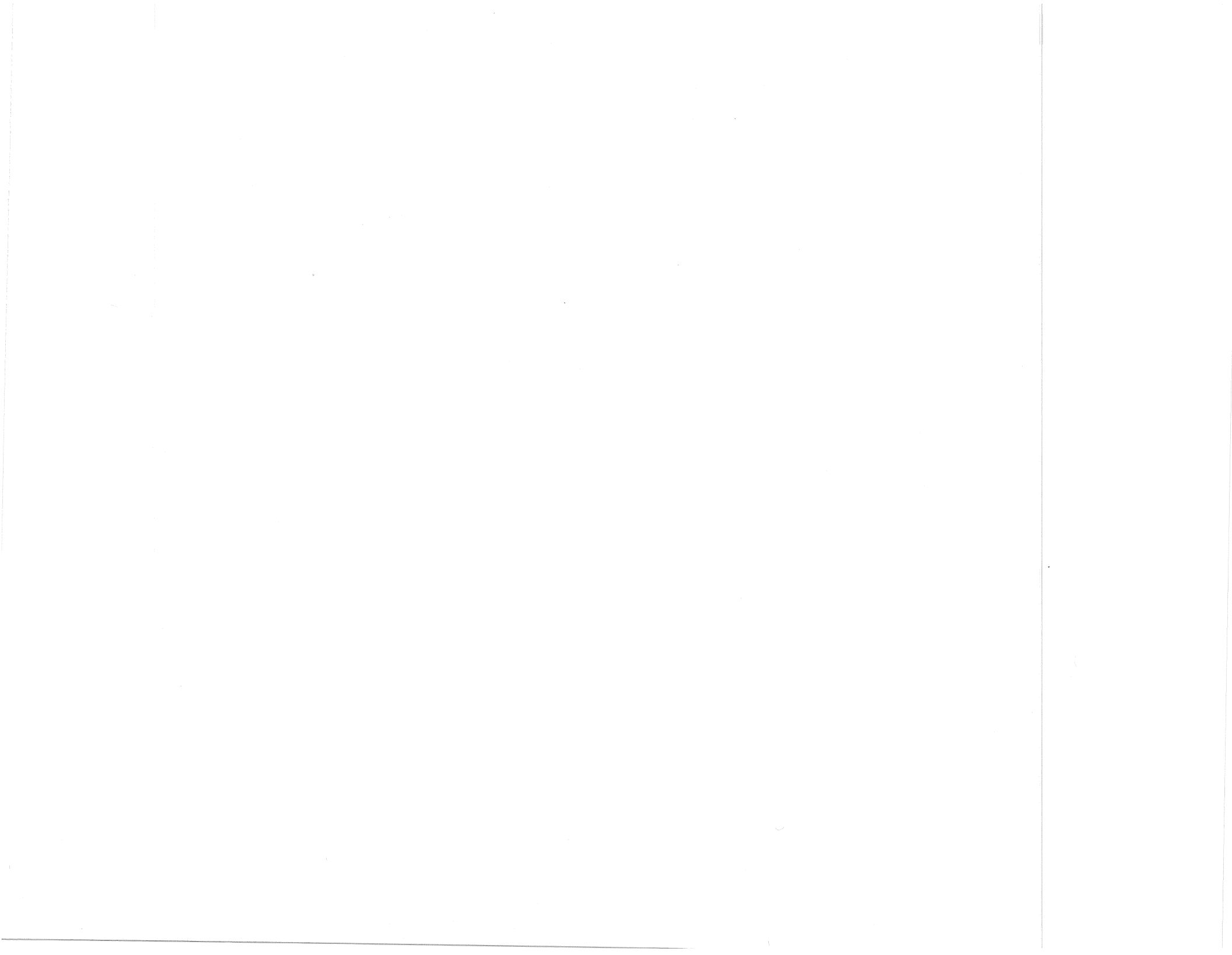


# *North Shore*

## *Harbors Plan*

A Recreational Boating Harbors Plan  
for Lake Superior's North Shore

June 1991



**NORTH SHORE HARBORS PLAN**  
*Recreational Boating Harbors Plan for the North Shore*

*North Shore Management Board*

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## INTRODUCTION TO THE NORTH SHORE HARBORS PLAN

The subject of North Shore Harbors and recreational boating has been discussed and studied for years by organizations such as the Minnesota Sea Grant Program and the Minnesota Department of Natural Resources, as well as others. All these studies point to an unsatisfied recreational boating demand on Lake Superior for boat launching facilities, protected harbors, and to a lesser extent, marina slips. Actual "existing use" figures for North Shore recreational boating facilities, other than marinas, are difficult to assess due to a lack of personnel at launch facilities. Projections of future boating use are also difficult to assess using existing data.

There are several matters relating to boating characteristics, however, which point positively to projected use of additional harbor facilities along the North Shore.

Boater use is increasing overall in Minnesota. Minnesota's population has increased an estimated 0.70 percent compounded annually from 1980 to 1990. State boat registrations in the period from 1980 to 1989 had increased 2.23 percent compounded annually, out pacing population growth.

Boat registrations in Minnesota have increased from 1984 to 1989 at an average of 15,359 per year, second only to Michigan in actual annual growth.

Combined boat registrations for Michigan, Wisconsin and Minnesota grew from 1,000,000 registered boats in 1975 (representing 50% of the Great Lakes States boat registrations) to 3,443,000 in 1988 (representing 56% of the Great Lakes States boat registrations.)

There is a documented interest in increased boating use of Lake Superior. Recreational boating in the North Shore Region on Minnesota's Lake Superior water is increasing at an even faster rate than boating in the State as a whole. A survey conducted by Minnesota Sea Grant of Western Lake Superior marina customers and boat and yacht club members in 1977 and 1984 revealed a 10 percent average annual growth in boaters, despite the recessionary climate.

There are six Minnesota Lake Superior marinas which provide 388 seasonal slips and 27 transient slips. Three of those are outside of Duluth and provide 115 seasonal slips and 27 transient slips. Occupancy rates of all Minnesota Lake Superior marinas run 98 - 100%.

There are seven Michigan Lake Superior marinas which provide 199 seasonal slips and 60 transient slips. Occupancy rates run 100%.

There are eleven Wisconsin Lake Superior marinas which provide 2069 seasonal slips and 143 transient slips. Occupancy rates of Wisconsin marinas around the Apostle Islands run 100%, 90% in Superior, and 60% in the Port of Ashland. Eastern Wisconsin Lake Superior vacancies are attributed to poor management or marketing of the facilities and occupancy is expected to increase by marina operators and city officials.

Based upon survey responses to the 1988 Department of Natural Resources funded boating survey performed by the University of Minnesota's Extension Services, a sizeable

proportion of respondents (44%) said that they would like to boat or boat more often on Lake Superior.

These boating characteristics and survey responses indicate a high growth in the boating industry as well as the use and interest in boating on Lake Superior. On a less technical approach, one need only observe the abundantly harbored Lake Superior shores of Wisconsin and Michigan to see the magnitude of boats, and in sharp contrast, note the considerably fewer boats on Minnesota's harbor barren North Shore. According to "Recreational Boating - A Great Lakes Basin Framework Study" prepared by the Great Lakes Basin Commission, boating opportunity is the principal factor affecting boating participation. If the opportunity is available, people will participate.

For Lake Superior, there is a boater perception that there are inadequate harbor facilities on the North Shore to provide safety. In the 1988 Department of Natural Resources survey above, of those boat owners expressing an interest in Lake Superior, those same boat owners see barriers to more frequent use, the greatest being a lack of protected harbors.

Wisconsin recommended standards for a "safe harbor" system ranges from 10 mile to 15 miles between facilities. Michigan's recommended standard is 30 miles between harbor facilities. The Corps of Engineers recommended standard for a "safe harbor" network is 30 miles between facilities. Recent evaluations by EWI, an engineering firm, calculate the safe distance between harbor facilities on Lake Superior, given an average size craft of 22 feet and its ability to navigate in one - four foot waves, the ideal spacing would be 8-10 miles.

Minnesota currently does not meet the "safe harbor" recommended standards of Michigan, Wisconsin, or the Corps with up to 90 miles between recreational boating facilities to provide shelter on the North Shore. Or, in other words, adequate boating opportunity is not available.

Overall, communities on the North Shore are interested in seeing more harbor facilities in their areas. Ninety-three percent of community respondents to the Harbor Study Waterfront Questionnaire believed that a series of boating/waterfront facilities are needed along the North Shore. Current proposals for harbor facilities include Knife River, Flood Bay, Sugar Loaf Landing, Grand Marais, Grand Portage, as well as sincere interest from Silver Bay and Two Harbors. These projects have all required an investment of resources from these communities and reflect their active interest in recreational boating and harbor facilities.

Based upon boating characteristics, surveys, existing use, boating registration growth, community interest expressed in questionnaires and public meetings, and active projects along the North Shore, the North Shore Management Board believes there is sufficient justification for a network of harbor facilities designed for multiple use along the North Shore, provided that the specific design and implementation is sensitive to environmental and aesthetic resource values.

The North Shore Management Board has developed recommendations for a network of harbors along the North Shore which identifies the most ideal locations and corresponding harbor facilities, using the criteria developed for site selection.

The philosophy of controlling development as expressed in the North Shore Management Plan was followed in the Harbor Plan, that is, that marina developments should occur in commercial locations and in undeveloped or natural resource areas, harbor development should be limited to the construction of low impact, harbors of refuge.

The North Shore Harbor Plan policy statements indicate spacing between facilities will be based upon the feasibility of physical shoreland characteristics, opportunities for development, costs, and community interest.

The North Shore Harbor Plan encourages harbor facilities which appeal to a broad number of users. Facility design will largely determine the type of boating and the extent of passive recreational use. Facilities designed for a wide range of users will expand the market base and distribute the public expenditure over a broader public interest.

Additional harbor facilities will increase passive access opportunities to Lake Superior as well as water access for boating use. Michigan field counts of harbor facilities indicate only 35% of vehicles entering the site actually launch a boat. Other visitors enter to do such things as walking on the breakwater or for non-boating access to the Lake. The North Shore Harbor Plan emphasizes that the design and implementation of harbors should accommodate passive recreational land-side use.

Establishing a network of harbors along the North Shore will have a number of impacts which communities should be aware of as they proceed with implementation:

A network of "safe harbors" will increase boating use of Lake Superior based upon comparative analysis with the Wisconsin & Michigan experience.

Increase boating use of Lake Superior may generally provide a positive economic impact/increased tourism dollars for the North Shore.

Additional harbor facilities may increase the financial burden on local communities. In Wisconsin and Michigan comparable analysis, this burden has been lessened by revenues generated by harbor facilities.

Development of additional harbor facilities and increased boating use will create environmental concerns which should be monitored and considered carefully in the planning and design phase of implementation. Harbor development must be sensitive to environmental and aesthetic values of the North Shore.

Increase boating use of Lake Superior will generate an increased probability of boating related accidents or safety incidents on the North Shore. Implementation of a network of "safe harbors" along the North Shore must be accompanied with a rigorous boating safety training effort.

Safety is a primary criteria from communities, the legislature, Wisconsin and Michigan programs, boater interest, North Shore Management Board and Citizen Advisory Committee members. Safety is a priority in establishing an implementation strategy for both site selection and an accompanying safety training and education program.

Construction dollars for harbor development are limited and will require cooperative efforts between many sources. Operation of a harbor facility should include participation by the local community and the user.

Construction dollars for harbor development are limited and an implementation schedule will likely be phased over a multi-year time frame. Priorities will be set but will not prohibit the concurrent progress of other harbor projects. The North Shore Management Board will continue to provide a coordinating role during the implementation phase.

*Reference Addendum D*



## CHAPTER ONE



*Knife River Marina*

**North Shore Harbor Plan Background**

**North Shore Harbor Planning Process**

**North Shore Harbor Plan Goal and  
Objectives**

**North Shore Policy Guidelines**



## NORTH SHORE HARBOR PLAN BACKGROUND

The Legislative Commission on Minnesota Resources in 1989, allocated funds to the North Shore Management Board, through the Minnesota Department of Natural Resources, to determine the feasibility and location of safe harbors and public access sites on Lake Superior outside of Duluth. The North Shore Management Board is a joint powers board consisting of county, city and township government which was created to direct development of a North Shore Management Plan on Lake Superior taking the place of state mandated shoreland regulations. The North Shore Management Plan includes strategies for the environmental protection and orderly growth of the North Shore of Lake Superior. Harbors and public accesses are major issues for the Board considering economic development centers and tourism in its planning process.

This study has resulted in a Plan for the location and types of harbor facilities and public accesses on Lake Superior. The study process considered the relationship of boating facilities, including marinas and public access, and the economic development of the land base. It also considered public/private partnerships between the local community or county and private development. Importantly, the study process gave great emphasis to the compatibility of harbor facilities along the North Shore and their impact on the resource base. Every attempt was made to recognize and balance the complex relationships between the various community, economic,

environmental, and recreational interests. The North Shore Management Board role was to conduct the study and develop a Plan for North Shore Harbors which advocated for the best interests of the North Shore rather than for a specific interest group.

The Minnesota Department of Natural Resources role has been to guide the process of siting the proposed location of harbors to ensure safety of boaters and provide recreational benefit and access for boaters as well as the non-boating public.

The Minnesota Department of Natural Resources identified the need for public access and harbors to provide for a safe boating and recreational experience. In a 1988 survey of Minnesota boat owners, a sizeable proportion of boat owners (44%) said they would like to boat, or boat more often on Lake Superior and its adjoining waters. These same boat owners, however, see barriers to their more frequent use of Lake Superior. A lack of protected harbors was one of the major barriers boat owners identified.

The North Shore Harbors Plan will provide the basis for funding safe harbors and public access on Lake Superior. Boaters may benefit by having additional launch facilities, dockage, and a place of refuge during storms. The local economy may benefit by increased boating, tourism, and business associated with harbors and marinas.

## NORTH SHORE HARBOR PLANNING PROCESS

In 1989, the Legislative Commission on Minnesota Resources (LCMR) directed the North Shore Management Board to identify the feasibility and locations of safe harbors and public access on Lake Superior's North Shore, outside of the City of Duluth. The North Shore Management Board received funding from the LCMR through the Minnesota Department of Natural Resources to conduct this study.

The North Shore Harbors study was initiated in July of 1989 with three public informational meetings along the North Shore to inform the public of the study and to begin collecting public opinions about North Shore Recreational Boating Harbors.

Over 175 people attended the meetings and indicated a strong and positive support for the concept of harbors of refuge and the need to identify additional harbors of refuge sites. Safety was emphasized as a top priority in these meetings as well as the concept of multiple use, designing harbors for a wide variety of users rather than for a single interest group.

Additionally, the public seemed to favor a mix in the variety of harbors which would be required, including small low-impact "duck-ins" in remote or undeveloped areas and more full service marina-type facilities in existing commercial areas. There were strong feelings about protecting sensitive resource areas and encouraging growth in those areas designated for commercial purposes.

Given the difference in boating use today from when the U.S. Army Corps of Engineers established 30 miles as a reasonable distance between safe harbors, the public felt the Corp's 30 mile standard was too great and should be reduced to distances of 10 to 15 miles apart.

A day long workshop was conducted in September 1989 by the North Shore Management Board and featured guest speaker Keith Wilson, Public Sector Consultants, Lansing, Michigan. Wilson had directed Michigan's Harbors program for many years and provided a description of the Michigan experience, basic definitions of harbor terminology, demand implications, siting criteria, operation and maintenance considerations, and current financing options.

Dale Baker from Minnesota Sea Grant Extension discussed Lake Superior boating use and current harbor related activities on the North Shore. The workshop provided an excellent opportunity to learn the basics about recreational boating harbors and was open to North Shore Board members, Advisory Committee members, and the public.

The workshop was followed by a two day site tour of all harbor facilities under consideration. A list had been compiled of existing facilities, current projects, Corps study locations, and several suggestions from public meetings. Keith Wilson accompanied North Shore representatives and provided a

written summary and general recommendations for the sites visited.

The North Shore Citizens Advisory Committee members provided leadership on the study. The Advisory Committee is made up of a variety of representatives of North Shore interests including environmental, tourism, recreation, boating, development, industry, realtors, shoreland property owners, commercial business, and at large representatives. The purpose of using this Committee was to assure representation of all interests as the harbor study process moved forward.

The Citizen Advisory Committee determined that their role in this study was to be an advocate for the North Shore rather than to advocate on behalf of a specific interest group. They were concerned that the study result in a Plan which would be good for the North Shore: aesthetically, environmentally, financially, recreationally, and most importantly, would fit with the needs and interests of North Shore Communities.

Goals and policies were developed for the Harbor study to establish a uniform and agreed upon philosophy for guiding the study. Site criteria was developed to set up a consistent format for evaluating each site.

A data collection process took place, assembling all known studies, surveys, plans, and other relevant information to North Shore Harbors. U.S. Army Corps of Engineers site plans, private developments, current projects, as well as information regarding several sites suggested at the public meetings was gathered together. The sites were mapped and the information was placed on a "fact sheet" form so the sites could be evaluated using consistent criteria.

Each site was ranked and evaluated according to the site criteria and in keeping with the goals and objectives of the study. Several sites were deleted from the study as they did not meet the prescribed criteria. Recommendations were developed for each of the harbor locations for the type of facility which should be located there. The Citizens Advisory Committee followed the North Shore Management Plan concept of development, encouraging commercial marina facilities to locate in commercial locations and recommending that harbor development in natural and undeveloped areas be limited to low impact, harbors of refuge.

Consultants Laventhol & Horwath were hired to provide technical assistance to the study. The scope of services was to include the following: a.) existing and projected use of North Shore harbors, b.) economic impacts of harbor development, c.) environmental & aesthetic impacts of harbor development, and d.) alternative financing techniques including public/private partnerships.

The consultants proposed to use a team approach to their work, drawing upon the expertise of EWI, an engineering firm, and the design firm Architectural Resources. The consultant team conducted a two day site tour of the proposed harbor locations and spent time getting to know the communities along the North Shore.

