

# Lake Shoecraft

Lake Shoecraft appears to be in healthy condition, with high water clarity, low nutrients, and occasional algal blooms. Eurasian watermilfoil is an invasive aquatic plant that has been eradicated from the lake, but remains a threat. Maintaining the health of the lake depends on controlling nutrient runoff from the lake shore and watershed and preventing re-introduction of milfoil.



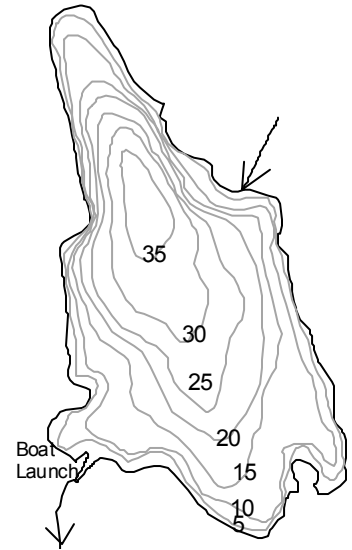
*State of the Lakes Report*  
*March 2003*

---

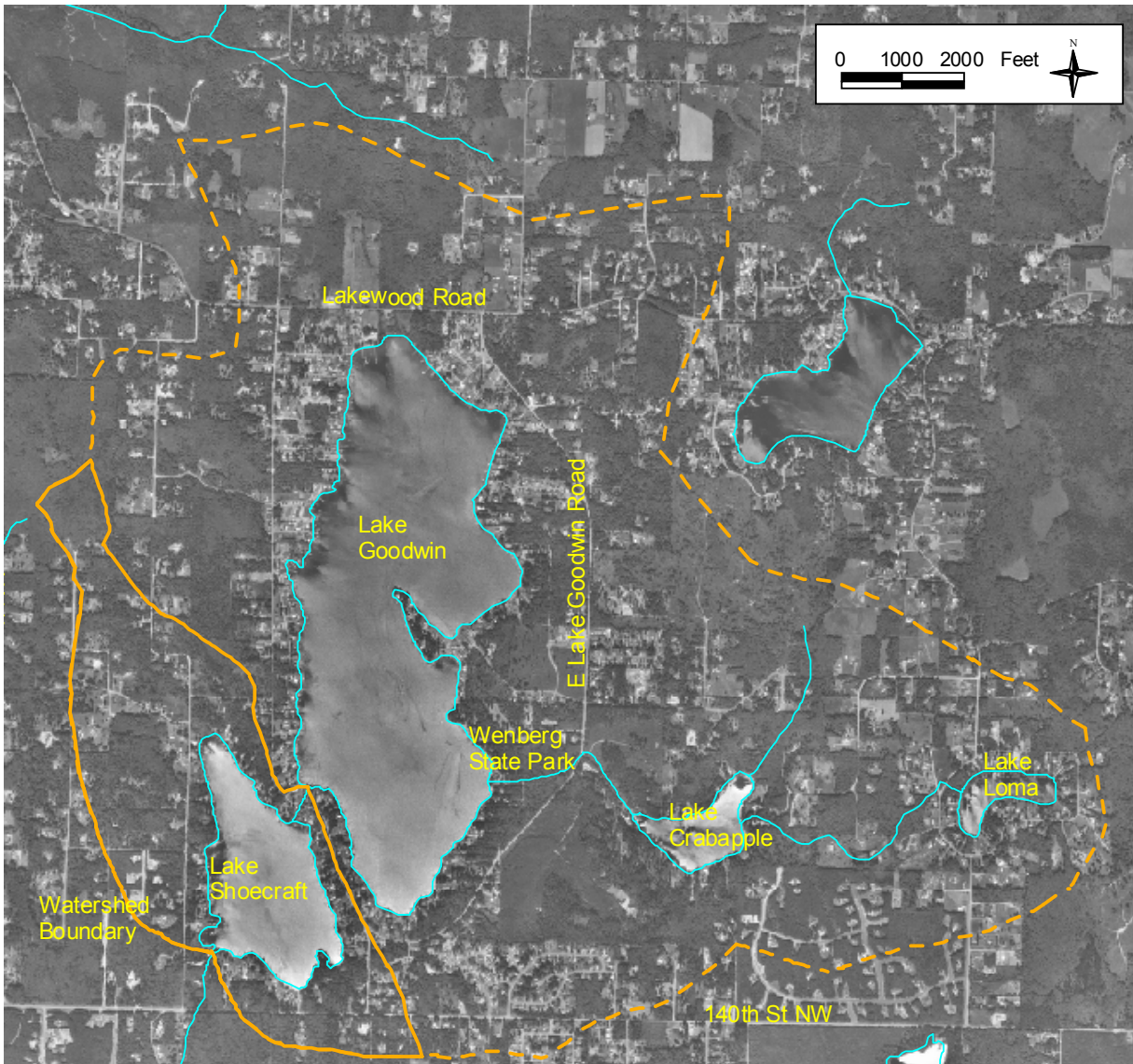
**Snohomish County Public Works**  
**Surface Water Management**

## LAKE AND WATERSHED DATA

Lake Area: 132 acres  
 Watershed Area: 763 (4230 total area) acres  
 Watershed to Lake Area Ratio: 5.8 (32.0 total area)  
 Maximum Depth: 35 feet (10.7 meters)  
 Average Depth: 18 feet (5.5 meters)  
 Lake Volume: 2400 acre-feet  
 Length of Shore: 2.4 miles



	<u>1973</u>	<u>MID-90'S</u>
# of nearshore homes	100	114
# of homes/1000' of shoreline	7.9	9.0
% of homes with bulkhead or fill		49%
% of homes with some native vegetation near shore		9%
% of watershed developed (residential or commercial)	9%	20% (est.)



