# Lake Stickney

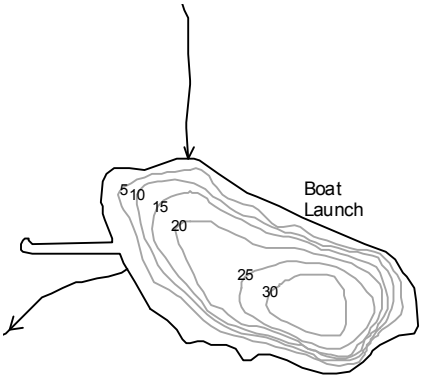
**Lake Stickney has moderate water clarity and algae levels, moderate to high phosphorus, and abundant aquatic plants. Although water clarity has improved in recent years, the lake shows signs of eutrophication. The lake may be at risk of future declines in water quality because of nutrient runoff from its large, highly developed watershed. The adjoining wetlands are valuable for filtering pollution.**

***State of the Lakes Report***
***March 2003***

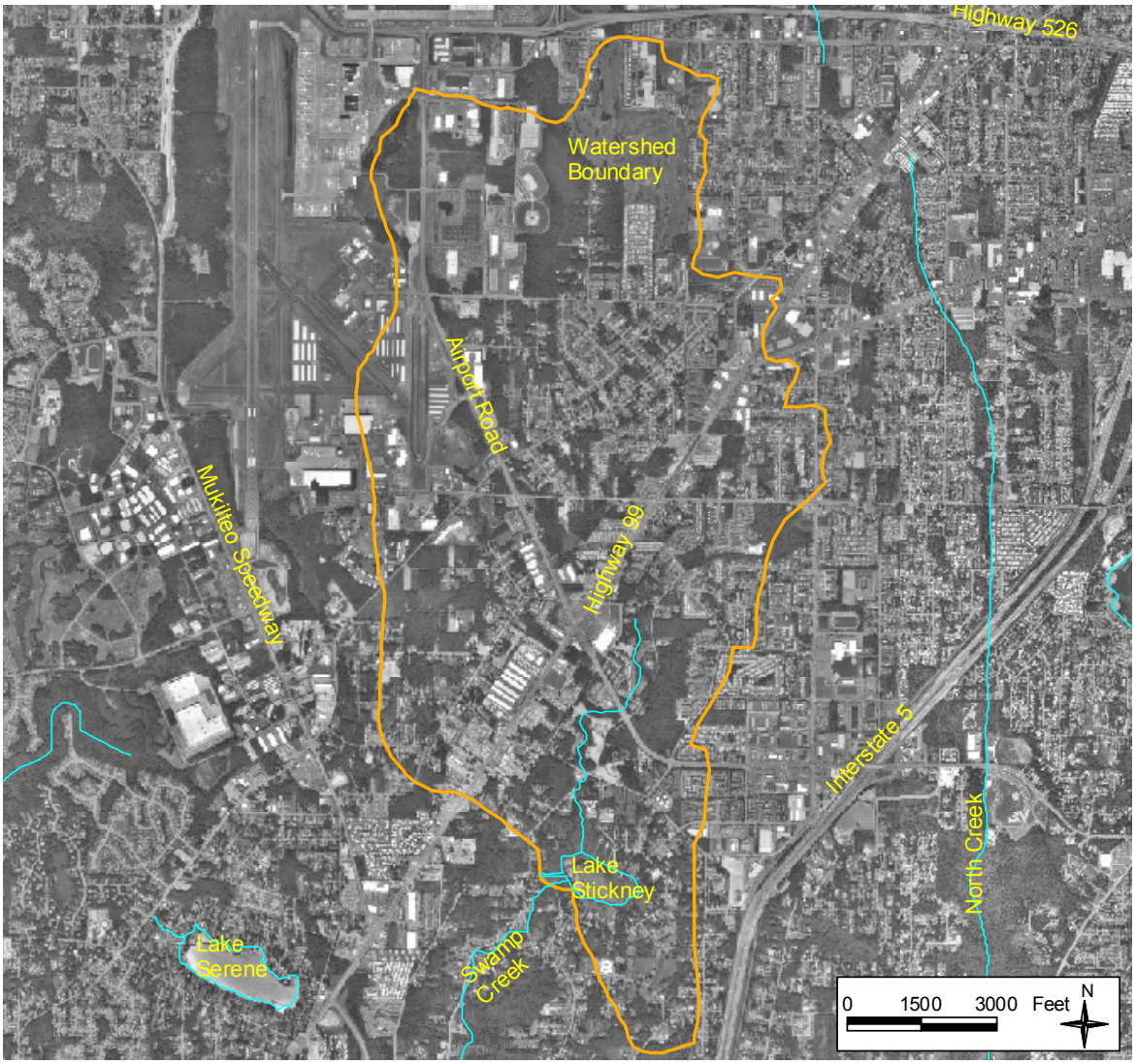
**Snohomish County Public Works**
**Surface Water Management**

