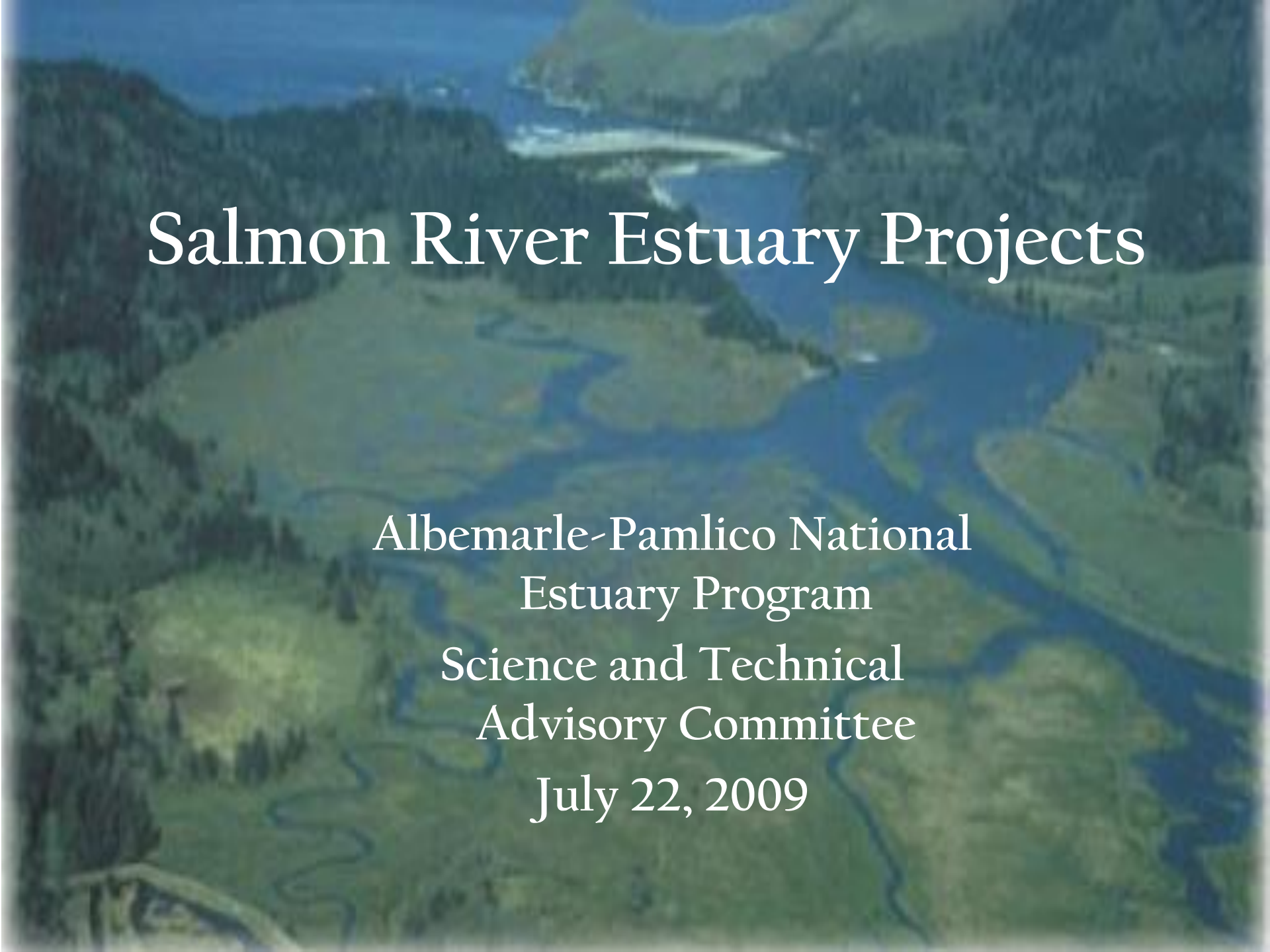


Salmon River Estuary Projects

Albemarle-Pamlico National Estuary Program

Science and Technical Advisory Committee

July 22, 2009

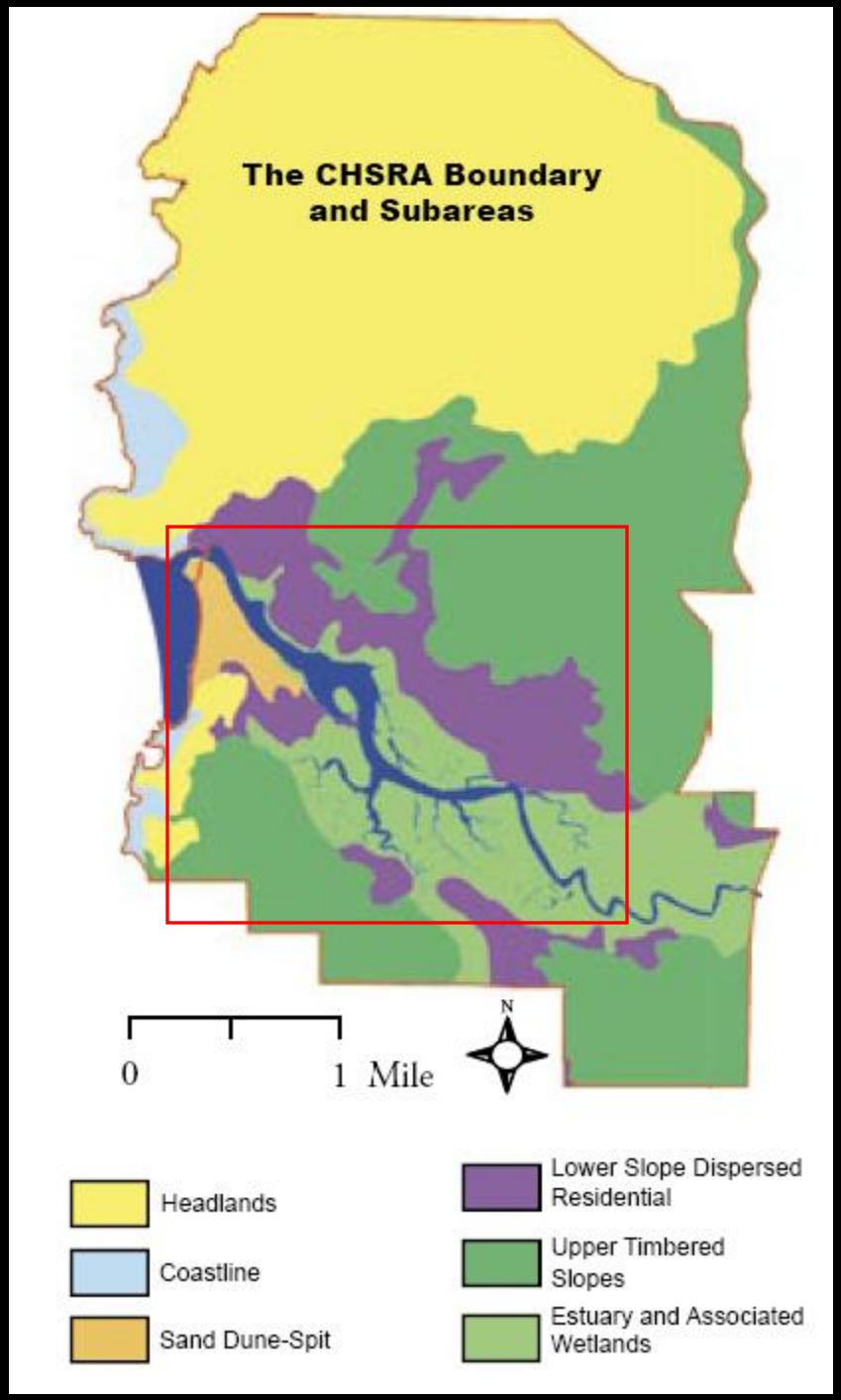
Salmon River Estuary Projects

- Background
- Past Projects
- Current and Future Projects

Salmon River Estuary Projects

- Background

- UN Biosphere Reserve
  - Cascade Head Experimental Forest
  - Cascade Head Scenic Research Area
- Cascade Head Preserve (TNC), Westwind Stewardship Group, Siuslaw National Forest


The CHSRA Boundary
and Subareas
0
1 Mile
N
Headlands
Coastline
Sand Dune-Spit
Lower Slope Dispersed
Residential
Upper Timbered
Slopes
Estuary and Associated
Wetlands

Estuary and Associated Wetlands

Long-term Goal

Protect and perpetuate the fish, wildlife and scenic and research-education values while allowing dispersed recreation use and other uses compatible with the protection and perpetuation of the unique natural values of the area.

