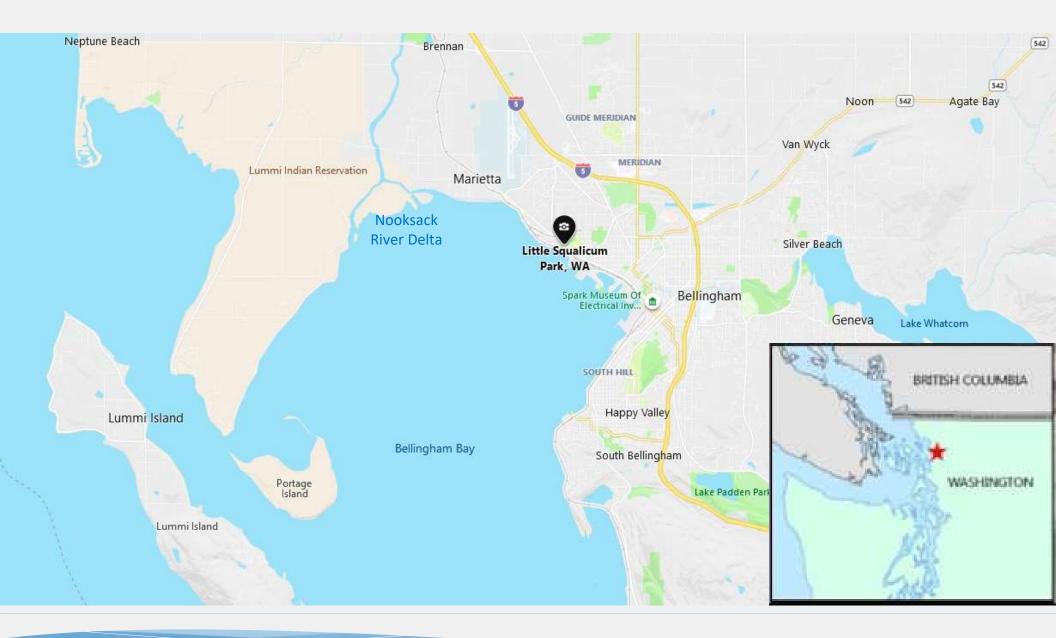
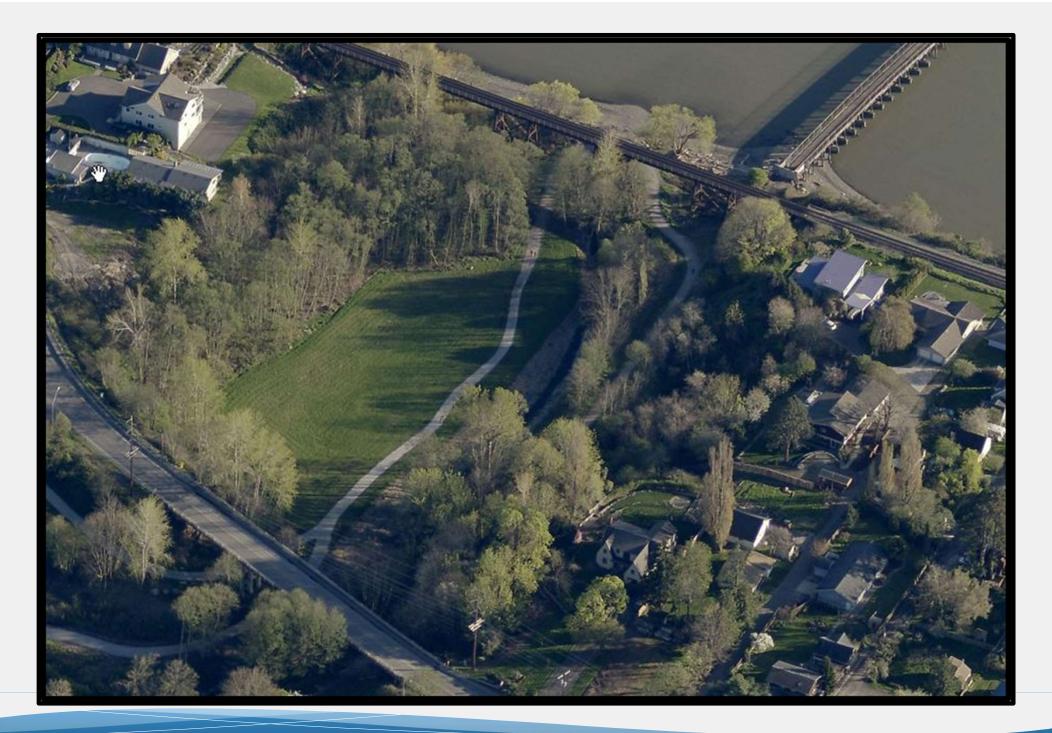
## **Project Location**





