

**APPENDIX A – LAKE MENDOTA PLANT STATISTICS**

**Table 1: Aquatic Plant Community Statistics 2011**

<b>Number of sites sampled</b>	<b>776</b>
<b>Number of sites with vegetation</b>	<b>378</b>
<b>Number of sites shallower than maximum depth of plants</b>	<b>736</b>
<b>Frequency of occurrence at sites shallower than maximum depth of plants</b>	<b>51.36%</b>
<b>Simpson Diversity Index</b>	<b>0.88</b>
<b>Maximum Depth of Plants (Feet)</b>	<b>16</b>
<b>Taxonomic Richness (Number Taxa)</b>	<b>16</b>
<b>Average Number of Species per Site (less than max depth of plant growth)</b>	<b>0.80</b>
<b>Average Number of Species per Site (sites with vegetation)</b>	<b>1.56</b>
<b>Average Number of Native Species per Site (less than max depth of plant growth)</b>	<b>0.55</b>
<b>Average Number of Native Species per Site (sites with vegetation)</b>	<b>1.48</b>

**Table 2: 2011 Aquatic Plant Taxa-Specific Statistics, Lake Mendota, Dane County, WI**

<b>Species</b>	<b>Frequency of Occurrence within vegetated areas</b>	<b>Frequency of Occurrence at Site Shallower Than Max Depth of Plants</b>	<b>Percent Relative Frequency of Occurrence</b>	<b>Number of Intercept Points Where Detected</b>	<b>Average Density</b>
Filamentous algae	3.70	1.90	2.38	14	1.00
Coontail	21.96	11.28	14.12	83	1.17
Muskgrass	0.26	0.14	0.17	1	1.00
Common waterweed	5.03	2.58	3.23	19	1.11
Water star-grass	2.12	1.09	1.36	8	1.00
Small duckweed	0.26	0.14	0.17	1	1.00
Eurasian watermilfoil	43.92	22.55	28.23	166	1.16
Bushy pondweed	0.53	0.27	0.34	2	1.00
American lotus	0.79	0.41	0.51	3	1.00
White water lily	0.53	0.27	0.34	2	1.00
Illinois pondweed	0.26	0.14	0.17	1	1.00
Clasping-leaf pondweed	6.35	3.26	4.08	24	1.13
Flat-stem pondweed	6.61	3.40	4.25	25	1.00
Wild celery	46.03	23.64	29.59	174	1.07
Common watermeal	0.26	0.14	0.17	1	1.00
Horned pondweed	16.93	8.70	10.88	64	1.06

**Table 3: Historical and 2011 Floristic Quality Index, Lake Mendota, Dane County, WI**

**Coefficient of Conservatism**

Genus	Species	Common Name	1989	1990	1991	2006	2011
<i>Ceratophyllum</i>	<i>demersum</i>	Coontail	3	3	3	3	3
<i>Chara</i>	<i>sp.</i>	Muskgrass	---	---	---	7	7
<i>Elodea</i>	<i>canadensis</i>	Common waterweed	3	3	3	3	3
<i>Heteranthera</i>	<i>dubia</i>	Water star-grass	6	6	6	6	6
<i>Lemna</i>	<i>minor</i>	Small duckweed	---	---	---	4	4
<i>Najas</i>	<i>flexilis</i>	Bushy pondweed	---	---	---	---	6
<i>Nelumbo</i>	<i>lutea</i>	American lotus	7	7	7	7	7
<i>Nymphaea</i>	<i>odorata</i>	White water lily	6	6	6	6	6
<i>Potamogeton</i>	<i>foliosus</i>	Leafy pondweed	---	6	6	6	---
<i>Potamogeton</i>	<i>illinoensis</i>	Illinois pondweed	---	---	---	---	6
<i>Potamogeton</i>	<i>richardsonii</i>	Clasping-leaf pondweed	5	5	5	5	5
<i>Potamogeton</i>	<i>zosteriformis</i>	Flat-stem pondweed	6	---	---	6	6
<i>Stuckenia</i>	<i>pectinata</i>	Sago pondweed	3	3	3	3	---
<i>Vallisneria</i>	<i>americana</i>	Wild celery	6	6	6	6	6
<i>Wolffia</i>	<i>columbiana</i>	Common watermeal	---	---	---	---	5
<i>Zannichellia</i>	<i>palustris</i>	Horned pondweed	---	---	---	7	7
Total Species			9	9	9	13	14
Mean C			5.00	5.00	5.00	5.31	5.50
<b>Floristic Quality Index (FQI)</b>			<b>15.00</b>	<b>15.00</b>	<b>15.00</b>	<b>19.14</b>	<b>20.58</b>

Please note: There is no Coefficient of Conservatism for exotic species such as Eurasian Watermilfoil or for species not identified to the species level (*Sagittaria sp.*).