# *LAKE AND WATERSHED DATA*

| | |
|---|---|
| Lake Area: | 24 acres |
| Watershed Area: | 2761 acres |
| Watershed to Lake Area Ratio: | 115 |
| Maximum Depth: | 34 feet (10.4 meters) |
| Average Depth: | 15 feet (4.6 meters) |
| Lake Volume: | 360 acre-feet |
| Length of Shore: | 1.0 miles |




| | 1973 | Mid-90's |
|---|---|---|
| # of nearshore homes | 33 | 45 |
| # of homes/1000' of shoreline | 6.5 | 8.9 |
| % of homes with bulkhead or fill | | 29% |
| % of homes with some native vegetation near shore | | 40% |
| % of watershed developed (residential or commercial) | 22% | 80% (est.) |



# LAKE ASSESSMENT

## DESCRIPTION

■ *Location/Access* –Lake Stickney is located between Interstate 5 and Highway 99 at the south edge of Everett. The lake sits in the headwaters of Swamp Creek, which feeds the lake from the north, flows west out of the lake, and then south into the Sammamish River and Lake Washington. A public boat launch is located on the north shore of the lake. Gas-powered boats are not permitted.

■ *Size/Shape* – The lake is 24 acres in size. It has a maximum depth of 10.4 meters and an average depth of 4.6 meters. The lake volume contains 360 acre-feet of water.

■ *Watershed* –The watershed is large—approximately 115 times the size of the lake. Including the lake, the watershed covers 2761 acres. This is the second largest watershed to lake ratio in the county, which means that there is a high potential for pollution impacts from the surrounding watershed compared to lakes with smaller watersheds. In addition, the watershed has changed dramatically in the last three decades. In 1973 only 22% of the watershed contained residential, commercial, or industrial uses. By the mid-1990s, around 80% of the watershed was committed to these uses. The lake watershed now includes a swath of commercial uses along Highway 99, as well as office, commercial, and industrial uses associated with Paine Field (a portion of which drains to the lake). This dense development and the rapid watershed changes have the potential to affect the health of the lake.

■ *Shoreline* – The shoreline of Lake Stickney is 1.0 miles long. The western third of the lake is bordered by a wetland; however, the remainder of the shoreline is densely developed. Along the shoreline, there were 33 homes in 1973 and 45 by the mid-90s. Approximately 29% of the existing nearshore homes have modified the shoreline with bulkheads or fill. About 40% of the homes have retained some native vegetation along the shore. A zone of vegetation is important for filtering pollution.

## LAKE CONDITIONS

■ *Water Clarity* – The water clarity in Lake Stickney is moderate, with summer averages ranging from 2.1 to 3.5 meters from 1993 to 2002. Analysis shows that there has been a small, but statistically significant, increase in water clarity between 1993 and 2002. The reasons for this increase are unknown, although the volunteer monitors reported less color in the water than in other years, which can affect the water clarity.

■ *Color* – The lake is a bog lake that is moderately colored as a result of dissolved organic (humic) materials from surrounding wetlands. The water color is usually described as medium brown or greenish-brown in color.

■ *Nutrients* – Summer average total phosphorus concentrations in the epilimnion ranged from 11 to 17 µg/l in 1996 and from 1998-2002. These levels are moderate for Snohomish County lakes. However, the two samples taken in 1997 measured 31 and 33 µg/l. Total phosphorus concentrations in the hypolimnion were much higher and more variable from 1996-2002, with individual measurements ranging from 17 to 235 µg/l and summer averages between 65 and 120 µg/l. The higher total phosphorus levels in the hypolimnion indicate an on-going release of phosphorus from the bottom sediments during summer periods of oxygen depletion. Total nitrogen concentrations were moderate to high (up to 1,400 µg/l in the

epilimnion) in single 1973 and 1981 samples. These data suggest that nitrogen is abundant and that phosphorus is the nutrient limiting algal growth.

■ *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 4 to 6 meters during the warm months. Several of the measurements showed spikes in dissolved oxygen around 3 meters in depth, suggesting vigorous algal growth at this level.

■ *Algae* – Chlorophyll *a* data are limited for Lake Stickney. Three samples taken in 1994 and 1995 ranged from 3.7 to 12 µg/l and four samples in 2002 averaged 2.3 µg/l. These data suggest low to moderate levels of algae. Analysis of the 1994-95 samples indicated moderate biovolumes, with gold-brown algae and cryptomonads dominant. Observations by SWM staff and volunteers through the years have noted occasional algal blooms during the summer.

■ *Aquatic Plants* – Lake Stickney supports moderate to dense growth of aquatic plants. There are large, shallow areas, particularly around the western half of the lake, which provide suitable habitat for aquatic plants. Yellow water-lily is the dominant plant along most of the shoreline, with the non-native fragrant water-lily dominant in a few large patches. In slightly deeper water, elodea, bladderwort, and coontail are the most common plants. These aquatic plants help to stabilize the bottom sediments, and some plants, such as coontail, remove nutrients directly from the water. Therefore, the presence of aquatic plants helps to limit algal growth and maintain clear water. Purple loosestrife, an invasive, non-native wetland plant is widely scattered around the lake shore and is a threat to the wetlands west of the lake.

■ *Waterfowl* – Lake Stickney has a problem with excess waterfowl. Canada geese and domestic and migratory ducks are numerous during much of the year. Waterfowl droppings are unpleasant and pollute the water with nutrients and bacteria.

