Tables

Table 1

Cable and Wiley Lake Study

Cable Lake 43104

Laboratory Testing

Lake Results

	delivery date			17-Aug	31-Aug				
Parameter	**Depth**	**Sample Period**					**Turnover Mean**	**Summer Mean**	**Units**
		Spring Apr 30	**17-Jun**	**13-Jul**	**26-Aug**	**Fall Nov 9**			
Total Phosphorus	0-2 m	0.015				0.015	0.015		MG/L
Total Phosphorus	near bottom	0.022				0.021	0.022		MG/L
Total Kjeldahl Nitrogen	0-2 m	0.600				0.560	0.580		MG/L
Nitrate plus Nitrite – N	0-2 m	0.026				ND	0.026		MG/L
TN	0-2 m	0.626				0.560	0.593		MG/L
TN : TP	0-2 m	42				37	40		
Ammonia – N	0-2 m	0.018				0.039	0.029		MG/L
Chlorophyll a	0-2 m	2.19				1.59	1.89		UG/L
Color	0-2 m	10				10	10		SU
Alkalinity	0-2 m	63				56	60		MG/L
pH	0-2 m	7.96				7.68	7.82		SU
Conductivity	0-2 m	129				117	123		UMHOS/CM
Dissolved Reactive Phos.	0-2 m	ND				ND	ND		MG/L
Chloride	0-2 m	1.2				1.6	1.4		MG/L
Hardness	0-2 m	62.7				57.6	60.2		MG/L
Suspended Solids	0-2 m	ND				3.3	3.3		MG/L
Total Dissolved Solids	0-2 m	82				82	82		MG/L
Turbidity	0-2 m	0.8				3.3	2.1		NTU
Magnesium	0-2 m	4.2				4.4	4.3		MG/L
Calcium	0-2 m	18.1				15.8	17.0		MG/L

In Field Testing

Lake Results

		Sample Period					Turnover	
Parameter	Depth	Spring	June	July	August	Fall	Mean	Units
Conductivity	0-2 m	91				75	83	UMHOS/CM
	Near bottom	89		NO DATA COLLECTED BY SOI		80	84.5	UMHOS/CM
Temperature	0-2 m		21.5			6.8	6.8	^{0}C
	Near bottom		12.8			6.6	6.6	^{0}C
pH	0-2 m	7.1	6.1			7.37	7.24	SU
	Near bottom	6.45				7.52	6.99	SU
Secchi Disk						17	17	FT

Dissolved Oxygen - Temperature

Depth	Spring		June		July		August		Fall	
	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C
33										
30									1.35	6.6
27									1.42	6.6
24	5.95	7.3	0.41	12.8	NO DATA COLLECTED BY SOI				1.38	6.6
21	8.95	8.3	0.52	13.1					1.51	6.6
18	10.38	9.2	7.97	13.5					1.61	6.6
15	10.54	9.4	9.06	15.3					1.49	6.6
12	10.24	9.4	9	17.5					1.47	6.6
9	10.6	9.5	8.92	19.3					1.39	6.7
6	10.62	9.6	8.53	20.5					1.38	6.7
3	10.68	9.9	8.75	21.2					1.22	6.8
			9.5	21.5						

MG/L	milligrams per liter
UG/L	micrograms per liter
SU	standard units
UMHOS/CM	micromhos per centimeter
^{0}C	degress celsius
ND	not detected

