminal Facility Study, 2013
14. Restoration Returns, 2013
15. St. Louis River Area of Concern Implementation Framework, 2013
16. St. Louis River Watershed Monitoring and Assessment Report, 2013
17. Minnesota Statewide Ports & Waterways Plan, 2014
18. Storm water issues and the Port Land Use Plan, 2014
19. St Louis River AOC-Quality Assurance Program Plan for MN-Based Projects, 2015
20. Minnesota Statewide Freight System Plan, 2016
21. Strategy for the Great Lakes - St. Lawrence River Maritime Transportation System, 2016
21. Wisconsin State Freight Plan, 2016

A Study of the St. Louis River, 2006

This study, authored by the Minnesota Department of Natural Resources, examines the St. Louis River watershed. This watershed has an area of 3,584 square miles and is located at the head of the Great Lakes. The source is at the outlet of Seven Beaver Lake to Lake Superior at the Superior Entry along Minnesota Point. The goal of the plan is to protect the natural beauty, environment and cleanliness of the St. Louis River system by adopting zoning and land use strategies into local elements of government. Specifically, the plan has resulted in an increase in lot size, no-cut zone along the river, mandated forestry management plans and the public purchase of 22,000 acres of land along the riparian corridor. DNR-Duluth Area Fisheries, Fond du Lac Resource Management, DNR-Tower Area Fisheries, 1854 Treaty Authority, DNR-Grand Rapids Area Fisheries, prepared the plan. Funding under Federal Aid was from the Sport Fish Restoration Act.

Duluth Comprehensive Plan , 2006

The Duluth Comprehensive Plan establishes the vision, principles, policies, and recommended strategies for Duluth's future. The plan's content includes principles, policies, future land use map, and strategies; which define how development, redevelopment and preservation decisions are made. Previous comprehensive plans have focused on preserving and enhancing the environment, investing in people, neighborhoods and community, and building a strong economic base. The structure of the plan contains sections on the future land use map for a 20-year vision aimed at growth and development, as well as policies that coincide with the map. Ten background profiles, such as demographics, transportation, and housing played a part in the decision-making processes.

Erie Pier Management Plan , 2007

The plan, authored by the Metropolitan Interstate Council working with port stakeholders, will set management processes in place to facilitate a dredged material reuse program at Erie Pier. The purpose of this plan is to develop a successful dredged materials reuse program and transition Erie Pier Confined Disposal Facility (CDF) into the Erie Pier Processing and Reuse Facility (PRF). The goal of this plan is to outline the steps necessary to expand the beneficial reuse of dredged materials, and revise management and processing of dredged materials, to assure that the need for another CDF will be avoided indefinitely. The driving force behind this transformation is the fact that at current rates of dredged material placement, Erie Pier will reach capacity in roughly 10 years. The costs of developing additional CDFs are extremely high, which makes the transition of Erie Pier to a recycling facility the most cost effective, environmentally sound, and socially acceptable alternative to current dredged material disposal practices. According to the National Dredging Policy, "dredged material is a resource, and environmentally sound beneficial use of dredged materials for such projects as wetland creation, beach nourishment, and development projects must be encouraged." Open water dumping, does not consider the environmental and social costs and does not consider the economic benefit of reuse. It is illegal to dispose of dredged materials in the waters of Minnesota and Wisconsin. Metropolitan Interstate Council (MIC) staff working closely with the Dredging Subcommittee of the Harbor Technical Advisory Committee (HTAC) developed this plan. The HTAC is a diverse group of port stakeholders representing federal, state, regional and local agencies as well as maritime industry and citizen groups. The Dredging Subcommittee of the HTAC is comprised of members with expertise and experience in harbor maintenance and dredging issues.

Northern Minnesota/ Northwest Wisconsin Freight Movement Study 2009

This study was a collaborative effort led by MnDOT working with the MIC and WisDOT and utilized the lead consultant, Wilbur Smith Associates to complete the study. The Northern Minnesota and Northwest Wisconsin Freight Plan is a multimodal transportation planning effort that includes highway (commercial vehicle operations), rail, waterway, air cargo, pipeline and intermodal transportation. This report was based on two working papers that covered regional freight system inventory and regional freight system analysis, and two technical memorandums that summarized the key findings from the two papers and made recommendations for strengthening freight considerations in public project planning and investment decision-making. Considering the fact that the area has geographically specific freight issues and opportunities, the plan emphasizes importance of interagency coordination and critical investment making.

Bayfront Small Area Plan, 2010

The focus of the Bayfront District Small Area Plan, authored by the City of Duluth, was to examine the existing land use in the area, review the past planning efforts to provide insight into future redevelopment in the area, and recognize new opportunities for development. The purpose of the planning process was to identify and develop recommendations that will allow for the most desirable and appropriate mix of land uses for one of the most visible and distinctive areas in the City of Duluth.

Assembled from the many previous studies and plans of the Bayfront District are four basic consensus goals which state that the redevelopment of the area: contribute to the quality of life for Duluth and the Region; improve public access to the downtown waterfront; provide opportunities for economic development, both employment and tax base; and result in an improvement in the environmental quality of the site and the St. Louis Bay. Previous and current planning efforts of the Bayfront District have shown the importance of this resource to the City and have envisioned the area as a unique destination for both residents and visitors; one that provides improved public access to the waterfront and includes sustainable commercial activities to support its development and continued vitality.

St. Louis and Lower Nemadji River Watershed-2010

Water Quality Management Plan Update

The Wisconsin Department of Natural Resources prepared this plan with funding from federal grants. The planning area is the St. Louis River, the largest U.S. tributary to Lake Superior, enters the southwestern corner of the lake between Duluth, Minnesota and Superior, Wisconsin. Priority issues are to delist the area of concern, remove contaminated sediments, restore Hog Island Inlet, and support projects that reduce sediment loading. Additionally, promoting projects that protect and restore wetlands in the watershed and maintain oligotrophic status of Lake Superior are also priority issues. The plan generates policies that speak to population and land use, ecological landscapes, invasive species, water quality and overall watershed condition.

Superior Comprehensive Plan, 2010

The city of Superior's Comprehensive Plan deals with topics such as demographics, housing, transportation, utilities and commercial facilities; natural, cultural and agricultural resources; economic development, intergovernmental cooperation, land use, and implementation. Superior will be preparing for diverse neighborhoods comprising all ages and income levels. When addressing transportation, the plan hopes to maintain and promote the use of public transportation and incorporation of bike lanes into new roadway plans. Background information, such as age distribution, education levels, and employment characteristics are used to improve the comprehensive plan.

Western Lake Superior Sanitary District - Comprehensive Wastewater Master Plan, 2010

This project entails a wide variety of water resources, socioeconomic, and engineering issues for a vast area covering approximately 530 square miles. The content of the document centers on the main mission of the WLSSD to provide a plan that is environmentally sensitive to key water quality and wastewater collection needs. At the same time, the plan also provides a basis for current and future cost effective planning, consistent with local and regional planning guidelines. The main sections of the plan include environmental characteristics, land use, demographics, subsurface sewage treatment systems and process, and facility analysis. The content of the document centers on the main mission of the WLSSD to provide a plan that is environmentally sensitive to key water quality and wastewater collection needs. At the same time, the plan also provides a basis for current and future cost effective planning, consistent with local and regional planning guidelines.

Economic Impacts of the Port of Duluth-Superior, 2011

This report was prepared by Martin Associates of Pennsylvania. The Port of Duluth-Superior, the largest dry bulk cargo port in the United States, handles over 45 million tons of cargo annually. Such a large commercial throughput creates significant economic activity that impacts local business revenue, employment rate, personal earnings, and tax. As of 2010, over 11,500 jobs were created by the Port of Duluth-Superior, of which 2,985 jobs were direct, and generated nearly \$1.5 billion in direct business revenue for the firms that work directly with the cargo. Consequently, 5,755 induced jobs and 2,770 indirect jobs were supported in the region. As a result, the Duluth-Superior port generated over \$702 million in wages, salaries, local consumption and state and federal taxes in 2010. The port creates economic activity for such business sectors as surface transportation, maritime services, shippers/consignees that use the port, and port/seaway authorities. The study only covers cargo and vessel activity at the Port of Duluth-Superior. The impacts include cargo moving on Canadian flag, U.S. flag, and foreign flag vessels to and from the Port.

The Economic Impacts of the Great Lakes-St. Lawrence Seaway System, 2011

This analysis, authored by Martin Associates, estimates the combined U.S. and Canadian economic impacts of all marine cargo moving on the bi-national Great Lakes-St. Lawrence Seaway system. The St. Lawrence Seaway extends from Montreal to Lake Erie and is composed of a series of 15 locks that connect the Great Lakes to the lower St. Lawrence River and the Atlantic Ocean. This report is designed to provide the navigation community, transportation planners, government policy makers and the public with a realistic assessment of the contributions made by the Great Lakes-Seaway system to the state, provincial, regional and national economies. Categories of impacts address: direct employment, induced employment, indirect employment, and related user employment. The analysis includes the economic

impacts generated by marine cargo activity on the Great Lakes-Seaway system, including U.S. domestic commerce, Canadian domestic commerce, bi-national commerce between the two countries, and international traffic moving between the Great Lakes-Seaway region and overseas destinations. The plan was prepared by: Martin Associates of Lancaster, Pennsylvania, who was retained to prepare this study by a consortium of Canadian and U.S. Great Lakes-St. Lawrence Seaway System stakeholders. The group includes the American Great Lakes Ports Association, the Chamber of Marine Commerce, the St. Lawrence Seaway Management Corporation, the Saint Lawrence Seaway Development Corporation, the Lake Carriers' Association, the Great Lakes Maritime Task Force, Fednav Limited, Algoma Central Corporation, and Canada Steamship Lines. Technical and project management assistance was provided by Transport Canada.

Great Lakes Port Matrix Tool and Case Studies, 2012

The Matrix was designed to help communities identify the current “value” of their navigational and port infrastructure, allowing these communities to estimate the potential costs for maintaining these resources in the face of changing water levels and storm conditions due to climate variation. Potential secondary economic impacts, such as those that could be anticipated as the result of the failure of primary support infrastructures, can easily be added to matrix data to expand the scope of economic impacts. The Matrix is designed for use in any port, harbor, or marina within the Great Lakes region. Case studies used in the report include the Duluth-Superior harbor as well as the Toledo Ohio harbor.

Multimodal Freight Transportation Report within the Great Lakes – St Lawrence Basin, 2012

The analyzed area is the Great Lakes – Saint Lawrence Basin (GLSLB) which is a bi-national region (U.S. and Canada) comprising eight states, two provinces, and hundreds of municipalities. The major commodities moving to, from, or within the GLSLB include coal (largely for regional power production), iron ore (for regional steel production and export), grain and other agricultural products (local consumption and export), automotive and machinery (supporting local manufacturing base), and other manufactured goods. The key factors which are used to assess freight transportation performance are total logistics cost, transit time and reliability, and related risks. However, the variety of transported commodities entails differences in performance. This plan highlights the following barriers and constraints to multimodal freight transportation system performance in the GLSLB listed by stakeholders: Capacity constraints and bottlenecks, modal integration challenges, lack of jurisdictional coordination, modal inequality, insufficiency of data and performance metrics, lack of awareness of importance of the system itself, and labor constraints. The plan also describes a number of opportunities for improving the transportation system in the area. The report was prepared by the Transportation Research Board.

Duluth-Superior Cruise Ship Terminal Facility Study, 2013

The Duluth-Superior Cruise Ship Terminal Facility Study, funded by the MIC and compiled by a consulting team led by Krech Ojard and Associates, examines options and financial considerations for the construction of a cruise ship terminal to accommodate new security requirements for passenger cruise ships visiting the Duluth-Superior Port. The study contained four sections: (1) assumptions of the number of people that would utilize the facility, how large the cruise ships would be, and the size requirements of the building; (2) locations around Duluth-Superior harbor that could potentially accommodate the facility; (3) site evaluations of the infrastructure adjacent to the potential facility locations; and (4) rough construction costs estimates.

Restoration Returns, 2013

The Partners for Fish and Wildlife (PFW) Program and Coastal Program is the U.S. Fish and Wildlife Service's (USFWS) premier conservation delivery tools for voluntary, citizen and community-based fish and wildlife habitat restoration activities across the matrix of public and privately owned land. The financial support of these programs not only allows for more USFWS projects but also benefits the economy creating more jobs and generating economic activity including direct, indirect and induced effects of the channeled funds. The study assessed the economic effect of those programs on the regional economy using economic models of states in respect to total annual spending and each project separately. The report concludes that the PFW program contributed \$18.6 million to local economies consequently attracting \$142 million from partners. Every dollar that was contributed to the project generated \$15.70 in economic returns. The total economic effect of the PFW program in FY2011 was \$292 million and 3,500 new jobs. The report recommends a further analysis on the impacts ecological services, improved recreational opportunities, land acquisition, and proximity to open space in order to assess the full economic value of habitat restoration activities.

