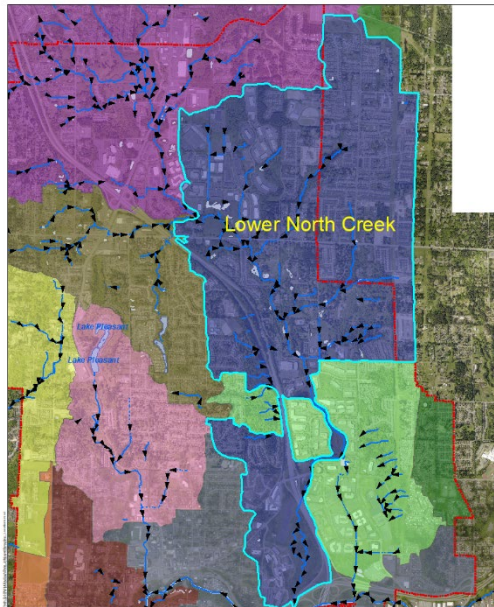


Lower North Creek Surface Water Management Area



General and Physical Character. The Lower North Creek SWMA makes up 3.64 square miles with 65.79 percent (2.40 square miles) within City limits.

Very severely erosive soils also classified on steep slopes (>40%) make up 2.53 percent of the SWMA. Compared to other SWMAs, 2.53 percent is the fourth lowest.

The City had a detailed study of this area performed in 2006, titled the North Creek Fish and Wildlife Critical Habitat Protection Area Study. This study delineated and assessed the importance of wetlands, streams, and other

critical areas and their contribution to the quality of cool groundwater inputs to North, Palm, and Woods/Cole Creeks.

Land Use and Development. The prominent land use feature of this SWMA is residential with 36.7% of total parcel area with the second highest land use being commercial with 26.6% parcel area.

Thirty-three percent of the area is covered by impervious surfaces. Of the impervious area, approximately one-fourth of the area is road surface (pollutant generating).

Natural Environment. The area includes two streams (Palm Creek and Woods/Cole Creek) and an area that drains directly to North Creek. The total stream length within the SWMA is 16.96 miles. Twenty-two percent of the SWMA is mapped as wetlands and associated buffers.

The City has assessed habitat and biologic conditions for Lower North Creek at Palm Creek and found it to have the least impaired biological community of all streams in the city, though the creeks are still severely to moderately impaired. All streams in the SWMA are known to have low dissolved oxygen levels and high temperatures and are on Ecology's 303(d) list for impaired water bodies for fecal coliform.

Stormwater Infrastructure. The amount of total stormwater conveyance is 107 miles (29.39 miles/square mile) with 4,009 catch basins within the SWMA. The SWMA has 26.7

control structures per square mile and 114.4 water quality treatment facilities per square mile.

Surface Water Management Strategies. This SWMA has some of the higher quality basins that support North Creek in Bothell. Staff has selected Lower North Creek as its SMAP high-priority basin. Surface Water efforts will focus on protecting and preserving stream buffers and enhancing stormwater controls to the relatively higher quality creeks in this area.

Possible efforts include:

- Address any flooding or fish passable issues
- Focus on protecting the area through development and restoration efforts in buffer areas
- Focus on monitoring of creeks frequently to assure early detection of issues
- Focus outreach on residential activities including pet waste, low impact development installation, and stream buffers and management
- Prioritize IDDE in this area to protect streams.

Lower North Creek SWMA Data Table

SWMA Statistics		Lower North Creek
Area		
Total Area	sqmi	3.64
Bothell City Portion	sqmi	2.40
Bothell City Portion	%	65.79
Land Use		
Single Family Residential	%	29.67
Multi-Family Residential	%	6.98
Total Residential	%	36.65
High Use Commercial	%	0.00
General Use Commercial	%	21.28
Industrial	%	5.32
Total Commercial	%	26.60
Mixed Use (Residential and Commercial)	%	0.23
Active Use Parks	%	0.00
Passive Use Parks	%	3.18
Total Parks and Open Space	%	3.18
Natural Areas (Streams, wetlands, and buffers)	%	16.13
Undeveloped	%	3.32
Right-of-Way	%	13.90
Land Cover		
Impervious	%	33.13
Limited Access Roads	%	3.16
Arterial Roads	%	1.99
Local Roads	%	3.66
Total Road Surface	%	8.81
Tree Canopy	%	46.53
Physical Geography		
Very Severely Erosive Soils (Class V) on Slopes over 40%	%	2.53

SWMA Statistics

Lower North Creek

Natural Areas		
Wetland Area	%	12.51
Wetland Area + Buffers	%	22.39
Rivers and Streams	mi/sqmi	4.66
Storm Infrastructure		
Pipes and Culverts	mi/sqmi	22.57
Ditches	mi/sqmi	5.80
Bioswales	mi/sqmi	0.49
Trenches	mi/sqmi	0.53
Total Conveyance	mi/sqmi	29.39
Catch Basins	#/sqmi	1101.38
Control Structures (some in vaults, detention ponds, etc.)	#/sqmi	26.71
Detention Pipes	#/sqmi	9.60
Detention Ponds	#/sqmi	13.36
Vaults	#/sqmi	25.04
Filters	#/sqmi	66.36
Total Number of Water Quality Treatment Facilities	#/sqmi	114.35
Pervious Pavement	#/sqmi	0.00
Bioretention	#/sqmi	1.25
Tree Boxes	#/sqmi	0.00
Total Number of LID Facilities	#/sqmi	1.25
Population		
Population Density	people/sqmi	2391.73