

ASSESSMENT AND STRATEGIES FOR COASTAL PROGRAM ENHANCEMENTS TO MINNESOTA'S LAKE SUPERIOR COASTAL PROGRAM

2006-2010

Authorized by Section 309 of the
Coastal Zone Management Act



**Minnesota Department of Natural Resources
Minnesota's Lake Superior Coastal Program**

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Introduction

Overview

Section 309 of the Coastal Zone Management Act (CZMA), as amended in 1990 and again in 1996, established a voluntary grants program to encourage states with approved programs to develop program changes in one or more of the following nine coastal resource enhancement areas:

- 1) Public access;
- 2) Coastal hazards;
- 3) Lake Superior resources;
- 4) Wetlands;
- 5) Cumulative and secondary impacts;
- 6) Lake debris;
- 7) Special Area Management Plans;
- 8) Energy and government facility siting; and
- 9) Aquaculture

Under this program, the Secretary of Commerce is authorized to make awards to states and territories to develop and submit for federal approval program changes that support attainment of the objectives of one or more of the enhancement areas. Section 309 further requires the National Oceanic & Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM) to identify, in close cooperation with each state and territory, that state's or territory's priority management needs for improvement and to evaluate and rank state and territory funding proposals. The OCRM provides guidance to states and territories for developing or updating previous Assessment and Strategy documents. The OCRM guidance provides a recommended format to address each enhancement area in the document. The most recent guidance was issued on March 1, 2005.

The guidance provided by the OCRM allows for developing either a single combined Assessment and Strategy document, or two separate documents. Minnesota has opted to produce a single combined document. Generally the format consists of the following components:

- 1) Programmatic objectives;
- 2) Resource characterization with qualitative and, when possible, quantitative analyses;
- 3) Management characterization;
- 4) Conclusions; and
- 5) Suggested strategies for meeting the goals of the assessment

This Draft Assessment and Strategies for Coastal Program Enhancements to Minnesota's Lake Superior Coastal Program is part of the process to develop a five-year strategy to enhance the effectiveness of Minnesota's Lake Superior Coastal Program (MLSCP). This document summarizes Minnesota's current Coastal Enhancements Program, the proposed priority enhancement areas, and identifies a set of strategies for action.

Public Participation

Public participation is an important component of Minnesota's Lake Superior Coastal Program. To begin the development of this document a survey was sent to 36 key stakeholders. This survey defined the scope of interest for each enhancement area category and requested input on issue area priority rankings as well as potential strategies for further consideration. Ten stakeholders responded to the survey. After receiving this input, MLSCP Staff compiled a

preliminary assessment and submitted the draft to OCRM. Comments from OCRM and additional information gathered by staff were incorporated into this public review draft. This draft was made available for public review and comment for thirty days. A public open house was held on June 19, 2006 at the DNR office in Two Harbors, MN. Additional comments were received from open house attendees. Following the review period, public comments were incorporated into this final Assessment and Strategy document. The final version was then submitted for federal approval. Following approval, implementation of the identified strategies will result in changes to Minnesota's Lake Superior Coastal Program to enhance to effectiveness of the program in the high priority enhancement areas.

Continuing 309 Activities

In 2001, MLSCP completed Minnesota's first "Coastal Program Enhancement Study: 309 Assessments and Strategies" for 2001 through 2005. This document builds on that previous study. In the previous report, Cumulative and Secondary Impacts, Public Access, and Special Area Management Plans were identified as High Priority issue areas. The current assessment supports continuing to treat these issue areas as High Priority. While much progress has been made to implement strategies identified in the previous Assessment and Strategies document, fiscal and staff resources are limited and the pressures that drive resource management concerns in these issue areas continue to increase.

Since Minnesota's Lake Superior Coastal Program began in 1999, much of the funding provided to Minnesota through the cooperative agreement with NOAA's OCRM has been focused on providing financial assistance to state and local government agencies and non-profit organizations. This grant program also has been influenced by the results of the previous Assessment and Strategy report. As a result, significant progress toward implementing strategies and achieving goals identified as important in the "enhancement areas" has also been made as a result of local organizations completing important projects that qualify for funding through Section 306/306A of the Coastal Zone Management Act. Some of these projects are highlighted in the current assessment as they contribute strongly to the current condition as relates to the management characterization element of this assessment.

As MLSCP moves into implementation of the final Assessment and Strategies for Coastal Program Enhancements to Minnesota's Lake Superior Coastal Program for 2006 through 2010, strategies in high priority enhancement areas will continue to be addressed with funds authorized from either Section 309 or Section 306/306a for the Coastal Zone Management Act (CZMA). Implementation of strategies using 309 funds will depend on appropriation levels. Annual work plans for implementation strategies identified in this document will reflect a combination of the priorities identified here and federal funding decisions regarding allocations for Sections 309 and 306 of the Coastal Zone Management Act.

Eligible Activities

Under Section 309 of the CZMA, the following activities are eligible for Coastal Enhancement Program funding:

1) Assessments and Strategies.

States may fund activities necessary to develop Section 309 Assessments and Strategies with section 309 funds, including the development, collection, and analysis of performance management objectives and performance indicators.

2) **Program Changes.**

Program changes are, as the term indicates, changes to federally approved CZM programs as opposed to changes in the manner states and territories implement their programs. Program changes clearly include changes to state and territory enforceable policies and authorities. The definition of program change also includes new or revised state and territory coastal land acquisition and management programs as may be necessary to fully meet state and territory needs in such enhancement areas as public access and wetland habitat restoration. Program change, for the purposes of 309, means "routine program change" as defined in section 923.84 and "amendment" as defined in section 923.80, and includes the following activities that will enhance a state's or territory's ability to achieve one or more of the coastal resource enhancement objectives:

- A change to coastal zone boundaries;
- New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- New or revised local coastal programs and implementing ordinances;
- New or revised coastal land acquisition, management, and restoration programs;
- New or revised Special Area Management Plans (SAMP) or plans for Areas of Particular Concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- New or revised guidelines, procedures and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government and other agencies that will result in meaningful improvements in coastal resource management.

3) **Program Implementation.**

Section 309 funds may be used to support selected implementation activities for section 309 program changes for up to two years. Program implementation activities should be described in the Strategy and must meet the following general requirements:

- Must relate to one or more 309 program changes;
- Must be a component of the activity that measures, within two years, how it will improve effectiveness of the program; and,
- Must be cost effective.

Eligible program implementation activities within these general requirements may include:

- Administrative actions to carry out and enforce program change policies, authorities and other management techniques including the development, collection, and analysis of measurable management objectives and performance indicators;
- Equipment purchases related to the program change; and
- Allowable costs as determined in accordance with the provisions of OMB Circular A-87: Cost Principles for State and Local Governments.

Summary of Past Coastal Enhancement Program Efforts

Over the past five years, implementation activities from the previous assessment and strategy study focused primarily on three of the nine coastal resource enhancement areas and one new federal requirement:

Public Access

Utilizing the expertise of MLSCP's GIS specialist, and a student intern, a detailed inventory of public access sites in the coastal area was completed in 2005. The inventory includes digital images, GIS data, maps and descriptions of access sites including beaches, boat launches, recreation areas, trails, scenic vista sites, and more.

Cumulative and Secondary Impacts

Update local comprehensive land use plans by providing GIS data, tools and technical support for local decision makers. MLSCP hired a full time GIS specialist and has utilized the services of interns to identify and acquire key GIS data sets and provide them to local decision makers, train agency personnel in the use of LandView (a free, GIS data viewer), coordinate with local planning groups to ensure that up-to-date GIS data and tools are used in on-going planning efforts, and to respond to a variety of requests for technical assistance in GIS data acquisition, management and utilization. Section 309 funds were also used to help fund Cook County Zoning and Subdivision Ordinance Revisions, and Northland NEMO provided watershed build-outs for Duluth Township, Grand Marais, Proctor, and Duluth.

Special Area Management Plans

Updating the North Shore Management Plan. The North Shore Management Board (NSMB) was established in 1987 to develop a North Shore Management Plan and consists of county, township and city elected officials. A Citizens Advisory Committee and a Technical Advisory Committee provide assistance to the NSMB. Working with the Arrowhead Regional Development Commission, the NSMB utilized Coastal Enhancement Program financial assistance to develop a comprehensive update of the North Shore Management Plan originally completed in 1992. Efforts to incorporate the updated plan into local ordinances have begun and are on-going. Section 309 funds were also used to help address water quality issues associated with proposed subdivisions, the Cook County Board of Commissioners ordered an Alternative Urban Area-Wide Review (AUAR) for Caribou Lake watershed along with the Ward, Bigsby and Agnes Lakes sub-watersheds.

The National Coastal Management Performance Measurement System (NCMPMS)

NOAA's Office of Ocean and Coastal Resource Management developed a performance measurement system to measure a state's coastal program in six categories: coastal habitats, coastal hazards, coastal water quality, coastal dependent uses and community development, public access, and government coordination and decision-making. Most of the indicators will be collected by the State's coastal program. NCMPMS is a direct response to Congressional requests for performance measures to assess the national impact of CZMA programs and to recommendations by the Office of Management and Budget that CZMA programs develop outcome-oriented performance measures to demonstrate program effectiveness. In an effort to improve program accountability, the CZMA performance measurement will attempt to facilitate adaptive management, enhance communication, and inform planning and resource allocation decisions by federal and state coastal managers. During the development of NCMPMS tracking, MLSCP will be required to invest a significant portion of its 309 funds into developing a NCMPMS tracking system, and continued NCMPMS reporting.

PUBLIC ACCESS

Section 309 Programmatic Objectives

- I. Improve public access through regulatory, statutory, and legal systems.
- II. Acquire, improve, and maintain public access sites to meet current and future demand through the use of innovative funding and acquisition techniques.
- III. Develop or enhance a Coastal Public Access Management Plan, which takes into account the provision of public access to all users of coastal areas of recreational, historical, aesthetic, ecological, and cultural value.
- IV. Minimize potential adverse impacts of public access on coastal resources and private property rights through appropriate protection measures.

Resource Characterization

Provide a qualitative and quantitative description of the current status of public access in the Minnesota coastal area. Also, identify any ongoing or planned efforts to develop quantitative measures to assess progress in managing public access.

The Minnesota Coastal Area supports various types of public access including beaches, boating, parks and natural areas, historical and cultural areas, and an extensive network of trails.

Approximately 1,504 square miles of Lake Superior is held in public trust for the citizens of Minnesota. The availability of public access to the 206 miles of Minnesota shoreline is largely dependent on the ownership above the Ordinary High Watermark (OHW). A wide variety of public access opportunities are provided by public and private entities in Minnesota's Coastal Area. Table 1 provides a summary of access sites managed by state, county and municipal governments.

Table 1. Public Access Sites in the Coastal Area

Access Type	Current Number(s)	Change Since Last Assessment
State Parks	9 – 44,015 Acres	None
State Wayside	5 – 526 Acres	None
County Parks	0	None
Local Parks	74 – Unknown Acres	None
Beaches	79	Changed beach definition to match the BEACH Act.
Shoreline Access	15	Not counted in previous assessment.
Motorized Boat Access	23 (5 Marinas)	Marinas = None Motorized Access – 1 (Burlington Bay changed to non-motorized access)
Non-motorized Boat Access	10	+1
Designated Scenic Vistas & Overlook	29	Not counted in previous assessment.
State or Locally Designated Perpendicular Rights-of-Way (i.e. street ends, easements) (#)	Unknown	Unknown

Fishing Points (i.e. piers, jetties) (#)	5	None
Gitche Gami Bike Trail	40 miles planned 17 miles completed	+ 17 miles
Duluth Lake Walk	4.2 Miles	None
Lake Superior Water Trail	157 miles	+ 117 miles
Superior Hiking Trail	205 miles Developing 40 miles of new trails 7.5 miles are complete	+ 7.5 miles
State Park Hiking Trails	237 miles (dual use)	None
State Park X-Country Ski Trails	121 miles (dual use)	None
Ski Club, Municipal, and Private X-country Ski Trails	589 kilometers	None
State Park Horse Trails	103 miles	None
OHV Trails	56 miles	+ 56 miles
Snowmobile Trails	352 miles	None
ADA Compliant Access (%)	Unknown	Not counted in previous assessment.
Dune Walkovers (#)	4	Not counted in previous assessment.
Public Beaches with Water Quality Monitoring and Public Notice (% of total beach miles)	30.3 miles of shoreline at 39 beaches (52%) are monitored.	Not counted in previous assessment.
Beaches Closed due to Water Quality Concerns (# of beach mile days)	31 beach mile days (2004) 37 beach mile days (2005) Note: A total of 3636 beach mile days are monitored	Not counted in previous assessment.
Number of Existing Public Access Sites that have been Enhanced (i.e. parking, restrooms, signage) (#)	20 sites using CZMA 306A funds	Not counted in previous assessment.

Briefly characterize the demand for coastal public access within the coastal zone and the process for periodically assessing public demand.

Coastal recreation in Minnesota includes a diverse array of activities including, but not limited to, the following activities:

MOTORIZED ACTIVITIES:

- Water Based Boating, fishing and personal watercraft riding

- Land Based ATV, 4X4 and other off-highway vehicle use, scenic driving, fall color touring, and snowmobile riding

NON-MOTORIZED ACTIVITIES:

- Water Based Fishing, canoeing, sailing, SCUBA diving, swimming, kayaking, agate picking, wading, wave-watching and shore sitting

- Land Based Hiking, snowshoeing, bicycling, rock climbing, birding, hunting, ecotourism, downhill skiing, snow boarding, cross-country skiing, running/jogging, horseback riding, antler shed collecting, dog sledding, and rock collecting

The recently developed National Coastal Management Performance Measures System includes a measure of the “percent of public that feel they have adequate access to the coast for recreation purposes.” It is not currently known what the overall answer to this question is and even less well known how participants in each of the specific activities listed above feel about the adequacy of access for their particular form of recreation.

