

SUPERIOR ADVISORY NOTES



Minnesota Sea Grant Extension

University of Minnesota

Recreational Boating on Western Lake Superior During 1984

by Chad P. Dawson and J. Clark Laundergan

Introduction

Recreational boating on western Lake Superior continues to increase and boating facilities have expanded to accommodate that demand. More boating facilities are planned or have been proposed. Planning for these new or expanded facilities requires accurate and up-to-date information about boating use patterns and the needs of boaters to assure that any new supply will be related to user demand.

Minnesota Sea Grant conducted a survey of boaters during the summer of 1984. The survey updates a 1976 boater survey sponsored by Minnesota Sea Grant. The 1984 research method and mail survey questionnaire were similar to the 1976 process to allow for some comparisons between the two surveys.

Names and addresses of boaters were collected from marina managers and boating club officials in the western Lake Superior region, extending from Saxon Harbor, Wisconsin to Grand Portage, Minnesota. A total of 1,654 boaters were sent questionnaires in 1984 and 917 were returned for a 55% response rate. In 1976, 787 boaters were sent questionnaires and 447 were returned for a 57% response rate.

The boaters surveyed either berthed their boats at marinas in the study area or were members of boating/yacht clubs and associations in western Lake Superior during 1984. Day users who trailed their boats to western Lake Superior and were not boating/yacht club members or seasonal marina users were not included in the study.

The Average Boater

The average western Lake Superior boater/boat owner is 47 years old and male (96%). He lives in Duluth-Superior (41%) or Minneapolis/St. Paul (24%) and has 2.8 people residing in his household. He has completed 15.5 years of school and is a professional (37%) with a family income of \$30,000 or more (71%). He has been boating on Lake Superior for 12.6 years and is a member of one or more boating organizations (53%). Boat club representation was distributed across more than 30 organizations and the ten most often listed by boaters are shown in Table 1.

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Table 1

Boat Club Representation

Barkers Island Yacht Club	17%
Madeline Island Yacht Club	16%
Duluth Keel Club	15%
U.S. Power Squadron	15%
Knife River Yacht Club	9%
Saxon Harbor Boating Club	9%
Apostle Island Yacht Club	5%
U.S. Coast Guard Auxiliary	4%
Cornucopia Yacht Club	4%
Outer Island Yacht Club	3%

The average 1984 boater was very similar to the 1976 boater with only four notable differences. The 1984 boater more often resided in Duluth-Superior or the Minneapolis/St. Paul area and had fewer people residing in his household. He more often described himself as a professional with a family income greater than \$30,000 per year. The reported increases in income are partially attributable to inflation and cost of living increases over an eight-year period and do not necessarily reflect increases in real disposable income.

The average western Lake Superior boater has owned his present boat for 6.0 years, although he has boated in this area for 12.6 years. This is one indication that the average boater trades-in his boat periodically for a boat that is newer or has different equipment. Most boats are individually owned with only 14 percent reportedly owned in a partnership. Most boats contain a head (81%) and sleeping accommodations (87%); the majority of boats with berths accommodate 2 to 6 persons. Compared to the 1976 characteristics, the only difference in 1984 was a longer period of boat ownership (4.5 vs 6.0 years, respectively).

Boat Characteristics

The average sailboat on western Lake Superior is 27 feet in length and the average power boat is 22 feet in length. Compared to the 1976 survey data, the average length of the various types of boats remained unchanged except for inboard motorboats which decreased from 38 feet to an average of 29 feet in length. The number of boats reported in 1984 for all boat categories greatly exceeded the 1976 survey data. The largest percentage change was a 109 percent increase in the number of power boats followed by a 56 percent increase in sailboats, this represents an 83 percent increase in the total number of boats reported. The number of boats in 1984 and the average length are shown in Table 2.

Boat Use

The boating season on western Lake Superior generally extends for four months with 50 percent or more of the respondents reporting medium to high use of their boats from late May to late September. Boat use was reported for a full six months from early May to late October with an average of 42.2 days of boating use. An average day's outing is 8.5 hours in length.