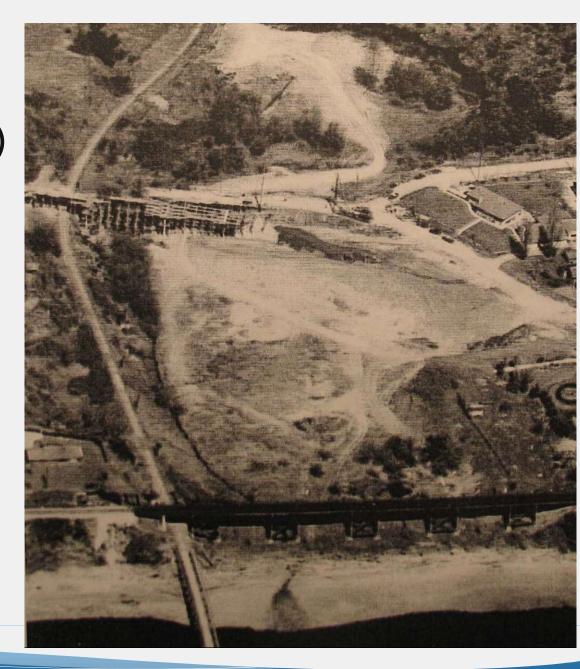




## History

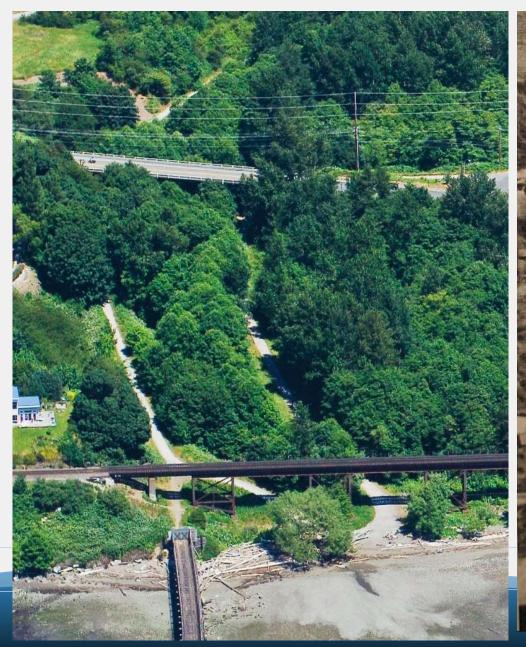
 Wh-mahl-ut-choo (place of many springs)