St. Louis River Area of Concern Remedial Action Plan- Implementation Framework, 2013

This Remedial Action Plan was authored by the Minnesota Pollution Control Agency working collaboratively with many St. Louis River stakeholders and provides the framework for cleanup of the river. The area of concern (AOC) boundary includes the lower 39 miles of the St. Louis River, from upstream of Cloquet, Minnesota, to its mouth at the Duluth/Superior Harbor and Lake Superior, and the Nemadji River watershed. The plan introduces infrastructure upgrades, remediation, habitat restoration, and protection in the AOC. Historical actions such as improper municipal and industrial waste disposal and unchecked land use practices, including dredging and filling of aquatic habitat and damaging logging practices, contributed to the complex set of issues facing the AOC at the time it was listed. Development of the Implementation Framework was made possible through a grant from the U.S. Environmental Protection Agency Great Lakes Restoration Initiative awarded to the Minnesota Pollution Control Agency (MPCA). AOC coordinators and leaders include representatives from the MPCA, Wisconsin Department of Natural Resources, Minnesota Department of Natural Resources, the Fond du Lac Band of Lake Superior Chippewa, and the St. Louis River Alliance. The Implementation Framework effort marks the first time these groups have had the capacity to sustain a focused and coordinated effort aimed at removing Beneficial Use Impairments and delisting the AOC by 2025. The Remedial Action Plan is updated annually to track progress and identify any modification in actions.

St. Louis River Watershed Monitoring and Assessment Report, 2013

This report was authored by the Minnesota Pollution Control Agency. The planning area is the St. Louis River watershed, which is one of the largest watersheds in northern Minnesota and the largest contributing watershed to Lake Superior. Beginning as a low gradient stream, the river receives water from a number of major tributaries, which include the Whiteface River, Swan River and Floodwood River. Following the Thompson Dam in Thompson, Minnesota the St. Louis River picks up significant gradient before emptying into Lake Superior at Duluth. The major issues addressed in the plan include the impacts by heavy industry since the late 1800's, mercury poisoning, aquatic consumption, and surface water quality variability. The plan includes potential pollution sources such as urban storm water runoff, altered hydrology, mine tailings drainage, treated domestic wastewater from range cities, and agriculture (pasture). Minnesota Pollution Control Agency (MPCA) began an intensive watershed monitoring effort of the St. Louis River watershed's surface waters because it is listed as an Area of Concern. The MPCA prepared the plan and the Clean Water Fund provided funding.

Minnesota Statewide Ports & Waterways Plan, 2014

The Minnesota Statewide Ports and Waterways Plan is an effort to help achieve the goals set forth in the Minnesota Department of Transportation (MnDOT)'s Minnesota GO 50-Year vision and the objectives of the Statewide Multimodal Transportation Plan. The Statewide Ports and Waterways Plan promotes continued enhancement of the ports and waterways systems in providing transportation connections, improved and maintained ports and waterway connections, and better integrated planning within MnDOT and greater coordination with transportation partners.

Storm Water Issues and the Port Land Use Plan, 2014

This is a white paper by the Minnesota Sea Grant highlighting issues caused by storm water in ports. Sediment from small streams in the Duluth-Superior area contributes to sedimentation in the St. Louis River Estuary. The estuary requires around 100,000 cubic yards of dredging by the USACOE per year. A study done in 2014 of several watersheds in the area can help support a rough estimation of 8,200 to 37,000 short tons of sediment from these small streams, approximately 6% of annual dredged material. Many of these small streams are listed as impaired, and there are concerns for infrastructure in their communities due to the 2012 flood. Duluth watershed contribution to annual dredged material could be anywhere from 6% to 100%, due to lack of adequate research and no data of volume weight of dredged materials.

St. Louis River Area of Concern — Quality Assurance Program Plan for Minnesota-Based Projects, 2015

This plan documents data quality requirements for conducting work in the St. Louis River Area of Concern which includes the Duluth and Superior port areas. A critically important component is Appendix 1 entitled Managing In-Water Placement of Dredge Material for Habitat Restoration Sites in the St. Louis River Area of Concern. This document provides sampling and testing procedures for evaluating the acceptability of in-water placement of fill or dredged material that are obtained from the Federal Navigation Channel, Erie Pier, or other sites within the St. Louis River estuary and moved from one location to another for the purpose of aquatic habitat restoration.

Minnesota Statewide Freight System Plan, 2016

This plan outlines how important freight movement is to the Minnesota economy and develops an action plan to improve statewide freight movements. The plan is part of MnDOT's "Family of Plans" that provides mode-specific strategies, establishes performance measures and performance-based needs, and identifies system priorities. A description of the challenges facing freight transportation in Minnesota and how it relates to the national and global economies is included. Minnesota developed the first state freight plan in 2005 and developed a statewide freight policy to *"Provide an integrated system of freight transportation in Minnesota – highway, rail, water, air cargo, and intermodal terminals – that offers safe, reliable, and competitive access to statewide, national, and international markets."* This policy was followed for a decade and continues with the development of the new plan. The plan proposes 30 specific actions, including a freight system investment plan and dedicated funding for freight projects. The action plan outlines next steps for MnDOT and the state's public- and private-sector freight partners, all of whom had a role in the plan development.

Wisconsin State Freight Plan, 2016

The Wisconsin State Freight Plan will provide a vision for multimodal freight transportation and position the state to be competitive in the global marketplace by ensuring critical connections to national freight systems remain or become more efficient. The Plan will include key elements such as connecting transportation investments to economic development, engaging freight stakeholders, project development and performance measures.

Strategy for the Great Lakes - St. Lawrence River Maritime Transportation System, 2016

The Conference of Great Lakes and St. Lawrence Governors and Premiers launched the “Great Lakes-St. Lawrence Maritime Initiative” in 2013 to improve the efficiency and competitiveness of the Great Lakes – St. Lawrence River maritime transportation system. Goals of this project include growing the regional economy, increasing the internal movement of goods across the region, expanding the movement of goods to and from foreign markets, and creating jobs. The initiative has cemented the importance of managing the Lakes and River as one single, integrated maritime transportation system (MTS) and not as a series of loosely related or connected parts. The MTS Strategy’s primary objectives are to double maritime trade, shrink the environmental impact of the region’s transportation network and support the region’s industrial core. Specific actions include a blend of policies, programs and projects that will increase efficiency, reduce costs, build new markets and increase economic activity around the maritime system. This

Chapter 3

Current Port Area Land Use

This chapter begins with a definition of land use and contrasts it to two terms that it can be confused with. **Land use** is the function or functions that humans apply to the land available to them. Sometimes land use can be confused with land cover. **Land cover** indicates the physical land type such as forest or open water whereas land use documents how people are using the land. Land use also should not be confused with zoning. **Zoning** is related to land use but it is a tool in which governments regulate and control land use. Cities use zoning to make their communities more pleasant to live in, to control pollution, protect the environment, promote compatible land uses and create efficient transportation links. It segregates incompatible land uses for the public benefit.

General Description of Current Land Uses

This chapter describes current land use along the Duluth-Superior working waterfront utilizing a simplified land use categorization system. The text in this section is a general description of the study area. The descriptions are broken down by area and start in Duluth on Park Point and go southwest to Stryker Bay near 59th Avenue West and then across the St. Louis River to Superior near the Bong Bridge and working east and then south to Allouez Bay. Major maritime facilities will be highlighted in each area described. The facilities in this section can be viewed in more detail in the separate Appendices; Appendix I. Also see Map 3.1 on page 50 for a visual description.

Duluth Port

Park Point – this plan addresses the northern portion of Park Point on the Duluth Harbor Basin side from roughly from one mile south to the Aerial Lift Bridge. This area contains a mix of residential, marinas, hotels and two government marine facilities. The U.S. Army Corps of Engineers (USACE) Vessel Yard is used as a base for port maintenance operations. The U.S. Coast Guard Station (USCG) is used as a base for USCG vessels and navigation/inspection operations.

The **Canal Park - Bayfront** area contains one of the most popular tourist areas in Minnesota with a mix of hotels, restaurants, shops, a convention/entertainment complex and a popular park and concert venue. Canal Park has a collection of hotels, restaurants and parks with the ever popular Lakewalk pedestrian and bike trail originating in Canal Park. Minnesota Slip is located between Canal Park and the Duluth Entertainment and Convention Center (DECC) and is the permanent mooring location of the William A. Irvin, a retired Great Lakes vessel now managed by the DECC as a tourist attraction. The Slip is also home to a small marina accommodating charter fishing boats, the Vista Fleet tour boats and recreation boat rentals. The DECC is a multi-venue facility with conference facilities, an auditorium and arena. Located west of the DECC along the waterfront is the Great Lakes Aquarium. Bayfront Park has multiple facilities including concert stage, a winter ice skating rink and children's play area. New to the Bayfront area is Pier B Resort and Silos restaurant. The area just west of Pier B and adjacent to Rice's Point is owned by the Duluth Economic Development Authority and is currently vacant and under consideration for development.

Rice's Point is the heart of the maritime industry working harbor in Duluth with multiple dock facilities including the port terminal. The majority of the docks and slips are located on the eastern and southern areas of Rice's Point, directly adjacent to the federally designated and maintained navigation channel. Rice's Point also contains an industrial area, rail yards, manufacturing facilities, boat launch, and fishing pier. I-535 runs along the west side of Rice's Point connecting to Superior via the Blatnik Bridge. Maritime facilities include grain elevators, bulk material (salt, cement) transshipment facilities, a ship refueling dock, scrap yard and general cargo dock and warehouse.

The North American Salt Company facility, one of the oldest in the Twin Ports, is located at the northern base of Rice's Point. This facility processes salt for agricultural, water conditioning and ice control. The Duluth Storage grain elevator is the most modern grain elevator on the Duluth-Superior waterfront and includes a loop rail track and 12.2 million bushel capacity. The Garfield C & D Docks are currently being refurbished by the Duluth Seaway Port Authority in an effort to react to changing freight market demands. The Clure Public Marine Terminal was established prior to the opening of the St Lawrence Seaway to facilitate the movement of general and break-bulk cargos. Currently operated by Lake Superior Warehousing Company, the Clure Terminal has access to four Class 1 railroads and world class reputation for handling dimensional and heavy lift cargo. Holcim, Inc. is one of the nation's largest manufacturers and suppliers of cement and mineral components. The Duluth facility, located on the southern end of Rice's Point, receives cement by ship from Ontario and moves it by rail or truck.

Garfield Avenue also contains a number of industrial and manufacturing operations. There is also undeveloped land with access to Garfield Avenue. Rice's Point has direct U.S. Interstate access as well as access to four Class 1 railroads. The Rice's Point area has good landside access connecting maritime facilities to numerous landside transportation options.

Rice's Point also has a public boat access and fishing pier.

The area from **Rice's Point to Erie Pier** is a mix of maritime, light and heavy industrial and public/semipublic uses. Western Lake Superior Sanitary District (WLSSD) is the regional provider of wastewater and solid waste services and has a large facility along the waterfront west of Rice's Point. This facility includes a wastewater treatment plant, solid waste transfer station, yard waste and organic composting site and a hazardous waste collection site. CN Duluth Dock is owned and operated by CN – Supply Chain Solutions and is a large ore dock used to move bulk materials, primarily taconite and limestone to and from the Iron Range of Minnesota. Hallett Dock #5 is a bulk material transload facility primarily used to receive and ship material by lake vessel, rail and truck. Erie Pier is the processing and reuse facility designed to accept navigation channel maintenance dredged materials from the federally designated shipping channel and process them for beneficial reuse. This area also contains a number of industrial uses along Oneota Street that are not associated with the port.

The area south from **Erie Pier to Stryker Bay** includes a mix of industrial, maritime and natural areas. South and west of Erie Pier is the M.L. Hibbard Renewable Energy Center, which utilizes waste wood to generate steam for the Verso paper mill. Verso is located west of the Hibbard facility and manufactures high gloss coated paper. Their operation is not water dependent and experiences a large amount of truck traffic. Both south and east of Verso are rail lines that lead to Grassy Point Draw Bridge connecting to Superior. South of the rail line is Grassy Point, a natural area of over 100 acres of wetland and shallow open water habitat. This area currently has a board walk to access the wetlands. Adjacent to Grassy Point is the C. Reiss Terminal which provides dry bulk shipping and storage for primarily coal and limestone.

The area west of the C.Reiss facility was included in the St. Louis River/Interlake/Duluth Tar/Superfund Site which has been remediated, restored and will be monitored in perpetuity. Some of the historic maritime uses have ended although the facilities (formerly Hallett Docks 6 & 7) are still be utilized for moving bulk materials by truck and rail.

Superior Port

The area between the ***Bong Bridge and Midwest Energy*** current land uses include open space and maritime uses. Plans call for redevelopment of the open space for an industrial park. Hallett Dock #8 is the first dock structure east of the Bong Bridge and is currently being used to receive bulk materials by vessel and stockpile or move materials out by truck and rail. Directly to the east of Hallett Dock #8 is the Berwin Dock owned by C. Riess Coal Company. This dock is currently not being utilized. Midwest Energy Resources Company is one of the most recognizable facilities on the Superior Waterfront with its large coal pile inside its loop rail track and the ever-present ships at the dock. Midwest Energy receives western low sulphur coal by rail and ships it to destinations throughout the Great Lakes and globally. The area south of the waterfront docks along Winter Street are underutilized industrial lands with a rail corridor that connects to the Grassy Point Draw Bridge leading to Duluth.

