

Blackman Lake

Blackman Lake has moderate water clarity, high phosphorus levels, and nuisance algal blooms. Although water clarity has increased slightly in recent years, the lake appears to be at risk of future declines in water quality unless nutrient runoff from the watershed and excess waterfowl are controlled.

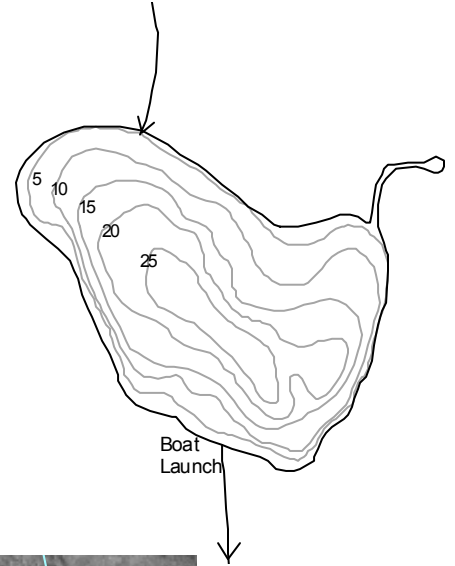


State of the Lakes Report
March 2003

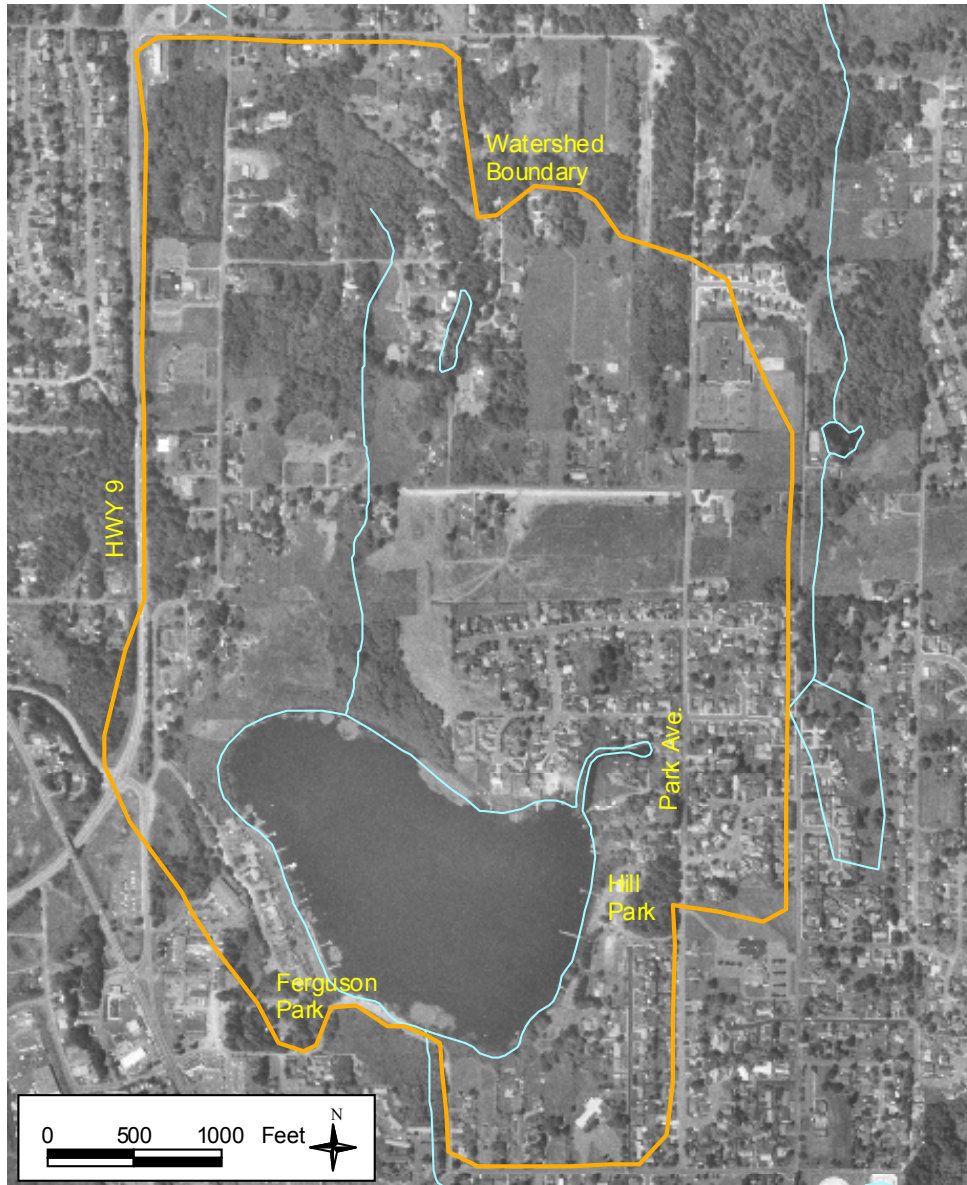
Snohomish County Public Works
Surface Water Management

LAKE AND WATERSHED DATA

Lake Area: 57 acres
 Watershed Area: 445 acres
 Watershed to Lake Area Ratio: 7.8
 Maximum Depth: 29 feet (8.8 meters)
 Average Depth: 14 feet (4.3 meters)
 Lake Volume: 800 acre-feet
 Length of Shore: 1.5 miles



	1973	Mid-90's
# of nearshore homes	20	40
# of homes/1000' of shoreline	2.6	5.1
% of homes with bulkhead or fill		30%
% of homes with some native vegetation near shore		52%
% of watershed developed (residential or commercial)	8%	50% (est.)