# LAKE ASSESSMENT

## DESCRIPTION

■ **Location/Access**— Lake Shoecraft is located in the Seven Lakes area north of the Tulalip Reservation. Lake Shoecraft is fed by Lake Goodwin, Lake Crabapple, and Lake Loma and drains to Weallup Lake and eventually into Tulalip Bay. The lake is a popular site for fishing, swimming, boating, and skiing. A public boat launch is located at the southwest corner of the lake.

■ **Size/Shape**— Lake Shoecraft covers 132 surface acres. The lake has a maximum depth of 10.7 meters and an average depth of 5.5 meters. The lake volume contains 2400 acre-feet of water.

■ **Watershed**— Lake Shoecraft is the last lake in a four-lake chain. The immediate watershed draining to the lake covers 763 acres, including the lake surface. Adding the watersheds of Goodwin, Crabapple, and Loma brings the total watershed to 4230 acres. The immediate watershed is relatively small compared to the lake area—only 5.8 times the size of the lake. This means that Shoecraft should have somewhat less potential for impacts from pollution coming from the surrounding lands than a lake with a large watershed. The percentage of residential and commercial development in the immediate watershed increased from 9% in 1973 to 20% by the mid-90s.

■ **Shoreline**— The shoreline of Lake Shoecraft is 2.4 miles long. Along the shoreline, there were 100 homes in 1973 and 114 in the mid-1990s. Many small seasonal cabins have been replaced by large, year-round homes. Residential development around the lake is relatively dense—an average of 9.0 homes per 1000 feet of shoreline. About 49% of the nearshore homes have modified the shoreline with bulkheads or fill. Only 9% of the homes have retained some native vegetation along the shore. Heavy shoreline development without buffers of native vegetation can result in significant pollution reaching the lake.



## LAKE CONDITIONS

■ **Water Clarity**— Summer water clarity in Lake Shoecraft averaged 4.6 meters during the 1983 Entranco study. From 1990 through 2002, water clarity averages ranged from 4.0 to 5.9 meters, with individual measurements as low as 2.6 meters and as high as 7.1 meters. Overall, Lake Shoecraft has moderate to high water clarity.

■ **Color**— The lake has a slight natural color. The water is usually described as light green.

■ **Nutrients**— Summer average total phosphorus concentrations in the epilimnion ranged from 6 to 9  $\mu\text{g/l}$  between 1996 and 2002, which is low for Snohomish County lakes. Samples taken during the 1983 study averaged 6  $\mu\text{g/l}$  total phosphorus in the epilimnion. Total phosphorus averages in the hypolimnion were higher, averaging 14  $\mu\text{g/l}$  in 1983 and ranging from 21 to 26  $\mu\text{g/l}$  from 1996-2002. This suggests a limited release of phosphorus from the bottom sediments during times of oxygen depletion. Total nitrogen was moderate in 1973, averaging 330  $\mu\text{g/l}$  in the epilimnion. Nitrate and ammonia concentrations in the lake were both low during the 1983 study. Nitrogen availability was probably limiting algal growth in 1983 and perhaps in 1973. Because both phosphorus and nitrogen levels appear to be relatively low in Lake Shoecraft, additions of either nutrient—for example from fertilizer runoff—may result in nuisance algal blooms.

- **Oxygen/Temperature** – Vertical profiles of dissolved oxygen and temperature for the summers of 1995 through 2002 show strong stratification between the warm, oxygenated upper waters and cool, oxygen-depleted bottom waters. The graphs indicate that decaying organic matter in the lake bottom depletes dissolved oxygen below 7 meters during the warm months.
- **Algae** – Limited chlorophyll *a* data are available from the summers of 1973, 1983, 1994, 1995, and 2002. The average during the summer of 1983 was 1.8 µg/l, while the values over all the years ranged from a low of 0.1 µg/l to a high of 4.3 µg/l. These data indicate a low abundance of algae. However, citizens have observed nuisance blue-green algal blooms on occasion during summer months. Analysis of three algae samples in 1994 and 1995 revealed moderate biovolumes dominated by blue-green and green algae.
- **Aquatic Plants** – Lake Shoecraft supports a patchy distribution of native aquatic plants. Chara, elodea, and pondweeds are the most common native plants in the lake, with water-lilies dominant in a few spots. However, in the 1990s, Lake Shoecraft became infested with an invasive non-native plant, Eurasian watermilfoil. Within a few years, the plant spread rapidly to form dense patches in the shallow south and north ends of the lake. Because milfoil has the potential to eventually take over most of the shallow water areas, lake residents worked with Snohomish County SWM to implement a milfoil control project in Lake Shoecraft and nearby Lake Goodwin. In 2000, SWM conducted an herbicide treatment in part of Lake Shoecraft, using fabric containment barriers to isolate the infected areas. The project was very successful in eliminating the milfoil, but annual diving surveys in future years will be necessary to prevent milfoil from becoming re-established.
- **Water Levels** – A small wooden dam, or weir, owned by the Washington Department of Fish and Wildlife, is located at the lake outlet and controls the water level in Lake Shoecraft. This weir also controls, to some extent, the water level in Lake Goodwin, which flows into Lake Shoecraft through a narrow, 700-foot long channel. The State, the

Tulalip Tribes, and local volunteer monitors coordinate the operation of the weir in a way that minimizes flooding at these lakes.