Boaters were asked to indicate frequency of boat use for the months of May through October using these categories: no use, low use, medium use, and high use. Figure 1 shows the combined responses of high and medium use.

Table 2
Recreational Boats
on Western Lake Superior

Type of Boat	Number	Average Length (feet)
Sail	95	18.1
Sail with outboard auxiliary	122	23.6
Sail with inboard auxiliary	<u>271</u>	<u>31.8</u>
Total Sail	488	Average Sail 27.1
Motor outboard	250	15.7
Motor inboard/outboard	230	23.2
Motor inboard	<u>211</u>	<u>29.5</u>
Total Power	691	Average Power 22.4
Total Boats	1,179	Average Boats 24.4

Figure 1
High and Medium Boat Use by Month

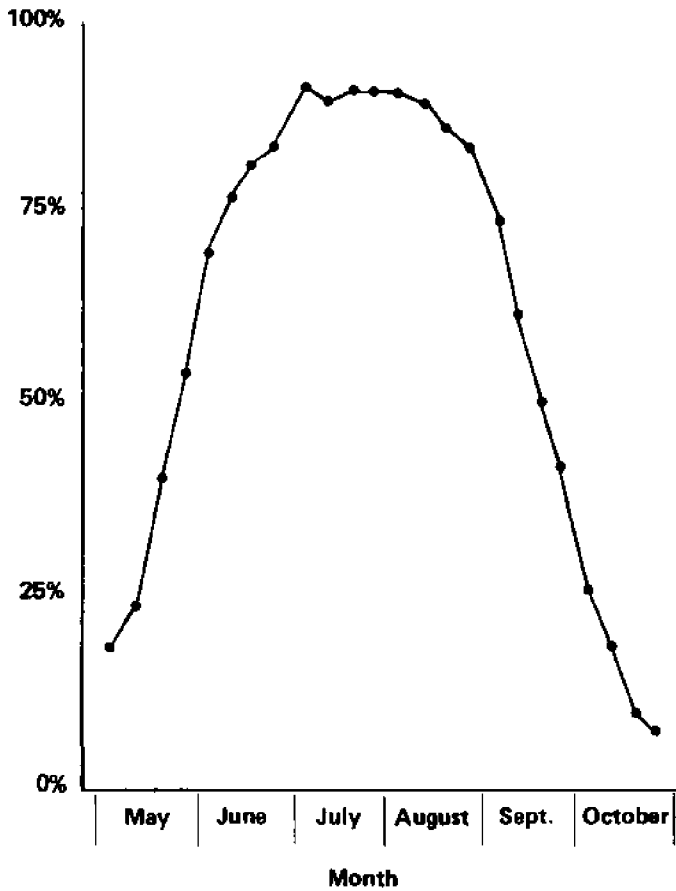


Table 3
Purpose of Boat Use

Type of Use	First Priority Use	Combined First, Second, or Third Priority Use
Cruising	39%	76%
Fishing	35%	53%
Family Outing	10%	46%
Entertainment	8%	37%
Racing	4%	12%
Charter Service	2%	3%
Business	0%	1%
Transportation	0%	1%
Other	2%	4%
Total	100%	

Table 4
Trip Distance

Day or Weekend Voyages	
Round-Trip Distance	Percentage of All Boaters
Less than 25 miles	60%
25-49 miles	41%
50-74 miles	22%
75-100 miles	12%
Over 100 miles	8%

The boaters were asked to list their most common boat uses in order of importance. Table 3 lists the first priority boat use and the percentage who ranked each purpose within their top three uses.

Cruising was the most common purpose for boating on western Lake Superior followed by fishing, family outings, and entertainment. Fishing was ranked the most important use by more respondents in 1984 (35%) than in 1976 (16%). All other first priority uses decreased to some extent in 1984. Most boats were used only on Lake Superior or St. Louis Bay (79%) and were not moved to other waters in 1984.

Day or weekend voyages tend to be within a 50 mile round-trip distance while longer than weekend voyages were generally greater than 50 miles round-trip. The percentage of boaters reporting each type of trip and round-trip distance is shown in Table 4.