Estuary and Associated Wetlands

Management Direction

Revitalization and restoration of estuary and associated wetlands to a functioning estuarine system free from the influences of man

Landscape Changes

1945 Aerial Photograph

Salmon River Estuary Projects

- Past Projects


Mitchell Marsh
Restored 1976
Y Marsh Restored 1987
Salmon River
Salmon Creek Marsh
Restored 1996
Salmon Creek
US Highway 101
Tamara Quays
Pixieland
Otis

Salmon River Estuary Projects

- Current and Future Projects

Lower Salmon River Project

June 19, 2006 – August 11, 2006

Project Team

Greer Anderson
Fish & Wetland Ecologist

Mary Bushman
Botanist

Corrina C. Chase
Marine Affairs

Grant Morehead
Urban & Regional Planning

Sarah Schrock
Landscape Architecture

Project Managers:
Karen Bennett & Katie Brehm

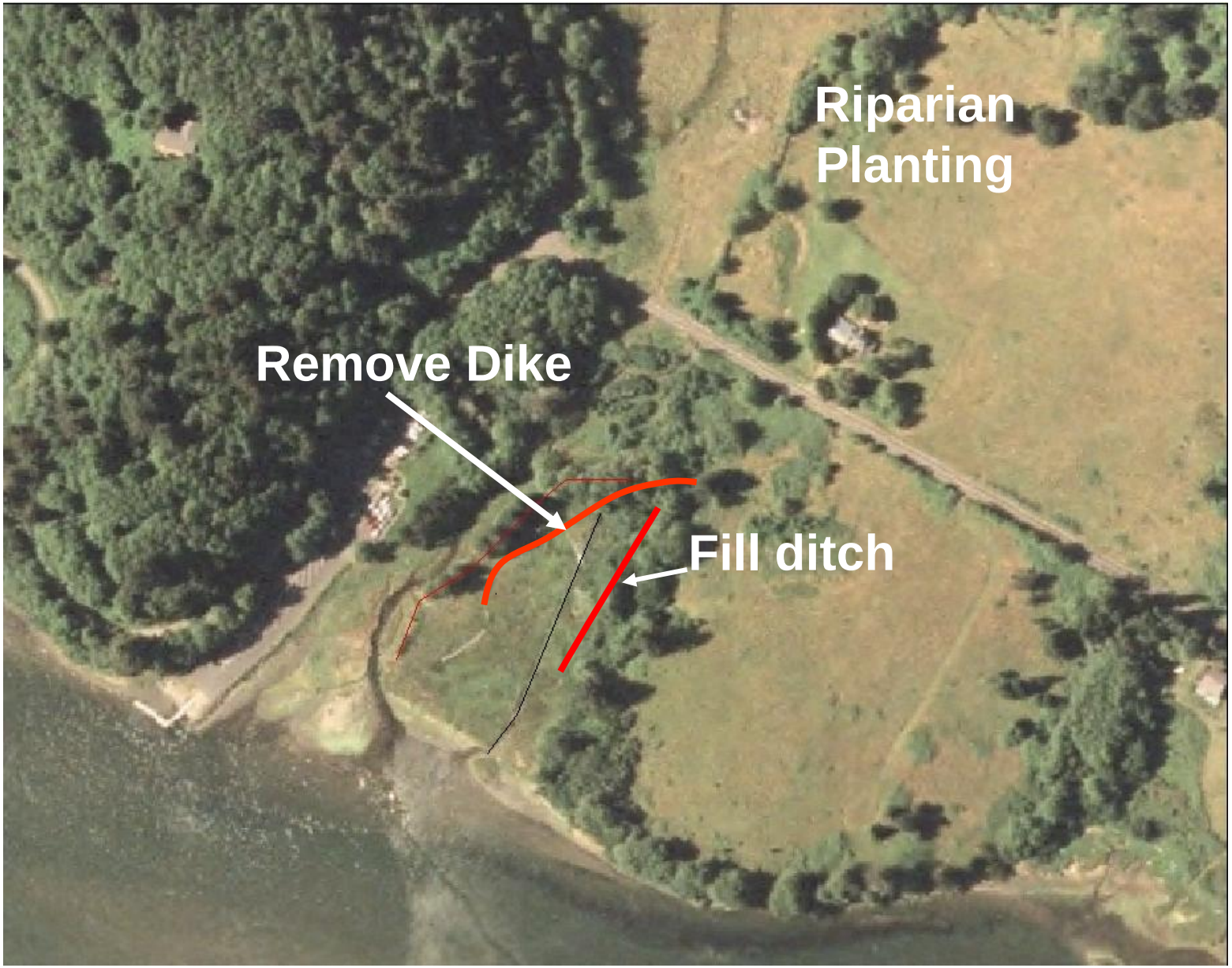
Continuing a Vision for a Treasured Landscape

