

## Lake Whatcom Watershed Analysis

Landscape Setting	Landscape Setting	<ul style="list-style-type: none"> <li>The northern portion of Lake Whatcom, Basin One and parts of Basin Two, are located within the City and the Urban Growth Boundary, and SMA jurisdiction within this segment is approximately 309 acres. The segment is dominated by high density urban residential development.</li> <li>The lake is fed by several creek systems around the lake. Surface water exits the lake from the north (Basin 1) via Whatcom Creek. The hydroperiod of the lake has been reversed and controlled for recreation and erosion control purposes.</li> </ul> <p style="text-align: right;">(Ref# 8,13,37,47,66,71 for above)</p>
	Geology	<p>Lake Whatcom was created by glaciation and consists of three basins separated by distinct glacial sills. Basins 1 and 2 are relatively shallow (20 to 25 m maximum depth). The lake is situated in a valley formation dominated by sedimentary deposits and rocks.</p> <p style="text-align: right;">(Ref# 21,66,67,103 for above)</p>
	Soils	<ul style="list-style-type: none"> <li>Reaches 1-4 and the northern half of Reach 5 have soils with moderate infiltration rates and runoff potential. The southern half of Reach 5 has soils with high infiltration rates and low runoff potential.</li> <li>50% of the soils are susceptible to severe sheet flow and erosion risk; the remaining soils are a slight risk for erosion.</li> <li>Lake substrate in Basin 1 has a higher content of sand and gravel. Basin 2 has less sand and gravel due to the increased presence of mud and bedrock.</li> </ul> <p style="text-align: right;">(Ref# 47,51,63 for above)</p>
Land Use	Current Conditions	<p>Land use includes residential and public areas. Urban residential density is extensive in the shoreline jurisdiction of Lake Whatcom. Single family residential development is high in Basin 1 and moderate to high in Basin 2. Except in Reach 2 which is dominated by Bloedel-Donovan Park. Additional land use in the watershed outside of the city limits is rural residential and commercial forestry.</p> <p style="text-align: right;">(Ref# 8,16,33,34,71 for above)</p>
	Zoning	<p>Residential and public</p> <p style="text-align: right;">(Ref# 54,104 for above)</p>
	Transportation and Utilities	<p>Northshore Road, Electric Avenue, and Lake Whatcom Boulevard, and associated collector streets dominate the transportation system. Portions of Northshore Road and Electric Avenue are public transportation routes for bus service. Utilities are provided throughout the SMA.</p> <p style="text-align: right;">(Ref# 14,35,36,39,40,41,42,44,45,46 for above)</p>
	Public Access	<ul style="list-style-type: none"> <li>Bloedel-Donovan Park, in Reach 2, is the only exiting public access to lake recreation in the City of Bellingham.</li> <li>Two small neighborhood association parks are located along the lake shore in Reach 1, but access is limited and not open to the general public.</li> <li>Euclid County Park Reserve at the southern portion of Reach 4, the property abuts the lake and is undeveloped, dedicated public open space, but does not currently offer public access to the lake.</li> </ul> <p style="text-align: right;">(Ref# 33,34,36,48,54,66,71 for above)</p>