Identify any significant impediments to providing adequate access, including conflicts with other resource management objectives.

Minnesota, like any state, has a number of impediments to being able to meet the demands for public access in the coastal area. Minnesota has been quite successful at linking and integrating the objectives of many of its natural resource programs. Impediments therefore, are related less to conflicts with other resources management objectives, as they are to other factors.

Impediments include:

- Riparian ownership: Private interests control uses of land above the Ordinary High Watermark (OHW).
- Increased population: As more individuals move to the coastal area, less land becomes available to provide public access opportunities.
- Limited parking: Much of the existing lakeshore is inaccessible by roads or has insufficient parking available to accommodate the demand for shoreline use.
- Insufficient funding: State and Federal funding for activities related to public access is limited and not adequate to meet demands.
- Water quality: Increased use of lake and terrestrial resources can lead to degraded water quality.

Please explain any deficiencies or limitations in data.

More information is needed to determine public perception about the adequacy of public access and levels of use by people participating in the various types of recreational activities so appropriate priorities can be determined on types and locations of new or enhanced sites.

Does the state have a Public Access Guide or website? How current is the publication or how frequently is the website updated?

The Minnesota Department of Natural Resources (DNR) maintains a web site providing information on Outdoor Activities and Places: <http://www.dnr.state.mn.us/index.html>. From the website, visitors can access online maps (Recreation Compass), buy permits and licenses, access trail reports, search for fishing lakes and fish consumption advisories by lake (Lake Finder).

The DNR also maintains a Public Recreation Information Map series highlighting public lands and recreation opportunities. The maps are updated every 3 years, and available to the public for a fee. The state also provides free public boat access, snowmobile, ATV maps, and state park maps. The maps are available at area DNR offices.

The Minnesota Pollution Control Agency (MPCA) maintains the “Minnesota Beaches” web site: <http://mnbeaches.org> to provide information about 39-beach locations and the results of ongoing monitoring for human health related water quality issues. It is updated frequently during the summer based on a weekly (or twice-weekly for heavily used beaches) monitoring schedule.

Management Characterization

For each of the management categories, identify significant changes since the last assessment.

Table 2. Significance of Public Access Management Changes.

Management Category	Recent Changes
Statutory, Regulatory, Legal Systems	None
Acquisition Programs	Significant
Comprehensive Access Planning	Significant
Operation & Maintenance Programs	None
Innovative Funding Techniques	Significant
Public Education and Outreach	Moderate
Other: <u>None</u>	None

Statutory, regulatory, or legal system changes that affect public access

None

Acquisition Programs

Land and Water Conservation Fund [Public Law 88-578 (1964)]. The objective of the program is to encourage creation and interpretation of high quality, outdoor recreational opportunities. Funds for this program are spent on the acquisition of land for public outdoor recreational areas and preservation of water frontage and open space, and the development of public outdoor park and recreational areas and their support facilities. Funding is available for inland and coastal projects.

Though its competitive grant program MLSCP provides opportunities for acquisition through section 306A of CZMA (See table 3). MLSCP has also provided fund for land acquisition using Great Lakes Coastal Restoration funds.

Comprehensive Access Planning (including GIS Databases)

The Minnesota Department of Natural Resources completed a “State Comprehensive Outdoor Recreation Plan (SCORP) in 2001 that identified outdoor recreation priorities for the state of Minnesota. The SCORP is Minnesota's outdoor recreation policy plan. Key issues identified included:

- Establish outdoor recreation priorities for Minnesota that will help outdoor recreation and natural resource managers, the state legislature, and the executive branch make decisions about the state's outdoor recreation system.
- Set out criteria to allocate the federal Land and Water Conservation Fund investment consistent with the state's outdoor recreation priorities defined in this plan.

In addition, a 29-member planning team developed seven priorities for Minnesota outdoor recreation. These priorities include:

- 1) Protect and restore the natural resource base on which outdoor recreation depends-- Minnesota's lakes, rivers, streams, wetlands, grasslands and forests.
- 2) Sustain Minnesota's existing outdoor recreation facilities for future generations.
- 3) In areas of rapid population growth, reserve prime recreation lands--such as shoreland and significant natural areas--ahead of development and provide recreation facilities such as parks, trails and water accesses.
- 4) Respond to the demands of Minnesota's changing population.
- 5) Expand nature-based outdoor recreation experiences for youth living in urban areas through "close-by" access to natural areas.
- 6) Improve coordination of the recreation-related activities of governmental and non-governmental providers.
- 7) Understand the capacity of Minnesota's natural resources to support satisfying outdoor recreation opportunities.

The priorities outlined in SCORP are based on two guiding principles:

- Encouraging a better, highly integrated outdoor system that balances recreation and protection of natural and cultural resources.
- Strengthening the awareness of the connection between outdoor recreation and good health.

In 2005, MN DNR completed an Off Highway Vehicle (OHV) Study, which served as report to the chairs of the legislative committees with jurisdiction over natural resources policy and finance concerning the compatibility of multiple uses of the outdoor recreation system. The report addressed the current and future availability of recreational opportunities for non-motorized and motorized activities, and recommend legislative and policy changes to preserve natural resources and to assure the continued availability of outdoor recreation opportunities for all residents of this state. The report also addresses cost of maintenance, operation, and enforcement for the current off-highway trails system, including, but not limited to, how many miles of trails the department's off-highway vehicle budget will support. The report includes:

1. A detailed discussion of sources of revenue for trails;
2. An analysis of recent and projected expenditures from the off-highway vehicle accounts;
3. Information regarding all other sources of revenue used for off-highway vehicle purposes; and
4. A current GIS inventory of all the state forest roads and access routes, including designated off-highway vehicle routes and all motorized and non-motorized trails.

The study is available online at: <http://files.dnr.state.mn.us/aboutdnr/reports/trails/ohvstudy.pdf>

The DNR is currently conducting a forest-by-forest review of Minnesota State Forests to determine their appropriate classification with regard to Off-Highway Vehicle (OHV) use, and to evaluate overall motorized road and trail access to state forestlands. This process will continue through 2008.

On March 1 2006, the State of Minnesota Department of Natural Resources (MN DNR) released “All-Terrain Vehicle Use on the North Shore State Trail - A Feasibility Study.” The study examines the physical capacity of the North Shore State Trail (NSST), which originally was designated a winter use snowmobile trail, to accommodate summer ATV use.

The analysis determined which segments of the existing trail are capable of sustaining ATV travel. It examines surface water and wetland conditions, road and trail transportation systems, corridor use, land ownership and estimates the cost of necessary modifications. The analysis was accomplished with cooperation from state, county and federal land managers.

A GIS inventory of trail features was collected as part of the study. MN DNR staff inventoried approximately 143 miles of trail, identifying culverts; bridges, steep hills, intersections, and sections of trail requiring trail improvements to accommodate ATV use.

With the exception for the 6.4-mile segment already designated for ATV use, results of the study found that all or portions of the North Shore State Trail cannot support ATV traffic in its present condition. Improvements and modifications are necessary reduce the impact of ATV use. Such modifications will require additional planning, environmental review; and coordination with landowners, local governments and cooperating land-managing agencies.

The study can be read online at: http://www.dnr.state.mn.us/ohv/northshore_study.html

MLSCP has also completed an inventory of public access sites in the municipalities in the coastal area. This project included GIS data, maps, digital images and descriptive information for all of the known sites of public access to coastal resources. The data gathered are the basis for the numbers reported in Table 1. Additionally, the information will be used for planning projects such as the interpretation plan for the North Shore Scenic Byway (see below) and other recreational planning efforts.

Operation and Maintenance Programs

The DNR’s Division of Trails and Waterways is responsible for the operation and management of over 1,100 miles of state trails; 1,560 public water access sites; 280 fishing piers and shore fishing sites; Lake Superior Safe Harbors Program; and 26 designated canoe and boating routes, which offer over 3,400 miles of river recreation. Through grants-in-aid funding with local units of government, the Division administers more than 19,000 miles of snowmobile, off-highway vehicle, and cross-country ski trails. The Division of Parks and Recreation develops and manages a system of 66 state parks, six state recreation areas, and eight waysides.

Funding Sources or Techniques

In addition to the projects completed using Coastal Enhancement Program funding, MLSCP has provided financial assistance for a variety of projects to enhance public access using funding from Section 306/306a of the Coastal Zone Management Act. Table 3 lists Section 306a funded land acquisition projects for public access since the previous Assessment and Strategy Study.

Table 4 lists projects funded through Section 306/306a for public access enhancement in the coastal area since the previous Assessment and Strategy Study.

Table 3. MLSCP funded (Section 306a) projects for land acquisition to improve public access in the coastal area, 2001- 2005.	
Project Name	Federal Share
Land Acquisition of the Former U.S. Naval Reserve Site, Duluth, Minnesota	56,294
Split Rock Lighthouse State Park Land Acquisition	212,500
Grassy Point Trail - Land Acquisition	7,740
Spring Beauty Northern Hardwoods Scientific and Natural Area Land Acquisition	241,207
Total	\$517,741

Table 4. MLSCP funded (Section 306/306a) projects for public access enhancements in the coastal area, 2001 -- 2005	
Project Name	Federal Share
Cascade River Hiking Trail Improvements	10,881
Beaver Bay History Center	17,000
Lower Falls Hiking Trail Boardwalk	22,710
Gitchi-Gami State Trail (Beaver Bay Trail)	57,919
North Shore Water and Ice Safety/Rescue Program	34,400
Silver Bay Marina - Fish Cleaning Station	23,750
Grassy Point Trail - Property Appraisal for Land Acquisition	1,000
Grand Marais Trail Access	11,322
Cloquet Riverfront Park -Phase I Development	40,245
North Shore Scenic Drive Vistas and Activity Parking	46,132
Extending the Superior Hiking Trail through Duluth	15,100
Bird Hill: School Forest Interpretive Trail and Wetlands Boardwalk	3,865
Caribou Falls Hiking Trail	50,000
North Shore Scenic Drive Vistas - Phase II	25,133
Bird Hill: School Forest Interpretive Trail and Wetlands Boardwalk	3,824
Superior Hiking Trail Bridge - Caribou Falls State Wayside	24,927
Superior Hiking Trail Bridge - George H. Crosby Manitou State Park	27,494
Grassy Point Trail Construction - Phase II	97,726
Harbor Park Phase II	100,000
Two Harbors Trail System Construction - Phase I	53,000
Total	\$666,428

Public Education and Outreach (access guide or website, outreach initiative delivered)

MLSCP has partnered (through the 306 grant program) in many projects:

- Duluth Streams.org <http://duluthstreams.org/>
 - The website provides public access information on local communities, school activities, recreation opportunities available on local streams, and provides seasonal recreation activity information.
 - Received GLIN's site of the month award
 - Educates users on many other issues affecting local streams.
- Minnesota Beach Monitoring Program's Beach Data Viewer <http://mnbeaches.org/gmap/DataViewer.html>
 - Provides beach locations and their current advisory information.
- Duluth Stream Cards, collectable sets of cards featuring the City of Duluth streams
 - A popular reward for students attending area outreach and education events held by local environmental educators.
 - Cards feature recreation opportunities, along with maps of the stream watershed.
- Lake Superior: The Greatest Lake, a DVD featuring Lake Superior
 - More of an environmental outreach tool, this DVD highlights Lake Superior's unique features and opportunities.

Other significant changes since the release of the 2001 assessment and strategies include:

- DNR has opened the Moosewalk OHV trail near Finland;
- The McQuade safe harbor is nearing completion, with attention turning toward marina improvements in Grand Marias, and Knife River. Land has been recently acquired to build a marina in Two Harbors;
- The Great Lakes Shipwreck Preservation Society (GLSPS) is proposing to intentionally sink a vessel in the near shore waters of Lake Superior as a recreational dive site. The previous effort was successful in placing a small boat on the bottom near Beaver Bay. The new proposal proposes sinking a 621-foot bulk freighter in 100 feet of water near Split Rock Lighthouse State Park.
- The four Scenic Byways in the coastal area have made substantial progress in providing information about recreational activities and public access opportunities through coordinated planning with networked agencies and development of a website for Minnesota's Superior Scenic Byways: <http://www.superiorbyways.com/>.
- The North Shore Scenic Drive Report was released to address the recent designation of the North Shore Scenic drive as an All American Road. The goal of this project is to create a planning tool that helps local communities identify new recreational and interpretive opportunities along the North Shore while accommodating future growth in ways that preserve the region's aesthetic character, environmental health, economic vitality, and community livability. <http://ccl.gis.umn.edu/nssd.html>

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Each traditional or emerging recreational use reveals a conflict between motorized and non-motorized uses. Resource planners are able to work collaboratively across agencies, political boundaries and ideologies to address the collective needs for public access and recreation within the coastal area.

A wide variety of funding sources tend to drive access issues. Boat and snowmobile licenses and gasoline taxes provide revenue for the creation and maintenance of trails and water access. Other public demands for access to lands and waters are attained through state funded and private nonprofit funded sources for activities like hiking, biking and kayaking. This creates conflicts between the various user groups. MLSCP has been able assist in part by using 306 and 306a funding.

Large tracts of privately owned land are being sold and divided into smaller lots. Much of this land was commercial forestland, which provided public access to trails through easements, not to mention a valuable forest commodity. Loss of the easements could mean trail reroutes, or total loss of the trail system in some areas. Lost commercial forestland also applies more logging pressure on public and private forests where the coastal communities seek recreation.

Tied to the issues address here is the need for current, accurate and timely GIS data. Agencies involved in public access planning are often forced to create or do without key data when public access issues arise. MLSCP sees an opportunity to partner in data collection and development for public access planning and completion of annual NCMFMS reporting. By creating and maintaining public access data, MLSCP plans to provide a foundation for future public access planning efforts.