The north end of the study area from ***Midwest Energy to Fraser Shipyards*** is utilized by both maritime and non-maritime industrial uses. This entire area is fronted by the maintained shipping channel from the South Channel Eastern Section to Howards Bay. Maritime facilities in this area include General Mills and Harvest States grain elevators along with Fraser Shipyards. Non-maritime uses include trucking companies and construction contractors as well as a number of smaller industrial uses.

Connors Point to the eastern end of Belknap Street includes the Connors Point peninsula and an area just to the south. This area contains a mix of a few residences, manufacturing uses and maritime uses. At the northern tip of Connors point is a small marina which is relatively new. Moving south along the waterfront are a few manufacturing facilities, a trucking storage facility and the Peavy Grain Elevator. There is also an idled wood products plant, CLM Corporation bulk material processing facility and the City of Superior wastewater treatment facility. This area includes Main Street which was the former connection to Duluth before the construction of the Blatnik Bridge. Rail yards and track are located here to service Peavy and CLM.

The ***Barkers Island to Allouez Bay*** area includes residential, recreation, commercial, industrial, maritime and natural areas. Barkers Island has recreational uses, residences, a hotel/restaurant and a marina. Located here is the SS Meteor, the last remaining whaleback freighter designed by Captain Alexander McDougall and built in Superior. South of Barkers Island is the location of some small piers with small grain elevators and the Great Ships Initiative, a ballast water treatment systems testing facility. Hog Island is a forested area managed as a natural area. Southeast of Hog Island is Loons Foot Landing, a popular boat launch. Located between Loon's Foot Landing and the mouth of the Nemadji River is the former Northern Pacific Ore Dock. This facility has been idle for many years and reuse options are limited at best. The mouth of the Nemadji River is another forested area containing wetlands that is managed as a natural area. The southeast portion of the study area contains the BNSF taconite facility. This facility uses a long conveyor system to move taconite from the rail dumping area across Highway 2/53 to the ship loading dock. The last dock located adjacent to Allouez Bay is the Bunge Dock. This facility is currently seeing occasional recreational use.

Chapter 4

Stakeholder Input

The Duluth-Superior Port Land Use Plan was developed with the input of a diversity of stakeholders and the cooperation of many partners. Development of the plan followed the planning process established in the MIC's Public Involvement Plan (2013) in order to ensure the creation of a plan that was collaborative, continual, and comprehensive.

Below is a summary of how the stakeholder involvement for this plan was structured. Much of the development of the plan was steered with the input of a study subcommittee that represented the multidisciplinary expertise and interests of public, private, and regulatory stakeholders.

Port Land Use Plan Study Committee

A sub-committee of the HTAC was established at the outset of this project for the purpose of having a small, diverse group of stakeholders participate, evaluate, and direct the development of this plan. This group met 2-3 times per year to review and discuss the development of the plan. Communications between the sub-committee and individual members were also ongoing as the plan progressed. Study committee members possess a wide range of expertise in port operations, regulatory implementation, environmental policy and freight movement logistics. Groups represented on the Study Committee included:

- Minnesota Sea Grant
- Wisconsin Sea Grant
- City of Duluth
- City of Superior
- Minnesota Pollution Control Agency
- U.S. Army Corps of Engineers
- St. Louis River Alliance
- Minnesota Department of Natural Resources
- Wisconsin Department of Natural Resources
- Industry Representatives
- Duluth Seaway Port Authority

Harbor Technical Advisory Committee (HTAC)

The HTAC is a unique assemblage of port stakeholders whose mission is to provide a forum for the discussion of issues and concerns pertaining to the Duluth-Superior harbor, promote the harbor's economic and environmental importance to the community and provide sound planning and management recommendations to the Metropolitan Interstate Council. The HTAC was the main avenue for getting broad outreach and input from the regional community of harbor stakeholders. This group was updated on the progress of the plan at their quarterly meetings, where input was also taken. Additional notifications and information were also distributed to HTAC members, alternates, and stakeholders through email, as deemed appropriate, throughout the process.

Metropolitan Interstate Council (MIC) Policy Board

The MIC's planning and programming activities are overseen by the Policy Board, comprised of 18 elected officials and citizens (9 from Minnesota and 9 from Wisconsin). Board members represent all local units of government within the MIC's planning area and are appointed by their jurisdictions for two-year terms. The Board represents an even broader range of transportation stakeholders in the Twin Ports area. Progress on the plan was also reported to this group as part of quarterly Harbor Updates. Input received was brought back to the sub-committee for consideration.

Duluth-Superior Port Land Use Plan Survey

Input from business stakeholders in the Duluth-Superior port was sought via an online survey that was emailed out to the port-related businesses in the area. The purpose of the survey was to gather information on how changes to the Duluth-Superior port have been affecting port businesses and to gauge how the needs of those businesses likewise may be changing. The survey was quite long (44 questions) and we are highlighting some of the more important topics and findings in this section. The entire survey with responses can be found in the Appendix II. Individual answers to the survey are confidential and results were compiled with the confidentiality assurances in mind.

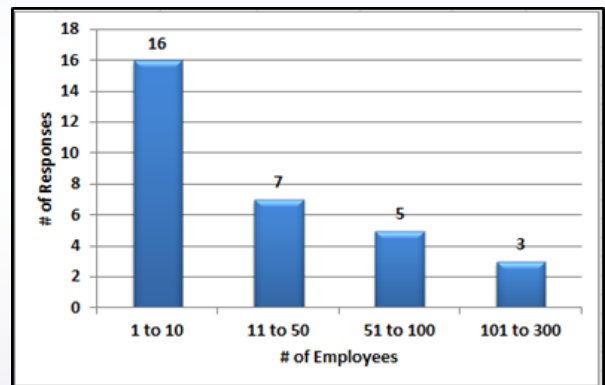
Who took the survey?

Thirty-one out of the 39 businesses in the Duluth-Superior Port responded to the survey, or approximately 80% of all port businesses on both the Duluth and Superior sides of the Port. The responses of the survey represent business with maritime and industrial sectors, businesses with public infrastructure and under-utilized facilities, and small business owners. Many of these have been in the port for a long time and are well established. Of the businesses that responded, slightly more than half had 1 to 10 employees, seven had between 11 and 50 employees, five had between 51 and 100 employees and three had between 101 and 300 employees. These employees were defined as full time year round.

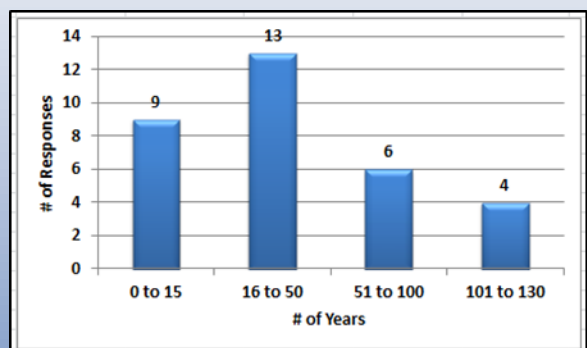
We asked survey respondents how many years has their business been located in the Duluth-Superior port. Nine businesses had been here between 0 and 15 years. Thirteen businesses have been here between 16 and 50 years. Six businesses have been here between 51 and 100 years and four businesses have been in the port between 101 and 130.

This information shows that many of the businesses in the Duluth-Superior port have been here for a long time and are very well established.

How many people do you employ Full-time, year round?

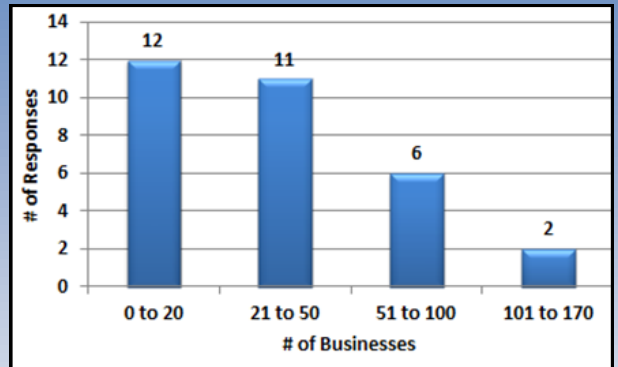


How many years has your business been located in the port?

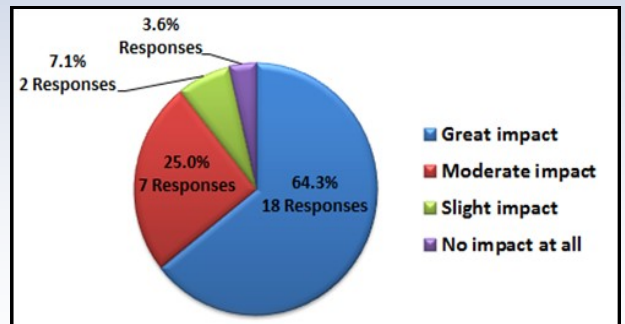


The businesses that responded interact with a large number of local businesses indicating they are a large part of the local economy. They also conduct business throughout the Great Lakes as well as globally. The responses to these questions demonstrates that the Duluth-Superior maritime transportation industry has a large economic impact locally, regionally, nationally and globally. Almost 90% of respondents felt that the Great Lakes maritime transportation corridor will have an impact on the North American economy over the next 100 years. Over 64 % of respondents felt it would have a great impact.

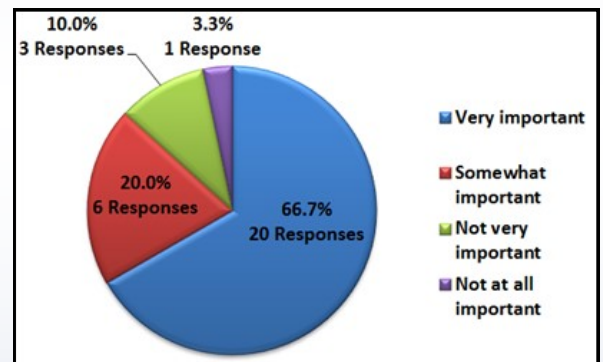
How many local businesses have you interacted with over the past year?



How much impact do you see the Great Lakes maritime transportation corridor having on the North American economy over the next 100 years?



How important is it for the cities of Duluth and Superior to have a land use plan for the commercial maritime port?

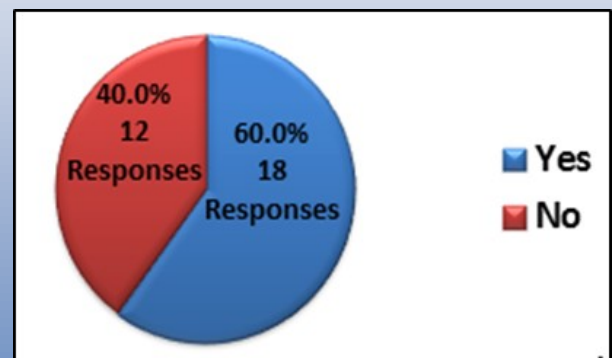


Land uses along the waterfront

Respondents were somewhat unfamiliar with their city’s comprehensive plans that guide development although an overwhelming majority (83%) stated that they feel it is important that the cities of Duluth and Superior have a land use plan for the commercial maritime port.

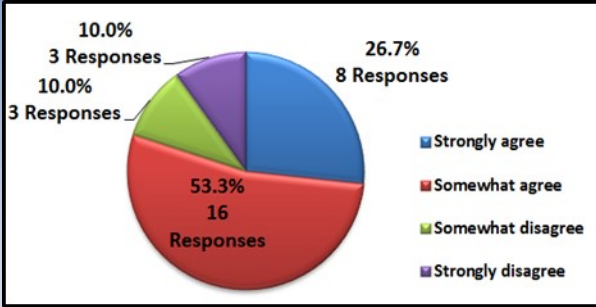
Sixty percent responded that their business is directly dependent on access to a deep draft channel. When asked how important it is that port businesses dependent on access to a deep draft channel be located adjacent to one, 48% said it is important and 38% said it is somewhat important.

Is your business directly dependent on access to a Maritime link (deep draft channel)?



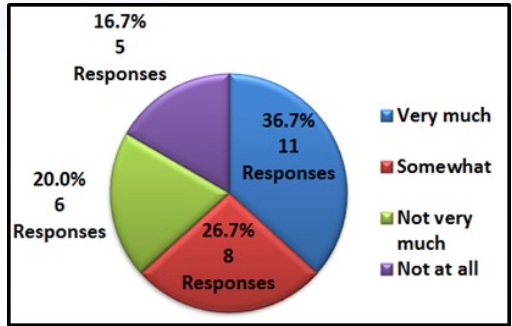
Eighty percent of the respondents strongly or somewhat agreed that there are **opportunities** for creative mixed land uses (such as residential, retail, leisure, cultural, and office uses) along the waterfront. About 27% answered that it may be somewhat of an obstacle. Sixty-two percent either strongly agreed or somewhat agreed that specific areas of the port could be designated for non-maritime activities.

Do you agree or disagree with the following statement: There are opportunities for creative mixed land uses (such as residential, retail, leisure)?



Gentrification can be described as redevelopment focusing on residential, retail, leisure, cultural and office uses. Thirty-six percent of the respondents answered that gentrification of the port is an obstacle to efficient maritime commerce and 69% said it is important to reserve access along the shipping channel for maritime activities. The same amount answered that it was not much or not at all an obstacle.

