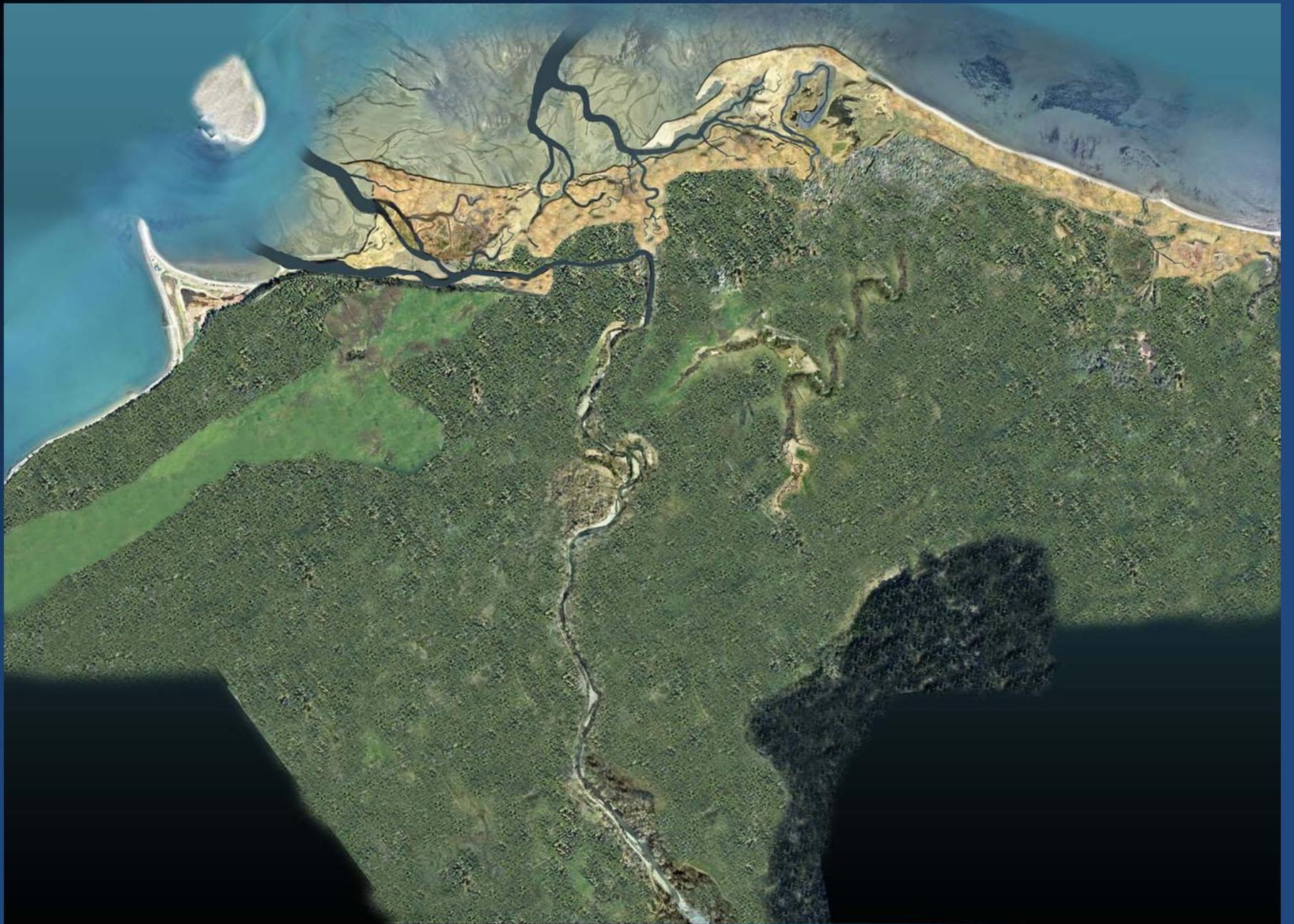


Lower Dungeness River Estuarine & Floodplain Restoration

Wednesday – April 8, 2015



PARTNERS: Clallam County; Jamestown S'Klallam Tribe; WA Department of Fish & Wildlife; US Army Corps of Engineers; US Fish & Wildlife Service; WA Department of Transportation; WA Department of Ecology; North Olympic Lead Entity for Salmon; North Olympic Land Trust; PCC Farmland Trust; Local Businesses & Property Owners





Estuary Dikes

River Dikes

Why restore estuary and lower channel?

ISSUES:

- Increased flood hazard risk.
- Increased riverbed load instability and riverbed rise.
- Loss of primary spawning habitat.
- ESA Listed fish: Chinook, summer chum, bulltrout.
- Lost tidal prism - sediment fills in the bay.
- Impaired water quality.
- Chronic shellfish closures.
- Loss of critical habitat on Pacific flyway.