What priority was this area previously and what priority is it now for developing a 309 strategy and allocating 309 funding and why?

Last Assessment = **High** This Assessment = **High**

Justification of Priority

There is a large and diverse group of public access needs within the coastal area. These include everything from Scenic Byways, through local roads, trails, safe harbors, offshore diving, cultural resources and local picnic areas. There are also a large number of agencies and groups involved in planning for and meeting these needs. This further complicates the physical and social impediments identified earlier. The issue of public access, as described in this section, would clearly benefit from a more integrated approach by the many authorities and interests involved in this arena.

Strategy to meet Public Access needs

Goal 1: Create a Comprehensive Public Access Plan:

Program Change:

To develop a comprehensive public access plan for the MLSCP boundary.

Impact of the Change:

A comprehensive public access plan will provide improved access to coastal resources and will be the vehicle needed to address protection, preservation and acquisition of key recreational, historical, aesthetic, ecological and cultural sites for public enjoyment. This information will incorporate existing databases and newly acquired data to provide a more comprehensive picture of public access needs, opportunities, and resources in the coastal area. This plan will also be to used establish funding and outreach priorities for MLSCP's grant program. Maintenance of this information also contributes to the development and use of Public Access indicators that can be incorporated into the CZMA Performance Measurement System.

Appropriateness of the Change:

A comprehensive public access plan will identify needs and opportunities to maintain, enhance or preserve public access sites in the coastal area. MLSCP has access to available state and local data sources and possesses the administrative capacity to facilitate public access planning.

Resources such as area trails need to be identified, maintained, and enhanced. With the completion of parcel data within MLSCP's boundary using section 306 and local funds, MLSCP will be able to develop a comprehensive public access inventory for coastal management issues and complete the annual NCMPS report with more accurate data.

Work Plan:

Step 1, As part of NOAA's NCMPS, conduct a comprehensive assessment of coastal user needs and perceptions in order to better understand how to best provide future public access opportunities in the coastal area.

The state will develop and regularly conduct a comprehensive public access "user survey" to determine the current usage, future needs and public perception of public access facilities/opportunities within the coastal area.

The development of a coastal public access "user survey" using a draft protocol developed with NOAA's Coastal Services Center, will generate a realistic overview of current public access usage and future public access needs. These data will facilitate an overall assessment of recreational, historical, aesthetic, ecological and cultural sites that are available for public enjoyment. Survey data will be incorporated into existing databases to provide a more comprehensive identification of public access in the coastal area. Information from the survey will also be used to assist in setting priorities for financial assistance through MLSCP's local grants program, and in establishing funding and outreach priorities. Survey results will additionally be used to meet NCMPS reporting requirements.

Task 1, The RFP Process: Create a scoping document, and RFP using protocols developed by NOAA's Coastal Services Center. A vendor will be selected to assist in the public access survey.

Task 2, Survey design: MLSCP will seek input from stakeholders on a public access survey design. Working with MLSCP staff, vendor will finalize survey design.

Task 3, The Survey: Contracted vendor will conduct the public access survey, analyze survey data, and report to MLSCP on survey results.

Step 2, Expand MLSCP's GIS Public Access Data: MLSCP staff will expand the existing GIS database of public access sites to aid public access planning and priority setting for the coastal area. The GIS database will also be used in outreach activities and NCMPS reporting.

Step 3, Completion of a Comprehensive Public Access Plan:

Identify and incorporate existing access plans, public access survey data from step 1, and GIS data from step 2 to develop a comprehensive access plan.

Task 1, The RFP Process:

Create a scoping document, and RFP. A vendor will be selected to assist in the development of a comprehensive public access plan.

Task 2, Survey design:

The contracted vendor will facilitate plan development with involvement from stakeholders and MLSCP. A draft plan will be released for public review.

Task 3, Public Input:

During the public review period, the vendor will present comments to the stakeholder group for consideration.

Task 4, A Final Comprehensive Public Access Plan:

Upon completion of the plan, MLSCP and its partners will present the plan in hard copy and digital format.

Estimated Costs:

\$100,000 over 5 years.

2007	2008	2009	2010	2011	Total
10,000	10,000	10,000	40,000	30,000	100,000

Likelihood of Success:

With support from networked partners, MLSCP feels that this project is very likely to succeed. As a networked program, MLSCP has built solid partnerships in past projects, and continues to work regularly with local agencies. During the assessment phase, MLSCP received public comment addressing the need for a comprehensive public access plan. While many plans exist, they each focus on single recreation activities. No formal plan has addressed the wide variety of public access needs and opportunities in a unified manner throughout the coastal area.

COASTAL HAZARDS

Section 309 Programmatic Objectives

- I. Direct future public and private development and redevelopment away from hazardous areas, including the high hazard areas delineated as FEMA V-zones and areas vulnerable to inundation from sea and Great Lakes level rise.
- II. Preserve and restore the protective functions of natural shoreline features such as beaches, dunes, and wetlands.
- III. Prevent or minimize threats to existing populations and property from both episodic and chronic coastal hazards.

Resource Characterization

Characterize the general level of risk in your state from the following coastal hazards.

Lake Superior's large size and associated storms and waves provide the major forces, which act upon the coast. In addition, the area's steep slopes, clay soils and bedrock can contribute to flash floods in its tributary streams that in the past have damaged or destroyed roads, bridges and even whole hillsides. Shallow soils and prominent bedrock features of the region, coupled with streams that are heavily influenced by surface water flow create conditions of very high peak flows and very low base flow conditions which can lead to significant stream bank erosion. The lacustrine red clay soils in Carlton, St. Louis and Lake Counties are particularly prone to erosion and slumping, and are a major source of sediment to the lake. Minnesota Point, a large baymouth bar in Duluth, is subject to dune erosion and flooding during high lake levels. Episodic erosion of low-lying cobble beaches occurs farther north.

Table 6. Coastal Hazard Risks

Hazard	Risk
Hurricane/Typhoons	Low
Flooding	Low
Storm Surge	Medium
Episodic Erosion	High
Chronic Erosion	Medium
Sea/Lake Level Rise	Medium
Subsidence	Low
Earthquakes	Low
Tsunamis	Low
Other (Dune Erosion)	Medium

If the level of risk or state of knowledge about any of these hazards has changed since the last assessment, please explain. Also, identify any ongoing or planned efforts to develop quantitative measures for this issue area.

The level of risk has remained the same. At the time MLSCP has not identified ongoing or planned efforts to develop quantitative measures of this area.

Summarize the risks from inappropriate development in the state, e.g., life and property at risk, publicly funded infrastructure at risk, resources at risk.

Lake Superior is currently 8” below it’s normal June level. Lake levels were an issue five years ago, and continue to be an issue today. Landowners and developers have become aware of this trend, and often challenge local ordinances, and building setback requirements. Low priority funding for permit compliance monitoring, and development in remote areas provide an environment for a shoot first ask questions later mentality to development. Large condominium and town home development are replacing single-family dwellings. As impervious surfaces increase on the coastline, storm water damage is replacing damage created by wave action and higher lake levels.

Management Characterization

Indicate significant changes to the State hazards protection programs since the last assessment:

Table 7. Changes to Hazards Protection Program Since Last Assessment

Mechanism	Changes since Last Assessment
Building Restrictions	None
Methodologies for determining setbacks	None
Repair/rebuilding restrictions	None
Restriction of “hard” shoreline protection structures	None
Promotion of alternative shoreline stabilization methodologies.	Unknown
Renovation of shoreline protection structures	Unknown
Beach/dune protection	None
Permit compliance	Unknown
Inlet management plans	None
Special Area Management Plans (SAMPs)	Update to the North Shore Management Plan
Local hazards mitigation planning	None
Local post-disaster redevelopment plans	Unknown
Real estate sales disclosure requirements	None
Publicly funded infrastructure restrictions	None
Public education and outreach	Moderate
Mapping/GIS/tracking of hazard areas	2002 306 funded project – Oblique aerial photography.

For categories with changes:

- ***Summarize the change***
- ***Specify whether it was a 309 or other CZM driven change and specify funding source***
- ***Characterize the effect of the changes in terms of both program outputs and outcomes***

Public Education and Outreach

The increase in public education and outreach is tied, in part, to the Lake Superior Shoreline Protection Program, which is funded through a Clean Water Partnership (CWP) grant. CWP projects included the Nemadji River Basin Clean Water Project, St. Louis River Mercury Reduction Pilot Project, Midway River Watershed Restoration, Fond du Lac Nonpoint Source Assessment and Management Plan, Shared Coastal Zone Engineering Assistance, Nonpoint Source Analysis of the Nemadji River and St. Louis River, Great Lakes Erosion Control, and St. Louis River Phosphorus Abatement, and Reduction. Three coastal counties (St. Louis, Lake, Cook) provide low interest loans and technical services through the SWCDs for controlling erosion within the Lake Superior watershed. The program has been effective in Lake and Cook Counties where a request has been made for additional CWP funds. (A portion of the money is also set aside for loans to upgrade failed septic systems within the same area). The success of this program is due to both the recognition of a need as well as effective outreach/education by SWCD staff in helping to publicize and work with those who stand to benefit from the loans. A limitation to its greater success is the high cost that is required for some of the erosion control projects (availability of large rock for rip rap, hauling rates, etc.).

SAMP

By adopting the North Shore Management Plan standards for erosion hazard zones into local zoning ordinances, new construction has been set farther back and there has been an increase in public knowledge and acceptance of these hazard zones. In addition, through grants, loans, and cooperative actions with other agencies, the coastal SWCDs have been effective at protecting the more serious coastal erosion hazard areas. The DNR Area Hydrologists provide needed technical support on coastal projects.

Mapping/GIS/tracking of hazard areas

The 2002 oblique photography project has provided planners and decision makers with a tool for examining and analyzing Lakes Superior's shoreline. State and LGU staff can use oblique photos in site analysis using existing GIS data like erosion hazard areas, topography, soils and aerial photos. With an update of oblique photography, staff will be able to compare photos to look for changes in shoreline integrity, and development impact.

Discuss significant impediments to meeting the 309 programmatic objectives (e.g., lack of data, lack of technology, lack of funding, legally indefensible, inadequate policies, etc.)

Although significant progress has been made over the last ten years in helping to address the major coastal hazards on Lake Superior, more is needed. The current low water period tends to foster an air of complacency that may change when Lake Superior enters its next high water cycle of increased storms and coastal erosion. Data and benchmarks established during the 1980's should be re-examined and set so that the coastal hazard areas and their associated recession rates can be more accurately defined. There is a significant lack of current and past data to assist in this effort. The use of GIS and GPS technology can make this an effective tool for local zoning administrators in managing their erosion hazard areas. Without high quality data, there may be a lessening of the public's acceptance of the hazard areas, especially, during periods of relatively low erosion and storm activity.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There is a need to further develop the technical capability of local governments. Most local governments do not have the technical capability to develop appropriate authorities to adequately manage the lakeshore resources. Strategies to address these needs are included with the section on cumulative and secondary impacts.

There is a need to re-examine and update recession rates within erosion hazard areas and put the information into GIS format so that it can be used in local permit activities, and support updated zoning ordinances. Analysis should be extended to include the identification of high erosion areas on the streams that lie within the coastal area. Red clay slump and bank erosion sites are not inventoried in a GIS. Storm events and springtime thaw often color the off shore area red with clay sediments. Sediment impact on water quality and trout habitat, and erosion damage to local property remains a concern in these areas.

Minnesota lacks important data to effectively monitor coastal hazards. An update of existing Oblique photography, high-resolution vertical photography (under one meter), LIDAR data, and GPS technology would help MLSCP and its coastal communities establish a baseline coastal hazard data set. Baseline data would need to be maintained with a frequency of five years to effectively monitor recession rates, erosion hazard areas, and land use changes.

The Lake Superior coastline would be needed as the highest priority area. Additionally, identification and management of inland erosion areas along Minnesota's streams are also needed.

What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment = **Medium** This Assessment = **Medium**

Justification of Priority

Because private ownership along Lake Superior extends to the Ordinary High Watermark (OHW), the state has limited control over the uses above this datum. Even in areas of privately owned sand dunes, the state does not regulate the use of the sand dunes as a natural resource area. The regulation of erosion control structures, buildings, ancillary structures, and uses is primarily the responsibility of local governments.

Coastal hazard data collection needs far exceed MLSCP's 309 funding. If possible, MLSCP may seek project partners to cooperate on a 306-funded project.

MLSCP has determined that staff and funding is too limited to address Coastal Hazards within the 309 program at this time. With the exception of NCMPS reporting, Coastal Hazard needs in this section will be addressed in the Cumulative and Secondary Impacts section of this document. MLSCP will also seek partners in addressing Coastal Hazards through the 306/306A grant program.

Strategy to Meet Coastal Hazard Needs

MLSCP will update, create, and maintain necessary data to complete NCMPPMS reporting.

Goal 1: NCMPPMS reporting

Program Change:

Create coastal hazards data for NCMPPMS reporting, local planning and land use decision-making.

Impact of the Change:

Minnesota's coastal hazard data is very limited. Data currently available to MLSCP was created in 1999, and contains documented accuracy issues. Current data is also at a scale not compatible with the fine detail required to support land use decision-making processes.

Appropriateness of the Change:

NCMPMS is a direct response to Congressional requests for performance measures to assess the national impact of CZMA programs and to recommendations by the Office of Management and Budget that CZMA programs develop outcome-oriented performance measures to demonstrate program effectiveness. Data created for NCMPPMS reporting would be shared with coastal communities for use in planning efforts.

Work Plan:

Step 1, Update and improve Coastal hazard GIS data:

The existing erosion hazard area information was created in 1999. MLSCP staff will correct inaccuracies in the shoreline alignment. After the alignment has been corrected, hazard areas will be field verified and status updated. MLSCP staff will work with program partners to identify errors or changes in the data. Using an existing permit tracking system; staff will identify and inventory erosion stabilization efforts within the program boundary.