Two informational public meetings were conducted in May of 1990 to provide the public with a preliminary list of harbor locations and recommendations for specific developments on those sites. The meetings, attended by over 120 people were very positive and relatively non-controversial. Overall, there was a favorable response to the preliminary recommendations

with the exception of a mixed response to the Flood Bay Marina location.

Three public opinion surveys were conducted along the North Shore as follows: a.) a questionnaire sent to local units of government, economic development and tourism associations, environmental groups, harbor development associations, chambers of commerce, boating organizations, and other interest groups to gather information about recreational boating harbors and harbor development; b.) a 125 name mail list of interested persons on the North Shore Recreational Boating Harbors study mail list; and c.) an opinion questionnaire and press release placed in local North Shore newspapers.

The consensus of these public survey results were again favorable to the specific sites and (in general) to the addition of harbor facilities along the North Shore. Ninety-three percent of those responding wanted to see additional harbor facilities; safety was identified as the motivating factor with increased lake access and recreational opportunities following. Concerns about construction and maintenance costs of additional harbor facilities were cited as the major constraints.

A project update was provided to the Minnesota Department of Natural Resources in August. A presentation was made for the Commissioner's Staff meeting and one was provided for any staff who were interested in the study. The sessions were very positive and provided an opportunity for Natural Resource experts to review each site and the recommendations for each. A news article about the study had appeared in the Spring addition of the DNR publication "Water Talk" and had provided background information about the study.

As a follow up to the DNR presentation, information about environmentally sensitive areas was provided about specific

sites. Rare and endangered plant species, unique geological formations, and a prehistoric cobblestone beach were identified as potential concerns. These issues would need to be addressed in the specific design process for each affected location; Sugar Loaf Landing and Temperance State Park. Other environmental concerns included the wetlands located at the Flood Bay Marina project.

A progress report was also provided to the Legislative Commission on Minnesota Resources in August. The specific sites and recommendations were presented along with the goals and objectives, and a description of the planning process. The LCMR was pleased with the progress and inquired about the priority location or locations. A news article about the study was invited for publication in the LCMR newsletter in the fall.

The Game & Fish Subcommittee, chaired by Representative David Battaglia, held a joint meeting with the Environment and Natural Resources Subcommittee, chaired by Representative Munger, at Wolf Ridge in Finland, Minnesota. A progress report of the North Shore Harbors study was requested at this meeting. The response was very favorable by both the legislative representatives and the public.

Laventhol & Horwath presented a first draft to a joint meeting of the North Shore Management Board and Citizen Advisory Committee in late August. They obtained several suggestions from the Board and CAC and indicated they would forward a revised report to the Board for consideration. Their evaluations of each of the sites concurred with the CAC recommendations.

A suggestion which came from the consultant report regarding implementation, based on safety as a number one priority, was to begin to reduce the long distances between existing facilities. The thought was that a network of facilities would in-

crease boating use once this identified constraint was lessened. A second level of priority, once sufficient demand had been generated by reducing safety issues, was the expansion of existing facilities. Once the demand saturated the network, focus could be placed upon development of new "marina" facilities as a third level of priority.

In November, 1990, the North Shore Management Board approved the CAC recommendations for harbor locations, harbor facilities, goals & policies, the process, and directed the Citizen Advisory Committee to "package up" the various elements of the study in preparation for public meetings in January.

The North Shore Harbors Plan was written in December, reviewed by the North Shore Management Board and Technical Advisory Committee, as well as by the Minnesota Department of Natural Resources. The consultant contract with Laventhol & Horwath was terminated and Keith Wilson, Public Sector Consultants, was hired to complete the technical assistance components of the study.

Public meetings were held in January 1991 to conclude the process and obtain final public approval of the Plan.

In March 1991, the North Shore Management Board presented the study findings to the Legislative Commission on Minnesota Resources and was approved.



*Agate Bay*

## NORTH SHORE HARBOR PLAN GOAL AND OBJECTIVES

### GOAL:

The goal of the North Shore Harbors Study is to develop a publicly acceptable plan for harbors which integrates boating activity with other economic, scenic, recreational, land use, safety, and resource management decisions for the benefit of both residents and visitor and will advocate and enhance the unique character of the North Shore of Lake Superior.

### OBJECTIVES:

The North Shore Management Board conducted the North Shore Harbors planning process to guide the development of harbor facilities, to protect the resource values of the Shore, and to assure the public's involvement and support of the process. The following are the objectives of the study and the resulting Plan for the North Shore Harbors:

1. Recommend a specific network of harbors, including public accesses on the North Shore of Lake Superior outside of Duluth, within the North Shore Management Board planning area.
2. Consider the relationship of boating facilities, including harbors and public accesses, and the economic development of the land base.
3. Identify potential funding sources, local, state and federal, and consider public/private partnerships between the local governments and private development.
4. The plan will be developed using a public planning process similar to that used for the North Shore Management Plan and will be approved by and for the people of the North Shore prior to adoption and/or implementation by the North Shore Management Board.
5. This plan will develop public education recommendations for user-training safety and available resources/facilities as part of a boating safety effort.

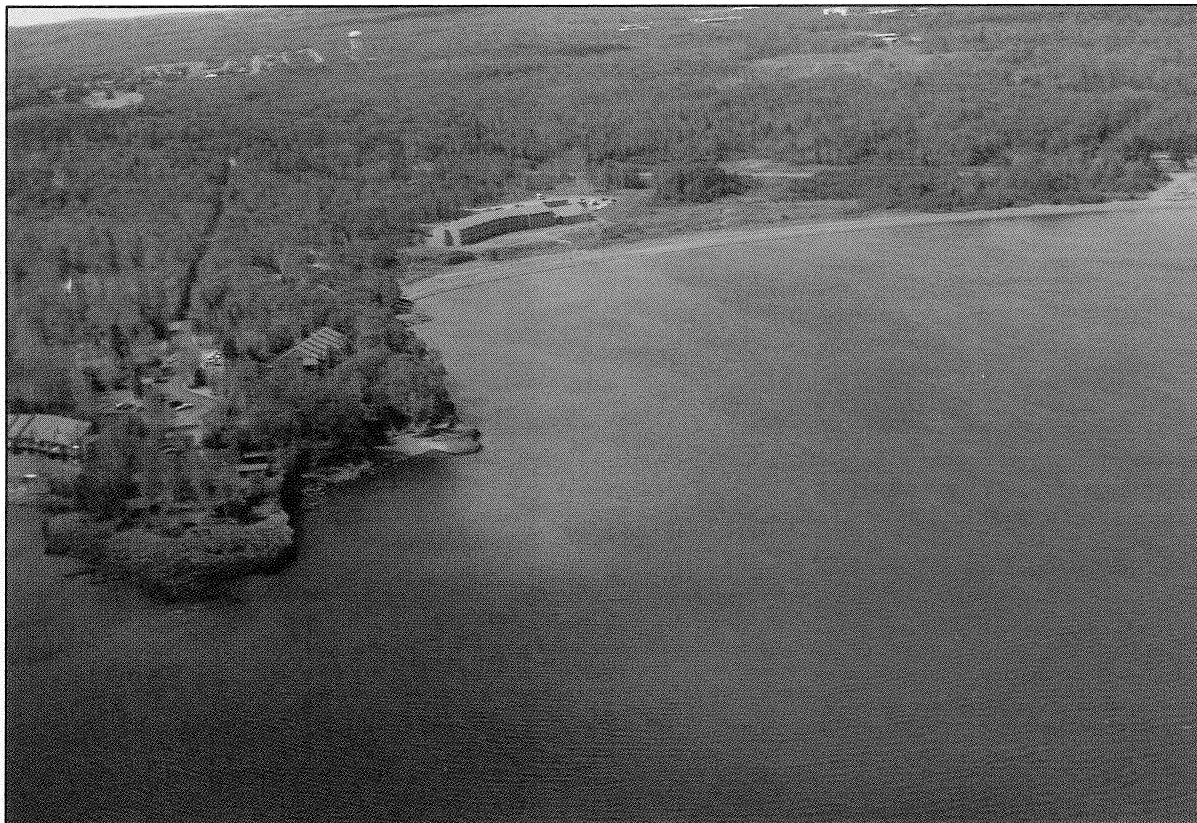
## NORTH SHORE HARBOR PLAN POLICY GUIDELINES

The philosophy used to guide the decision making for the North Shore Harbors Study and resulting Plan are the following policy guidelines:

1. This North Shore Harbors Plan will be developed to satisfy the economic, social, and environmental needs of the North Shore region and its people.
2. Safety will be considered as a priority criterion in the development of a harbor plan.
3. Development of Harbors and related facilities should be consistent with the North Shore Management Plan as approved by the North Shore Management Board and local units of government.
4. A Harbors Plan will include a multi-level network approach, including non-access "duck-ins" harbors of refuge with launching access and full serve marinas. Location of these facilities will be determined by compatible shoreland use with emphasis on a "cluster development" concept.
5. Development of harbors will be sensitive to environmental concerns, natural resource areas, and areas of national or historic interest. Fish and wildlife habitats should be protected, preserved and where practical, restored or enhanced so as to maintain their viability as habitats.
6. Harbors will be designed for a wide range of boating and other uses, including but not limited to fishing, cruising, power, sail, diving interests, picnic and passive recreational users.
7. The final plan for harbors along the North Shore will be evaluated and determined to be acceptable to the public, including the interests of both residents and visitors, and will be reviewed by regulatory agencies regarding environmental and natural resource concerns.
8. Alteration to wetlands in the development of harbors will not be permitted unless part of an approved site development plan. Any alterations shall be first permitted by the D.N.R. and U.S. Army Corp of Engineers as required, and shall require suitable mitigation.
9. The Harbors Plan will utilize cost effective design criteria; be judicious of the expenditures of public dollars; provide benefits to a wide range of users; evaluate the economic development impacts; and involve public/private partnerships where appropriate.
10. The spacing/distances between locations of harbors will use criteria based upon need, compatibility of surrounding shoreland use, physical constraints, financial constraints, and public opinion.
11. The Harbors Plan will include a strong emphasis and recommendations for enhanced public education on boating safety, training, and the provision of information about where facilities are located along the North Shore. Harbors will not be considered a substitute for common sense or responsible boating use.
12. Shoreland use for harbor development will follow criteria set forth by the North Shore Management Plan including vegetative management, standards for construction, paving, and screening considerations.
13. The process of developing a Harbors Plan will utilize extensive public opinion and involvement.



## CHAPTER TWO



*Flood Bay*

### North Shore Harbor Facilities

Introduction

Definitions

Site Criteria

### North Shore Harbors/Boating Facilities System

Individual Site Descriptions and  
Recommendations



## NORTH SHORE HARBOR FACILITIES

### INTRODUCTION

A major objective of the North Shore Harbors Plan is to recommend a specific network of harbors, including public accesses, on the North Shore of Lake Superior, outside of the City of Duluth. Further, the Plan includes a multi-level network approach, including non-access "duck-ins" or emergency shelters, harbors of refuge, and full service marinas. Harbors must be designed for a wide range of boating and other uses, including but not limited to fishing, cruising, power, sailing, diving interests, picnic and passive/non-boating recreational users.

Another key consideration for evaluating each location is that harbor development is sensitive to environmental concerns, natural resource areas, and areas of natural or historic interest. Therefore, analysis of each location has placed a great deal of emphasis on potential aesthetic and environmental impacts to assure the facility's compatibility or "fit" with the surrounding community.

The intervals or distance between harbor/waterfront locations has used criteria based upon the feasibility of shoreline characteristics, opportunities for development, compatibility with surrounding use, and community interest.

### DEFINITIONS

The North Shore Management Board has developed a list which represents a system of safe harbor facilities along the North Shore. The system of harbors and specific harbor locations are described on the pages that follow. The terms used for this system are defined as follows:

Landside Water Access Point describes a location designed to include non-boating passive recreational use, and increases the public's ability to experience the Lake.

Harbor of Refuge is a protected harbor with a boat launch and transient boat tie ups, consisting of piers and/or moorings.

Marina is a boating facility providing seasonal slips, fuel, and other boating services. Marinas are located in protected harbors and all marinas are designated harbors of refuge.

There are additional boating facilities along the shore which are not specifically described in this report but considered part of the

existing facilities available to boaters. Those locations and facilities include the following:

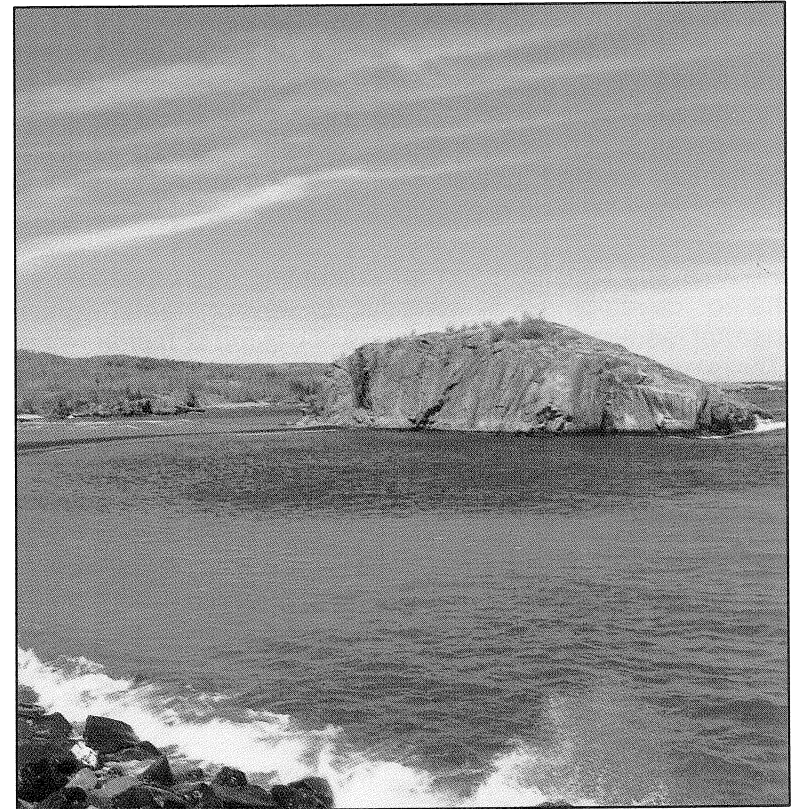
Unprotected Boat Launch Sites have not been included in the following pages because they do not meet the safety criteria and their continued development along the North Shore of Lake Superior is discouraged. Those facilities are launch sites at Burlington Bay, Schroeder, Tofte, and Chicago Bay.

Limited Protection Boat Launch Sites have not been included in the following pages as there are no changes proposed for the two specific sites meeting this description. Recommendations for the Bayside Park limited protection launch site in Silver Bay and the Voyagers Marina in Grand Portage are to include them in the network of boating facilities but do not include any recommendations for capital improvements. These sites provide some safety in moderate weather but lack the substantial breakwater protection to fit the definition of a "safe harbor" facility.

Emergency Refuge Sites have not been included in the following pages. These are natural harbor locations or private commercial/industrial harbors along the North Shore which may offer some limited protection from storms but are not considered public launch sites or recreational boating facilities. Sites considered "Emergency Refuge Locations" include Little Two Harbors in Split Rock State Park, Cyprus Industrial Harbor, Taconite Harbor, and Hollow Rock Bay just outside of Grand Portage.

While the original intent of this study and resulting Plan was to identify the locations for "Harbors of Refuge", the North Shore

Management Board and Citizen Advisory Committee have included existing and future marina locations, with public dollar participation, as part of the system of harbors. The rationale for their inclusion is that they do meet safety criteria and provide shelter in storms. Marina facilities also provide support services to the boating public and are a critical component to a successful network of boating facilities.



*East Island*

## **SITE CRITERIA**

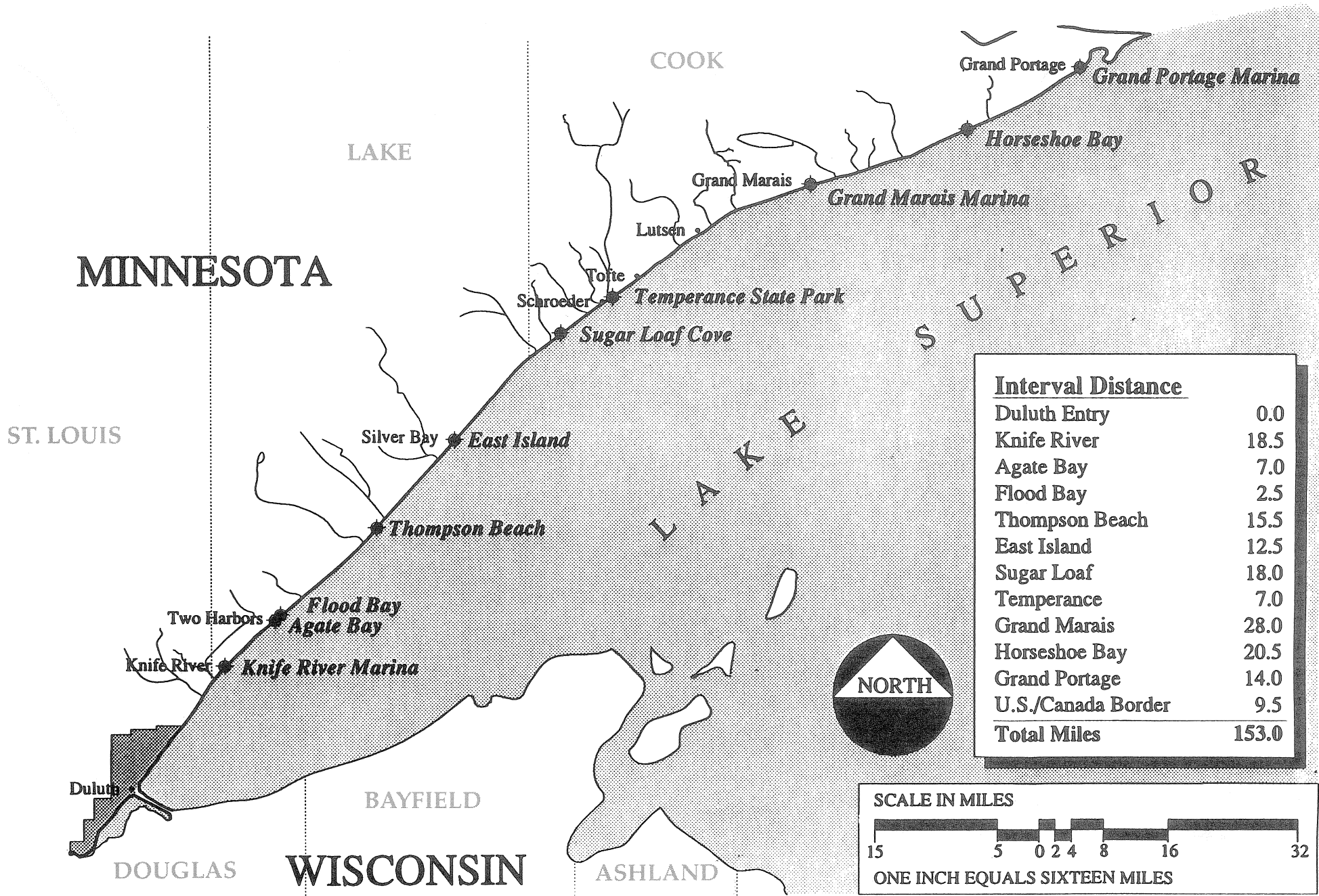
The criteria used to evaluate each harbor location and recommendation are shown below.

