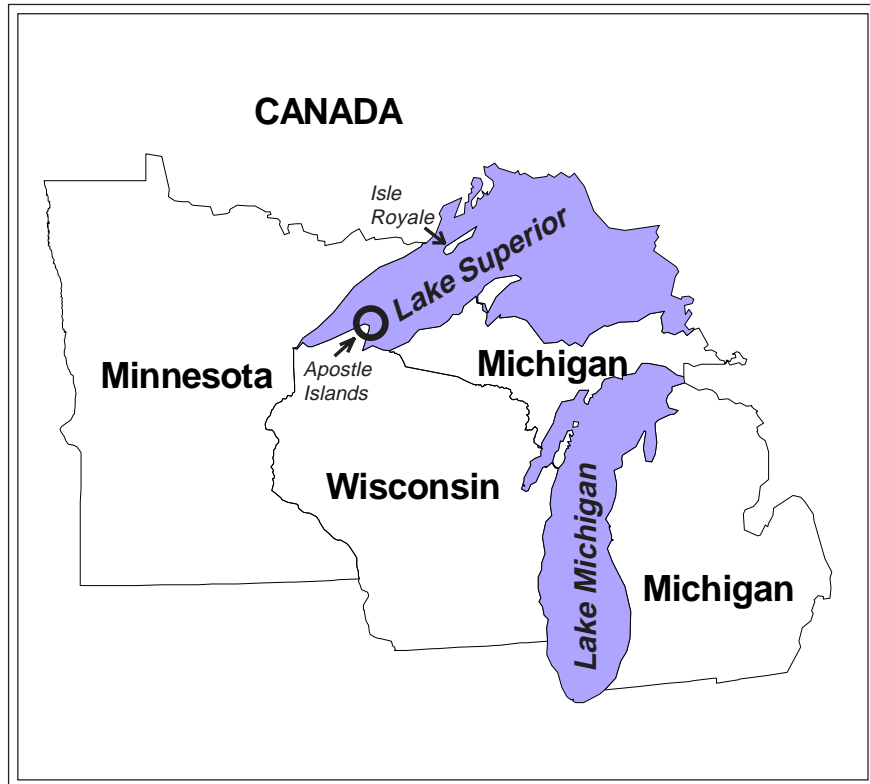


# MARKET STUDY FOR BOATING ON THE MINNESOTA WATERS OF LAKE SUPERIOR



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The Lake Superior Market Study was a cooperative research project of the Minnesota Department of Natural Resources Boating Safety Program, and Trails and Waterways Division

Report prepared by:  
Office of Management and Budget Services  
Minnesota Department of Natural Resources

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*An electronic copy of this report can be found on the MN DNR's web site: [www.dnr.state.mn.us](http://www.dnr.state.mn.us).  
Cover photos: Top—Palisade Head, USFS; Bottom—Silver Bay Safe Harbor, Marina and Access, MN DNR.*

# CONTENTS

	<u>Page</u>
Summary .....	4
Introduction .....	9
Methodology .....	11
Boating use .....	12
Interest in, and barriers to, boating on the Minnesota waters of Lake Superior	17
Safe Harbors .....	21
Boating safety education .....	25
Overnight boating trips .....	26
References .....	32
Acknowledgments .....	32

# SUMMARY

## INTRODUCTION

Minnesota's Lake Superior shoreline—rugged and scenic—has for decades been a recreational destination for travelers from throughout the Upper Midwest. Numerous parks, trails, forests, resorts and related tourist facilities have been developed along the shore to serve the recreating public. Most of these facilities have been land-based, with the Lake largely appreciated from shore.

In recent years, attention has focused on more fully opening up the Lake to recreational boating, from sea kayaking to sailing to multi-day trips from port to port. During the summer of 2002 a recreational boater study was conducted on the Minnesota portion of Lake Superior. That study examined the quantity and characteristics of boating on the Lake, and boaters were queried about their experiences on the Lake.

This study is a companion to the 2002 study. It places boating on the Minnesota portion of Lake Superior in a larger context of boating among alternative places. Specifically, this study looks at use of Lake Superior compared with other places, and the use of the Minnesota portion of the Lake compared with the rest of the Lake. Boaters are queried about barriers to the use of the Minnesota portion of Lake Superior and about their awareness of programs designed to remove some of the known barriers. Safety is one known boater issue for Lake Superior, and safety issues are examined in the study. The needs of one boating market segment—transient boaters who travel overnight from place to place—are assessed in the study. Transient boaters represent a market segment that is being targeted along the Minnesota portion of the Lake.

To accomplish the current study, two boater populations were examined. The first was the general Minnesota boater population. The intent of querying this population is to gain the overall Minnesota boater perspective on Lake Superior boating. The current study also provides an updated perspective on Lake Superior boating by the general Minnesota boating population. A 1988 boater study looked at some of the same issues as the current one.

The second population was owners of large boats (24+ feet in length). Lake Superior, being a large body of water, tends to attract larger boats, so owners of such boats are an important segment in the Lake Superior boating market. Furthermore, owners of large boats are more likely to take overnight trips in their boats. Gaining a better understanding of this traveling boater market is one



of the goals of this study. Since large boats from Wisconsin were commonly found in the 2002 Lake Superior boater study, owners of Wisconsin-registered large boats are included in this study along with their Minnesota counterparts.

## **BOATING USE**

Large-boat owners use their primary boat 38 days a year, compared with 24 days for the use of primary boats by the general Minnesota boat owner. Most of these boat days are spent near home (within one hour of home), which is common for recreational use patterns.

Lake Superior is the destination for 2.3 percent of annual boating days for the general Minnesota boat owner, and the Minnesota portion of the Lake receives 1.5 percent of the annual days. For large boats, the percent of use going to the Lake is higher, and is nearly 10 percent for large-boat owners from Minnesota. Wisconsin owners of large boats—who are mostly located in the southeast part of the state—allocated fewer days to Lake Superior and far more days to Lake Michigan.

The percent of total Lake Superior boating that occurs in Minnesota waters is referred to as the “Minnesota capture rate”. The capture rate is higher for the general Minnesota boat owner (66%), and lower for large-boat owners (22%), whether from Minnesota (21%) or Wisconsin (29%). For the general boater, a higher capture rate is evident for Northern (81%) and Southern boaters (80%), and is lower for Twin Cities boaters (42%).

Low capture rates represent a potential market for the Minnesota waters of Lake Superior. The boater is already using Lake Superior, which is something not all boaters are willing to do (see later section on barriers to boating on the Lake), but they are just not using the Minnesota waters of the Lake. Realizing this potential, however, is likely to be a challenging task, since some sections of the Lake (especially the Apostle Islands) are judged more desirable for boating than the Minnesota portion (see later section on overnight boating), and these desirable sections are as close to many of the boater’s homes as the Minnesota section (for example, the Twin Cities is as close to the Apostle Islands as to much of the Minnesota shore of Lake Superior).