Step 2, Create GIS coverage of land protected by setback requirements:

MLSCP staff will identify setback requirements on tributaries and lakeshore segments within the program boundary. Staff will complete GIS line data of setback requirements using the updated coastal hazard data as a base. Upon completion of the line data, buffers based on setback requirements will be created.

Step 3, Distribute data to MLSCP partners:

Coastal hazard data will be distributed to MLSCP partners for incorporation into local planning efforts and decision-making. Data will be delivered through ongoing or newly initiated technical assistance efforts as appropriate and included with existing GIS tools and datasets provided by MLSCP.

Estimated Costs:

\$20,000 over three years

Goal	2007	2008	2009	2010	2011	Total
Goal 1 - NCMPPMS Reporting	10,000	5,000	5,000			20,000

Likelihood of Success:

Success is very likely. Source data and staff are in place to complete this goal. Completion may depend on last minute changes to the NCMPPMS requirements and available funding. MLSCP is committed to working with NOAA on developing the required NCMPPMS data to the extent that funding allows.

LAKE SUPERIOR RESOURCES

Section 309 Programmatic Objectives

- I. Develop and enhance regulatory, planning, and intra-governmental coordination mechanisms to provide meaningful state participation in ocean and Great Lakes resource management and decision-making processes.
- II. Where necessary and appropriate, develop a comprehensive ocean and Great Lakes resource management plan that provides for the balanced use and development of ocean and Great Lakes resources, coordination of existing authorities, and minimization of use conflicts. These plans should consider, where appropriate, the effects of activities and uses on threatened and endangered species and their critical habitats. The designation of specific marine protected areas should be considered.

Resource Characterization

Lake Superior is the largest of the Great Lakes and has the greatest surface area of any freshwater lake in the world. It contains almost 3,000 cubic miles of water, an amount that could fill all the other Great Lakes plus three additional Lake Eries. This is about 10 percent of the world's fresh water. With an average depth approaching 500 feet, Lake Superior also is the coldest and deepest of the Great Lakes. The Lake is of regional importance as it is bordered, and shared, by the States of Michigan and Wisconsin. It is of international significance because it is bordered and shared with the sovereign nation of Canada and discharges to all of the other Great Lakes. Lake Superior has unique conditions that support a wealth of biological diversity, including many plant and animal species found nowhere else in the world. The water of Lake Superior serves many purposes. It supports commercial and sport fishing industries. It provides industrial process and cooling water, and water for recreational and agricultural interests. Fleets of freighters pass over the Lake carrying bulk commerce items. Lake Superior serves as a source of drinking water, as a place for swimming and fishing, as a scenic wonderland, and as a sink for municipal and industrial waste and runoff from the surrounding lands.

The Great Lakes Commission

Today, the states and nations surrounding Lake Superior, and those bordering all of the Great Lakes, work together to coordinate, plan, study, protect, and restore the resources of the Lakes. Several organizations support these efforts. The Great Lakes Commission (GLC) is a binational public agency dedicated to the use, management and protection of the water, land and other natural resources of the Great Lakes-St. Lawrence system. In partnership with the eight Great Lakes states and provinces of Ontario and Québec, the Commission applies sustainable development principles in addressing issues of resource management, environmental protection, transportation and sustainable development. The Commission provides accurate and objective information on public policy issues; an effective forum for developing and coordinating public policy; and a unified, system wide voice to advocate member interests.

The Council of Great Lakes Governors

The Council of Great Lakes Governors (CGLG) was first established in 1983 to encourage and facilitate environmentally responsible economic growth. This is accomplished by establishing a cooperative effort between the public and private sectors among the eight Great Lakes states and

with the Canadian provinces of Ontario and Quebec. Through the Council, Governors work collectively to ensure that the entire Great Lakes region is both economically sound and environmentally conscious in addressing today's problems and tomorrow's challenges. The CGLG is involved with such issues as water management, trade, and aquatic invasive species.

The U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) also has significant authority over managing Great Lake Resources and maintains a Great Lakes National Program Office (GLNPO) in Chicago Illinois to support its activities. Under the Clean Water Act, EPA has been given lead responsibility to develop a long-term comprehensive Lakewide Management Plan (LaMP) for Lake Superior and Remedial Action Plans (RAPs) for specific Areas of Environmental Concern (AOCs). Minnesota has been a full and active participant in the LaMP process. In addition to LaMPs, the Clean Water Act also requires states to establish the Total Maximum Daily Loads of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Binational Program

The International Joint Commission recommended that Lake Superior be designated as a demonstration area where discharges and emissions of toxic substances that are long-lived in the environment and build up in the bodies of humans and wildlife, would not be permitted. In response, Canada and the United States developed A Binational Program to Restore and Protect the Lake Superior Basin. This program has focused on the entire ecosystem of Lake Superior, its air, land, water and human and wildlife. Government and tribal agencies and interested groups from Michigan, Minnesota, Ontario and Wisconsin, along with both federal governments, have taken steps that will restore degraded areas and protect this unique headwater lake through activities such as pollution prevention, enhanced regulatory measures and cleanup programs. With citizen and stakeholder partners, most notably the Lake Superior Binational Forum, objectives have been identified and a vision established for the cleanup and protection of the lake. The governments have funded pollution prevention activities, research to characterize the lake ecosystem and identify the sources of pollutants and their effect on life, and projects to clean up, restore and protect habitat. <http://www.epa.gov/glnpo/lakesuperior/index.html>

Another comprehensive lake-wide resource management effort underway is the interagency management of fishery resources through the Great Lakes Fishery Commission (GLFC). The interagency management of fishery resources in the Great Lakes was formalized in the 1980s when a Joint Strategic Plan for Management of Great Lakes Fisheries was ratified by the heads of federal, state, provincial, and tribal resource agencies concerned with these water bodies. The Joint Plan implemented a framework for cooperative fishery management under the aegis of the Great Lakes Fishery Commission (GLFC). The Joint Plan established procedures for achieving a consensus approach among Great Lakes fisheries-management agencies. The Joint Plan ensures that each agency has a stake in the entire system and recognizes that the interactions among fish species are important in the overall management of the Lakes' fisheries.

It is through cooperative efforts like these that Minnesota has maintained a meaningful role in Lake Superior resource planning and decision-making. Chief among these is Minnesota's firm resolution against inter-basin transfer of waters, which is shared by all the other Great Lakes states.

Fisheries

Minnesota's Lake Superior Fishery and its associated trout streams and migratory fish are particularly important resources because of their state, national and international value. Table 8 provides a brief summary of the primary threats to lake resources in Minnesota's Coastal Area. The threats are many and varied.

Marine Protected Areas

The Great Lakes Shipwreck Preservation Society (GLSPS) is proposing to intentionally sink a vessel in the near shore waters of Lake Superior as a recreational dive site. A previous effort was successful in placing a small boat on the bottom near Beaver Bay. The new project proposes sinking a 621-foot bulk freighter in 100 feet of water near Split Rock Lighthouse State Park.

Management and protection of submerged historic and cultural resources in the Minnesota waters of Lake Superior is governed by a relatively limited set of laws. (See "Beneath Minnesota's Waters: Minnesota's Submerged Cultural Resources Preservation Plan", prepared in 1997 by the State Historic Preservation Office, Minnesota Historical Society, for a legislative overview.) A feasibility study would provide the vehicle to inventory, monitor, and protect submerged historic resources.

Table 8. Great Lakes resources and uses of state concern

Resource or Use	Threat or Conflict	Degree Of Threat	Anticipated Threat or Conflict
Habitats and Species	Aquatic invasive species (AIS); non-point pollution/runoff; human development	High	Loss of habitat for fish and wildlife species; affects commercial/sport fishing, tourism, recreation industries.
Water Quality	Non-point source pollution/runoff; contaminated sediments; nuisance algae	Medium	Threat to human and wildlife/fish health; affects economic health
Water Quantity	Water diversions/consumptive uses	Medium	Threat to ecosystem services, habitats, economic health, human health.
Waterborne Transportation	Sedimentation/dredging; AIS; conversion of waterfront land to non-water dependent uses	Medium	Threat to water quality, habitats, wildlife/fish health, economic health

Describe any changes in the resources or relative threat to the resources since the last assessment.

Research continues to assess the changes taking place in Lake Superior fish populations. There is concern about exotic species (zebra mussels, ruffe, spiny tailed water flea, sea lamprey) and their effects. These and the complexities of other changes within both the human and natural systems make fisheries management a continual challenge. DNR Fisheries is an active participant on the Great Lakes Fishery Commission.

Management Characterization

Table 9. Great Lakes management programs and initiatives developed since the last assessment:

Program	Status	Funding Source
Statewide comprehensive ocean/Great Lakes management statute	No	
Statewide comprehensive ocean/Great Lakes management plan or system of Marine Protected Areas	No	
Single purpose statutes related to ocean/Great Lakes resources	No	
Statewide ocean/Great Lakes resources planning/working groups	No	
Regional ocean/Great Lakes resources planning efforts	No	
Ocean/Great Lakes resources mapping or information system	Developing	CZMA 306
Dredged material management planning	Developing	Other
Habitat research, assessment, monitoring	Yes	Other
Public education and outreach efforts	Yes	CZMA 306 and 309

For categories with changes:

- *Summarize the change*
- *Specify whether it was a 309 or other CZM driven change and specify funding source*
- *Characterize the effect of the changes in terms of both program outputs and outcomes*

Dredged material management planning

Work is ongoing for the development of a dredge material management plan for the Duluth/Superior Harbor. Funding for this effort includes a complex mix of state (MN and WI, Federal (Army Corps of Engineers and others), local and private sources. Habitat research, assessment, and monitoring are ongoing parts of Lake Superior fisheries management and lake-wide management planning (see above). Public education and outreach involving citizen participation on fisheries management issues are ongoing through both local and statewide fishing roundtables.

Habitat research, assessment, monitoring

The Minnesota Department of Natural Resources recently initiated an update of the Fisheries Management Plan for the Minnesota Waters of Lake Superior. A public involvement process was used to solicit public review and comments. The draft plan was developed by Department of Natural Resources (DNR) fisheries managers and the Lake Superior Advisory Group, a citizen's input group comprised of representatives from fishing clubs, environmental groups, commercial fishers, Indian bands, and other interested individuals or organizations. The long-term goal of the proposed plan is: "To protect the Lake Superior ecosystem, restore its watershed, and manage for a diverse, stable, self-sustaining fish community that allows for recreational, commercial and tribal fishing opportunities." For more information on the status of the draft plan see: <http://files.dnr.state.mn.us/areas/fisheries/lakesuperior/lsmppinput.html>.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There is an ongoing need for fisheries population monitoring and modeling. Continued efforts in planning at lake and regional scales are needed.

A marine protected area feasibility study would provide the vehicle to inventory, monitor and protect submerged historic resources.

What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment = **Medium** This Assessment = **Medium**

Justification of Priority

Lake Superior fisheries and its associated trout streams provide both quality and unique recreational opportunities to the fishing public. Public support and interest is high in seeing these resources maintained. Funding for ongoing management continues to be provided through fishing licenses and the state trout stamp.

Local anglers and angling groups recognize and support watershed management efforts because of their direct link to a healthy anadromous Lake Superior fishery. The overall quality of inland trout streams and near-shore coastal waters would benefit from increased watershed management and stewardship efforts similar to those currently in place on the Knife, Flute Reed and Nemadji Rivers (supported by the SWCDs). More coordinated, integrated interagency efforts in watershed management are needed. Strategies to address this need are included in the section on cumulative and secondary impacts.

Strategy to meet Lake Superior Resources needs

Conduct a marine protected area feasibility study within the program boundary. As a networked program, MLSCP will work with partners in addressing Lake Superior Resources through existing programs and the 306/306A grant program.

Goal 1: Create a Marine Protected Area Plan:

Program Change:

A Marine Protected Area Plan incorporated into MLSCP.

Impact of the Change:

A marine protected area plan does not currently exist in Minnesota. There are no designated marine protected areas within Minnesota's coastal area.

Appropriateness of the Change:

A marine protected area plan would provide the vehicle to inventory, monitor, and protect submerged historic resources and aquatic natural resources. Public access to and understanding of significant submerged cultural resources and aquatic natural resources would be enhanced.

Step 1, Seek Project Partners:

Identify the major stakeholders, and form a MPA planning group.

Step 2, Complete RFP Process:

The MPA planning group will create a scoping document, followed by a formal RFP. The MPA planning group will review RFPs and select a vendor. MLSCP will contract to complete the plan.

Step 3, Complete the Plan:

Contractor will complete the MPA plan with input and guidance from the MPA planning group and MLSCP.

Estimated Costs:

\$40,000 over five years.

Goal	2007	2008	2009	2010	2011	Total
Goal 1 - MPA Plan				20,000	20,000	40,000

Likelihood of Success:

Numerous highly significant sites containing submerged cultural resources are well documented in the Minnesota waters of Lake Superior. Other historically significant shipwrecks are being discovered and documented annually. The proposed study has a high likelihood of success, and is one step toward active protection of historic resources. Funding for the plan may be limited, which sets it as a medium priority. MLSCP will need to seek increased 309 funding to start the study, or identify other project partners willing to bring funding to the table.

WETLANDS

Section 309 Programmatic Objectives

- I. Protect and preserve existing levels of wetlands, as measured by acreage and functions, from direct, indirect and cumulative adverse impacts, by developing or improving regulatory programs.
- II. Increase acres and associated functions (e.g., fish and wildlife habitat, water quality protection, flood protection) of restored wetlands, including restoration and monitoring of habitat for threatened and endangered species.
- III. Utilize non-regulatory and innovative techniques to provide for the protection, restoration, and acquisition of coastal wetlands.
- IV. Develop and improve wetlands creation programs.

