



# Mitigation Opportunities

## Squalicum Watershed

The purpose of this document is to provide guidance to improve site selection for compensatory wetland and stream mitigation in the Squalicum Watershed. The information below summarizes best available science to help developers and consultants **identify appropriate mitigation sites** and **communicate mitigation benefits** in permit applications.

### Mitigation Background

Wetlands and streams are shared resources that benefit our community by providing important functions including flood control, ground water recharge, water quality improvements, erosion control, habitat, recreation, and educational opportunities.

In accordance with the City of Bellingham's Comprehensive Plan and its Critical Areas Ordinance, the City protects these functions by requiring developers to follow mitigation sequencing when proposing to impact wetlands and streams.

Mitigation sequencing first requires avoiding impacts followed by minimizing impacts. Compensatory mitigation is the next step in mitigation sequencing and requires unavoidable impacts be offset by creating, restoring, enhancing, or preserving other wetlands and streams.

### Watershed Map



Squalicum Creek
  Other Watershed Boundaries
  Bellingham City Limits

### Watershed Attributes

- The watershed's major tributaries are Baker Creek, Spring Creek, Toad Creek, and McCormick Creek.
- The watershed is 22 square miles in size and contains 32 stream miles of fish habitat.
- Squalicum Creek has the highest fish use of any City stream (documented use by Chinook, steelhead/rainbow trout, coho, chum, pink, cutthroat trout [bull trout rare or absent]).
- Squalicum Creek is on the 303(d) list of impaired waters for dissolved oxygen, fecal coliform, and bacteria.
- Squalicum Creek is under a state-required plan<sup>1</sup> to reduce temperature. A plan<sup>2</sup> for addressing additional water quality problems is under development.

### Priority Mitigation Actions<sup>3</sup>

The table below identifies the high priority mitigation actions in Squalicum Creek, Baker Tributary, and Lower Baker, Spring, and Toad Creeks.

x = highest priority      (x) = high priority

	Squal.	Baker Tr.	L. Baker	Spring	Toad
Increase in-channel habitat quantity		x	(x)		
Reconnect and expand floodplain		x	(x)		(x)
Restore depressional wetland			(x)	x	x
Improve in-stream complexity/quality		x			
Remove stream armor		x	x		
Restore and enhance riparian buffer	(x)	x	(x)		
Restore wetland and wetland buffer				(x)	x
Enhance wetland and wetland buffer				(x)	x
Protect wetland and wetland buffer	(x)				
Restore upland forest	x	(x)		(x)	
Enhance upland forest	x				
Protect upland forest	x	(x)	(x)	(x)	x

<sup>1</sup> Whatcom, Squalicum, and Padden Creeks Temperature Total Maximum Daily Load (TMDL) Water Quality Improvement Report (2011, Ecology Publication No. 11-10-019)

<sup>2</sup> Squalicum Creek Watershed Stormwater Pilot TMDL Quality Assurance Project Plan (2012, Ecology Publication No. 12-03-109)

<sup>3</sup> Habitat Restoration Technical Assessment (ESA, Veda Environmental, and Northwest Ecological Services, 2015), Table B-5, B-7 and B-8

# Potential Mitigation Projects

The following locations and projects were identified in the Habitat Restoration Technical Assessment and supplemental investigations. These are only examples, and do not represent all possible mitigation opportunities or guarantee landowner willingness. Visit [www.cob.org](http://www.cob.org) and search "Restoration Assessment" to view the full assessment.

Project Type	Location
Riparian enhancement	Squalicum Creek, especially SC-WR4 (Figure 18)
Wetland enhancement and expansion of headwater wetlands	West Fork Spring Creek, especially LSC-WR1 (Figure 22)
Floodplain/riparian expansion by grading and installing native plants	Baker Creek Tributary, especially BCT-WR1 (Figure 24)
Depressional wetland restoration	Lower Baker Creek and Lower Spring Creek (Figure 24)
Riverine restoration to increase water filtration and storage	Baker Creek Tributary, especially BCT-RR1 (Figure 24)
Riverine and wetland enhancement, including increased wetland storage and riparian vegetation enhancement	Mainstem of Lower Baker Creek upstream of I-5, especially at LBC-WR1 and LBC-RR2 (Figure 20)
Catchment and protection of cool water sources	Toad Creek and Forest Block 140 (Figure 18)
Riparian enhancement, including removing invasives/increasing conifers	Squalicum Creek, especially Forest Block 100 (Figure 18)
Riparian enhancement	Baker Creek at Bellingham Golf and Country Club
Riparian enhancement by removing invasives and planting conifers	Baker Creek Tributary, especially at BCT-FR157 (Figure 24)
Restoration of habitat connectivity, riparian cover, floodplain storage	North Fork Baker Creek headwaters
Restoration of habitat connectivity, riparian cover, surface storage	McCormick Creek headwaters off Noon Road
Protection of forest habitat complexity	Baker Creek Tributary, especially BCT-WP1 (Figure 24)
Protection of wetlands and streams	Lower Baker Creek, especially LBC-WP1 (Figure 20)
Protection of riparian buffer and enhancement by installing conifers	Squalicum Creek, especially Forest Block 074 and SC-WP3 (Figure 18)
Protection of habitat complexity	Lower Spring Creek, especially LSC-WP1 (Figure 22)
Protection of forest	Lower Baker Creek, Spring Creek, and Baker Creek Tributary, especially Forest Block 134 (Figures 20 and 22)
Protection of forest	Forest Blocks 100 and 078 (Figure 18)

