Making a difference...together

File: 5220-20
Elk/Beaver Lake Initiative

Aquatic Plant Workshop and Survey
Summary of Results
September 24, 2016

The Capital Regional District (CRD), in partnership with the BC Lake Stewardship Society (BCLSS) and Victoria Golden Rod and Reels Fishing and Social Club, conducted an aquatic plant workshop and survey on September 24, 2016. Led by Dr. Rick Nordin (BCLSS), workshop and survey participants included 17 volunteers from 11 groups (Table 1).

Table 1. Participants and Groups

Participants		Groups
Group 1: John Garrett Pat Psaila Wynona Pugh Robert McConnell	Group 3: Shawn Steele Sara Stallard Steve Gormican	Beaver Lake resident British Columbia Lake Stewardship Society Camosun College Capital Regional District Fish-Kissing Weasels Environmental Friends of Maltby Lake Society Friends of Todd Creek Watershed Habitat Acquisition Trust Prospect Lake Preservation Society Rowing community Victoria Golden Rods and Reels Fishing Club
Group 2: Thomas Cinnamon Alanah Nasadyk Paige Erickson-McGee John Potter	Group 4: Lisa Rodgers Todd Golumbia David Blundon Joan Hendrick Dorothy Chambers	

The most recent prior aquatic plant survey was conducted by the Ministry of Environment in 1985. At that time 60 different aquatic plant species were identified. During the September 2016 survey, only 11 emergent, submerged and open water aquatic plant species were identified (Table 2).

Table 2. Aquatic Plants Identified

Latin Name	Common Name
Brasenia schreheri	water shield
Ceratophyllum demersum	coontail
Elodea canadensis	Canada waterweed
Iris pseudacorus	yellow iris*
Myriophyllum spicatum	Eurasian water-milfoil*
Myriophyllum verticillatum	whorled water-milfoil
Nuphar lutea	yellow water-lily
Potamogeton crispus	curly-leaf pondweed*
Scirpus lacustris	bulrush
Typha latifolia	broad-leaved cattail
Vallisneria spiralis	tape grass*

*Non-native

The survey was conducted along the transects shown on Figure 1. Aquatic plants were present from the shoreline to 3 m depth in both Elk and Beaver lakes. Four non-native species were identified. Water-milfoil was by far the most dense plant species, and included the native whorled water-milfoil, the non-native Eurasian water-milfoil, and a hybrid cross of the two species. The presence of Eurasian water-milfoil is of greatest concern. This plant appears to have hybridized with the native water-milfoil, and accounts for 90% of the coverage by aquatic plants. The extensive coverage by water-milfoil is the sole reason aquatic weed harvesting is necessary in Elk and Beaver lakes. Eurasian water-milfoil had not been previously identified in Elk Lake, nor other lakes in Victoria. Coontail accounted for 50% cover along some transects, but overall coverage was much less than the water-milfoils. Shoreline plants included bulrush and broad-leaved cattail, and yellow water-lily was the only floating plant. The remaining plant species were identified in low quantities. Table 3 illustrates the locations and abundance of each aquatic plant identified, and correlates to the information shown on Figure 1.

Table 3. Aquatic Plant Data Collection

Transect	Location	Depth (m)	Plants	Notes
1	Beaver Lake north of North Beach	1	water shield (moderate), water-milfoil (dense)	several herons, eagle, seagulls
		2	water-milfoil (dense), water weed (sparse)	
		3	milfoil (dense), coontail (moderate)	
		4	coontail (sparse)	
1a	Elk Lake southwest shore	1	milfoil (dense), tape grass (sparse)	1,500 m rowing mark
		2	milfoil (dense)	
		3	milfoil (dense)	
		4	none	
2	Elk Lake east shore south of rowing club	1	milfoil (dense), pond-lily, cattail	none
		2	milfoil (dense)	
		3	milfoil (dense)	
		4	milfoil (moderate)	
2a	Elk Lake west shore	1	milfoil (dense)	none
		2	milfoil (dense)	
		3	milfoil (dense)	
		4	none	water clarity <4 m
3	Elk Lake north end by boat launch	1	milfoil (dense)	none
		2	milfoil (dense)	
		3	coontail (dense) and milfoil (dense)	4 samples parallel to shore
3a	Beaver Lake northeast shore	1	milfoil (50%) and coontail (50%) green algae at surface	very silty, mud plume caused by sampling; sample composed mostly of dead organic matter
		2	milfoil (50%) and coontail (50%)green algae at surface	
		2.5	coontail (100%)	
4	Beaver Channel	1	milfoil (100%)	none
		2	milfoil (100%)	
		2.5	milfoil (75%)	
		3	none	
4a	Elk Lake near orchian wall	1	milfoil (sparse), bulrush (at shore)	none
		2	milfoil (dense)	
		3	none	soft bottom