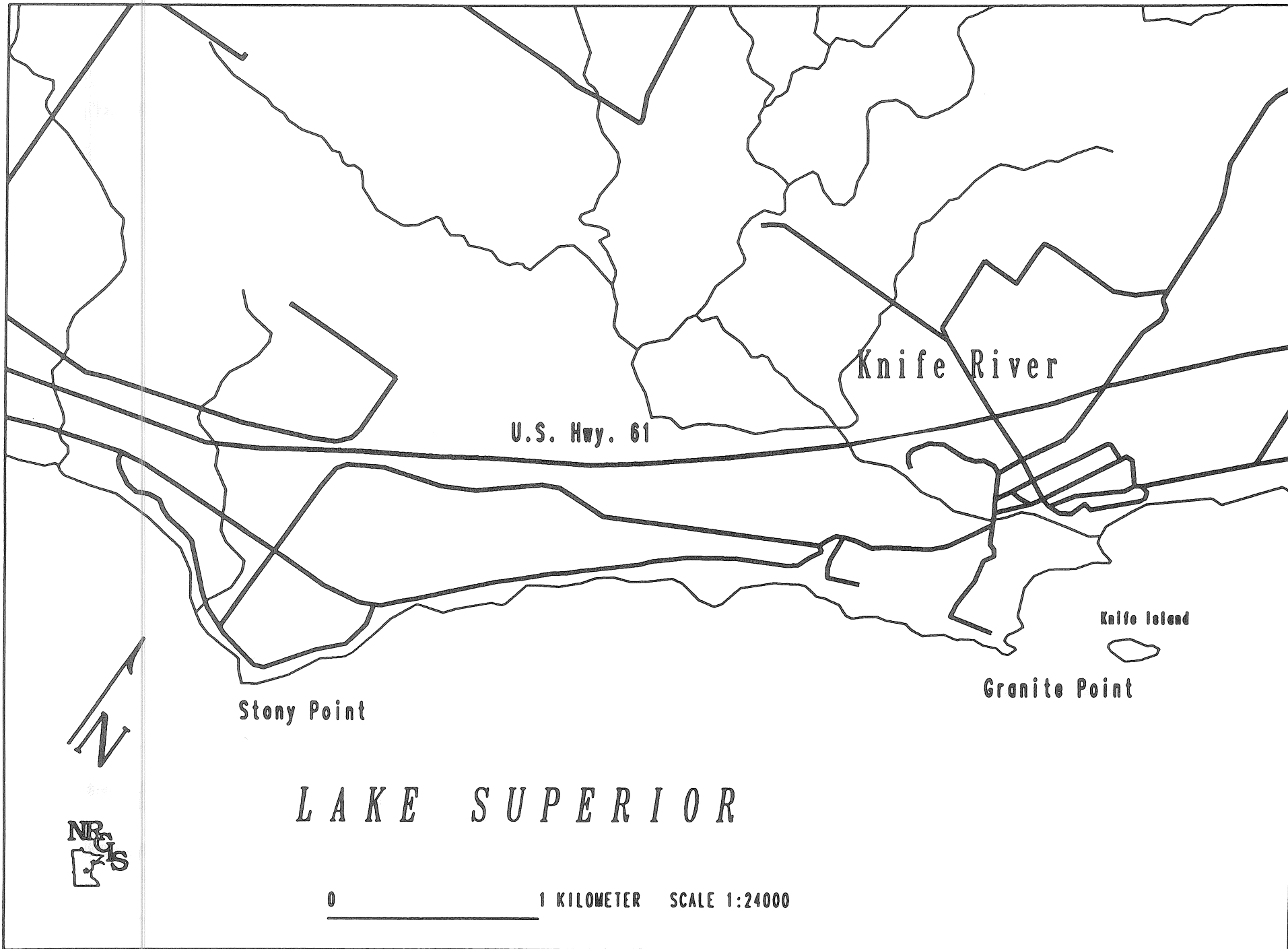
- Landside**
  - topography suitable
  - adequate acreage for facility
  - compatible with North Shore Management Plan
  - ownership, public or private, available for use
  - compatibility
    - aesthetics
    - security
  - adequate support facilities
    - existing infrastructure
    - parking
    - restrooms
    - picnic
    - lighting
    - phone, emergency service
  
- Waterside**
  - size of basin / facility size / cost effective
  - depth of water / cost of breakwater
  - distance from other harbors (safety & cruising)
  
- Community**
  - facility is compatible
  - avoid over-use of an area
  - community support matches facility
  
- Economics**
  - public investment available
  - multi-benefit/user concept included
  - cost/benefit relationship positive
  - economic development potential
  
- Environmental**
  - development sensitive to natural resource values
  - development sensitive to national or historic interests
  - development sensitive to fish & wildlife habitat
  - development sensitive to environmental concerns

**NORTH SHORE HARBORS/BOATING FACILITIES SYSTEM**

The following table illustrates the recommended “Harbors of Refuge”, those facilities designed to offer protection and water access to recreational boaters as well as offer passive recreational landside access for the North Shore:

<u>Waterfront Location</u>	<u>Distance Between Facilities</u>	<u>Type of Facility</u>
Knife River Marina	18.5 (from Duluth)	Marina & Harbor of Refuge Landside Access
Agate Bay	7 (from Knife River)	Harbor of Refuge, Future Marina/Mixed Use facility Landside Access
Flood Bay (Alternate to Agate Bay)	2.5 (from Agate Bay)	Marina, Harbor of Refuge Landside Access
Thompson Beach	15.5 (from Agate Bay)	Harbor of Refuge & Landside Access
East Island	12.5 (from Thompson)	Marina/Mixed Use Harbor of Refuge Landside Access
Sugar Loaf Cove	18 (from East Island)	Marina, Harbor of Refuge & Landside Access
Temperance State Park	7 (from Sugar Loaf)	Harbor of Refuge & Landside Access
Grand Marais Marina	28 (from Temperance)	Marina, Harbor of Refuge & Landside Access
Horseshoe Bay	20.5 (from Grand Marais)	Harbor of Refuge & Landside Access
Grand Portage Marina	14 (from Horseshoe Bay)	Marina, Harbor of Refuge & Landside Access





*LAKE SUPERIOR*

0 \_\_\_\_\_ 1 KILOMETER SCALE 1:24000



## ***KNIFE RIVER***

**LOCATION:** Approximately fifteen miles east of Duluth and six miles west of Two Harbors.

**DESCRIPTION OF SURROUNDING AREA:** Mix of residential and commercial use.

**EXISTING FACILITY:** Knife River is the site of an existing marina completed by the Corps of Engineers in 1958. It is owned by Lake County and operated by a private concessionaire. Currently there are 95 slips with docking, launching, and haul-out facilities.

**LAND OWNERSHIP/AVAILABILITY:** Lake County owns approximately thirty-six (36) acres of land along the Lake Superior waterfront, Knife River, and surrounding the marina facility. The county is making the land available for development and is actively supporting the expansion.

**WATER BASIN SIZE:** Approximately 3.3 acres (not including entrance channel).  
**Depth:** 10 feet in the entrance channel, and an inner harbor depth of 8 feet.  
**Capacity:** Currently 96 slips, proposed 86 slips, total future 181 slips.

**TOPOGRAPHY:** Relatively flat.

**SITE STATUS IN NORTH SHORE PLAN:** Commercial-Urban.

**EROSION HAZARD AREA:** No.

**PAST / CURRENT PLANS OR PROPOSALS:** Currently there are expansion plans, drawn by Krech and Ojard Consulting Engineers of Duluth, for the addition of 86 slips. The expansion would include additional parking and dredging out existing land to expand the dockage facility.

**PROJECT SPONSOR:** Lake County.

**ESTIMATED COST (If available):** Approximately \$2.9 million.

**ECONOMIC DEVELOPMENT POTENTIAL:** Lake County is making the land adjacent to the marina available for limited commercial and private development.

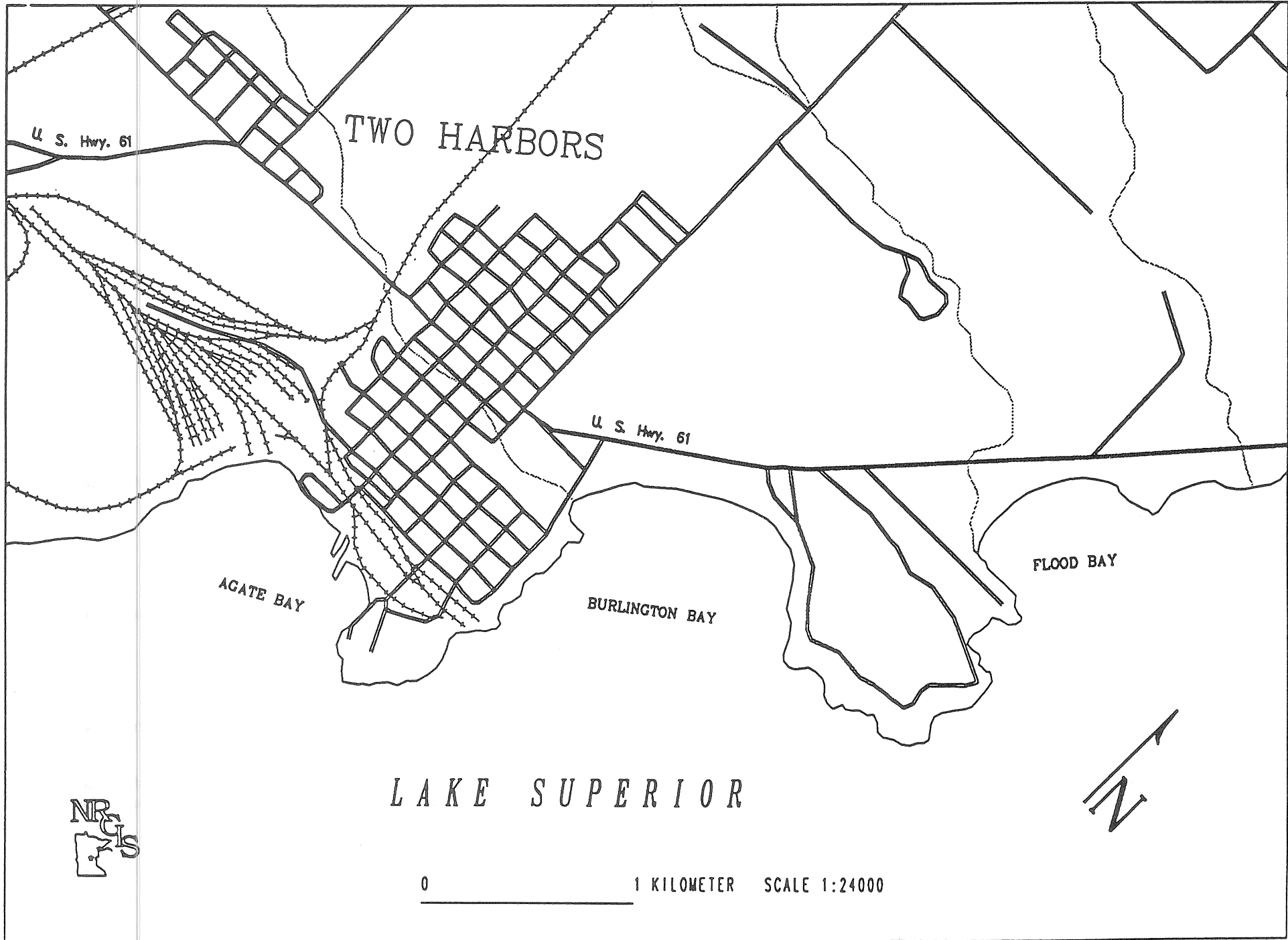
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Not aware of any significant environmental concerns.

**CONSTRAINTS:** Entrance to basin may need to be widened. Entrance may also need some limited breakwater work. Depth to bedrock may cause new dredging costs to be high.

**OPPORTUNITIES:** Existing marina facility with expansion potential. Consistent with surrounding area and land uses. Area exists for expansion. Existing boat launch ramp and infrastructure. Proximity to southern tourist demand. North Shore Train close in proximity - associated tourism. Public ownership. Fulfills safety spacing criteria.

**RECOMMENDATION:** Excellent expansion potential for a marina facility and for transient dockage. Designate as a marina and harbor of refuge.



0 1 KILOMETER SCALE 1:24000

## **TWO HARBORS/AGATE BAY**

**LOCATION:** Immediately south of the City of Two Harbors commercial district, in Two Harbors.

**DESCRIPTION OF SURROUNDING AREA:** Industrial and commercial urban mix.

**EXISTING FACILITY:** Commercial harbor (ore docks)/DNR small boat launching ramp and parking facility on northeast side of bay currently maintained by the City.

**LAND OWNERSHIP/AVAILABILITY:** Ownership is split between Duluth Missabe & Iron Range Railroad and U.S. Steel Corp. Currently unavailable but may be subject to negotiation.

**WATER BASIN SIZE:** Commercial harbor, approximately 150 acres.

**Depth:** 25-30 feet.

**Capacity:** Commercial harbor basin unavailable for water surface development.

**TOPOGRAPHY:** Flat to gently sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Industrial/Commercial Urban.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** Two Harbors Waterfront Economic Development Program - 1978 discouraged this as a site in the report because of potential conflicts with the commercial harbor. Also Corps of Engineers Study - 1985 concluded that breakwater construction would be too expensive to build within Agate Bay. It may be possible to dredge out a marina basin at this site provided land could be obtained.

**PROJECT SPONSOR:** No project sponsors to date. The City of Two Harbors has expressed their interest in keeping this site in the recreational harbors plan and supports the possibility of adding dockage to the existing DNR boat launch area.

**ESTIMATED COST (If available):** \$3.1 Million

**ECONOMIC DEVELOPMENT POTENTIAL:** The land-side offers excellent potential with the North Shore Tourist Train, museum, and proximity to the central business district. Previous concerns about mixing recreational boating with a commercial harbor seem unfounded with the successful DNR boat launch ramp experience.

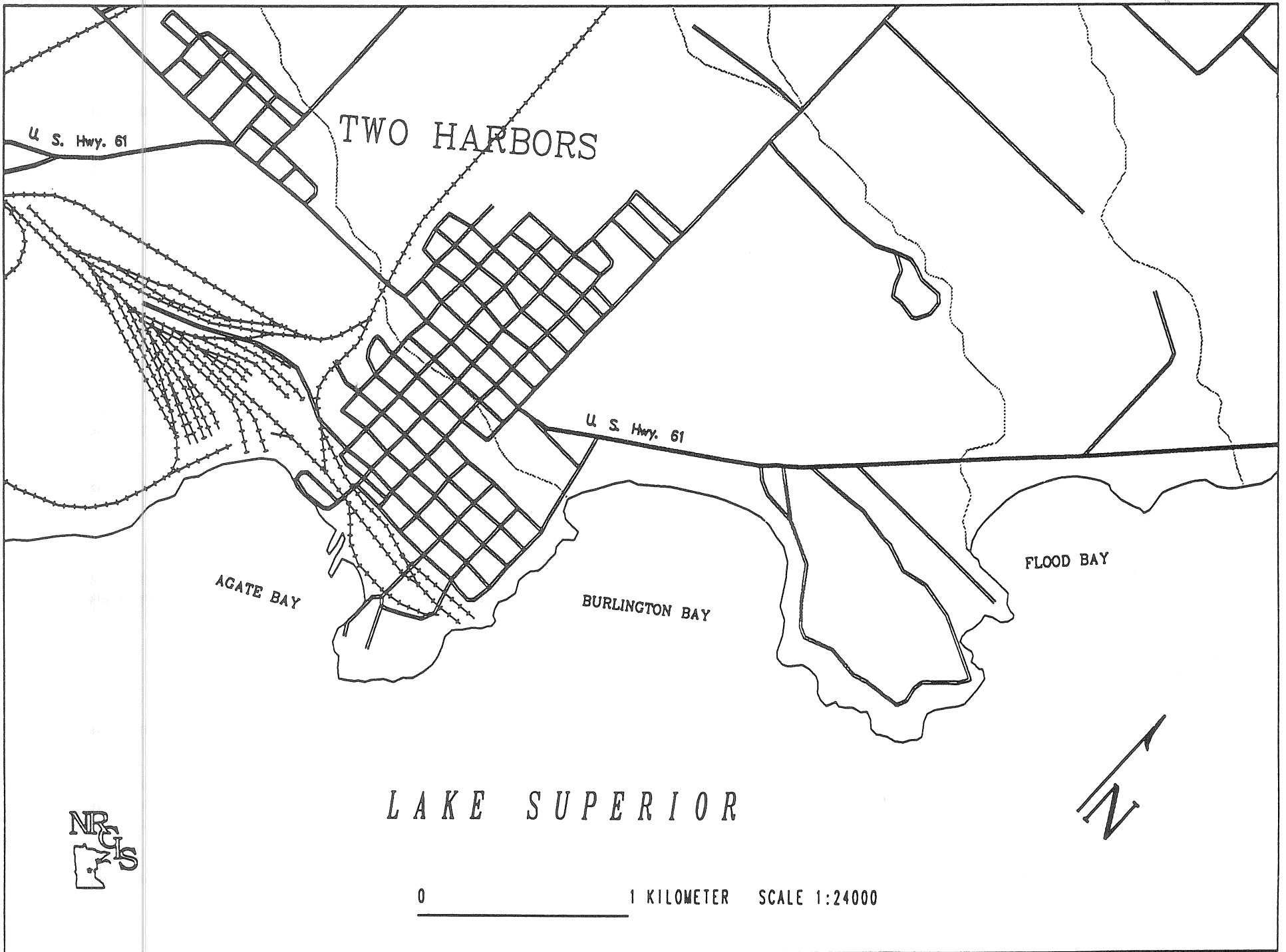
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Not aware of any significant environmental concerns.