LAKE ASSESSMENT

DESCRIPTION

■ **Location/Access**– Blackman Lake is located on the north edge of the City of Snohomish just east of Highway 9. The lake is fed by Grass Bottom Creek and two other small inlets, and drains via Swifty Creek to the Pilchuck and Snohomish rivers. Hill Park on the east shore and Ferguson Park on the south shore are city parks that provide public access. There is a public boat launch on the south shore. Gas-powered boats are not permitted.

■ **Size/Shape**– The lake has a surface area of 57 acres and is relatively shallow, with a maximum depth of 8.8 meters and an average depth of 4.3 meters. The lake volume contains 800 acre-feet of water.

■ **Watershed**– Much of the Blackman Lake watershed is located in unincorporated Snohomish County. The watershed, including the lake, covers 445 acres. The watershed is 7.8 times the size of the lake, which is a relatively small watershed. This means that there should be less potential for impacts from the surrounding lands than at a lake with a large watershed. In 1973 only 8% of the watershed supported residential uses. Almost 70% of the watershed was agricultural. By the mid-90s, residential and other development had expanded to 50% of the watershed, replacing much of the agriculture. This is one of the most dramatic land use changes for any lake watershed in Snohomish County.

■ **Shoreline**– The shoreline of Blackman Lake is 1.5 miles long. Along the shoreline, there were 20 homes in 1973 and 40 homes by the mid-90s. This is a significant change to the lake shore. Approximately 30% of the nearshore homes have modified the shoreline with bulkheads or fill, but 52% of the homes have retained some native vegetation along the shore. A zone of vegetation is important for filtering pollution.

LAKE CONDITIONS

■ **Water Clarity**– Summer water clarity is moderate, averaging 3.6 meters from 1990 to 2002. Summer averages have been relatively consistent from year to year, normally ranging between 3.3



and 4.0 meters. In contrast, individual readings showed more variation, with values as low as 1.5 meters and as high as 7.0 meters. This range probably reflects the presence or absence of significant algal blooms.

■ **Color**– The lake is moderately colored by algae and by dissolved organic (humic) material from surrounding wetlands. The water often appears medium green or greenish-brown.

■ **Nutrients**– Summer average total phosphorus concentrations in the epilimnion are moderate, ranging from 10 $\mu\text{g/l}$ to 17 $\mu\text{g/l}$ between 1996 and 2002. During the 1992 Phase I study conducted by KCM for the City of Snohomish, epilimnion total phosphorus averaged 19 $\mu\text{g/l}$. Summer total phosphorus averages in the hypolimnion were much higher, ranging from 41 to 162 $\mu\text{g/l}$ from 1996-2002 and measuring 198 $\mu\text{g/l}$ in 1992. This suggests that there is substantial release of phosphorus from the bottom sediments during periods of oxygen depletion. Composite total phosphorus samples taken by the Department of Ecology from 1989-1994 are not directly comparable but revealed similar moderate phosphorus levels in the epilimnion and high phosphorus in the hypolimnion. Total nitrogen concentrations, measured during the 1992-93 study and periodically between 1973 and 1993, were moderate to high. Ammonia was elevated in the

hypolimnion in 1992-93. These data suggest that nitrogen is readily available and not limiting algal growth. Phosphorus is probably the nutrient that limits algal growth. The lake is listed on the State's 303(d) list as impaired due to excess phosphorus.

■ **Oxygen/Temperature** – Vertical profiles of dissolved oxygen and temperature for the summers of 1995 through 2002 show that Blackman Lake stratifies between warm upper waters and cool bottom waters. However, because the lake is relatively shallow, there is not as great a temperature difference from epilimnion to hypolimnion as at many other lakes. Dissolved oxygen is depleted below about 5 or 6 meters during the summer. This indicates the presence of decaying organic matter in the lake bottom.

■ **Algae** – The KCM study revealed that chlorophyll *a* averaged 13 µg/l during the summer of 1992. This is a high value indicating regular and vigorous algal blooms. Single measurements in 1981, 1994, and 1995 ranged from 2.9 to 5.7 µg/l. Four samples in 2002 averaged 4.1 µg/l. The 1992 study also showed that blue-green algae dominated the lake in both abundance and volume during the summer period. Observations by SWM staff and volunteers through the years have also noted numerous nuisance algal blooms.