Table 2

Cable and Wiley Lake Study

Wiley Lake 43106

Laboratory Testing

Lake Results

Parameter	Depth	Sample Period					Turnover	Summer	Units
		Spring Apr 30	17-Jun	13-Jul	26-Aug	Fall Nov 9	Mean	Mean	
Total Phosphorus	0-2 m	0.032	0.014		0.019	0.028	0.030	0.017	MG/L
Total Phosphorus	near bottom	0.038	0.079		0.023	0.032	0.035	0.051	MG/L
Total Kjeldahl Nitrogen	0-2 m	0.43	0.48		0.33	0.65	0.540	0.405	MG/L
Nitrate plus Nitrite – N	0-2 m	ND	ND		ND	ND	ND	ND	MG/L
TN	0-2 m	0.43	0.48		0.33	0.65	0.54	0.41	MG/L
TN : TP	0-2 m	13	34		17	23	18	26	
Ammonia – N	0-2 m	0.018	0.033		0.025	0.08	0.049	0.029	MG/L
Chlorophyll a	0-2 m	10.3			7.69	5.34	7.82	7.690	UG/L
Color	0-2 m	5				5	5		SU
Alkalinity	0-2 m	75				74	75		MG/L
pH	0-2 m	8.03				7.66	7.85		SU
Conductivity	0-2 m	154				152	153		UMHOS/CM
Dissolved Reactive Phos.	0-2 m	ND				0.003	0.003		MG/L
Chloride	0-2 m	1.4				1.3	1.4		MG/L
Hardness	0-2 m	70.9				79.6	75.3		MG/L
Suspended Solids	0-2 m	3.2				ND	3.200		MG/L
Total Dissolved Solids	0-2 m	116				106	111		MG/L
Turbidity	0-2 m	1.8				1.3	1.6		NTU
Magnesium	0-2 m	4.9				5.7	5.3		MG/L
Calcium	0-2 m	20.4				22.5	21.5		MG/L

In Field Testing

Lake Results

Parameter	Depth	Sample Period: Spring	June	July	August	Fall	Turnover Mean	Summer Mean	Units
Conductivity	0-2 m	109	141	130	113	101	105	128	UMHOS/CM
	Near bottom	109	69	110	119	100	105	99	UMHOS/CM
Temperature	0-2 m	9.9	21.5	24	19.7	6.6	8.3	21.7	^{0}C
	Near bottom	8.4	12	13.5	16.6	6.6	7.5	14.0	^{0}C
pH	0-2 m	7.30	8.44			7.55	7.43	8.44	SU
	Near bottom	6.40	7.22			7.99	7.20	7.22	SU
Secchi Disk			10	8.3	8.2	15	15	9	FT

Dissolved Oxygen - Temperature

Depth	Spring		June		July		August		Fall	
	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C
33										
30										
27										
24										
21			0.55	12						
18	6.2	8.4	1.63	13.1	1.55	13.5	7.5	16.6	1.93	6.6
15	7.9	9.2	7.33	15.5	2.7	13.8	6.08	18.3	2.77	6.6
12	9.7	9.8	9.03	18.2	4	13.9	7.45	19.3	3.85	6.6
9	10.1	9.8	9.25	20.2	8.5	16.9	7.02	19.1	2.08	6.6
6	10.2	9.9	8.83	21.2	12.23	20.2	8.01	19.6	6.95	6.6
3	10.2	9.9	9	21.5	11.15	22.9	8.15	19.7	3.46	6.6

MG/L	milligrams per liter	^{0}C	degress celsius
UG/L	micrograms per liter	ND	not detected
SU	standard units		
UMHOS/CM	micromhos per centimeter		