How much do you view “gentrification” of the waterfront as an obstacle for efficient maritime commerce within the port?

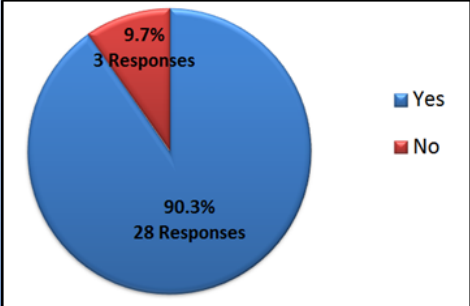


Port Area Facilities and Infrastructure

We asked respondents about infrastructure in the port area to find out if the area businesses were satisfied with the current infrastructure and what improvement they would suggest. We asked about roads, water, sewer, gas and rail service. We also inquired about what other services that are lacking that could improve their businesses.

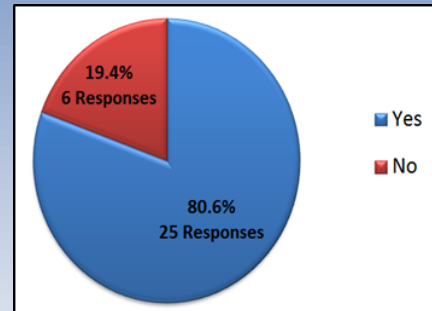
Ninety percent of respondents felt they had adequate road infrastructure. The businesses that were not satisfied with their road access cited too many rail tracks, a lack of a right turn lane, and difficult access to I-35 as their primary complaints.

Is road access to your facility sufficient?



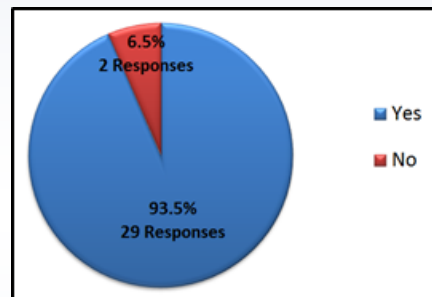
Eighty percent said that their **utility services** (water, sewer, and gas) were adequate. Of the 20% of business who stated their utility services were inadequate, the main complaint was a lack of utility service availability to their businesses.

Are your utility services (water, sewer, gas) sufficient?



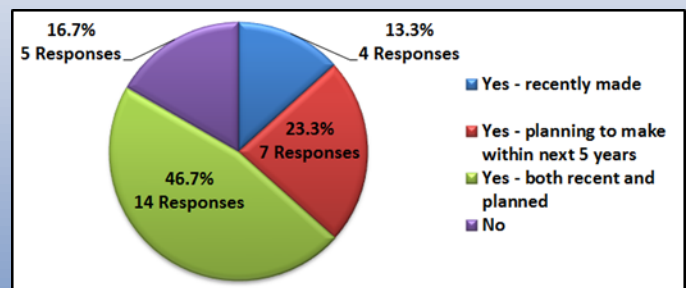
Ninety three percent of the respondents answered that **rail access** was adequate. Those that answered that rail access was insufficient stated that they were limited to access to one rail company or that they were impacted by delays in railcar movement.

Is your access to rail sufficient?



Eighty-three percent of the respondents stated they had either recently or were planning to make **major investments** in their facilities. Respondents stated that specific facilities or services that are lacking or would improve their ability to do business included improved dredging, dock repair grants, small boat rentals, road signage, fiber optic service, water access, and road upgrades. New technologies or trends/processes that might benefit the port and its tenants include faster loading technologies, multimodal container movements, fiber optics, faster more reliable internet, and crude oil handling technology.

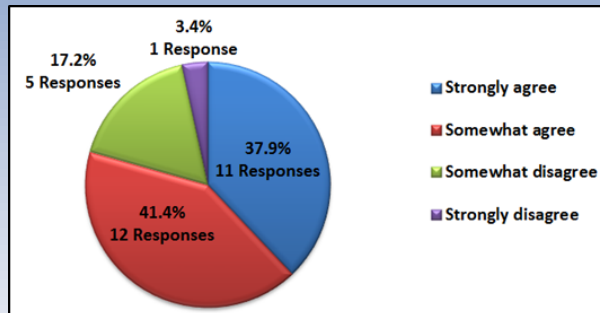
Have you recently made, or are you planning to make, within the next 5 years, major investments or improvements in your private port infrastructure?



Regulatory Rules and Policy Impacts

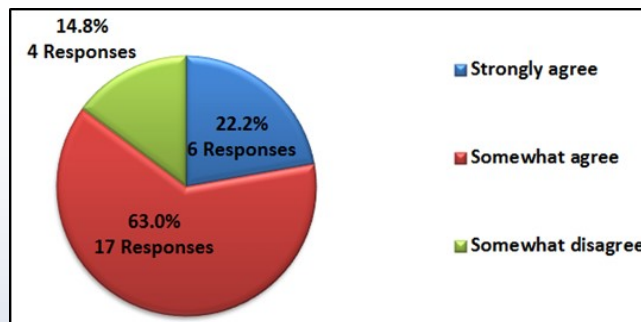
We asked respondents if there were regulations that make it difficult for port area businesses to improve or expand. Almost 80% agreed strongly or somewhat that there are regulatory challenges. They cited that the permitting process is cumbersome and difficult to understand and that improved partnerships would help in that area. They also stated that a better understanding by the regulatory agencies about the nature of port area businesses would be beneficial.

Do you agree or disagree with the following statement: There are local, state or federal government regulations that make it difficult for your business to improve or expand within the port.



Eighty-five percent of respondents believe that there are specific regulatory or policy changes that could make the port of Duluth-Superior more competitive with national freight rail, Mississippi River shipping, or East and West Coast shipping. Examples cited include treating the Great Lakes as an equal to the inland river waterway system, improved dredging, beneficial reuse of dredged materials, improve outdated facilities, improved rail service and track age and engaging in coastal and marine spatial planning (CMSP)*.

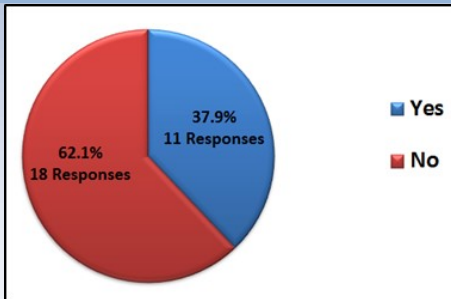
Do you agree or disagree with the following statement: There are specific regulatory or policy changes that could make the port of Duluth-Superior more competitive with national freight rail, Mississippi River shipping or East and West Coast shipping.



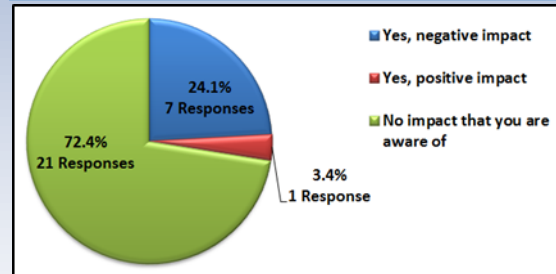
*CMSP is a comprehensive, ecosystem-based, spatial planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas. It identifies areas most suitable for various types of activities in order to reduce conflicts among uses, reduce environmental impacts, facilitate compatible uses, and preserve critical ecosystem services to meet economic, environmental, security, and social objectives. In practical terms, CMSP provides a public policy process for society to better determine how the ocean, coasts, and Great Lakes are sustainably used and protected now and for future generations.

We asked respondents if they were familiar with the **Public trust Doctrine** as it relates to “filled lands” in a navigable waterway. Almost twice as many respondents were not familiar with the Public Trust Doctrine as were familiar with it. We also asked if there was an impact to businesses and 24% claimed a negative impact. Examples cited include limits on develop of docks and structures, unreasonable requirements for filling of open water, and high cost and delays to potential development projects.

Are you familiar with the Public Trust Doctrine as it relates to development on “filled lands” in a navigable waterway?



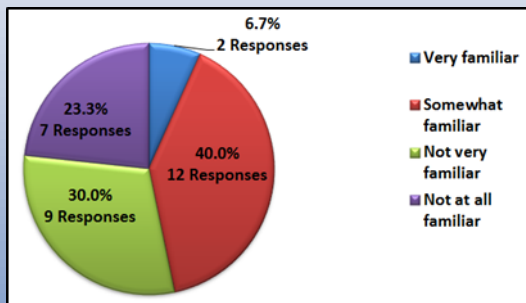
Has the Public Trust Doctrine had any impact on your business or operation that you are aware of?



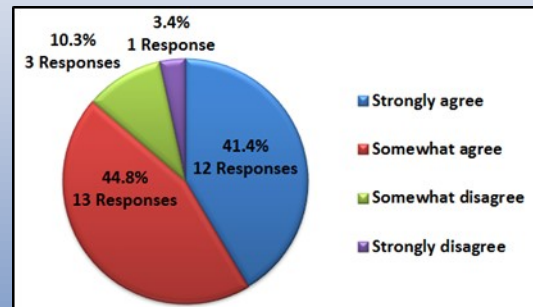
Planning

The survey included a few questions about respondent’s knowledge of and attitudes toward planning and area groups responsible for the planning. Over half (53%) stated they were not familiar with the current comprehensive plans generated by the cities of Duluth and Superior. A comprehensive plan describes community goals and develops public policy in terms of transportation, utilities, land use, recreation, and housing. When asked if they felt it was important for the cities of Duluth and Superior to have a land use plan for the commercial port area, 67% said it was very important and 20% said it was somewhat important. We asked if respondents agreed with the statement “The Harbor Technical Advisory Committee is an important planning and communication tool for the port” and 86% stated they agreed with that statement. Feedback from HTAC stakeholders representing port area business has been positive in terms of its importance in creating a dialog between business, government and citizen groups.

How familiar are you with the existing Duluth and Superior land use plans (also referred to as Comprehensive Plans)?



Do you agree or disagree with the following statement: The Harbor Technical Advisory Committee is an important planning and communication tool for the port.



Chapter 5

Regulatory Framework: Rules and Laws that Impact Port Land Use

There are rules and laws that dictate what types of activities and developments are allowed adjacent to the water along the working port of Duluth and Superior. These rules and laws are administered and enforced by federal, state and local government agencies. While this Port Land Use Plan provides a framework for future land uses in the working port, all new developments are subject to regulatory review. This chapter attempts to describe those regulatory review processes and the laws and rules behind them. The regulations described below are not an all inclusive list but gives the reader an idea of the regulatory framework that impacts port land use. The rules and laws listed in this chapter provide the reader a starting point for examining the regulatory framework that dictates what land uses and activities are allowed. These rules and laws have a high level of complexity and are related to a number of other rules and laws that are not addressed in this chapter.

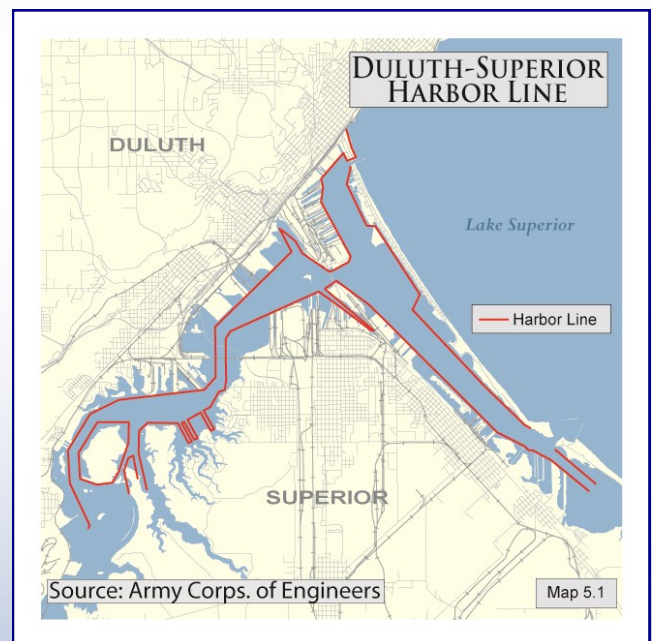
Federal Regulations

Rivers and Harbors Act of 1899

The Rivers and harbors Act of 1899 is the oldest environmental law in the U.S and is mostly administered by the U.S. Army Corp of Engineers (USACE), with some provisions administered by the U.S. Coast Guard (USCG). The Rivers and Harbors Act of 1899 addresses a number of issues related to navigable waterways, however two specific areas are most relevant to the Duluth-Superior port.

- Prohibits building dams on navigable waterways without U.S. Congressional approval.
- Prohibits excavating, filling or altering any port, harbor, channel or other areas within a designated harbor line (see Map 5.1 for Duluth-Superior harbor line).

The above activities are addressed in Sections 9 & 10 of the Rivers and Harbors Act. Section 9 prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the U.S. without Congressional approval. Administration of section 9 has been delegated to the USCG. Structures authorized by State legislatures may be built if the affected navigable waters are totally within one State, provided that the plan is approved by the USACE Chief of Engineers and the Secretary of Army.