Dungeness River



Dikes



Side Channels



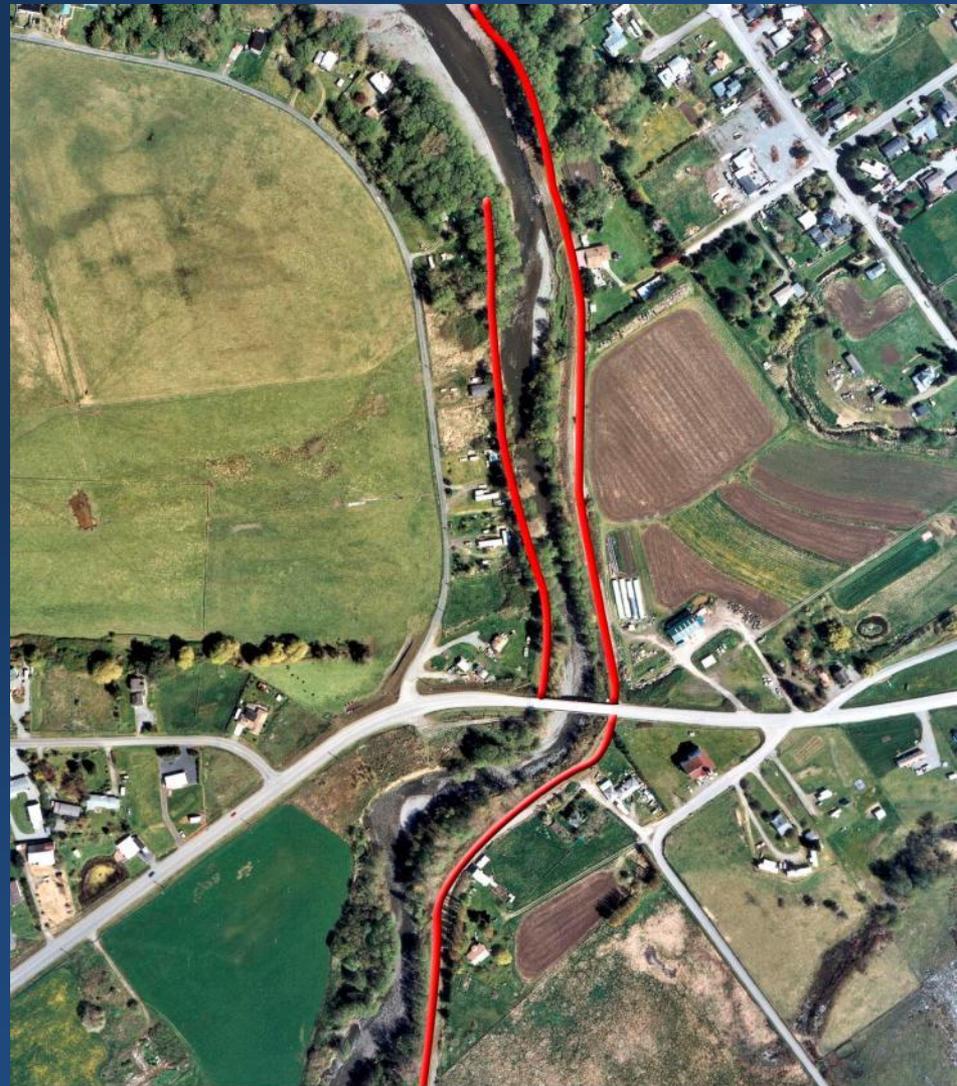
Dungeness River



Dikes



Side Channels



Dungeness River



Dikes



Side Channels

Greater Access to the Floodplain:

- Increases the bed stability by decreasing channel velocities
- Provides additional sediment storage outside the main channel (improves water quality)
- Allows for stable meander developments
- Black cottonwood and western red cedar will be available to recruit into the river
- Provides connection to over 200 combined acres of floodplain (Rivers End/Towne Roads)



Research and Studies

- Historical Estuary and Lower River Reconstruction (Collins et al, in process)
- D.R. Comprehensive Flood Control Management Plan (Clallam County, 1990)
- Recommended Restoration Projects for the D.R. (D.R. Management Team, 1997)
- Salmon Life History Studies (Jamestown S'Klallam Tribe, 1998 & 2003)
- Physical Processes, Human Impacts, and Restoration Issues of the Lower D.R. (Bureau of Reclamation, 2002)
- Dungeness Bay circulation studies (Rensel, 2003)
- Riparian Land Protection Strategy (D. R. Restoration Work Group, 2003)
- Numerical Modeling Study of Levee Setback Alternatives for Lower D.R., WA (Bureau of Reclamation 2007)
- Dungeness River Comprehensive Flood Hazard Management Plan (Clallam County, 2009)
- Dungeness River Channel Design Project (Jamestown S'Klallam Tribe, 2013)
- Draft Integrated Project Report & Environmental Assessment (Army Corps of Engineers, 2015)

Restoration Recommended

Reestablish functional channel and floodplain in the lower 2.6 miles through levee management and constriction abatement.