Resource Characterization

Along with over 15,000 lakes, Minnesota has 10.6 million acres of peatlands, bogs, marshes, and wet meadows. These highly diverse groups of surface or near-surface water features are collectively called wetlands and cover 24.4 percent of the state. Historically, wetlands were spread across Minnesota, dotting the landscape. Minnesota, like other states, has lost a large portion of its original wetlands, and with them, the biodiversity and hydrologic functions they provided.

However, the North Shore of Lake Superior was never blessed with an abundance of coastal wetlands or estuaries. The terrain largely is not conducive to the formation of coastal wetlands due to a combination of geology, topography, very thin topsoil and the effects of large waves from Lake Superior. Consequently, coastal wetlands that do exist along the North Shore are especially significant and serve extremely important natural resource functions.

The exception to these environmental conditions preventing the establishment of extensive coastal wetlands is found in the St. Louis River estuary. This large freshwater estuary is a drowned river mouth, protected by a long, sandy bay-mouth bar. It is strongly influenced by wind-induced seiche effects and minimally influenced by tidal water level fluctuations (Trebitz, A. S. 2006. Characterizing seiche and tide-driven daily water level fluctuations affecting coastal ecosystems of the Great Lakes. *J. Great Lakes Res.* 32:102-116). During the previous assessment period a habitat plan was developed for the St. Louis River estuary. According to this plan, of the original 12,000 acre freshwater estuary, *“approximately 3,000 acres of shallow water wetland habitat has been lost as a result of intentional filling, and approximately 4,000 acres of the estuary have been dredged or deepened for navigation”* since it was originally charted in 1861. *“Despite these significant changes, the Lower St. Louis River still provides vital habitat for fish, nesting colonial waterbirds and waterfowl, migratory shorebirds and songbirds and many other animals.”* (St. Louis River Citizens Action Committee. 2002. Lower St. Louis River Habitat Plan.)

Table 10. Extent of coastal wetlands.

Wetland Type	Extent (acres & year of data)	Trends ("acres/year)
Tidal/seiche influenced	1,300	NA*
Non-Tidal/Freshwater	116,208	NA*
Publicly Acquired	Unknown	
Wetlands	117,507	NA*
Restored Wetlands	Unknown	
Created Wetlands	Unknown	
Other		

*Data are based on the National Wetland Inventory GIS coverages (1994 data) which have not been updated since the previous assessment.

If information is not available to fill in the above table, provide a qualitative description of wetlands status and trends based on the best available information. Also, identify any ongoing or planned efforts to develop quantitative measures for this issue area. Provide explanation for trends.

All four of Minnesota’s coastal counties have over 80% of their original (pre-settlement) wetlands remaining: Carlton, 93.3%; Cook, 100%; Lake 97.5%; St. Louis, 93.9%. Compared with much of the southwestern and western part of Minnesota where less than 50% of pre-settlement wetland acreage remains (Anderson and Craig, 1984). When compared to total area, wetlands cover, 15.8% of Cook County, 24.8% of Lake County, 30.8% of St. Louis County and 34.4% of Carlton County. Although these are approximate countywide figures, they do show the high percentage of remaining wetlands and the large proportion of land in northeastern Minnesota that is covered by wetlands.

When viewed from a drainage-basin perspective, 24% of the Lake Superior - North Basin and 19% of the Lake Superior - South Basin are wetlands. These basins drain directly to Lake Superior through numerous small to medium-sized rivers and streams. Other basins farther inland, which also drain to Lake Superior, have higher percentages of wetland (St. Louis River, 43%; Cloquet River, 38%). The difference reflects the steep slopes, shallow soils and bedrock outcrops in the Lake Superior basins, which are located within the coastal area and limit the development of natural wetlands.

In the Minnesota Board of Water and Soil Resources 2001-2003 Wetland Report, (<http://www.bwsr.state.mn.us/wetlands/wca/compwetlandplans.html>) an analysis of data reported in compliance with Minnesota’s Wetland Conservation Act (WCA) found a statewide net loss of 1,367 (average of 456/year) acres over 2001-2003. Wetland numbers are tallied by counting acres impacted through reported exemptions, regulated impacts, and required mitigation. Nine separate categories of activities are exempt from regulation under WCA. These exemptions make it difficult to track net wetland gains and losses, but may be necessary to gain public support for the Act. Exempt activities are legal, and local governments are not required to approve or track exemptions. Local governments do not track data on wetlands lost due to exempt activities.

Table 11. WCA Data Reported by Local Government Units: 2001-2003 **

County	Landowner Contacts	Acres Avoided	Acres Minimized	Acres Replaced	Acres Drained/Fill
Carlton	200	17	9	19.5	8.13
Cook	58	18	7	0	.13
Lake	115	8	3.9	5.67	5.66
St. Louis	8,296	64.74	19.2	110.98	93.13

** Numbers reflect countywide WCA activity, including activity outside of MSLP program boundary.
 Data source = 2001-2003 Minnesota Wetland Report available at:
www.bwsr.state.mn.us/wetlands/publications/wetlandreport.pdf

Table 12. Direct and Indirect threats to coastal wetlands

Threat	Significance
Development/fill	Low
Alteration of hydrology	Unknown
Erosion	Low
Pollution	Low
Channelization	Low
Nuisance or exotic species	Low
Freshwater input	Low
Sea/Lake level rise	Unknown
Other	Unknown

The current threat to Minnesota’s coastal wetlands is deemed to be low, based on the “Local Government Annual Reporting System” (LARS) reporting information submitted by each of the coastal counties. LARS data is only general for each county and does not show actual locations.

Undisturbed wetlands may mask their true value and appreciation among the public and local decision makers. Stormwater retention and flood control are other natural functions that many wetlands provide. Updated wetland data, are needed for future land use planning and decision-making. Information and education are both needed to move wetland protection away from strictly bureaucratic requirements to those involving public acceptance and stewardship.

Management Characterization

Minnesota’s Wetlands Conservation Act (WCA) was adopted in 1991, fully implemented in 1994 and substantially amended in 2000. It is administered by the Minnesota Board of Water and Soil Resources (BWSR) and managed by local governmental units. At its heart lies the goal of achieving no further net loss of wetland through a sequencing of steps to first avoid, and then minimize or replace impacted wetlands. Annual reports on wetland protection efforts under the Act began in 1994. Those wetlands that remain under direct Minnesota Department of Natural Resources (DNR) regulatory authority in the coastal area are generally small, unnamed lakes having a DNR shoreland management classification, where local shoreland management ordinances are in effect. During the 2000 legislative session, WCA was amended (see Laws of Minn. 2000, Chapter 382, formerly referred to as S.F.83) to (1) allow DNR to waive its permit jurisdiction to local units of government for projects affecting “public waters wetlands” and (2) require the DNR to update and correct its 25-year old Public Waters Inventory (PWI). At the present time, DNR is converting PWI maps to a vector GIS format for all of Minnesota, including

the four North Shore counties. MLSCP is contributing to the revision of these maps, within the limitations of its staff and funding.

Table 13. Section 306 funding used in updating wetland mapping:

Section 306 funding used in updating wetland mapping	
Wetland Inventory and Evaluation for the City of Duluth	31,500
Wetland Inventory and Classification for Coastal GIS: Phase 1: Knife and Poplar River Watersheds.	39,999
Wetland Inventory and Classification for CoastalGIS: Phase 2: Grand Marais and Beaver Main Stem	34,999
Inventory and Classification of North Shore Wetlands for the Coastal GIS Project	24,565
Total	\$49,1063

Table 14. Significant changes since the last assessment:

Mechanism	Changes Since Last Assessment
Regulatory program	Moderate
Wetland protection policies and standards	None
Assessment methodologies	Moderate
Impact analysis	None
Restoration/enhancement programs	None
Special Area Management Plans (SAMPs)	Moderate
Education/outreach	Moderate
Wetland creation programs	None
Mitigation Banking	None
Mapping/GIS/Tracking Systems	Significant
Acquisition programs	None
Publicly funded infrastructure restrictions	None

At the local governmental level, both St. Louis and Lake Counties developed comprehensive wetland protection and management plans in 1999, enabling them to adapt the standards of the Wetland Conservation Act to fit within local zoning authority. For example, Lake County uses functional wetland analysis to determine its wetland impacts and has combined its wetland, erosion and vegetation control into one permit inspection. Initiated by seed money from the county local water plan, the Lake County Land Use Department now budgets \$15,000/year for enforcement of this ordinance.

Both the Cities of Duluth and Hermantown have long standing wetland ordinances. The City of Duluth is working on a new comprehensive plan and has received 306 funding to update its wetland inventory. The city of Hermantown received 306 funds to create a GIS wetland inventory and comprehensive wetland plan. The city of Cloquet also received 306 funds to create a comprehensive wetland plan.

For categories with changes that are identified as significant or moderate provide the following information for each change:

- *Identify the change and whether it was a 309 change (if not a 309 change, specify funding source)*
- *Briefly summarize the change*
- *Characterize the effect of the change*

Regulatory program

As mentioned above, the legislative changes enacted in 2000 (see Laws of Minn. 2000, Chapter 382, formerly referred to as S.F.83), did not substantially change the way in which wetlands are protected and regulated in Minnesota. The primary emphasis has been to allow local units of government to administer wetland protection programs (e.g. wetland mitigation, permitting, replacement and banking), while maintaining BWSR as the oversight agency and the DNR as the enforcement agency. These efforts are funded on a statewide basis by the Minnesota legislature. There has been no dedicated State funding to accelerate or expand wetland-mapping efforts within the coastal area.

Assessment methodologies

The wetland assessment methodologies used to administer and enforce both the 1991 Wetland Conservation Act (as amended) and the DNR's public waters regulatory program have been established by statewide administrative rules (see Minnesota Rules Chapters 8400 and 6115). These rules are jointly "overseen" by BWSR and DNR. All activities affecting wetlands in Minnesota are subject to the methodologies established by these rules.

Impact analysis

"Minnesota Routine Assessment Methodology for Evaluating Wetland Functions". Board of Water and Soil Resources, Version 3.0, April 2004. Access to MnRAM support materials including Access database, GIS layers, and guidance documents are made available online. <http://www.bwsr.state.mn.us/wetlands/mnram/index.html>

Special Area Management Plans (SAMPs)

DNR Fisheries has been involved in the designation and acquisition of Aquatic Management Areas (AMA). This designation protects riparian lands including wetlands important to fisheries management. Although a successful program, an outreach and education component may be needed to raise awareness of these areas to the public and local enforcement.

Education/outreach

BWSR published "The Wetland Conservation Act (WCA) Manual" In 2003, and updated it in September 2004. While not a 309 funded publication, the manual provides a background on Minnesota's wetland conservation act, and provides information on WCA exemptions, minimizing wetland impact, replacement programs, and wetland banking procedures.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

MLSCP plans to continue using 306 funds and local partnerships to update wetland maps within the MLSCP boundary. Current hydrologic data is needed to allow agencies within the coastal boundary to analyze spatial relationships and potential impact to designated trout waters, and natural and human resource values. Quality data will allow users to identify wetlands at greatest risk and enhance local wetland and watershed management initiatives.

What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment = **Medium** This Assessment = **Medium**

Justification of Priority

The potential impact to wetlands and related water resources rises with increased development. Elements related these impacts are addressed in the strategies for cumulative and secondary impacts.

Strategy to meet Wetlands needs

MLSCP will update, create and maintain data required to complete NCMPMS reporting.

Goal 1: NCMPMS reporting

Program Change

Collect habitat data to complete NCMPMS reporting.

Impact of the Change

Minnesota is host to many forms of terrestrial habitat data with varying detail. Much of the data are not complete throughout the entire coastal area. This performance measure will require a great deal of data research and analysis into the availability and suitability of habitat data.

Appropriateness of the Change

NCMPMS is a direct response to Congressional requests for performance measures to assess the national impact of CZMA programs and to recommendations by the Office of Management and Budget that CZMA programs develop outcome-oriented performance measures to demonstrate program effectiveness. Data created for NCMPMS reporting would be shared with coastal communities for use in planning efforts.

Work Plan:

Step 1, Develop Coastal Habitat Performance Tracking:

Create habitat performance measures database. This will require combining permit data from multiple sources ranging from handwritten paper records to AS400 databases. Track and log permitting activities.

Step 2, GIS Analysis

As part of NCMPMS reporting, under coastal water quality (WQ5), track CZMA funded capacity building within the 8-digit watersheds fully or partially in MLSCP's boundary. As part of NCMPMS reporting, under coastal water quality (WQ6) Assess impaired waters inventory where nonpoint source pollution is the primary source of contamination of coastal waters.

Estimated Costs

\$15,000 over three years

Goal	2007	2008	2009	2010	2011	Total
Goal 1 - NCMPMS Reporting	10,000	2,500	2,500			15,000

Likelihood of Success:

This project is very likely to succeed with support from networked partners. Step one and part of step two will require data and support from its partners. MLSCP has built solid partnerships in past projects, and continues to work regularly with local agencies. Completing this goal will also depend on details yet to be worked out regarding data requirements at the federal level. MLSCP is committed to working with NOAA on developing PMS data requirements and delivering the data to the extent that funding allows.

CUMULATIVE AND SECONDARY IMPACTS

Section 309 Programmatic Objectives

- I. Develop, revise or enhance procedures or policies to provide cumulative and secondary impact controls.

Resource Characterization

Minnesota's coastal area remains 95% forested, with 18% consisting of wetlands. Migratory trout depend on the health of 62 DNR-designated trout streams, which stretch 136 miles. The continued protection of coastal trout streams depends on a relationship with a well maintained diverse forest cover and adjacent wetlands. This natural infrastructure is required to sustain the cool, clear water essential for the fishery. Urban and recreational development expansion will require great care to provide protection, restoration and stabilization of soils, vegetation, and wetlands.