Under section 10 of the Act, the creation of any obstruction not authorized by Congress to the navigable capacity of any of the waters of the United States is prohibited. The building of any wharfs, piers, jetties, and other structures are prohibited beyond the harbor line without Congressional approval. Excavation or fill within navigable waters requires the approval of the USACE Chief of Engineers.

The Rivers and Harbors Act of 1899 is very complex and is interrelated to other more recent federal rules and laws but has remained the basis for protecting the function of U.S. ports and harbors.

State Regulations

Much of what has been developed in Minnesota and Wisconsin regarding regulating navigable waters originated in the Public Trust Doctrine. Each state has addressed the Public Trust Doctrine in a different manner. The following is a brief description of the Public Trust Doctrine.

The Public Trust Doctrine

The Public Trust Doctrine states that certain natural and cultural resources are held in trust for the benefit of the public. This concept of public spaces and resources like water being owned and shared by the public is not a new one; in fact, it dates back over 2000 years to the times of Roman emperor, Justinian, and has been a part of English common law and our U.S. democracy for centuries.

The Public Trust Doctrine holds that certain natural resources like navigable waters are preserved in perpetuity for public use and enjoyment. Applying a banking analogy, the state serves as a trustee to maintain the trust or common resources for the benefit of current and future generations who are the beneficiaries.

The common law has been expanding in keeping with our changing ideas about the proper protection and management of natural and cultural resources fundamental to the welfare of society and future generations (intergenerational equity). Public interest forms the basis for determining the use of the resource. It weighs public and private as well as conservational and development interests to create a well balanced plan for resource protection and use. Public resources, once identified, may have beneficial uses that include recreational, environmental or economic. The report of the US National Project on the Public Trust Doctrine pointed out that "area-wide management programs may be structured, using the public trust doctrine with the state's police power in tandem, to encourage comprehensive management over lands, waters and resources within the area, and thus avoid the limitations inherent in ad hoc permitting decisions."

States are charged with upholding the public trust in regards to navigable waterways and use different methods to accomplish it. Wisconsin has public trust provisions written into the state constitution that have historically been supported by the Wisconsin Supreme Court. Minnesota, on the other hand, does not have public provisions as defined as Wisconsin's. However, Minnesota does have a number of state statutes and rules that address navigable waterways and public trust issues.

Wisconsin

The following information is from Wisconsin Department of Natural Resources (the state agency charged with upholding the spirit of the Public Trust Doctrine). The following information associated with the Public Trust Doctrine in Wisconsin relates to how it addresses navigable waterways.

Public Trust Doctrine in Wisconsin relates to how it addresses navigable waterways.

The “Public Trust Doctrine” as it relates to the use of navigable waters including filled areas and structures within State of Wisconsin waters has its basis in the Wisconsin Constitution. Article IX, Section 1, Wisconsin Constitution, as interpreted by the Wisconsin Supreme Court and the Attorney General, requires that filling of lakes and streams for development purposes be substantially related to navigation and its incidents. This means that such development must be related to commercial navigation or to public recreation associated with the use or enjoyment of the waterway. The trust doctrine is a confirmation that uses of waterways must be consistent with the purposes for which those waterways are held in trust for the public.

The State of Wisconsin has authorized the Department of Natural Resources to uphold the public trust in state waters. To assist local government, developers, and the public, they produced a matrix that describes what type of development is allowable on filled areas of navigable waterways under the Public Trust Doctrine. See the table on page 34, State of Wisconsin Position on Specific Types of Development, January 1989.

Minnesota

The Minnesota Department of Natural Resources (MnDNR) is responsible for enforcing laws and rules as they relate to filled lands and filling in navigable waterways. Chapter 6115 of the Minnesota Administrative Rules is titled Public Water Resources and is known as the public water rules and is under the charge of the MnDNR. Below are a couple of the rules specifically addressing filling in public waters.

CHAPTER 6115 PUBLIC WATER RESOURCES

[Rule 6115.0190](#) Filling Into Public Waters

As a rule through which the State of Minnesota implements and enforces the Public Trust Doctrine, it regulates the quantity, quality, and placement of fill material into public waters in order to minimize encroachment on those waters, the modification of shoreline, and damage to shoreline and aquatic environments.

The rule applies to any waters, water basins, natural and altered waterways, or public waters wetlands in Minnesota, as designated by the Commissioner of the MnDNR. It identifies conditions under which a permit is required for the placement of fill materials, or where filling is prohibited outright.

[Rule 6115.0191](#) Specific Standards; Filling

As a rule through which Minnesota implements and enforces the Public Trust Doctrine, this rule provides standards that are specific to filling for the purposes of navigational access or the development or improvement of lands along a port. The standards of this rule are in addition to those identified in Rule 6115.0190.

For any waters, water basins, natural and altered waterways, or public waters wetlands designated by the Commissioner of the MnDNR, filling will only be allowed to occur on waters that are under the

jurisdiction of an established port authority and only for projects that are part of a comprehensive port development plan* approved by the Commissioner of the MnDNR. No filling will be allowed to extend beyond any federally established harbor lines. Any adverse effects that result from filling will be subject to mitigation measures.

Other rules contained in CHAPTER 6115 PUBLIC WATER RESOURCES may have some impact on land use in the Duluth port but the two rules described above would most likely have the most impact.

Specifics can be found at: <https://www.revisor.mn.gov/rules/?id=6115>

**As stated in the Introduction, this plan is the comprehensive port development plan for the Duluth port.*

Local Regulations

City of Duluth Legislative Code Unified Development Chapter

<http://www.duluthmn.gov/media/119184/FinalMasterJuly2013UDCColor.pdf>

The City of Duluth has adopted a Unified Development Chapter (UDC) of the City of Duluth Legislative Code. The purpose of this UDC is to protect public health, safety, and welfare and to implement the goals and objectives of the Comprehensive Land Use Plan using those authorities over the development, redevelopment, use, and occupancy of land and structures, and over the protection of the environment, granted to the city by the state.

The study area for the Port Plan contains five zones from the City of Duluth UDC.

Large areas of the Port Plan study area are in the ***Industrial Waterfront (I-W) District*** which is intended to support water dependent uses along with their supportive office uses. This district should be located away from residential development.

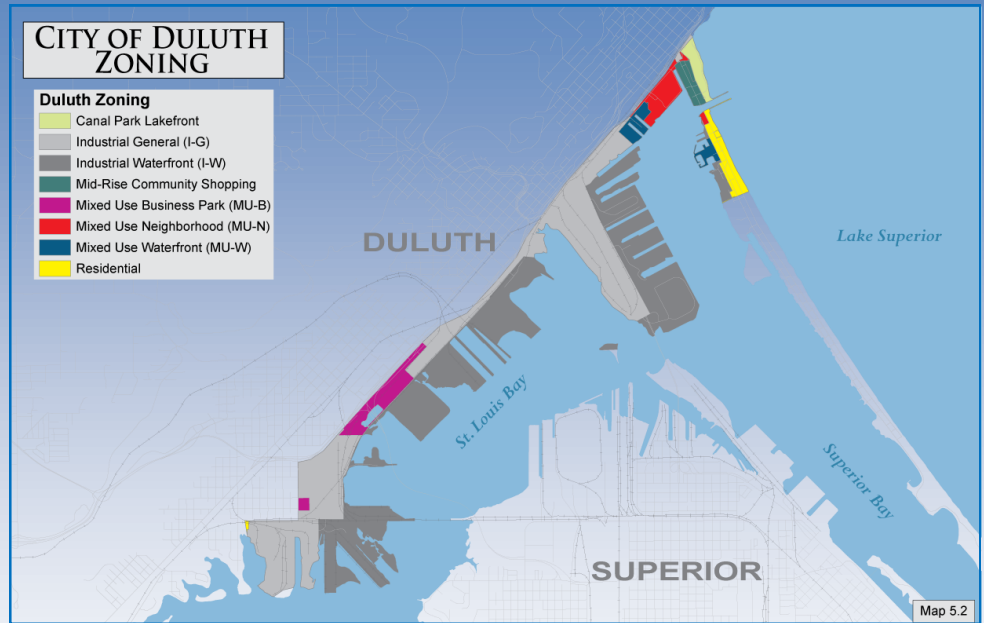
The ***Industrial General (I-G) Districts*** are located on and adjacent to Rices Point and in the Waseca Industrial area. These districts are intended to provide for industrial, processing, assembly, fabrication and manufacturing uses. Supportive office uses are allowed. The I-G district is intended to be located close to major transportation corridors and active commercial centers. This district should be located away from residential development.

The ***Mixed Use Waterfront (MU-W) Districts*** in the study area are just west of Bayfront Park and on the bay-side of Park Point not far from the Aerial Lift Bridge. The MU-W district is intended to provide for waterfront-dependent commercial uses and medium to high density residential development. Intended non-residential uses include visitor-related retail and services, lodging, recreational facilities and maritime uses, as well retail and service uses that take advantage of the waterfront setting. A planning review by the planning commission is required for all development, redevelopment and expansions in the MU-W district.

The ***Mixed Use Neighborhood (MU-N) District*** contains Bayfront Park as well as the DECC complex. The MU-N district was established to accommodate a mix of neighborhood non-residential uses and neighborhood uses located in close proximity. Non-residential uses may include small scale retail, service and professional offices that provide goods and services to the residents of the surrounding neighborhood.

The ***Mixed Use Business Park (MU-B) District*** within the Port Plan study area is located in the Erie Pier – Bong Bridge area and extends well beyond the study area. This district is intended to accommodate modern light industrial and technology-based developments. The development standards for this district are intended to ensure that projects minimize adverse impacts on surrounding uses. Intended uses include wholesaling, industrial services, research laboratories and light manufacturing.

The City of Duluth also has some overlay districts that have specific rules that impact land use. The one described below impacts the Port Plan study area.



UDC 50-18.1 Natural Resources Overlay (NR-O)

The purpose of this overlay is to promote, preserve and enhance the water resources and environment within the city and protect them from adverse effects caused by poorly sited or incompatible development. It is intended to implement the Minnesota Wetland Conservation Act (WCA), Federal Emergency Management Agency (FEMA) rules, and the Minnesota Department of Natural Resources (DNR) shore land regulations. This overlay zone addresses wetlands, flood plains and shore lands.

Section D. Shore Lands

Much of the area within the Port Plan study area falls within this category. The Shore Lands Overlay applies to lands within 1,000 ft. of Lake Superior or within 300 ft. of rivers, creeks, streams and tributaries, and floodplains. A Shore Land Permit is required for all structures, grading, filling, excavating, construction of impervious surfaces, removal of vegetation and construction activities that removes or disturbs natural beach grasses on Park Point. The Shore Land Permit includes minimum dimensional standards that address minimum setbacks, lowest floor elevations and the width of natural vegetative buffers in relation to the ordinary high water mark. Exceptions to the dimensional standards cover commercial, mixed use and industrial structures in the harbor (see Map??) that include a zero setback for grain elevators, cranes, loading bins and other equipment necessary for loading and unloading, including impervious surfaces necessary to support these activities.

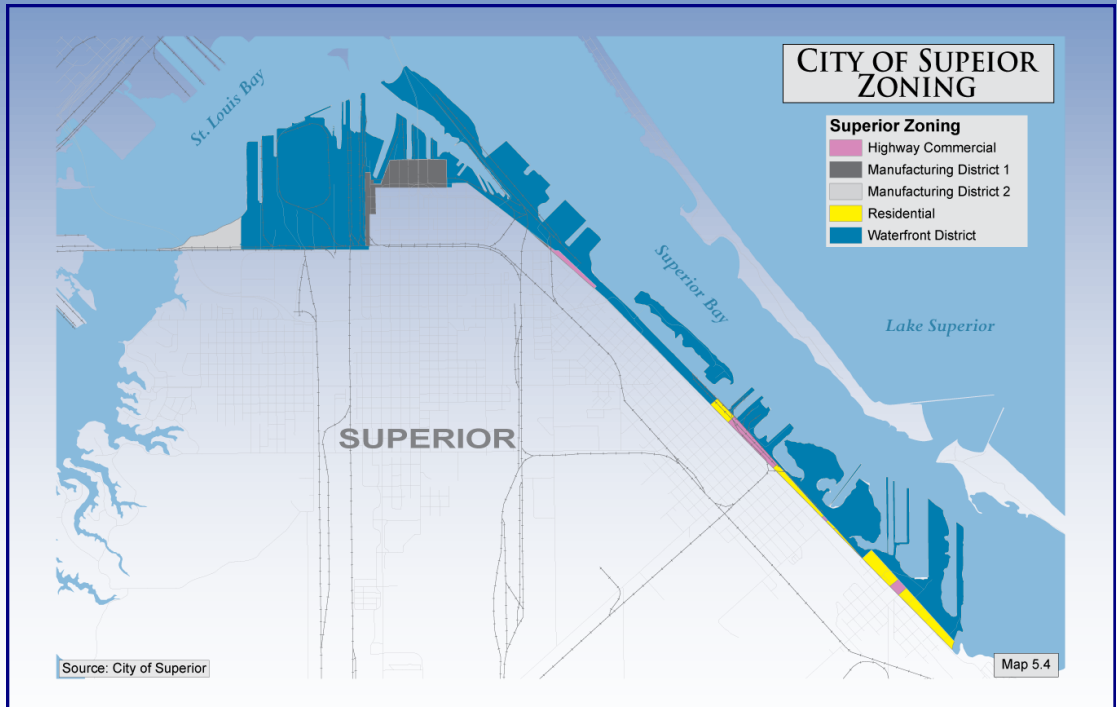


City of Superior Zoning Codes

In reviewing the study area on the Superior waterfront, it appears that only three zoning districts are present (outside of some very small slivers of other districts): W-1, M-1, and M-2.