**CONSTRAINTS:** Land identified for dredged basin is owned by the railroad. Currently space is unavailable for dockage - can not encroach upon commercial shipping areas. Will require dredged basin.

**OPPORTUNITIES:** Existing boat launch ramp and parking. Excellent commercial breakwater exists. Expansion/development land areas virtually unlimited. Existing water depths are good. Infrastructure exists. Development fits with existing use. Potential development could be tied to Two Harbors commercial district and the North Shore Tourist Train. Taconite loading facility is unique, tourism opportunity. Two Harbors area (Agate Bay or Flood Bay) fulfills safety spacing criteria.

**RECOMMENDATION:** Highest development potential for a future, large scale, multiple use marina project and designate as a harbor of refuge. Short-term, keep as a limited protection boat launch, emergency refuge, and possible transient dockage.



LAKE SUPERIOR

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## **FLOOD BAY**

**LOCATION:** 1 mile northeast of Two Harbors.

**DESCRIPTION OF SURROUNDING AREA:** Mix of residential and commercial use.

**EXISTING FACILITY:** No boating or water access facility. Passive recreational use, resort.

**LAND OWNERSHIP/AVAILABILITY:** The marina site is owned by the proposers.

**WATER BASIN SIZE:** Proposed basin will be designed to moor approximately 150 boats with provisions for transient moorage for an additional 30 boats.

**Depth:** 10 foot channel/8' inner harbor.

**Capacity:** 150 slip marina proposed.

**TOPOGRAPHY:** Flat to gently sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Commercial Urban. The harbor site is adjacent to, but does not include, the Flood Bay Scenic Wayside Park, a protected resource.

**EROSION HAZARD AREA:** Yes. Adjacent to the proposed site, a cooperative effort between the Department of Natural Resources, Minnesota Department of Transportation and the Lake County Soil and Water Conservation District is currently underway to stabilize the eroding shoreline using waste blast rock from a nearby highway project for use as a rock rip-rap.

**PAST OR CURRENT PLANS OR PROPOSALS:** Superior Shores Marina, proposed marina capable of holding about 150 boats measuring up to 40' in length with supporting facilities to include: parking, boat handling equipment, storage, restrooms, harbor master and administration facilities, and marine fueling and pump-out facilities.

**PROJECT SPONSOR:** Superior Shores Corporation. Public/Private partnership proposed.

**ESTIMATED COST (If available):** \$2.5 million.

**ECONOMIC DEVELOPMENT POTENTIAL:** With the existing Superior Shores Lodge and nearby City of Two Harbors, the local economy may be stimulated as a result of increased tourism and activity in the area.

**COMMUNITY SUPPORT:** Mixed support - positive from the City of Two Harbors, strong neighborhood opposition.

**ENVIRONMENTAL CONCERNS:** The project may require minimal mitigation of Wetlands, less than 1 acre.

**CONSTRAINTS:** Environmental and community concerns. No natural protection - breakwater construction will be required even if marina would be placed behind the beach. Water depths may require dredging. Beach material could collect in the entrance of a channel, moving beach. No existing boating or harbor facilities.

**OPPORTUNITIES:** Large land available. Large water area available. Land access very good. Associated with another private tourism use adjacent to resort. Fits with surrounding use and North Shore Management Plan. Two Harbors area (Agate Bay or Flood Bay) fulfills safety spacing criteria.

**RECOMMENDATION:** Needs to meet permitting requirements. Long term potential for marina and harbor of refuge (alternative to Agate Bay) to be associated with existing tourism facilities.

Gooseberry Falls  
State Park

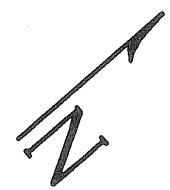
U.S. Hwy. 61

Thompson Beach

LAKE SUPERIOR



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## THOMPSON BEACH

**LOCATION:** Approximately 1.75 miles east of Gooseberry River.

**DESCRIPTION OF SURROUNDING AREA:** Mix of residential and state parkland. Thompson Beach is located within a three mile stretch of land between Gooseberry and Split Rock State Park.

**EXISTING FACILITY:** None.

**LAND OWNERSHIP/AVAILABILITY:** 3 lots are privately owned on the east side of the bay and approximately 40 acres surrounding the rest of the bay and across Highway 61 are owned by the Minnesota Department of Transportation.

**WATER BASIN SIZE:** Approximately 6.8 acres.

**Depth:** 14 feet.

**Capacity:** Adequate for a harbor of refuge with maximum transient dockage for 100 boats.

**TOPOGRAPHY:** Flat to gently sloping.

**SITE STATUS IN NORTH SHORE PLAN** Residential.

**EROSION HAZARD AREA** Yes.

**PAST OR CURRENT PLANS OR PROPOSALS:** No plans or proposals have been submitted for consideration to date. A breakwall could be constructed to provide shelter for boat access and the addition of land side amenities, ie. parking, restrooms, picnic.

**PROJECT SPONSOR:** No project sponsors to date.

**ESTIMATED COST:** 850 feet of breakwaters at \$3.1 million, dredging/blasting the basin, dockage, sewage pump-out facilities, restrooms/showers, two launch ramps, parking, 600 feet access road and an engineering and contingency allowance for a total of \$6 million.

**ECONOMIC DEVELOPMENT POTENTIAL:** Enhance public access to the waterfront for both passive recreational and boating use. Important location for safety spacing within the harbor system and will enhance overall boating use.

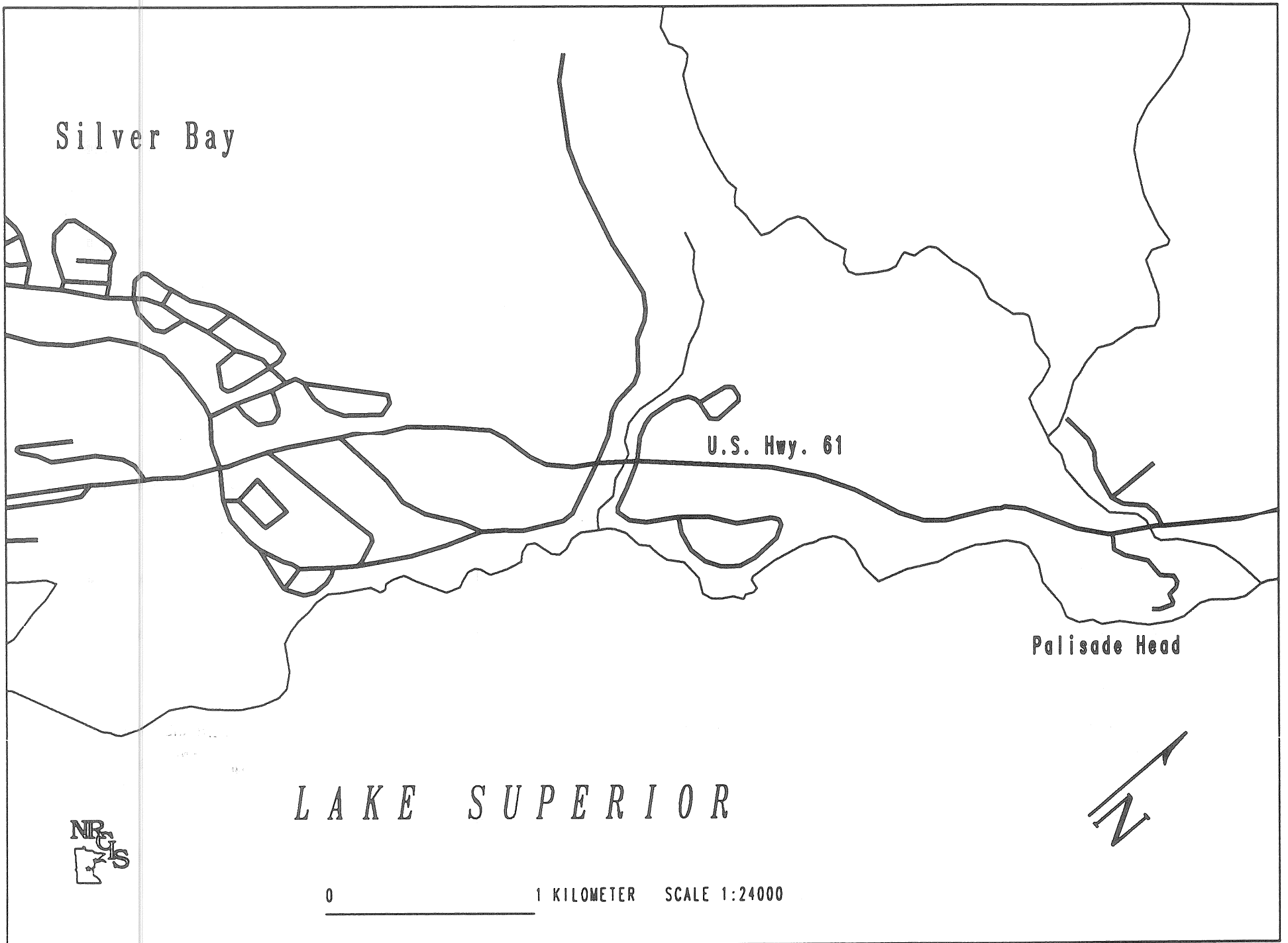
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Not aware of any significant environmental concerns. Design must be sensitive to aesthetics of the surrounding area.

**CONSTRAINTS:** Access to facility will probably require relocating the entrance to property. Little natural protection - would require a breakwater. No infrastructure to share. Need to minimize shoreline intrusion. Private property owners adjacent to harbor location.

**OPPORTUNITIES:** Water depths very good. Public ownership. Ample land available. Increase public access to lake. Fulfills safety criteria.

**RECOMMENDATION:** Designate as a harbor of refuge and landside water access point.



Silver Bay

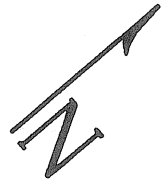
U.S. Hwy. 61

Palisade Head

LAKE SUPERIOR

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## SILVER BAY/EAST ISLAND SITE

**LOCATION:** Located east of Cyprus's east breakwall.

**DESCRIPTION OF SURROUNDING AREA:** Industrial and commercial urban.

**EXISTING FACILITY:** None.

**LAND OWNERSHIP/AVAILABILITY:** Cyprus North Shore Mining Company and Lake County together own approximately 200 acres of land adjacent to the site.

**WATER BASIN SIZE:** Approximately 36 acres.

**Depth:** Approximately 13 feet.

**Capacity:** Could accommodate up to 700 craft.

**TOPOGRAPHY:** Moderately sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Industrial.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** The Lake County Recreation Board has taken the position that this site is a better location than either East Beaver Bay or the Bayside Park site and has stated their reasons as follows: 1. The bay is larger. 2. The terrain for access to the lake and land is relatively flat. 3. There are three protective islands. 4. There are three road accesses from highway #61. 5. There is an un-used trailer court nearby on flat terrain with sewer and water. 6. If developed, the area would not interfere with any present scenic vistas of Lake Superior as seen from highway #61. The City of Silver Bay has recently designated East Island as the preferred site in the Silver Bay area for marina development.

Assuming an off shore facility, breakwaters totaling 2,040 feet in length could be constructed in water with an average depth of 13 feet at a cost of \$7.6 million. As there is a reasonable amount of low and level upland at the site, it may be that a combined off-shore inland basin would be most suited (and reduce breakwater costs by half). The project would include 75 slips, fuel dock with sewage pump-out unit, restroom with showers, haul-out facility, inside winter storage building, 2 ramps, parking, access road (add \$1.7 million to project cost).

**PROJECT SPONSOR:** No project sponsor at this time.

**ESTIMATED COST (if available):** Off shore facility and accompanying amenities - 9.3. million (7.6 million for offshore facility breakwaters).

**ECONOMIC DEVELOPMENT POTENTIAL:** The Lake County Recreation Board contends that construction of such a structure would capitalize on an established tourism industry, serve as an attraction, and provide an economic spin-off for the people of Lake County.

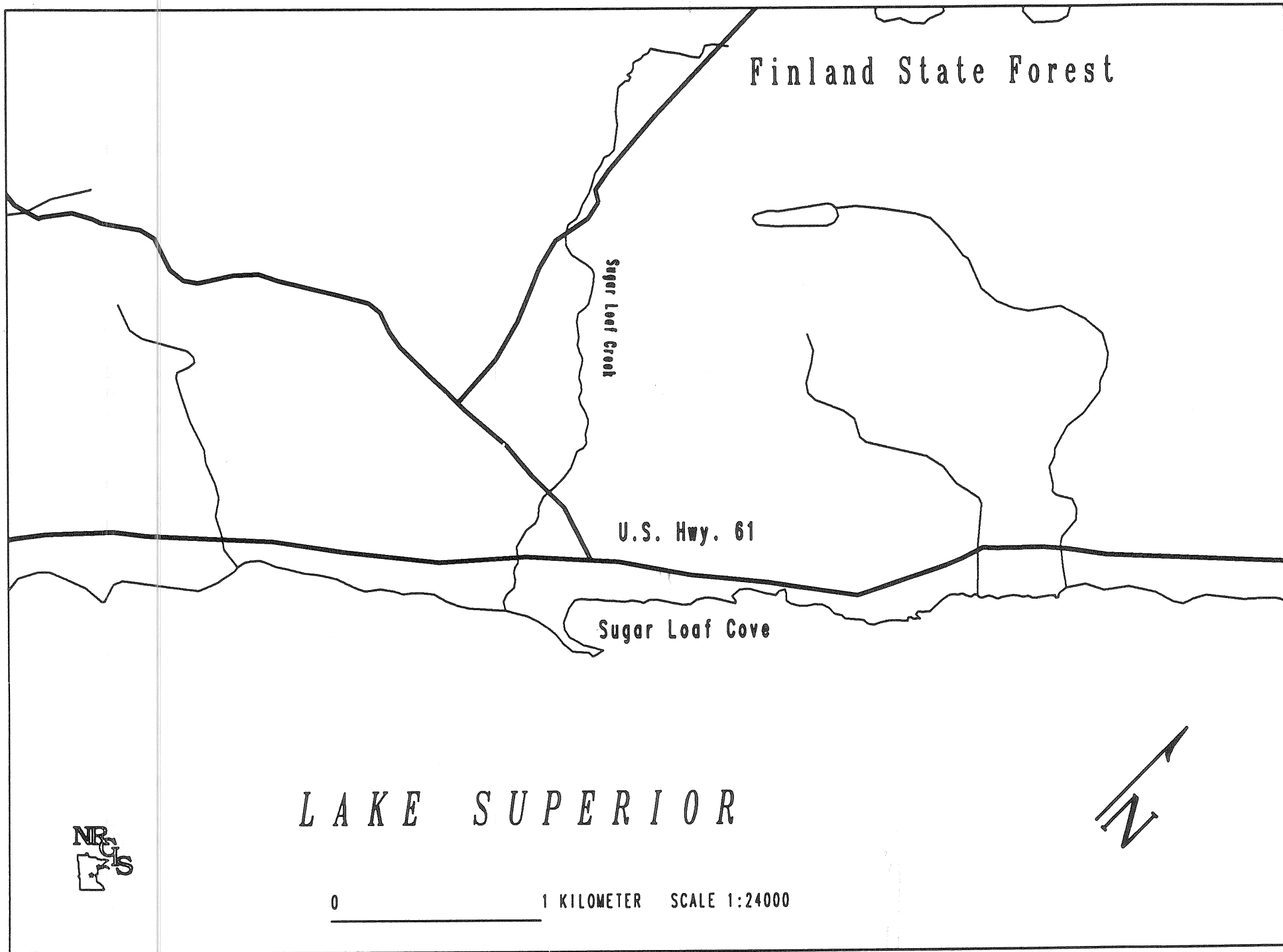
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Taconite tailings in area. Project clean up may result in a remedial action.

**CONSTRAINTS:** Land ownership will require negotiation. May require a large amount of breakwater. Rock on land may cause reflection problems in the basin.

**OPPORTUNITIES:** A lot of land is available for expansion and development. Some infrastructure exists. Some natural protection exists. Large basin potential. Good water depths. Good access. Compatible with surround land uses. Excellent opportunity to combine with private development. Potential for multiple uses. Silver Bay fulfills safety spacing criteria.

**RECOMMENDATION:** Long term potential for mixed use marina development and harbor of refuge.



Finland State Forest

Sugar Loaf Creek

U.S. Hwy. 61

Sugar Loaf Cove

LAKE SUPERIOR



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1 KILOMETER SCALE 1:24000



## **SUGAR LOAF COVE**

**LOCATION:** 19.5 miles east of Silver Bay.

**DESCRIPTION OF SURROUNDING AREA:** Residential.

**EXISTING FACILITY:** None. Formerly the location of a pulp rafting operation.

**LAND OWNERSHIP/AVAILABILITY:** 34 acres on the bay are owned by the Minnesota DNR.

**WATER BASIN SIZE:** 10 acres.

**Depth:** Approximately 18-20 feet at possible breakwater location.

**Capacity:** 100 - 150 slips, pending design recommendations.

**TOPOGRAPHY:** Flat to gently sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Residential/Protected Resource. Currently zoned commercial.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** No specific plans or proposals have been designated at this time.