## **INTEREST IN, AND BARRIERS TO, BOATING ON THE MINNESOTA WATERS OF LAKE SUPERIOR**

Many boat owners express an interest in boating more on the Minnesota waters of Lake Superior. For the general Minnesota boat owner, the portion with an interest in boating more is just over one-third (34%). The portion is considerably higher for those who have boated on the Lake (59%), indicating that such boating is a positive experience. The portion is low, however, for those who have never used the Lake (26%); the large majority of general Minnesota boat owners (78%)—as well as large-boat owners (71%)—have never boated on the Lake. A similar pattern of responses was found for large-boat owners.

In the 1988 boating study, the portion expressing an interest in boating more on Lake Superior was higher than the current study (44% versus 34%, respectively), while the portion having no interest was lower (30% versus 40%), and the portion that “didn’t know” was the same (26%). The reason for these changes is not known. The “interest” question was asked the same way in both surveys.

Boat owners were asked about barriers to boating more on the Minnesota waters of Lake Superior. Some of the barriers are shared by the general Minnesota boat owner and the large-boat owner, and some are different. Of the shared barriers, intervening opportunities (good places to boat that are closer to home) is top ranked. This is followed by barriers related to personal skills, knowledge, and equipment. Such barriers are less important for large-boat owners (especially the barrier about the size of the boat being too small), although they are still leading barriers to large-boat owners. Time is also a shared leading barrier. Other barriers that stand out for the general Minnesota boat owner (but less so for the large-boat owner) concern personal risk. Lake Superior waters are cold, and occasional large waves coupled with a rugged shoreline can make boating difficult. Owning a larger boat appears to reduce these perceived personal risks.

Boaters who have never boated on Lake Superior have a pattern of barriers quite similar to those reported above for the overall boater. As expected, the knowledge barrier (“I don’t know enough about Lake Superior boating”) is higher for those who have never boated on the Lake.

Boaters who have boated on Lake Superior have an additional group of barriers, which is related to boating facilities, services and opportunities. As a rule, users of a place tend to indicate lack of amenities as a barrier to the place’s use, and Lake Superior boaters are no exception. Three of the leading barriers in this group are shared by the owners of large boats and the general Minnesota boat owner: not enough safe harbors, not enough marinas with transient slips, and boating destinations too far apart. The large-boat owner has an additional leading barrier of not enough marinas with permanent slips, and the general Minnesota boat owner has an additional leading barrier of not enough boat-launching facilities.

Some of the potential barriers to boating more were not very important to any of the boat owners, and they are noteworthy for that reason. These low-importance barriers are: not enough safety patrol and water rescue services, poor fishing, not enough charter/rental boats, unpleasant weather, high expense, lack of leisure opportunities other than boating, and already doing enough boating on the Lake.

The 1988 survey included 16 of the 22 barriers included in the current study. A comparison between the two studies indicates that little has changed. Boater owners have nearly the same ordering of barriers now as in 1988 (the correlation coefficient is .97 for the percent of boat owners agreeing now and in 1998 that the 16 items are barriers to more boating).

## **SAFE HARBORS**

One of the preceding potential barriers to boating more along the Minnesota waters of Lake Superior dealt with safe harbors. Safe harbors are facilities designed to meet the challenge of

opening up the Minnesota waters of Lake Superior to recreational boating. Lake Superior waters are quite cold and the weather can be unpredictable. At times, boaters need sheltered places to get off the Lake in an emergency due to weather or other boating-related problems. In addition, the rugged Minnesota shore, coupled with occasional large waves, means that launch facilities and marinas need protection from the Lake.

The survey asked boat owners about their awareness of the safe harbor program in Minnesota. The results indicate that awareness is not very high. For the general Minnesota boat owner, the large majority either never heard of the program (72%) or didn't know very much about the program (14%). Some owners knew a few things about the program (11%) and few knew a lot (2%). The percent that had at least some awareness of the program (either knew a few things or knew a lot) was higher for boat owners who had boated on the Lake (32%), but was still relatively small. Nearly the same pattern of results is evident for large-boat owners, including the percent of Lake Superior boaters who had at least some awareness of the program (34%).

This relatively low awareness had a substantial effect on responses to related questions. When asked whether the safe harbors had allowed them to boat more often or travel further on the Lake, the largest group of boat owners who have boated on the Lake responded "don't know." For those that did know, the majority responded "no", indicating that the safe harbors had not allowed them to boat more often or travel further.

Similarly, when queried about the need for additional safe harbors, the largest group of boat owners who have boated on the Lake responded "don't know." For those that did know, the large majority responded "yes", indicating a need for more safe harbors. When further questioned about the location of an additional harbor(s), the location most frequently indicated by both large and general boat owners was along the south section of the Minnesota shore from Duluth to Knife River/Two Harbors.

Regardless of a boat owner's knowledge of the safe harbor program, however, the idea of having a safe harbor nearby is important to boaters who use Lake Superior. When asked about their level of concern of being caught on the Lake without a safe harbor nearby, the majority of boat owners who have used the Lake were "somewhat concerned" or "very concerned."

## **BOATING SAFETY EDUCATION**

Safety is a concern of Lake Superior boaters. The survey asked boat owners whether they felt boater safety courses should be required in general and specifically for Lake Superior.

About one-in-five general Minnesota boat owners (18%) have completed a formal course in boating safety. A third (34%), however, believe such a course should be required for any boat operator, and a higher proportion (56%) believe such a course should be required for Lake Superior boat operators. The higher proportion for Lake Superior operators is probably a reflection of the belief that boaters need to be better prepared when using Lake Superior than when using smaller lakes and rivers.

Owners of large boats are more likely to have taken a course in boating safety and to believe such a course should be a requirement. Nearly half of such owners (46%) have completed a formal safety course, 52 percent believe such a course should be required for any boat operator, and a higher percent (68%) believe such a course should be required for Lake Superior boat operators.

Boaters who have taken a formal safety course are more likely to favor requirements for a course than those who have not taken a course. Among owners who have taken a formal course, the number who believe a course should be required of Lake Superior operators comprise 69 percent of general Minnesota boat owners and 85 percent of large-boat owners.

## **OVERNIGHT BOATING TRIPS**

One boating market the survey targeted was overnight boaters. Specifically, the survey garnered information on past behavior as an overnight boater, interest in such boating, desirable destinations for overnight trips, and the facility/service needs at (and near) marinas that provide transient spaces for overnight boaters.

About one-quarter (26%) of general Minnesota boat owners, and nearly half (47%) of large-boat owners have taken an overnight trip in their primary boat. Interest in taking overnight trips among those who have not done so is modest: 12 percent for general Minnesota boat owners, and 10 percent for large-boat owners.

Boaters who have taken an overnight trip, or have an interest in doing so, ranked the desirability of various Lake Superior destinations for such trips. Both the general Minnesota boat owner and the large-boat owner agreed that the Apostle Islands was the most desirable destination among those listed. It was the most desirable for all boater origins, too. It was particularly desirable for those who have boated on the Lake, but it was also the most desirable destination among owners who have never boated on the Lake, no doubt a reflection of the Islands' boating image.