The Waterfront District (W-1) dominates the Port Plan study area. Permitted uses include water dependent land uses and also any use permitted in the M-2 heavy manufacturing district with planning commission approval.

The Light Manufacturing District (M-1) has a couple of small areas within the Port Plan study area. The permitted uses describe land uses that are less capital intensive than heavy manufacturing and that are normally a lower environmental impact than heavy manufacturing.



State of Wisconsin Position on Specific Types of Development 01/89

Development Type	Acceptable Under Public Trust	Comments
Restaurant Building	No	Limited food service may be allowable where it supports, and clearly is an appurtenance to, a permissible use
Restaurant Ship or Barge	Not unless it operates as a licensed watercraft.	Same as above
Municipal Civic Center	Yes	Must comply with Supreme Court guidelines.
Hotel/Motel	No	
Residences (apartment, condominium, house)	No	
Harbor Facilities	Yes	Can be private or municipal
Private/public shore protection	Yes	Not trust related but a generally permissible exercise of riparian rights
Fish or wildlife habitat management or enhancement projects	Yes	Must comply with Supreme Court Guidelines
Public park, including "festival parks", or recreation area	Yes	Same as above
Park administration building	Possibly if for administration of water front park(s)	Same as above
Marina (and related facilities necessary for operation of marina)	Yes	Same as above
Amphitheater for plays and other cultural events	Yes	Same as above
Confined dredged material disposal facility (CDF)	Yes	Ultimate use must be compatible with trust doctrine and Supreme Court guidelines.
Filling to extend private riparian property into water	No	
Parking lot	Possibly if ancillary to an allowable use	Must meet Supreme Court guidelines
Industrial facility	No (except facilities related to ship building or repair which are water-dependent)	Same as above

Chapter 6

St. Louis River Estuary Area of Concern (SLRAOC)

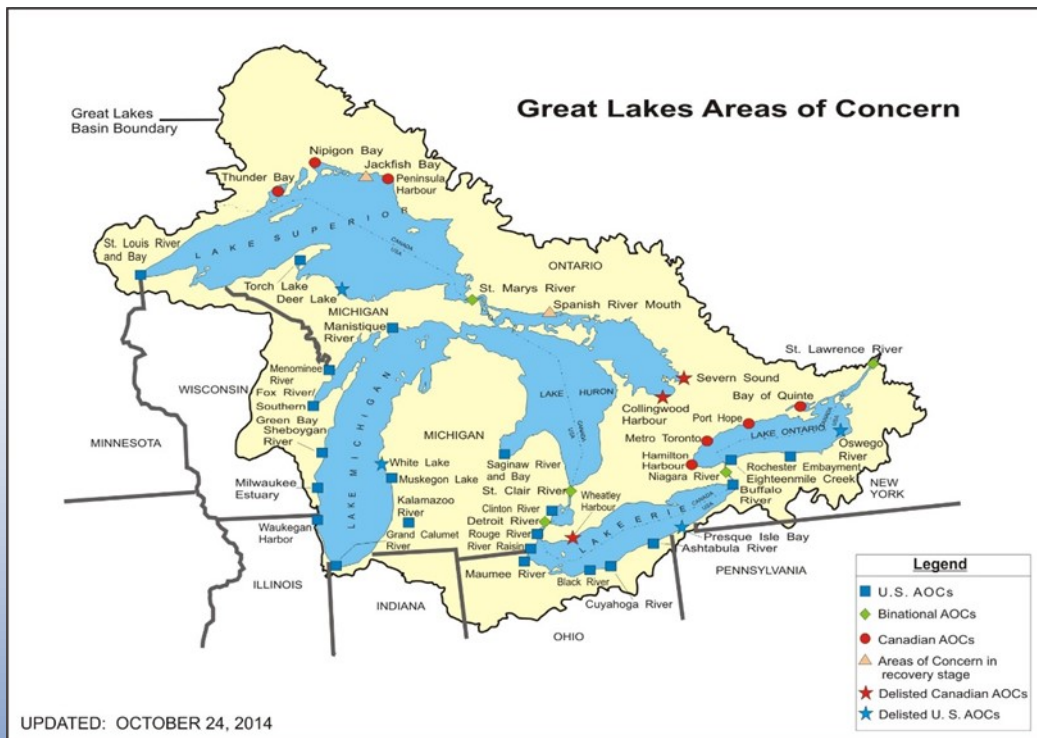
Great Lakes Water Quality Agreement

Initially signed in 1972, the GLWQA is a non-regulatory agreement between the U.S. and Canada that requires the governments to take specific steps to reduce discharge of conventional pollutants and represents a commitment to reverse the progressive decline and deterioration of the Great Lakes ecosystem. The GLWQA reflects each country's commitment "to restore and maintain the chemical, physical and biological integrity of the Great Lakes Basin Ecosystem" and includes a number of objectives and guidelines to achieve these goals. The GLWQA was amended in 1978 to address toxic pollutants. It soon became clear, however, that the GLWQA generally lacked an effective means of implementation.

Areas of Concern

In 1987, the GLWQA was amended to strengthen the programs, practices, and technology described in the 1978 amendment, and to increase accountability for their implementation. The 1987 amendment also established the concept of

"Areas of Concern" that represented 43 of the most severely impacted geographic areas around the Great Lakes Basin and set forth the remedial action plan (RAP) process to address problems identified at these locations. The RAP process incorporated a systematic and comprehensive ecosystem approach that also included substantial citizen participation. An amendment to the GLWQA signed in 2012 further clarified the RAP process.



clarified the RAP process. <https://www.epa.gov/glwqa>

Listing of the St. Louis River Area of Concern

In 1987, the St. Louis River AOC (SLRAOC) was identified as one of 43 AOCs across the Great Lakes. The St. Louis River was originally listed due to the large amount of suspended solids, nutrients, and biochemical oxygen demand discharged to the river from various industries and communities. By the time the initial RAP was developed in 1992, much of these discharges were being treated as required by the Clean Water Act, and the primary concerns and drivers for action became the historic legacy contamination and habitat loss, as well as excess sediment and nutrient inputs. These sources of impairment led to the identification of nine problem areas known as beneficial use impairments (BUIs):

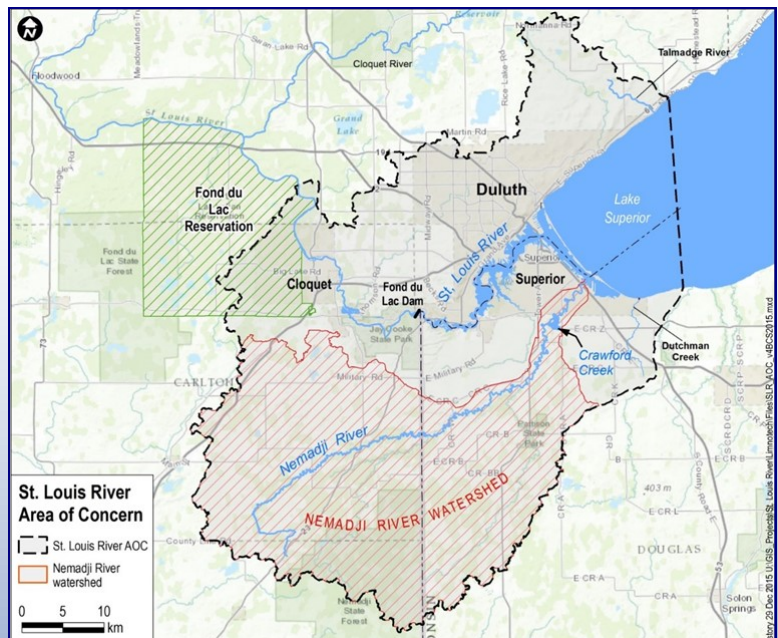
- BUI 1: Fish Consumption Advisories
- BUI 2: Degraded Fish and Wildlife Populations
- BUI 3: Fish Tumors and Other Deformities
- BUI 4: Degradation of Benthos
- BUI 5: Restrictions on Dredging
- BUI 6: Excessive Loading of Sediment and Nutrients
- BUI 7: Beach Closings and Body Contact Restrictions
- BUI 8: Degradation of Aesthetics – BUI Removed 2014
- BUI 9: Loss of Fish and Wildlife Habitat

The majority of the BUIs for the SLRAOC are related to historical habitat loss from extensive filling of wetlands, dredging of shallow aquatic habitat, and inputs of harmful chemicals that contaminated the sediments and water in the estuary. Since 1861, approximately 3,400 acres of wetlands have been lost in the estuary through a combination of dredging and filling. It has also been established that prior to the Clean Water Act and other environmental laws a number of communities and industries discharged wastes directly and indirectly into the St. Louis River estuary. Consequently, a number of sites within the SLRAOC contain legacy pollutants from historical contamination with chemicals or toxic waste products.

The St. Louis River AOC is a bi-state AOC and is the only AOC in Minnesota and one of five AOCs in Wisconsin. It is also the second largest of the AOCs.

St. Louis River Area of Concern Remedial Action Plan

The SLRAOC completed the first RAP in 1992 and it has been updated yearly since 2011 with a major update occurring in 2013 known as the [St. Louis River Area of Concern Implementation Framework: Roadmap to Delisting \(Remedial Action Plan Update\)](#). It is the 2013 RAP that identified some 69 major actions required to fix the nine identified problems and established an aggressive timeline and budget to get the major actions completed by 2020. To view the current updated RAP and past RAPs, go to [MPCA SLRAOC](#) and <http://dnr.wi.gov/topic/greatlakes/st.louis.html>.



St. Louis River AOC Boundary

Most of the actions included in this St. Louis River AOC RAP focus on the St. Louis River below Fond du Lac Dam, Crawford Creek, and the Nemaadji River watershed, as they represent those portions of the AOC most impacted by historical actions.

The Minnesota Pollution Control Agency (MPCA) and the Wisconsin Department of Natural Resources (WDNR) are the lead state agencies responsible for ensuring the AOC work is completed to the satisfaction of the local community, USEPA and the International Joint Commission (IJC). These two state agencies have partnered with many Federal, State, Tribal and local governmental and non-governmental organizations to ensure timely completion of all RAP actions including the major contaminated sediment cleanup and restoration efforts within the SLRAOC. The St. Louis River Alliance is the official citizen's advisory committee associated with the SLRAOC and they play a major role as the local sounding board.

The goal of SLRAOC partners is to complete major contaminated sediment cleanup and restoration actions associated with BUI removal by 2020 and to monitor the success of those activities for BUI removal and delisting purposes until 2025. BUI removal will be proposed in the future as required management actions are complete and any required monitoring indicates it is appropriate to do so. Once all actions are complete and post-construction monitoring shows targets have been met, final removal of remaining BUIs and request for delisting will be proposed.

Cleaning up the St. Louis River Estuary is important work. Studies have shown that households are willing to spend more to live near shoreline areas. Both Duluth and Superior promote their proximity to St. Louis River as a reason to live in this area. Larger studies have stated the return on investment is high for cleanup of the Great Lakes.

Beneficial Use of Navigational Dredge Materials

Several habitat improvement projects described in the SLRAOC RAP will utilize dredged materials from the navigation channel. Restoration activities include optimizing bathymetric contours to increase the extent and quality of submerged and emergent plant communities and improve macroinvertebrate communities. Several of the Minnesota aquatic habitat restoration plans include construction of features to minimize wind and wave energy by strategically placing sediment delivered from the Federal Navigation Channel, Erie Pier Processing and Reuse Facility, and/or from the Restoration Site itself to achieve specific site design goals.

One of the projects in the RAP is the 21st Avenue West Project. The goal of the project is to restore the aquatic habitat within the 350-acre site by placing the navigational dredged materials to create optimal water depth and flow conditions that will help establish diverse aquatic vegetation and healthy benthic organisms. The project is designed to help contribute to removal of two BUIs in the SLRAOC: degradation of benthos; and loss of fish and wildlife habitat. This project has used more than 510,000 cubic yards of navigational dredged materials as of October 31, 2016. The project is an example of addressing aquatic habitat restoration needs by creatively utilizing materials from maintenance dredging of the federal shipping channel. Additional material will be placed at 21st Avenue West and 40th Avenue West in 2017 and 2018 followed by placement of biological medium from Kingsbury Bay in 2019 to encourage aquatic plant growth at these two restoration sites.

In 2015, an additional 40,000 cubic yards of navigation channel dredged material was placed in Slip 2 to manage contaminated sediments at that site while benefiting the Pier B Resort development. It is possible that additional contaminated sediment cleanup sites will require navigational dredged material over the next four years.



Impact on Port Land Use

Implementation of the RAP will have minimal impacts on land use within the Duluth Superior Port. Adjoining landowners, the Duluth Seaway Port Authority, local units of government and other critical stakeholders have been and will be included in design and construction discussions related to major contaminated sediment cleanup and aquatic habitat restoration projects to ensure any concerns related to port related operations are addressed. Lands near SLRAOC project work will be subject to current local, state and federal laws and rules pertaining to port land use (see Chapter 5).