 Use by Central Salish for hunting, fishing





- Gravel pit 1912 1967
- Purchased as a park in 1976





#### **Historical Wetlands**

 Historical: 2.5 acres tidally-connected wetland

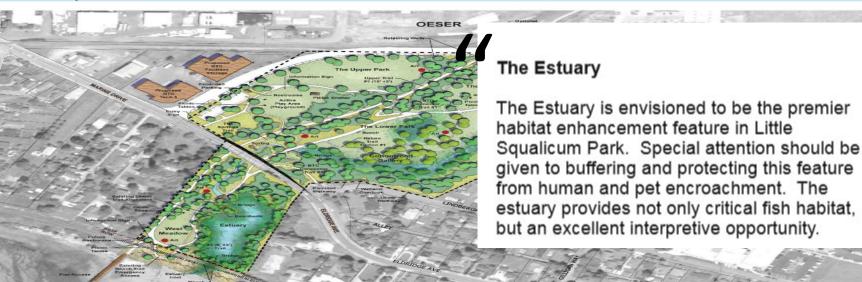
Current: fragmented
 0.75 acres wetland





#### Master Plan

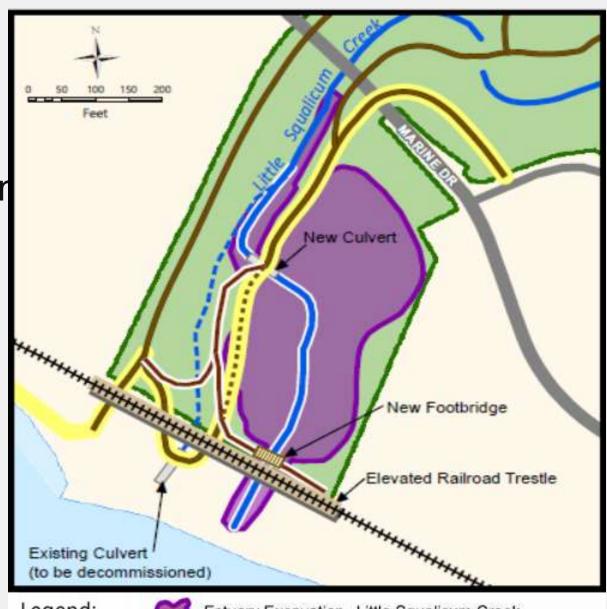




## Project Elements

- **Estuary excavation**
- Fish passage improver
- Native plantings
- Beach nourishment
- Protective fencing





