



Western Washington University
Western CEDAR

Salish Sea Ecosystem Conference

2018 Salish Sea Ecosystem Conference
(Seattle, Wash.)

Apr 4th, 4:15 PM - 4:30 PM

Hydrologic and habitat assessment in False Bay Creek watershed, San Juan county, Washington

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Thomas, Jennifer; Hartley, David; Wones, Andrew; and Rozenbaum, Scott, "Hydrologic and habitat assessment in False Bay Creek watershed, San Juan county, Washington" (2018). *Salish Sea Ecosystem Conference*. 100.

<https://cedar.wwu.edu/ssec/2018ssec/allsessions/100>

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FALSE BAY CREEK

Hydrologic and Habitat Assessment



SAN JUAN ISLANDS
CONSERVATION DISTRICT



Water & Land
Natural Resource Consulting, LLC

nhc



Essency
ENVIRONMENTAL



ROZEWOOD
Environmental Services, LLC

VICINITY MAP

FALSE BAY WATERSHED RESTORATION PLAN: STREAM HABITAT ASSESSMENT REPORT



PREPARED FOR:
SAN JUAN ISLANDS CONSERVATION DISTRICT
350 COURT STREET, #10
FRIDAY HARBOR, WA 98250

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APRIL 21, 2017



PROJECT GOALS

Assess Hydrology of System – NHC – Hydrologic Assessment

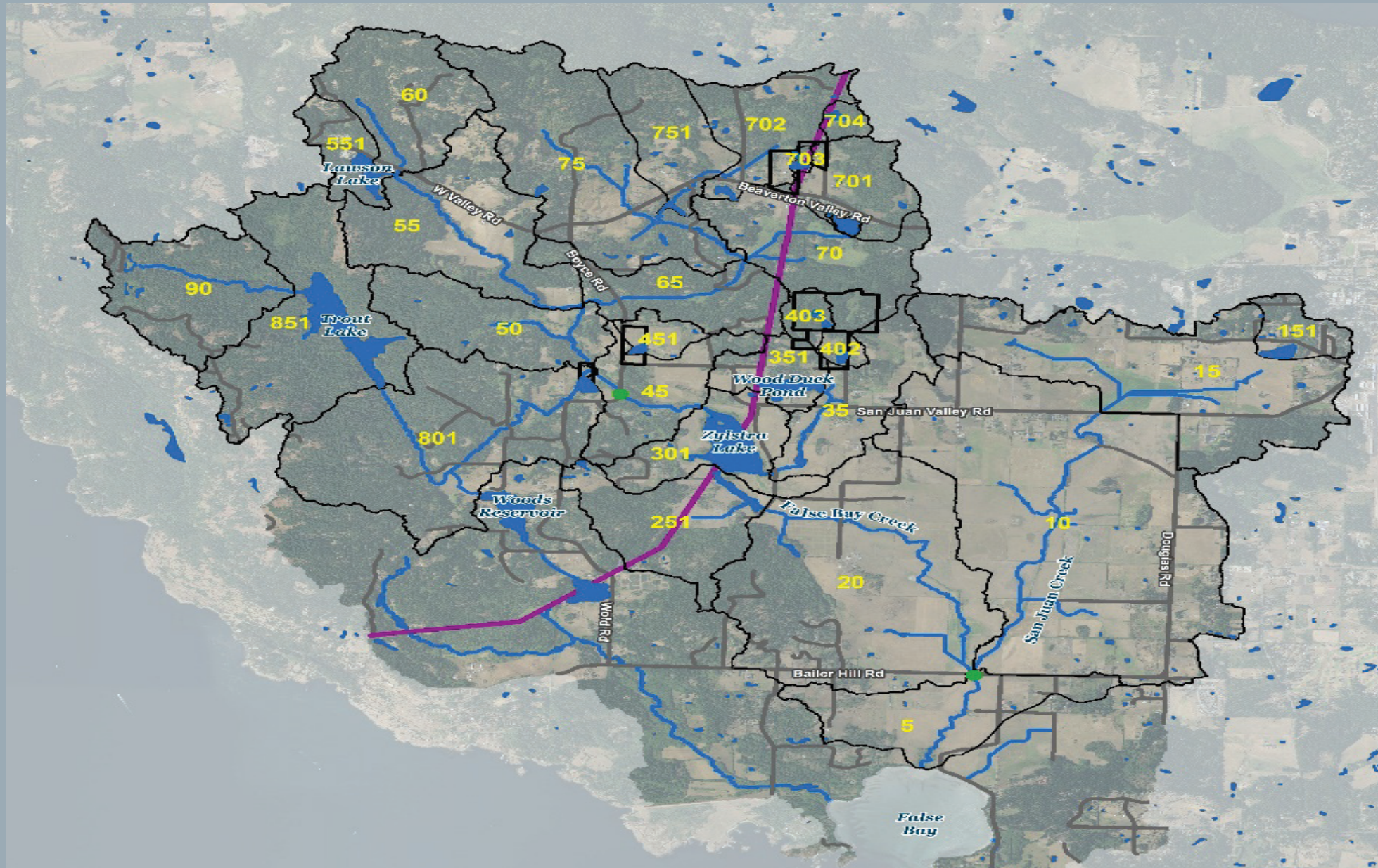
- Model Bathymetry of major impoundments
- Develop HSPF model for watershed
- Model Historic Flow
- Model Existing Conditions
- Model Alternative Flows