Chapter 7

Future Land Use

Land use is the function or functions that humans apply to the land available to them. Sometimes land use can be confused with land cover. **Land cover** indicates the physical land type such as forest or open water whereas land use documents how people are using the land. Land use also should not be confused with zoning. **Zoning** is related to land use but it is a tool in which governments regulate and control land use. Cities use zoning to make their communities more pleasant to live in, to control pollution, protect the environment, promote compatible land uses and create efficient transportation links. It segregates incompatible land uses for the public benefit.

When looking at future land use, we are identifying the desired functions the land will have in the future. For the purposes of this planning effort we are looking at a 20 year time period. Our attempt here is to identify a configuration of future land uses that provides compatibility between uses, protects natural and economic resources, preserves and enhances our transportation assets and provides opportunities for future development. This arrangement of land uses would utilize the Duluth-Superior working waterfront to its highest use and preserve land for anticipated growth in the area of transportation infrastructure. It would also protect the existing businesses in the Duluth-Superior port, which according to the Martin and Associates 2011 report *The Economic Impacts of the Duluth-Superior Port*, generates almost 3000 port related jobs. It would position the port of Duluth-Superior to become a larger participant in the global movement of freight (world freight movement is projected to double by 2050). In an era of constrained transportation resources, we benefit from the capability and competitive advantage offered by the port to move goods via water. This can result in less goods moved over congested highways and rail lines.

One of our region's most valuable transportation assets is the federally maintained shipping channel. Land adjacent and with access to the federal shipping channel is limited and once it is converted to uses other than maritime transportation, it is extremely difficult to convert back. Non-contiguous port lands can result in a fragmented port that loses the benefits of clustering complementary resources. Using channel front lands for other purposes takes away future opportunities to utilize the shipping channel.

The Duluth-Superior port is located at the convergence of a wealth of landside transportation assets. Four Class 1 railroads connect to the port as well as the National Highway System and its associated connectors. These landside transportation assets combined with the port put Duluth-Superior in a unique position in the global freight moving system and provide us with a location-based competitive advantage. Protecting and leveraging these assets will position our region to be a participant in the global freight moving industry. Freight movements are growing globally and regions with the right combination of transportation assets are positioned to capture a larger share of future freight movements.

Compatible land use along the working waterfront should support the existing maritime industrial land uses. There is a large amount of waterfront within the general Duluth-Superior area and the small amount dedicated for industrial and maritime uses is vitally important to the local and regional economy. The example in

Baltimore where restrictions on businesses after residential uses infringed upon industrial uses is telling. After operational restrictions were imposed on maritime and industrial businesses, banks were less likely to lend them money. This limited the businesses access to capital which eventually led to business failures and decline.

The location of existing port business is important in considering optimal future land use. A number of the businesses that answered the survey administered during this study (see Chapter 4) indicated they were intending to invest in their facilities. According to results of the survey, protecting these investments through consistent regulation of local land use and zoning rules is important to business owners.

Each port in the Great Lakes / St. Lawrence Seaway system relies on other ports for their survival. According to Martin Associates 2010 report, *The Economic Impacts of the Great Lakes – St. Lawrence Seaway System*, this complex transportation system moves over 160 million metric tons each year and complements the region's rail and highway network offering customers a cost effective, safe and environmentally friendly means of moving raw materials, agricultural commodities and manufactured products. Wages from jobs related to Great Lakes maritime transportation was over \$14 billion. Changes made at one Great Lakes port can have major ripple effects at other ports since system-wide shipping and receiving activity is highly interrelated.

Future Land Use Map

The final map (see Map 7.1 page 51) was developed based on analysis and discussion of the issues listed above. This map describes the vision for the Port of Duluth-Superior for the next 20 years. The land use classification system described below is a very simple system that uses fewer categories than normal. It is used in this plan due to the limited number of land uses proposed in the working port and adjacent areas.

- **Residential:** Includes all individual, freestanding single family housing and all multiple dwelling units such as duplexes, town homes, townhouses, and apartment complexes.
- **Recreational:** Land used in the pursuit of recreation. This mostly includes parks, museums, sports grounds, and for the purposes of this plan public water access locations.
- **Public Utilities:** Public utilities can be privately owned or publicly owned and usually refer to the set of services consumed by the public such as electricity, natural gas, water, and sewage.
- **Natural Areas:** Usually described as a geographic area having distinguishing characteristics which have arisen through natural growth rather than design or planning.
- **Maritime:** Land uses that depend on a waterfront location to operate and all their related support and ancillary services and activities. These uses include cargo shipping, ship repair, fishing industry, recreational boating, ferry and excursion boats, passenger cruise ships, maritime offices, and maritime support services such as tug and tow boats, ship chandlers, port maintenance facilities and warehousing and storage.

- **Industrial:** Structures and their associated grounds used for light or heavy industrial activities. Includes industrial parks, heavy equipment yards, machinery repair, junkyards, structures and their associated grounds used for heavy fabrication, manufacturing, and assembling of parts which are, in themselves, large and heavy; or for processing raw materials such as iron ore, timber, or animal products.
- **Commercial:** Includes all retail services, large shopping centers or multi-tenant shopping centers, marinas, hotels/motels, entertainment facilities, health care facilities, and recreational services that are predominantly privately owned and operated for profit. All buildings and parking lots are also included.

Areas of Future Development/Redevelopment Opportunities

As this plan was developing and future land use was discussed, port operators and stakeholders identified a number of areas around the port (see Map 7.2 page 52 that have development, redevelopment or expansion potential. Many of the currently operated docks have potential for increased efficiencies to move more cargoes. Most of these decisions will be made by the private operators but there also may be a role for the government sector to assist. There are some other areas around the port that are currently considered as underutilized that are described in this section. These areas may provide transportation resources (i.e. docks, rail and road connections, land adjacent to the federal channel) that will be valuable for future development or redevelopment or access to global shipping by water-dependent businesses.

Two areas called out here are not in our formal study area but should be described since they could host future maritime activity as well as other transportation uses. The first area is the former U.S. Steel Plant near the Morgan Park neighborhood in Duluth. This area is a current Super Fund site with final clean-up plans still being considered. This land is being targeted for industrial uses and any maritime use would most likely require shallow draft barges. The second area, just outside the study area, is the Spirit Lake Marina. The City of Duluth is in the process of planning for reuse of the western waterfront area along the St. Louis River Estuary and the Spirit Lake Marina will play an important role in shaping development in this area. It would most likely serve as a marina, recreation area or public access in the future.

The Waseca Industrial area in Duluth has seen a number of changes over the last 10 years. Implementation of the St. Louis River/Interlake/Duluth Tar Superfund site clean-up has changed potential uses of this area. One of the former slips was utilized to permanently store contaminated material which limits its future use. However, this area can still accommodate some limited maritime uses and also has good rail and road connections.

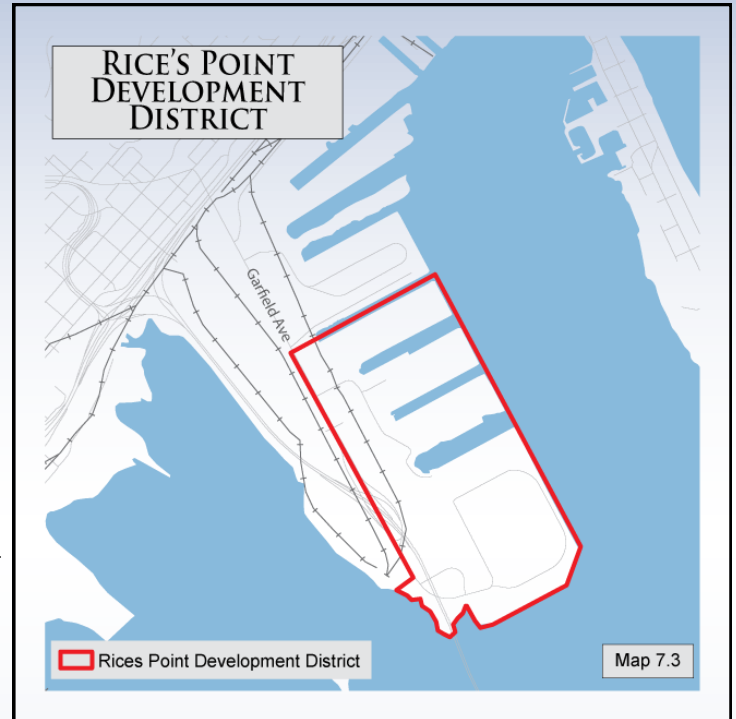
The CN Dock in Duluth has discussed expansion of its facility to possibly have more area for handling bulk materials. Increased efficiencies could open this facility to new bulk products or solidify its position to move its current list of bulk commodities.

The Duluth Harbor Basin Corner has seen new development with the Pier B project's recent completion. This area was the subject of the 2010 Bayfront Small Area Plan, which allowed for the conversion of some very limited industrial land to commercial uses. Proposals are currently being considered for redevelopment of the Duluth Economic Development Authority site between Pier B and North American Salt Company.

On the Superior side of the port, there are several areas that have development and redevelopment potential. The C Reiss Coal Co. Berwin Dock, located between Hallett Dock 8 and Midwest Energy Resources Company, is currently not being used. This site has potential road and rail connections which along with access to the deep draft shipping channel makes its reuse potential high.

The former Globe grain elevator was in the process of being dismantled for its wood when the company conducting the salvage operation went out of business. This site has road and rail access as well as a dock and access to the deep draft shipping channel.

The Rice's Point area has potential for more intensive transportation use as it currently contains key multi-modal transportation assets including major highway and rail connections along with port facilities including the recently completed Clure Public Marine Terminal & Expansion (formerly Garfield Docks C & D) project. In 1981, the Duluth Seaway Port Authority designated a "Rice's Point Port Industrial Development District" on Rice's Point (see Map 7.3) in order to support the development of a Tax Increment Financing (TIF) district to improve marginal lands lacking adequate public utilities. While the TIF district has long since been retired, the Development District still exists and port stakeholders see this Development District on Rice's Point as a valuable tool to preserve industrial lands needed in the future to encourage additional multi-modal transportation development and to support related transportation logistics industries. Improved landside and port transportation assets would position our region to take advantage of projected increases in global freight movement.



Connor's Point has a small triangle of land with access to the deep draft shipping channel. It may be too small to develop a large maritime operation but a number of smaller operations could fit on this site.

The Foster Trucking dock on Superior's eastern waterfront has reuse potential. This area has good landside transportation connections with close proximity to U.S. Highway 2/53.

The former Lakehead Pipeline Dock on Superior's eastern waterfront has reuse potential. The small size of the site may limit reuse potential but it does have good access to the shipping channel and is close to Superior Entry to the harbor. This dock can be used for winter layup of Great Lakes freighters.

Three BNSF Taconite Docks on Superior's eastern waterfront are currently idle and have not been operational for many years. The docks are currently in poor condition and the rail connections have been discontinued. Rehabilitating the docks and reconnecting rail would be costly.

Chapter 8

Dredged Material Management Strategies

One of the primary costs of maintaining the port of Duluth-Superior has been dredging the federal shipping channel and authorized dredging areas. This activity becomes costly when these materials are just placed and stored. New disposal sites are needed when older ones reach capacity. Ports across the nation struggle with how to manage dredged materials. New disposal facilities take a long time to permit, take up valuable port lands and are costly to build and maintain.

On June 22, 1995, the President endorsed the National Dredging Policy. A portion of this policy states, “dredged material is a resource, and environmentally sound beneficial use of dredged materials for such projects as wetland creation, beach nourishment, and development projects must be encouraged.”

The policy was created to help support the network of ports and harbors that are essential to the United States' economy and serve as a key link in the intermodal transportation chain. These ports and harbors can only realize their full potential for shipping and commerce if dredging occurs in a timely and cost-effective manner. Policy findings also state that the nation's coastal, ocean, and freshwater resources are critical assets which must be protected, conserved, and restored. These resources are equally important to the United States by providing numerous economic and environmental benefits.

The National Dredging Policy encourages close coordination and planning at all governmental levels and with the private sector. These collaborations are essential to developing and maintaining the nation's ports and harbors in a manner that will increase economic growth and protect, conserve, and restore coastal resources. Dredged material management planning must be conducted on a port or regional scale by a partnership that includes the Federal government, the port authorities, state and local governments, natural resource agencies, public interest groups, the maritime industry, and private citizens.



Following the strategy outlined by the National Dredging Policy, Duluth-Superior port stakeholders have focused on proactively managing dredged materials. The HTAC has had a Dredging Subcommittee for about 15 years and the members have successfully addressed a wide variety of issues and concerns. This subcommittee is comprised of a diverse array of stakeholders and meets on a regular basis to identify and address complex problems related to dredged material management.

This chapter examines dredged material management strategies and progress made over the past 20 years and also describes options for moving forward. The local groups responsible for managing dredged materials are U.S. Army Corps of Engineers (USACE) and the Duluth Seaway Port Authority (DSPA) and the cities of Duluth and Superior. The USACE is responsible for dredging the federal shipping channel and other authorized areas and DSPA is responsible for providing a dredged material placement facility. Erie Pier is the facility where dredged material is placed and staged for potential reuse.