Table 3

Cable and Wiley Lake Study
Mud Lake 43103

Laboratory Testing

Lake Results

Parameter	Depth	Sample Period					Turnover Mean	Summer Mean	Units
		Spring Apr 30	June 17	July 13	August 26	Fall Nov 9			
Total Phosphorus	0-2 m	0.018	0.011		0.011	0.016	0.017	0.011	MG/L
Total Phosphorus	near bottom	0.041	0.027	0.343	0.015	0.018	0.030	0.128	MG/L
Total Phosphorus	thermocline			0.019	0.014		0.000	0.017	MG/L
Total Kjeldahl Nitrogen	0-2 m	0.61			0.44	0.72	0.67	0.44	MG/L
Nitrate plus Nitrite – N	0-2 m	0.082			ND	ND	0.082	ND	MG/L
TN	0-2 m	0.69			0.44	0.72	0.71	0.44	MG/L
TN : TP	0-2 m	38.44			40.00	45.00	41.72	40.00	
Ammonia – N	0-2 m	0.022			0.019	0.176	0.099	0.019	MG/L
Chlorophyll a	0-2 m	2.95			2.92	1.38	2.17	2.92	UG/L
Color	0-2 m	15				15	15		SU
Alkalinity	0-2 m	53				57	55		MG/L
pH	0-2 m	7.86				7.57	7.72		SU
Conductivity	0-2 m	110				117	114		UMHOS/CM
Dissolved Reactive Phos.	0-2 m	ND				0.002	0.002		MG/L
Chloride	0-2 m	1.2				1.3	1.3		MG/L
Hardness	0-2 m	53.6				61.4	57.5		MG/L
Suspended Solids	0-2 m	ND				ND	ND		MG/L
Total Dissolved Solids	0-2 m	70				76	73		MG/L
Turbidity	0-2 m	1.0				1.8	1.4		NTU
Magnesium	0-2 m	3.9				4.6	4.3		MG/L
Calcium	0-2 m	15.1				17	16.1		MG/L

In Field Testing

Lake Results

		Sample Period					Turnover	Summer	
Parameter	Depth	Spring	June	July	August	Fall	Mean	Mean	Units
Conductivity	0-2 m	79	93	113	100	100	90	102	UMHOS/CM
	Near bottom	100	111	132	100	100	100	114	UMHOS/CM
Temperature	0-2 m		22.0	25.0	20.4	6.1	3.1	22.5	^{0}C
	Near bottom		7.5	11.5	13.8	6.2	3.1	10.9	^{0}C
pH	0-2 m	7.45	7.84			7.21	7.33	7.84	SU
	Near bottom	5.75	7.04			7.35	6.55	7.04	SU
Secchi Disk			12.3	6.2	8.0	20.0	20.0	8.8	FT

Dissolved Oxygen - Temperature

Depth	Spring		June		July		August		Fall	
	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C	D.O. mg/L	Temp ^{0}C
33										
30										
27	0.25	4.6								
24	0.42	5								
21	1.63	5.5	2.7	7.5	1.8	6.4	7.9	13.8		
18	6.55	7.2	9.45	8.7	2.35	6.5	1.29	14.1	1.6	6.2
15	7.72	7.6	10.3	12	3.05	7.4	6.83	17.3	2.29	6.2
12	10.18	8.3	9.78	14.8	4.8	9.4	7.76	18.5	4.21	6.1
9	10.8	9.1	8.69	17.4	16	15.1	7.79	19.2	4.8	6.1
6	10.42	11.1	8.07	20.1	12	20.1	7.86	20.4	7.36	6
3	10.59	11.5	7.52	20.2	11.8	22.6	8.01	20.4	4.98	6.1
							76.1	20.4		

MG/L	milligrams per liter	^{0}C	degress celsius
UG/L	micrograms per liter	ND	not detected
SU	standard units		
UMHOS/CM	micromhos per centimeter		

Table 4

Cable Lakes Watershed

Land Use

Land Use for Entire Watershed

Land Use	Area (ac)
Lake Surface Area	243
Forested - Conifer	60
Forested - Mixed Deciduous Conifer	347
Wetlands	65
Residential	20
Watershed	736

Land Use for Each Lake's Watershed

Cable Lake

Land Use	Area (ac)
Lake Surface Area	114
Watershed	288
Con Forest	38
Decid Forest	242
Total Forest	280
WETLAND	9
SOILS Loam	288

WILEY LAKE

Land Use	Area (ac)
Lake Surface Area	58
Watershed	193
Con Forest	2
Decid Forest	184
Total Forest	186
Wetland	8
SOILS Loam	97
SOILS Sandy Loam	97

Mud Lake

Land Use	Area (ac)
Lake Surface Area	52
Watershed	167
Con Forest	23
Decid Forest	120
Total Forest	143
WETLAND	26
SOILS Loam	125
SOILS Sandy Loam	42