## SUMMARY

■ *Trophic State* – Based on moderate water clarity, moderate to high phosphorus levels, hypolimnetic oxygen depletion, low to moderate production of algae, and high productivity of aquatic plants, Lake Stickney may be classified as meso-eutrophic.

■ *Current Conditions/Trends* – Lake Stickney appears to be in satisfactory condition for a meso-eutrophic lake. Monitoring data show a small, but statistically significant, trend toward improving water clarity since 1993, perhaps because of less color in the water. However, the lake shows some signs of possible eutrophication, such as the high hypolimnetic total phosphorus levels and periodically high epilimnion phosphorus concentrations. Therefore, the lake may be at risk of future declines in water quality.

■ *Future Concerns/Targets* – The primary concern for Lake Stickney is for potential declines in water quality that might result from nutrient pollution coming from the large, highly developed watershed. Another concern is the possible loss of wetlands adjacent to the west part of the lake as development pressures increase. These wetlands currently provide a buffer for some of the impacts from the watershed. Maintaining current water clarity and reducing phosphorus levels are targets for the lake.

■ *Recommendations* – The lake should be monitored carefully with particular emphasis on nutrient concentrations and algae. New development in the watershed should take precautions to control runoff and reduce nutrient pollution. Nuisance waterfowl should be controlled.

## CITIZEN VOLUNTEERS

Thanks to Shirley, Dennis, Sean, and Casey Nicholson, Doug Elrod, and Gary Weston for volunteer monitoring of the 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 | **7/25/73** | 2.1 | 16 | 22 | 35 | - |
| Sumioka and Dion, 1985 | **7/1/81** | 2.1 | 20 | 40 | - | 2.1 |
| Volunteer | Summer **1993** | 1.9 - 2.6 (2.1) *n = 3* | - | - | - | - |
| SWM Staff | Summer **1994** | 2.4 - 4.1 (3.2) *n = 2* | - | - | 35 - 45 (40) *n = 2* | 3.7 - 5.3 (4.5) *n = 2* |
| SWM Staff or Volunteer | Summer **1995** | 1.7 - 2.8 (2.2) *n = 10* | - | - | 55 | 12 |
| SWM Staff or Volunteer | Summer **1996** | 2.6 - 3.2 (2.9) *n = 7* | 7 - 17 (12) *n = 2* | 58 - 86 (72) *n = 2* | - | - |
| SWM Staff or Volunteer | Summer **1997** | 2.3 - 3.4 (2.8) *n = 8* | 31 - 33 (32) *n = 2* | 43 - 105 (74) *n = 2* | - | - |
| Volunteer | Summer **1998** | 2.3 - 3.4 (2.7) *n = 6* | 12 - 19 (15) *n = 4* | 34 - 121 (65) *n = 4* | - | - |
| Volunteer | Summer **1999** | 2.6 - 3.4 (3.1) *n = 7* | 11 - 16 (13) *n = 4* | 29 - 136 (93) *n = 4* | - | - |
| Volunteer | Summer **2000** | 2.9 - 4.0 (3.4) *n = 6* | 6 - 15 (11) *n = 4* | 17 - 146 (97) *n = 4* | - | - |
| Volunteer | Summer **2001** | 2.2 - 3.5 (2.9) *n = 7* | 13 - 19 (17) *n = 4* | 79 - 235 (120) *n = 4* | - | - |
| Volunteer | Summer **2002** | 2.5 - 3.9 (3.5) *n = 5* | 12 - 19 (15) *n = 4* | 23 - 60 (41) *n = 4* | - | 0.1 - 4.8 (2.3) *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.

# SUMMARY OF OTHER DATA

■ *Total Nitrogen* – single samples in 1973 showed 0.61 mg/l in the upper waters and 0.85 mg/l near the lake bottom; 1981 samples showed higher total nitrogen (1.4 mg/l near the surface and 1.8 mg/l near the bottom); these data suggest that nitrogen was abundant and not limiting algal growth.

■ *Alkalinity* – data from 1994 and 1995 ranged from 36 – 46 mg/l $CaCO_3$, which suggests that Stickney has a moderate buffering capacity.

■ *pH* – readings from 1994-1997 averaged 6.9 near the surface and 6.4 near the bottom, which is near neutral and typical for Snohomish County lakes.

■ *Conductivity* – 1994-1997 data averaged 110 µmhos in the epilimnion and 139 µmhos near the lake bottom, indicating high levels of dissolved materials in the water.

■ *Iron* – limited 1994-95 data showed high levels in the epilimnion (avg. 150 µg/l) and the hypolimnion (avg. 1007 µg/l, high of 2100 µg/l), which indicates 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 gold-browns and cryptomonads were most prevalent. Cell counts of the same samples revealed that blue-greens (55%), ■ cryptomonads (48%), and gold-browns (53%) were each most abundant in one of the samples.