Longer than Weekend Voyages	
Round-Trip Distance	Percentage of All Boaters
Less than 50 miles	7%
50-99 miles	12%
100-149 miles	14%
150-199 miles	12%
200-250 miles	10%
Over 250 miles	17%

Most boaters (63%) took an overnight voyage during the 1984 season. Of those boaters taking an overnight voyage, the majority (71%) took 1 to 5 such trips in 1984 and the majority (83%) carried 2 to 4 people on board for their overnight voyages. Overnight boaters most often took trips of 2 to 3 days duration. Boaters taking overnight voyages reported one or more trips of the following duration in 1984:

Table 5
Overnight Voyages

Voyage Duration	Percentage of Overnight Boaters
1 day with overnight	51%
2-3 days	72%
4-7 days	46%
8 days or longer	34%

Docking facilities, navigation/weather information, boating supplies, and food and refreshments are the four facilities most frequently used by boaters in western Lake Superior. Boaters reported using different facilities depending on the duration of the voyage (Table 6).

The 1984 trip distances, voyage durations, and type of facilities used for each voyage duration were similar to those reported by the boaters surveyed in 1976.

Boater Needs

Western Lake Superior boaters reported different types of needs within their home ports. The most often expressed needs overall were for additional seasonal and transient docking facilities, and the availability of food, refreshments, and a laundry near boating facilities. The facility needs within each home port area and their relative ranking are shown in Table 7.

Boaters were asked what area most needed an additional harbor of refuge, full service marina, or transient dock facility. The area most often listed by western Lake Superior boaters for all three of those facilities was the area from Knife River to Grand Marais. The areas of need for each of those potential new boating facilities are shown in Table 8.

Table 6
Facilities Used by Duration of Voyage

	One Day Voyage		2-3 Day Voyage		3 Day or Longer Voyage	
	%	Rank	%	Rank	%	Rank
Docking facilities	38	1	45	1	41	2
Navigation/weather information	32	2	34	2	36	5
Boating supplies	24	3	33	3	42	1
Food and refreshments	23	4	32	5	38	3
Anchorage areas	21	5	32	4	30	9
Harbor of refuge	19	6	30	6	32	7
Electrical hookups	13	7	24	7	32	8
Water	12	8	22	8	34	6
Pump-out waste disposal facilities	8	9	19	9	36	4
Repair facilities	5	10	5	11	9	12
Overnight accommodations	3	11	16	10	18	11
Laundry facilities	2	12	3	12	19	10

Table 7
Facility Needs Within Home Port

Facilities	Duluth-Superior		Knife River		Grand Marais		Port Wing-Cornucopia		Apostle Islands		Saxon Harbor	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
Docking facilities (season)	24	2	16	8	61	1	19	8	23	1	25	4
Docking rental (daily)	17	5	16	9	61	2	11	11	21	3	14	12
Anchorage area	14	7	22	5	39	4	6	14	20	4	17	7
Boating supplies	19	4	25	3	33	7	25	5	11	6	17	8
Pump-out waste disposal	13	8	10	13	11	11	47	1	11	7	14	13
Food and refreshments	26	1	39	1	11	12	11	12	10	9	17	9
Overnight accommodations	15	6	14	10	17	10	11	13	10	10	22	5
Water	11	9	14	11	11	13	25	6	11	8	19	6
Electrical hookups	11	10	12	12	11	14	31	2	7	12	28	1
Laundry	20	3	27	2	22	8	28	3	22	2	28	2
Navigation/weather info	8	12	25	4	22	9	28	4	17	5	14	14
Haul out	7	14	10	14	39	5	17	9	6	14	17	10
Winter storage	8	13	16	7	44	3	17	10	7	13	17	11
Repair facilities	10	11	18	6	39	6	25	7	9	11	28	3
(Sample Size of Respondents)	(315)		(49)		(18)		(36)		(215)		(36)	