Salmon River Estuary Projects

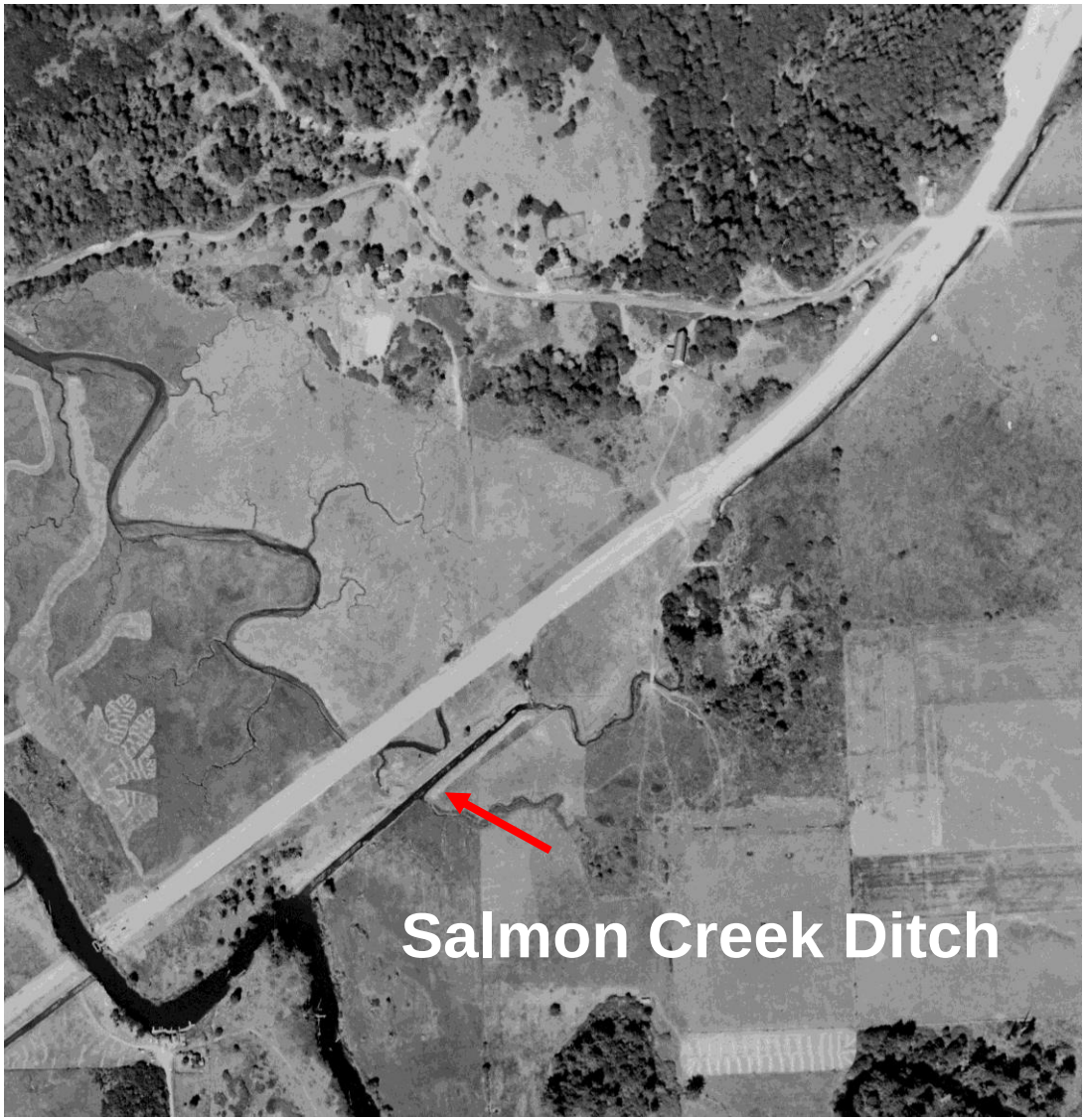
- Gnos Dike
  - Repair dike (2008)
- Crowley Creek
  - Riparian planting (2007)
  - Remove dike across from Knight Park (2008)
- Tamara Quays
  - Restore hydrology and native vegetation (2008)
- Pixieland
  - Asphalt and noxious weed removal (2007)
  - Restore hydrology and native vegetation (2008)
- Highway 101 – Salmon & Fraser Creeks
  - Restore stream and tidal flows