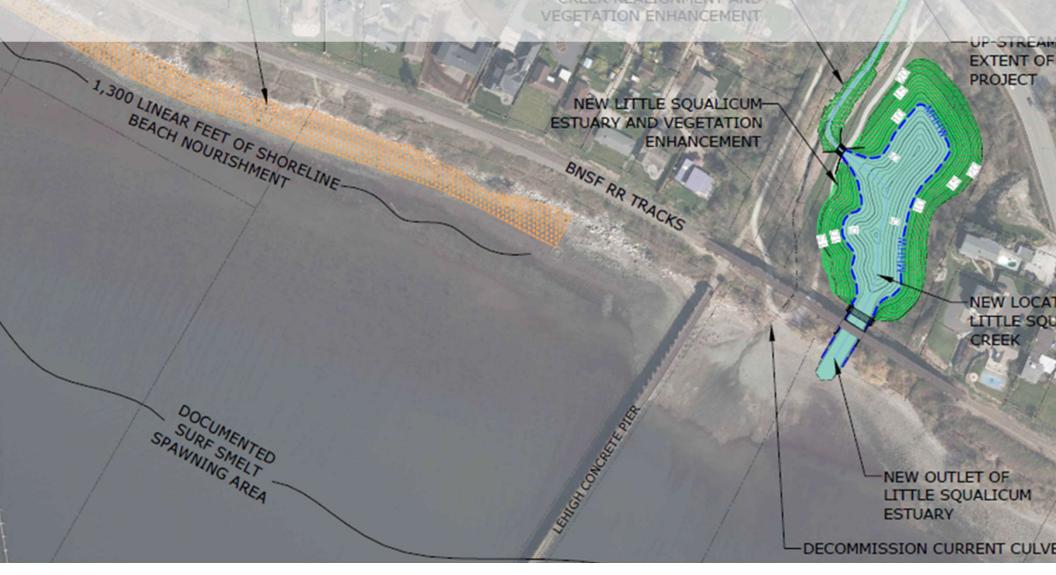








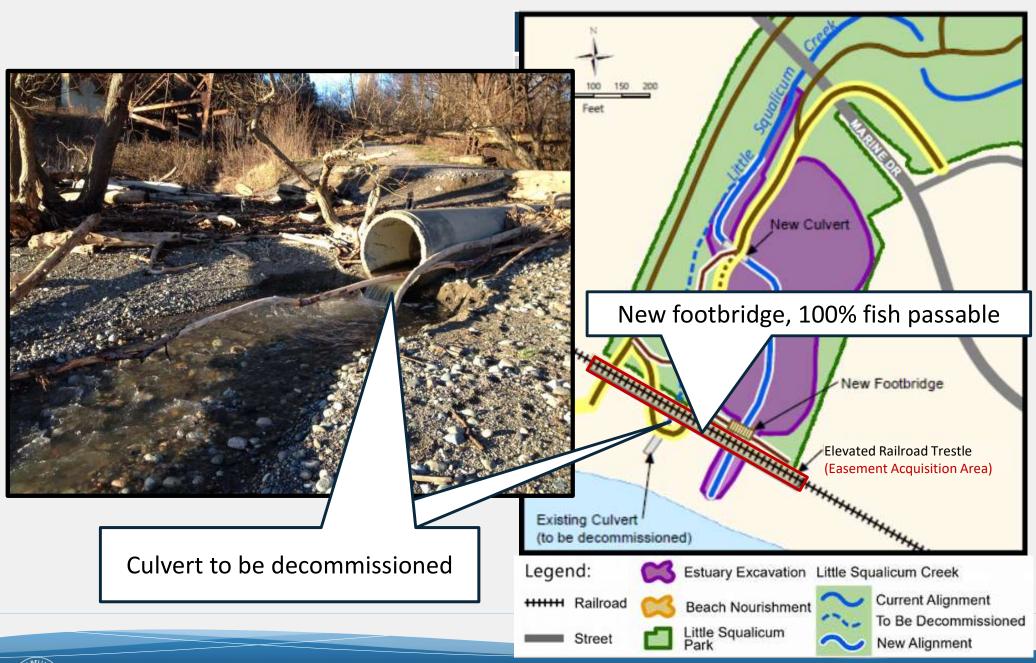
- Restore tidal and sedimentary processes
- Improve fish passage
- Return saltmarsh, mudflat and estuary habitats
- Enhance a forage fish spawning beach