The Minnesota waters of Lake Superior were more desirable to general Minnesota boat owners than to large-boat owners. For the former owners, the Minnesota waters were ranked in the middle, while for the latter owners, the Minnesota waters ranked near the bottom. These rankings were largely consistent across boater origins and boater experience on Lake Superior.

Boaters who have taken an overnight trip, or have an interest in doing so, indicated the importance of various facilities/services at (or near) marinas that provide for transient boats. For the general Minnesota boat owner, the most important marina facilities/services are gasoline fuel pumps, personal/property security, and private restrooms/showers. The ability to make advanced reservations was also judged as an important service. Near the marina, the most important facilities/services are places to shop for groceries/other items and restaurants.

Large-boat owners gave high importance to these same facilities/services, but added other items to their high-importance listing. The added facilities/services were specific to large boats, and included dockside electricity and water connections, and sewage pumpout services. Large-boat owners also gave high importance to the ability to contact marina staff by radio with questions.



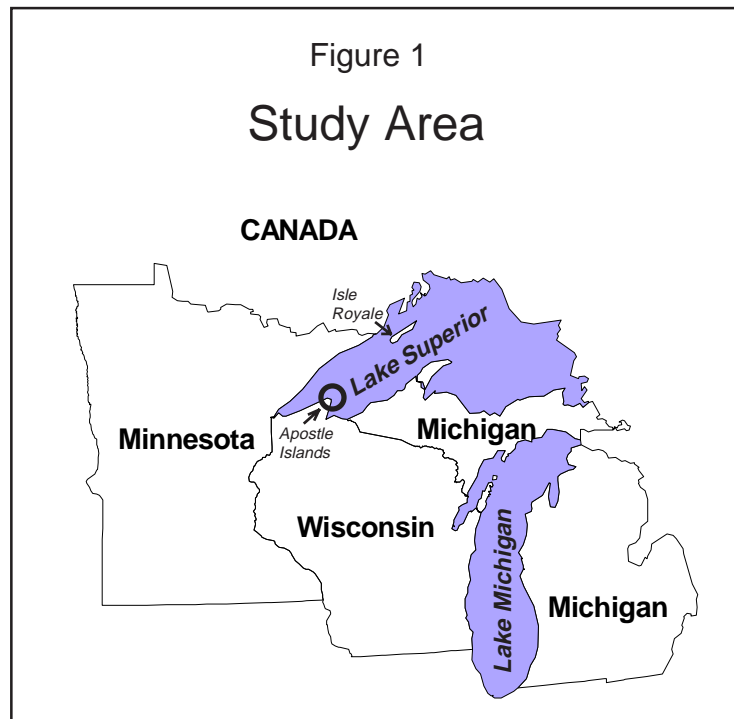
## INTRODUCTION

Minnesota's Lake Superior shoreline—rugged and scenic—has for decades been a recreational destination for travelers from throughout the Upper Midwest (Figure 1). Numerous parks, trails, forests, resorts and related tourist facilities have been developed along the shore to serve the recreating public. Most of these facilities have been land-based, with the Lake largely appreciated from shore.

In recent years, attention has focused on more fully opening up the Lake to recreational boating, from sea kayaking to sailing to multi-day trips from port to port. During the summer of 2002 a recreational boater study was conducted on the Minnesota portion of Lake Superior (MN DNR, 2003). That study examined the quantity and characteristics of boating on the Lake, and boaters were queried about their experiences on the Lake.

This study is a companion to the 2002 study. It places boating on the Minnesota portion of Lake Superior in a larger context of boating among alternative places.

Specifically, this study looks at use of Lake Superior compared with other places, and the use of the Minnesota portion of the Lake compared with the rest of the Lake. Boaters are queried about barriers to the use of the Minnesota portion of Lake Superior and about their awareness of programs designed to remove some of the known barriers. Safety is one known boater issue for Lake Superior, and safety issues are examined in the study. The needs of one boating market segment—transient boaters who travel overnight from place to place—are assessed in the study. Transient boaters represent a market segment that is being targeted along the Minnesota portion of the Lake.



The primary purpose of this and the 2002 study is to improve our understanding of Lake Superior boating so Minnesota boating programs can be operated more effectively. It is not the purpose of this report (or the report on the 2002 study) to indicate how programs should be altered in light of study findings. Rather, the intent is to describe what has been learned.

To accomplish the current study, two boater populations were examined. The first was the general Minnesota boater population. This includes all boaters with Minnesota-registered boats. The intent of querying this population is to gain the overall Minnesota boater perspective on Lake Superior boating. The current study also provides an updated perspective on Lake Superior boating by the general Minnesota boating population. A 1988 boater study looked at some of the same issues as the current one (Lime et al., 1989).

The second population was more targeted. It focused on large boats (24+ feet in length). Lake Superior, being a large body of water, tends to attract larger boats, so owners of such boats are an important segment in the Lake Superior boating market. Furthermore, owners of large boats are more likely to take overnight trips in their boats. Gaining a better understanding of this traveling boater market is one of the goals of this study. Since large boats from Wisconsin were commonly found in the 2002 Lake Superior boater study, owners of Wisconsin-registered large boats are included in this study along with their Minnesota counterparts.

After a brief description of methodology, a summary of the results of the study will be presented as follows:

- Boating use, including how the Minnesota portion of Lake Superior fits in as one destination among many
- Interest in, and barriers to, boating on the Minnesota portion of Lake Superior
- Safe harbors, including awareness of the harbor program, effects on boater behavior, perceived need for additional facilities, and harbor-related safety concerns
- Boating safety education, including the perceived need for education of Lake Superior boat operators
- Overnight boating trips, including prevalence of, interest in, desirable destinations for, and important marina facilities/services for such trips.

For those who would like greater detail on methodology and survey results, a tabulation document is available from the Minnesota DNR. It describes in full the methods used to conduct the study, and provides breakdowns of all survey responses by boater categories. Survey instruments are included in the document.

## METHODOLOGY

Two boater populations were targeted in the study. The first was the general Minnesota boater population (Table 1). This includes all boaters with Minnesota-registered boats. The intent of querying this population is to gain the overall Minnesota boater perspective on Lake Superior boating. A geographically representative sample of 900 boaters was selected from the Minnesota registration files. After reminders to nonrespondents, the survey achieved at 73 percent return rate.

<u>Target population</u>	<u>Number of boats in population</u>	<u>Surveys sent out</u>	<u>Surveys delivered</u>	<u>Surveys returned</u>	<u>Return rate</u>
Owners of all recreational boats registered in MN	880,590	900	840	611	73%
Owners of large recreational boats registered in MN or WI*					
MN subsample	31,251	400	357	232	65%
WI subsample	<u>31,189</u>	<u>200</u>	<u>191</u>	<u>113</u>	<u>59%</u>
Total	62,440	600	548	345	63%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

The other population surveyed in the study was owners of large boats (24+ feet in length) in both Minnesota and Wisconsin (Table 1). Lake Superior, being a large body of water, tends to attract larger boats, so owners of such boats are an important segment in the Lake Superior boating market. Furthermore, owners of

large boats are more likely to take overnight trips in their boats. Gaining a better understanding of this traveling boater market is one of the goals of the study. Wisconsin boat owners are included in the study along with their Minnesota counterparts, because they were commonly found on the Minnesota portion of the Lake in the 2002 Lake Superior boater study (MN DNR, 2003).