The combination of a healthy, growing economy, new patterns for work (e.g. telecommuting and e-commerce) and the attractions of the coastal area for residential and recreational development (fueled by the baby-boomers retirement), mean that it is only a matter of time before the area is faced with significant new pressures for development. This is already taking place in areas adjacent to Duluth and other areas along the shore. In 1999, Minnesota's Lake Superior Coastal Program's Final EIS quoted a price per foot of shoreline increasing from \$200 per foot in 1992, and 600 per foot in 1995. More recent samples show Lake Superior shoreline commanding \$1,650 – \$2,272/foot. A sewer line extension, providing sewer services from Duluth in St. Louis County to the Lake County line, has been completed. The new sewer line may address the problem of failed septic systems, it has also made the area to more attractive to developers, spawning an interest in more intensive development.

The Final MPCA 2006 Section 303(d) Total Maximum Daily Load (TMDL) List of Impaired Waters identifies 15 rivers and creeks that are impaired for one or more of the following pollutants: Mercury, pH, turbidity, high temperature, impaired biota (fish and/or invertebrates), DDT, Dieldrin, Dioxin, toxaphene, and low Dissolved Oxygen. The St. Louis River and Bay have the most reaches (stream segments) listed for impairment in the Basin – 26. There are also 172 lakes having impairments with one or more of the following impairments: mercury or PCBs in the water column and/or fish tissue. There are 7 new stream impairments and 6 new lakes added since the 2004 List. Altogether, there are **271** individual TMDL reports needed in this Basin. The report and 2006 list is available online at <http://www.pca.state.mn.us/water/tmdl/index.html>

Identify areas in the coastal zone where rapid growth or changes in land use require improved management of cumulative and secondary impacts (CSI). Provide the following information for each area:

- ***Type of growth or change in land use (e.g., residential, industrial, etc.)***
- ***Rate of growth or change in land use***
- ***Types of cumulative and secondary impacts***

Residential development has been expanding into the lake areas of Minnesota. Traditional lake cabins are being replaced by large, modern year-round homes. Minnesota's coastal area is an especially attractive and accessible area for this new development trend.

Traditionally, most of the growth in the coastal area is either residential or tourist-oriented commercial development. Many local units of government are in the process of updating or developing comprehensive plans, stormwater management plans, and associated ordinances to address future needs. Some of the cumulative and secondary impacts they identified included the issue of road placement, storm water management, subdivision design, ridgeline development, location of towers, failing septic systems and the need for natural resource information and interpretation in making local land use decisions.

The City of Duluth’s Consolidated Plan for Housing and Community Development FY 2005-2009 reexamined building permits from 1990 to 2000. During this time period, Duluth increased its housing units by 2.7%. Between 1997 and 2002, there were seven new subdivisions, providing a potential 116 total housing units. The neighboring city of Hermantown experienced a larger percentage increase of 8.6%. Lakewood, Solway, and Canosia Townships also experienced large increases. The plan demonstrates that much of the area growth is occurring outside of Duluth.

Table 15. Areas possessing sensitive coastal resources requiring a greater degree of protection, reducing cumulative or secondary impacts of growth and development.

Area	CSI Threats/Sensitive Coastal Resources
Duluth to Two Harbors	Residential development Shallow clay soils Impact to streams, and Lake Superior
Eastern Cook County	Residential/commercial development Steep slopes Impact to streams, and Lake Superior
Entire area along coast	Ridgeline and shoreline development Forest fragmentation Shallow, fragile, clay soils Streams, and Lake Superior

Management Characterization

Identify significant changes in the state’s ability to address CSI since the last assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

- *Characterize the scope of the change*
- *Describe recent trends*
- *Identify impediments to addressing the change*
- *Identify successes in improved management*

Minnesota’s needs in addressing CSI in coastal communities exceed MLSCP’s Section 309 funding and staff resources. Since Minnesota entered the coastal program in 1999, in addition to assistance provided through Section 309 funds, Section 306 grants have been made available to help address the issues faced by Minnesota’s coastal communities. Table 16 provides a summary of projects funded through Section 306 to address cumulative and secondary impacts of land use changes.

Table 16. Section 306 activities and expenditures that addressing CSI:

Project Type	Projects Total
GIS Data Acquisition	53,944
Parcel Mapping	287,903
GIS Decision Support Tools	60,607
Stormwater Plans, Studies and Surveys	121,833
Total	524,287

In addition, Using Section 309 funds, MLSCP provided The DNR’s Data Resource Site system (a centralized GIS repository) to local governmental units (LGUs) within the program boundary. Included with the DRS system, MLSCP staff provided training in LandView, ArcView and Garmin GPS use.

In order for computer support staff at the LGU level to allow the delivery of the DRS system, MLSCP found that it was necessary to assume a support role after implementing the DRS system. Staff provided data and software updates as they became available. Technical support was also required to help ArcView GIS users with the proper use of technical data, data queries, data analysis, data format, coordinate conversion, and other technical issues.

MLSCP found that LGUs with limited resources required GIS products to address emerging issues. Staff also directly assisted LGUs with planning efforts including Duluth Township’s comprehensive plan update, Silver Creek township maps to assist in a comprehensive plan update, Crystal Bay Township comprehensive planning, Tofte Township comprehensive planning, Tofte-Schroeder sanitary district planning and septic system inventory, and assisted Lake County in development of a 5-year GIS plan. Using ArcView, staff set up a Public Waters Inventory (PWI) mapping process, and trained DNR hydrologists on PWI basin mapping in ArcView. With help from Coastal Fellow Dave Easter, MLSCP created a GIS-based Permit Tracking system and database system featuring a digital permit storage and retrieval system to support permit compliance monitoring. Without the technical assistance provided in this manner, the new comprehensive plans and ordinance changes would have either not been completed or would be less effective due to reliance on insufficient or out-of-date information.

In response to the redevelopment of shoreland areas, the DNR has developed and is promoting an alternative set of shoreland management standards under the Governor’s 2003 Clean Water Initiative. Although these alternative standards were originally intended for the central Minnesota lake region, local governments in other lake areas, including the North Shore, are lobbying to implement the new standards. Currently, no additional funds have been allocated to administer or implement the alternative shoreland management standards. However, if local communities either wish to include these alternative standards or if they become a State requirement, the existing MLSCP mechanism for technical assistance to LGUs by partnering with local planning efforts is well positioned to assist in incorporating the new standards into updates of plans and ordinances.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy (i.e., inadequate authority, data gaps, inadequate analytical methods, lack of public acceptance, etc.).

Minnesota's coastal area is experiencing a period of rapid new development. As noted, the coastal communities outside of Duluth are expanding at a higher rate than the core city. The expansion of a sewer line along scenic highway 61 has increased development pressure. Coastal property values and numbers of building permits are on the rise. The nature of the coast is changing from scattered clusters of small businesses and isolated houses to forms of development larger in scale. Seasonal use cabins are being replaced by larger seasonal use homes, and commercial developments. Ridgeline development has increased, changing ridgeline characteristics. Local communities recognize that controls are needed to preserve social and natural resource values. The rapid development that they face is not unlike the issue of sprawl facing the more densely populated areas of the state. Areas just outside the coastal program boundary have the potential to effect coastal resources. The need to address impacts from sources outside the program boundary have recently been identified in the Nemadji River watershed and in some townships split by the program boundary. Many local communities face a shortage of resources to adequately address the development and land use planning issues they face.

What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

Last Assessment = **High** This Assessment = **High**

Justification of Priority

Local land use decision and policy-makers are faced with the challenges of managing growth and preserving their resource base. The North Shore Management Plan was updated in 2004. As part of the update, the document has updated its shoreland management standards, and future land use goals. Many of the local governmental units are involved in upgrading their comprehensive plans and associated zoning ordinances to incorporate the updated plan. Others are also at work on developing storm water plans and local water plans to help preserve water resources. There is increasing coordination across agency and local governmental units in addressing these issues, but more financial, legal and technical resources are needed.

The MLSCP assists local governments in these efforts. There are several critical areas in which Section 309 resources could significantly alter and/or improve the resulting products (plans or ordinances) via assistance to local governments, which manage land use and development within the coastal area. These areas are highlighted below. It is important to note here however, that local units of government develop the land-use plans and are the decision-making authority for most land use decisions in the coastal area. The MLSCP incorporates local land use plans as part of the overall Coastal Program and assists in the development of new and updated plans by providing resources (data and funding) and technical assistance when desired by the local community.

As recognized in the Tenth Biennial Report on Great Lakes Water published by the International Joint Commission in July 2000, the issue of urbanization within the Great Lakes coastal area has seen big changes over the past 20 years. *"It is easier to manage development rather than remedy its negative effects, so governments should act before the situation deteriorates further... All levels of government have a role in watershed management and associated land use..."* These recognitions lie at the heart of the goals and strategies for Cumulative and Secondary Impacts.

Emerging Land Use Issues

Increasing numbers of seasonal and year-round homes constructed and purchased by out-of-county buyers are dramatic within the coastal boundary. The Coastal Program provides a unique opportunity to furnish additional resources to deal with such issues. In addition to the overall need to plan for and manage land use issues, there are significant issues related to maintaining and providing new infrastructure. Some of these issues include the cumulative and secondary impacts of wireless communications towers, failing septic systems, sewer line extensions, stormwater impacts from increased development, increased impervious surfaces, ridgeline development, underwater recreation plans, and public access.

Geographic Information Systems

An ongoing need for a concentrated effort to develop and maintain GIS capabilities within the coastal area will increase the capacity of local communities to effectively develop or update land use plans. MLSCP is making progress in providing necessary data, GIS software, and training. Much of the data development is happening at the statewide level without MLSCP funding. The Protected Waters Inventory is being converted from paper maps to GIS. Hydrographic layers for rivers, streams and lakes are in the process of being updated by MN DNR Waters. In 2003 and 2004, The National Agricultural Imagery Program provided 1-meter color DOQs. MLSCP is also providing support in the form of grants using section 306 funds, which provide the resources to contract with consultants, planners and GIS professionals.

To address issues highlighted in MLSCP's last Assessment and Strategies, MLSCP began distributing GIS data, tools, and software to local governments and nonprofit groups within its program boundary. MLSCP adopted MN DNR's Data Resource Site (DRS) system, which can be customized to contain data specific to the customer's geographic area. The DRS also contains custom GIS software; MN DNR's LandView program (a free GIS data viewer), MN DNR's Garmin GPS program, and extensions for ESRI's ArcView 3.x and ArcGIS. Recipients of the DRS system also receive training in using the software and data they receive.

With the distribution of GIS data and tools comes an added responsibility to continue support in two areas: 1) **DRS updates** -- GIS data provided by MLSCP are being updated on a weekly basis. In addition to existing data, new data are constantly becoming available. New functionality is added to the GIS software MLSCP distributes. To ensure that MLSCP customers are making land use decisions based on the best data available, MLSCP needs to continue to be able provide support to the DRS system. 2) **Technical Support**, as with any software, bugs and glitches occur. The smaller LGUs and Nonprofit organizations do not have information technology (IT) support, those that do have IT support, often regulate the type of software that can be installed on a computer. Without a commitment to technical support, most DRS installations would not happen.

Mapping needs are identified in nearly every conversation about development impacts along the shore. MLSCP is providing 306 grants to help communities create parcel data, which is critical to the analysis of land use activities. Opportunities to protect critical areas for public access and habitat are at risk due to lack of good data. Concentration on filling some of the gaps of major data layers and identifying specific data needs projects in cooperation with local and regional planning agencies will be a focus area for the GIS component of the program.

Strategy to meet Cumulative and Secondary Impacts needs

Goal 1: Evaluate the expansion of MLSCP’s boundary to include important tributary watersheds and currently excluded portions of local governmental units.

Program Change:

Engage local communities to assess the need to expand the coastal program boundary. This will require several public meetings and/or workshops to evaluate the advantages and issues of bringing additional areas into the designated coastal area. It will also be necessary to obtain support from the affected local units of government before any change is made to the program boundary. Maps and other documentation illustrating and explaining boundary change alternatives will be needed to support the boundary assessment.

Impact of the Change:

The inclusion of additional contributing watersheds, particularly parts of the Nemadji River watershed could enhance and improve the overall impact of management strategies and programs affecting the coastal area by allowing the use of Coastal Program funds for projects that impact water quality of the St. Louis River and Lake Superior. It could also enable MLSCP efforts to be better integrated on a watershed basis. The inclusion of excepted areas within currently affected local units of government could help ensure that there is uniform and unbiased land use planning and management within these communities and reduce administrative challenges caused by dividing a local community with the program boundary.

Appropriateness of the Change:

Reexamining MLSCP’s boundary was a recommendation in NOAA’s 312 review of Minnesota’s coastal program.

Work Plan:

Step1, Investigate the expansion of MLSCP’s boundary:

Initiate a public process to assess the need to expand the coastal program boundary. This assessment will identify potentially feasible options (including a no-change alternative), benefits and drawbacks to changing the inland boundary. Following the initial assessment and scoping process, develop and implement a public input consultation process to evaluate all identified alternatives. Finally, one alternative will be selected for action based on public input and agency review.

Step 2, NOAA’s program change process:

Presuming that a change alternative is selected, MLSCP staff will propose a program change using program change guidance provided by NOAA’s OCRM.

Estimated Costs:

\$40,000 over two years.

Goal	2007	2008	2009	2010	2011	Total
Goal 1 – Evaluate Boundary Change				20,000	20,000	40,000

Likelihood of Success:

The likelihood of success is extremely high due to the overall benefits accrued to the local units of government that participate in CZM efforts. A no-change option will be included in the evaluation. A process that results in a recommendation of no change may be considered a successful outcome.

Goal 2: Assist in the development and/or revision of local comprehensive land use plans and ordinances to incorporate recent updates to the North Shore Management Plan. This will be

accomplished both through technical assistance (including GIS), section 309 grants, and the section 306 grant program.