■ **Aquatic Plants** – Blackman Lake has a large shallow zone around much of its shoreline that supports aquatic plants. These plants provide important habitat for the recreational fishery in the lake. The density of aquatic plants around the lake is moderate to heavy. The plant communities are mixed, dominated by native yellow water-lilies, non-native fragrant water-lilies, and other native plants—thin-leaf pondweed, nitella, naiad, large-leaf pondweed, and elodea. Emergent plants, such as rushes, reeds, and iris, are found in many locations along the shoreline. Near the north and northwest shores of the lake, there are sizeable wetlands dominated by willow and spiraea. Small infestations of purple loosestrife, a non-native invasive wetland plant, have been found at the edge of these wetlands.

■ **Waterfowl** – Blackman Lake has a serious problem with excess waterfowl. Resident Canada geese and domestic ducks and migratory waterfowl

are numerous during much of the year. Their droppings cause significant problems in Hill Park and on many lake front properties. Waterfowl droppings are unpleasant and pollute the water with nutrients and bacteria. The lake is also listed on the 303(d) list as impaired by fecal coliform bacterial pollution.

SUMMARY

■ **Trophic State** – Based on moderate water clarity, moderate phosphorus concentrations in the epilimnion, high phosphorus concentrations in the hypolimnion, moderate oxygen depletion, and high levels of algae, Blackman Lake may be classified as mesotrophic.

■ **Current Conditions/Trends** – Blackman Lake shows signs of increasing eutrophication, which means the lake is at risk for future declines in water quality. However, water clarity has increased slightly since 2000, which may represent a trend toward improved water clarity.

■ **Future Concerns/Targets** – The primary concern for Blackman Lake is nutrient pollution coming from the surrounding watershed, which has the potential to cause more severe and more frequent blue-green algal blooms. As more of the watershed is developed, nutrient inflows are likely to increase. Continuing improvements to water clarity and reduced phosphorus levels are targets for the lake.

■ **Recommendations** – Monitoring of the lake should continue with special emphasis on algal blooms and nutrient release from the sediments. New development in the watershed should take precautions to control runoff and reduce nutrient pollution. The remaining wetlands in the watershed should be protected for their valuable role in filtering pollution that flows toward the lake. Nuisance waterfowl should be controlled. Other recommendations are also included in the lake management plan developed as part of the 1992 KCM study.

CITIZEN VOLUNTEERS

Thanks to Mary Keppler and Julie Callebert for volunteer monitoring of Blackman Lake.

DATA SUMMARY TABLE

Source	Date	Secchi Depth (meters)	Total Phosphorus (ug/l)		Color (Pt-Co scale)	Chlorophyll a (ug/l)
			Surface	Bottom	Epilimnion	Epilimnion
Bortleson, et al, 1976	8/13/73	4.6	8	59	15	-
Sumioka and Dion, 1985	7/7/81	4.3	0	10	-	3.8
DOE	Summer 1989	2.9 - 4.7 (4.0) n = 7	-	-	-	-
DOE	Summer 1990	3.0	-	-	-	-
KCM, 1994a	Summer 1992	2.2 - 4.6 (3.4) n = 12	16 - 24 (19) n = 12	18 - 579 (198) n = 12	-	1.6-34 (13) n = 12
DOE	Summer 1993	1.5 - 5.2 (3.4) n = 8	-	-	-	2.9
DOE	Summer 1994	2.9 - 4.6 (3.7) n = 4	-	-	-	5.7
Volunteer	Summer 1995	2.1 - 4.6 (3.3) n = 8	-	-	-	-
SWM Staff or Volunteer	Summer 1996	2.8 - 4.4 (3.4) n = 8	8 - 11 (10) n = 2	63 - 131 (97) n = 2	-	-
SWM Staff or Volunteer	Summer 1997	2.4 - 7.0 (3.6) n = 6	12 - 22 (17) n = 2	107 - 216 (162) n = 2	-	-
SWM Staff or Volunteer	Summer 1998	2.8 - 4.3 (3.6) n = 12	11 - 14 (13) n = 4	26 - 71 (43) n = 4	-	-
Volunteer	Summer 1999	3.0 - 3.7 (3.3) n = 9	10 - 15 (12) n = 4	23 - 204 (91) n = 4	-	-
Volunteer	Summer 2000	2.3 - 5.4 (3.9) n = 9	10 - 19 (15) n = 4	22 - 362 (129) n = 4	-	-
Volunteer	Summer 2001	4.0 - 5.1 (4.5) n = 4	9 - 30 (17) n = 4	35 - 173 (87) n = 4	-	-
SWM Staff or Volunteer	Summer 2002	2.8 - 4.5 (3.9) n = 5	11 - 25 (17) n = 3	25 - 71 (41) n = 3	-	0.8 - 11.2 (4.1) n = 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** – composite samples taken by the Department of Ecology in 1989, 1990, 1993, and 1994 ranged from 13 -- 29 µg/l in the epilimnion and 28 -- 98 µg/l in the hypolimnion. These are not directly comparable to the discrete samples shown above, but confirm that Blackman Lake has moderate to high phosphorus levels.