Geographically representative samples of 400 Minnesota large-boat owners and 200 Wisconsin large-boat owners were selected from the Minnesota and Wisconsin registration files. The Minnesota registration information was supplemented by U. S. Coast Guard records of documented vessels that are used for recreation. Documented vessels tend to be large boats, so it was important to include these large recreational boats in the survey population. For Wisconsin, documented vessels are included in the state boat-registration files.

Since the Minnesota large boats were sampled at a higher rate than Wisconsin boats (close to double), sampling weighting is used to correct for this when the two samples are combined. The overall return rate from large-boat owners was 63 percent. It was slightly higher for the Minnesota sample, although the Wisconsin return rate was nearly 60 percent.

Greater detail on methodology is available in a tabulation document from the Minnesota DNR. The tabulation document describes in full the methods used to conduct the study. It includes the study's survey instrument. The tabulation document also provides breakdowns of all survey responses by boater categories.

## BOATING USE

Boat owners were asked in the survey to describe various aspects of the use of their "primary" boat. Since most boat owners own more than one boat (median is two for both the general Minnesota boat owner and the Minnesota-Wisconsin large-boat owner), the survey suggested that—if they were in doubt about which of their boats is the primary one—they should select their largest craft as the primary boat.

Characteristics of primary boats are described in Table 2. For Minnesota boat owners in general, fishing boats (no windshield) and runabouts (has windshield) are the most common craft types. For large-boat owners, pontoons and cruisers

Table 2

Characteristics of boat owner's "primary" boats

Type of boat	Owners of all boats	Owners of large boats
	<u>registered in Minnesota</u>	<u>registered in Minnesota or Wisconsin*</u>
fishing (no windshield)	37%	1%
runabout (has windshield)	35%	6%
pontoon	13%	42%
canoe	5%	0%
cruiser (has cabin or superstructure)	3%	35%
other (please specify)	3%	4%
sailboat	3%	12%
jetski	1%	0%
kayak	<u>0%</u>	<u>0%</u>
Total percent	100%	100%
<b>Length (in feet)</b>		
mean	18	29
median	17	25
<b>Principal Motor</b>		
gas/diesel	91%	99%
electric	1%	1%
no motor	<u>7%</u>	<u>0%</u>
Total percent	100%	100%
<b>Horsepower of motor</b>		
mean	85	191
median	59	90
<b>Equipment on board</b>		
life vests/personal flotation devices	95%	100%
lights	80%	99%
throwable lifesaver/buoyant cushion	69%	92%
fire extinguisher	64%	95%
depth finder	63%	73%
horn	53%	94%
cell phone	33%	70%
visual distress signal (flag, flares)	17%	55%
GPS unit	16%	37%
marine radio	11%	51%
port-a-potty	6%	23%
toilet, with holding tank	3%	45%
radar	3%	14%
<i>none of the preceding items</i>	<i>2%</i>	<i>0%</i>

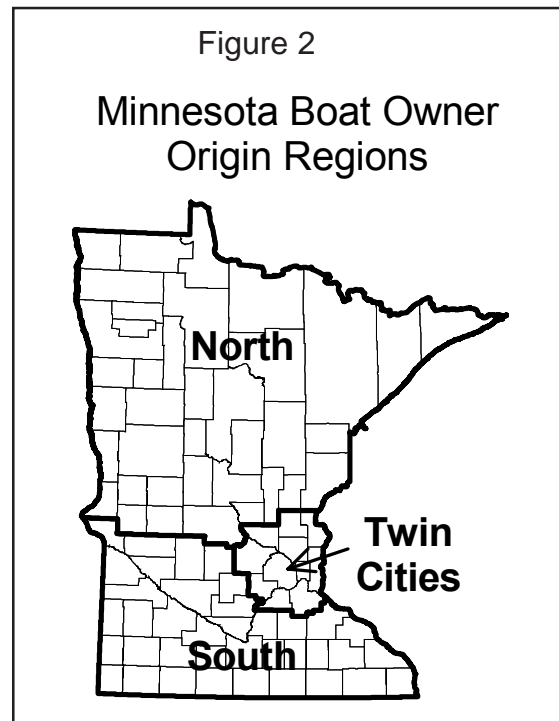
\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

are the most common crafts. Not surprisingly, large boats are better equipped than boats in general.

Owners of large boats use their primary boat more frequently than owners of boats in general. Large-boat owners use their primary boat 38 days a year, compared with 24 days for the use of primary boats by the general Minnesota owner (Table 3). Most of the boat use is near home (within one hour of home), which is common for recreational use patterns.

Please note that the Minnesota origins of boat owners are as displayed on Figure 2. The Twin Cities is the eleven-county Twin Cities metropolitan area. Origins of boat owners are determined regardless of the state in which the boat is registered. Thus, for example, Twin Cities residents that register their boats in Wisconsin have the same “Twin Cities” origin as Twin Cities residents that register their boats in Minnesota.

Lake Superior is the destination for 2.3 percent of annual boating days for the general Minnesota boat owner, and the Minnesota portion of the Lake receives 1.5 percent of annual days (Table 3). For large boats, the percent of use going to Lake Superior is higher, and is nearly 10 percent for large-boat owners from Minnesota. Wisconsin owners of large boats—who are mostly located in the southeast part of the state—allocated fewer days to Lake Superior and far more days to Lake Michigan. Boaters from Northern Minnesota—compared with other Minnesota boaters—allocate a higher proportion of boating days to Lake Superior, overall, and to the Minnesota waters of the Lake. Proximity to the Lake is no doubt the reason for the higher proportions.