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	Shoreline Modifications	<ul style="list-style-type: none"> <li>• Shoreline and associated upland modification is extensive along the Lake Whatcom shoreline.</li> <li>• In Basin 1, dock density averages 3 docks per 100 meters and bulkhead density averages 30%.</li> <li>• Reaches 1 and 5: 45% impervious, 44% semi-pervious, 12% pervious surfaces.</li> <li>• Reaches 2 and 3: 60% semi-pervious, 23% impervious, 17% pervious surfaces.</li> <li>• Reach 4: 39% semi-pervious, 33% pervious, 28% impervious surfaces.</li> </ul> <p>(Ref# 8,12,15,18,43,66,71,94 for above)</p>
Critical Areas	Wetlands	<ul style="list-style-type: none"> <li>• A large shrub/forested wetland complex is located in Reach 3 and is associated with an un-named creek that flows into Lake Whatcom.</li> <li>• A forested wetland is located within the Euclid County Park Reserve in Reach 4 and is associated with an un-named creek that flows into Lake Whatcom.</li> <li>• A small shrub wetland is located at the southern end of Bloedel-Donovan Park.</li> <li>• All three wetlands appear on the 1992 City wetland inventory and/or on the National Wetland Inventory maps.</li> </ul> <p>(Ref# 11,52 for above)</p>
	Streams	<p>Five City regulated streams are located in the Lake Whatcom shoreline. Four streams flow into the lake (Streams 10, 11, 12 and 14) and are regulated by the COB Wetland and Stream Ordinance. One stream flows out of the lake (Stream 13 – Whatcom Creek) and is regulated by COB Wetland and Stream Ordinance and the Shoreline Master Program.</p> <p>(Ref# 8,38,57,59,71 for above)</p>
	Frequently Flooded Areas	<p>The FEMA floodway and 100 year floodplain in Lake Whatcom does not extend beyond the maximum controlled lake level.</p> <p>(Ref# 19 for above)</p>
	Steep Slopes	<p>Topography ranges from gentle to moderate slopes, with occasional areas of steep slopes adjacent to the lake, but the majority of the upland adjacent to the lakeshore is flat and/or shallow giving rise to moderate slopes.</p> <p>(Ref# 21,103 for above)</p>
	Wildlife	<ul style="list-style-type: none"> <li>• No current documentation of priority habitat species was found.</li> <li>• Historically, Bald eagles (FT &amp; ST) have used Scudder Pond (Reaches 1 &amp; 2) as nesting territory, and currently use the cottonwood trees in Bloedel-Donovan Park for daytime perching.</li> </ul> <p>(Ref# 24,61,66,67,69,70,92,93,94,105 for above)</p>
Ecological Functions	Overall Function	<ul style="list-style-type: none"> <li>• Overall, the area of the Lake Whatcom Watershed in the COB is providing most ecological functions at low levels.</li> <li>• Ecological functions of the lake shore and adjacent buffers have been greatly reduced by high density development and land use. Development has resulted in a loss of habitat and native vegetation.</li> </ul> <p>(Ref# 71 for above)</p>
	Water Quality	<p>Portions of Basin 1 have been listed by the Washington DOE as Category 5 “Polluted Water” for dissolved oxygen and/or mercury. Testing results for mercury in the southern half of Basin 1 and Basin 2 (in the UGA) have meet current standards.</p> <p>(Ref# 66,89 for above)</p>
	Vegetation	<p>Aquatic shoreline and terrestrial vegetation has been significantly reduced or lost which has caused loss of habitat for fish and wildlife.</p>

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		(Ref# 8,20,71 for above)
Habitat	<ul style="list-style-type: none"> <li>• Loss of habitat and native vegetation has resulted in reduced use of the area by wildlife including mammals, birds and amphibians.</li> <li>• Habitat loss is extensive. Only two significant native habitat areas remain in Reach 3 and 4.</li> </ul>	(Ref# 20,24,61,71 for above)
Limiting Factors	<ul style="list-style-type: none"> <li>• Water quality</li> <li>• Loss of terrestrial vegetation and habitat</li> <li>• Dense development</li> </ul>	(Ref# 71 for above)
Priority Actions	<ul style="list-style-type: none"> <li>• Water quality improvement</li> <li>• Stormwater treatment and detention</li> </ul>	(Ref# 71 for above)
Current Enhancement Actions	None, except for Canada goose control in Bloedel-Donovan Park	(Ref# 71 for above)
Preservation/Enhancement Opportunities	<ul style="list-style-type: none"> <li>• Preserve wetland complex and associated uplands (vegetated corridor to Electric Ave) in Reach 3.</li> <li>• Enhance wetland in Bloedel-Donovan Park; enhance vegetation corridor along southern park boundary.</li> <li>• Preserve Euclid Park. Public lake access should not be allowed.</li> </ul>	(Ref# 71 for above)