■ **Total Nitrogen** – single samples in 1973 and 1981 ranged from 0.36 – 1.3 mg/l; Ecology composite samples from 1989-1993 averaged 0.40 mg/l in the epilimnion and 0.41 mg/l in the hypolimnion; total nitrogen data from the 1992-93 KCM study averaged 0.46 mg/l in the epilimnion and 0.86 in the hypolimnion, while ammonia averaged 0.03 mg/l in the epilimnion and 0.28 mg/l in the hypolimnion (with values as high as 1.54 mg/l) and nitrate averaged 0.06 mg/l and 0.07 mg/l respectively; these data indicate vigorous decomposition of organic matter in the hypolimnion and moderate to high nitrogen levels; nitrogen availability does not appear to be limiting algal growth.

■ **Alkalinity** – data from 1992-93 ranged from 26 -- 33 mg/l CaCO₃ in the epilimnion, which indicates that Blackman has a moderate buffering capacity.

■ **pH** – 1992-1993 and 1996-1998 readings ranged generally from 6.4 – 7.4 which is near neutral. 2002 reading were similar.

■ **Conductivity** – 1992-93 data ranged from 77 – 158 µmhos, indicating moderate to high levels of dissolved materials in the water. 2002 readings were similar.

■ **Iron** – data from the 1992-93 KCM study showed moderate levels in the epilimnion (avg. 91 µg/l) and high levels in the hypolimnion (avg. 2501 µg/l, high of 11,400 µg/l), which indicates significant release of iron and phosphorus from the bottom sediments under low oxygen conditions.

■ **Algae** – samples collected during the 1992-1993 KCM study showed that, during May through September, biovolumes were relatively high and dominated by blue-greens. In contrast, diatoms were dominant from fall through spring and biovolumes were even higher. Algal abundance followed similar patterns.

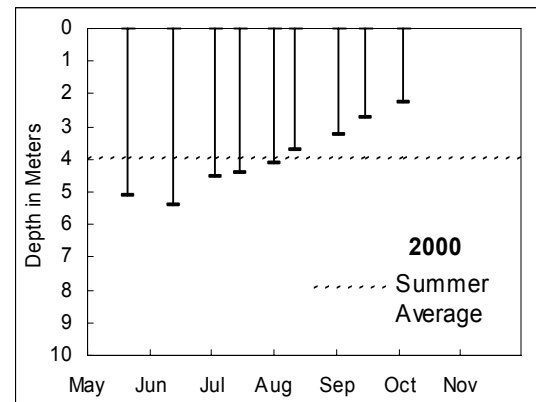
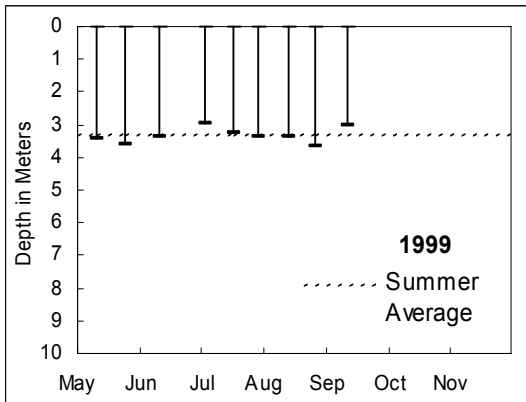
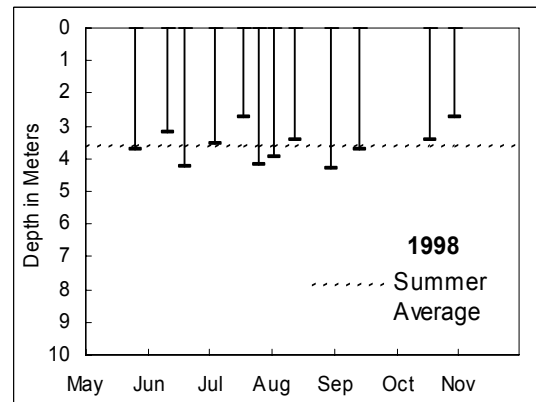
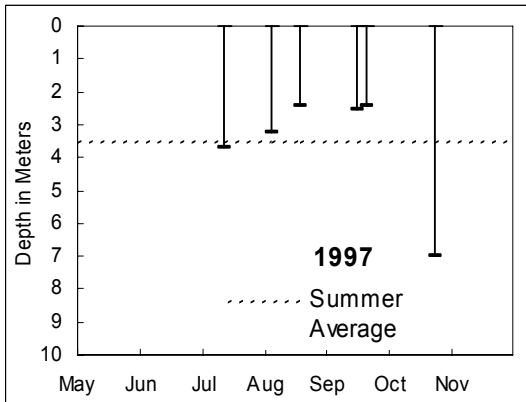
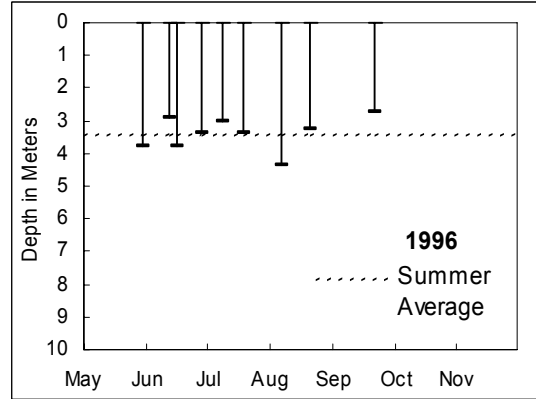
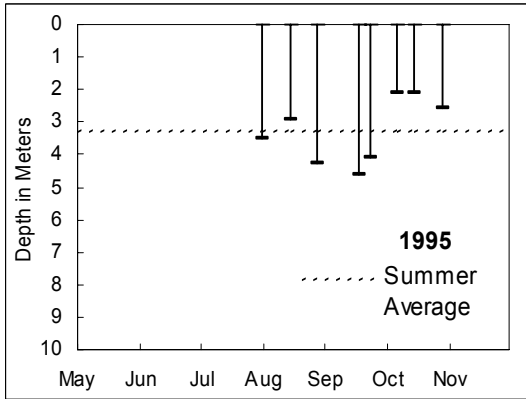
ALGAE TYPES	May-Sept. 1992	Oct. 1992-April 1993
Cyanophyta (Blue-greens)	72%	3%
Chlorophyta (Greens)	9%	3%
Chrysophyta (Golden/diatoms)	15%	82%
Cryptophyta (Cryptomonads)	2%	4%
Euglenophyta (Euglenoids)	2%	0%
Pyrrhophyta (Dinoflagellates)	1%	9%
TOTAL BIOVOLUME (mm³/l)	1.869	2.419