**PROJECT SPONSOR:** Undetermined.

**ESTIMATED COST (if available):** A rough estimate for 640' breakwater is \$2.5 million. Docks, parking and support facilities have been estimated to cost approximately \$1.5 million, not including utilities.

**ECONOMIC DEVELOPMENT POTENTIAL:** There has been a stated interest from Cook County and from private developers for low density, residential planned unit development on this site. Sugar Loaf as a harbor of refuge is important to the safety network of harbors.

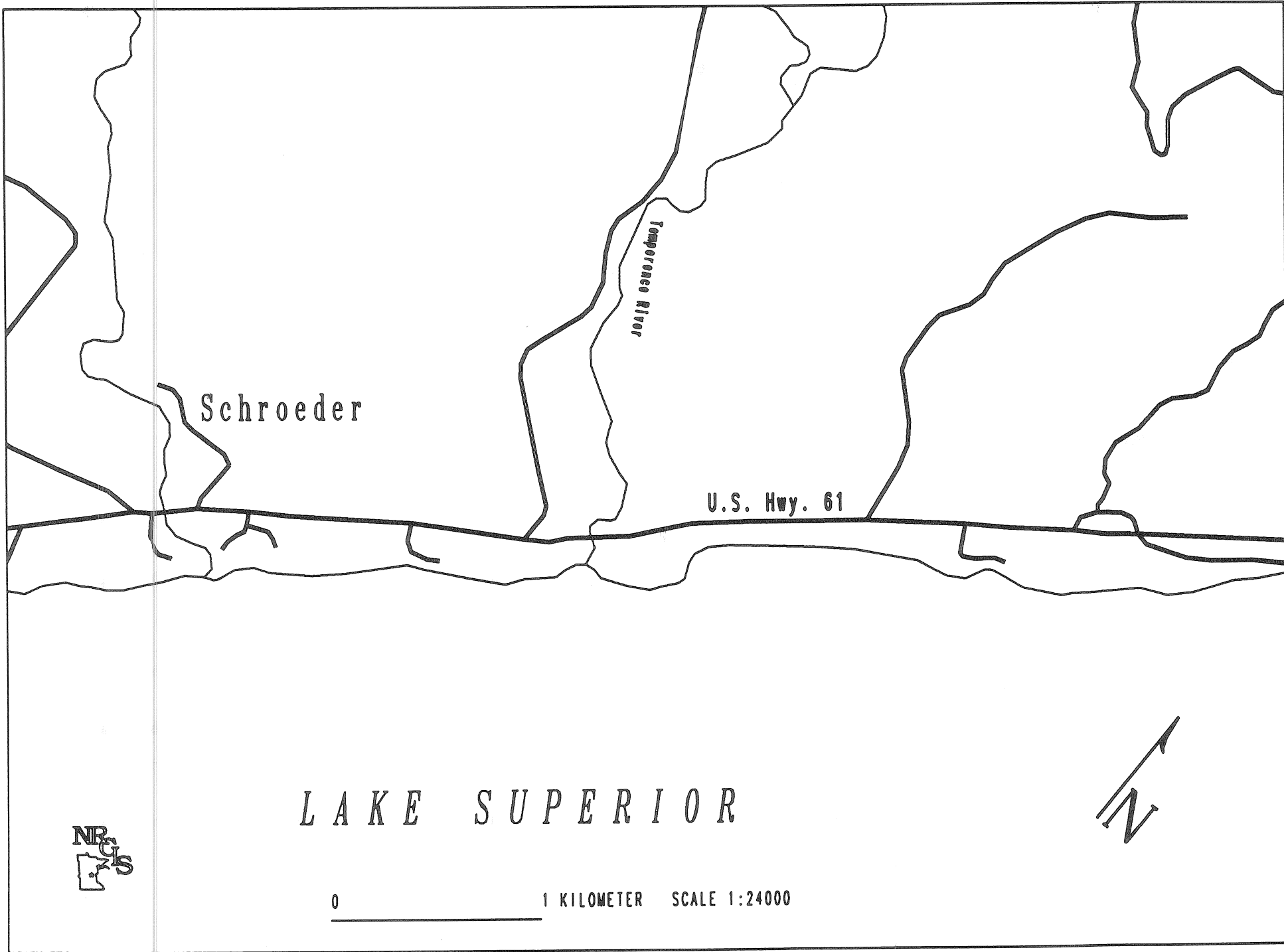
**COMMUNITY SUPPORT:** Positive. The immediate community and county are anxious to proceed with construction of a harbor of refuge.

**ENVIRONMENTAL CONCERNS:** Tombolo - unique geological formation. Rare and endangered plant species. Development must be sensitive to environmental concerns.

**CONSTRAINTS:** No infrastructure. Would require breakwater construction for protection. Environmental and unique features. Need to retain aesthetic qualities.

**OPPORTUNITIES:** Large amount of public land available. Large basin possible. Good water depths. Land access is good. Fulfills safety spacing criteria. Strong community support.

**RECOMMENDATION:** Excellent development potential/only if sensitive to natural features. Designate as a Harbor of refuge and landside water access point. Long term potential for marina development.



Schroeder

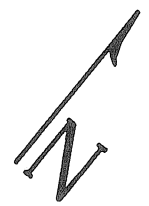
Temperance River

U.S. Hwy. 61

LAKE SUPERIOR



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## **TEMPERANCE RIVER SITE**

**LOCATION:** 1.25 miles east of Schroeder and 28 miles west of Grand Marais.

**DESCRIPTION OF SURROUNDING AREA:** State Park. Commercial rural to the west and residential to the east.

**EXISTING FACILITY:** None. Formerly the site of commercial fishing access.

**LAND OWNERSHIP/AVAILABILITY:** State of Minnesota.

**WATER BASIN SIZE:** 2.17 acres.

**Depth:** Estimated 18 feet.

**Capacity:** Adequate for harbor of refuge with transient dockage.

**TOPOGRAPHY:** Moderately sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Mouth of the River is Protected resource. Recommended Harbor location does not encroach on this location.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** No formal plans or proposals have been developed. Land and water-side potential for harbor of refuge.

**PROJECT SPONSOR:** No project sponsors to date.

**ESTIMATED COST (if available):** Estimate of \$3.6 million for 700' breakwater, not including land side amenities.

**ECONOMIC DEVELOPMENT POTENTIAL:** Proximity to Schroeder and Tofte might offer some tourism benefits to those communities. Important to safety spacing of network and will increase overall usage of harbor facilities.

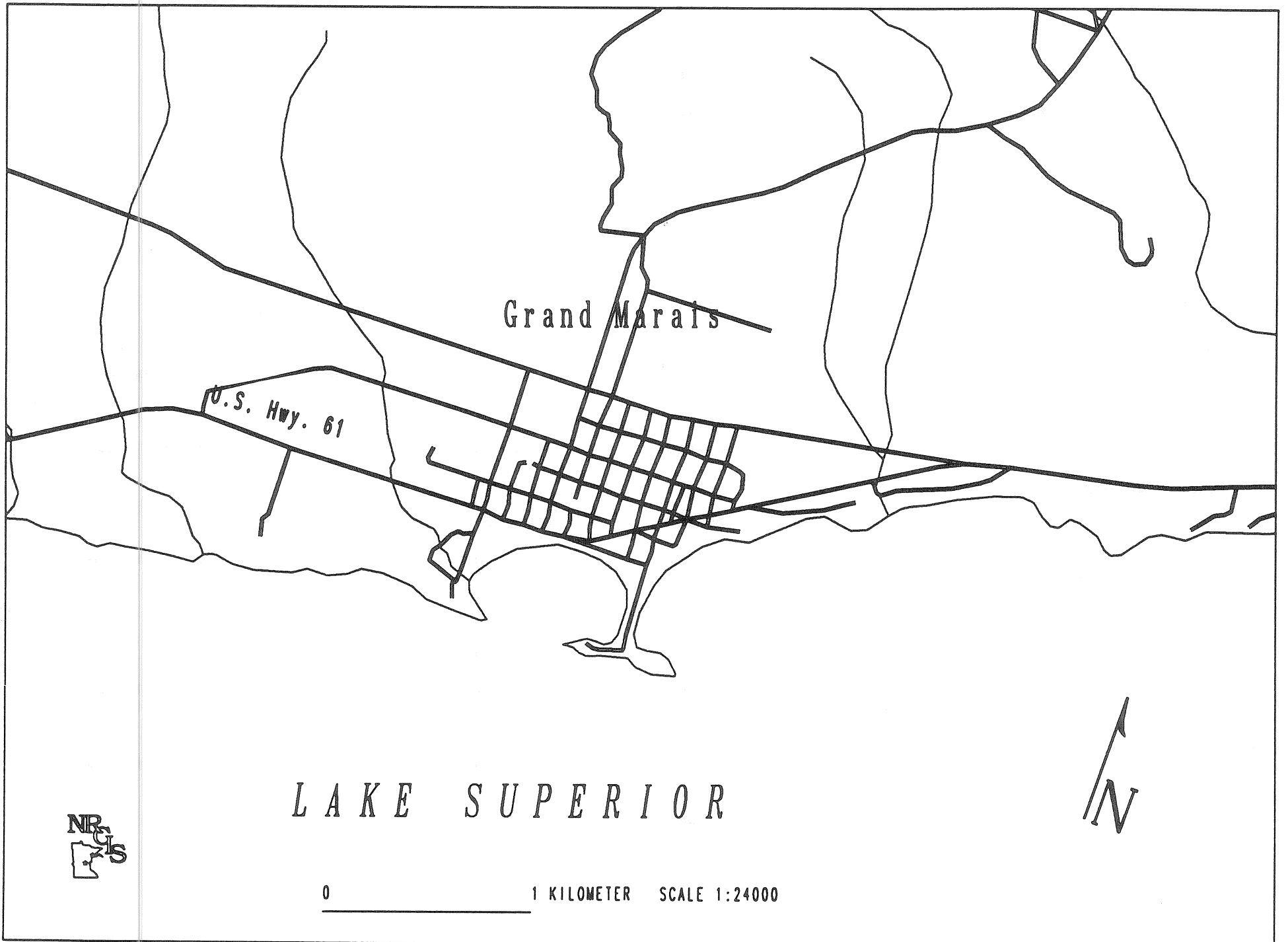
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Rare and endangered plant species in park area, pre-historic cobblestone beach.

**CONSTRAINTS:** Potentially difficult on-site access, rocky. Breakwater needed. Design must be sensitive to environmental concerns. Close to Sugar Loaf harbor location. Minimize intrusion to shoreline aesthetics. Only choice between Sugar Loaf and Grand Marais - could be better spacing if a site were identified at a mid-point location.

**OPPORTUNITIES:** Natural area, surrounded by park land. Public ownership. Increased public access to Lake Superior. Best choice available to fulfill spacing criteria. Ideal location for commercial fishing interpretative center.

**RECOMMENDATION:** Designate as a harbor of refuge and landside water access point.



LAKE SUPERIOR

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## **GRAND MARAIS**

**LOCATION:** Grand Marais Harbor, Grand Marais, (28 miles east of Temperance State Park).

**DESCRIPTION OF SURROUNDING AREA:** Mix of commercial urban and residential.

**EXISTING FACILITY:** Breakwater and 20 - 24 slips.

**LAND OWNERSHIP/AVAILABILITY:** The entire southwesterly portion of the harbor is city owned except for a small parcel owned by the U.S. Forest Service which the Trust for Public Land (a non-profit organization) has been negotiating with the Forest Service in Cook County to deed the federal property to the city.

**WATER BASIN SIZE:** Currently 2.5 acres. Relocation of breakwater to create 8-10 acres.

**Depth:** 8 feet within the existing harbor.

**Capacity:** Proposed 254 slips total.

**TOPOGRAPHY:** Flat to gently sloping.

**SITE STATUS IN THE NORTH SHORE PLAN:** Commercial urban.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** Proposed expansion plans drawn by Warzyn Engineering of Minneapolis call for enlarging the marina by moving a portion of the present marina breakwall further into the harbor to cover approximately 8-10 acres of the 65-acre harbor. In addition, parking and marina services would be expanded. A second proposal suggests dredging out a portion of the existing campground area.

**PROJECT SPONSOR:** City of Grand Marais.

**ESTIMATED COST (if available):** \$3.7 Million (1989).

**ECONOMIC DEVELOPMENT POTENTIAL:** The Marina Facility Expansion Report written for the City by Warzyn states, "the proposed marina improvement will clearly translate into business for downtown merchants, . . . Spin-off renovation projects downtown, and increases in boating and fishing related to tourism will bring life and activity to the city".

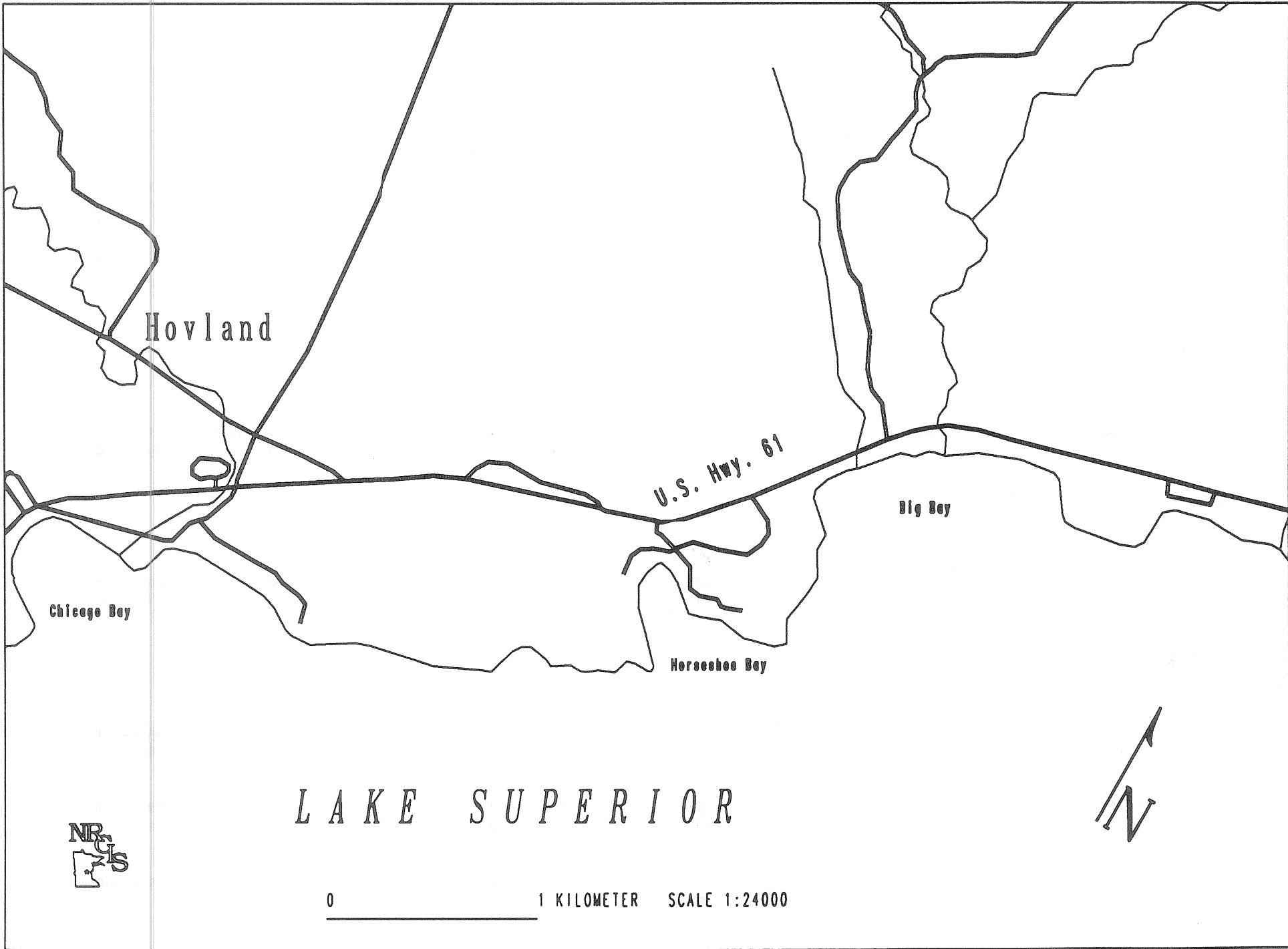
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Not aware of any significant environmental concerns.

**CONSTRAINTS:** Expansion would require moving breakwater or dredging into existing campground facility. Avoid over dedicating entire bay to recreational boating activity. Maintain commercial harbor status. Needs careful attention to parking, vehicular and pedestrian circulation and landside views. Need to establish comprehensive plan for waterfront use and determine the amount of shore property to be available for boating purposes.

**OPPORTUNITIES:** Existing marina facility, DNR boat launch and parking area. Larger basin possibilities. Outer breakwater exists and is maintained by U.S. Army Corps of Engineers. Land access good. Good water depths. Compatible with surrounding uses. Excellent economic development potential with existing commercial area. Fulfills safety spacing criteria.

**RECOMMENDATION:** Excellent expansion potential for a marina facility. Suggest historic interpretive theme and multiple-use improvements for non-boating public use. Designate as a marina, harbor of refuge and landside water access point.



Hovland

U.S. Hwy. 61

Big Bay

Chicago Bay

Horseshoe Bay

LAKE SUPERIOR



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## ***HORSESHOE BAY***

**LOCATION:** Two miles east of Hovland and Chicago Bay. 15 miles west of Grand Portage.

**DESCRIPTION OF SURROUNDING AREA:** Commercial rural to west, residential to the east.

**EXISTING FACILITY:** DNR boat launch.

**LAND OWNERSHIP/AVAILABILITY:** Approximately 520 acres surrounding the bay are designated State School Trust (unsold and indemnified land). Property around the bay has been leased to private individuals. These leases will be converted to sales without intervention or authorization from the legislature.

