

A SHORELINE SURVEY

of

LAKE LEELANAU

1998

LAKE LEELANAU LAKE ASSOCIATION

Water Quality Committee

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INTRODUCTION

The water quality committee of the Lake Leelanau Lake Association carried out a survey of the shoreline of Lake Leelanau during August and September of 1998. The survey included (for each property parcel along the shoreline): a description of features seen from the water, the number of boat moorings, type of shoreline protection, and type of greenbelt along the waterfront. The data compiled are recorded in LOTUS 123 computer files SHORENLL.WK4 and SHORESLL.WK4.

PURPOSE

The primary reason for this undertaking was to obtain property feature descriptions which will enable future investigators to establish their location as they collect samples of aquatic plant specimens for a planned aquatic plant survey. Other data collected was incidental to this purpose and may be of use in understanding sources of boat traffic and of any needs for improved shoreline and water quality protection.

PROCEDURE

Using tax maps published by the County Equalization Department, a listing was made of each property parcel having frontage on Lake Leelanau. This included all parcels with tax identification numbers whether privately or publicly owned and road-end property which does not have a tax identification number. Starting at M-204, the property parcels were listed in sequence as they occur in a clockwise direction and assigned a sequence number from 1 to 491 for North Lake Leelanau and from 2001 to 2787 for South Lake Leelanau. Thus, 1278 property parcels were included in the survey.

Volunteers traveled along the shoreline in small boats, recording the information observed on forms provided them. Where possible, volunteers were assigned segments of the shoreline where they were familiar with the ownership of the properties. In all cases it was often found helpful to confirm parcel ownership by conversing with those present on the parcels. Despite these procedures, it is recognized that some errors in parcel identification will have occurred.

DESCRIPTION OF PROPERTIES

Volunteer surveyors were instructed to provide a very brief description which might be helpful in identifying each property. These descriptions might be; 1 story gray cottage, A-Frame with deck, 2 story white house with 2 bay boathouse, etc. Surveyors were asked to note those properties with distinctive characteristics and these are bold-faced in the computer files.

ACKNOWLEDGEMENTS

This work was accomplished t

Gil and Ann Bogley
Bob Burger
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Susan and Jeff Greene
Dan Jamiesen
Gordon and Sandy Ho
Merlin Lavrack
Walt Nielsen

SHORELINE CONDITIONS S

See attached "pie chart".

MOORINGS

The number of "moorings" at each properties was recorded. A mooring was defined as any of the following:

- Boat on the beach
- Boat on a boat hoist
- Boat tied to a dock, mooring buoy or other fixed anchorage
- Empty boat hoist
- Boat house

Canoes or kayaks were not counted, but personal watercraft were counted.

Including public boat launch boat trailer capacity, 566 moorings were found on the North lake and 1232 moorings on the South lake.

SHORELINE PROTECTION

Values of 1 to 4 were assigned as defined below:

- 1 Stone - A solid layer of stone which appears to protect against erosion. If large gaps appear between stones, classify as erodible.
- 2 Sea Wall - A vertical wall of wood, metal or plastic.
- 3 Stable - Although lacking stone or a sea wall, shoreline appears safe from erosion. This would most likely be the case with heavy vegetation on the shoreline.
(Heavy Vegetation)
- 4 Erodible - If none of the above apply, this would be the appropriate classification.
(Light Vegetation)

GREENBELT

Values of 1 to 4 were assigned as defined below:

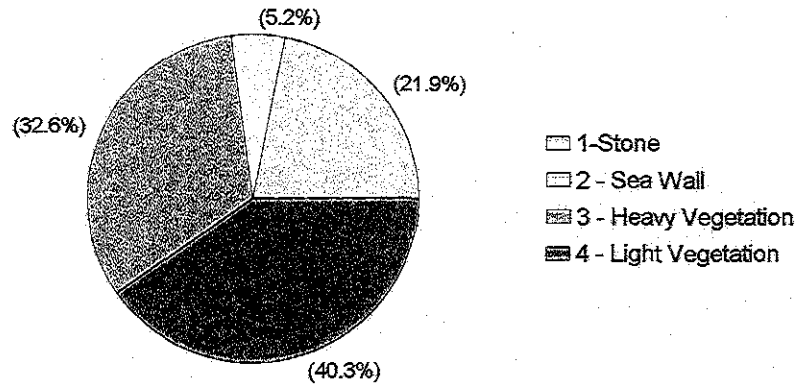
- 1 Natural - Native vegetation, trees, shrubs, grasses, or "weeds" along shoreline.
- 2 Shrubbery - Native or other shrubbery in at least a ten foot wide band along shoreline.
- 3 Unmowed Groundcover - Any kind of low lying, uncultivated, plants in at least a ten foot wide band along shoreline.
- 4 Mowed Lawn - Mowed grass to the shoreline.