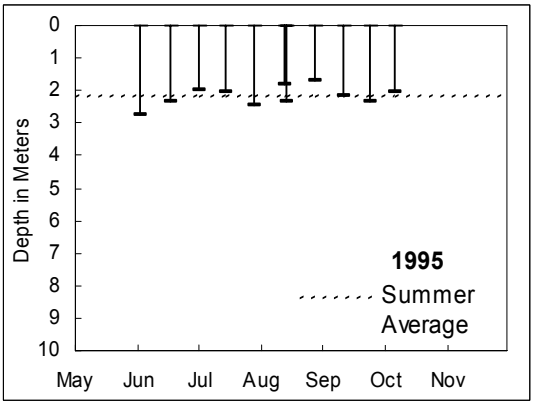
| ALGAE TYPES | 7/8/94 | 9/19/94 | 8/15/95 |
|---|---|---|---|
| **Cyanophyta (Blue-greens)** | 16% | 13% | 11% |
| **Chlorophyta (Greens)** | 21% | 2% | 4% |
| **Chrysophyta (Golden/diatoms)** | 53% | 19% | 52% |
| **Cryptophyta (Cryptomonads)** | 9% | 53% | 21% |
| **Euglenophyta (Euglenoids)** | 0% | 1% | 0% |
| **Pyrrhophyta (Dinoflagellates)** | 0% | 13% | 12% |
| **TOTAL BIOVOLUME ($mm^3/l$)** | 1.446 | 0.456 | 1.521 |

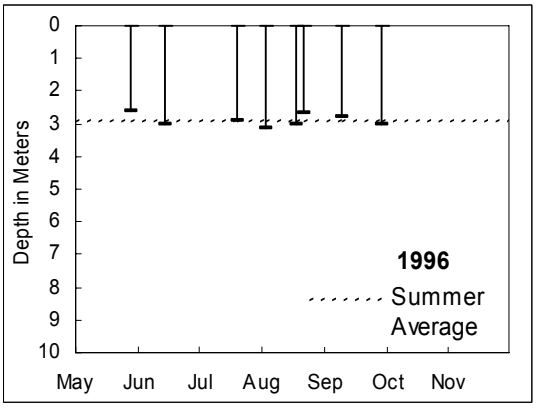
■ *Fish* – according to the Washington State Department of Fish and Wildlife (WDFW), fish species found in Lake Stickney include rainbow trout, largemouth bass, black crappie, yellow perch, and brown bullhead catfish. WDFW usually stocks the lake each year with rainbow trout.

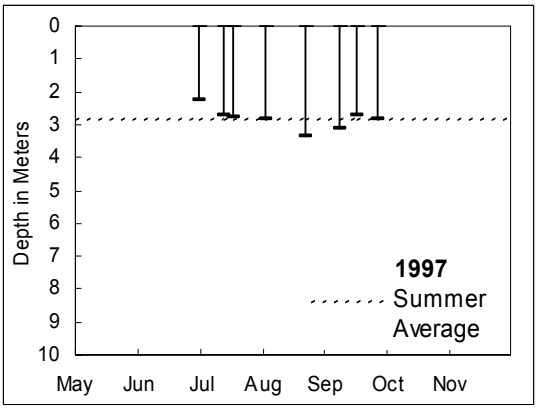
## DATA SOURCES

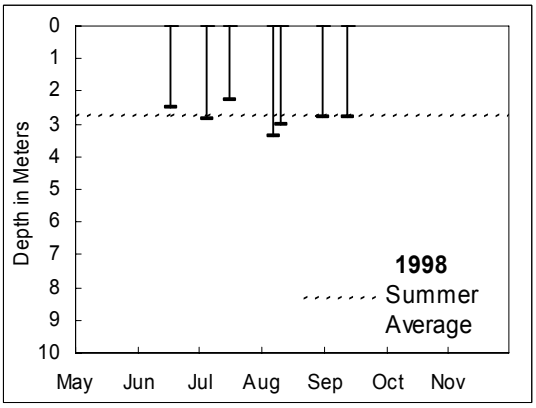
In addition to data from Snohomish County SWM staff and citizen volunteers, data for Lake Stickney are also available from: Bortleson, et. al., 1976 and Sumioka and Dion, 1985. Please refer to the full list of references in the County-Wide Summary.