**WATER BASIN SIZE:** Approximately 20 acres.

**Depth:** Approximately 18-24 feet.

**Capacity:** Undetermined.

**TOPOGRAPHY:** Moderately sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Residential/protected resource.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** 900' of breakwaters of 18' would cost \$3.78 million - could be constructed to provide additional shelter to this natural harbor provision of docks for 25 craft, launch ramps, access road along with amenities, i.e. parking, restrooms, picnic.

**PROJECT SPONSOR:** No project sponsor to date.

**ESTIMATED COST (if available):** \$5.0 million for project costs. (Does not include sewage treatment or disposal.)

**ECONOMIC DEVELOPMENT POTENTIAL:** Increased public access to waterfront. Important site to the safety spacing criteria, midway between Grand Marais harbor and Grand Portage harbor. Will increase overall use of the harbor system.

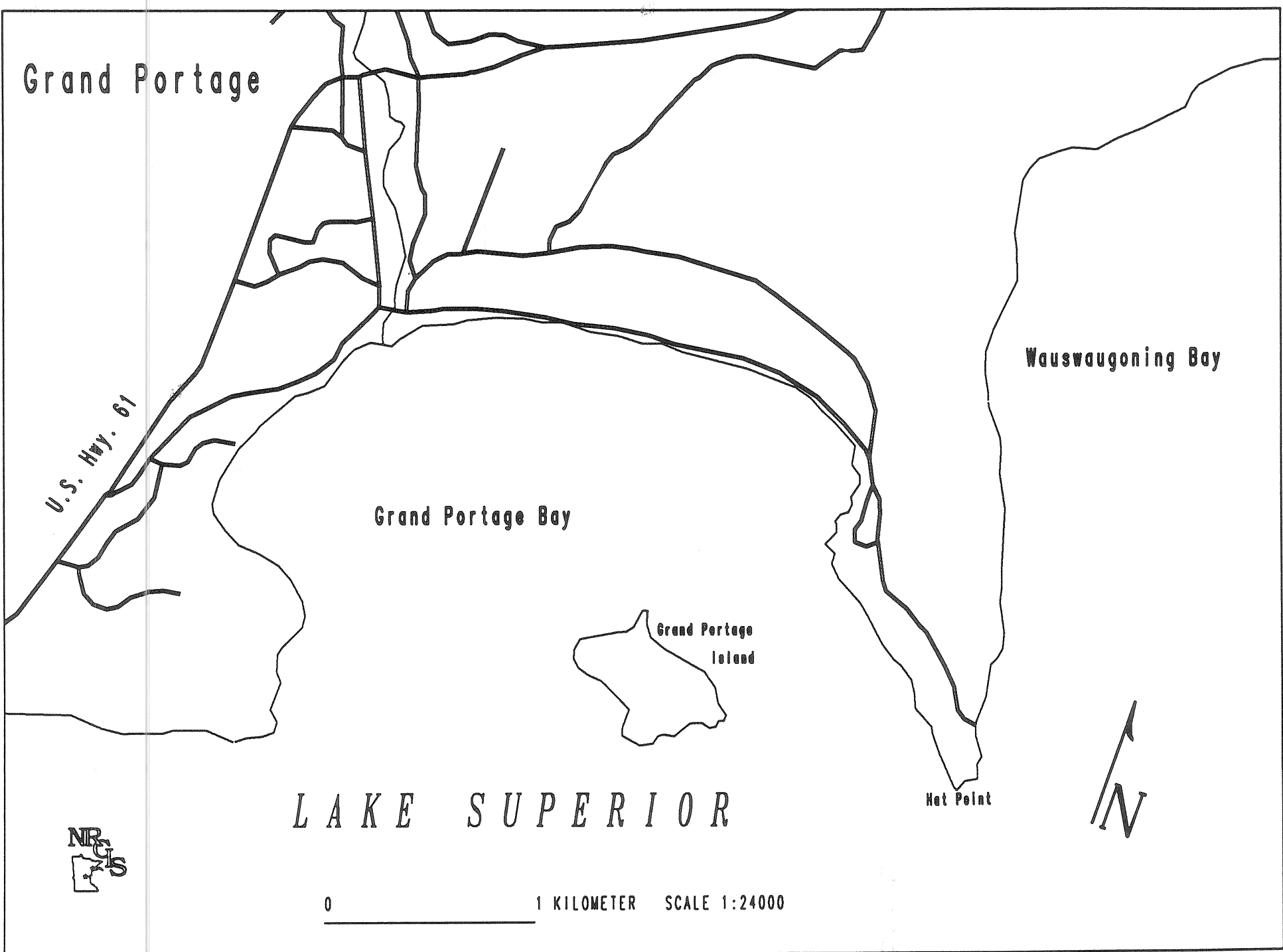
**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Not aware of any significant environmental concerns.

**CONSTRAINTS:** Breakwater required. Existing leased lots and pending conversion to sales.

**OPPORTUNITIES:** Large landside development area. Bay fairly well protected. Large basin possible. Existing small DNR boat launch/ramp. Public ownership. Good access. Meets safety spacing criteria.

**RECOMMENDATION:** Designate as a harbor of refuge and landside water access point.



Grand Portage

U.S. Hwy. 61

Grand Portage Bay

Wauswaugoning Bay

Grand Portage  
Island

Hot Point

LAKE SUPERIOR

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## **GRAND PORTAGE**

**LOCATION:** Grand Portage Harbor, Grand Portage.

**DESCRIPTION OF SURROUNDING AREA:** Commercial rural/protected resource (Grand Portage Indian Reservation).

**EXISTING FACILITY:** Newly developed 22 slip inland dredged harbor, boat launch, fuel and electrical hook-ups available.

**LAND OWNERSHIP/AVAILABILITY:** U.S. Government Trust for the Grand Portage Band of the Lake Superior Chippewa.

**WATER BASIN SIZE:** Existing .74 acres/Proposed 1.5 additional acres. (Total 2.25 acres).

**Depth:** 6 - 8 feet.

**Capacity:** 22 existing slips/80 proposed additional slips.

**TOPOGRAPHY:** Flat to gently sloping.

**SITE STATUS IN NORTH SHORE PLAN:** Commercial rural.

**EROSION HAZARD AREA:** No.

**PAST OR CURRENT PLANS OR PROPOSALS:** Plans drawn by Delano Erickson Architects of Minneapolis for the Grand Portage Reservation Business Committee include expansion of a separate inland dredged harbor and additional parking. Also an additional boat launch and hoist would be provided. Other suggestions have been to dredge a channel through the shallow bay to accommodate sail and deeper draft vessels.

**PROJECT SPONSOR:** Grand Portage Reservation Business Committee.

**ESTIMATED COST (If available):** \$1.71 million for an initial facility for 50 boats, two ramps, fuel dock with sewage disposal facilities, haul-out facilities, restrooms and showers, winter storage building, utilities to the site, parking for 38 cars and 50 vehicle-trailers, with an allowance for engineering and contingencies.

**ECONOMIC DEVELOPMENT POTENTIAL:** Excellent development potential as the site is adjacent to the existing marina facility and the Grand Portage Lodge, and would enhance the existing development.

**COMMUNITY SUPPORT:** Positive

**ENVIRONMENTAL CONCERNS:** Not aware of any significant environmental concerns.

**CONSTRAINTS:** Narrow marina entrance, may need to widen, strengthen. Water depths are shallow in Grand Portage Bay, may need to dredge a channel.

**OPPORTUNITIES:** Existing marina facility and infrastructure. Fulfills safety spacing criteria. Good existing use. A lot of land available for development. Natural protection. Additional interpretive opportunities available. Compatible with surrounding uses. Excellent development potential.

**RECOMMENDATION:** Excellent expansion potential for marina and landside water access point. Designate as a harbor of refuge, marina and landside water access point. Evaluate land and water needs and opportunities in a total master planning effort.



## CHAPTER THREE

### Implementation Costs and Economic Opportunities

#### Introduction

#### Conceptual Unit Price Costs

#### Implementation Costs

#### Economic Opportunities



*Thompson Beach*



## IMPLEMENTATION COSTS AND ECONOMIC OPPORTUNITIES

### INTRODUCTION

In this section, the recommended improvements and costs to develop each site are presented, based on estimates provided by the site sponsors and conceptual unit price information derived for the Minnesota Department of Natural Resources. Costs for breakwater construction and dredging can vary dramatically from site to site, whereas other costs are relatively the same on a per unit basis. Costs which can vary considerably include:

- Breakwater costs which are highly a function of water depth
- Harbor excavation, if necessary
- Launch ramp excavation which is highly cost dependent on shore bluff height
- Parking lot grading which is dependent on the slope of the land surface
- Possible relocation costs for roads and/or highways
- Utility costs

Costs which are relatively the same for any site include:

- Drainage structures
- Paving
- Walkways
- Site amenities
- Landscaping
- Buildings
- Launch ramp pavement and dockage
- Lighting
- Curb and gutter

As many of these harbor locations have not had the benefit of engineering or specific project design activity, construction cost figures are presented as broad estimates. Accurate figures will depend upon actual engineering and design plans for that harbor project.

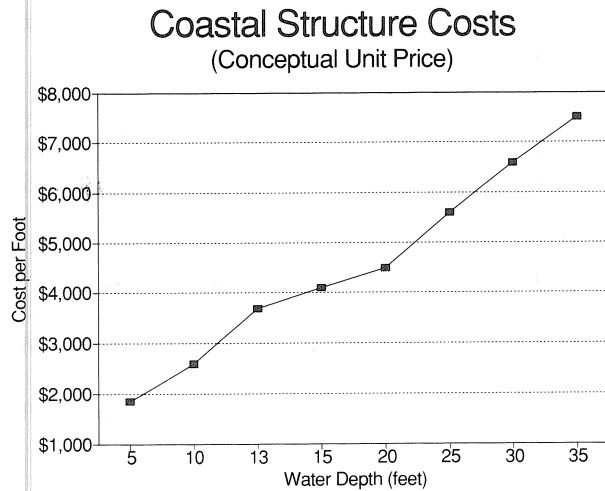
Some discussion of economic development activities that will be maximized when coupled with the waterfront facility improvements will be provided in this section as well. Specific site plans will address these issues during the implementation phase of each project using a coordinating committee of local and shorewide interests. Each site has variable economic development opportunities depending upon the nature of the harbor facility. Even though some harbor locations will not lend themselves to commercial development, they are an essential part of the overall system or network which is anticipated to have a positive economic impact to the North Shore.

The implementation of a system of harbors and boating facilities along the North Shore will enhance the tourism industry along the shoreline. A safe system of boating/waterfront facilities clearly increases the North Shore's ability to compete with the other recreational areas along the Lake Superior shoreline that have benefitted from Minnesota boaters and tourists, not to mention those boaters and tourists from Wisconsin, Michigan and Canada. The lack of a system has been documented as an impediment to boating activities along the North Shore, at a time that the Great Lakes have experienced a growth in recreational boating activities.

## CONCEPTUAL UNIT PRICE COSTS

### Coastal Structures

Breakwaters are designed to be overtopped in the winter and any dockage must be removed. The costs assume a conventional design with a crest elevation of 614.0 and 1.5:1 side slopes on the interior and non-breaking wave exterior locations, and 3.0:1 side slopes in the breaking wave zone. The following costs are conceptual unit price information derived by E.W.I. Engineering for the Department of Natural Resources:



<u>Water depth</u>	<u>Cost per foot</u>
5	\$1,850
10	\$2,600
13	\$3,700
15	\$4,100
20	\$4,500
25	\$5,600
30	\$6,600
35	\$7,500

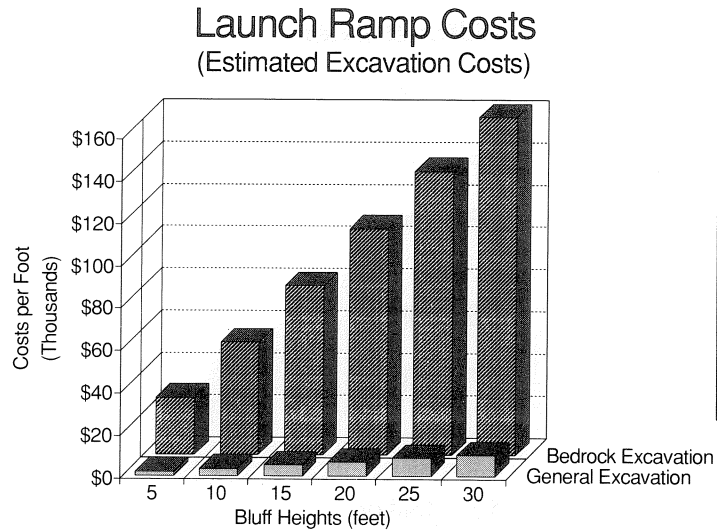
### Harbor Excavation

Loose material is assumed to be sand and beach stone that will be utilized on-site. Bedrock will require blasting. The stone will be used on site. Costs are:

Loose Material	\$ 6.50 per cubic yard
Bedrock	\$65.00 per cubic yard

Launch Ramp Excavation

The costs for a 6-lane ramp excavation, assuming that the overall width of the facility is 150 feet (16 foot wide launch lanes, 4 foot wide boarding piers plus some distance to blend with the existing grades), are shown in the following tables. Costs do not include paving the ramp itself. The slope of the ramp is 13 percent.



<u>Bluff height</u>	<u>General excavation</u>	<u>Bedrock excavation</u>
5	\$1,600	\$ 27,000
10	\$3,200	\$ 53,000
15	\$4,800	\$ 80,000
20	\$6,400	\$107,000
25	\$8,000	\$134,000
30	\$9,600	\$160,000

Other Facility Costs

- Launch Ramp                                \$39,500 per lane (\$236,000 for six lanes)
- Parking Stalls  
Automobile & Trailer                    \$575 per auto/trailer stall  
Automobile                                 \$410 per automobile stall
- Dockage                                        \$5,000 per slip (\$35 per foot)
- Interior Access Road                        \$75 per foot (two lane)

## IMPLEMENTATION COSTS

The following cost estimates have been provided by project sponsors or derived from conceptual unit price information generated by the engineering firm, E.W.I., for the Minnesota Department of Natural Resources and with the assistance of consultant, Keith Wilson, Public Sector Consultants, Inc..\* These broad costs estimates are highly variable and will depend upon final design and engineering recommendations.

<u>Waterfront Location</u>	<u>Facility Type</u>	<u>Breakwater Length</u>	<u>Estimated Cost</u>
Knife River	Marina	Dredged Basin	\$2.9 Million
Agate Bay	Marina	Dredged Basin	\$3.1 Million
Flood Bay (alternative to Agate Bay)	Marina	Dredged Basin	\$2.5 Million
Thompson Beach	Harbor of Refuge	850 feet	\$6.0 Million
East Island	Marina	1,350 feet	\$7.6 Million
Sugar Loaf Cove	Harbor of Refuge	640 feet	\$2.5 Million
Temperance River	Harbor of Refuge	700 feet	\$3.6 Million
Grand Marais	Marina		\$3.7 Million
Horseshoe Bay	Harbor of Refuge	700 feet	\$3.8 Million
Grand Portage	Marina	Dredged Basin	\$1.7 Million
<hr/>			
Total			\$37.4 Million

\* Reference Addendum B

## ECONOMIC DEVELOPMENT OPPORTUNITIES

The following outlines the general economic development opportunities of each of the harbor site recommendations. Specific projects will require detailed analysis of these opportunities during the implementation phase of each site under the guidance of a coordinating committee of local and shorewide interests.

<u>Waterfront Location</u>	<u>Facility Type</u>	<u>Economic Impact</u>
Knife River	Marina/Harbor of Refuge Mixed-use potential	\$2.9 Million construction Opportunity to tie the marina expansion to a residential development. Increased revenues for marina slips and related sales.
Agate Bay	Marina/Harbor of Refuge Mixed-use potential	\$3.1 Million construction Highest development potential to create a catalyst for downtown tourism, commercial, and residential development. Economic spin-offs with increased tourism.
Flood Bay (alternative to Agate Bay)	Marina/Harbor of Refuge	\$2.5 Million construction Leverage existing private investment to increase tourism activity at resort.
Thompson Beach	Harbor of Refuge	\$6.0 Million construction Critical for safety spacing needs of the system and will increase the overall appeal of North Shore boating use.
East Island	Marina/Harbor of Refuge Mixed-use potential	\$7.6 Million construction Increase mixed-use marina development on the North Shore without intruding on the natural setting along Highway 61. Critical to safety spacing needs of recreational boating system.
Sugar Loaf Cove	Harbor of Refuge Mixed-use potential	\$2.5 Million construction Opportunity to tie into a residential development, possibly upgrade to a mixed-use marina project.
Temperance	Harbor of Refuge	\$3.6 Million construction Fits spacing needs of the system and will increase the overall appeal of North Shore boating use.
Grand Marais	Marina/Harbor of Refuge	\$3.7 Million construction Increase downtown tourism commercial development. Expand boating opportunities and use in "hub" area of boating.
Horseshoe Bay	Harbor of Refuge	\$3.8 Million construction Critical to safety spacing needs of the system between "hubs" (Grand Portage & Grand Marais) and will increase appeal of North Shore boating.
Grand Portage	Marina/Harbor of Refuge	\$1.7 Million construction Leverage existing investment in the Grand Portage Lodge and increased tourism/interpretive opportunities.