## SUMMARY

- **Trophic State** – Based on high water clarity, low phosphorus and nitrogen concentrations, moderate oxygen depletion, occasional blue-green algal blooms, and moderate concentrations of aquatic plants, Lake Shoecraft may be classified as oligo-mesotrophic.
- **Current Conditions/Trends** – Lake Shoecraft appears to be in healthy condition. Monitoring data show no significant trends in water clarity or phosphorus or signs of increased eutrophication.
- **Future Concerns/Targets** – The major concern at Lake Shoecraft is the potential for re-establishment of Eurasian watermilfoil that could affect the use of the lake. Also, if significant land development occurs in the immediate watershed, or fertilizer use, road runoff, and other activities along the lake shore contribute nutrients to the lake, the occurrence of nuisance algal blooms could become more frequent. Maintaining current water clarity and phosphorus levels and preventing re-introduction of milfoil are targets for the lake.
- **Recommendations** – Monitoring of water quality and aquatic plants should continue. New development in the watershed should take precautions to control runoff and reduce nutrient pollution. Existing homes on the lake shore should be encouraged to re-create buffers of native vegetation to filter out pollution before it reaches the lake.

## CITIZEN VOLUNTEERS

Thanks to Fred Dockendorf for years of volunteer monitoring at Lake Shoecraft.

## **DATA SUMMARY TABLE**

Source	Date	Secchi Depth (meters)	Total Phosphorus (ug/l)		Color (Pt-Co scale)	Chlorophyll a (ug/l)
			Surface	Bottom	Epilimnion	Epilimnion
McConnell, et al, 1976	Summer <b>1973</b>	3.0 - 4.0 (3.5) <i>n</i> = 3	14 - 41 (24) <i>n</i> = 3	34 - 57 (43) <i>n</i> = 3	0 - 15 (7) <i>n</i> = 3	1.7 - 3.8 (2.5) <i>n</i> = 3
Entranco, 1986	Summer <b>1983</b>	4.2 - 5.2 (4.6) <i>n</i> = 5	<5 - 9 (6) <i>n</i> = 5	<5 - 29 (14) <i>n</i> = 5	-	0.8 - 3.6 (1.8) <i>n</i> = 5
DOE	Summer <b>1990</b>	3.4 - 5.2 (4.1) <i>n</i> = 7	-	-	-	-
Volunteer	Summer <b>1992</b>	3.9 - 4.2 (4.0) <i>n</i> = 2	-	-	-	-
Volunteer	Summer <b>1993</b>	4.8 - 6.8 (5.6) <i>n</i> = 12	-	-	-	-
SWM Staff or Volunteer	Summer <b>1994</b>	4.0 - 7.1 (5.9) <i>n</i> = 11	-	-	10 (10) <i>n</i> = 2	0.5 - 4.3 (2.4) <i>n</i> = 2
SWM Staff or Volunteer	Summer <b>1995</b>	3.7 - 4.9 (4.1) <i>n</i> = 11	-	-	12	1.3
SWM Staff or Volunteer	Summer <b>1996</b>	4.1 - 4.9 (4.6) <i>n</i> = 12	4 - 7 (6) <i>n</i> = 2	13 - 34 (24) <i>n</i> = 2	-	-
SWM Staff or Volunteer	Summer <b>1997</b>	4.1 - 5.1 (4.5) <i>n</i> = 12	5 - 9 (7) <i>n</i> = 2	25 - 26 (26) <i>n</i> = 2	-	-
SWM Staff or Volunteer	Summer <b>1998</b>	3.7 - 5.1 (4.2) <i>n</i> = 12	6 - 8 (7) <i>n</i> = 4	13 - 30 (21) <i>n</i> = 4	-	-
SWM Staff or Volunteer	Summer <b>1999</b>	3.8 - 5.2 (4.4) <i>n</i> = 10	5 - 13 (8) <i>n</i> = 4	22 - 27 (25) <i>n</i> = 4	-	-
SWM Staff or Volunteer	Summer <b>2000</b>	2.6 - 5.2 (4.2) <i>n</i> = 10	5 - 9 (6) <i>n</i> = 4	8 - 36 (21) <i>n</i> = 4	-	-
SWM Staff or Volunteer	Summer <b>2001</b>	4.4 - 5.0 (4.6) <i>n</i> = 8	6 - 11 (9) <i>n</i> = 4	17 - 29 (21) <i>n</i> = 4	-	-
Volunteer	Summer <b>2002</b>	3.7 - 4.8 (4.2) <i>n</i> = 7	7 - 13 (9) <i>n</i> = 4	21 - 30 (26) <i>n</i> = 4	-	0.1 - 2.1 (1.1) <i>n</i> = 4

### NOTES

- Table includes summer (May-Oct) data only.
- Each box shows the range on top, followed by summer average in ( ) and number of samples (n).
- Total phosphorus data are from samples taken at discrete depths only.
- DOE = Washington Department of Ecology

## **SUMMARY OF OTHER DATA**

■ **Total Phosphorus** – two composite samples taken by the Department of Ecology in 1990 showed 12 mg/l in the epilimnion. These values are not directly comparable to the discrete samples shown above, but confirm that Shoecraft has low phosphorus levels.

■ **Nitrogen** – total nitrogen values from summer 1973 averaged 0.33 mg/l in the epilimnion and 0.61 mg/l in the hypolimnion, with high ammonia (0.62 mg/l) in the hypolimnion on one sampling date; 1983-1984 data from Entranco showed low nitrate levels (averages of 0.037 mg/l in the epilimnion and 0.032 mg/l in the hypolimnion) and low ammonia concentrations (averages of 0.016 mg/l in the epilimnion and 0.029 mg/l in the hypolimnion); one 1990 sample by Ecology was 0.40 mg/l in the epilimnion; these data suggest nitrogen availability is low to moderate and may at times limit algal growth.

■ **Alkalinity** – data from 1983 ranged from 23 – 41 mg/l CaCO<sub>3</sub> while 1994 and 1995 data ranged from 32 – 52 mg/l CaCO<sub>3</sub>, which suggests that Shoecraft has a moderate buffering capacity.