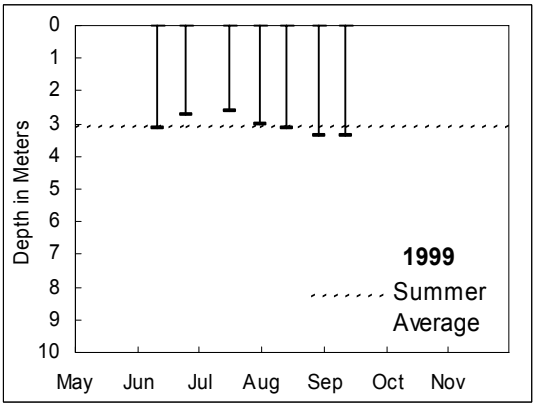
# *WATER CLARITY*

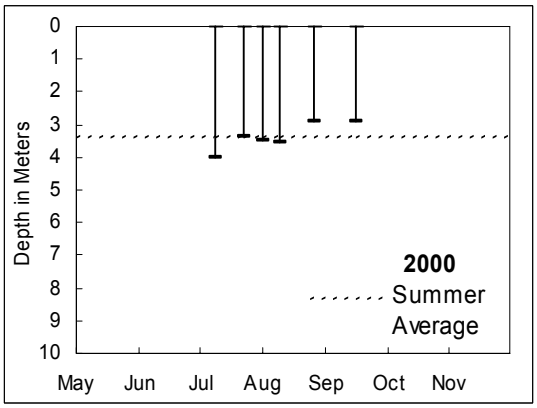


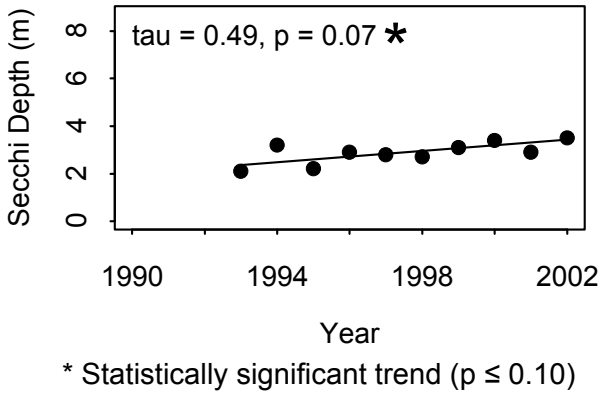



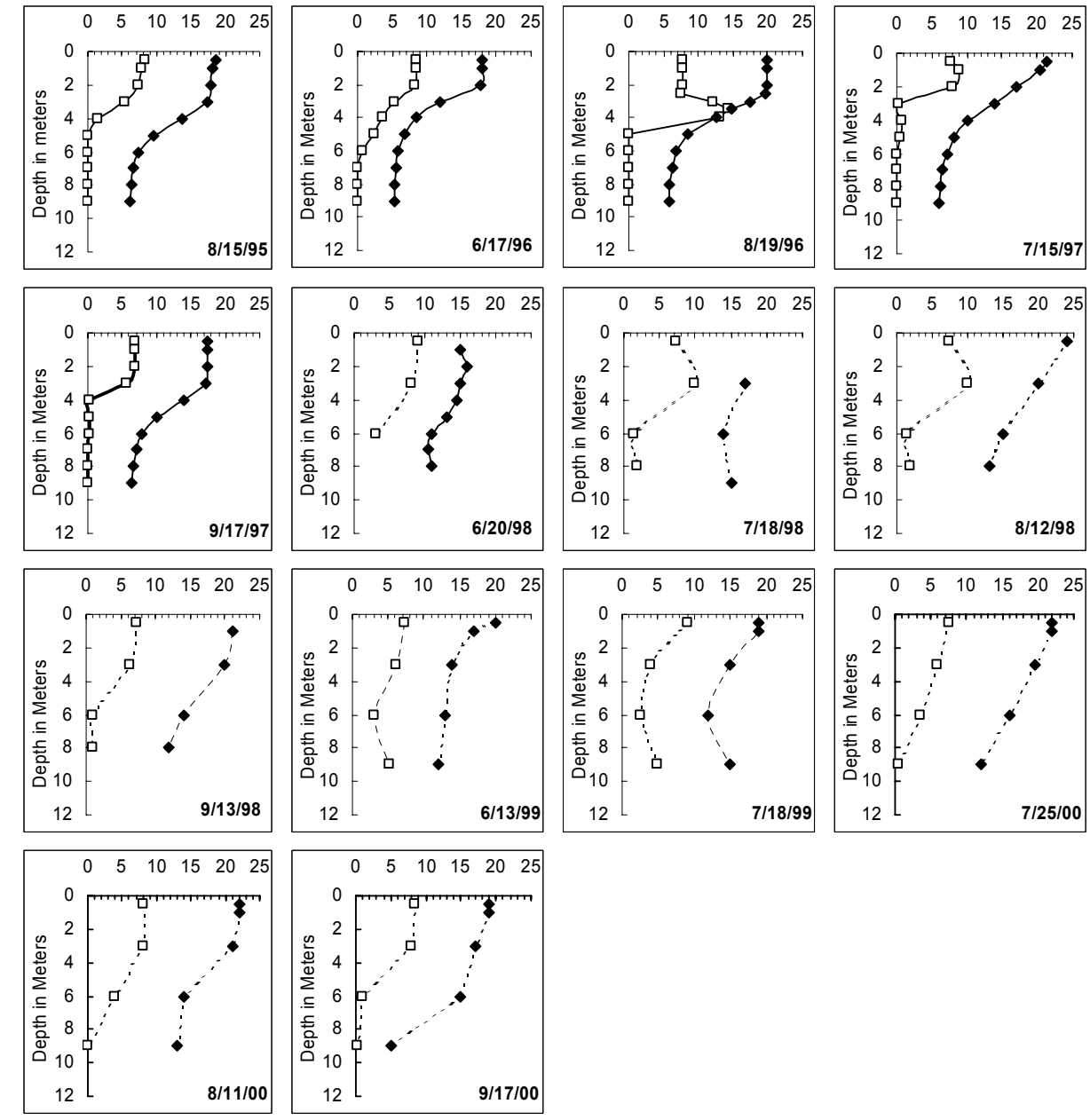




## TREND ANALYSIS

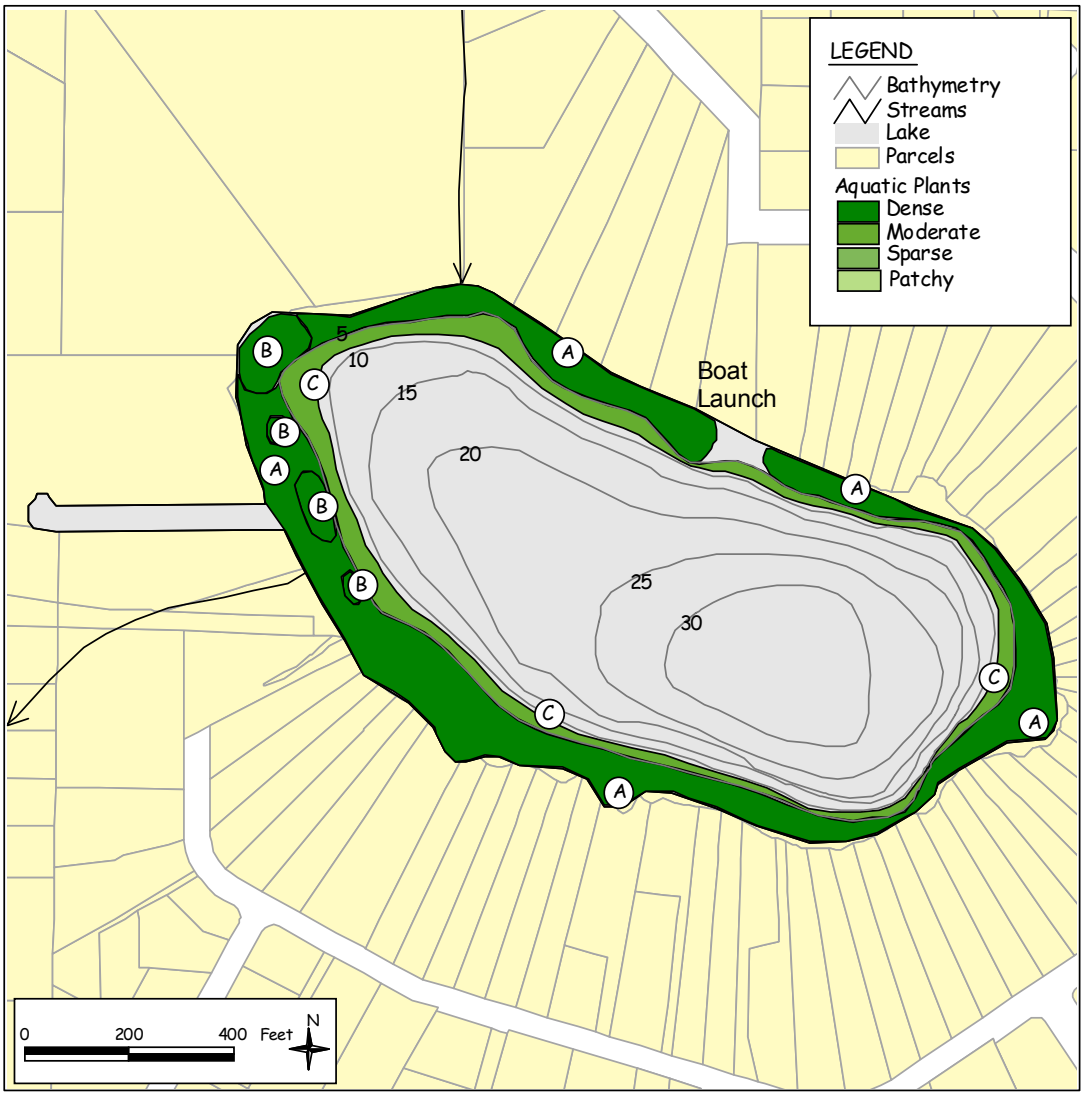



* Statistically significant trend ($p \leq 0.10$)

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



# AQUATIC PLANTS




| Area | Density | Dominant Plants | Other Plants |
|---|---|---|---|
| A | Dense | *Nuphar polysepalum* (Yellow water-lily) | *Utricularia vulgaris* (Common bladderwort)<br>*Elodea canadensis* (Common elodea)<br>*Potamogeton sp.* (Thin-leaf pondweed)<br>*Chara sp.* (Stonewort, Muskgrass)<br>*Fontinalis* sp. (Water moss)<br>*Vallisneria americana* (Tapegrass)<br>*Ludwigia palustris* (False loosestrife) |
| B | Dense | *Nymphaea odorata* (Fragrant water-lily) | |
| C | Moderate | *Elodea canadensis* (Common elodea)<br>*Utricularia vulgaris* (Common bladderwort)<br>*Ceratophyllum demersum* (Coontail) | *Potamogeton sp.* (Thin-leaf pondweed)<br>*Chara sp.* (Stonewort, Muskgrass)<br>*Nitella sp.* (Brittlewort)<br>*Fontinalis* sp. (Water moss) |

Note: *Lythrum salicaria* (Purple loosestrife), a noxious invasive plant, is widespread around the lake shore