Crowley Creek
Gnos Dike
Highway 101
Salmon Creek
Berm
Tamara Quays
Pixieland

Crowley Creek Restoration



Salmon Creek Berm

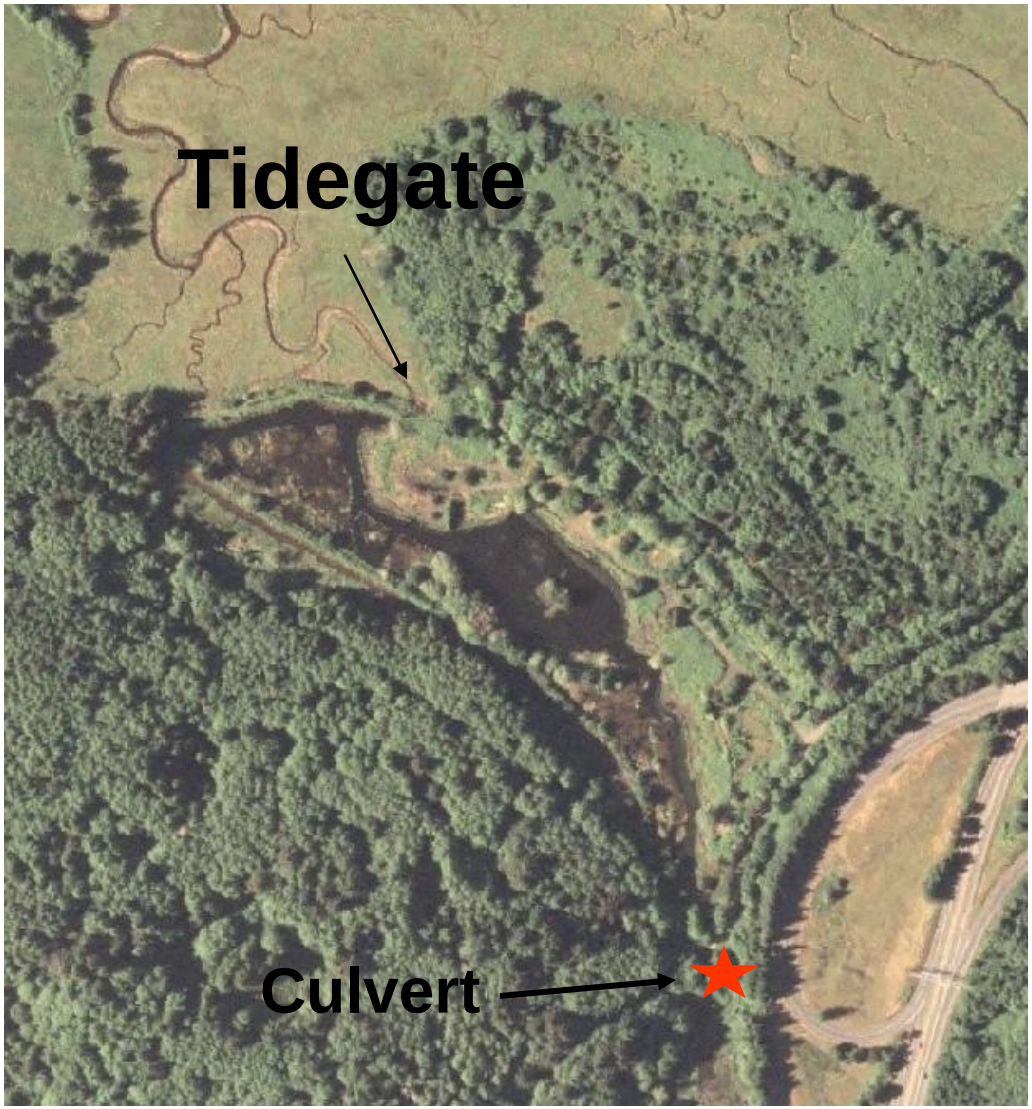


1961 photo

Short-term repair to prevent juvenile Coho fatalities in pastures.

Long-term goal to work with landowner on stream restoration.