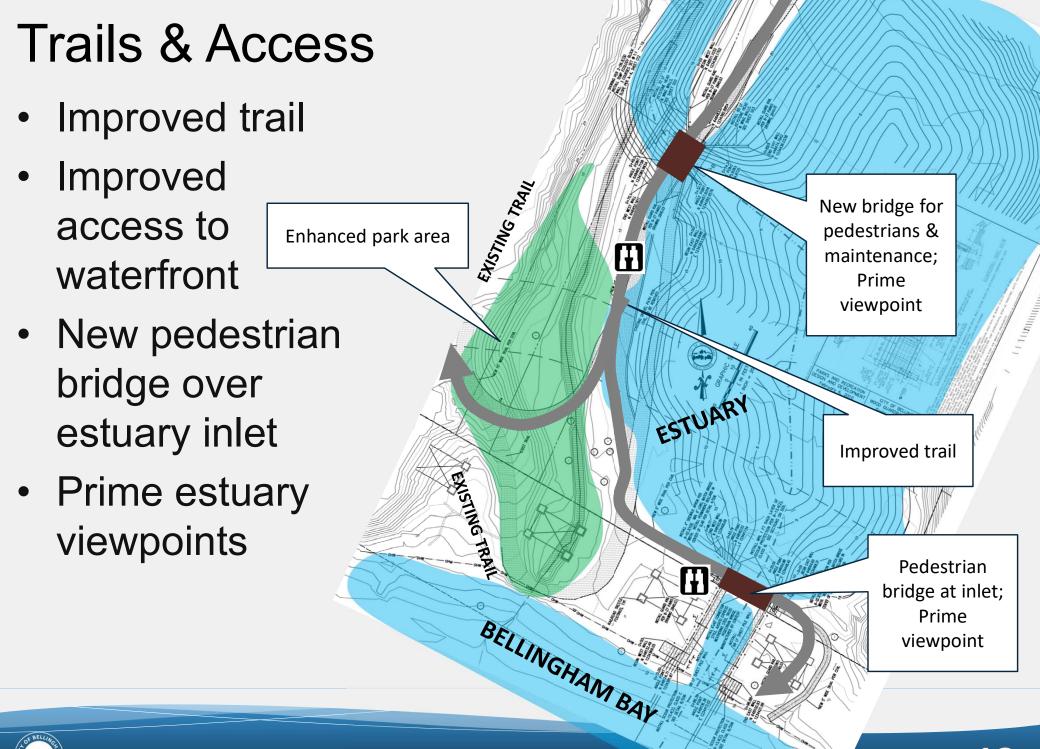
- "First stop" for juvenile salmon departing the Nooksack River
- Rearing, refuge, foraging & osmoregulatory habitat