Erie Pier

According to the DSPA, “Erie Pier and adjoining submerged lands were purchased by the Duluth Seaway Port Authority in 1979 from the Zenith Dredge Company for the purpose of constructing a Confined Disposal Facility (CDF). Ownership of the filled areas within the present dikes was later transferred to the City of Duluth. Today, the USACE in conjunction with the DSPA operates the 89-acre Erie Pier as a recycling facility - termed a Placement and Reuse Facility (PRF) - and the DSPA acts as local sponsor for all USACE dredging projects in the harbor.”

Erie Pier was constructed in 1979 with an estimated lifespan of 10 years. Due to creative material reuse and settling along with raising of the dikes, the facility has lasted well beyond expectations. As Erie Pier was reaching capacity, the DSPA and USACE, working with members of the HTAC Dredging Subcommittee developed a plan in 2007 to convert it to a processing and reuse facility. Material is hydraulically separated by a simple process utilizing on site water and gravity. The coarser materials (mostly sand) can be separated from the finer material, which resembles ordinary soil. These processes and the testing procedures, designed to meet state material reuse standards, are described in the *Erie Pier Management Plan*. The coarse material has been utilized in local construction projects and the fine materials have been used in a variety of projects from mineland reclamation to use as a top soil. As spelled out in the Erie Pier Management Plan, the goal is to operate Erie Pier as a processing and reuse facility. The USACE has stated that they do not plan to build more confined disposal facilities due to cost and environmental concerns. Replacing Erie Pier in the Duluth-Superior waterfront would require a roughly 100 acre site and cost upwards of \$30 million. There is an environmental review and permitting process that would need to be followed in order to create a new CDF. This process would add to the cost and timeline for construction.



Since completion of the *Erie Pier Management Plan*, a number of changes have taken place with regards to state rules and laws governing how dredged materials are tested and reused. Policy changes have also taken place with regards to placing material back into the St. Louis River Estuary. For these reasons, the *Erie Pier Management Plan* contains some outdated material and is in need of updating.

Market demand remains high for the coarse material produced at Erie Pier. However, more work is needed to identify markets and additional beneficial uses of the finer grain materials.

Beneficial Use

Most of the material dredged from the Duluth-Superior federal shipping channel meets Minnesota and Wisconsin regulations for beneficial uses such as beach restoration, shore protection, agricultural uses, habitat creation and enhancement, and many other applications. However, dredged material has not always been utilized for its full economic, social, and environmental potential because the prevailing view that dredged material is waste. In recent years, there has been a growing awareness of the vast potential for dredged material as a manageable, beneficial resource. This increased awareness has coincided with the growing difficulty in locating new dredged material disposal areas and rising disposal costs.

Historically, dredged materials from the Duluth-Superior federal shipping channel have been beneficially used for beach nourishment, mine land reclamation, topsoil cover and as fill in construction projects. More recently dredged materials have been directly returned to the water to create habitat (see Chapter 6). The increase in beneficial use projects is due also to forward-looking federal, state, and local governmental policies and private initiatives to take full advantage of the valuable resource produced by dredging activities.

The USACE has taken the lead nationally on research and promoting policies that encourage beneficial reuses of dredged materials. In the past 30 years, Congress has provided new legislative authorities and funding that enable and encourage the USACE to pursue beneficial use opportunities, particularly habitat restoration projects, on a much wider scale. The current regulatory environment supports beneficial use if materials meet testing guidelines, which hasn't been a problem with dredged materials originating in the Duluth-Superior federal shipping channel.

Current hurdles for increasing material beneficial use include marketing the material and identifying less costly transportation options. Marketing efforts should target how to get private industry, the public and government agencies to view this resource as an opportunity and not a liability. All transportation options should be considered and reuse potentials closer to the source given higher priority.

Moving Forward

Proactively managing dredged materials is an activity that will always need evolving solutions. Strategies must include short term as well as long term options. Adaptability to new opportunities and technologies is critical to finding new dredged material uses. Short term strategies like AOC habitat improvements will need to be replaced with new options after the AOC work is done. Utilizing as many options as possible for reusing dredged materials will be the future strategy of the Duluth-Superior port. Those options include the following:

- Maintain Erie Pier as a high functioning processing facility to sort, store and transport materials. Update the Erie Pier Management Plan in support of accomplishing this objective.
- Focus on finding uses for the fine grained material in Erie Pier.
- Take advantage of any new research and technologies that could provide additional opportunities for beneficial use demonstration and pilot projects.
- Make available yearly maintenance dredging materials for beneficial habitat creation in the AOC (see Chapter 6) and other areas.
- Look for long term habitat creation and improvement projects beyond the AOC process.
- Look for additional opportunities for mine land reclamation, brownfield restoration, soil amendments, erosion repair, landfill cover, and habitat creation and enhancement.
- Seek more cost effective transportation options to move materials to destinations.
- Seek federal and/or state support for the cost of removing fine dredged material from Erie Pier and transporting it to a re-use site and develop temporary storage/dewatering sites in both states to increase material reuse options.
- Shore up docks and dock walls with material placement.
- Continue to make Erie Pier available to receive material from private dredging projects.
- Fund the development of a fine dredged material stockpile site on the Minnesota iron range for re-use projects in that region.
- Encourage land use management strategies in the St. Louis River Estuary watershed that minimize sediment runoff.
- Seek federal and/or state support and funding for the local cost share of dredged material management for projects that result in beneficial use, including reclamation of lands, habitat restoration/creation, and other options that meet the goals of funding sources. Great Lakes Restoration Initiative funds and MN Legacy Act funds should continue to be pursued for sediment cleanup and habitat restoration activities.

Duluth-Superior Port and Minnesota Iron Range stakeholders have participated in a number of demonstration and pilot projects over the years. Most of these projects have proven the dredged materials have beneficial use value. This will continue to be a part of the dredged material management strategy to work with the USACE, DSPA, research entities as well as the private sector in identifying promising new techniques in beneficial use. Identifying long term economically feasible uses should be the goal of any strategy for beneficial use of dredged material.

A recent private slip restoration project demonstrated that placing dredged materials in a slip to cover contaminated sediment is a feasible method to cleaning up these areas. The dredged materials used met state regulations and engineering specifications. The project was not without some difficulties but the collaborative process and proactive communication helped guide the project to completion. These types of public/private partnerships need to be encouraged. Given the complexity of this type of project, a best practices guidebook should be developed to highlight lessons learned from each project. This is the type of activity that the HTAC Dredging Subcommittee can assist with. More educational materials like this can be shared both within our port and other ports across the Great Lakes and North America to the benefit of the port operators and private dock owners.

Several members of the HTAC Dredging Subcommittee serve on the Great Lakes Dredging Team (GLDT). The GLDT serves as a forum for both governmental and non-governmental Great Lakes dredging interests to discuss the region's dredging needs. In collaboration with its partners, it supports timely, cost-effective and environmentally sustainable dredging practices at U.S. harbors and channels throughout the Great Lakes, connecting channels and tributaries. Participation in this team is a critical component of networking across the Great Lakes.

The GLDT has adopted a charter and work plan built around four main objectives:

- Contribute to the national goal of assuring that the dredging of U.S. harbors and channels is conducted in a timely and cost effective manner while meeting environmental protection, restoration, and enhancement goals.
- Facilitate the resolution of dredging issues common to the Great Lakes region among the participating Local, State, Tribal and Federal agencies.
- Promote implementation of the relevant portions of the recommendations of the interagency report on the dredging process.
- Facilitate effective communications and decision-making among federal and state agencies represented on the Dredging Team and between the Team and key stakeholders in the dredging process.

The future of dredged material management in the Duluth-Superior port will rely on collaboration of all port stakeholders and build on the body of knowledge developed locally and nationally. The importance of the port has been recognized widely and maintaining it in an efficient manner is in everyone's interest. Pooling resources, harnessing innovation and working together will be crucial to successful dredged material management.

Currently, all maintenance dredged materials are being utilized to create beneficial habitat or manage contaminated sediments in the harbor through the AOC process (see Chapter 6). The AOC need for material will end in the next 3-4 years and new beneficial use projects will need to be identified. Port stakeholders working through the HTAC Dredging Subcommittee and working collaboratively with USACE should develop a strategic plan outlining how to efficiently manage dredged materials. The plan would identify a wide range of options on dredged material management for a period of roughly 20 years.

Chapter 9

Recommendations

1. Protect and enhance the utility of the federally designated shipping channel and all critical port infrastructure. Advocate for sufficient funding from dedicated federal sources. Develop an asset inventory to identify specific needs.
2. Port area lands with the combined characteristics of adjacent federal shipping channel access, adequate rail and road access are to be given preference for future maritime development.
3. Lands that aren't waterfront properties but are strategically ideal for multi-modal transportation purposes due to road and rail access and current zoning should be maintained as industrial lands.
4. Look for opportunities to develop and enhance the Duluth-Superior port intermodal transportation function by seeking partnerships with rail and trucking companies to site and develop an intermodal transportation facility that is proximate to the port.
5. Identify opportunities for creative private, public or public/private partnerships to rehabilitate and reuse underutilized dock structures for additional maritime commerce uses.
6. Duluth and Superior should consider and adopt the Future Land Use Map in their comprehensive planning processes.
7. Develop sites in both Duluth and Superior that could be used to temporarily store and dewater dredged materials from outside the Federal Navigational Channel in support of beneficial use projects.
8. Encourage land use management strategies that reduce sedimentation of the federal shipping channel.
9. Port Stakeholders, working with the USACE should develop a strategic plan addressing dredged material management that identifies future beneficial use projects and is consistent with the port community's goals and each state's enforceable policies. Port Stakeholders should also work with MN DNR, MPCA and WI DNR to ensure that policies and regulations favor beneficial use of dredged material.
10. Update the Erie Pier Management Plan to reflect new state rules and regulations, best practices for dredged material management and new technologies and opportunities for beneficial material use.
11. Develop strategic landside access improvements to the port. Look at access improvements such as Rice's Point and Interstate 35 connectors that will better accommodate efficient freight movements such as oversize/overweight cargoes and serve maritime/industrial development. Consider freight modeling to identify an efficient system of landside connections to the port.
12. Review the Duluth-Superior area National Highway System (NHS) Connectors. The MIC should work with Federal Highway Administration, State DOTs, Duluth and Superior to review the current system to ensure that the NHS Connectors serve to connect the port efficiently to the NHS.

13. Work with both Wisconsin and Minnesota DOTs to develop a plan for life extension and eventual replacement of the I-535 Blatnik Bridge that minimizes disruption to transportation needs and best serves the needs of commerce.
14. Plan and support improved and expanded rail service to the Rice's Point and upper harbor areas.
15. Plan for the eventual completion of the Clure Terminal Expansion—Berths 8—11 and Ro-Ro Dock redevelopment.
16. Continue to highlight and market our competitiveness as a gateway in moving freight to national and global markets. The general public should be educated on the importance of the port and its operations to the local, regional, national and global economies.
17. Support development of an additional Poe sized lock at Sault St. Marie. Port stakeholders should continue efforts through established groups to lobby at the federal level to upgrade this critical piece of national infrastructure.
18. Seek opportunities to promote the port of Duluth-Superior as a key component of increasing overall resiliency in the national freight movement infrastructure. Identify a role that Duluth-Superior and the Great Lakes could play if other ports are unusable due to natural disasters.
19. Continue to work with AOC resource agencies in furthering restoration of aquatic habitat and the cleanup of contaminated sediments. Identify areas of common interest and mutual benefit with port maintenance operations, restoration and remediation activities.
20. Open Water Mitigation: Port stakeholders, working with resource agencies from both MN & WI, should develop strategies that would add greater clarity and certainty to the permitting process for open water construction projects within the harbor and for related open water mitigation requirements.
21. Public access to the waterfront and development of water trails should be encouraged where they do not conflict with existing waterfront businesses and maritime transport. Develop an asset inventory to identify specific options and needs.
22. Encourage continued participation of port stakeholders in Harbor Technical Advisory Committee and its subcommittees. Continue to build on collaborative relationships and trust that have developed over the years.
23. Encourage the development of vacant waterfront industrial land in Superior by working with land owners to promote their docks and/or structures for main based operations.
24. Work towards a better truck route system in Superior that focuses on multi-modal ties to the Port terminals by providing an alternative route to Belknap Street.
25. Recreational use of the harbor and estuary is encouraged when that use is compatible with maritime transportation, development that needs to be adjacent to the navigation channel and consistent with other water dependent uses. Develop an asset inventory to identify specific options and needs.
26. Acknowledge the value of the ecological system in the estuary and harbor by protecting significant natural resources (as identified through a multi-agency effort based on resource assessment and evaluation) through the use of locally developed land use plans and ordinances as well as state regulations.

The above recommendations will be put into an action plan to facilitate implementation. The recommendations will be prioritized, a responsible party or parties will be identified and a deadline developed. This work will be done by the Duluth-Superior Port Land Use Plan Committee that developed this plan in conjunction with MIC staff. This product will be amended into the plan a part of the Appendices and should be completed by June 2017.