# *BASIC MONITORING DATA*

| 1995 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **DATE** | **Secchi Depth (meters)** | **Air Temp (C)** | **Water Temp (C)** | **Lake Level (in)** | **Clouds (%)** | **Rain** | **Wind** | **Color** | **COMMENT** |
| 6/5/1995 | 2.8 | 18 | 23 | 36.5 | 50 | light | light | dk brown | Slight algae, moderate plants. Lake has beavers. 50 ducks, 12 geese. |
| 6/20/1995 | 2.5 | 15 | 10 | 35.3 | 100 | light | calm | lt green | Moderate algae, slight scum, plants, fishy odor. 50 ducks & 12 geese. |
| 7/4/1995 | 2.0 | 23 | 23 | 37.5 | 75 | light | light | lt brown | moderate aquatic plants. 36 ducks/geese. More beavers & mosquitoes than in the past. |
| 7/17/1995 | 2.1 | 26 | 19 | 38.3 | 0 | none | breezy | lt brown | Moderate aquatic plants, slight musty odor. 50 ducks & 15 geese. Someone has been dumping bldg debris along outlet. |
| 7/31/1995 | 2.5 | 24 | 25 | 35.8 | 0 | none | light | grn brown | Slight algae, scum, moderate musty odor. Sent in pictures of debris that was dumped. 55 ducks & 15 geese. |
| 8/14/1995 | 1.9 | 16 | 17 | 30.8 | 100 | moderate | light | lt brown | Moderate aquatic plants, slight musty odor. 50 ducks & 18 geese. |
| *08/15/95 | 2.4 | | | | 90 | moderate | light | medbrown | Mod-heavy zooplankton; some very large. Moderate $H_2S$ odor at 8m. Tied up to buoy to sample. |
| 8/29/1995 | 1.8 | 16 | 20 | 35.5 | 50 | trace | breezy | lt brown | Slight algae, fishy odor, scum, moderate aquatic plants. Water is higher due to the rain & increased beaver activity. Lots of purple loosestrife. 50 ducks & 20 geese. |
| 9/12/1995 | 2.2 | 20 | 22 | 38.5 | 0 | none | breezy | dk brown | Moderate Algae, algae scum, aquatic plants, septic-like odor. 20 ducks & 30 geese. |
| 9/25/1995 | 2.5 | 16 | 17 | 40.3 | 100 | none | light | grn brown | Slight algae, scum, fishy odor, moderate plants. 20 ducks, 40 geese. Will probably trap beavers. |
| 10/7/1995 | 2.1 | 16 | 15 | 25.5 | 75 | light | breezy | lt brown | Slight algae, scum, odor, and plants; 20 ducks, 40 geese. |

| 1996 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **DATE** | **Secchi Depth (meters)** | **Air Temp (C)** | **Water Temp (C)** | **Lake Level (in)** | **Clouds (%)** | **Rain** | **Wind** | **Color** | **COMMENT** |
| 6/1/1996 | 2.7 | 21 | 17 | | 75 | none | light | dk brown | |
| *06/17/96 | 3.1 | | | | 50 | none | light | medbrown | Lots of zooplankton at surface. Water cloudy & darker at 8.5m. |
| 7/22/1996 | 3.0 | 23 | 20 | 40 | 0 | none | strong | lt brown | |
| 8/5/1996 | 3.3 | 21 | 19 | 42 | 75 | heavy | breezy | grn brown | Purple loosestrife on many properties - we are telling other people and removing as much as we can; there's still a lot. |
| *08/19/96 | 3.0 | | | | 90 | none | calm | lt brown | |
| 8/23/1996 | 2.8 | 20 | 20 | 44.5 | 0 | none | breezy | dk brown | |
| 9/10/1996 | 3.0 | 23 | 20 | 40 | 0 | trace | light | lt brown | |
| 9/30/1996 | 3.1 | 19 | 17 | 25.5 | 0 | none | breezy | lt brown | Fewer fishermen; lots of beaver activity-accounts for the higher water level with the recent rains. |

*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** |
| 7/3/1997 | 2.3 | 21 | 19 | 34.5 | 3 | trace | strong | grn brown | Slight to moderate plants. 15 ducks, beavers. The property purchased for condos & put on hold (Manor way west end of lake) is a landfill - everyone dumps garbage and we see all kinds of stuff leaching into soil & therefore groundwater & lake. |
| *07/15/97 | 2.7 | | | | 100 | none | light | medbrown | Lots of zooplankton, nuphar, bladderwort, loosestrife. |
| 7/20/1997 | 2.8 | 22 | 21 | 35 | 0 | none | light | lt brown | Slight algae, scum and odor. Moderate to heavy plants (more than other years). 5 ducks, 12 geese. |
| 8/4/1997 | 3.0 | 23.5 | 22 | 37 | 0 | none | light | lt green | Slight algae, musty odor. Moderate to heavy plants. 3 ducks, 12 geese, muskrats. |
| 8/23/1997 | 3.4 | 18 | 20 | 41.3 | 100 | trace | strong | grn brown | Slight algae, scum, odor, moderate plants. 20 ducks, 20 geese. Lots of loosestrife, beavers/muskrats, construction, tree cutting. |
| 9/9/1997 | 3.3 | 23 | 19 | 43 | 50 | none | calm | grnbrown | Slight algae, moderate plants. 5 ducks, 20 geese. |
| *09/17/97 | 2.7 | | | | 50 | moderate | breezy | medbrown | |
| 9/27/1997 | 2.9 | 20 | 17 | 39 | 50 | light | light | grnbrown | Slight algae, plants, no scum. 5 ducks, 30 geese. |