## CHAPTER FOUR

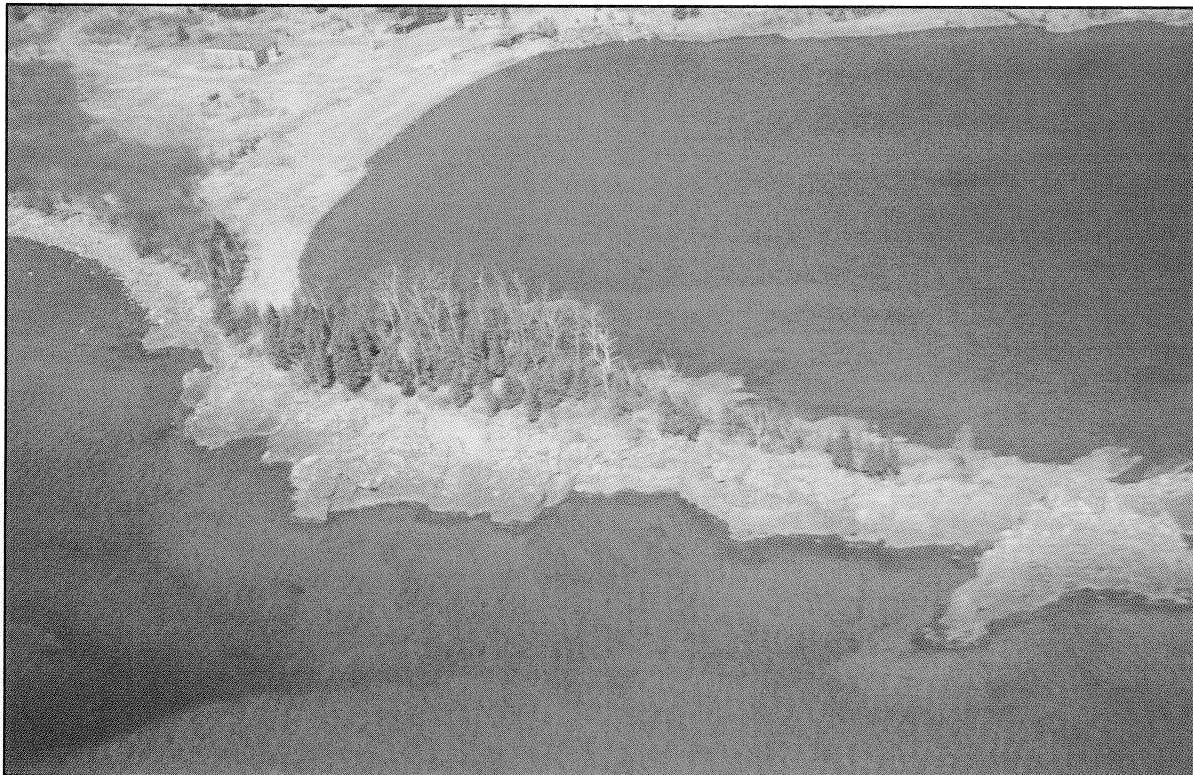
### **Financing Alternatives and Opportunities**

#### **Introduction**

#### **Current Funding Sources Uses in Minnesota**

#### **Possible Future Funding Sources**

#### **Alternative Financing Sources**



***Sugar Loaf Cove***



## FINANCING ALTERNATIVES AND OPPORTUNITIES

### INTRODUCTION

The Act of 10 February 1932 generally known as the Fletcher Act, enlarged Federal interest in navigation to include under commerce the use of waterways by "passenger craft, yachts, houseboats, fishing boats, and other seasonal watercraft, whether or not operated for hire." While in the past, federal participation in harbor and recreational boating facility construction has been extensive, those funds are no longer available. Construction of harbor facilities will require a creative combination of many sources to become a reality.

The following section outlines the sources which might be used as funding alternatives and opportunities. Implementation of each harbor site will require an individualized funding package structured to fit the character and need of that particular development.

Other sources should continue to be explored if and when they become available, including material cost reductions which may be possible from cooperative efforts with the Minnesota Department of Transportation Highway 61 improvements or other cooperative projects.

### CURRENT FUNDING SOURCES USED IN MINNESOTA

Major sources of funding for water recreation facilities in Minnesota include the Minnesota Department of Natural Resources Water Recreation Account, the Minnesota Bonding Bill, the Wallop-Breaux Trust Fund, and the Land and Water Conservation Fund Grants (L&WCF).

#### DNR Water Recreation Account

The Minnesota Department of Natural Resources Water Recre-

ation Account funds services and responsibilities of such DNR departments as Water Resources, Parks and Recreation, Trails and Waterways, Fish and Wildlife, Field and Regional Operations Support, and special services and programs such as information and education, planning and youth programs. In fiscal year 1990 (FY90) total resources of this fund were \$10,234,401 and expenditures totaled only \$8,743,320. However, projections indicate the fund's expenditures will exceed resources available as soon as 1995, with estimated resources of \$9,661,340, and expenditures totaling \$10,367,115. Available resources for this fund include:

- Marine fuel tax - 1.5% of all state fuel revenue collected.  
(FY90 actual = \$5,713,581)
- Watercraft registration - Registration fees collected.  
(FY90 actual = \$2,310,040)
- Watercraft surcharge - \$2 charge paid by all boats over 17 feet or greater in length. (FY 1990 actual = \$118,629)
- Title fee - \$15 + \$3.25 filing fee for boats over 16 feet in length, to start in January. (FY 1991 est. = \$317,000)
- Boat and water fines - (FY 1990 actual = \$42,061)

There are currently no formula or set matching percentages for funding of local projects, however, some amount of matching is required. Each individual situation is assessed to determine this amount. In the development of facilities, a "cooperative agreement" is required between the state and the local municipality stating that the state will make the capital investment and the local municipality is responsible for the upkeep and maintenance of the facility.

### Minnesota Bonding Bill

The Minnesota Bonding Bill provides general obligation bonds backed by the State of Minnesota, "funded" by the general funds of the state. Currently a bonding bill comes before the legislature every year, however this may in the future be changed to one major bonding bill in the even years, and a smaller, emergency type bill in the odd years.

Traditionally, the DNR has received an appropriation from this bill. In 1989 this amounted to \$6.8 million dollars to be invested in such programs as park development and acquisition, flood plain management and water recreation.

### Wallop-Breaux Trust Fund

The Wallop-Breaux Trust Fund is a federal funding source of monies that may only be spent on boating and sport fishing enhancement. It is made up exclusively of special federal taxes paid on motorboat fuel, fishing tackle and other sport fishing equipment.

The fund is divided into two separate accounts, the Boat Safety Account and the Sport Fish Restoration Account. States must match federal aid one dollar for every three dollars, or 25% state /75% federal in most cases, and dollar for dollar in fewer cases, depending on which account the funds actually are coming from. States are required to obligate at least 10% of their apportionment of the Sport Fishing Restoration Account on motorboat access to fishing waters.

### The Land & Water Conservation Fund (L&WCF) Grant Program

This grant program, sponsored by the National Park Service, provides matching grants for acquisition and development of outdoor recreational facilities. Minnesota divides its annual apportionment equally between statewide projects sponsored by state agencies and local projects sponsored by local units of government. Statewide projects are awarded and administered

by the MN Department of Natural Resources, local projects are awarded and administered by the MN Department of Trade and Economic Development. Eligible projects include: boat accesses, marinas, support facilities, campgrounds, and picnic areas. L&WCF grant funds must be matched by an equal amount of state, local, or private contributions.

#### L&WCF Funding History

	Total Apportionment	State Projects	Local Projects
1986	847,418/2	423,709	423,709
1987	602,529/2	301,264	301,264
1988	305,546/2	152,773	152,773
1989	319,302/2	159,651	159,651
1990	291,967/2	145,983	145,983
1991	521,382/2	260,691	260,691

### **POSSIBLE FUTURE FUNDING SOURCES**

Possible future funding could come from federal, state or regional grants from organizations such as the Legislative Commission on Minnesota Resources, the Department of Trade and Economic Development, the Coastal Resource Management Program, and other local and regional sources.

#### Legislative Commission on Minnesota Resources

The LCMR is made up of 16 senior legislators interested in the area of natural resources that have requested to serve on the Commission. Citizen input on LCMR funding priorities has been requested and received in several different ways including a Citizen Advisory Committee, letters, questionnaires, and public

forums. The LCMR accepts proposals to review for funding. For the funding biennium 1990-92, LCRM received over 700 proposals requesting approximately \$266 million in funds. Funding is for the two year period. LCMR funding comes from three sources:

- (1) Minnesota Future Resources Fund (est. \$18 million)
  - Funds from a portion of the cigarette tax.
  - For new, or innovation in the areas of: recreation, water, education, agriculture, forestry, fisheries, wildlife, land minerals, air, and waste.
- (2) Minnesota Environmental and Natural Resources Trust Fund (est. \$10 million)
  - Funds are from 40 percent of state lottery proceeds.
  - For education, research, collection, and analysis of information projects with long-term effects that employ an interdisciplinary approach to promote wise stewardship and enhancement of the state's environment and natural resources.
- (3) Oil Overcharge Money (est. \$2 million)
  - Funds collected from past settlements of energy related cases.
  - For projects resulting in decreased dependence on fossil fuels and for technology transfer with the same purpose.

Funding requests may indicate which funding source may be appropriate to support a proposal but it is not necessary as the LCMR ultimately will make that determination.

Funding proposals are approved by the LCMR but must be approved during the legislative session. The appropriation is made to an existing state agency for the specific purpose of funding a chosen project.

#### Department of Trade and Economic Development

This state agency has two programs providing grants:

##### Small Cities Program

- The Small Cities Program is responsible for approximately \$18 million in funds. It offers funding directly to cities, townships, and other public entities for projects in the categories of Housing, Public Facilities, Economic Development, or a combination of the previous categories.
- The project must meet one of the three following federal guidelines:
  - Benefit to low or moderate income persons
  - Provide jobs to low or moderate income persons (usually manufacturing rather than the service industry)
  - Eliminate an urgent health or safety threat, or slum and blight condition.

Funds are competitive and applications are ranked and rated as they are received. This fund has not historically funded waterfront projects because they often are not competitive enough based on the federal guidelines.

#### Outdoor Recreation Grant Program

This program provides funding for municipal and county parks only. Only one criteria must be met: the land must be owned by the municipality, or be able to be purchased. The program is responsible for approximately \$1.2 million in grant funds, and will fund up to 50% of project costs. The funds are competitive. The Outdoor Recreation Grant program has been involved in municipal marinas, etc. in the past, and is a good possible source for future North Shore waterfront development.

#### Coastal Resources Management Program

This program is a federal funding source and coastal states, including Great Lakes States, are eligible for program participation. Funding can be used for any resource management or protection projects including waterfront construction projects. Funding cannot be used to match any other federally funded programs but can match state or local funds. Currently, were Minnesota a program participant, funding would be approximately \$500,000 annually. Minnesota is considering preparing an application for the Coastal Resources Management Program.

#### Iron Range Resources and Rehabilitation Board

This state agency receives funding primarily from a tax on taconite pellets produced in the North Shore region. These funds are specifically dedicated to projects in the "Taconite Relief Area", which includes all of the North Shore except for

the Duluth area. It is very helpful when pursuing these grants to have other contributors match IRRRB funds in the project. Projects should have an economic development orientation.

#### Indian Nations - Grand Portage Indian Reservation

Funding for the Indian Nations comes from both the local tribe, and the Federal Bureau of Indian Affairs. The organization appears very interested in economic development oriented projects.

### ALTERNATIVE FINANCING SOURCES

#### User Fees

A user fee is a very viable source of income to cover on-going maintenance costs of waterfront facilities. Although this source of funds works well in marina and transient slip facilities, it is not always as effective in other situations. Boat launch facilities often do not get enough usage to warrant paying an employee to collect the fees, and harbors of refuge are also normally not staffed full time.

#### Minnesota Bonding Bill

The Minnesota Bonding Bill has traditionally been very supportive of the Department of Natural Resources and projects related to natural resources. It is possible that a specific grant could be made from this source to fund a major project on the North Shore. Funds can be matched with either local, state, or federal sources. There is no specific percent of match required, however, federal matching funds are looked at very favorably. This is potentially the largest one source of funding available.

#### Tax Increment Financing

A state authorized financing mechanism for use by municipali-

ties, counties, and authorities that utilizes increases in assessed valuation and real estate taxes attributable to new construction and redevelopment to finance public costs associated with redevelopment. The amount of bonds issued by the unit of government is determined by the need of the project and by the amount of the projected tax increment. Tax Increment general obligation and revenue bonds have no debt limitations or referendum requirements. A local unit of government or authority can establish a Tax Increment Financing District which creates a mechanism for repayment. However, private financing is required in order to purchase the bonds which is paid back from the tax increment.

### Public/Private Partnerships

Public/private partnerships come in many forms, however, they are essentially a method of having a local municipality provide infrastructure improvements, land, land assembly, etc. to encourage the development of a commercial project that would have additional public benefits beyond the specified development. The private developer's development costs are reduced thereby increasing the return on his/her investment.

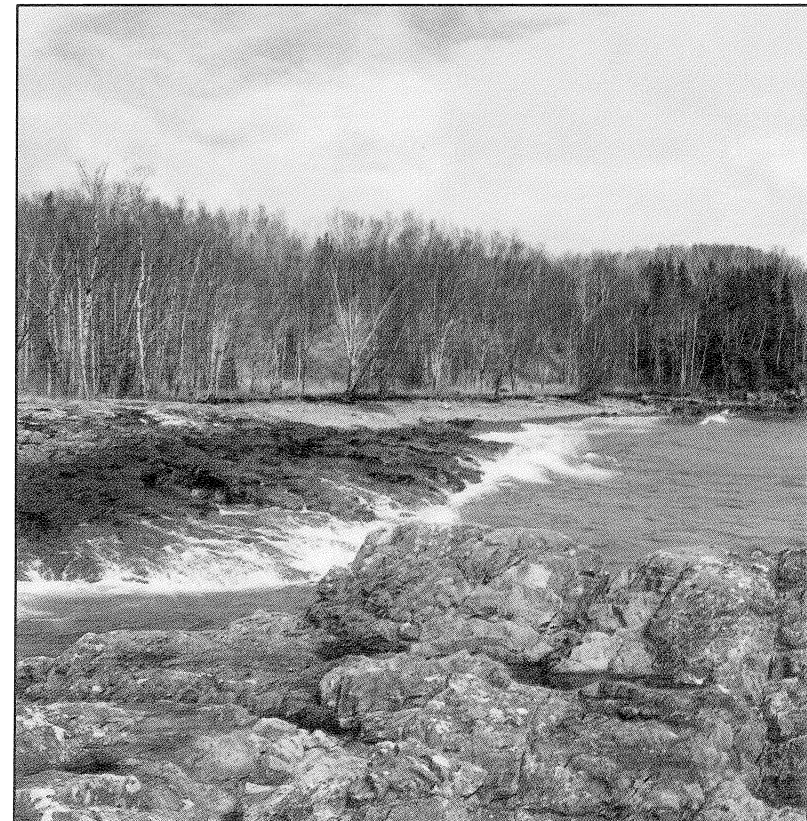
Typically, large marina projects throughout the Great Lakes are receiving a high level of public cooperation and in many instances an increased level of public incentives and direct financing of infrastructure and other improvements necessary for the successful development of the project.

### Dockominiums

A dockominium is a boat slip in a marina where slips are individually purchased rather than rented for a marina operation. Ownership may take three forms: a deed; shares; or a long-term lease. Day-to-day operations of the marina are usually in the hands of a professional manager. Typically, this

method is associated with private marinas, however, municipalities may consider the segregating of a section of a marina with a higher level of amenities to be sold as dockominiums and the proceeds would help to offset the cost of the rental slips.

A key factor in the success of a dockominium sales is the ability of the buyer to obtain financing. This can be done as a balloon payment mortgage or through a home equity loan.



*Temperance*



## CHAPTER FIVE

### North Shore Harbors Implementation

#### Introduction

#### Safety and Boater Education

#### Priority Sites

### North Shore Management Board Role



*Grand Marais*



## NORTH SHORE HARBORS IMPLEMENTATION

### INTRODUCTION

The North Shore Management Board conducted the North Shore Harbors planning process to guide the development of harbor facilities, to protect the resource values of the Shore, and to assure the public's involvement and support of the process. The North Shore Management Board, representing local government units along the North Shore, has a shorewide perspective and voice. They are in an excellent position to continue to provide a coordinating, oversight, and review role, as well as participate in the identification and preparation of funding requests for harbor facilities as part of the implementation process.

Recommendations for the implementation of the North Shore Harbors Plan is two fold. One component of implementation is a strong public education and boater safety training effort to minimize the serious threat to life and safety of boaters on Lake Superior. The other element is the physical, financial, and community process for harbor site implementation.

The North Shore Recreational Harbors Plan will take time and a major commitment of energy and dollars on behalf of local communities, the state, and various funding sources. The following outline represents a strategy for implementing the Harbors Plan and describes the role the North Shore Management Board will play in this process.

### SAFETY AND BOATER EDUCATION PROGRAM

The North Shore Management Board will work with the Coast Guard, Coast Guard Auxiliary Units, the Minnesota Department of Natural Resources, Minnesota Sea Grant Extension Program and other appropriate agencies in the development of a public education and boater safety training effort as a critical component to Plan implementation.

Lake Superior boating provides uniquely dangerous circumstances which present serious hazards to uneducated boaters. It is not the same as boating on inland lakes. With the increase in harbor facilities will be an increase in boater participation. With the perception of a network of safe harbor's, those boaters previously reluctant to venture on Lake Superior may decide to use the system and training is essential to using the system properly. Policy guidelines state clearly that a network of safe harbors will not serve as a substitute for common sense or responsible boating use.

Recommendations will be developed for enhanced public education on boating safety, training, and the provision of information about where facilities are located along the North Shore during the implementation phase of the Harbors Plan.

## PRIORITY SITE(S)

The second element of implementation consists of the physical, financial, and community process for construction of the harbor facility. Each harbor location is unique and in different phases of preparation for construction. Implementation strategies will be individualized to best meet the requirements of that site.

The task of identifying priority development is not a simple process. Many communities along the North Shore are anxious to move forward with their plans and there are finite resources to fund these projects. The North Shore Management Board emphasizes that selecting a priority development location(s) is not intended to impede the progress of other harbor projects recommended within the North Shore Harbors Plan but to act as a guide for setting funding priorities. The North Shore Management Board will play an ongoing coordinating role in the implementation process and in the event there are conflicts arising from competing projects, these issues will be addressed and resolved with a shorewide perspective.

