

## **INTRODUCTION**

Beginning in 1971, the Lake Minnetonka Conservation District (LMCD) has conducted an inventory of watercraft being stored at riparian residences and multiple dock facilities (including District Mooring Areas) on Lake Minnetonka. Since 1971, this project has been conducted during 26 different boating seasons, with the most recent inventory conducted during the 2004 boating season.

The purpose of this Report is to summarize the results of this project conducted in 2004. Three primary objectives were established for the 2004 Shoreline Storage Count. These include:

1. Establish the total number of watercraft stored in 2004.
2. Outline data collected from historical Shoreline Storage Counts.
3. Identify any observable trends from the Shoreline Storage data collected.

## **METHODOLOGY**

To ensure consistency and accuracy in the 2004 Shoreline Storage Count, LMCD staff established five parameters in which the storage inventory was conducted. Detailed below is a summary of these parameters.

1. Survey all 125 miles of lakeshore frontage on Mondays through Thursdays, between the hours of 8:00 AM and 12:00 PM. This time was selected to best represent when LMCD staff could count the maximum number of watercraft stored on Lake Minnetonka. Friday was established as an alternative day when weather conditions were not favorable or for other reasons. Two Fridays were utilized in 2004 (June 18th and July 30th).
2. Fieldwork for this project was to be counted during the month of June, with a completion date of July 4th. These dates were selected to best represent when LMCD staff could count the maximum number of watercraft stored on Lake Minnetonka. In 2004, fieldwork for this project commenced on June 16th and was completed on August 19th. Although a good part of the fieldwork for this project in 2004 took place after July 4th, LMCD staff believes this had little or no impact on the outcome of the project.
3. The count of watercraft stored on Lake Minnetonka was conducted by LMCD staff from the 17-foot runabout owned by the LMCD.
4. A shoreline storage count worksheet was established to assist in conducting the fieldwork for this project. Ten classifications of watercraft were established on this worksheet to categorize each watercraft type. These watercraft classifications include: runabout, cruiser, sailboat, pontoon, houseboat,

charterboat, fishing boat, personal watercraft (PWC), aircraft, and miscellaneous. Further definition of these watercraft classifications are outlined in Appendix A.

5. Identify the number of residences that have three boats or four boats stored within the authorized dock use area for these sites. Additionally, identify the number of residences that have empty slips within the authorized dock use areas for these sites. For this project, a slip was defined as “either a docking structure with three clearly defined sides or a boatlift”. The statistics for the number of residences that have three or four boats stored within the authorized dock use for these sites was limited to restricted watercraft only.

### **SUMMARY OF THE 2004 SHORELINE STORAGE COUNT**

The total number of watercraft stored on Lake Minnetonka in 2004 was 9,734. This further breaks down to 6,085 watercraft at riparian residences and 3,649 at multiple dock facilities (including District Mooring Areas). In 2004, there were 398 residences that had three restricted watercraft stored at the site, there were 242 residences that had four or more restricted watercraft stored at the site, and there were 602 empty slips documented on a lakewide basis. Further analysis of watercraft storage at riparian residences, watercraft storage at multiple dock facilities, and sites with three or more watercraft storage, including empty slips is detailed below:

**Riparian:** Appendix B highlights the 6,085 watercraft stored at riparian residences in 2004. Of these 6,085 watercraft, approximately 59% were found to be in either the runabout or cruiser classification. Further breakdown of this figure indicates that 29% of the watercraft inventoried were runabouts and that 30% were cruisers. The lowest percent of watercraft stored at riparian residences were found to be in the houseboat, charter boat, and aircraft classifications, which totaled less than one percent. These percentages are slightly skewed because LMCD staff was unable to distinguish the watercraft inventoried, by classification, at riparian residences because of the Mound Commons Docking Program. Further details of this drawback are outlined below under “Multiple Docks”.

**Multiple Docks:** Appendix C highlights the 3,649 watercraft stored at multiple docks in 2004. Of these 3,649 watercraft, approximately 55% were found to be in the runabout and cruiser classification. Further breakdown of this figure indicates that 26% of the watercraft were runabouts and that 29% were cruisers. The lowest percentage of watercraft stored at multiple docks were houseboat, charter boat, and aircraft classifications, which totaled less than one percent. Again, these percentages are slightly skewed because LMCD staff was unable to distinguish the watercraft inventoried, by classification, at multiple dock facilities because of the Mound Commons Docking Program.