For some boaters, when they use Lake Superior, they are predominately using the Minnesota waters of the Lake. Other boaters are far different, and the proportion of Lake use in Minnesota waters is small. This percent of total Lake boating that

Table 3

Use of primary boat

	All boat owners	Origin of boat owner		
		Northern Minnesota	Twin Cities Minnesota	Southern Minnesota
Annual days of use of primary boat	24	25	25	19
Percent of annual days within one hour of home	64.4%	83.7%	54.7%	53.8%
Percent of annual days on Lake Superior	2.3%	3.7%	1.9%	1.3%
Percent of annual days on the MN waters of Lake Superior	1.5%	3.0%	0.8%	1.0%
Percent of annual days near Isle Royale on Lake Superior	0.2%	0.6%	0.0%	0.3%
Percent of annual days on Lake Michigan	0.1%	0.0%	0.1%	0.0%

	All large boat owners	Origin of boat owner			
		All of Minnesota	Northern Minnesota	Twin Cities Minnesota	Southern Minnesota
Annual days of use of primary boat	38	35	30	37	32
Percent of annual days within one hour of home	70.4%	72.0%	75.1%	68.9%	92.4%
Percent of annual days on Lake Superior	5.5%	9.9%	29.1%	7.0%	0.0%
Percent of annual days on the MN waters of Lake Superior	1.2%	2.1%	8.1%	1.0%	0.0%
Percent of annual days near Isle Royale on Lake Superior	0.5%	0.9%	4.0%	0.4%	0.0%
Percent of annual days on Lake Michigan	17.7%	1.6%	0.0%	2.2%	0.0%
					All of Wisconsin
					37
					75.2%
					1.6%
					0.5%
					0.0%
					29.4%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

occurs in Minnesota waters is referred to as the “Minnesota capture rate”. The capture rate is higher for the general Minnesota boat owner (66%), and lower for large-boat owners (22%), whether from Minnesota (21%) or Wisconsin (29%) (see Table 4). For the general boater, a higher capture rate is evident for Northern (81%) and Southern boaters (80%), and is lower for Twin Cities boaters (42%).

Table 4

Percent of Lake Superior use going to the MN waters of Lake Superior  
(based on the use of the primary boat)

<u>Origin of boat owner</u>	<u>Owners of all boats registered in Minnesota</u>	<u>Owners of large boats registered in Minnesota or Wisconsin*</u>
Minnesota		
Northern Minnesota	81%	28%
Twin Cities Minnesota	42%	15%
Southern Minnesota	80%	----
<i>Minnesota subtotal</i>	<i>66%</i>	<i>21%</i>
Wisconsin	----	29%
Other states	----	----
All boat owners	66%	22%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

Low capture rates represent a potential market for the Minnesota waters of Lake Superior. The boater is already using Lake Superior, which is something not all boaters are willing to do (see later section on barriers to boating on the Lake), but they are just not using the Minnesota waters of the Lake. Realizing this potential, however, is likely to be a challenging task, since some sections of the Lake (especially the Apostle Islands) are judged more desirable for boating than the Minnesota portion (see later section on overnight boating), and these desirable sections are as close to many of the boater’s homes as the Minnesota section (for example, the Twin Cities is as close to the Apostle Islands as to much of the Minnesota shore of Lake Superior).



## INTEREST IN, AND BARRIERS TO, BOATING ON THE MINNESOTA WATERS OF LAKE SUPERIOR

Many boat owners express an interest in boating more on the Minnesota waters of Lake Superior (Table 5). For the general Minnesota boat owner, the portion with an interest in boating more is just over one-third (34%). The portion is considerably higher for those who have boated on the Lake (59%), indicating that such boating is a positive experience. The portion is low, however, for those who have never used the Lake (26%); the large majority of general Minnesota boat owners (78%)—as well as large-boat owners (71%)—have never boated on the Lake. A similar pattern of responses was found for large-boat owners.

Table 5

Would you like to boat (or boat more often) on the Minnesota waters of Lake Superior?

**a. Owners of all boats registered in Minnesota**

Response	Overall	-- Ever boated on Lake Superior? --	
		"No"	"Yes"
"yes"	34%	26%	59%
"no"	40%	47%	16%
"don't know"	<u>26%</u>	<u>27%</u>	<u>25%</u>
Total percent	100%	100%	100%

**b. Owners of large boats registered in Minnesota or Wisconsin\***

Response	Overall	-- Ever boated on Lake Superior? --	
		"No"	"Yes"
"yes"	40%	26%	72%
"no"	36%	45%	14%
"don't know"	<u>24%</u>	<u>29%</u>	<u>14%</u>
Total percent	100%	100%	100%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

Interest in boating on the Minnesota waters was measured for the general Minnesota boat owner in 1988 (Lime et al., 1989). At that time, the portion expressing an interest in boating more was higher than the current study (44% versus 34%, respectively), while the portion having no interest was lower (30% versus 40%), and the portion that “didn’t know” was the same (26%). The reason for these changes is not known. The “interest” question was asked the same way in both surveys.

Boat owners were asked about barriers to boating more on the Minnesota waters of Lake Superior. Some of the barriers are shared by the general Minnesota boat owner and the large-boat owner, and some are different. Similarly, boaters who have had experience boating on the Lake have some barriers in common with boat owners with no experience, and have some barriers that are different.

Of the shared barriers between owners of large boats and general Minnesota boat owners, intervening opportunities (good places to boat that are closer to home) is top ranked (Table 6 and 7). This is followed by barriers related to personal skills, knowledge, and equipment. Such barriers are less important for large-boat owners (especially the barrier about the size of the boat being too small), although they are still leading barriers to large-boat owners. Time is also a shared leading barrier. Other barriers that stand out for the general Minnesota boat owner (but less so for the large-boat owner) concern personal risk. Lake Superior waters are cold, and occasional large waves coupled with a rugged shoreline can make boating difficult. Owning a larger boat appears to reduce these perceived personal risks.

Boaters who have never boated on Lake Superior have a pattern of barriers quite similar to those reported above for the overall boater, which includes those who have and have not boated on the Lake (this is not surprising, since 70% to 80% of boaters have never boated on the Lake). As expected, the knowledge barrier (“I don’t know enough about Lake Superior boating”) is higher for those who have never boated on the Lake.

Boaters who have boated on Lake Superior have an additional group of barriers, which is related to boating facilities, services and opportunities. As a rule, users of a place tend to indicate lack of amenities as a barrier to the place’s use, and Lake Superior boaters are no exception. Three of the leading barriers in this group are shared by the owners of large boats and the general Minnesota boat owner: not enough safe harbors, not enough marinas with transient slips, and boating destinations too far apart. The large-boat owner has an additional leading barrier

Table 6

Percent of *all MN-registered boat owners* agreeing with statement: **I haven't boated (or haven't boated more often) on the Minnesota waters of Lake Superior because . . .**

<u>Category</u>	<u>. . . Item</u>	<u>Overall</u>	<u>-- Ever boated on Lake Superior? --</u>	
			<u>"No"</u>	<u>"Yes"</u>
<b>Intervening opportunities</b>				
	● . . . other good places for boating are closer to home	70	71	65
<b>Personal skills, knowledge and equipment</b>				
	● . . . my boat is too small	62	63	58
	● . . . I don't know enough about Lake Superior boating	55	59	42
	● . . . I lack the skills needed for Lake Superior boating	47	50	37
<b>Time</b>				
	● . . . I don't have enough time to boat there as much as I would like	36	29	58
<b>Personal risk</b>				
	● . . . even with more safe harbors, I would still be concerned about the danger of boating there	33	33	32
	● . . . it's too dangerous	28	28	26
	● . . . there are too few other boats in the area to assist me if something goes wrong	13	12	16
<b>Boating facilities, services, opportunities</b>				
	● . . . I enjoy boating from place to place, and destinations are too far apart there	19	17	24
	● . . . there isn't enough good information on Lake Superior boating	16	15	21
	● . . . there are not enough boat-launching facilities	14	8	36
	● . . . there are not enough safe harbors (a protected place to escape bad weather)	14	10	29
	● . . . there are not enough marinas with permanent slips, lodging, and food service	10	7	22
	● . . . there are not enough marinas with transient slips	10	6	24
	● . . . there are not enough safety patrol and water rescue services	9	6	17
	● . . . the fishing is poor	7	5	15
	● . . . there are not enough charter/rental boats for other purposes	3	3	7
	● . . . there are not enough charter/rental boats for fishing	3	2	6
<b>Weather</b>				
	● . . . the weather is unpleasant	14	14	15
<b>Expense</b>				
	● . . . it is too expensive to boat there	11	11	11
<b>Do enough already</b>				
	● . . . I already do enough boating on Lake Superior	8	7	14
<b>Additional leisure opportunities</b>				
	● . . . there is too little to do, other than boating	8	8	10

