

Standard Aquatic Vegetation Summary Sheet

Lake Name: **Hardwood Lake**
 County: **Ogemaw County**
 Surveyor: **Paul Hausler, Harry Julien** Survey Date: **10-Aug-17**
 Total Number of AVAS Sites: **50**

Code No	Plant Name	Occurrence per Density Category				Relative Density Calculations				Relative Density for Entire Littoral Zone		Code No	Plant Name
		A	B	C	D	A x 1	B x 10	C x 40	D x 80	Sum	%		
1	Eurasian milfoil	1	3	2		1	30	80	0	111	2.2	1	<i>Myriophyllum spicatum</i>
2	Curly leaf pondweed	1				1	0	0	0	1	0.0	2	<i>Potamogeton crispus</i>
3	Chara		7	7		0	70	280	0	350	7.0	3	<i>Chara sp.</i>
4	Thinleaf pondweed		10	1		0	100	40	0	140	2.8	4	<i>Potamogeton sp.</i>
5	Flatstem pondweed		6	1		0	60	40	0	100	2.0	5	<i>Potamogeton zosteriformis</i>
6	Robbins pondweed					0	0	0	0	0	0.0	6	<i>Potamogeton robbinsii</i>
7	Variable pondweed					0	0	0	0	0	0.0	7	<i>Potamogeton gramineus</i>
8	Whitestem pondweed					0	0	0	0	0	0.0	8	<i>Potamogeton praelongus</i>
9	Richardsons pondweed					0	0	0	0	0	0.0	9	<i>Potamogeton richardsonii</i>
10	Illinois pondweed					0	0	0	0	0	0.0	10	<i>Potamogeton illinoensis</i>
11	Large leaf pondweed	1	13	14	1	1	130	560	80	771	15.4	11	<i>Potamogeton amplifolius</i>
12	American pondweed					0	0	0	0	0	0.0	12	<i>Potamogeton americanus</i>
13	Floating leaf pondweed					0	0	0	0	0	0.0	13	<i>Potamogeton natans</i>
14	Water stargrass					0	0	0	0	0	0.0	14	<i>Heteranthera dubia</i>
15	Wild celery	1	6	1		1	60	40	0	101	2.0	15	<i>Vallisneria americana</i>
16	Sagittaria					0	0	0	0	0	0.0	16	<i>Sagittaria sp.</i>
17	Northern milfoil					0	0	0	0	0	0.0	17	<i>Myriophyllum sibiricum</i>
18	M. verticillatum					0	0	0	0	0	0.0	18	<i>Myriophyllum verticillatum</i>
19	M. heterophyllum					0	0	0	0	0	0.0	19	<i>Myriophyllum heterophyllum</i>
20	Coontail		2			0	20	0	0	20	0.4	20	<i>Ceratophyllum demersum</i>
21	Elodea					0	0	0	0	0	0.0	21	<i>Elodea canadensis</i>
22	Utricularia spp.					0	0	0	0	0	0.0	22	<i>Utricularia vulgaris</i>
23	Bladderwort-mini					0	0	0	0	0	0.0	23	<i>Utricularia minor</i>
24	Buttercup					0	0	0	0	0	0.0	24	<i>Ranunculus sp.</i>
25	Najas flexilis		2			0	20	0	0	20	0.4	25	<i>Najas flexilis</i>
26	Brittle naiad					0	0	0	0	0	0.0	26	<i>Najas minor</i>
27	Sago pondweed					0	0	0	0	0	0.0	27	<i>Stuckenia pectinata</i>
28						0	0	0	0	0	0.0	28	
29						0	0	0	0	0	0.0	29	
30	Nymphaea	3	26	10	2	3	260	400	160	823	16.5	30	<i>Nymphaea odorata</i>
31	Nuphar		10	17	2	0	100	680	160	940	18.8	31	<i>Nuphar sp.</i>
32	Brasenia					0	0	0	0	0	0.0	32	<i>Brasenia schreberi</i>
33	Lemna minor		4			0	40	0	0	40	0.8	33	<i>Lemna minor</i>
34	Spirodella					0	0	0	0	0	0.0	34	<i>Spirodela polyrhiza</i>
35	Watermeal					0	0	0	0	0	0.0	35	<i>Wolffia punctata</i>
36	Arrowhead		1			0	10	0	0	10	0.2	36	<i>Sagittaria latifolia</i>
37	Pickerelweed		4	9		0	40	360	0	400	8.0	37	<i>Pontederia cordata</i>
38	Arrow arum					0	0	0	0	0	0.0	38	<i>Peltandra virginica</i>
39	Cattails	1	15	3		1	150	120	0	271	5.4	39	<i>Typha sp.</i>
40	Bulrushes		6	5		0	60	200	0	260	5.2	40	<i>Scirpus sp.</i>
41	Iris	2	5			2	50	0	0	52	1.0	41	<i>Iris sp.</i>
42	Swamp loosestrife		4			0	40	0	0	40	0.8	42	<i>Decodon verticillatus</i>
43	Purple loosestrife					0	0	0	0	0	0.0	43	<i>Lythrum salicaria</i>
44	Starry stonewort		3			0	30	0	0	30	0.6	44	<i>Nitellopsis obtusa</i>
61	Lake sedge	1	8	2		1	80	80	0	161	3.2	61	<i>Carex lacustris</i>