Lake 1

Land Use	Area (ac)
Lake Surface Area	6
Watershed	21
SOIL Sandy Loam	21

Lake 2

Land Use	Area (ac)
Lake Surface Area	13
Watershed	68
Wetland	22
SOIL Sandy Loam	68

Table 5

GRAPHICAL PEAK DISCHARGE METHOD Version 2.00

Project : CABLE LAKES User: TAK Date: 02-09-99
County : BAYFIELD State: WI Checked: ____ Date: ________
Subtitle:

Data: Drainage Area : 493 Acres
Runoff Curve Number : 48
Time of Concentration: 0.72 Hours
Rainfall Type : II
Pond and Swamp Area : 65.4 Acres 13.3 % of Drainage Area

Storm Number	1	2	3	4	5	6
Frequency (yrs)	2	5	10	25	50	100
24-Hr Rainfall (in)	2.6	3.3	3.9	4.4	5.0	5.4
Ia/P Ratio	0.83	0.66	0.56	0.49	0.43	0.40
Used	0.50	0.50	0.50	0.49	0.43	0.40
Runoff (in)	0.02	0.11	0.24	0.38	0.59	0.74
Unit Peak Discharge (cfs/acre/in)	0.295	0.295	0.295	0.307	0.392	0.437
Pond and Swamp Factor 5.0% Ponds Used	0.72	0.72	0.72	0.72	0.72	0.72
Peak Discharge (cfs)	2	11	25	42	82	115

Table 6

Nutrient Loading from Cable Lakes Watershed from STEPL

Total Load by Watershed	N Load	P Load	BOD Load	Sediment Load
	lb/year	lb/year	lb/year	ton/year
No BMP	218.8	65.3	750.9	11.9
Reduction from BMP	14.3	2.9	81.9	0.6
Load after BMP	204.5	62.3	669	11.3
% Reduction	6.5	4.5	10.9	5

Total by Land Use	N Load	P Load	BOD Load	Sediment Load
Urban	101	16.9	382.8	2.1
Forest	58.3	27.7	139.6	3.9
Wetlands	18.4	7.2	37.5	5.3
Septic	26.7	10.5	109.2	0
Total	204.4	62.3	669.1	11.3

Table 7

Phosphorous Loading from WiLMS

Cable Lake

Description	Low	Most Likley	High
Total Loading (lb)	24.2	60.5	169.8
Areal Loading (lb/ac-yr)	0.2	0.5	1.5
Total PS Loading (lb)	0.0	0.0	0.0
Total NPS Loading (lb)	13.3	23.5	47.6

Mud Lake

Description	Low	Most Likley	High
Total Loading (lb)	9.9	21.6	59.5
Areal Loading (lb/ac-yr)	0.2	0.4	1.1
Total PS Loading (lb)	0.0	0.0	0.0
Total NPS Loading (lb)	5.3	7.7	13.1

Wiley Lake

Description	Low	Most Likley	High
Total Loading (lb)	11.9	29.6	83.6
Areal Loading (lb/ac-yr)	0.2	0.5	1.4
Total PS Loading (lb)	0.0	0.0	0.0
Total NPS Loading (lb)	6.4	11.0	22.0

Table 8

Trophic Status Index (TSI) from WiLMS

Carlson TSI	Cable	Trophic Level	Wiley	Trophic Level	Mud	Trophic Level
Avg TSI	39	Oligotrophic	47	Mesotrophic	42	Mesotrophic
TP TSI	43	Mesotrophic	45	Mesotrophic	39	Oligotrophic
Chlr a TSI	37	Oligotrophic	51	Eutrophic	41	Mesotrophic
Secchi TSI	36	Oligotrophic	45	Mesotrophic	46	Mesotrophic

Trophic Level	TSI
Eutrophic	
	50
Mesotrophic	
	40
Oligotrophic	

TP	Total Phosphorous
Chlr a	Chlorophyll a

Table 9

Reclassifiation Information

Characteristics	Units	Wiley	Mud
Surface Area	ac	58	52
Lake Type		Seepage	Drainage
Max. Depth	ft	25	35
Shoreline Development	%		0
Current Development Level		light	none
Watershed Area	ac	193	167

Drainage Patterns - Wiley

Flow from watershed consists of small lake to north, wetlands, forested area and residential lots. Water flow measurements taken by Sigurd Olson students did not indicate flow in channel between Cable and Wiley Lakes.