Tamara Quays Restoration



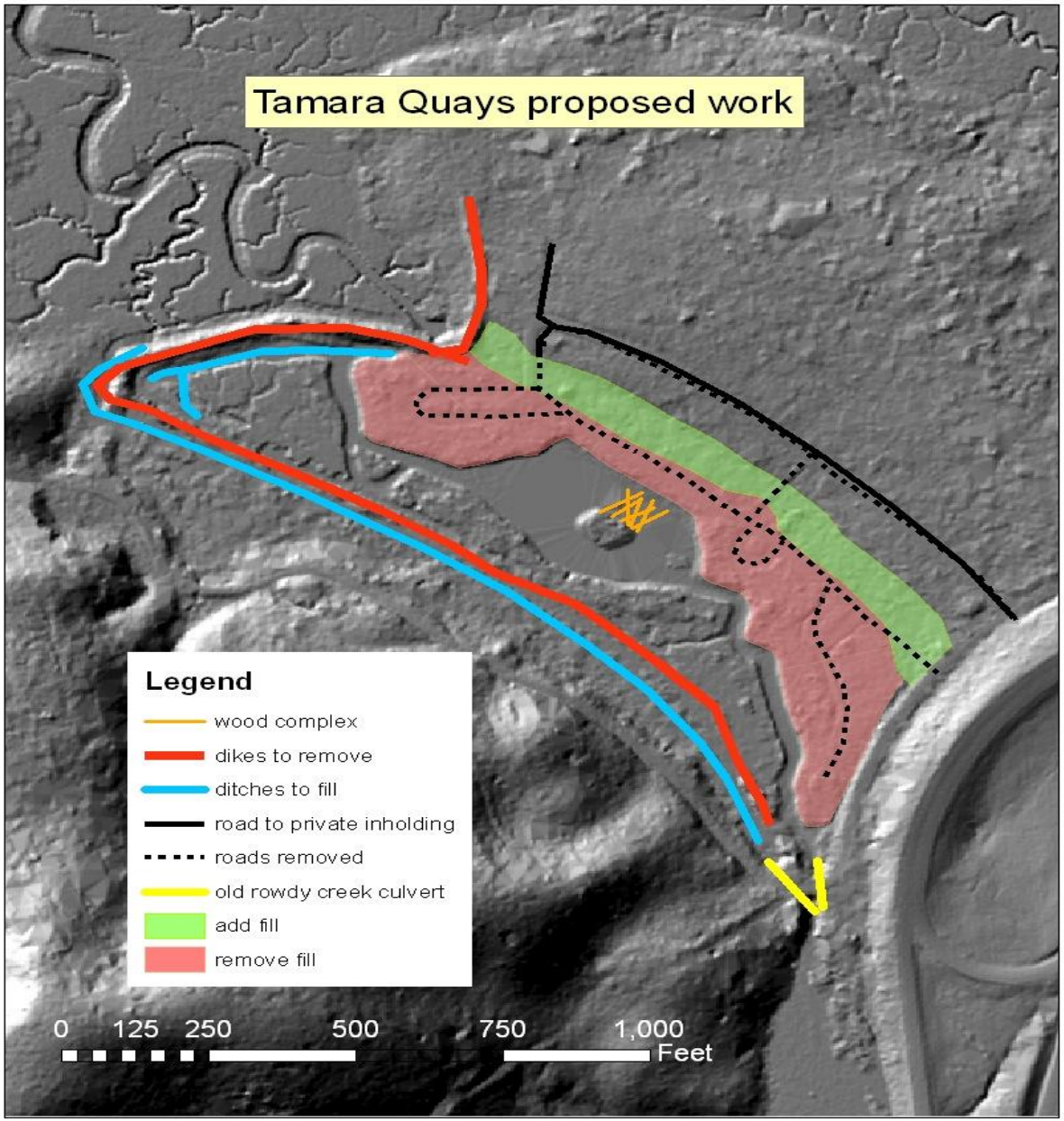
2005 photo-Tamara Quays, Kingfisher Lake and dikes

Remove dikes, tidegates, and Kingfisher Lake.

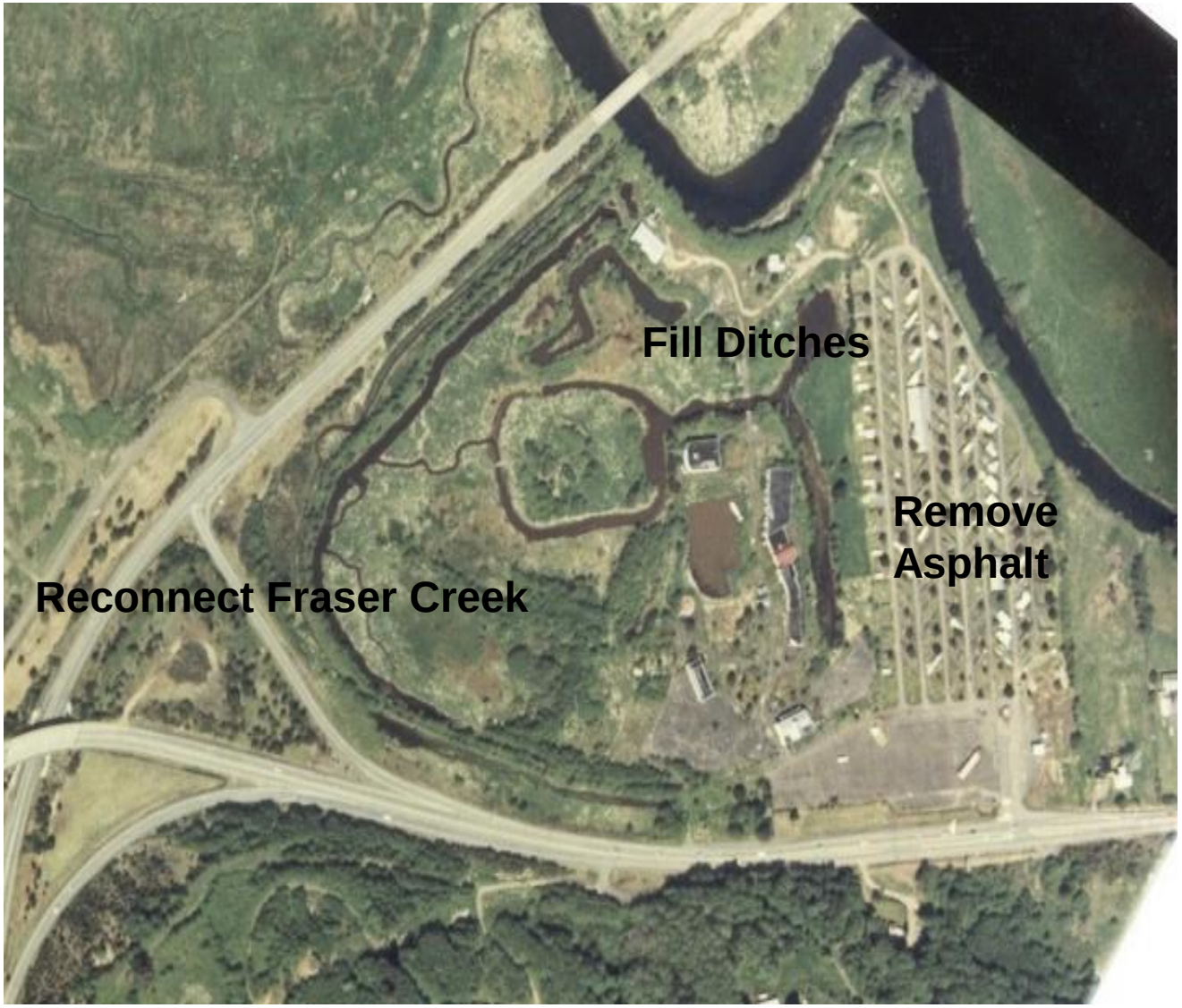
Fill ditches and replace culvert with fish-passage culvert.