Total: 92.8

Date: 8-10-17
 Crew: PTA, HDS
 Weather: _____

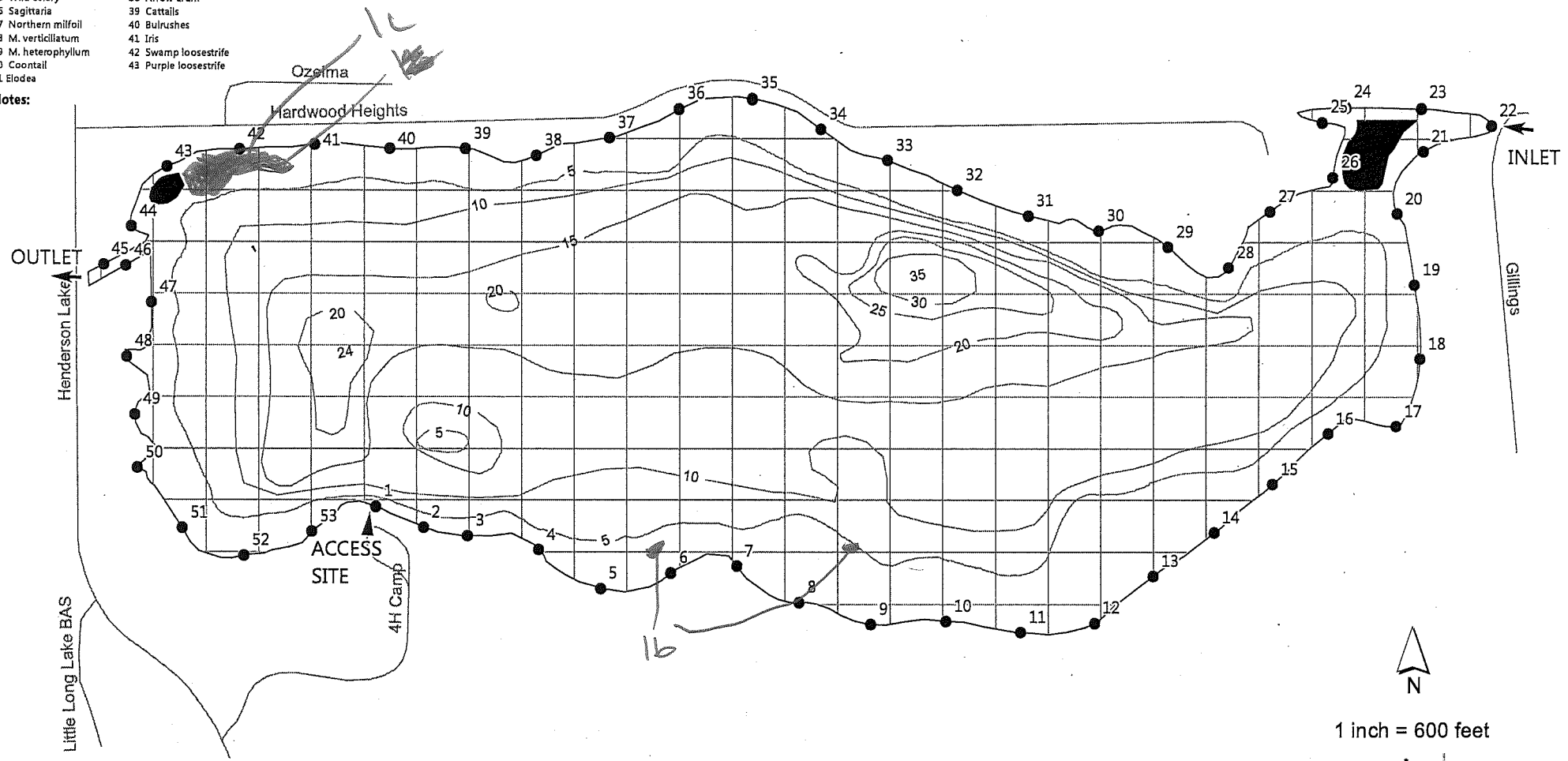
HARDWOOD LAKE OGEMAW COUNTY, MICHIGAN AQUATIC PLANT SURVEY MAP 182 ACRES

□ = 1 ACRE

- | Plant Names | |
|------------------------|-------------------------|
| 1 E. Milfoil | 22 Utricularia vulgaris |
| 2 Curly leaf pondw | 23 Bladderwort-mini |
| 3 Chara | 24 Buttercup |
| 4 Thinleaf pondw | 25 Naiad |
| 5 Flatstem pondw | 26 Brittle naiad |
| 6 Robbins pondw | 27 Sago pondweed |
| 7 Variable pondw | 30 Nymphaea |
| 8 Whitestem pondw | 31 Nuphar |
| 9 Richardsons pondw | 32 Brasenia |
| 10 Illinois pondw | 33 Lemna minor |
| 11 Large leaf pondw | 34 Spirodella |
| 12 American pondw | 35 Watermeal |
| 13 Floating leaf pondw | 36 Arrowhead |
| 14 Water stargrass | 37 Pickerelweed |
| 15 Wild celery | 38 Arrow arum |
| 16 Sagittaria | 39 Cattails |
| 17 Northern milfoil | 40 Bulrushes |
| 18 M. verticillatum | 41 Iris |
| 19 M. heterophyllum | 42 Swamp loosestrife |
| 20 Coontail | 43 Purple loosestrife |
| 21 Elodea | |

- | Density |
|----------|
| a Found |
| b Sparse |
| c Common |
| d Dense |

Notes:



1 inch = 600 feet

progressive

REVISION DATE: FEBRUARY, 2016

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 Grand Rapids, MI 49525
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Plant Survey Data Sheet

Lake: HARDWOOD

Date: 8-10-17

County: OGEMAW

PTLY CLDY, 70°F