Table 7

Percent of *MN-WI-registered large-boat owners* agreeing with statement: **I haven't boated (or haven't boated more often) on the Minnesota waters of Lake Superior because . . .**

<u>Category</u>	<u>. . . Item</u>	<u>Overall</u>	<u>-- Ever boated on Lake Superior? --</u>	
			<u>"No"</u>	<u>"Yes"</u>
<b>Intervening opportunities</b>				
	● . . . other good places for boating are closer to home	63	64	62
<b>Personal skills, knowledge and equipment</b>				
	● . . . I don't know enough about Lake Superior boating	45	49	37
	● . . . I lack the skills needed for Lake Superior boating	27	30	21
	● . . . my boat is too small	26	28	21
<b>Time</b>				
	● . . . I don't have enough time to boat there as much as I would like	43	32	66
<b>Personal risk</b>				
	● . . . even with more safe harbors, I would still be concerned about the danger of boating there	17	15	22
	● . . . it's too dangerous	13	12	17
	● . . . there are too few other boats in the area to assist me if something goes wrong	13	8	23
<b>Boating facilities, services, opportunities</b>				
	● . . . I enjoy boating from place to place, and destinations are too far apart there	17	13	25
	● . . . there are not enough marinas with permanent slips, lodging, and food service	16	8	33
	● . . . there isn't enough good information on Lake Superior boating	16	14	19
	● . . . there are not enough safe harbors (a protected place to escape bad weather)	16	9	31
	● . . . there are not enough marinas with transient slips	15	7	31
	● . . . there are not enough boat-launching facilities	11	6	22
	● . . . the fishing is poor	7	2	17
	● . . . there are not enough safety patrol and water rescue services	6	4	11
	● . . . there are not enough charter/rental boats for fishing	3	2	4
	● . . . there are not enough charter/rental boats for other purposes	2	2	4
<b>Weather</b>				
	● . . . the weather is unpleasant	9	6	16
<b>Expense</b>				
	● . . . it is too expensive to boat there	8	6	14
<b>Additional leisure opportunities</b>				
	● . . . there is too little to do, other than boating	8	4	16
<b>Do enough already</b>				
	● . . . I already do enough boating on Lake Superior	7	2	16

of not enough marinas with permanent slips, and the general Minnesota boat owner has an additional leading barrier of not enough boat-launching facilities.

Some of the potential barriers to boating more were not very important to any of the boat owners on Table 6 or 7 (i.e., indicated by less than 20% of owners), and they are noteworthy for that reason. These low-importance barriers are: not enough safety patrol and water rescue services, poor fishing, not enough charter/rental boats, unpleasant weather, high expense, lack of leisure opportunities other than boating, and already doing enough boating on the Lake.

The 1988 survey included 16 of the 22 barriers included in the current study (Lime et al., 1989). Thus, for the general Minnesota boat owner, the current study provides an opportunity to see if changes have occurred in perceived barriers. The results, overall, indicate that little has changed. Boater owners have nearly the same ordering of barriers now as in 1988 (the correlation coefficient is .97 for the percent of boat owners agreeing now and in 1998 that the 16 items are barriers to more boating). The 16 barriers in this and the 1988 study are all those on Table 6, except the following six, which tend to be among the smaller perceived barriers in the current study: “. . . even with more safe harbors, I would still be concerned about the danger of boating there”; “. . . there are too few other boats in the area to assist me if something goes wrong”; “. . . I enjoy boating from place to place, and destinations are too far apart there”; “. . . there are not enough boat-launching facilities”; “. . . there are not enough marinas with transient slips”; and “. . . there is too little to do, other than boating.”

## SAFE HARBORS

One of the preceding potential barriers to boating more along the Minnesota waters of Lake Superior dealt with safe harbors. The safe harbor barrier read, as a reason for not boating more: “. . . there are not enough safe harbors (a protected place to escape bad weather).”

Safe harbors are facilities designed to meet the challenge of opening up the Minnesota waters of Lake Superior to recreational boating. Lake Superior waters are quite cold and the weather can be unpredictable. At times, boaters need sheltered places to get off the Lake in an emergency due to weather or other boating-related problems. In addition, the rugged Minnesota shore, coupled with occasional large waves, means that launch facilities and marinas need protection from the Lake.

The survey asked boat owners about their awareness of the safe harbor program in Minnesota. The results indicate that awareness is not very high (Table 8). For the general Minnesota boat owner, the large majority either never heard of the program (72%) or didn't know very much about the program (14%). Some owners knew a few things about the program (11%) and few knew a lot (2%). The percent that had at least some awareness of the program (either knew a few things or knew a lot) was higher for boat owners who had boated on the Lake (32%), but was still relatively small. Nearly the same pattern of results is evident for large-boat owners, including the percent of Lake Superior boaters who had at least some awareness of the program (34%).

Table 8

Prior to receiving this survey, how much did you know about the program to construct safe harbors on the Minnesota shoreline of Lake Superior?

**a. Owners of all boats registered in Minnesota**

Response	Overall	-- Ever boated on Lake Superior? --	
		<u>"No"</u>	<u>"Yes"</u>
"never heard of this program before"	72%	80%	48%
"didn't know very much"	14%	12%	20%
"knew a few things"	11%	8%	24%
"knew a lot"	<u>2%</u>	<u>0%</u>	<u>8%</u>
Total percent	100%	100%	100%

**b. Owners of large boats registered in Minnesota or Wisconsin\***

Response	Overall	-- Ever boated on Lake Superior? --	
		<u>"No"</u>	<u>"Yes"</u>
"never heard of this program before"	70%	79%	48%
"didn't know very much"	15%	13%	18%
"knew a few things"	13%	7%	26%
"knew a lot"	<u>3%</u>	<u>1%</u>	<u>8%</u>
Total percent	100%	100%	100%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

This relatively low awareness had a substantial effect on responses to related questions. When asked whether the safe harbors had allowed them to boat more often or travel further on the Lake, the largest group of boat owners who have boated on the Lake responded “don’t know” (Table 9). For those that did know, the majority responded “no”, indicating that the safe harbors had not allowed them to boat more often or travel further.