Stream Habitat Assessment – Essency, Water & Land, Rozewood

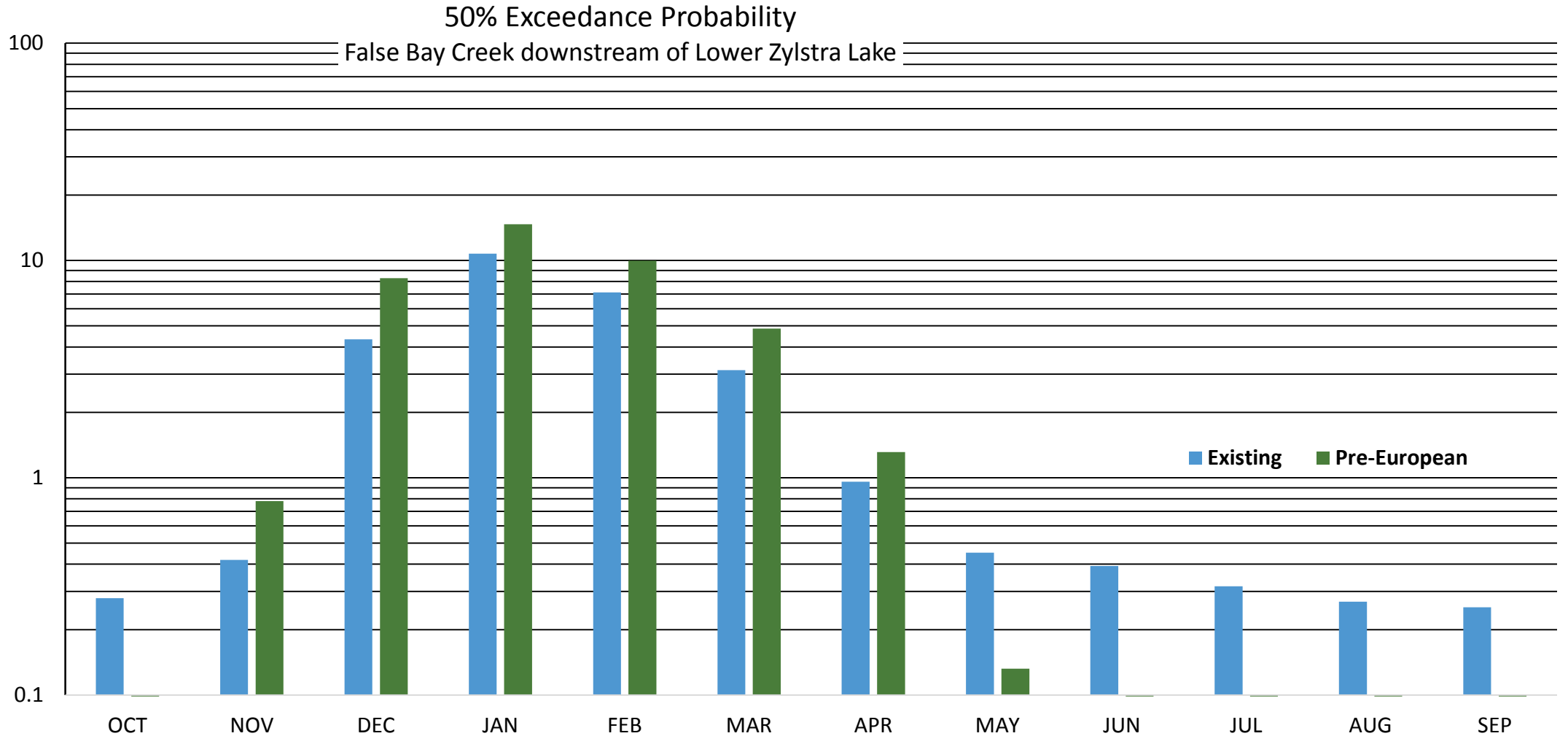
- ID Salmonid Habitat Limiting Factors
- Assess stream reaches (SVAP2)
- Prioritize restoration actions