**Coefficient of Conservatism**

**C**

- 0-3 taxa found in wide variety of plant communities and very tolerant of disturbance.
- 4-6 taxa typically associated with specific plant communities and tolerate moderate disturbance.
- 7-8 taxa found in narrow range of plant communities and tolerate minor disturbance.
- 9-10 taxa restricted to a narrow range of synecological conditions, with low tolerance of disturbance.

	1989	1990	1991	2006	2011
<b>F.o.o. at sites shallower than maximum depth of plants</b>	---	---	---	<b>67.04</b>	<b>51.36</b>
<b>Most Dominant Species</b>	Coontail	Coontail	Eurasian Watermilfoil	Coontail	Wild Celery
	Eurasian Watermilfoil	Eurasian Watermilfoil	Coontail	Eurasian Watermilfoil	Eurasian Watermilfoil
	Sago Pondweed	Sago Pondweed	Sago Pondweed	Common Waterweed	Coontail
	Water Star-grass	Wild Celery	Water Star-grass	Wild Celery	Horned Pondweed
	Wild Celery	Water Star-grass	Common Waterweed	Water Star-grass	Flat-stem Pondweed
<b>Maximum Depth of Plants</b>	---	<b>13</b>	<b>13</b>	<b>16</b>	<b>16</b>
<b>Species Richness</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>16</b>	<b>16</b>
<b>Community FQI</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>19.14</b>	<b>20.58</b>
<b>Average Coefficient of Conservatism</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5.31</b>	<b>5.5</b>

**Table 5: Historical Aquatic Plant Occurrences, Lake Mendota, Dane County, Wisconsin.**

<b>Genus</b>	<b>Species</b>	<b>Common Name</b>	<b>% Relative Frequency of Occurrence</b>				
			1989	1990	1991	2006	2011
<i>Algae</i>	<i>sp.</i>	Filamentous algae	--	---	---	14.9	2.4
<i>Ceratophyllum</i>	<i>demersum</i>	Coontail	42.5	42.4	40.9	19.6	14.1
<i>Chara</i>	<i>sp.</i>	Muskgrass	---	---	--	0.2	0.2
<i>Elodea</i>	<i>canadensis</i>	Common waterweed	3.6	3.3	7.0	9.7	3.2
<i>Heteranthera</i>	<i>dubia</i>	Water star-grass	5.8	5.5	7.7	6.2	1.4
<i>Lemna</i>	<i>minor</i>	Small duckweed	---	---	---	0.8	0.2
<i>Myriophyllum</i>	<i>spicatum</i>	Eurasian watermilfoil	34.1	32.0	40.9	19.6	28.2
<i>Najas</i>	<i>flexilis</i>	Bushy pondweed	---	---	---	---	0.3
<i>Nelumbo</i>	<i>lutea</i>	American lotus	0.3	1.1	0.2	0.1	0.5
<i>Nymphaea</i>	<i>odorata</i>	White water lily	0.3	0.3	0.8	0.2	0.3
<i>Potamogeton</i>	<i>crispus</i>	Curly-leaf pondweed	0.7	0.5	0.9	2.5	---
<i>Potamogeton</i>	<i>foliosus</i>	Leafy pondweed	---	0.1	1.5	3.7	---
<i>Potamogeton</i>	<i>illinoensis</i>	Illinois pondweed	---	---	---	---	0.2
<i>Potamogeton</i>	<i>richardsonii</i>	Clasping-leaf pondweed	0.5	0.4	0.6	1.6	4.1
<i>Potamogeton</i>	<i>zosteriformis</i>	Flat-stem pondweed	0.1	---	---	0.4	4.3
<i>Stuckenia</i>	<i>pectinata</i>	Sago pondweed	6.8	8.5	8.3	5.5	---
<i>Vallisneria</i>	<i>americana</i>	Wild celery	5.4	5.8	6.3	9.0	29.6
<i>Wolffia</i>	<i>columbiana</i>	Common watermeal	---	---	---	---	0.2
<i>Zannichellia</i>	<i>palustris</i>	Horned pondweed	---	---	--	1.3	10.9

**APPENDIX B – AQUATIC PLANT DISTRIBUTIONS LAKE MENDOTA (2011)**