Drainage Patterns - Mud

Flow from watershed consists of wetlands and forested areas and possibley from Cable Lake. Water flow out through channel at west side .

Table 10

Lakeshore Resident Survey Results
Most Popular Answer for Each Question

Survey Question			Response	Number of Responses	% of Total Responses
1		Do you consider yourself to be?	Shoreland Owner	23	59
2		Watercraft on property	Canoe	37	33
3		Important lake property use	Peace and tranquility	18	46
4		How time is spent a the lake	Year round	11	28
5A		Rate current conditiion of lake			
	a	Water clarity	Good	21	54
	b	Water quatliy	Excellent	17	44
	c	Fishing	Fair	14	36
	d	0-100 ft from shore	Good	27	69
	e	100-100 ft from shore	Good	19	49
	f	Scenic quality	Excellent	21	54
	g	Overall condition	Good	25	64
5B		Is there too much, too little or right amount			
	a	Rooted vegetation near shore	Right amount	27	69
	b	Floating algae	Right amount	27	69
	c	Fish habitat	Right amount	27	69
	d	Keeper-size pan and game fish	Too little	17	44
	e	Diversity of birds and wildlife	Right amount	34	87
	f	Loons	Right amount	30	77
	g	Shoreland housing	Right amount	31	79
	h	Motorized watercraft	Right amount	28	72
	l	Natural shoreline vegetation	Right amount	36	92
6A		How many years have you owned on the lakes?			
6B		Have the following conditions improved, worsened or remained the same over the years?			
	a	Water quatliy	Same	29	74
	b	Fishing	Worse	14	36
	c	0-100 ft from shore	Same	26	67
	d	100-100 ft from shore	Same	30	77
	e	Scenic quality	Same	32	82
	f	Overall condition	Same	32	82

6C		Have the following items decreased, increased or remained the same over the years?			
	a	Rooted vegetation near shore	Same	18	46
	b	Floating algae	Same	25	64
	c	Fish habitat	Same	26	67
	d	Keeper-size pan and game fish	Decreased	15	38
	e	Diversity of birds and wildlife	Same	28	72
	f	Loons	Same	27	69
	g	Shoreland housing	Increased	26	67
	h	Motorized watercraft	Increased	20	51
	I	Natural shoreline vegetation	Same	30	77
7A		How much of an impact have the following had on water quality?			
	a	Septic systems	Moderate	10	26
	b	Aquatic plant removal\	No	10	26
	c	Shoreline vegetaiton removal	No	11	28
	d	Lawn fertilizer & chemicals	Slight	10	26
	e	Lake home, road, parking runoff	No	12	31
	f	Soil erosion from home sites	Slight	14	36
	g	Exhaust and fuel leaks from watercraft	Slight	15	38
	h	Damage to aquatic plants from watercraft	Slight	14	36
7B		How much of an impact have the following had on scenic beauty?			
	a	Cabin or home development	Moderate	14	36
	b	Installation of shoreline structures	Slight	17	44
	c	Tree & shrub removal	Slight	15	38
8		Best describes peace and tranquilty on the lake	Moderate Disturbance	29	74
9		Best describes the natural beauty of the shoreline	Lightly developed	23	59
10		Best describes exerience with other boaters	Little Confilct	26	67
11		Best describes level of aquatic plant gorwth in the lakes	Moderate Growth	19	49
12		Do you support or oppose the following actions?			
	a.	Stricter septic system regulations to improve water quality	Support	28	72
	b	Allowing individuals more flexibility to make decisions about their own land	Oppose	15	38
	c	More shoreline property owner education regarding impacts on water quality	Support	31	79
	d	Stricter zoning regulations for shoreline character	Support	22	56
	e	More enforcement of existing shoreland protection laws	Support	29	74
	f	Awards program for shoreland property owners who minimize their impacts	Support	21	54
	g	Allowing more aquatic plant (weed) removal	Support	18	46
	h	Development of more voluntary programs for water quality protection	Support	31	79
	i	Increased protection for fish habitat	Support	24	62