nhc HSPF Model of Basin



nhc RESULTS: Model Historic and Current Flows



Stream Habitat Assessment



SAN JUAN ISLANDS
CONSERVATION DISTRICT

Water & Land
Natural Resource Consulting, LLC

nhc



ID Management Strategies

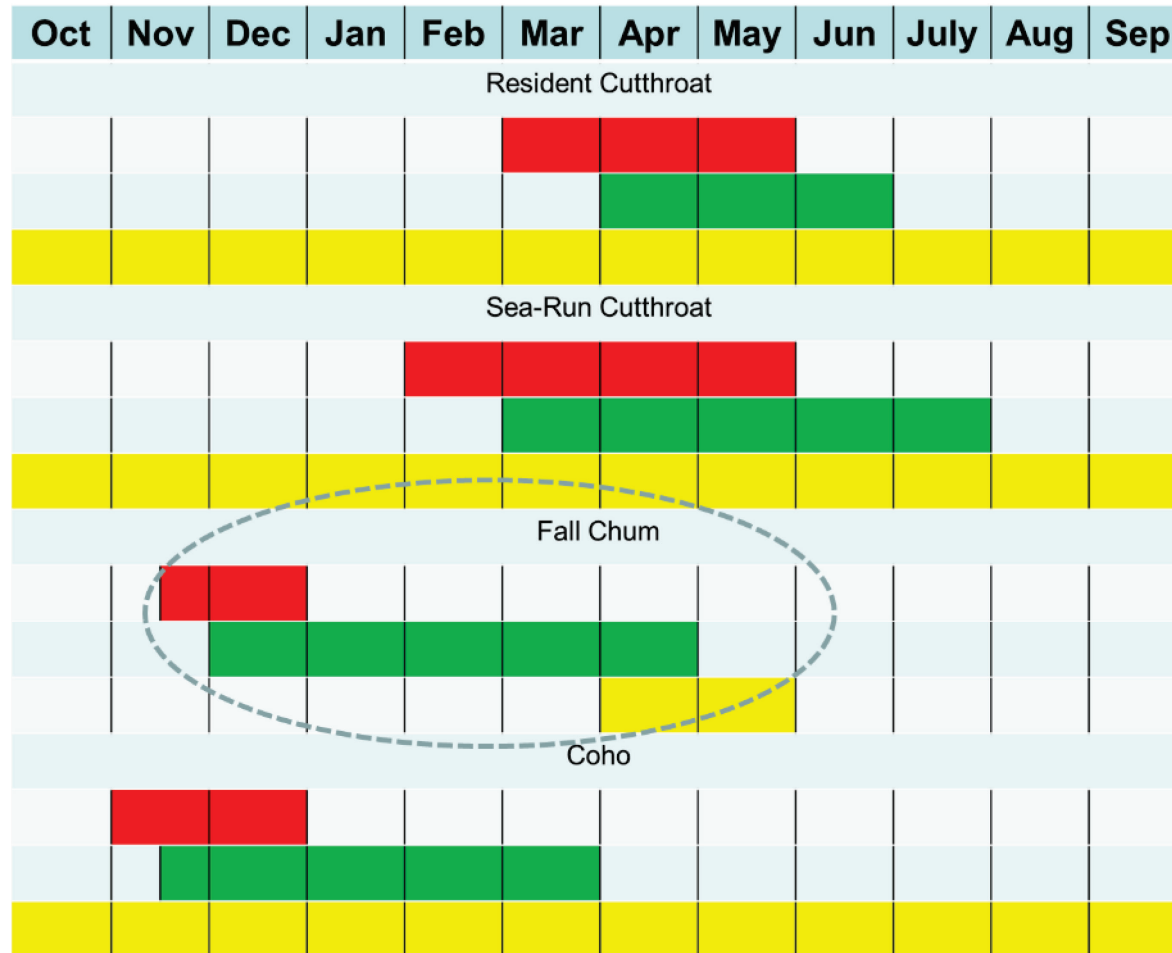
- Modifying existing flow
- Riparian plantings
- Channel restoration

Used Stream Visual Assessment Protocol 2 (SVAP2)

Assessed 2.6 miles of False Bay Creek (9 reaches)

Assessed San Juan Valley Creek (6 reaches)