■ **pH** – 1994-2000 data averaged 7.3 near the surface and 6.7 near the bottom, which is close to neutral and typical for Snohomish County lakes.

■ **Conductivity** – data from 1983 ranged from 70 – 120 µmhos; 1994-2000 data averaged 85 µmhos in the epilimnion and 112 µmhos near the lake bottom, indicating relatively high levels of dissolved materials in the water.

■ **Iron** – limited 1973 and 1994-95 data showed low levels in the epilimnion (avg. 44 µg/l) and moderately high levels in the hypolimnion (avg. 907 µg/l, high of 3400 µg/l), which indicates some

release of iron and phosphorus from the bottom sediments under low oxygen conditions.

■ **Algae** – the following table shows the total biovolume and percent biovolume of the main types of algae from three samples collected in 1994-95. The data show that blue-greens and greens were most prevalent. Cell counts of the same samples revealed that blue-green algae were most abundant, ranging from 40% to 93%.

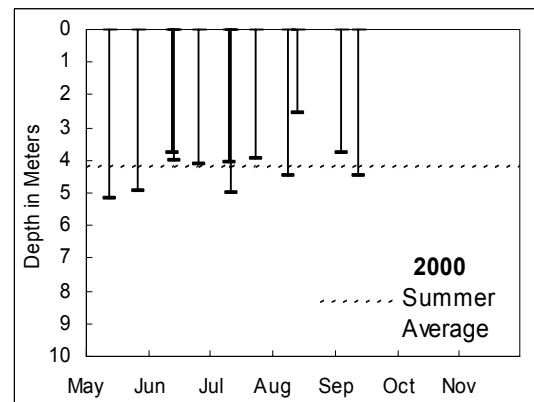
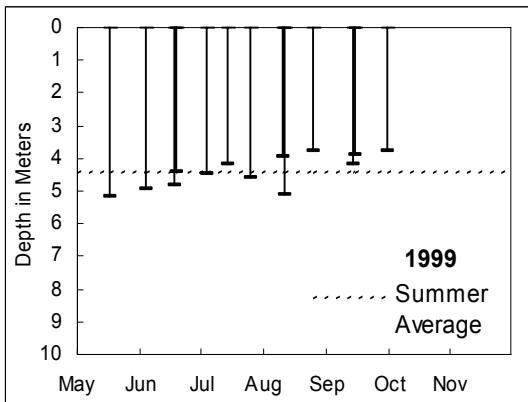
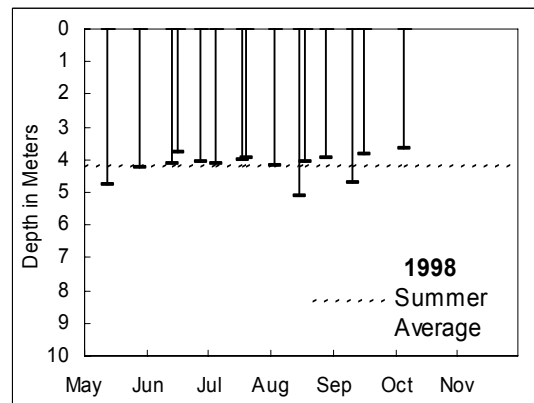
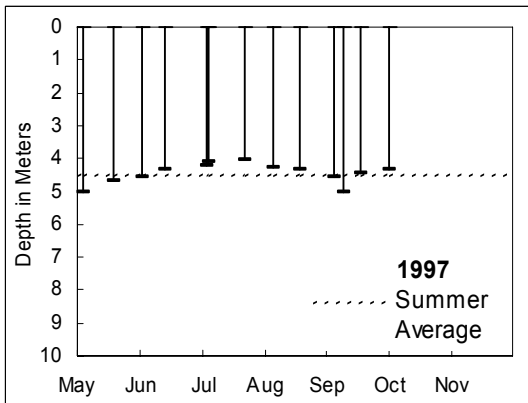
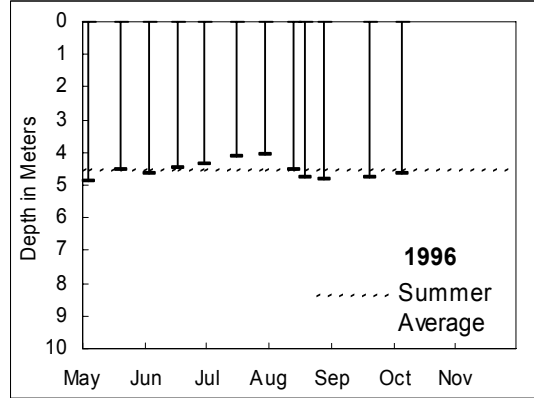
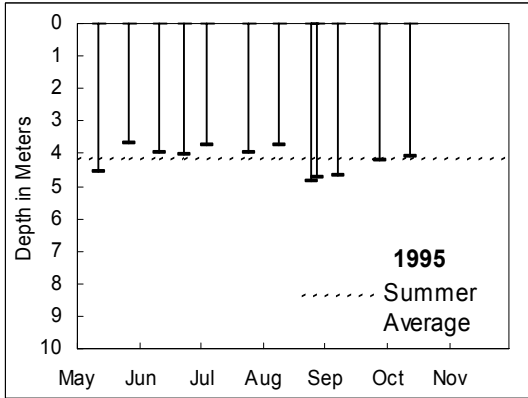
ALGAE TYPES	6/30/94	8/31/94	8/29/95
Cyanophyta (Blue-greens)	30%	31%	71%
Chlorophyta (Greens)	13%	39%	19%
Chrysophyta (Golden/diatoms)	24%	9%	9%
Cryptophyta (Cryptomonads)	17%	18%	1%
Euglenophyta (Euglenoids)	2%	2%	0%
Pyrrhophyta (Dinoflagellates)	15%	0%	1%
TOTAL BIOVOLUME (mm <sup>3</sup> /l)	0.413	0.634	1.298

■ **Fish** – according to the Washington State Department of Fish and Wildlife (WDFW), fish species found in Lake Shoecraft include rainbow trout, largemouth bass, smallmouth bass, black crappie, yellow perch, and pumpkinseed sunfish. WDFW usually stocks the lake each year with rainbow trout.