■ **Fish** – according to the Washington State Department of Fish and Wildlife (WDFW), fish species found in Blackman Lake include rainbow trout, largemouth bass, yellow perch, and brown bullhead catfish. WDFW usually stocks the lake each year with rainbow trout.

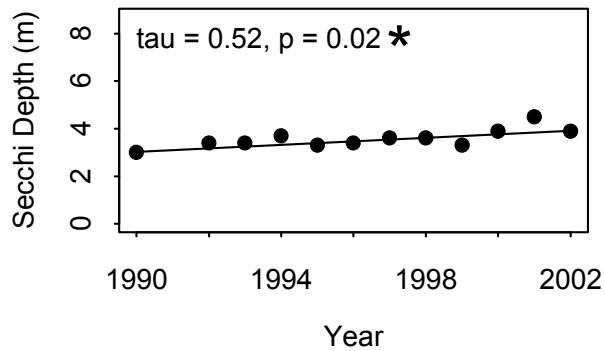
DATA SOURCES

In addition to data from Snohomish County SWM staff and citizen volunteers, data for Blackman Lake are also available from: Bortleson, et. al., 1976; Brower and Kendra, 1990; KCM, 1994a; Rector, 1996; Rector and Hallock, 1991; Smith and Rector, 1997; and Sumioka and Dion, 1985. Please refer to the full list of references in the County-Wide Summary.

