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Salish Sea Ecosystem Conference

2018 Salish Sea Ecosystem Conference
(Seattle, Wash.)

Apr 5th, 3:30 PM - 3:45 PM

The Fisher Slough case study: seven-year monitoring summary: measuring outcomes for fish, farms and flooding

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The Fisher Slough Case Study

Seven Year Monitoring
Summary—Measuring Outcomes
for Fish, Farms and Flooding

SALISH SEA CONFERENCE | APRIL 5, 2018

Jenny Baker

Senior Restoration Manager

Project Context

- Limited land base
- Multiple needs
- Competing interests



Photo credit: Bridget Besaw



Photo credit: Marlin Greene/One Earth Images



Photo credit: WDFW



South Fork Skagit River

Fisher Slough
restoration area
(pre project)

Photo credit: Kirsten Morse



Multiple benefits— co-equal goals— update infrastructure

PROJECT OBJECTIVES

- Restore freshwater marsh for juvenile Chinook salmon.
- Restore passage for adult coho and chum spawners.
- Improve flood storage and protect adjacent farm uses.

ALL OBJECTIVES EQUALLY WEIGHTED

Collaborative, transparent process

TECHNICAL ADVISORY COMMITTEE

Dike District 3**

Drainage and Irrigation District 17 **

National Oceanic and Atmospheric Administration**

Natural Resources Conservation Service

Seattle City Light

Skagit Conservation District

Skagit County

Skagit River System Cooperative

Skagit Watershed Council

Skagitonians to Preserve Farmland

U.S. Army Corps of Engineers

U.S. Environmental Protection Agency

U.S. Fish and Wildlife Service

Washington State Department of Ecology

Washington State Department of Fish and Wildlife

Washington State Recreation and Conservation Office

Western Washington Agricultural Association

***Key project partners*



“The [dike and drainage district] commissioners and the landowners, we’re not engineers, but we live here and we know what works. And they listened to us.”

—DAVE OLSON
Dike District 3 Commissioner



Three project elements

1. Floodgate replacement

2. Drainage ditch reroute

3. Levee setback and marsh restoration





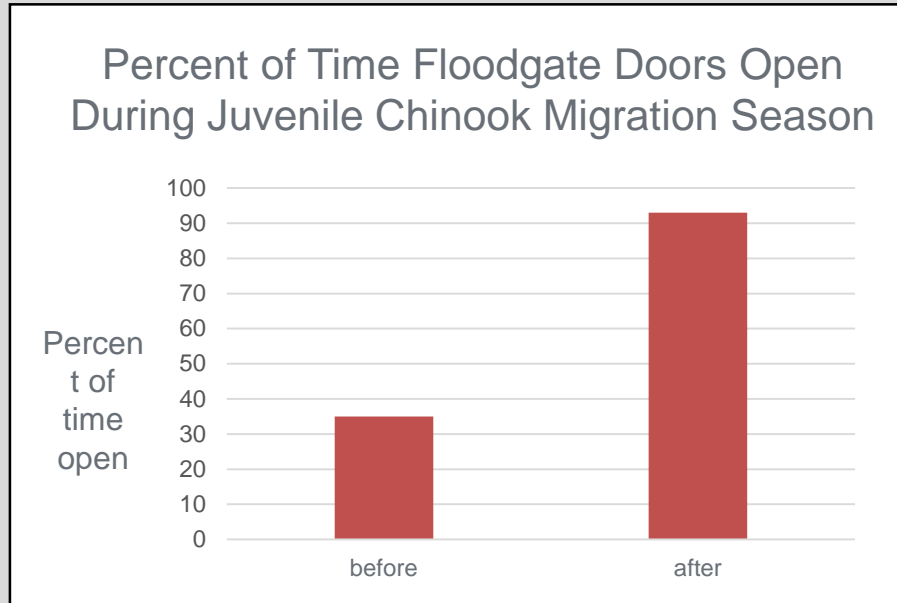
Photo credit: Marlin Greene/One Earth Images

Monitoring Outcomes— What We Measured:

- Tidal amplitude
- Water elevations
- Dissolved oxygen and temperature
- Sediment accretion
- Plant community composition
- Plant species richness
- Plant cover
- Channel area and network
- Channel profile
- Juvenile chinook abundances
- Juvenile chinook densities
- Floodgate operation
- Floodwater storage capacity

Fish Passage Outcomes:

- Improved passage for juvenile chinook and adult coho and chum spawners



Also, floodgates documented open at least once per day during fall/winter adult spawner season



Flood and Tidal Marsh Outcomes:

- > 5 times more tidal marsh habitat
- Nearly 5 times more flood storage capacity

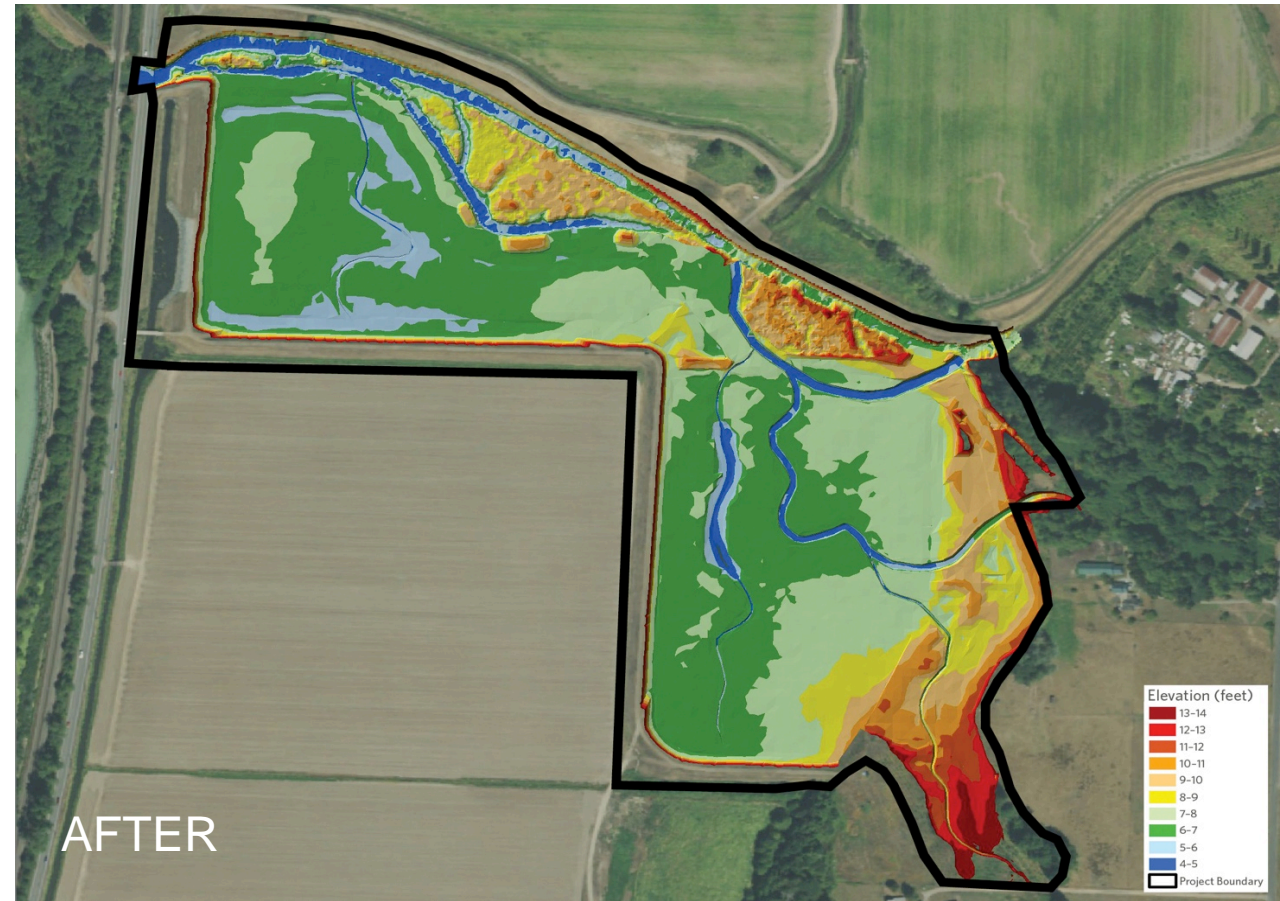
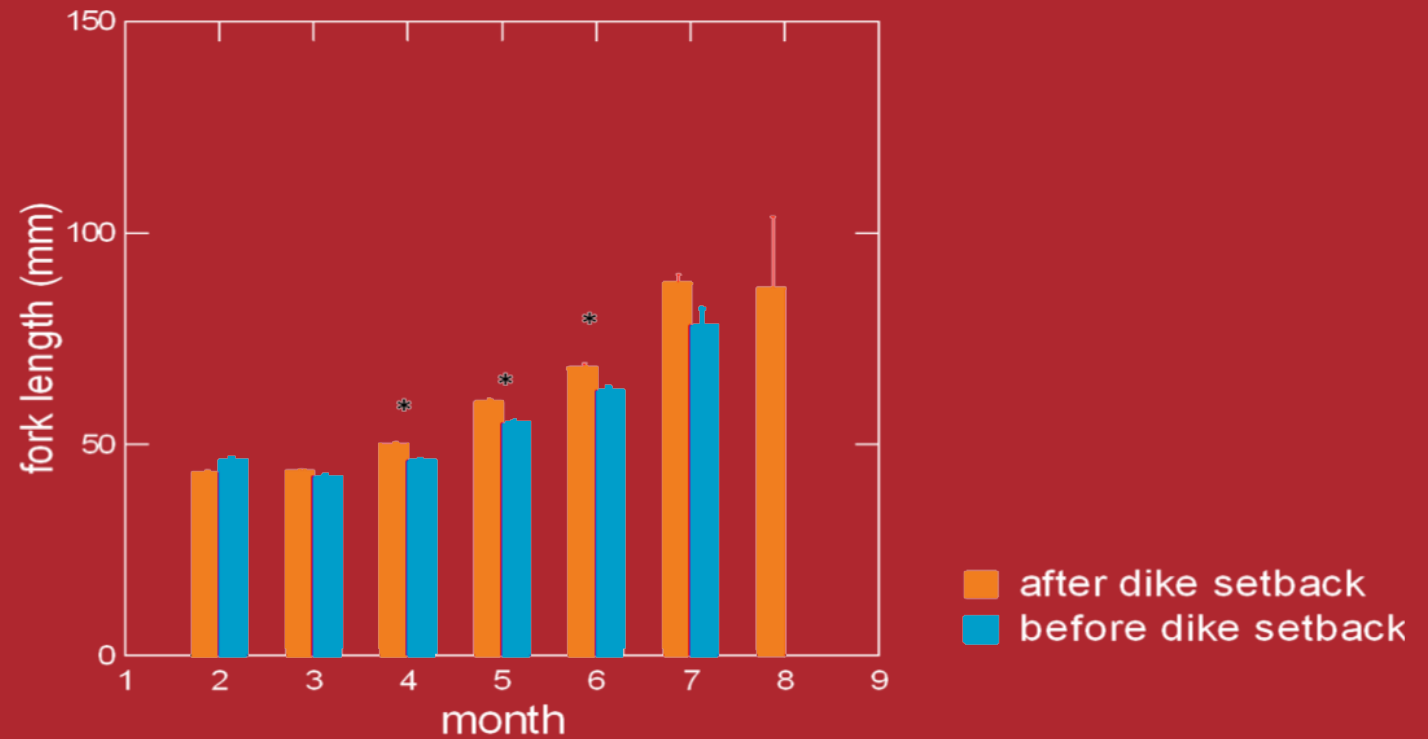