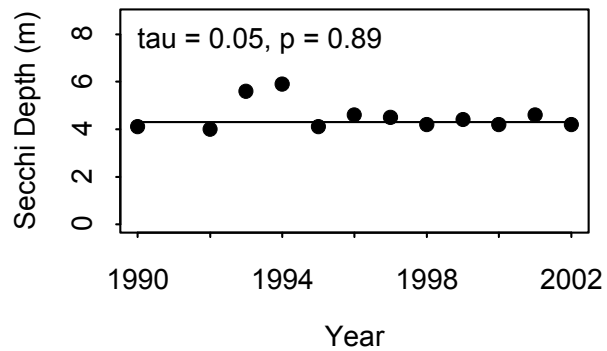
### **DATA SOURCES**

In addition to data from Snohomish County SWM staff and citizen volunteers, data for Lake Shoecraft are also available from: Bortleson, et. al., 1976; Entranco Engineers, 1986; and McConnell, et. al., 1976. Please refer to the full list of references in the County-Wide Summary.

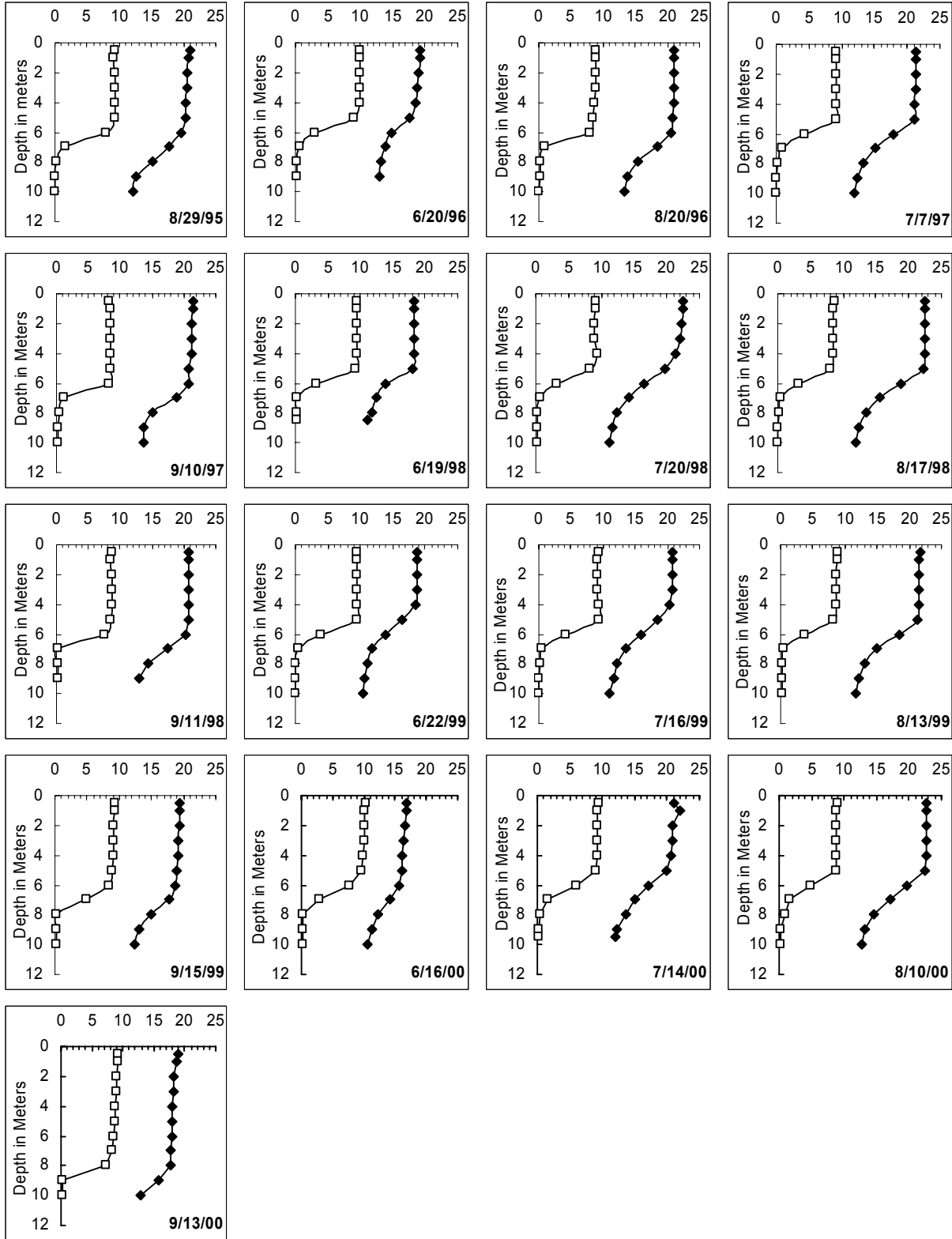
# WATER CLARITY



## TREND ANALYSIS

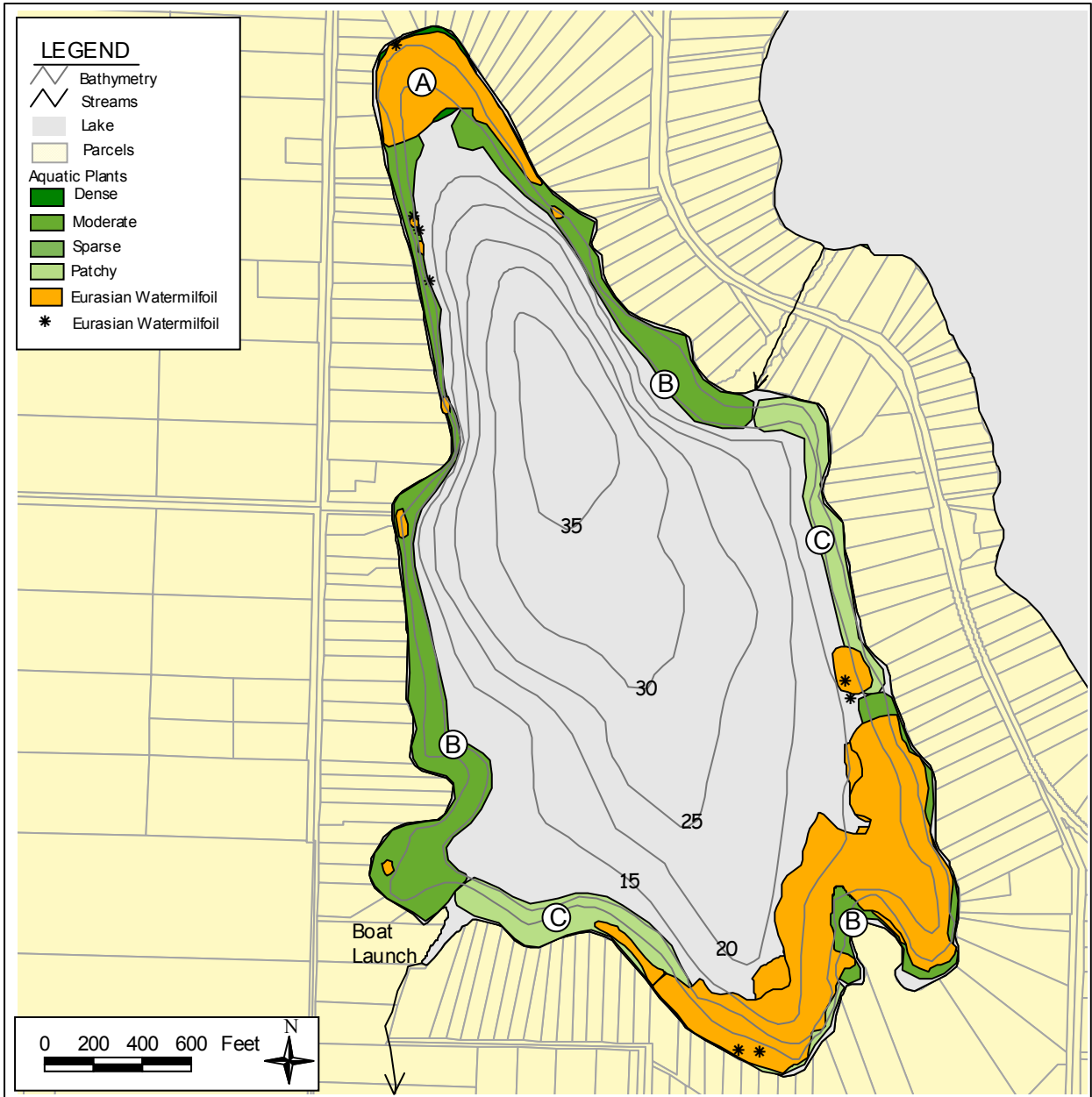


# **DISSOLVED OXYGEN AND TEMPERATURE PROFILES (SELECTED YEARS)**



DO (mg/l)
 
 Temp (°C)

# AQUATIC PLANTS



Area	Density	Dominant Plants	Other Plants
A	Dense	<i>Potamogeton sp.</i> (Thin-leaf pondweed) <i>Elodea canadensis</i> (Common elodea) <i>Chara sp.</i> (Stonewort, Muskgrass)	<i>Potamogeton amplifolius</i> (Large-leaf pondweed) <i>Najas flexilis</i> (Water-nymph, Naiad)
B	Moderate	<i>Chara sp.</i> (Stonewort, Muskgrass)	<i>Potamogeton sp.</i> (Thin-leaf pondweed) <i>Elodea canadensis</i> (Common elodea) <i>Potamogeton amplifolius</i> (Large-leaf pondweed) <i>Nymphaea odorata</i> (Fragrant water-lily) <i>Nuphar polysepalum</i> (Yellow water-lily) <i>Najas flexilis</i> (Water-nymph, Naiad)
C	Sparse	<i>Chara sp.</i> (Stonewort, Muskgrass)	<i>Potamogeton sp.</i> (Thin-leaf pondweed) <i>Elodea canadensis</i> (Common elodea) <i>Potamogeton amplifolius</i> (Large-leaf pondweed)
-	-	<i>Myriophyllum spicatum</i> (Eurasian water-milfoil)	

Note: *Iris pseudacorus* (Yellow iris), an invasive, non-native plant, and *Scirpus sp.* (Bulrush) are found in places around the shoreline.