Program Change:

Revise or adopt new local ordinances, comprehensive land use plans or related planning documents to incorporate revisions to the North Shore Management Plan.

Impact of the Change:

Changes in land use are one of the primary driving forces influencing the health of coastal communities and the natural resources of the coastal area. The impact of adopting or revising comprehensive land use plans is very highly significant as these plans direct land use decision-making and therefore the cumulative and secondary effects of development.

Appropriateness of the Change:

Local units of government are working to incorporate goals set in the North Shore Management Plan update. Comprehensive land use planning is the primary tool that local communities employ to manage change and coastal resource utilization and development. With changes occurring in the coastal area, updated plans ensure that local communities have the tools, information, and capacity to manage this change and the cumulative effects of development through comprehensive land use planning is essential. Few local governments along the North Shore have the resources necessary to incorporate these updates to the North Shore Management Plan without additional financial and/or technical assistance from outside groups, such as the MLSCP. Therefore, the additional support provided through this strategy will be valuable for the continued protection of important coastal resources while allowing for appropriate growth along the North Shore.

Work Plan:

Provide direct financial assistance to support local governments adoption/revision of local comprehensive plans and ordinances to incorporate changes to the North Shore Management Plan. On average 1-2 pass-through grants will be awarded each year. The remainder of the funds will be used to support MLSCP staff manage these pass-through grants and provide additional technical assistance to further enhance the LGU projects that have been selected for funding.

Step 1, Through the Annual RFP Process; Solicit and Select Annual Projects for Funding:

As part of our annual RFP process, MLSCP will solicit proposals from LGUs relating to CSI. The RFP process will allow MLSCP to target both 306 and limited 309 funding to address CSI issues. This pass-through grants program will provide financial assistance to LGUs preparing to update comprehensive plans and ordinances to incorporate changes to the North Shore Management Plan and address cumulative and secondary impacts from development. It will also provide an incentive for other communities to begin updating plans and ordinances. Applicants will be asked to describe additional technical assistance the MLSCP could provide to assist with plan and/or ordinance updates (e.g., additional GIS data needs).

Step 2, Provide Technical and Financial Assistance to Local Governments: For selected projects, MLSCP staff will provide technical assistance, as needed, to help LGUs adopt new comprehensive plans or ordinance updates. Types of technical assistance will include helping with GIS data collection and management, mapping and analysis needs, as well as providing training and education about BMPs to address cumulative and secondary impacts from development, such as increased nonpoint source pollution.

Estimated Costs

\$220,000 over five years

Goal	2007	2008	2009	2010	2011	Total
Goal 2 - Revision of local plans	44,000	44,000	44,000	44,000	44,000	220,000

Likelihood of Success

The likelihood of success is extremely high due to the recognized overall benefits accrued to the State and local units of government by updating local land use plans. Many communities in the coastal area are currently working toward plan updates, developing tools and data to use in a plan revision or are seeking funds to begin planning. Communities recognize the importance of having effective plans in place and the barriers to success relate more to capacity than lack of willingness. By identifying ways to fill key gaps in capacity with tools, information and other technical and financial assistance, MLSCP can assist where needed to facilitate the timely development of plans and updates, improve the overall success of the planning process and increase the effectiveness of plans adopted by the local governments. By ensuring that the MLSCP role is focused on providing timely and appropriate assistance to the LGU with the planning authority, concerns about state and federal interference into local decision making are avoided.

Goal 3: NCMPPMS Reporting

Program Change:

Collect and maintain government coordination and decision making data to complete NCMPPMS reporting

Impact of the Change:

This performance measure will allow MLSCP to observe local planning issues, and help form the next section 309 assessment and strategies.

Appropriateness of the Change:

NCMPMS is a direct response to Congressional requests for performance measures to assess the national impact of CZMA programs and to recommendations by the Office of Management and Budget that CZMA programs develop outcome-oriented performance measures to demonstrate program effectiveness. Data created for NCMPPMS reporting would be shared with coastal communities for use in planning efforts.

Work Plan:

Step 1, Government Coordination and Decision Making Reports.

Maintain existing database, track Government Coordination and Decision Making efforts within the Coastal Program boundary.

Estimated Costs:

\$5,000 over three years.

Goal	2007	2008	2009	2010	2011	Total
Goal 3 - NCMPPMS reporting	2,000	1,500	1,500			5,000

Likelihood of Success:

MLSCP has completed one round of reporting on this measure. Adjustments have been made to streamline the process. Success is very likely.

LAKE DEBRIS

Section 309 Programmatic Objectives

- I. Develop or revise programs that reduce the amount of marine and/or lake debris in the coastal zone.

Resource Characterization

Lake debris found along Minnesota’s coast is largely due to recreation activity occurring near or on the waters of Lake Superior. Debris found during 2005’s Great Lakes Beach Sweep included beverage and food containers/wrappers, cigarette butts, and bags. Cigarette butts continue to be the most common debris found during cleanup events. Debris collected, but unaccounted for, comes from Minnesota’s highway 61, and cleaned up by volunteers through an Adopt A Highway program.

In 1989, the Minnesota Legislature adopted comprehensive waste reduction and recycling legislation. This set of laws, commonly referred to as SCORE, is a part of Minnesota's Waste Management Act. SCORE legislation provides counties with a funding source to develop effective waste reduction, recycling and solid waste management programs. The Office of Environmental Assistance produces The SCORE Report, an annual report on Minnesota's recycling and waste management programs. <http://www.moea.state.mn.us/lc/score.cfm>

Table 17. Extent of lake debris and its impact on the coastal area.

Source	Impact <i>(Significant/Moderate/Insignificant)</i>	Type of Impact <i>(Aesthetic, resource damage, etc)</i>
Recreational fishing and boating	Insignificant	Aesthetic, minor resource impact due to discarded fishing line, oil and fuel spills.
Commercial fishing	Insignificant	Resource damage due to fuel spills, lost nets.
Tourists	Moderate	Aesthetic, minor resource damage due to overuse and litter in popular areas.
Industry	Moderate	Aesthetic, resource damage due to spills, improper waste management
General public	Insignificant	Aesthetic, minor resource impact due to overuse and litter in popular areas.

If any of the sources above or their impacts have changed since the last Assessment, please explain.

No change since the previous assessment. If expansion of commercial fishing activity occurs as part of the new Fisheries Management Plan for the Minnesota Waters of Lake Superior, the impact of debris related to commercial fishing may need to be re-evaluated.

Do you have beach clean-up data? If so, how do you use this information?

Several organizations sponsor or participate in the annual Great Lakes Beach Sweep event. The Great Lakes Aquarium gathers and maintains beach clean-up data within the MLSCP boundary, and has shared this information. MLSCP recognizes an opportunity to partner on future Great Lakes Beach Sweep events.

Management Characterization

Table 18. Significant state ocean/Great Lakes management programs and initiatives developed since the last Assessment.

Program	Status	Funding Source
State/local program requiring recycling	Yes	Non CZMA
State/local program to reduce littering	Yes	Non CZMA
State/local program to reduce wasteful packaging	Yes	Non CZMA
State/local program managing fishing gear	Yes	Non CZMA
Marine debris concerns incorporated into harbor, port, marina, and coastal solid waste management plans	Yes	Non CZMA
Education and outreach programs	Yes	Non CZMA

For the changes identified above provide a brief description of the change:

- ***Characterize the scope of the change***
- ***Describe recent trends***
- ***Identify impediments to addressing the change***
- ***Identify successes***

Minnesota's Adopt-a-River Program is active on seven Lake Superior streams and portions of the lakeshore. In addition, Beach Sweep, sponsored by the Ocean Conservancy and locally coordinated by the Great Lakes Aquarium has been effective in getting Duluth/Superior schools active on beach and stream clean-ups. Outreach is continuing to expand these activities farther up the coast. Harbor management plans are being developed which address marine debris and other issues.

The Minnesota State Legislature considered banning the sale and use of lead fishing tackle during the 2002-2003 session. The attempt evolved into an education program, "Let's Get the Lead Out", leading anglers to non-lead alternatives. The effort is supported by the cooperation of tackle manufacturers, retailers, lake associations, conservations organizations, and state government.

Clean Vessel Act grants are available through Minnesota's Department of Natural Resources. To encourage the development or improvement of marina sanitation facilities for boaters in order to maintain and improve water quality in public waters. Grants are available to public and private marinas.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment = **Low** This Assessment = **Low**

Beach cleanups are only taking place in the Duluth area. Coordination between MLSCP and the Great Lakes Aquarium may be possible in the near future, extending efforts to Two Harbors in 2006 and other locations in 2007 and beyond.

Justification of Priority

Effective management, outreach/education and voluntary tools are in place at this time to ensure that protection keeps pace with future development. MLSCP also recognizes the potential to partner in existing projects through its 306/306A grant program.

SPECIAL AREA MANAGEMENT PLANNING

Section 309 Programmatic Objectives

- I. Develop and implement special area management planning in coastal areas applying the following criteria:
 - Areas with significant coastal resources (e.g., threatened and endangered species and their critical habitats, wetlands, waterbodies, fish and wildlife habitat) that are being severely affected by cumulative or secondary impacts;
 - Areas where a multiplicity of local, state, and federal authorities hinder effective coordination and cooperation in addressing coastal development on an ecosystem basis;
 - Areas with a history of long-standing disputes between various levels of government over coastal resources that has resulted in protracted negotiations over the acceptability of proposed uses;
 - There is a strong commitment at all levels of government to enter into a collaborative planning process to produce enforceable plans;
 - A strong state or regional entity exists which is willing and able to sponsor the planning program.

Resource Characterization

The North Shore Management Board (NSMB) was created in 1987 to develop a plan that results in a uniform set of shore land zoning regulations on Minnesota's Lake Superior coastline. The NSMB is organized through a joint powers agreement between the coastal counties, cities and towns. NSMB, with The Arrowhead Regional Development Council (ARDC) serving as its staff, released an updated North Shore Management Plan in June 2005 funded in part, by CZMA 306 funds. Since the release of the updated plan, the NSMB has created a work plan, changing several of the NSMB's activities.

- Expands the NSMB area of concern from 1,000 feet inland to a full township inland. The increase in the area of concern does not increase legislative authority beyond the 1,000 feet.
- Empowers the NSMB's Technical Advisory Committee (TAC) to share ideas and develop solutions to issues.
- Allows the NSMB and its TAC to be a forum for discussing and solving land use planning concerns on a shore-wide basis.

The NSMB intends to improve the capacity of local planning and zoning departments through education and innovation. This would eventually enable local governments to make land use decisions with the best information, and tools in hand.

The St. Louis River Citizens Action Committee, or CAC, has worked for the last 10 years to improve the St. Louis River. The CAC are key partners in the St. Louis River System Remedial Action Plan, or RAP, which was published by the Minnesota Pollution Control Agency (MPCA) and the Wisconsin Department of Natural Resources (WDNR). The RAP has identified environmental problems. To address those problems, it has developed 43 recommendations, which are in various stages of implementation. Since the previous

assessment, the CAC has developed a “Lower St. Louis River Habitat Plan”. This plan is currently being implemented (see <http://www.stlouisriver.org/>.) Additional plans for other resource issue areas in the lower St. Louis River may be developed to address other beneficial use impairments identified in the RAP.

The Miller Creek Joint Powers Board, consisting of appointed volunteer representatives from both Hermantown and Duluth, was created in 1998 to oversee continuing conservation projects in the creek’s watershed. The Board secured several sources of funding including Coastal Restoration (CZMA Section 310) funds to acquire easements along Miller Creek. The Miller Creek Joint Powers Board is currently inactive.

The Metropolitan Interstate Council (MIC), with input from the Harbor Technical Advisory Committee (HTAC), completed the Duluth Port Land Use Plan in October 2005. The plan is currently under review by the City of Duluth (<http://ardc.org/mic/>).

Minnesota’s Pollution Control Agency’s completed its Lake Superior Basin Plan, documenting water management activities for Minnesota’s Lake Superior Basin for a five-year period. The Basin Plan was built from local plans and is intended to enhance implementation of locally identified goals, objectives and strategies. Local units of government can use the Plan to obtain technical assistance and grants; state and federal agencies may use the Basin Plan in allocating staffing and financial resources to the Lake Superior Basin.

Using of the criteria listed above, identify areas of the coast subject to use conflicts that can be addressed through special area management planning (SAMP).

Area	Major conflicts or actions
North Shore Management Plan	Updated Plan June 2004. Expansion of Area of Concern Assumed larger roll in land use planning Need for additional funding

Management Characterization

Identify areas of the coast that have or are being addressed by a special area plan since the last Assessment:

Area	Status of Activities	Funding Source (309 or Other)
St. Louis River RAP	Under implementation.	Non CZMA
Miller Creek CWP.	Inactive	Non CZMA & CZMA 310
Duluth/Superior Dredge Material Management Plan	In progress.	Non CZMA

Identify any significant changes in the state's SAMP programs since the last Assessment (i.e., new regulations, guidance, Memorandums of Understanding, completed SAMPs, implementation activities, etc.). Provide the following information for each change:

- *Characterize the scope of the change*
- *Describe recent trends*
- *Identify impediments to addressing the change*
- *Identify successes*

The NSMB, with ARDC serving as its staff, released an updated North Shore Management Plan in June 2005 funded in part, by CZMA 306 funds. Expansion of Area of Concern to match the MLSCP boundary in the area the two programs overlap. The NSMP assumes a larger roll in land use planning with a need for additional funding.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

With the Update of the North Shore Management Plan, local communities must incorporate changes into local ordinances to comply with the revised plan. Many of these communities are very small with few (or no) paid staff and lack the capacity to quickly make the required changes without assistance.