WATER CLARITY

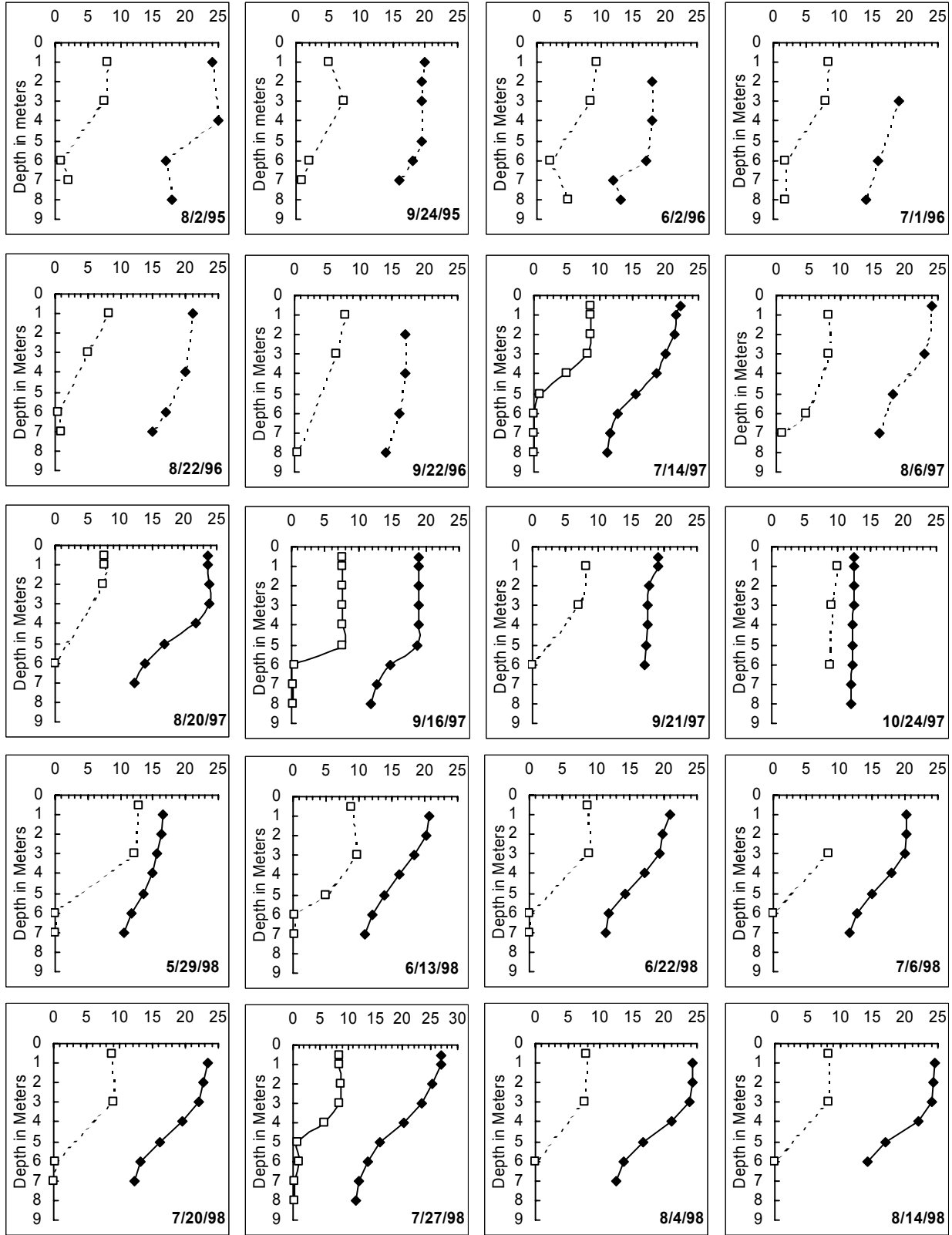


TREND ANALYSIS

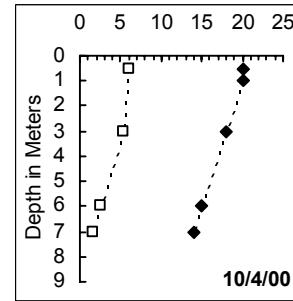
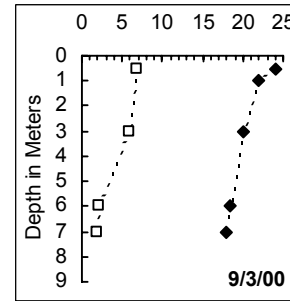
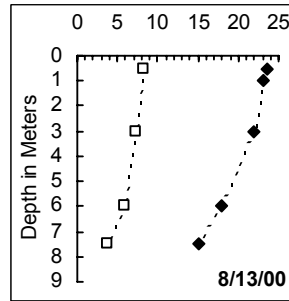
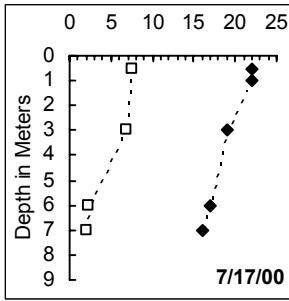
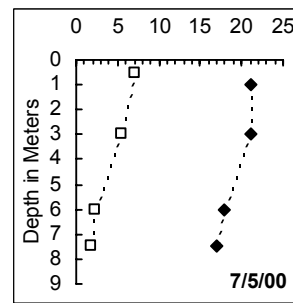
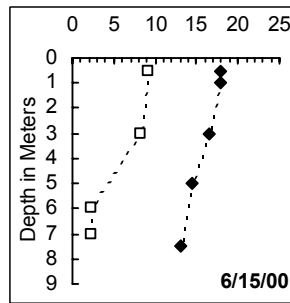
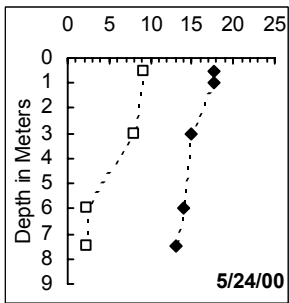
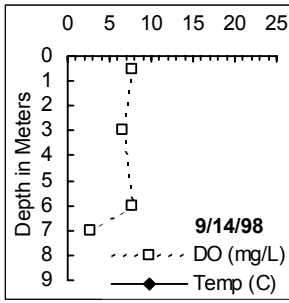


* Statistically significant trend ($p \leq 0.10$)

DISSOLVED OXYGEN AND TEMPERATURE PROFILES (SELECTED YEARS)



DO (mg/l)
 Temp (°C)



—□— DO (mg/l) —◆— Temp (°C)

AQUATIC PLANTS



Area	Density	Dominant Plants	Other Plants
A	Moderate	Najas flexilis (Water-nymph, Naiad) Potamogeton amplifolius (Large-leaf pondweed) Nitella sp. (Brittlewort) [in deeper water]	Elodea canadensis (Common elodea) Potamogeton sp. (Thin-leaf pondweed) Ceratophyllum demersum (Coontail)
B	Moderate	Elodea canadensis (Common elodea) Potamogeton sp. (Thin-leaf pondweed) Najas flexilis (Water-nymph, Naiad) Nitella sp. (Brittlewort) [in deeper water]	Potamogeton amplifolius (Large-leaf pondweed) Ceratophyllum demersum (Coontail) Eleocharis sp. (Spikerush)
N	Dense	Nymphaea odorata (Fragrant water-lily) Nuphar polysepalum (Yellow water-lily)	