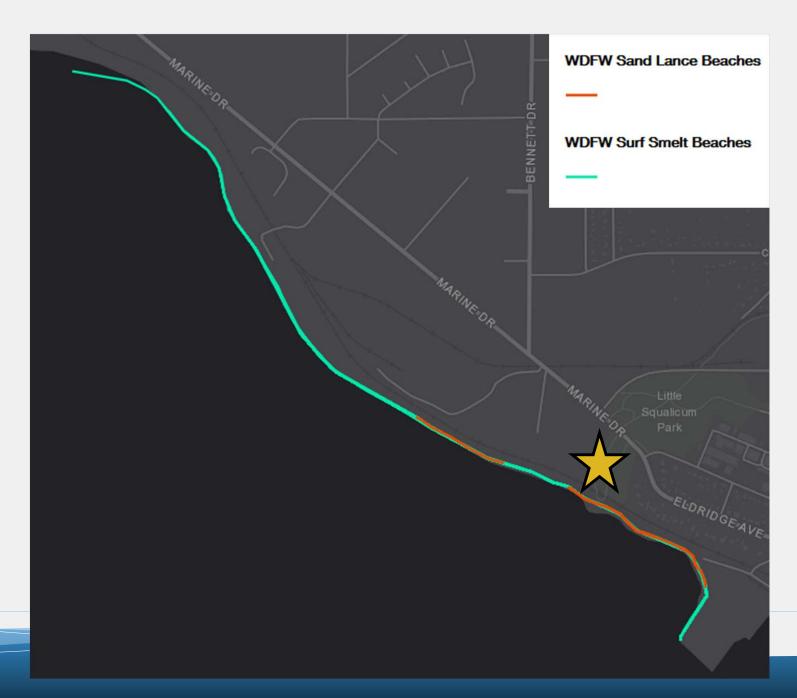






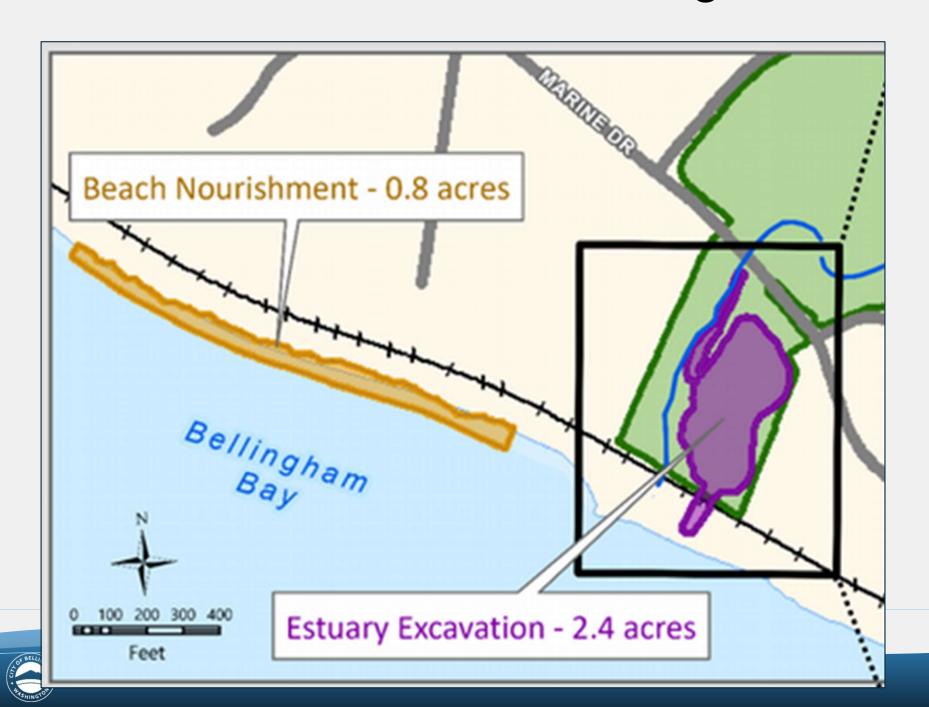


# Forage Fish





### Beach Nourishment for Forage Fish



## Similar approach nearby...









Treatment/Activity	Restored Process/Function
Estuary Restoration- 2.4 acres	Restores lost estuarine function, tidal connectivity, sediment & nutrient exchange
Fish passage improvement – replace 36" concrete culvert replaced with 100% passable footbridge	Improves salmonid rearing & spawning, restore tidal exchange
Riparian plantings - 0.26 acres saltmarsh & 0.94 acres of riparian buffer, with 7,690 native plants	Restores riparian buffer functions (water quality + habitat and nutrient input)
Beach nourishment – 1.16 acres (1,300 LF) of documented forage fish spawning habitat	Enhanced forage fish spawning, enhance sediment supply
Protective fencing	Flourishing and sustainable habitat!