The City of Mound has communicated to LMCD staff that there were 557 watercraft, on 10 bays, stored at docks within the Mound Commons Docking Program in 2004. These

bays are highlighted by an (\*) in Appendix B and C. Further breakdown of these 557 watercraft are detailed below:

Priest Bay	32	Emerald Lake	3
Cooks Bay	56	Seton Lake	32
West Upper Lake	4	Harrisons Bay	166
Phelps Bay	121	Jennings Bay	57
Black Lake	79	West Arm	7

This Report is accurate with regards to the total number of watercraft stored at riparian residences and multiple dock facilities in 2004. However, the breakdown of watercraft by classification for both riparian residences and multiple dock facilities is slightly skewed because the 557 associated with the Mound Commons Docking Program were not broken down watercraft classification. This resulted in these 557 watercraft being broken down in the riparian residence classifications rather than the multiple dock facility classifications.

**Three Boats/Four Boats/Empty Slips:** Appendix D highlights the number of residences that had docks with three and four watercraft stored at these sites, along with empty slips. All of the watercraft highlighted in Appendix D were restricted watercraft. In 2004, there were 398 residences that had three watercraft stored at the site, 242 that had four, and 602 empty slips capable of storing restricted watercraft. This compares to 401 residences that had three watercraft stored at the site, 238 had four, and 476 empty slips capable of storing restricted watercraft in 2002. Comparing 2004 to 2002, there was no significant change in the number of residences that were storing three or more restricted watercraft. However, there was an increase of approximately 26% from 2002 to 2004 of empty slips that are capable of storing restricted watercraft. One observation that needs to be pointed out is that a high percentage of the residences that have three or more boats being stored at them, or that have empty slips, were for PWC.

### **SUMMARY OF HISTORICAL SHORELINE COUNTS**

Appendix E highlights historical shoreline counts conducted by the LMCD from 1971 to 2004. Watercraft inventoried in these historical counts range from a low of 5,245 in 1971 to a high of 10,475 in 1996. In 1996, this project was conducted by Clear Air, Inc. utilizing an aerial survey rather than conducting the fieldwork from the LMCD runabout.

### **TRENDS**

Based on the data collected from the 2004 Lake Minnetonka Shoreline Storage Count, LMCD staff believes that conclusions and trends can be further evaluated into two

separate categories. These include: 1) analyzing overall watercraft storage and 2) analyzing historical changes in the types of watercraft being stored on Lake Minnetonka. Further discussion of these two trends is detailed below:

**Overall Watercraft Storage:** As previously mentioned, overall watercraft storage on Lake Minnetonka in 2004 was 9,734, which further breaks down to 6,085 at riparian residences and 3,649 at multiple dock facilities. This compares to an overall watercraft storage on Lake Minnetonka of 10,509 in 2002, which further broke down to 6,906 at riparian residences and 3,603 at multiple dock facilities. It is unclear to LMCD staff what factors contributed to the 7.4% decrease from 2002 to 2004 in watercraft being stored on Lake Minnetonka. Possible contributing factors to the overall reduction include poor weathers, especially in June, and the economy. However, this decrease was entirely the result of the 11.9% decrease in the number of watercraft being stored at riparian residences in 2004 compared to 2002. One of the classifications that contributed significantly to the decrease in watercraft storage was miscellaneous watercraft (1,017 in 2002 to 659 in 2004).

**Historical Changes in Watercraft Types:** Over the years, there appears to be three primary historical changes in the types of watercraft that are being stored on Lake Minnetonka. First, there has been over a 600% increase in the number of PWC stored on Lake Minnetonka from 1990 (157) to 2004 (1,015). This increase over the years has significantly contributed to the number of residences that do not comply with LMCD Code Section 2.02 for storage purposes. Second, there has been only a modest increase in the number of runabouts/cruisers from 1992 (4,934) to 2004 (5,634). However, an argument could be made that the size of these types of watercraft has increased significantly from 1992 to 2004. Third, there has been a significant decrease in the number of sailboats stored on Lake Minnetonka from 2004 (655) to the mid 1980's and before, with a high of 1,648 sailboats stored on Lake Minnetonka in 1975.

## **CONCLUSION**

Based on the historical data outlined in Appendix E, the total number of watercraft stored on Lake Minnetonka in 2004 is more consistent with 2000, and possibly 1998 and 1999, rather than 2002. A decision should be made on whether to conduct this project again during the 2005 boating season.