LAKE LEELANAU SHORELINE CONDITIONS - 1998

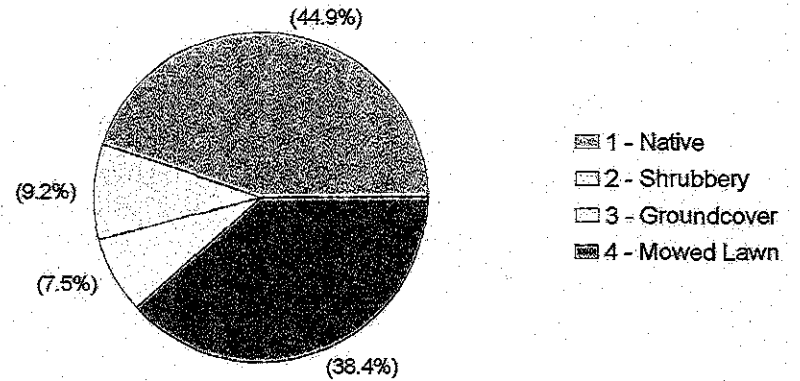
EROSION PROTECTION - 1998

GREENBELT - 1998

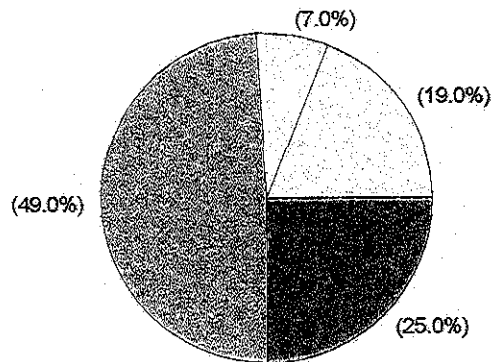
North Lake Leelanau



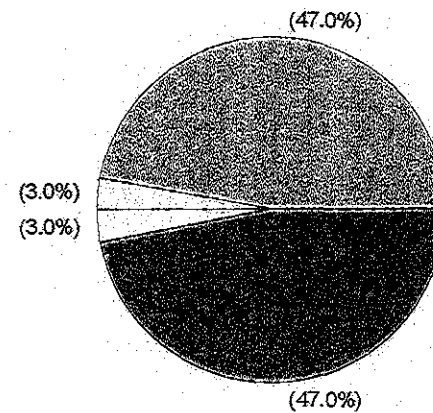
North Lake Leelanau



South Lake Leelanau



South Lake Leelanau



Property_Numbe	Front Last_Name	Description	Moor'gs	Shore	Grnbelt
2001	11 025 015 00	30 Bunek	Wild	0	3 1
2002	11 025 015 xx	100 M-204	Bridge	0	3 1
2003	11 025 014 00	210 Garvin	1 story biege	0	1 4
2004	11 025 016 10	53 Olenzak	1 story white	0	1 4
2005	11 025 013 00	15 Plamondon	wild	0	3 1
2006	11 025 017 00	215 DNR	Public Boat Launch	15	3 4
2007	11 025 013 xx	66 Old M-204	Wild	0	3 1
2008	11 025 009 00	264 Woods	1 story biege	1	4 4
2009	11 025 011 00	300 Plamondon	1 story biege	1	4 4
2010	11 025 019 00	97 Frodl	1 story green	2	4 4
2011	11 025 021 00	92 Frodl	vacant	0	4 4
2012	11 025 022 00	99 Martin	1 story white	2	2 4
2013	11 025 023 00	91 Belanger	2 story brown	2	4 4
2014	11 025 026 10	331 Stereff	1 story blue	1	1 4
2015	11 025 026 30	191	vacant	1	1 4
2016	11 025 034 00	75 Duguid	2 story cream	1	1 4
2017	11 025 033 00	100 Stewart	2 story green	0	3 4
2018	11 025 035 00	105 Wayt	2 story brown	1	1 4
2019	11 025 037 00	100 Renwick	1 story white	1	3 4
2020	11 025 036 00	199 Paupore	House hidden	1	4 1
2021	11 025 038 00	100 Bendig	1 story brown,boat hc	1	1 4
2022	11 025 039 00	250 Lyons	2 story green	0	1 1
2023	11 025 042 00	150 Hahnenberg	1 stry white,basement	1	4 4
2024	11 025 031 00	75 Kilgore	1 sttory brown	2	2 4
2025	11 025 030 00	25 O'Brien	wild	0	4 1
2026	11 025 041 00	150 DeVries	1 stry brn,boat hse	1	2 4
2027	11 025 032 20	258 Key	1 story brown	1	4 1
2028	11 025 032 00	108 Wiesen	wild	1	3 1
2029	11 025 032 40	90 Frey	wild	1	4 1
2030	11 025 032 30	90 Heller	wild	1	4 1
2031	11 025 032 10	75 Curtis	wild	0	3 1
2032	11 025 043 00	90 Mackin	wild	0	3 1
2033	11 025 044 00	88 Henshaw	2 story brown	3	3 4
2034	11 025 045 00	179 Curtis	wild	1	4 4
2035	11 025 047 00	460 Gottschalk	wild	0	3 1
2036	11 025 049 00	100 Rixey	2 story gray,boathous	2	4 4
2037	11 025 050 00	66 Gottschalk	wild	0	4 1
2038	11 025 048 00	416 Gottschalk	wild	0	4 1
2039	11 025 046 00	130 Staroba	2 story	1	1 4
2040	11 025 051 00	625 Nichols	Fountain Point	0	3 1
2041	11 036 007 00	180 Nichols	Fountain Point	0	3 1
2042	11 036 006 00	1000 Nichols	Fountain Point	12	3 4
2043	11 036 008 00	1000 Leroux	wild	1	3 1
2044	11 036 004 50	275 Cooper	wild	0	3 1
2045	11 036 009 00	1400 Cooper	wild	0	3 1
2046	11 036 010 15	101 Marshall	wild	1	4 1
2047	11 036 010 10	111 Tostige	1 story	5	4 4
2048	11 036 010 40	120 Adamomofsky	Under constr	1	4 4

Sample & data file on which shoreline survey report was based. *[Signature]*