Crew: PH, HDT

H₂O = 76°F

Point #	Species and Density										Point #	Species and Density									
	1	2	3	4	5	6	7	8	9	10		1	2	3	4	5	6	7	8	9	10
1	30c	37c	11b	40b							28	40b	37b	30b	3b						
2	37c	30c	11b	40c							29	30b	40b	3b	4b	11c					
3	37c	40c	30c	4b	31c						30	30b	11c	5b							
4	30c	31c	39b	11b							31	41a	30a	36b	11b						
5	31b	39b	11c	1b							22	3b	4b	30a							
6	1b	30b	31c	11b							33	30b	11a	4b							
7	11c	31c	30b								34	3c	15b	6c	41b						
8	11c	31c	37c	5b							35	6c	30b	3c	15b	40b	31b				
9	11c	5c	31c	1a	40c						36	30b	21b	61b	15c	44b					
10	31c	11c	39b	40c	30b						37	61b	30b	15b	3b						
11	31c	40c	11c	5b							38	61b	30b	31b							
12	31c	11c	37b								39	31b	61b	3b	15a	39b					
13	31c	11c	30b	39b							40	31b	3b	15b							
14	11c	31c	30b	5b	30b	4b					41	30b	31b	61a							
15	39b	31c	11c	15b	41a	30b					42	30b	31b	15b	1c	61b	30b				
16	30b	31b	39b	11b							43	1c	31c	4b	39b	11b					
17	31c	37b	11b	25b	35b	30b					44	1b	39b	30c	31c	11b	4c				
18	3c	25b	4b	30b							45	30c	3c	11b	4b						
19	30b	39a	4b	3c							46										
20	31b	30b	39b								47	30d	31c	37c	42b	11c	5b				
21	39c	61b	30b	20b							48	11c	30d	27c	42b	5b	39c				
22	39b	41b	30b	33b							49	39b	31c	30c	11c	37c	40b				
23	33b	41b	61b	30b							50	30c	37c	39c	2a						
26	41b	42b	33b	11b	20b	30a					51	30b	11b	3c	44b	39b					
27	30b	31c	41b	32b	61b	4b	40b	37b			52	30c	31b	39b	3c	15a	41b	42b			