**Table 9**

**Have the safe harbors that have been built on Lake Superior allowed you to boat more often or travel further on the Lake?**  
(responses of boaters who have boated on Lake Superior)

<u>Response</u>	<u>Owners of all boats registered in Minnesota</u>	<u>Owners of large boats registered in Minnesota or Wisconsin*</u>
"yes"	15%	26%
"no"	39%	34%
"don't know"	<u>46%</u>	<u>40%</u>
Total percent	100%	100%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

Similarly, when queried about the need for additional safe harbors, the largest group of boat owners who have boated on the Lake responded “don’t know” (Table 10). For those that did know, the large majority responded “yes”, indicating a need for more safe harbors. When further questioned about the location of an additional harbor(s), the location most frequently indicated by both large and general boat owners was along the south section of the Minnesota shore from Duluth to Knife River/Two Harbors.

Regardless of a boat owner’s knowledge of the safe harbor program, however, the idea of having a safe harbor nearby is important to boaters who use Lake Superior. When asked about their level of concern of being caught on the Lake without a safe harbor nearby, the majority of boat owners who have used the Lake

were “somewhat concerned” or “very concerned” (Table 11). Concern is higher among owners of large boats, just over half of whom are “very concerned.”

Table 10

Do you think additional safe harbors are needed on Lake Superior?

(responses of boaters who have boated on Lake Superior)

<u>Response</u>	<u>Owners of all boats registered in Minnesota</u>	<u>Owners of large boats registered in Minnesota or Wisconsin*</u>
"yes"	36%	39%
"no"	19%	6%
"don't know"	<u>45%</u>	<u>55%</u>
Total percent	100%	100%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

Table 11

How concerned are you about being caught out on Lake Superior without a safe harbor nearby?

(responses of boaters who have boated on Lake Superior)

<u>Response</u>	<u>Owners of all boats registered in Minnesota</u>	<u>Owners of large boats registered in Minnesota or Wisconsin*</u>
"not concerned"	25%	10%
"slightly concerned"	17%	12%
"somewhat concerned"	26%	22%
"very concerned"	27%	51%
"don't know"	<u>5%</u>	<u>5%</u>
Total percent	100%	100%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.



## BOATING SAFETY EDUCATION

Safety is a concern of Lake Superior boaters, as noted in a number of ways above. The survey asked boat owners whether they felt boater safety courses should be required in general and specifically for Lake Superior.

About one-in-five general Minnesota boat owners (18%) have completed a formal course in boating safety (Table 12). A third (34%), however, believe such a course should be required for any boat operator, and a higher proportion (56%) believe such a course should be required for Lake Superior boat operators. The higher proportion for Lake Superior operators is probably a reflection of the belief that boaters need to be better prepared when using Lake Superior than when using smaller lakes and rivers.

Owners of large boats are more likely to have taken a course in boating safety and to believe such a course should be a requirement. Nearly half of such owners

<u>Question</u>	Owners of all boats registered in <u>Minnesota</u>	Owners of large boats registered in Minnesota or <u>Wisconsin*</u>
<ul style="list-style-type: none"> <li>● <i>Have you taken a formal course in boating safety?</i></li> </ul>		
Percent responding "Yes"	18%	46%
<ul style="list-style-type: none"> <li>● <i>Should all Minnesota boat operators (powered &amp; unpowered) be required to complete a boating safety course?</i></li> </ul>		
Percent responding "Yes"	34%	52%
<ul style="list-style-type: none"> <li>● <i>Should Lake Superior boat operators (powered &amp; unpowered) be required to complete a boating safety course?</i></li> </ul>		
Percent responding "Yes"	56%	68%
<p>* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.</p>		

(46%) have completed a formal safety course, 52 percent believe such a course should be required for any boat operator, and a higher percent (68%) believe such a course should be required for Lake Superior boat operators.

Boaters who have taken a formal safety course are more likely to favor requirements for a course than those who have not taken a course. Among owners who have taken a formal course, the number who believe a course should be required of Lake Superior operators comprise 69 percent of general Minnesota boat owners and 85 percent of large-boat owners. Clearly, the large majority of those who have take a formal boating course, believe such a course should be a requirement for Lake Superior operators.

## OVERNIGHT BOATING TRIPS

One boating market the survey targeted was overnight boaters. Specifically, the survey garnered information on past behavior as an overnight boater, interest in such boating, desirable destinations for overnight trips, and the facility/service needs at (and near) marinas that provide transient spaces for overnight boaters.

About one-quarter (26%) of general Minnesota boat owners, and nearly half (47%) of large-boat owners have taken an overnight trip in their primary boat (Table 13). Interest in taking overnight trips among those who have not done so is not particularly large: 12 percent for general Minnesota boat owners, and 10 percent for large-boat owners. Many boaters have neither taken an overnight trip in their primary boat, nor have any interest in doing so.

Boaters who have taken an overnight trip, or have an interest in doing so, ranked the desirability of various Lake Superior destinations for such trips. The intent was to find out how the Minnesota waters of Lake Superior compared with other Lake destinations.

Both the general Minnesota boat owner and the large-boat owner agreed that the Apostle Islands was the most desirable destination among those listed (Table 14 and 15). It was the most desirable for all boater origins, too. It was particularly desirable for those who have boated on the Lake, but it was also the most desirable destination among owners who have never boated on the Lake, no doubt a reflection of the Islands' boating image.

Table 13

Overnight boating trips

<u>Boater category</u>	Owners of all boats registered in <u>Minnesota</u>	Owners of large boats registered in Minnesota or <u>Wisconsin*</u>
● Percent of boaters having taken an overnight trip in their primary boat	26%	47%
● Percent of boaters <u>not</u> having taken an overnight trip, but having an interest in such a trip	12%	10%
● Percent of boaters <u>not</u> having taken an overnight trip, and <u>not</u> having an interest in such a trip	<u>62%</u>	<u>43%</u>
Total percent	100%	100%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

The Minnesota waters of Lake Superior were more desirable to general Minnesota boat owners than to large-boat owners. For the former owners, the Minnesota waters were ranked in the middle, while for the latter owners, the Minnesota waters ranked near the bottom. These rankings were largely consistent across boater origins and boater experience on Lake Superior.

Boaters who have taken an overnight trip, or have an interest in doing so, indicated the importance of various facilities/services at (or near) marinas that provide for transient boats. For the general Minnesota boat owner, the most important marina facilities/services are gasoline fuel pumps, personal/property security, and private restrooms/showers (Table 16). The ability to make advanced reservations was also judged as an important service. Near the marina, the most important facilities/services are places to shop for groceries/other items and restaurants. A fair number of general Minnesota boat owners wrote in “overnight accommodations” as something they would like to see near the marina where they dock their boat for the night. Many boats in this general boat population are not large enough to comfortably sleep on.

Table 14

In your [an owner of a boat registered in Minnesota] opinion, how desirable are the following destinations for an overnight boating trip?