Restore native vegetation.

Tamara Quays Restoration



Pixieland



Restore Fraser Creek.

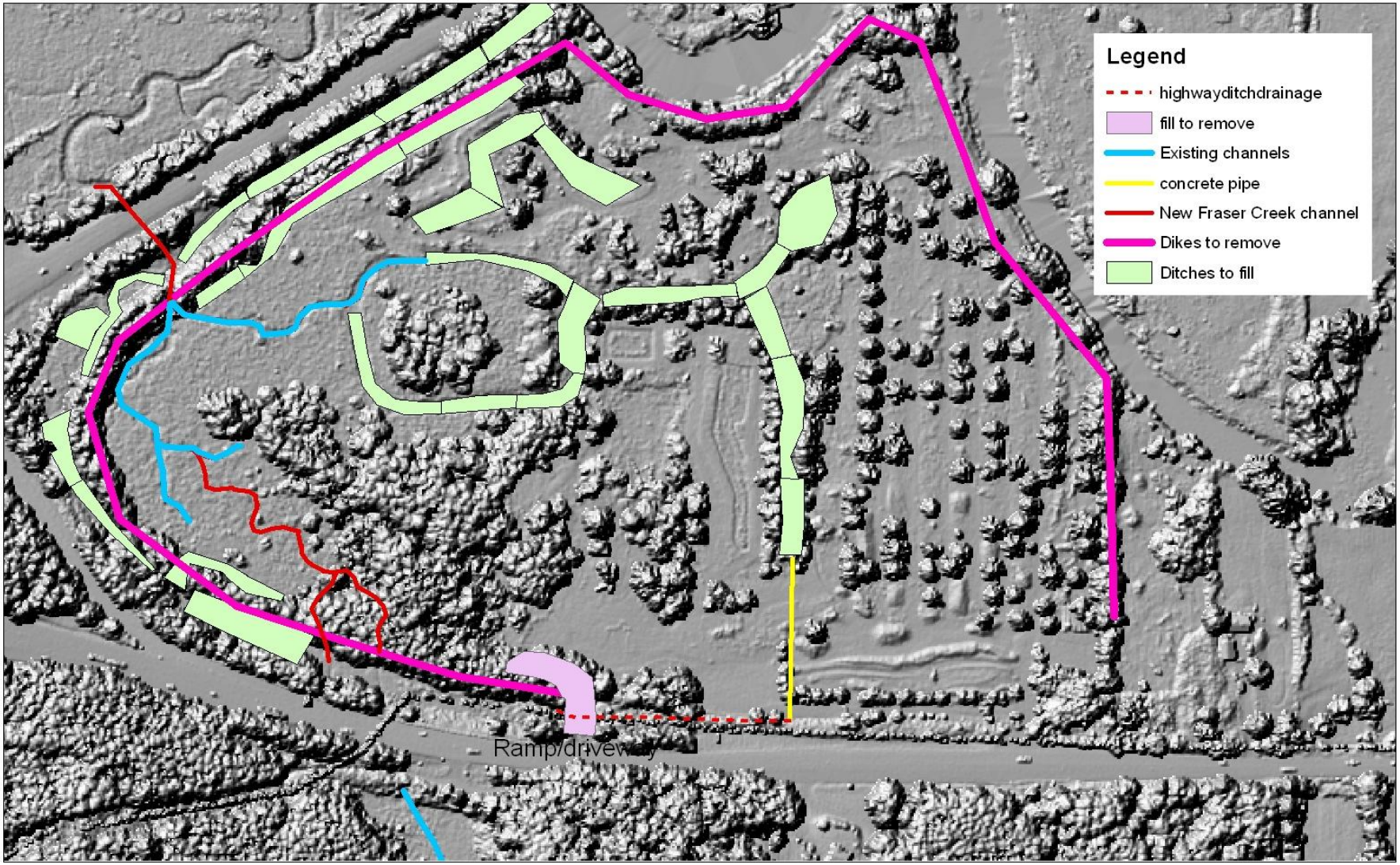
Remove dike, concrete and asphalt.

Fill ditches and pond.

Restore native vegetation.

Possible fishing access site.

Pixieland


Legend
highwayditchdrainage
fill to remove
Existing channels
concrete pipe
New Fraser Creek channel
Dikes to remove
Ditches to fill
Ramp/driveway

Highway 101 Project

Hwy 101 is the last major dike on estuary.

Reconstruct Hwy 101 from Three Rocks Rd to Hwy 18.

Highway 101 Project

Recommendations

(Artistic rendition)

Restoration of Tidal Marsh

- Continue to work with the Gnos family towards restoration of the marsh upstream of the highway.
- Wetland mitigation banking and other funds are available to compensate for the change.

