



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

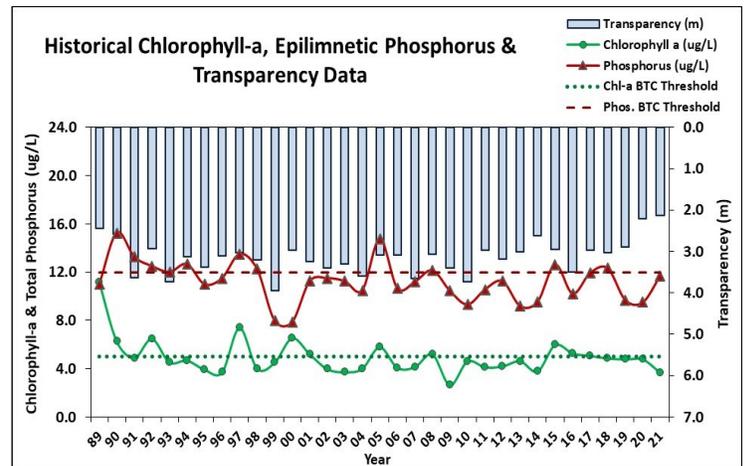
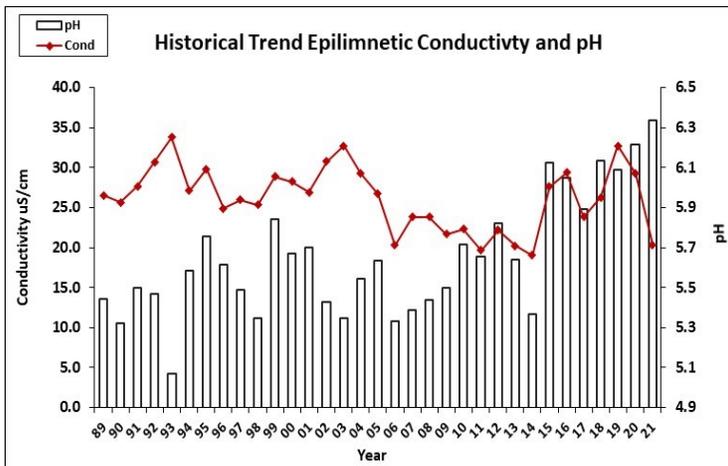
ASHUELOT POND, WASHINGTON

2021 DATA SUMMARY

RECOMMENDED ACTIONS: Great job sampling in 2021! Pond quality is generally representative of mesotrophic, or average, conditions. The improving and stable water quality trends are encouraging and we hope to see this continue. Pond transparency or clarity has been below average (worse) in the past two years. A combination of factors may be at play including water levels, boating activity, and the increased frequency and intensity of storm events and flushing of wetland systems rich in dissolved organic matter that imparts a tea color to the water. To better evaluate these impacts, conduct clarity readings using the Secchi disk following periods of increased boating activity and following storm events to compare with readings collected during more normal conditions. Beach E. coli levels were elevated on two occasions. Continue waterfowl management activities to deter geese presence near the beach area. Encourage local winter maintenance companies and road agents to obtain Green SnowPro Certification. Keep up the great work!

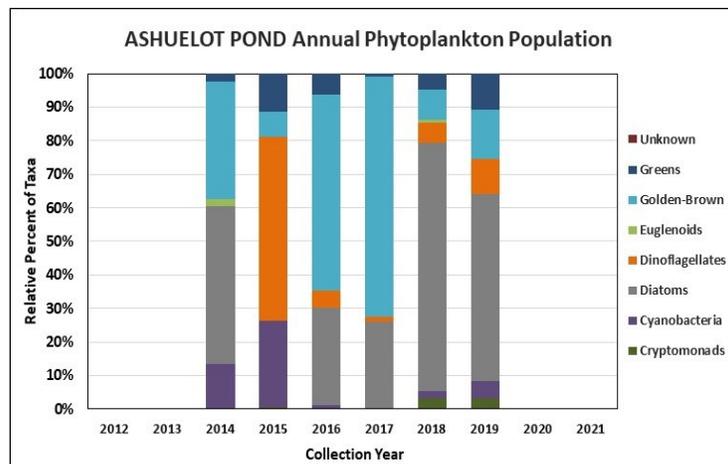
HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Parameter	Trend
Conductivity	Stable	Chlorophyll-a	Improving
pH (epilimnion)	Improving	Transparency	Stable
		Phosphorus (epilimnion)	Stable