By assisting the North Shore Management Board (NSMB) in its administration of the North Shore Management Plan (NSMP) to better address coastal wetlands, coastal hazards, cumulative and secondary impacts, and other issues, MLSCP can effectively work with the local land use decision makers, the local governments with the responsibility and authority to control land use. The NSMP was created in 1988 as a distinctive management unit that had resource concerns that were not adequately addressed by the statewide Shoreland Management Program. The NSMP replaces the statewide standards in the management plan area. A joint powers board was formed consisting of county, city and township governments that had zoning authorities. The purpose of the North Shore Management Board (NSMB) is to direct development and implement the North Shore Management Plan.

What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment = **High** This Assessment = **High**

MLSCP recognizes importance of developing, revising, and implementing these special area management plans.

Justification of Priority

Existing programs are sufficient to meet the needs for which they were developed however; lack of funding for making timely changes to existing plans, ordinances and implementation activities hinders progress. As indicated in its Final EIS (May, 1999), Minnesota's Lake Superior Coastal Program will not in effect perform any new management duties, other than to administer the Coastal Program grants program and consistency reviews. Accordingly, the development of formal SAMPs lies with Coastal Program partners such as local governments and regional planning boards. MLSCP provides technical and financial assistance to the communities engaged in developing management plans that, when formally adopted by the governmental units, become part of the networked Coastal Program.

Strategy to meet Special Area Management Planning needs

MLSCP will work to revise local ordinances and land use plans in accordance to the updated North Shore Management Plan, and assist in updates or creation of SAMPs within its program boundary. This will be accomplished through its pass through grant program and technical assistance using 306 and 309 funds.

Goal 1: Assist Local governments, the Arrowhead Regional Development Commission and the NSMB with efforts to revise local ordinances and land use plans in accordance with the recently completed update of the North Shore Management Plan (NSMP) or other shoreland rules as appropriate.

Program Change:

As local governments change ordinances, and land use plans are formally adopted, they replace previously recognized portions of programs administered by local governments as part of the Coastal Program.

Impact of the Change:

Local ordinances are the mechanism by which land use controls are implemented. Changes in these ordinances result in significant impacts to changes in land use in the coastal area.

Appropriateness of the Change:

The NSMP is the regulatory authority for much of the coastal area and is incorporated by rule into MN Statutes. An update of the plan has resulted in a more accurate reflection of the existing social, economic and environmental conditions. Additionally, the NSMP boundary was changed to more closely coincide with that of MLSCP. Efforts are now needed to incorporate the revised NSMP language into local planning and zoning ordinances. Updating each local zoning ordinance will be a significant challenge for the years ahead for the local units of government.

Work Plan:

Step 1, Assist in North Shore Management Plan Implementation:

MLSCP will work closely with LGUs, ARDC and the NSMB to provide technical assistance, GIS tools, and data to local and regional planners working to update zoning ordinances. Implementation will also use existing and developing model ordinances and comprehensive plans. MLSCP's annual RFP process will also provide opportunities for

communities to receive financial assistance to implement the NSMP at the local and regional level.

Estimated Costs:

\$90,000 over 5 five years

Goal	2007	2008	2009	2010	2011	Total
Goal 1 - Revision of local ordinances	18,000	18,000	18,000	18,000	18,000	90,000

Likelihood of Success:

The NSMB has a well-established history of effective planning in the Coastal Area. With the support of Arrowhead Regional Development Commission, MLSCP staff, and local communities, success is very likely.

Goal 2: Support the creation and activities of SAMPS within MLSCP’s program boundary.

Program Change:

SAMPS play a key role on the coastal area, and are part of MLSCP’s networked program. Changes to or newly created SAMPS are considered changes to Minnesota’s program.

Impact of the change:

MLSCP will provide technical and financial support to SAMP activities through the annual RFP process using 306 and 309 funding. Providing financial assistance to LGUs will also encourage implementation of the NSMP at the local and regional level.

Appropriateness of the Change:

MLSCP’s networked program incorporates SAMPS into its program. Changes made to SAMPS are considered changes to Minnesota’s program.

Work Plan:

Step 1, Solicit and Select Projects for Funding:

Using the existing pass-through grant program, MLSCP will support SAMP activities within its program boundary. This will include new or updates to SAMPs using 306 or 309 funding. MLSCP staff will work with applicants and potential applicants to identify how MLSCP can effectively provide technical support to SAMP activities in addition to the financial assistance.

Estimated Cost:

\$57,000 over five years

Goal	2007	2008	2009	2010	2011	Total
Goal 2 - Support SAMP activity	11,400	11,400	11,400	11,400	11,400	57,000

Likelihood of success:

MLSCP supported SAMPs through its RFP process during its last assessment and strategy phase, and has demonstrated success with SAMP opportunities. Success remains very likely.

Energy & Government Facility Siting

Section 309 Programmatic Objectives

- I. Enhance existing procedures and long range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.
- II. Improve program policies and standards, which affect the subject uses and activities so as to facilitate siting while maintaining current levels of coastal resource protection.

Resource Characterization

Existing plants within the Coastal area include the LTV Plant at Taconite Harbor, and the Hibbard Plant in Duluth, which provides power to an adjacent paper plant. Minnesota Power manages a series of hydropower reservoirs on the St. Louis River under FERC licensure. October 13, 2005, Minnesota Power submitted its Arrowhead Abatement Plan. The plan includes retrofits to reduce emissions of oxides, nitrogen, sulfur dioxide, and mercury through multi-emission control technology at Taconite Harbor Energy Center in Schroeder, MN. Minnesota Power estimates that the retrofits will reduce nitrogen emissions by 60 percent, sulfur dioxide emissions by 65 percent, and mercury emissions by 90 percent.

Management Characterization

Identify significant changes in the state's ability to address the siting of energy and government facilities since the last Assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

- *Characterize the scope of the change*
- *Describe recent trends*
- *Identify impediments to addressing the change*
- *Identify successes*

Effective July 1, 2005, article 3 of the energy bill S.F.1368 transferred power plant and wind turbine siting, transmission line and pipeline routing authority from the Minnesota Environmental Quality Board (EQB) to the Minnesota Public Utilities Commission (PUC). The same law transfers the energy facility permitting staff from the EQB to the Minnesota Department of Commerce.

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There are no current plans for additional power plants or government facilities. The EQB's environmental review program addresses plans for additional power plants or government facilities.

What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Although MLSCP has made Energy & Government Facility Siting a low priority, there is a recognized need for additional power in Northern Minnesota, which may alter this enhancement area.

Last Assessment = **Low** This Assessment = **Low**

Justification of Priority

MLSCP has determined that no additional 309 activities are warranted in the Energy & Government Facility Siting category at this time.

AQUACULTURE

Section 309 Programmatic Objectives

- I. Enhance existing procedures and long range planning processes for considering the siting of public and private marine aquaculture facilities in the coastal zone.
- II. Improve program policies and standards, which affect aquaculture activities and uses so as to facilitate siting while ensuring the protection of coastal resources and waters.

Resource Characterization

Briefly describe the state's aquaculture activities (e.g., existing procedures, plans, program policies and standards).

Minnesota DNR supports one fish hatchery in the coastal area at French River. Future expansion of Minnesota's hatcheries within the Lake Superior Coastal area (either public or commercial) is unlikely at this time. Two types of aquaculture operations that might be possible in Minnesota are shore-based facilities with pumped water supplies or net pen operations. Lake Superior's soft, cold water limits the carrying capacity and profitability of rearing units. Extreme winter conditions, ice cover, and moving ice along Minnesota's unprotected shoreline limits net pen potential and threatens the infrastructure of potential shore-based aquaculture operations.

Briefly describe environmental concerns (e.g., water quality, protected areas, impacts on native stock and shell fish resources). Also, describe any use conflicts (e.g., navigational, aesthetic, incompatible uses, public access, recreation, and future threats (e.g., shoreline defense works, introduced species).

Minnesota's regulatory framework on aquaculture operations may limit aquaculture expansion within the Lake Superior coastal area. In 1998 the Great Lakes Initiative was adopted by Minnesota through MPCA. This initiative contains nondegradation provisions, which scrutinize any new or increased discharge into Lake Superior, including discharge from aquaculture operations. Any aquaculture operation in Minnesota is subject to site review, permitting, and monitoring by the Minnesota DNR.

Management Characterization

Identify significant changes in the state's ability to address the planning for and siting of aquaculture facilities since the last Assessment (new regulations, guidance, manuals, etc.). Provide the following information for each change:

- *Characterize the scope of the change*
- *Describe recent trends*
- *Identify impediments to addressing the change*
- *Identify successes*

Minnesota is a member of the Great Lakes Fisheries Commission. The GLFC is the forum where member states resolve issues, address resource problems, and set resource management frameworks through consensus. The GLFC has developed an Environmental Assessment Tool for Cage Aquaculture in the Great Lakes, which will provide regulatory guidelines to all Great Lakes. Once adopted, each State including Minnesota, will be expected to enforce these guidelines within their Great Lakes waters.

<http://www.glfc.org/fishmgmt/aqua.php>

Conclusion

Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

Last Assessment = **Low** This Assessment = **Low**

Justification of Priority

The French River Hatchery is unique in the role and function that it provides in helping to develop and maintain the Lake Superior fisheries. However, these are adequate to the needs that it fulfills. Accordingly, the priority for enhancement of this area is low. MLSCP has determined that no additional 309 activities are warranted in the Aquaculture category at this time.

APPENDIX A

Public Open House June 19, 2006

List of Attendees:

Tom Peterson, MN DNR Two Harbors, MN
J.H. McCormick, French River, MN
Mark Kovacovich, MN DNR Two Harbors, MN
Rich Sviz, Two Harbors, MN
Kevin Johnson, MN DNR Two Harbors, MN
Gerry Sjerven, NRRI Duluth, MN
Todd Ronning, Two Harbors, MN

Comments:

Under temperature and shading of streams, there is an over simplification of beavers eating deciduous trees which does not address the whole problem. We need to keep stream temperatures down by encouraging conifer and deciduous tree planting to benefit trout populations.

More needs to be done to address residue and toxic substances in fish. (Mercury)

Concern over recent expansion of the mining industry outside the coastal program boundary.

Recommended reading "The Streams and Rivers of Minnesota" Thomas F. Waters © 1977 University of Minnesota Press, Minneapolis, MN.

On page 13 or 14, there is no mention of the Lake County Demo Forest.

Page 18, Hazard protection, a possible project could be Thompson Beach.

Continue funding wetland-training classes.

Continue funding planning and development projects that provide access to public lands and facilities.

Public platted easements should be identified.

The strategy to meet public access needs; I support this strategy, public access to Lake Superior's shoreline is increasingly important because of accelerated development. Anything that can be done to identify public access opportunities and then help secure public access opportunities is well worth the effort.

I also support a consolidated effort on ridge-top development zoning. As shoreline lots become less available, the pressure will move toward the ridgeline. Of Lake or Cook county and townships had coordinated zoning would help manage this concern.

Interested in further development of educational outreach program for K-12, higher education, and local governments, and development of a list of contacts for these educational programs. Who is teaching, who wants to, etc.

Coastal Program boundary needs to be adjusted to include watersheds that flow to lake superior. Either at the first order streams, or by ecological sections near Lake Superior.

Appendix B

Priority enhancement areas survey results and comments taken by e-mail.

	High	Medium	Low
Public Access Comments and Ranking:	6	2	

The development of resorts along the North Shore continues at a rapid pace. As these developments are completed it will result in more people using the shoreline increasing the need for public access. Ideally, it would be nice to work with Lake & Cook County on a planning process that identified what the community would like the shoreline to look like in the future and if more public ownership of the shoreline is supported.

It would be beneficial to identify the large tracts of undeveloped Lake Superior shoreline and work with a variety of groups interested in keeping them undeveloped.

Create a Coastal Public Access interactive web site tied into Beaches web site?

Where appropriate, provide financial assistance through Section 306 funds to LGU to maintain or enhance existing sites.

Regularly survey public opinions on adequacy of existing access opportunities.

	High	Medium	Low
Special Area Management Planning Comments and Ranking:	7		

Assist in the implementation of SLRCAC habitat plan, NSMP, SLR Plan

	High	Medium	Low
Cumulative and Secondary Impacts Comments and Ranking:	4	3	

Make sure projects today do not have negative effects in the future

Focus on enforcement of permit conditions or enhancement of monitoring and enforcement

We need analysis and documentation of cumulative impacts on shoreline resources along with tools for addressing these impacts.

	High	Medium	Low
Wetlands Comments and Ranking:	1	5	1

More wetland regulators are not needed.

Identify existing coastal wetlands and determine ownership, threats, vulnerability

Protection of wetlands is a critical water quality issue along the shore. Coastal wetlands are rare, but incredibly important for the ecology of Lake Superior. Inland wetlands play a critical role in reducing runoff, infiltration, and removing sediment from runoff.

	High	Medium	Low
Great Lakes Resources Comments and Ranking:		7	

The term "balanced use" bothers me. Prefer planning that favors protection of coastal resources from over development.

Consider

Involvement in Lakewide Management Planning, Ocean Action Plan, Great Lake Commission, Collaboration, Great Lakes Fishery Commission.

Identify potential marine protected areas

Map and display existing special designations (OIRW, Trout streams, public waters, etc.)

Map important habitat sites, document the resources there, photodocument.

What should we be doing for the fisheries resources?

Tributary fishery issues

Drinking water and industrial process water as a lake resource

Rip Currents need to be recognized as a coastal hazard.

Education efforts are needed on Rip Currents along piers, breakwalls, and Minnesota Point beaches.

	High	Medium	Low
Lake Debris Comments and Ranking:		1	6

Sponsor beach sweeps/cleanup associated with existing efforts or Lake Superior Day.

	High	Medium	Low
Energy and Government Facility Siting Comments and Ranking:			6

	High	Medium	Low
Coastal Hazards Comments and Ranking:	1	6	

	High	Medium	Low
Aquaculture Comments and Ranking:			6