Viaduct

- Optimally, the viaduct will stretch from the reconstructed Gnos dike to Tamara Quays.
- The Viaduct should be elegant, blend with the landscape, and allow for maximum sheet flow beneath.
- Construction should be sturdy and tall enough to withstand seismic activity, a tsunami, or predicted sea-level rise.
- The road should include a wide bike and pedestrian pathway.
- Some form of access to the Salmon River should be allowed, either in the form of stairs or a path from the side.
- In the interim, blackberries should be mowed to allow viewing of the estuary

Salmon Creek Channel

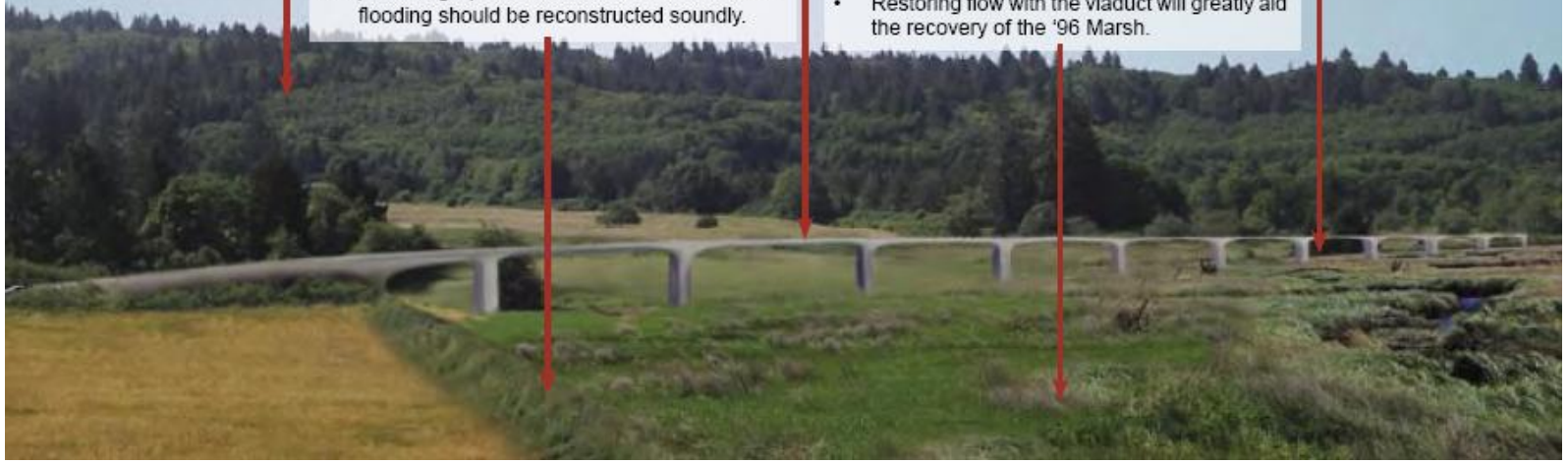
- Salmon Creek will be reconnected to its historical channel downstream of the highway.
- Sinuosity and depth should be restored in the channel upstream of the highway.
- The ditch currently routing salmon creek should be disconnected from Salmon Creek or filled entirely.
- Fraser Creek will also be allowed to return to its historic sinuous channel

Reconstruct the Gnos Dike and Culvert

- To protecting a portion of the Gnos land from tidal flooding should be reconstructed soundly.

Passive Recovery of the '96 Marsh

- Restoring flow with the viaduct will greatly aid the recovery of the '96 Marsh.



Highway 101 Project

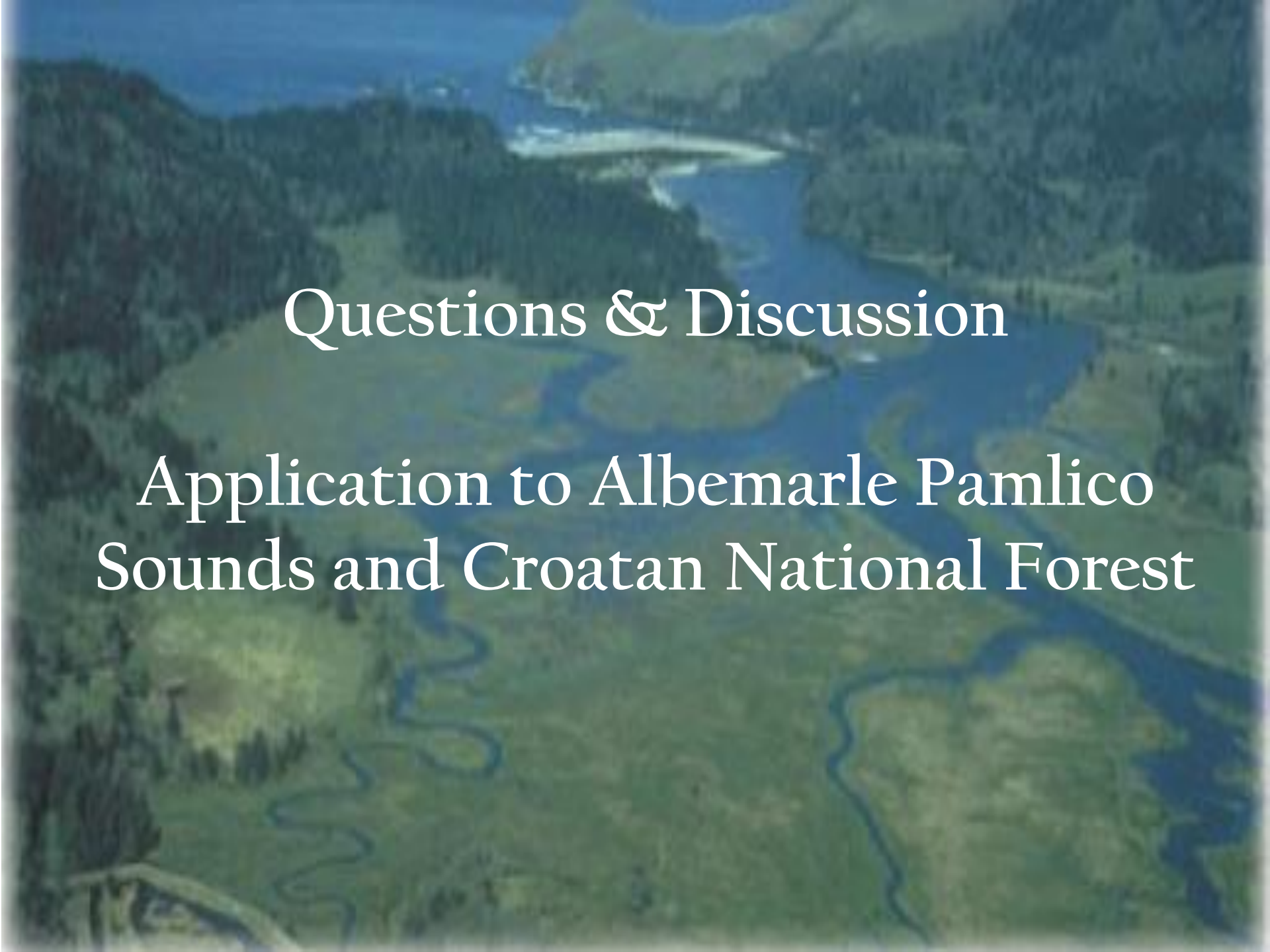
Restore ecological function of Salmon River Estuary