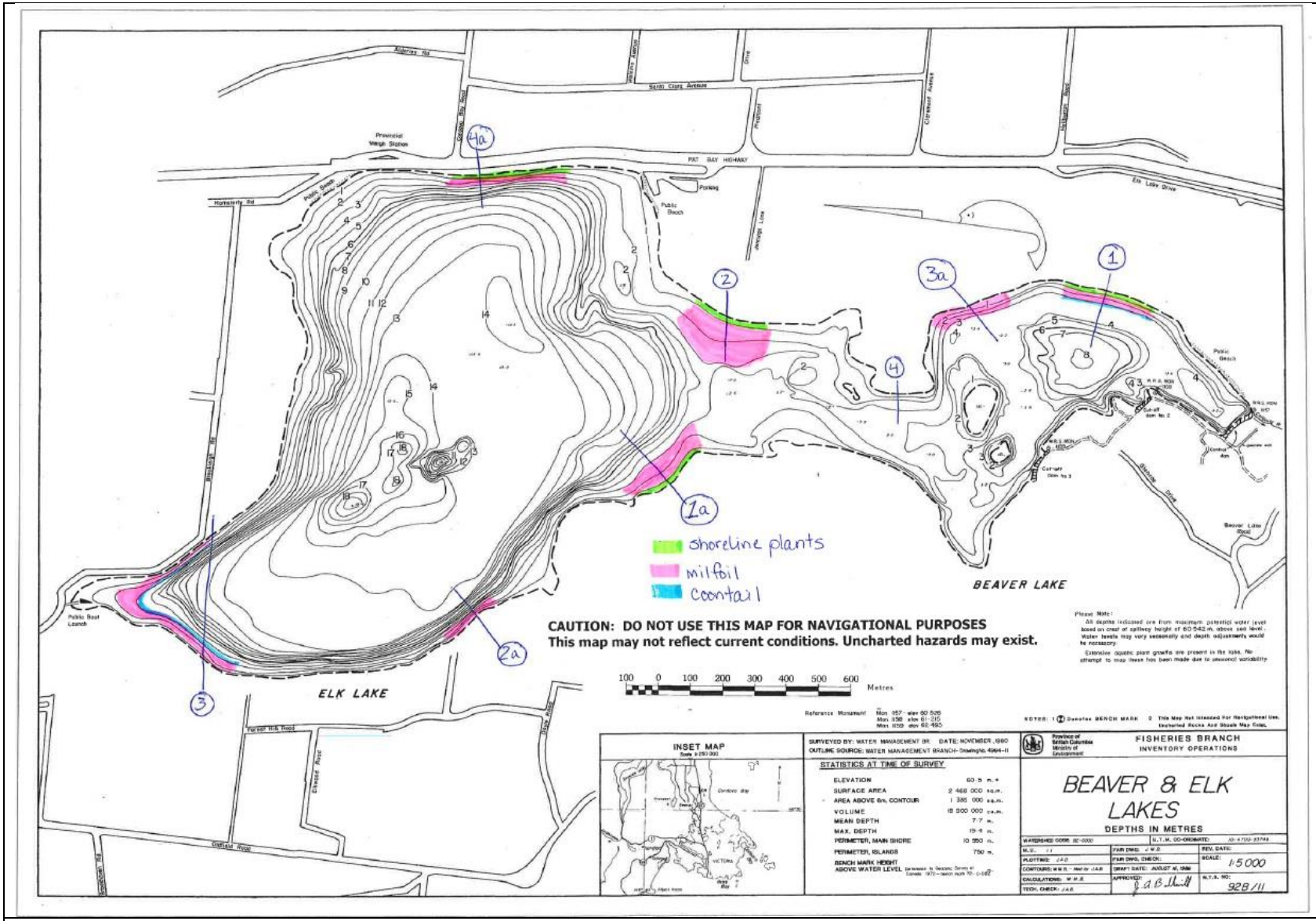

Figure 1. Locations of Aquatic Plant Survey Transects and Coverage by Plant Species (not exact)