– *Recommended Restoration Projects for the Dungeness River, RRWG*, adopted by the DRMT in 1998

- Recommended Restoration Projects for the Dungeness River, 1997.
- Salmon & Steelhead Habitat Limiting Factors Analysis, 1999.
- Summer Chum Initiative, April 2000.
- Chinook Salmon Recovery Plan, 2001.
- Elwha-Dungeness Watershed Plan (WRIA 18), May 2005.
- **Puget Sound Salmon Recovery Plan, 2007.**
- No. Olympic Peninsula Lead Entity Three Year Work Plan, 2008.
- Dungeness River Comprehensive Flood Hazard Management Plan, 2009.
- Dungeness River Management Team's restoration priority.

Community Benefits:



- Decreased flood hazards
- Lower community flood insurance premiums
- Improved water quality will benefit shellfish closure areas



Benefits to Salmon

fall chinook, coho, pink, summer chum, steelhead, bull trout, cutthroat trout

Greater stability in mainstem spawning habitat

(chinook, chum, lower river pink)

Reduced velocities, increases habitat for rearing/migration

(chinook, chum, coho, pink, steelhead, and bull trout)

Side channels/meanders developed, increases habitat for rearing and migration

(chinook, chum, coho, pink, steelhead, and bull trout)

Large woody debris available, increased habitat for rearing and migration

(chinook, chum, coho, pink, steelhead, and bull trout)

Restored Estuary & Floodplain Benefits All

Species with Special Status:

Dungeness Pink Salmon

Puget Sound Chinook

Summer Chum Salmon

Bull Trout

Harlequin Duck

Peregrine Falcon

Pileated Woodpecker

Olive-sided Flycatcher

Great Blue Heron

Willow Flycatcher

Vaux's Swift

Hooded Merganser

Bald Eagle

Band-tailed Pigeon

Merlin

Red-legged Frog



Estuarine and River Restoration: A Series of Phased Projects

The Lower Dungeness River Estuarine and Floodplain Restoration Project work consists of several phases and many interrelated projects.

First Phase—Rivers End



River's End Properties

River's End Road, January 2002



Restoration Benefits Affordable Housing

Housing Authority of Clallam Co. Utilized 4 Rivers End Houses in Spring 2007.



Restoration & Reuse & Revegetation



Reconnection



Marsh Connection Increases Fish Habitat



Second Phase—Middle Army Corp Levee Floodplain Restoration



Problem

- Increased channel confinement-
cause streambed level rise (aggradation);
- Increased bedload instability-
cause water quality impacts (WDOH Shellfish Closure Areas);
- Increased flood risk



2133 Towne Road



Before

Surplus Structures.
Reuse Materials.
Salvage Materials.
Decommission
Well, Septic.



After

2747 Towne Road

Before



Surplus Structures.
Reuse Materials.
Salvage Materials.
Decommission
Well, Septic.



House on the move...



After

2753 Towne Road

Before



Reuse Shop.
Demolition House.
Decommission
Well, Septic.



After

2755 & 2131 Towne Road



Pending Removal: MOA
between USACE and
partnering agencies to
deconstruct buildings
upon historic significance
documentation.



Towne Road Restoration

Contracted Clallam Co. Chain Gang and WDNR Work Crews.



Towne Road Restoration

Removed Fence along levee and between partner properties,
per USACE requirements.



After

Towne Road Restoration

Removal of non-native plant species/noxious weeds:
Himalayan Blackberry, Canada Thistle, English Ivy, Poisonous
Hemlock, Ornamental Bamboo, by work crews.



Towne Road Restoration

Improved Fence across former driveways to deter motorized traffic use.



Towne Road Restoration

Extensive reforestation and replanting work on WDFW & County properties.



Lower Dungeness River Restoration Footprint



Where are we now?

Purchase parcels from willing sellers (complete)

Write Environmental Assessment (draft issued by Army Corps of Engineers)

Gather Input to Reconfigure Towne Road (underway)

Design and Construct New Levee (next steps)



Lower Dungeness Restoration Project Schedule

We were here

We are here

We will soon be here

Then we will be here



Preparation 2002- 2014	Preliminary Design 2015	Design 2015-2016	Construction 2017
Properties purchased	Army Corps of Engineers study released	County-Corps Agreement – Spring/summer	Request for Proposal Process
Structures decommissioned	Towne Road considered	BOCC issues Request for Proposal for design – Spring/summer	Construction
Floodplain reforested	Preliminary designs considered	Design firm hired – Summer	
		Design begins – Late summer/fall	



🐟 Back to the Future...



Thank you.