#### Inclusive

- Accessible for all abilities
- Increased public awareness of aquatic land



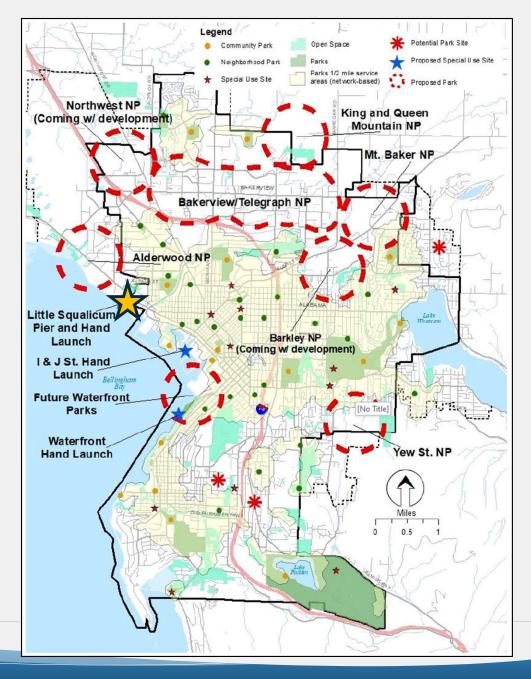




 Only accessible public waterfront access north of Squalicum Harbor









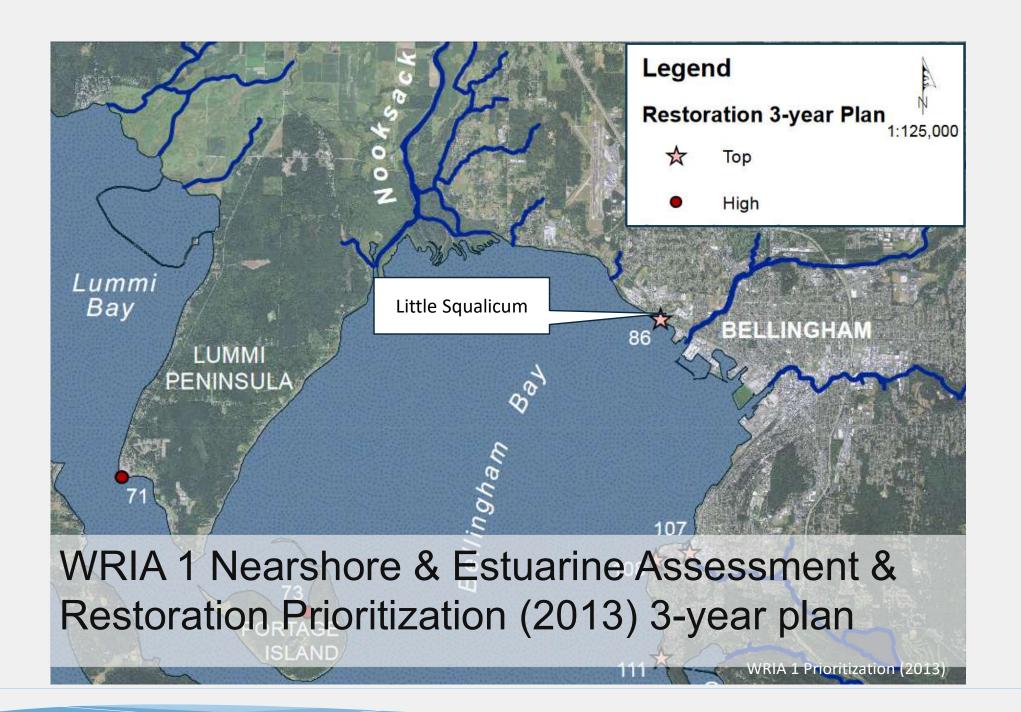
### Important Pocket Estuary

- Implements WRIA1
   Salmonid Recovery Plan
- Pocket estuaries important for non-natal juvenile Chinook salmon



(Beamer et al. 2016; Beamer et al. 2003 [Skagit]; Hirschi et al. 2003 [Hood Canal])