- Reconnect Salmon Creek
- Reconnect Fraser Creek
- Restore tidal flows
- Restore marshes
- Restore aquatic habitat & life

Highway 101 Project

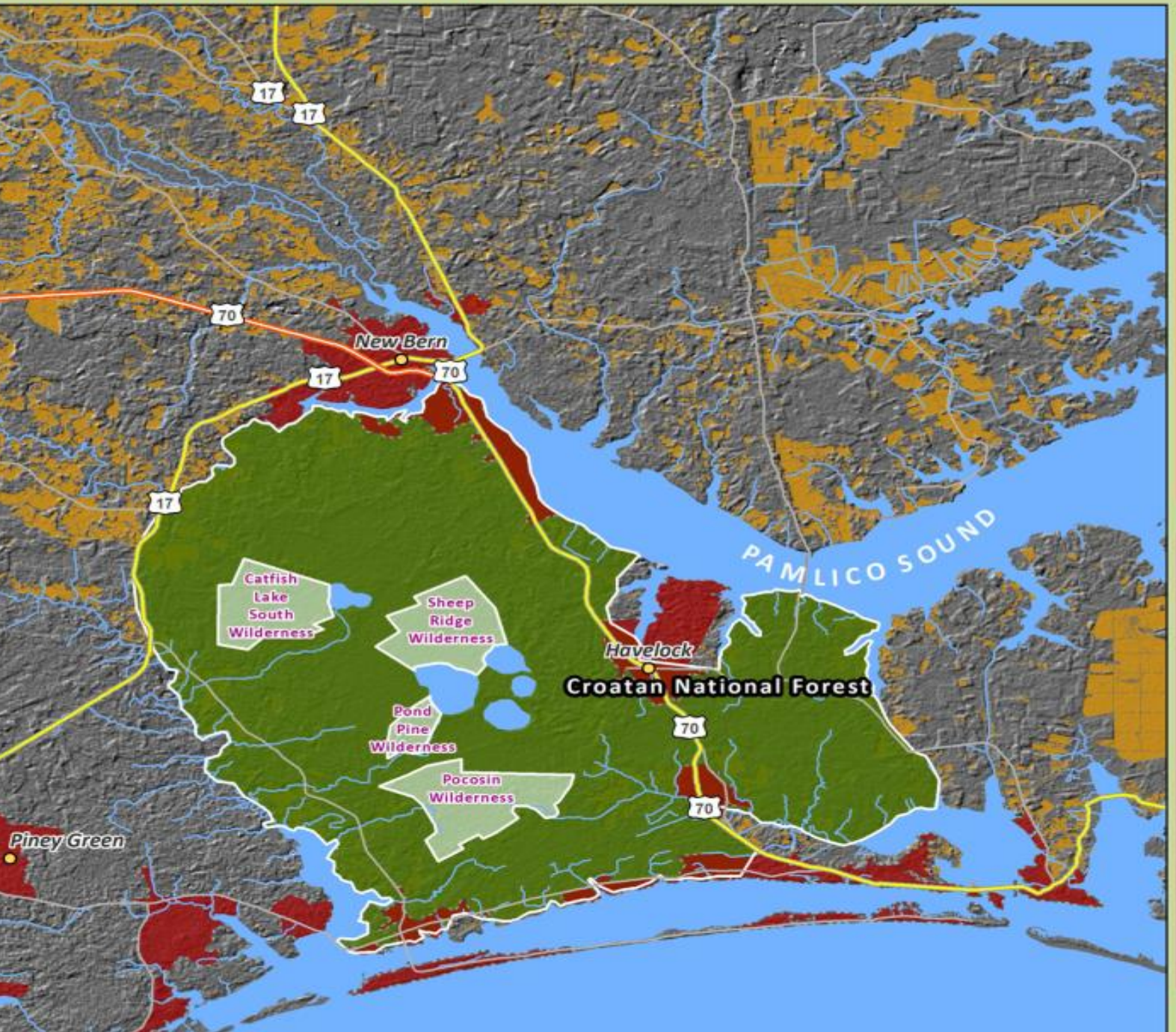
Addresses following issues:

- Ecological viability of river
- Transportation safety
- Fish & Wildlife passage
- Recreation
- Research & Interpretation
- Links to long-term goals and management direction



Questions & Discussion

Application to Albemarle Pamlico Sounds and Croatan National Forest



INTERFACE AND CONFLUENCE:

CROATAN NATIONAL FOREST AND ALBEMARLE AND PAMLICO SOUNDS

LEGEND

- CITIES
- NATIONAL FOREST
- WILDERNESS
- RIVERS
- WATER BODIES
- URBAN AREAS
- LIMITED ACCESS
- HIGHWAY
- MAJOR ROAD
- CULTIVATED CROPS