## **BASIC MONITORING DATA**

1995									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/15/1995	4.6	18.5	16.25	15.8	0	none	light	lt green	Slight plants. 20 ducks/geese.
5/30/1995	3.8	17.5	20	18.3	0	none	light	lt green	Slight plants. 40 ducks/geese.
6/14/1995	4.1	17	19.5	19.8	75	light	light	lt green	Slight, algae, plants. 40 ducks/geese.
6/26/1995	4.1	21	20.5	21	0	none	light	lt green	Slight algae, aquatic plants. 35 ducks/geese. Volunteer thinks milfoil is spreading to north end.
7/7/1995	3.8	19	22	22.5	75	trace	light	lt green	Slight algae, plants. 35 ducks & geese. Milfoil at north end of lake.
7/27/1995	4.0	19	22	24.3	10	heavy	light	lt green	Slight algae, plants. 30 ducks & geese. Milfoil at north end of lake.
8/11/1995	3.8	16	19.5	24.8	100	mod	calm	lt green	Slight algae, plants. 30 ducks & geese. Milfoil at north end of lake.
8/26/1995	4.9	17	20	24.5	50	none	light	lt green	Slight algae, plants. 25 ducks & geese. Milfoil at north end of lake.
*08/29/95	4.8				75	trace	light	very lt green	Fishy smell at outlet; no odor at depth. Water level higher this year (by 2-3 feet) over last year.
9/8/1995	4.7	16	19.5	25.5	0	none	calm	lt green	Slight algae, aquatic plants. Milfoil in north end of lake.
9/28/1995	4.3	15	18.5	26.3	75	moderate	light	lt green	Slight algae, plants. Milfoil in north end of lake. 25 ducks/geese.
10/13/1995	4.2	13	14	24.3	100	mod	light	lt green	Approx 30 ducks/geese. Slight algae and plants. Lake has milfoil.

1996									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/8/1996	5.0	11.5	14	12.8	50	moderate	light	lt green	Didn't notice milfoil. 20 ducks & geese. No algae in water, algae scum, odor, slight aquatic plants.
5/23/1996	4.6	13	15.5	11.5	90	heavy	light	lt green	Haven't seen any milfoil yet. 20 ducks & geese. No algae, scum, odor, slight aquatic plants.
6/6/1996	4.8	18.5	19	13	75	light	light	lt green	No algae, scum, odor, slight plants. 20 ducks and/or geese.
*06/20/96	4.5				0	none	calm	medgreen	Big clouds of spirogyra - growing for the first time near small, green cabin west of the inlet.
7/3/1996	4.4	15.5	20.5	16	100	light	calm	lt green	Milfoil north end. No scum, odor, slight algae, plants. 20 ducks.
7/18/1996	4.2	14	19.5	18.3	100	heavy	breezy	lt green	Milfoil
8/1/1996	4.1	18	24	20	10	none	calm	lt green	Milfoil
8/15/1996	4.6	20	23	21.8	10	none	light	lt green	Milfoil
*08/20/96	4.9				100	light	light	lt green	
8/29/1996	5.1	23.5	21.5	23.5	10	none	calm	lt green	Milfoil
9/20/1996	4.8	14	17	22	100	moderate	calm	lt green	Milfoil
10/6/1996	4.7	15	16.5	22	25	moderate	calm	lt green	Milfoil

\*Indicates data collected by Snohomish County staff.

## 1997

DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/8/1997	5.1	20	15	15	0	none	light	lt green	Moderate algae in water, slight aquatic plants, no odor or algae scum, approximately 20 ducks/geese.
5/22/1997	4.8	16	18	16.5	50	light	light	lt green	Moderate algae in water, no scum, odor, slight plants.
6/5/1997	4.6	16.5	18.5	16.3	25	heavy	light	lt green	Moderate algae in water, slight aquatic plants, no scum, odor. 20 ducks/geese.
6/16/1997	4.4	17.5	19.5	17	100	none	breezy	lt green	Moderate algae in water, slight aquatic plants, no scum or odor. 30 ducks/geese.
7/6/1997	4.3	16	20.5	18.3	100	light	light	lt green	Moderate algae, slight plants. 50 ducks/geese. Milfoil.
*07/07/97	4.1				90	trace	strong	medgreen	
7/24/1997	4.1	20	24	19.3	0	none	calm	lt green	Moderate algae, slight plants. 30 ducks/geese. Milfoil.
8/7/1997	4.3	21.5	23	21.3	25	mod	light	lt green	Slight algae, plants. 20 ducks/geese. EWM.
8/20/1997	4.4	18	23	23.5	100	trace	calm	lt green	Slight algae, plants. 20 ducks/geese. Power boats are cutting up milfoil with their props, at south end of lake and it's floating around.
9/5/1997	4.6	17	21	25	100	none	calm	lt green	Slight algae, plants, no scum, odor. 20 ducks/geese. Milfoil.
*09/10/97	5.1				90	none	strong	medgreen	
9/18/1997	4.5	15	17.5	24.5	75	moderate	calm	lt green	Slight algae, plants, no scum, odor. 35 ducks/geese. Milfoil.
10/2/1997	4.4	13	16	26.8	100	moderate	calm	lt green	Slight algae, plants, no scum, odor. 30 ducks/geese. Milfoil.