	j	More management for game populations	Neutral	18	46
	k	More management for non-game wildlife	Support	19	49
	l	More erosion control assistance for	Support	26	67
	m	Motorboat size and speed limits to protect shoreland areas	Support	24	62
	n	Restricted time for water-skiing/jet skiing	Support	28	72
	o	Stricter controls for exotic species (such as Eurasian water milfoil)	Support	31	79
	p	More public land purchases to protect shoreland areas	Support	19	49
	q	Development of financial incentives for environmentally sound shoreland management	Support	21	54
	r	Aerate the lake	Neutral	14	36
	s	Harvest lake weeds	Support	17	44
	t	Expansion of CLA recommended slow no wake zones	Support	18	46
	u	Reduction of CLA recommended slow no wake zones	Oppose	25	64
	v	Recommend all of Wiley Lake be considered Slow No Wake	Oppose	20	51
	w	Better lake user education effort	Support	27	69
13		How is yard maintained	No fertilizer	29	74
			Natural landscape	18	46
			Vegetative buffer	21	54
14		Who is responsible for protectind and maintaining the lake?	Lake property owners	23	59
15A		Regarding Cable Laek Associaton I am:	Member	27	69
15B		Best orginazation communication	Newsletter	26	67

Table 11

Inland Lake Classification for Bayfield County

Inland Lake Lot Requirements

Lake Class	Unit	Class 1	Class 2	Class 3
Lot Size	sq. ft.	30,000	60,000	120,000
Shoreline Frontage	ft.	150	200	300
Lot Depth	ft.	200	300	400
Shoreline Setback	ft.	75	75	100
Shoreline Veg. Protection Area	ft.	50	50	75
Side Yard Setback	ft.	10	20	30

Lake Classification

Class 1

Most Developed Lakes - Objectives: Preserve and enhance water qualty to provide conditions for recreation al use and aesthetics; retain existing natural shorelines and encourage restoration; acknowledge a mix of natual and developed shorlines; protect or resotre a self-sustaining local ecosystem capable of supporting diverse native flora and fauna; promaote peace and quiet;p balance public and riparian interests in reacreationaluses.

Class 2

Moderatley Sensitive Lakes and Moderatley Developed - Objectives: Preserve and enchance water qualtiy to provide conditions for recreational use and aesthetics; balance the current level of deveolopment with the sensistyity of these lakes to maintain and protect water qualtiy; maintain and restore natualrj shorline aesthetics adn encourage restoration ; indentiy an dprotect current natural and undeveloped areas; promote peace adn quaite; protect or resotre a self-sustaining local ecosystem capable of supporting diverse native flora and fauna; promaote peace and quiet;p balance public and riparian interests in reacreationaluses.

Class 3

Most Sensitive Developed and Undeveloped Lakes - Objectives: Maintian and protect water quality; protect or restore the natural/wild appearacne of shorelines and land visisble from the water; promots a quaite and peaceful experience; protect or restore a self-sustaining local ecosystem capable of supporting diverse native flora and fauna; discourage commercial use.