DISSOLVED OXYGEN AND PHYTOPLANKTON

(Note: Information may not be collected annually)





VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS ASHUELOT POND, WASHINGTON 2021 DATA SUMMARY

OBSERVATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- ◆ **CHLOROPHYLL-A:** Chlorophyll level was within a moderate range in June, decreased in July and remained stable in August. Average chlorophyll level decreased from 2020 and was less than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates significantly decreasing (improving) chlorophyll levels since monitoring began.
- ◆ **CONDUCTIVITY/CHLORIDE:** Deep spot and tributary conductivity levels fluctuated within a low range, were less than the state median, and were highest in June. Historical trend analysis indicates relatively stable epilimnetic (upper water layer) conductivity levels since monitoring began. Epilimnetic, Metalimnetic (middle water layer), Millen and River Inlet chloride levels were within a low range and approximately equal to or less than the state median.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicated the water was moderately tea colored (brown) in June, and then increased to highly tea colored (dark brown) conditions in July and August following significant rainfall in July.
- ◆ **E. COLI:** LAE Beach E. coli levels were elevated above the state standard for public beaches in June and August.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were within a low range and remained stable from June to August. Average epilimnetic phosphorus level increased slightly from 2020 and was slightly less than the state median and threshold for mesotrophic lakes. Metalimnetic phosphorus levels were moderate and remained relatively stable from June to August. Hypolimnetic phosphorus level was moderate in June and increased to an elevated level in August when the turbidity level was also elevated. Marina, Millen and River Inlet phosphorus levels were slightly elevated in June following a storm event and then decreased to low levels in July and August.
- ◆ **TRANSPARENCY:** Transparency measured without the viewscope was high (good) in June when water color was lighter and then decreased (worsened) in July and August when water color was darkest. Average transparency remained stable with 2020 and was lower (worse) than the state median. Historical trend analysis indicates relatively stable transparency since monitoring began.
- ◆ **TURBIDITY:** Epilimnetic and Metalimnetic turbidity levels fluctuated within an average range and remained stable from June to August. Hypolimnetic turbidity levels were slightly elevated in July and August. Marina, Millen and River Inlet turbidity levels fluctuated within an average range for those stations and were higher in June.
- ◆ **pH:** Average epilimnetic pH level was slightly less than the desirable range 6.5-8.0 units and historical trend analysis indicates significantly increasing (improving) epilimnetic pH levels since monitoring began. Metalimnetic, Hypolimnetic, Marina, Millen, and River Inlet pH levels were slightly acidic and less than desirable. July pH levels were acidic at all stations due to above average rainfall experienced during the month.

Station Name	Table 1. 2021 Average Water Quality Data for ASHUELOT POND - WASHINGTON									
	Alk. (mg/L)	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	E. coli (mpn/100mL)	Total P (ug/L)	Trans. (m) NVS	Turb. (ntu)	pH
Epilimnion	0.90	3.70	4	117	20.4		11	2.13	0.94	6.44
Metalimnion			6		19.9		12		0.93	5.32
Hypolimnion					22.4		16		1.54	5.28
LAE Beach Shallow						129				
Marina Inlet					19.3		12		0.79	5.43
Millen Inlet			3		20.9		13		0.98	5.50
River Inlet			3		19.3		11		0.80	5.45

NH Median Values

Median values generated from historic lake monitoring data.

Alkalinity: 4.5 mg/L **Chlorophyll-a:** 4.39 ug/L
Conductivity: 42.3 uS/cm **Chloride:** 5 mg/L
Total Phosphorus: 11 ug/L **Transparency:** 3.3 m
pH: 6.6

NH Water Quality Standards

Numeric criteria for specific parameters. Water quality violation if thresholds exceeded.

Chloride: > 230 mg/L (chronic) **Turbidity:** > 10 NTU above natural
E. coli: > 88 cts/100 mL (beach)
E. coli: > 406 cts/100 mL (surface waters)
pH: between 6.5-8.0 (unless naturally occurring)