Photo credit: Tara Champion

Juvenile Chinook Outcomes:

- 10 times more juvenile chinook salmon use the site and grow larger, faster
- Site produces up to 22,000 more juvenile Chinook per year



Juvenile Chinook fork length before and after dike setback. *Figure: SRSC*

Other Measures of Success:

- No Impacts to adjacent farms
 - Seepage and drainage performance measures met
- Socioeconomic benefits
 - Short term and long term benefits quantified

300

JOBS
TOUCHED

47K

HOURS
WORKED

16

BUSINESS
ES HIRED

60

COMPANIES
SUPPLIED
MATERIALS
&
SERVICES

\$8M project investment = \$9-21M return on investment over 50 years



Other Measures of Success:

- Improved relationships

“In all of my experience in the Skagit Valley as a farmer, and all of the conflicts that have come around, I have a whole new outlook. This is one of the best things that’s ever happened in this valley. I look forward to the time the next project comes along.”

—KEITH MORRISON
Farmer and DD17 Commissioner



“We worked hand in hand to try to find creative ways to make projects happen. I think this was a great project to be able to begin relationships and understand each other better.”

—LARRY CAMPBELL
Swinomish Tribe





Thanks for your interest!

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FOR MORE INFORMATION
https://salishsearestoration.org/wiki/Fisher_Slough_Restoration