(Table entries are percent "very desirable" ratings from owners of all boats registered in Minnesota who have taken an overnight trip in their primary boat, or who have expressed an interest in taking such a trip)

Destination	Overall	Origin of boater			-- Every boated on Lake Superior? --	
		Northern MN	Twin Cities MN	Southern MN	"No"	"Yes"
● Apostle Islands area of Lake Superior in Wisconsin	43%	42%	44%	37%	29%	70%
● Isle Royale in Lake Superior	32%	32%	30%	32%	20%	54%
● Minnesota waters of Lake Superior	25%	25%	26%	23%	17%	43%
● Canadian waters of Lake Superior	20%	12%	27%	9%	14%	31%
● Michigan waters of Lake Superior	14%	11%	16%	15%	11%	22%

Table 15

In your [an owner of a large boat\* registered in Minnesota or Wisconsin] opinion, how desirable are the following destinations for an overnight boating trip?

(Table entries are percent "very desirable" ratings from owners of large boats registered in Minnesota or Wisconsin who have taken an overnight trip in their primary boat, or who have expressed an interest in taking such a trip)

Destination	Overall	Origin of boater			-- Every boated on Lake Superior? --	
		Northern MN	Twin Cities MN	Southern MN	Wisconsin	"No"
● Apostle Islands area of Lake Superior in Wisconsin	58%	62%	59%	43%	44%	75%
● Isle Royale in Lake Superior	35%	44%	36%	21%	19%	53%
● Michigan waters of Lake Superior	23%	28%	19%	0%	13%	37%
● Minnesota waters of Lake Superior	21%	48%	21%	7%	13%	31%
● Canadian waters of Lake Superior	21%	29%	24%	0%	10%	37%

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

Table 16

How important is it to have the following facilities and services available to you [an owner of a boat registered in Minnesota] at a marina where you take your boat on an overnight trip?

(Table entries are responses from owners of all boats registered in Minnesota who have taken an overnight trip in their primary boat, or who have expressed an interest in taking such a trip)

Category	Facility/service	mean importance rating (range 1 to 4)	not important (=1) (percent)	slightly important (=2) (percent)	moderately important (=3) (percent)	very important (=4) (percent)	Total (percent)	
<b>At the marina</b>	● gasoline fuel pumps	3.3	13%	9%	15%	63%	100%	
	● adequate security for me and my boat	3.3	8%	11%	26%	55%	100%	
	● private restrooms and showers for marina patrons	3.1	11%	13%	28%	47%	100%	
	● ability to make advance reservations for my boat	2.9	16%	14%	36%	34%	100%	
	● knowledgeable marina operator(s) with whom to discuss boats and boating topics	2.7	18%	22%	31%	30%	100%	
	● ability to contact marina staff by radio with questions	2.7	24%	16%	24%	35%	100%	
	● boat repair services	2.5	23%	25%	28%	25%	100%	
	● telephone	2.4	35%	13%	24%	28%	100%	
	● ship store	2.4	29%	23%	27%	21%	100%	
	● electricity connection dockside	2.3	37%	21%	22%	21%	100%	
	● running water connection dockside	2.1	43%	22%	17%	19%	100%	
	● laundry facilities	2.0	42%	26%	22%	11%	100%	
	● haul-out service	2.0	48%	19%	19%	14%	100%	
	● sewage pumpout services	1.9	57%	11%	15%	17%	100%	
	● diesel fuel pumps	1.8	65%	11%	9%	16%	100%	
	● internet access	1.3	84%	7%	7%	1%	100%	
	● cable TV connections	1.2	84%	10%	5%	2%	100%	
	<b>Near the marina</b>	● places to shop for groceries and other items near the marina	2.9	12%	16%	43%	29%	100%
		● restaurant opportunities near the marina	2.8	12%	18%	43%	27%	100%
		● outdoor recreation opportunities near the marina	2.4	24%	25%	35%	16%	100%
● shuttle or transportation service for shopping, restaurants and entertainment outings		2.2	35%	19%	33%	12%	100%	
● entertainment opportunities near the marina		2.2	33%	26%	28%	13%	100%	

Large-boat owners gave high importance to these same facilities/services (excepting overnight accommodations), but added other items to their high-importance listing (Table 17). The added facilities/services were specific to large boats, and included dockside electricity and water connections, and sewage pumpout services. Large-boat owners also gave high importance to the ability to contact marina staff by radio with questions.

Overall, the importance rankings across all 22 facilities/services was similar for general Minnesota boat owners and large-boat owners. The correlation coefficient for the two boater owner groups was .83, based on mean importance values in Tables 16 and 17.

Table 17

How important is it to have the following facilities and services available to you [an owner of a large boat\* registered in Minnesota or Wisconsin] at a marina where you take your boat on an overnight trip?

(Table entries are percent "very desirable" ratings from owners of large boats registered in Minnesota or Wisconsin who have taken an overnight trip in their primary boat, or who have expressed an interest in taking such a trip)

Category	Facility/service	mean importance rating (range 1 to 4)	not important (=1) (percent)	slightly important (=2) (percent)	moderately important (=3) (percent)	very important (=4) (percent)	Total (percent)
<b>At the marina</b>	● gasoline fuel pumps	3.6	8%	1%	11%	80%	100%
	● adequate security for me and my boat	3.6	4%	4%	22%	70%	100%
	● electricity connection dockside	3.4	9%	7%	17%	67%	100%
	● ability to contact marina staff by radio with questions	3.4	7%	10%	23%	60%	100%
	● private restrooms and showers for marina patrons	3.4	6%	11%	25%	59%	100%
	● ability to make advance reservations for my boat	3.3	6%	10%	32%	52%	100%
	● sewage pumpout services	3.2	12%	10%	23%	55%	100%
	● running water connection dockside	3.1	12%	16%	19%	53%	100%
	● boat repair services	3.0	7%	23%	34%	37%	100%
	● knowledgeable marina operator(s) with whom to discuss boats and boating topics	3.0	10%	15%	41%	34%	100%
<b>Near the marina</b>	● ship store	2.6	17%	28%	33%	22%	100%
	● laundry facilities	2.3	28%	28%	29%	15%	100%
	● telephone	2.2	40%	17%	27%	16%	100%
	● haul-out service	2.2	36%	25%	21%	17%	100%
	● diesel fuel pumps	2.2	51%	8%	14%	27%	100%
	● cable TV connections	1.5	70%	13%	13%	4%	100%
	● internet access	1.5	67%	19%	10%	4%	100%
	● restaurant opportunities near the marina	3.2	4%	14%	42%	39%	100%
	● places to shop for groceries and other items near the marina	3.1	5%	17%	40%	37%	100%
	● shuttle or transportation service for shopping, restaurants and entertainment outings	2.7	19%	19%	40%	22%	100%
● outdoor recreation opportunities near the marina	2.5	21%	25%	37%	17%	100%	
● entertainment opportunities near the marina	2.5	24%	22%	36%	18%	100%	

\* A "large boat" is at least 24 feet long; includes recreational boats documented with the U. S. Coast Guard.

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