Priority development strategies were identified after evaluating each site using safety, economic, community support, cost, project preparedness, and practicality of implementation criteria. Safety was given the most weight in this evaluation. Each site and harbor recommendation in the North Shore Harbor Plan had already met the criteria of compatibility with environmental and natural resource values, aesthetics, community "fit", as well as consistency with the North Shore Management Plan. The priority groupings identified by the North Shore Citizen Advisory are as follows:

### Top priority:

<u>Waterfront Location</u>	<u>Harbor Facility</u>	<u>Rationale</u>
East Island Site	Marina/Refuge	Safety, splits long interval, economic development potential. Not ready to implement and very costly however.
Sugar Loaf Cove*	Harbor of Refuge & Landside Access	Safety, splits long interval, public land ownership, strong community support, some engineering and design work completed.
Grand Marais	Marina/Refuge	Increased safety at boating "hub", strong community support, economic development potential, some engineering and design work completed.

\* Identified as the priority site.

**Second priority grouping:**

<u>Waterfront Location</u>	<u>Harbor Facility</u>	<u>Rationale</u>
Horseshoe Bay	Harbor of Refuge	Safety, splits long interval, public land ownership, existing launch site.
Grand Portage	Marina/Refuge	Increased safety at boating "hub", strong community support, economic development potential.

**Third priority grouping:**

<u>Waterfront Location</u>	<u>Harbor Facility</u>	<u>Rationale</u>
Thompson Beach	Harbor of Refuge	Safety, splits long interval, public land ownership.
Agate Bay	Marina/Refuge	Increased safety in boating "hub", strong community support, economic development potential, existing launch and infrastructure.
Knife River	Marina/Refuge	Increased safety in boating "hub", strong community support, economic development potential, some design and engineering work completed.

**Last priority grouping:**

<u>Waterfront Location</u>	<u>Harbor Facility</u>	<u>Rationale</u>
Temperance Park	Harbor of Refuge	Lower priority as it is close to Sugar Loaf Cove but would assist with safety in 35 mile interval, new access location, public land ownership.
Flood Bay	Marina/Refuge	Lower priority as it is an alternate to Agate Bay, some community resistance and permitting issues are unresolved. Positively, this site has economic development potential, design and engineering work complete, some private financing available and is anxious to move forward.

## **NORTH SHORE MANAGEMENT BOARD ROLE**

The strength of the North Shore Management Board is its belief in the ability of local units of government to competently administer their respective ordinances in keeping with the North Shore Management Plan. Likewise with the North Shore Harbors Plan, harbor facility implementation will be largely up to local units, in keeping with the North Shore Harbors Plan. The North Shore Management Board will provide a coordinating and oversight role as well as assist with the identification and preparation of funding requests as appropriate.

While the North Shore Management Board has identified priority development, the Harbor Plan is not intended to prevent other identified harbor projects from moving ahead with implementation.

Given the magnitude of a system of harbors along the North Shore, it is not within the scope of this planning process to provide individual site related economic impacts, specific implementation costs, demand projections, design or engineering activities, environmental assessments required for permitting, funding packages, or public processes. Each harbor site implementation will require an individualized strategy depending upon the location and nature of the project.

Overall, each harbor site implementation should be facilitated with a coordinating committee made up of all local, state, and federal interests, with representation of the North Shore Management Board. Design and engineering activities, cost estimates and the accompanying funding package, environmental assessments, demand projections, and other related implementation issues should be channeled through this coordinating committee and with a local public process.

The North Shore Management Board will maintain an oversight, coordinating, and review role with plan implementation. All proposed major federal and state government agency actions (permit decisions and plan approvals) within the North Shore Planning Area shall first be reviewed by the North Shore Management Board to ensure consistency with the approved North Shore Harbors Plan. The North Shore Management Board will work closely and coordinate activities with the Minnesota Department of Natural Resources. The Minnesota Department of Natural Resources should continue its present valuable role in providing on-going technical assistance and advice to the North Shore units of government in implementing the North Shore Harbors Plan as well as providing a statewide perspective to the development of North Shore harbors.

**APPENDIX**

**Reference Material**

**North Shore Management Board  
Organization**

**North Shore Management Board and  
Committee Members**

**Cooperative Agreement Between  
NSMB and MnDNR**

**Legislative Commission on Minnesota  
Resources Workplan**

**Legislative Commission on Minnesota  
Resources Approval Letter**



***Horseshoe Bay***



### Reference Material

Further information about the North Shore Harbors Study and Plan can be found in separate documents Addendums A - D as follows:

Addendum A: Waterfront Questionnaire Results, North Shore Management Board Harbors Study, August 1990.

Addendum B: "Facility Cost Estimates" prepared by Keith Wilson, Public Sectors Consultants, Incorporated.

Addendum C: "Projected Boat Facility Usage" prepared by Keith Wilson, Public Sectors Consultants, Incorporated.

Addendum D: North Shore Management Board Harbors Study Bibliography.

**NORTH SHORE MANAGEMENT BOARD**

<b>Name</b>	<b>Representing</b>
David Peterson, Chair	Grand Marais
Ken Dugas, Vice Chair	Beaver Bay
Martin Lepak, Sec/Treasurer	St. Louis County
Chet Lindskog	Cook County
Dick Bakke	Duluth Township
Robert Kind	Silver Bay
Lee Ramsdell	Silver Bay
Bernard Pistner	Lakewood Township
John Anderson	Two Harbors
Ken Sherer	Grand Portage

**Technical Advisory Committee**

<b>Name</b>	<b>Representing</b>
Tim Kennedy, Chair	Cook County Zoning
Dan Retka	MN Dept. of Natural Resources
Dennis Johnson	MN Dept. of Transportation
Heidi Bauman	MN Pollution Control Agency
Wayne Seidel	Soil & Water Conservation
Dale Baker	MN Sea Grant Extension
Carol Johnston	Natural Resources Research Institute
Dick Sigel	Lake County Zoning & Health
Alan Goodman	Lake County Highways
Dale Schroeder	St. Louis County Health
Richard Hansen	St. Louis County Highways
Dick Bakke	Duluth Township Zoning
Bernard Pistner	Lakewood Township Zoning
Rick Novitsky	Grand Portage Reservation
John Safstrom	US Army Corps of Engineers
Paul Sandstrom	US Soil Conservation Service
Carl Richards	Natural Resources Research Institute
LeRoy Halberg	Cook County Health
John Jaschke	MN Dept. of Natural Resources

**Citizens Advisory Committee**

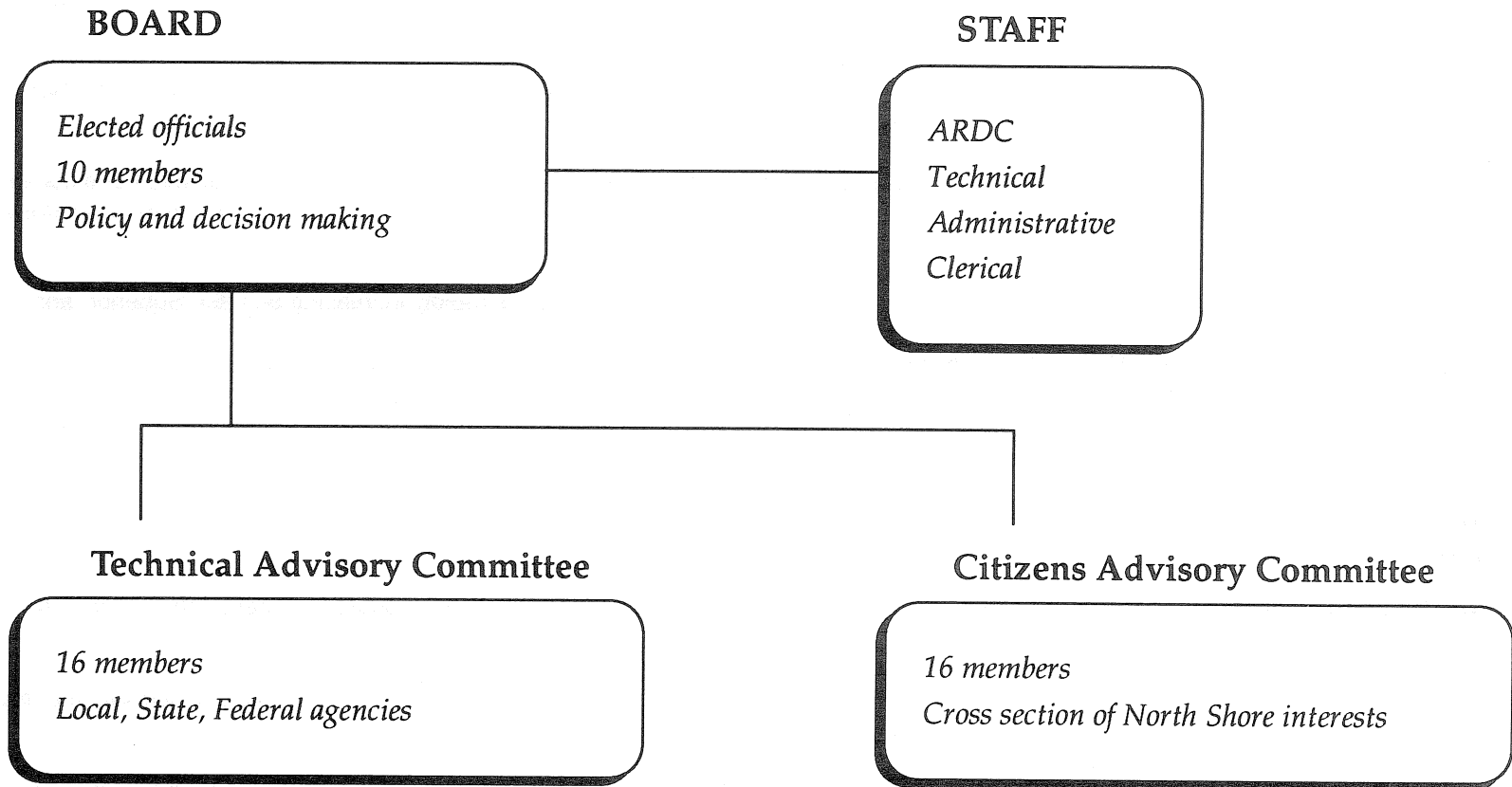
<b>Name</b>	<b>Representing</b>
Frank Holappa, Chair	Realtors
Glenn Maxham	Environmental
Arnold Overby	Environmental
Gary Kettleison	Commercial Business
Robert Bruce	Tourism
Edward Landin	Tourism
Robert Anderson	Ind/Manufacturing
Thomas Martinson	Recreation
Herb Naegeli	Recreation
Shawn Perich	Recreation
Robert Pye	Shoreline Property Owner
Claer Dethmers	At Large
Bill Corcoran	Grand Portage
Don Larson	Boating Groups
Nancy Ojard	Developer

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**Staff, Arrowhead Regional Development Commission**

Cheryl Erickson, Senior Planner  
 Debbie Bailey, Secretary  
 Marlene Bartikoski, Research Assistant

**NORTH SHORE MANAGEMENT BOARD  
ORGANIZATION**



**COOPERATIVE AGREEMENT BETWEEN THE NORTH SHORE MANAGEMENT BOARD  
AND THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES**

Harbors of Refuge Study

WHEREAS, it has long been recognized by federal, state and local officials, as well as private interests, that Lake Superior is a unique body of water with distinctive shoreland characteristics and special land and water management needs; and

WHEREAS, the North Shore Management Board was established to direct development of a comprehensive North Shore Management Plan and consists of county, city and township elected officials;

WHEREAS, the North Shore Management Board will include strategies for environmental protection and orderly growth of the North Shore of Lake Superior including harbors of refuge and public access;

WHEREAS, the North Shore Management Board, hereinafter referred to as the "NSMB", has developed the first element of a comprehensive North Shore Management Plan (shoreland management element) which is tailored to the unique shoreland management problems and needs of the North Shore; and

WHEREAS, recreational boating and the demand for additional public access facilities is rapidly increasing on Lake Superior; and

WHEREAS, the NSMB and the Department of Natural Resources hereinafter referred to as the "DNR" have received funds through the Legislative Commission on Minnesota Resources (LCMR) to carry out a harbors of refuge study to determine a plan for the best locations of safe harbors and public access sites along the North Shore hereinafter called "Harbor Plan" considering both the needs of boaters and the relationship of proposed harbors to economic development of the North Shore; and

WHEREAS, the Legislature through Minnesota Laws, Chapter 335, has appropriated \$100,000 to the DNR to fund a grant to the NSMB to complete the plan by June 30, 1990; and

WHEREAS, the NSMB desires that the Harbor Plan be consistent with the adopted North Shore Shoreland Management Plan and the process in developing the Harbors Plan be modelled after that used in developing the shoreland management plan; and

WHEREAS, the NSMB desires a plan that benefits the North Shore, is fully supported by its residents, and is developed with the maximum public participation and input, both from residents and boating and fishing interests.

WHEREAS, the DNR desires a plan that benefits the North Shore, provides for public access sites and harbors of refuge with strong consideration given to safety of boaters and is developed with maximum public participation.

NOW THEREFORE, it is agreed between the North Shore Management Board (NSMB) and the State of Minnesota, acting by and through its Commissioner of the Department of Natural Resources (DNR):

- The NSMB will direct, oversee the development and prepare the Harbor Plan in accordance with the study work plan and budget approved by the Legislative Commission on Minnesota Resources (Attachment A).
- The DNR will participate in the development of the Harbor Plan through the Trail and Waterways Unit and the Northeastern Minnesota regional hydrologist.
- The development of the Harbor Plan will be a participatory process encouraging the involvement of all interested groups, individuals and the public at large.

This Agreement shall become effective when all signatures required by statutes have been obtained and when the funds appropriated for the Work have been encumbered by the Minnesota Commissioner of Finance, and shall continue in effect until such a time as the final plan is approved.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement intending to be bound thereby.

/S/

\_\_\_\_\_  
Joseph N. Alexander, Commissioner  
Department of Natural Resources

\_\_\_\_\_  
Date

/S/

\_\_\_\_\_  
Chester Lindskog, Chairman  
North Shore Management Board

\_\_\_\_\_  
Date

## LCMR WORK PROGRAM 1989

North Shore Harbors Study  
Program Manager: Michael T. Markell; (612) 296-6413  
Natural Resources, Department of  
Trails and Waterways Unit

Laws of Minnesota, 1989, Chapter 335, Article 1, Section 29, Subdivision 3, paragraph (n).

North Shore Harbors Study

This appropriation is for a grant to the North Shore Management Board to determine the best location for protected harbors on the North Shore of Lake Superior.

- I. Narrative: This program will provide a plan for numbers, sizes, and locations of safe harbors including public accesses on Lake Superior outside Duluth. The plan will consider the relationship of boating facilities, including marinas and public accesses, and the economic development of the land base. It will also consider public/private partnerships between the local governments and private development. Potential funding sources, federal, state and local will be identified.
- II. Objectives:
  - A. Public information

Narrative: To carry out an extensive public information and education program including an educational workshop, and to receive public input through public information meetings,

Benefits: Ensure public acceptance of the North Shore Harbors Plan.
  - B. Obtain technical assistance

Narrative: To retain technical consultants to assist the North Shore Management Board with assessing technical site feasibility and economic development opportunities.

Benefits: Provide for engineering and economic consulting assistance as needed throughout the planning process to maximize the quality of selected sites.

C. Develop North Shore harbors plan

Narrative: To develop a publically supported harbors of refuge plan including public access for the North Shore of Lake Superior outside of Duluth.

Benefits: This plan will identify publically acceptable, technically feasible safe harbor and public access locations along the North Shore outside of Duluth.

The plan will provide for funding safe harbors and public accesses on Lake Superior. Boaters will benefit by having additional launch facilities, dockage and a place of refuge during storms. The local economy will benefit by increased boating, tourism and business associated with harbors and marinas.

III. Context

Narrative:

1. LCMR funded Brighton Beach Breakwater in 1987 which was the first safe harbor project considered by the State of Minnesota on Lake Superior.
2. LCMR Funded #1 above changing the appropriation language to Duluth Area Breakwater for the 1990-91 biennium.

	<u>July</u> <u>1989</u>	<u>Jan 1990</u>	<u>July</u> <u>1990</u>	<u>Jan 1991</u>	<u>July</u> <u>1991</u>
Water Recreation		\$3,626.00		\$3,935.00	
Water Access		\$ 423.00		\$ 424.00	
Federal Aid					
LCMR Duluth	-----	\$ 132.50	-----	\$132.50	-----
Area Breakwater					

# Legislative Commission on Minnesota Resources

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JOHN R. VELIN  
Director

March 15, 1991

Commissioner Rodney Sando  
Department of Natural Resources  
500 Lafayette Road  
St. Paul, Minnesota 55155

Dear Commissioner Sando:

The Legislative Commission on Minnesota Resources (LCMR) at its March 14, 1991, meeting reviewed the North Shore Harbors Plan as provided for in M.L. 1989, Chp. 335, Art. 1, Sec. 29, Subd.3(n), found it represents satisfactory completion of the work program and moved acceptance of the Plan.

The Commission's acceptance of this Plan enables the Department of Natural Resources (DNR) to proceed with a Safe Harbors program on Lake Superior to the extent of the appropriations provided in M.L. 1989, Chp. 335, Art. 1, Sec. 21, Subd. 6.

It is our understanding the DNR, in cooperation with the North Shore Management Board, will use these funds to:

- Enter into contract with the North Shore Management Board to facilitate and oversee the implementation of specific harbor locations using a coordinating committee made up of local interests for each site.
- Acquire land as needed at harbor locations identified in the plan.
- Hire consultants as needed to assist the site design process.
- Purchase rock for breakwaters in cooperation with the Minnesota Department of Transportation through their Highway 61 improvement projects.

We wish you continued success with this and other programs of mutual interest.

Sincerely,

/s/

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John R. Velin, Director  
Legislative Commission on  
Minnesota Resources



*Grand Portage*