Table 12

Aquatic Plants of Cable, Wiley and Mud Lakes

Scientific Name	Common Name	Importance of Plant
Submerged Plants		
Brasenia schreberi	Watershield	The rhizomes and leaves have been used for food and medicinal purposes by Native Americans. The Japanese use the young leaves and stems in salads. Provides habitat for fish and aquatic insects; seeds and vegetation are eaten by waterfowl. Stabilizes sedimemts, slow growing plant.
Ceratophyllum demersum	Coontail	An important habitat plant for young fish, small aquatic animals, and aquatic insects. Some waterfowl eat the seeds and foliage, although coontail is not considered an important food source.
Elodea canadensis	Elodea	Some waterfowl eat the seeds. Food and habitat for fish, waterfowl, other wildlife.
Lemna trisulca	Star Duckweed	Excellent duck food. Food for fish and waterfowl and habitat for aquatic invertebrates. Because of its high nutritive value, duckweeds have been used for cattle and pig feed in Africa, India, and southeast Asia. Sometimes used to remove nutrients from sewage effluent.
Myriophyllum verticillatum	Whorl-leaf Watermilfoil	Whorled milfoil provides habitat for aquatic invertebrates, which in turn provide food for fish and wildlife
Najas flexillis	Nodding Waternympn	The entire plant is eaten by waterfowl. Water-nymphs are considered to be one of their most important food sources. They also provide shelter for small fish and insects.
Nuphar lutea	Yellow Pond-lily	Ducks eat the seeds and deer, muskrat and other wildlife eat thick rootstocks. Spatterdock is a food source for mammals and waterfowl and provides spawning habitat for fish. Native Americans used the rhizomes and seeds for food. Used by several cultures for food, dyeing, tanning, and medicinal purposes. Stabilizes sediments, slow growing plant.
Nymphaea odorata	American White Water Lily	Seeds are eaten by ducks, beaver and muskrat eat various parts of the plant.

Scientific Name	Common Name	Importance of Plant
Submerged Plants (con't)		
Potamogeton amplifolius	Large-leaf Pondweed	Occurs in hard water. Plants may show rapid early season growth, with plants over 3 m tall observed in early May. Seeds and entire plant are good wildlife food and habitat.
Potamogeton illinoensis	Illinois Pondweed	Provides important food and cover for aquatic animals. Tubers of long-leaf pondweed are an important waterfowl food. Provides fish habitat, stabilizes sediment, clears water, fast growing plant.
Potamegeton natans	Floating Pondweed	Seeds, tubers, and vegetation provide food and cover for aquatic animals and waterfowl.
Potamogeton perfoliatus		
Potamogeton robbinsii	Clasping Leaf Pondweed	Seeds and vegetation provide food and cover for aquatic animals and waterfowl.
Vallisneria americana	Wild Celery	Waterfowl relish all parts of the plant. Fish and muskrat also feed on this plant. Often planted to improve waterfowl food supply. Provides fish habitat, stabilizes sediments, clears water. Is a slow growing plant with dense root system.

Emergent Plants		
Dulichium arundinaceum	Three-way Sedge	The achenes are eaten by waterfowl. Dulicium's rhizomatous growth my also help stabilize shorelines.
Equisetum fluviatile	Water Horsetail	Historically used by both Europeans and Native Americans for scouring, sanding, and filing because of the high silica content in the stems. Early spring shoots were eaten. Medicinally it was used to treat kidney ailments. Rootstocks and stems are eaten by waterfowl. Horsetails absorb heavy metals from soil, and are often used in bioassays for metals.
Iris versicolor	Harlequin Blueflag	
Polygonum amphibium	Water Smartweed	Smartweeds have a peppery taste and are good waterfowl food.Seeds provide food for waterfowl, marsh birds, song birds, and upland game birds. Important medicinal plants, especially water smartweed. Used as an antiseptic and as a poisoning cure.

Scientific Name	Common Name	Importance of Plant
Emergent Plants (con't)		
Sparganium eurycarpum	Broad Fruit Burreed	Waterfowl and marsh birds eat burreed seeds and muskrats consume the entire plant. Provides cover for wildlife. Stabilizes shoreline, fast growing plant.
Sagittaria latifolia	Broadleaf Arrowhead	Tubers were an important food source for Native Americans. Tubers also provide food for beavers and muskrats. Tubers and achenes provide food for waterfowl.
Typha angustifolia	Cattail	Roots are rich in starch and eaten by geese and muskrats. Stands provide shelter for many birds.