| 1998 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **DATE** | **Secchi Depth (meters)** | **Air Temp (C)** | **Water Temp (C)** | **Lake Level (in)** | **Clouds (%)** | **Rain** | **Wind** | **Color** | **COMMENT** |
| 6/20/1998 | 2.5 | 14 | 11 | 36 | 0 | trace | breezy | lt brown | No algae or scum; slight odor (musty); moderate aquatic plants; 20 ducks; 18 geese; 1 eagle; crows, beavers, swimmers, boaters, fishermen. |
| 7/7/1998 | 3.2 | 20 | 23 | 36 | 25 | trace | breezy | lt brown | No algae or scum; slight plants and fishy odor; 10 ducks; 20 geese. |
| 7/18/1998 | 2.4 | 28 | 25 | 37 | 10 | none | light | lt green | No algae or scum; slight plants and musty odor; 5ducks; 20 geese; numerous people and dogs; some fishermen. |
| 8/8/1998 | 3.6 | 18 | 23 | 41.5 | 0 | none | breezy | grnbrown | No algae or scum; slight plants & odor; 5 ducks; 26 geese; construction; lots of loosestrife on empty, neglected lots. |
| 8/12/1998 | 3.1 | 22 | 24 | 42 | 0 | none | light | grnbrown | No algae or scum; slight plants & musty odor; 10 ducks; 35 geese; DO indicator never turned blue after 8 drops of starch indicator; construction; loosestrife. |
| 9/1/1998 | 2.9 | 24 | 23 | 45 | 75 | none | light | lt brown | No algae or scum; moderate plants; slight musty odor; 6 ducks; 30 geese; Kingfishers; Eagles; lots of loosestrife. |
| 9/13/1998 | 2.9 | 19 | 21 | 47 | 10 | none | light | grnbrown | Slight algae, scum and musty odor; moderate plants; 5 ducks; 40 geese. |

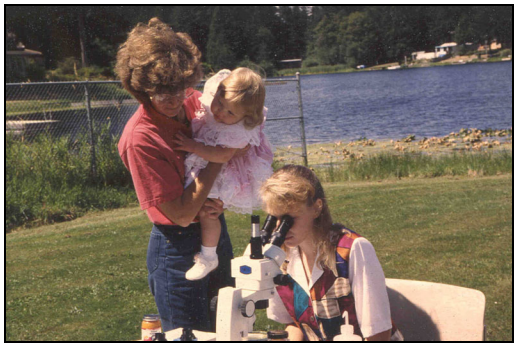
| 1999 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **DATE** | **Secchi Depth (meters)** | **Air Temp (C)** | **Water Temp (C)** | **Lake Level (in)** | **Clouds (%)** | **Rain** | **Wind** | **Color** | **COMMENT** |
| 6/13/1999 | 3.2 | 22 | 20 | 33.5 | 0 | trace | breezy | grnbrown | There is currently a proposal to build condos @ the E end of the lake. |
| 6/27/1999 | 2.8 | 17 | 15 | 27.5 | 75 | moderate | breezy | dk brown | Lots of construction and landscaping projects. |
| 7/18/1999 | 2.7 | 17.5 | 19 | 34.3 | 10 | moderate | breezy | grnbrown | |
| 8/2/1999 | 3.2 | 23 | 23 | 34.3 | 0 | none | light | grnbrown | |
| 8/15/1999 | 3.2 | 14 | 19 | 32 | 100 | moderate | light | grnbrown | Slight odor from bottom sample. |
| 8/30/1999 | 3.5 | 20 | 19 | 35 | 75 | light | light | grnbrown | |
| 9/12/1999 | 3.5 | 22 | 19 | 37 | 0 | none | light | grnbrown | |

| 2000 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **DATE** | **Secchi Depth (meters)** | **Air Temp (C)** | **Water Temp (C)** | **Lake Level (in)** | **Clouds (%)** | **Rain** | **Wind** | **Color** | **COMMENT** |
| 7/11/2000 | 4 | 16 | 20 | 31 | 90 | none | calm | clear | Construction near H2O. 10 ducks, no algae or algae scum, and slight aquatic plants. |
| 7/25/2000 | 3.8 | 17 | 22 | 32.5 | 100 | none | light | lt brown | 18 ducks, no algae or algae scum, and slight aquatic plants. |
| 8/3/2000 | 3.6 | 19 | 22.5 | 34 | 25 | none | breezy | lt brown | 20 ducks, no algae or algae scum, and slight aquatic plants. |
| 8/11/2000 | 3.7 | 15 | 22 | 36 | 90 | none | light | lt brown | 20 ducks, no algae or algae scum, and slight aquatic plants. |
| 8/28/2000 | 2.9 | 19.5 | 18 | 33 | 10 | trace | breezy | lt brown | 20 ducks, no algae or algae scum, and slight aquatic plants. |
| 9/17/2000 | 2.9 | 20 | 19 | 31 | 25 | none | light | lt brown | Construction. 25 ducks, no algae or algae scum, and slight aquatic plants. |

Click here to view more recent data.

# *HOW YOU CAN HELP LAKE STICKNEY*

- 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 Stickney.

(TTY users call 425-388-3700)

Snohomish County
Public Works
*Surface Water Management*

Working together for people, streams & fish.