Notes: There are sizeable wetlands (dominated by willow, spiraea) on the north and northwest shores of the lake. *Typha* sp. (Cattail), *Scirpus* sp. (Bulrush), *Potentilla palustris* (Marsh cinquefoil), *Juncus* sp. (Rush), and *Dulichium arundinaceum* (Three-way sedge) are found scattered in patches along the shoreline. One small patch of *Lythrum salicaria* (Purple loosestrife), a non-native, invasive plant, was found in the northwest wetland. *Iris pseudacorus* (Yellow Iris) is another non-native wetland plant found scattered along the shoreline. The Thin-leaf pondweed species has been identified as either *Potamogeton berchtoldii* or *Potamogeton pusillus*.

BASIC MONITORING DATA

1995									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
8/2/95	3.7	23	23	0	25	none	breezy	medgreen	Aquatic plants mod. 20 ducks/ geese feeding at Ferguson Park.
8/16/95	3.0	16	19.5	1	90	heavy	light	medgreen	Aquatic plants mod. Approx 20 ducks/geese.
8/29/95	4.3	17	20	3	75	mod	breezy	medgreen	Aquatic plants mod. Approx 50 ducks/geese.
9/18/95	4.6	20	21	1	50	none	light	lt brown	Moderate algae. Heavy aquatic plants. Slight odor. Approx 50 ducks/geese. Increased green airy water plants & frogs.
9/24/95	4.4	23	20	5	10	none	calm		Moderate aquatic plants. Slight musty odor. Approx 200 ducks and geese. pH at 3 meter was 6.99/7.04. Coots & migrating geese also.
10/7/95	2.1	14.5	17	6	90	heavy	light	medgreen	Moderate aquatic plants. Approx 200 ducks/geese.
10/15/95	2.1	17	14.5	13	100	mod	light	grn brown	Slight aquatic plants. Approx 300 ducks/geese.
10/29/95	2.6	9	13	14	10	mod	light	medgreen	Approx 100 ducks/geese. Slight algae. Mod plants.
11/20/95	1.4	9	10	24	50	light	light	grn brown	Hundreds of ducks/geese; moderate aquatic plants, no algae, scum, or odor

1996									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
3/24/96	1.9	8	9.5	-4	10	light	light	medgreen	One adult bald eagle and 2 juveniles.
6/2/96	3.9	19	19	1	10	trace	light	medgreen	A few fish or tadpoles, slight algae, scum, moderate aquatic plants - lilies. about 10 ducks or geese seen.
6/15/96	3.0	19	19	7	25	none	breezy	lt green	Fill being added at residence on north end. Moderate algae, plants, slight scum, no odor. 100 ducks and/or geese.
*06/19/96	3.8				0	light	strong	lt green	Large patches of nuphar and bulrush on south shore
7/1/96	3.5	29	21	0	0	none	light	lt brown	Fill of cow manure on North lot, slight algae scum, no odor, heavy plants. About 50 ducks or geese.
7/11/96	3.1	22.5	22.5	1.5	0	none	breezy	grn brown	No scum, odor, slight algae, heavy plants. 25 ducks.
7/21/96	3.4	19	21	1.5	0	none	strong	grn brown	
8/8/96	4.4	23	23	-0.5	10	none	calm	grn brown	
8/22/96	3.3	20	21	-3.5	10	trace	light	grn brown	100 geese and ducks on the lake - also egrets & tadpoles. pH collection done at same time.
9/22/96	2.8	11.5	17	0	50	moderate	light	peasoup green	100 ducks and geese on lake. no algae, no scum, no odor, moderate plants.

Non-summer data indicated by shading.

*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
*07/14/97	3.7				25	none	light	medgreen	Plants - lots of nuphar, nymphaea - also Najas flexilis
8/6/97	3.4	18.5	24	14	90	none	breezy	grn brown	Slight algae, moderate aquatic plants. 75 ducks/geese.
8/20/97	2.4	20	23.5	-30	100	trace	light	medgreen	Moderate aquatic plants, slight odor from 6 meters. 50 ducks/geese.
*09/16/97	2.6				100	mod	breezy	yelbrown	Water seemed very cloudy/murky.
9/21/97	2.4	18	19	-18	0	moderate	calm	medgreen	No algae, scum, odor, slight plants. 150 ducks/geese. North shore resident pulling up lilies. Outflow unplugged a few weeks ago, debris was removed.
10/24/97	7.0	11.7	12.6	-12	75	moderate	light	grnbrown	Slight algae, scum, plants, odor. 200 ducks/geese. Lake had a new odor, musty.