Table 8
Area Most Needing New Boating Facilities

Area	Harbor of Refuge		Full Service Marina		Transient Docks	
	%	Rank	%	Rank	%	Rank
Knife River to Grand Marais	31	1	24	1	19	1
Duluth to Port Wing	13	2	6	3	8	3
Duluth to Knife River	9	3	7	2	5	5
Apostle Islands	6	4	5	5	9	2
Western Michigan U.P.	5	5	5	6	5	6
Isle Royale	4	6	6	4	6	4
Port Wing to Bayfield	2	7	4	7	4	7
Duluth-Superior, St. Louis Bay	1	8	4	8	4	8
None Listed	29		39		40	
TOTAL	100		100		100	

The majority (63%) of the boaters reported that they would boat more often if a new harbor of refuge was built in the area they suggested. The amount of increased use for those boaters is categorized as follows:

Table 9

Number of Annual Trips
to New Harbor of Refuge

Amount Increased Use	Percentage of Boaters Using New Facility
1-2 trips	28%
3-5 trips	37%
6-10 trips	19%
10 or more trips	16%
Total	100

Also, those boaters (69%) generally indicated a willingness to pay an annual fee for the use of a new harbor of refuge.

Twenty-one percent of all boaters surveyed claimed they would move from their current port to a new full service marina, if it was built in the area they suggested. Of those interested in such a move, 64 percent reported they would be willing to pay a higher seasonal mooring cost in a new full service marina than they are paying in their present marina.

Fifty-one percent of all boaters claimed they would use new transient docks, if they were built in the area they suggested. Of those interested in using transient docks, 97 percent reported they would be willing to pay a daily fee to use such facilities.

Boaters were also asked what recreation facilities they would like to see developed along the shoreline in western Lake Superior. Picnic and beach areas, and restaurants were mentioned most frequently. (Table 10).

Quality of Experience

Boaters were asked to compare the overall quality of their boating experience on western Lake Superior with other areas they had read about or experienced. Most respondents rated boating on western Lake Superior as a high quality experience: High quality (67%), moderate quality (28%), and low quality (5%).

Table 10

Recreation Facilities Preferred for Development

	Great or Moderate Need	Little Need	No Need or No Answer	Total
Picnic and beach area	49%	10%	41%	100%
Restaurants	39%	12%	49%	100%
Hiking trails	35%	14%	51%	100%
Camping (isolated area)	34%	14%	52%	100%
Camping (organized area)	31%	15%	54%	100%
Swimming areas	29%	16%	55%	100%
Scenic lookouts	26%	17%	57%	100%
Hotels	17%	18%	65%	100%

Discussion

Western Lake Superior boaters spent an average of 42 days boating in 1984. For the 1,654 boaters in this survey, this represents a total of 69,500 boating days in 1984, a 95% increase over 1976. This extrapolation assumes that 1984 respondents to the survey (55%) are generally representative of nonrespondents (45%). Also, it is again noted that this study does not represent day users who trailered their boats to western Lake Superior and were not boating/yacht club members or seasonal marina users.

The need for the development of harbor of refuge, full service marina, and transient docking facilities in the area from Knife River to Grand Marais, MN is well documented. Although only a small percentage of the survey respondents reported the need for facilities in certain other areas, the *number* of boaters they represent should be carefully considered. For example, in Table 8 only 4 percent of all boaters indicated the need for transient docks in the Duluth-Superior area and this potentially represents 66 boaters (4 percent of the 1,654 boaters originally sent mail questionnaires).

These study results generally support the observations by boaters that boating use has increased substantially over the last eight years. This study has surveyed the majority of boatowners with larger boats and those involved in boating/yacht clubs: boaters with a high level investment and commitment to boating in western Lake Superior. It does not include all trailered boats. Furthermore, a recent study completed by the U.S. Army Corps of Engineers suggests that the existing supply of boating facilities and limited access has constrained some boaters from using various areas in western Lake Superior. Further growth in both the supply of and demand for boating facilities is expected over the next several years.

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Chad P. Dawson is a marine recreation/tourism agent with the Minnesota Sea Grant Extension Program in Duluth.

J. Clark Laundergan is a Professor in the Dept. of Sociology, Anthropology, and Geography at the University of Minnesota, Duluth.

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