1998									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/16/1998	4.8	14.5	14	14.5	25	moderate	light	lt green	No scum, odor, slight algae plants. Milfoil.
6/1/1998	4.3	15	17	14	90	moderate	breezy	lt green	No scum, odor, slight algae, plants. 50 ducks/geese. Milfoil.
6/16/1998	4.2	17	19	15.3	25	heavy	light	lt green	No scum or odor; slight algae and aquatic plants; 50 ducks/geese; Mill Foil.
*6/19/98	3.8				100	mod	light	lt green	5 ducks,/20 geese; no scum; slight plants, algae.
6/30/1998	4.1	20	21	16	0	none	calm	lt green	Slight algae & plants; no scum or odor; 50 ducks/geese; milfoil floating all over.
7/7/1998	4.2	19	20	16	10	none	light	lt green	Moderate algae; no scum or odor; slight plants; 50 ducks/geese; milfoil.
*7/20/98	4.0				0	none	breezy	grnbrown	No ducks/geese, scum; slight algae, plants. Water appeared more turbid than usual.
7/22/1998	4.0	23	23.5	17.8	0	none	calm	lt green	Slight algae & plants; no scum or odor; 50 ducks/geese; milfoil.
8/5/1998	4.3	20	24	19.8	0	none	calm	lt green	Slight algae & plants; no scum or odor; 55 ducks/geese; mill foil; 30 geese on lake appear to have taken up residency and are messy and trouble.
*8/17/98	5.1				100	light	light	medgreen	21 ducks; no scum, odor; moderate plants, algae.
8/19/1998	4.1	19	21.5	21.8	0	trace	calm	lt green	Slight algae & plants; no scum or odor; 50 ducks/geese; mill foil.
8/29/1998	4.0	20	21	23	0	none	calm	lt green	Slight algae & plants; no scum or odor; 50 ducks/geese; Mill foil.
*9/11/98	4.7				75	none	calm	peasoup	Several ducks/geese, 23 coots; no scum; slight odor in bottom sample; moderate algae. Water level very low.
9/17/1998	3.9	16	20	24.7	90	none	calm	lt green	Slight algae, plants; no scum, or odor. 50 geese. Milfoil.
10/6/1998	3.8	19	17.5	24.7	50	none	calm	lt green	Slight algae, plants. No scum, odor. 50 geese.

1999									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/21/1999	5.2	14	14.5	13.3	10	light	light	lt green	No milfoil showing yet. Gauge level = 25.76
6/7/1999	5	13.5	16.5	13.8	50	moderate	light	lt green	
6/21/1999	4.9	14.5	18.5	15	100	moderate	calm	lt green	Gauge level = 25.60
*6/22/99	4.4	16	18.7		90	light	light	medgreen	
7/6/1999	4.6	22	19	14	0	none	calm	lt green	Gauge level = 25.66
*7/16/99	4.2	18	20.8		100	moderate	light	yellowgrn	
7/27/1999	4.6	21	21		0	none	calm	lt green	Gauge level = 25.50. Milfoil.
8/12/1999	4	18	21	17	100	none	breezy	lt green	Gauge level = 25.40. Milfoil.
*8/13/99	5.1	18	21.7		75	trace	light		
8/27/1999	3.8	21.5	21.5	18.5	0	none	calm	lt green	Gauge level = 25.36
*9/15/99	4.2	15	19.3		100	none	light	medgreen	Foggy.
9/16/1999	4	15	19	20.5	50	none	calm	lt green	Gauge level = 25.16. Milfoil.
10/1/1999	3.9	13	16	21.3	0	none	calm	lt green	Gauge level = 25.08. Milfoil.

## 2000

DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/16/2000	5.3	17.5	16.5	14.8	0	none	calm	lt green	Milfoil. 30 ducks, moderate algae, no algae scum, and slight aquatic plants.
5/30/2000	5	11	15.5	15.3	100	moderate	light	lt green	35 ducks, moderate algae, no algae scum and slight aquatic plants.
6/15/2000	3.9	15.5	15.5	15.8	25	moderate	light	lt green	50 ducks, moderate algae and aquatic plants and no algae scum.
*06/16/00	4	16	16.83		0	none	strong	medgreen	Heavy milfoil. 52 ducks, moderate algae, no algae scum, and heavy aquatic plants.
6/28/2000	4.3	24.5	22	16.5	0	none	calm	lt green	Barriers installed; problem w/ geese. 105 ducks, moderate algae and aquatic plants, and no algae scum.
7/13/2000	4.1	17	21	19	75	none	light	lt green	100 ducks, moderate algae, no algae scum, and slight aquatic plants.
*07/14/00	5	19	21.01		50	none	light	medgreen	30 ducks, moderate algae and aquatic plants, and no algae scum.
7/26/2000	4	19	22	20.3	25	none	breezy	lt green	75 ducks, moderate algae, no algae scum, and slight aquatic plants.
*08/10/00	4.5	20	22.67		100	none	light	lt green	7 ducks, moderate algae and aquatic plants, and no algae scum.
8/15/2000	4	17	20	22.5	50	none	calm	lt green	Milfoil dying off. 27 ducks, moderate algae, no algae scum, and slight aquatic plants.
9/5/2000	3.8	16	18	24	100	none	light	lt green	30 ducks, moderate algae, no algae scum, and slight aquatic plants.
*09/13/00	4.5	22	18.84		0	none	breezy	lt green	6 ducks, moderate algae, and no algae scum or aquatic plants.

[Click here to view more recent data.](#)

## ***HOW YOU CAN HELP LAKE SHOECRAFT***

- Educate yourself about lake ecology and the lake's health.
- Use lawn and garden fertilizers sparingly; test your soil first; choose low or no phosphorus fertilizers.
- Retain or plant native vegetation adjacent to the water to protect the shoreline and filter pollution.
- Infiltrate or filter the runoff from rooftops, patios, and driveways rather than piping it to the lake.



- Cover or mulch bare soil areas.
- Use pesticides, herbicides, and household chemicals sparingly and never near the water.
- Maintain your septic system—have it inspected every two years and pumped when needed.
- Conserve water both inside and outside.
- Clean up pet wastes and keep livestock away from the lake shore.

- Learn to identify non-native invasive aquatic plants and animals; check your boat and trailer for invaders; never empty an aquarium into the lake.
- Do not feed geese or ducks.
- Join with neighbors or the local property owners' association to work together to protect the lake.



Contact Snohomish County Surface Water Management at 425-388-3464 for information about these topics or if you have questions about Lake Shoecraft.

(TTY users call 425-388-3700)