1998									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/29/98	3.7	19.5	17	12	100	trace	breezy	lt green	No algae, scum, odor, slight plants. 50 ducks/geese.
6/13/98	3.2	15.5	20.6	6	100	trace	light	grnbrown	No algae; scum or odor; slight aquatic plants; 50 ducks/geese; one mature Eagle over inlet wetlands.
6/22/98	4.3	20.6	21.1	6	10	none	light	grnbrown	No algae or odor; slight scum and aquatic plants; 25 ducks/geese.
7/6/98	3.7	19.8	20.8	4	90	none	light	medgreen	Slight algae & scum; mod. plants; no odor. DO taken at every meter. See hard copy for info. Bloom at my development; clearing at Swifty Creek inlet; excavators took out 20' into setback (50'); stop work order placed. 100 ducks/geese
7/20/98	2.8	22	23.5	0	0	none	breezy	clear	Mod. algae, scum & plants; no odor. DO taken at every meter. See hard copy for info. 50 ducks/geese
*7/27/98	4.2				0	none	light	lt green	No scum, odor; slight algae; moderate plants. 10-15 ducks 6-8 geese. Purple loosestrife (see map); good size balls of filamentous algae near shore.
8/4/98	4.0	22	24.4	-4	0	none	breezy	lt brown	Moderate algae, scum & plants; no odor; 100 ducks/geese; Called Health Dist. Coliform levels: 6/19/98 total = 300; fecal = 4; 7/9/98 total = 9,000; fecal = 5,000; getting swimmer's itch; lake level gauge = 0 when Hill Park's = 13.
8/14/98	3.5	23.8	24.6	-6	0	none	breezy	grnbrown	Slight algae & scum; moderate plants; no odor; 50 ducks/geese; DO @ 1m: 8.44; 2m: 8.43; 4m: 8.5; 5m: 0.41; dying yellow lily pads all over edges; oil sheen at outlet; milfoil.
8/31/98	4.3	25	22		0	none	calm	grnbrown	Slight algae, no scum, plants or odor; 48 ducks/geese; noticed bass & bass fry, along with frogs.
9/14/98	3.8	25	21	5.76	0	none	light	grnbrown	Slight algae & scum; moderate plants; no odor; 100 ducks/geese
10/18/98	3.5	25		2.4	25	heavy	breezy	grnbrown	Silt plume @ N end, near development site. Turbidity <10. Lake level measured @ Hill Park.
10/30/98	2.8	11.1	8	15	100	trace	calm	dk brown	No algae, scum, or odor. Slight aquatic plants. 36 ducks/geese.

1999									
DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
5/14/99	3.5	10	13.6		90	light	light	medgreen	
5/28/99	3.7	22.8	18.9	16.8	90	none	breezy	grnbrown	
6/13/99	3.4	26.1		18	100	trace	light		
7/5/99	3.0	27.3	18.8	24	0	light	breezy	medgreen	
7/19/99	3.3			16.8	0	trace	calm	grnbrown	
7/31/99	3.4	17.1	21.6	14.4	75	none	calm	grnbrown	Slight odor near bottom.
8/15/99	3.5	17		12.6	100	moderate	breezy	medgreen	
8/28/99	3.7	22	23		90	none	breezy	grnbrown	
9/12/99	3.1			10.8	0	none	light	medgreen	H ² S odor from bottom samples.

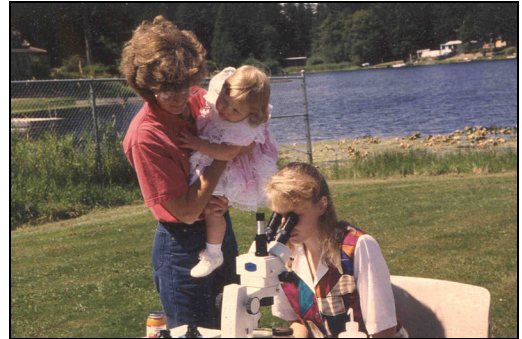
2000

DATE	Secchi Depth (meters)	Air Temp (C)	Water Temp (C)	Lake Level (in)	Clouds (%)	Rain	Wind	Color	COMMENT
6/15/00	5.4	20	18		75	moderate	breezy	lt green	20 ducks, slight algae, and no algae scum or aquatic plants.
7/5/00	4.6	22	21		75	light	breezy	lt green	10 ducks, no algae or algae scum, and slight aquatic plants.
7/17/00	4.6	22	22		25	none	light	lt green	15 ducks, no algae or algae scum, and slight aquatic plants.
8/3/00	4.1	25	24.5		0	none	light	Moderate green	15 ducks, no algae or algae scum, and slight aquatic plants.
8/13/00	3.8	35	23.5	7	75	none	breezy	Moderate green	Water lilies- fall bloom, 48 ducks, no algae or algae scum, and slight aquatic plants.
9/3/00	3.5	30	24	8.5	10	trace	breezy	Moderate green	125 ducks, slight algae and aquatic plants, and no algae scum.
9/16/00	3.0	24	20	8.5	10	none	light	pea-soup grn	45 ducks, moderate algae and aquatic plants, and no algae scum.
10/4/00	2.3	23	20	6.5	10	none	breezy	gr-brown	200 ducks, moderate algae, no algae scum, and slight aquatic plants.

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

HOW YOU CAN HELP BLACKMAN LAKE

- 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 Blackman Lake.

(TTY users call 425-388-3700)