#### Puget Sound Partnership Action Agenda

THER	NTA#	NTATITLE			VITAL SIGN(S) & REGIONAL PRIORITY	
4	2018-0750	Assessment and Prioritization of Contaminants of Emerging Concern Impairing the Health of Chinook salmon	Department of Fish and Wildlife	The objective of this study is to assess the potential threat of contaminants of emerging concern in stormwater and wastwater to juvenile Chinook salmon so that remedial actions can be implemented salmon so that remedial actions can be implemented recovery.	APPROACH(ES)  CHIN4.8	\$4
4	2018-0759	Dungeness River Riparian Habitat Protection	Jamestown S'Klallam Tribe	Permanently conserve a number of previously identified Dungeness River riparian properties downstream of DNR ownership (river mile 11.4) on approximately 160 acres and about 4 miles of river channel.		\$8
4	2018-0766	Monitoring and management of piscivorous fish populations in the Lake Washington Ship Canal	WRIA 8 Lead Entity	Work with fisheries co-managers to devise and implement a predator monitoring (and ultimately management) program to improve the survival of juvenile salmon through the Lake Washington Ship Canal.	CHIN3.2	\$1
4	2018-0779	Update Chinook Recovery Strategy in several key Puget Sound watersheds	Long Live the Kings	Incorporate new information for recovery and develop adaptive management processes in key watersheds. Products include locally updated Chinook recovery strategies and a summary of best available science for project selection and local policy efforts.	CHIN8.1	\$7
4	2018-0781	Little Squalicum Estuary Restoration Project	City of Bellingham	The Little Squalicum Estuary Restoration Project improves water quality and restores juvenile salmonid habitat in the lower Nooksack Basin by creating an approx. 2-acre estuary and a fish-accessible tidal connection with Little Squalicum Creek.		\$1
4	2018-0787	Upper Puyallup River Watershed Assessment	South Puget Sound Salmon	Complete a watershed assessment of Upper Puyallup Basin to evaluate regulatory effectiveness to protect	CHIN2.3	\$3
ENTATION	N PLAN	Protection and Resiliency Planning	Enhancement Group	natural processes and create an acquisition and restoration strategy that identifies actions to build realism, to changing flow and thermal regimes.  CHAPTER 4   NEARTERM ACT		סמנ
TIER	NTA#	Protection and		restoration strategy that identifies actions to build resiliency to changing flow and thermal regimes.	TIONS FOR PUGET SOL	UND
		Protection and Resiliency Flaming  NEATHLE  Assessment and Prioritization of Contaminums of	Group	restoration strategy that identifies actions to build resiliency to charging flow and thermal regimes.  CHAPTER 4   NEARTERM ACT	VITAL SIGN(S) &	co
TIER	NTA#	Protection and Resiliency Flanning  NTATILE  Assessment and Prioritization of	OWNER Department of	restoration strategy that identifies actions to build resiliency to charging flow and thermal regimes.  CHAPTER 4   NEARTERMACT  ORNECTIVES  The objective of this study is to assess the potential storymouther and weathwater to juvenile Chineck salmon so that remedial science salmon in pipelmented.	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)	\$4
TIER	NTA# 2018-0750	Protection and Resiliency Flaming  NYATITLE  Assessment and Prioritization of Contaminants of Contaminants of Contaminants of Chinock salmon  Dungames River	OWNER  Department of Fish and Wildlife	CHAPTER 4   NEARTERM ACT  ORDICIVES  The objective of this study is to assess the potential threat of contaminants of emerging someon in the contaminant of emerging someon in the contaminants of emerging someon in salmon so that remedial actions can be implemented to provide the salmon health, and improve salmon Permanently conserve a number of previously identified Dungeness River riparian properties downstream of DNR conventible (for emission properties downstream of the properties downstream of the	VITAL SIGN(5) A RECIONAL PRIORITY APPROACH(ES)  CHIN4.8	
TIER 4	2018-0750 2018-0759	Protection and Resiliency Flanning  NTATITIE  Assessment and Prioritization of Contaminants of Impairing the Health of Chinook Salmon  Dungeness River Frotection  Monitoring and Monitori	OWNER  Department of Fish and Wildlife  Jamestoon, StGallam Tribe  WRIA 8 Lead	CHAPTER 4   NEARTERMACT  CHAPTER 4   NEARTERMACT  CHAPTER 4   NEARTERMACT  CHAPTER 5   NEARTERMACT  The objective of this study is to assess the potential threat of centaminants of amerging concern in salmon so that remedial actions can be implemented recovery.  Permanently conserve a number of previously identified Diagnoss show the salmon health, and improve salmon personness to the salmon health, and improve salmon personness to the salmon health, and improve salmon personness to the salmon health and improvements are related to the salmon health and implements a predator monitoring (and ultimately management) program to improve with a survival of	VITAL SIGN(S) & REGIONAL PRIORITY APPROACH(ES)  CHINA.8  CHINA.8	\$4

Little Squalicum Estuary City of Bellingham 2018-0781 Restoration Project

The Little Squalicum Estuary Restoration Project improves water quality and restores juvenile salmonid habitat in the lower Nooksack Basin by creating an approx. 2-acre estuary and a fish-accessible tidal connection with Little Squalicum Creek.