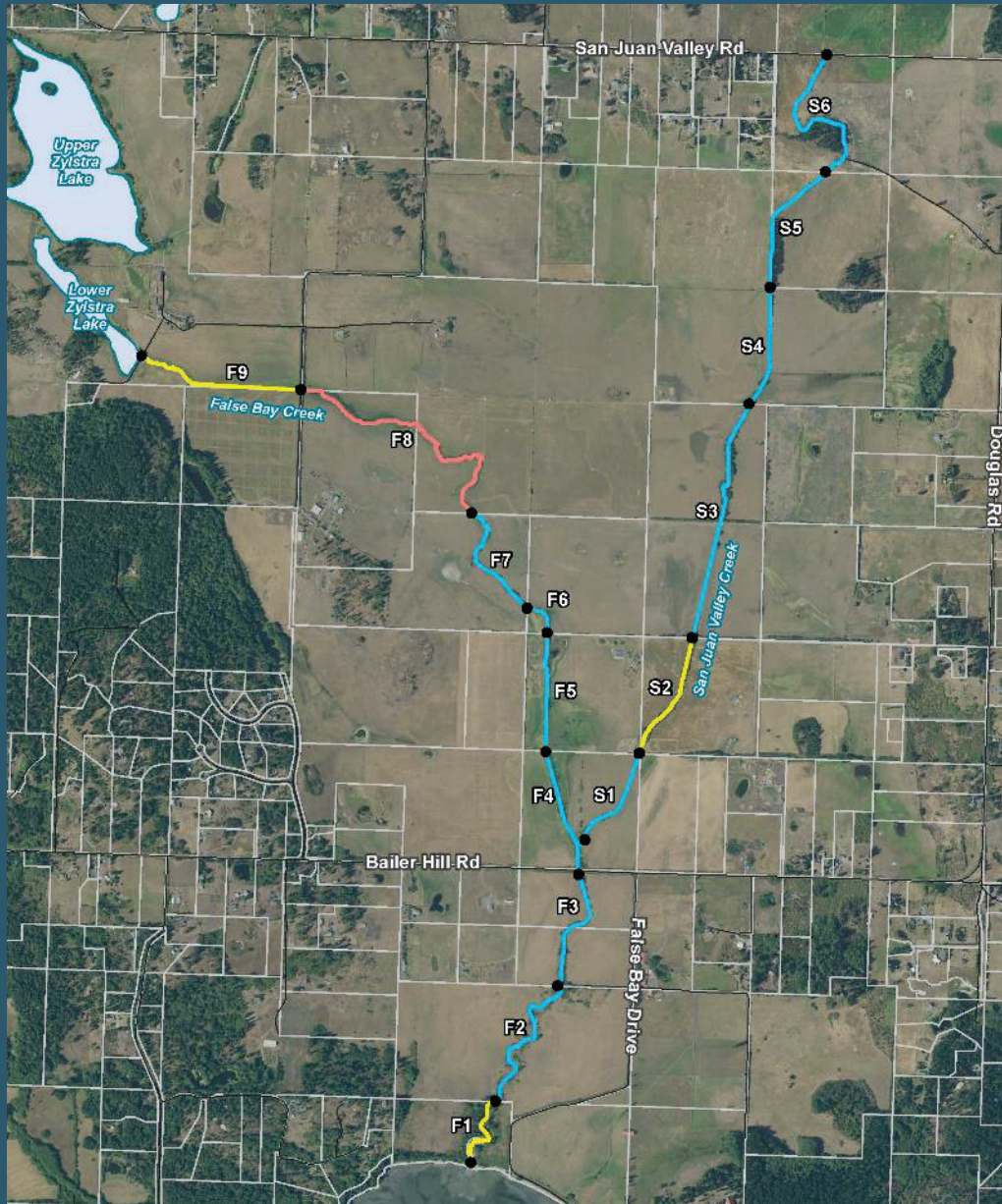
Life History Stages for Salmonid Species



Even assuming a reconfigured, narrower False Bay Creek, management of existing or modified reservoirs would not have sufficient storage to meet instream flow requirements (depth and velocity) for salmon.



REACH F9—Representative Conditions



Legend

- Reach Breaks
- Stream Assessment
 - Highest Scoring Reaches
 - No Access/Not Surveyed
 - Fair to Poor Scoring Reaches

SCALE - 1:18,000

0 750 1,500 3,000 Feet

Coordinate System: NAD 1983 STATEPLANE WASHINGTON
NORTH FIPS 4601 FEET

Job: 2001759 Date: 07-Feb-2017

REPRESENTATIVE REACHES—Upstream of Bailer Hill



REPRESENTATIVE REACHES—The Mouth



RECOMMENDATIONS

For all reaches:

- Fence livestock out of stream
- Plant riparian zone
- Work to connect existing functional corridors
- SJICD has a grant to fence off reaches just above the mouth, to plant riparian zone, provide cattle crossing
- Lands upstream: SJPT-owned lands – riparian zone will be fenced and planted.

Conclusions:

- Insufficient flows to support life history stages for target salmonid species
- Significant gains can be attained for riparian habitat structure and fx by fencing out livestock and replanting stream corridor.
- Work to create connected corridors from mouth upstream.