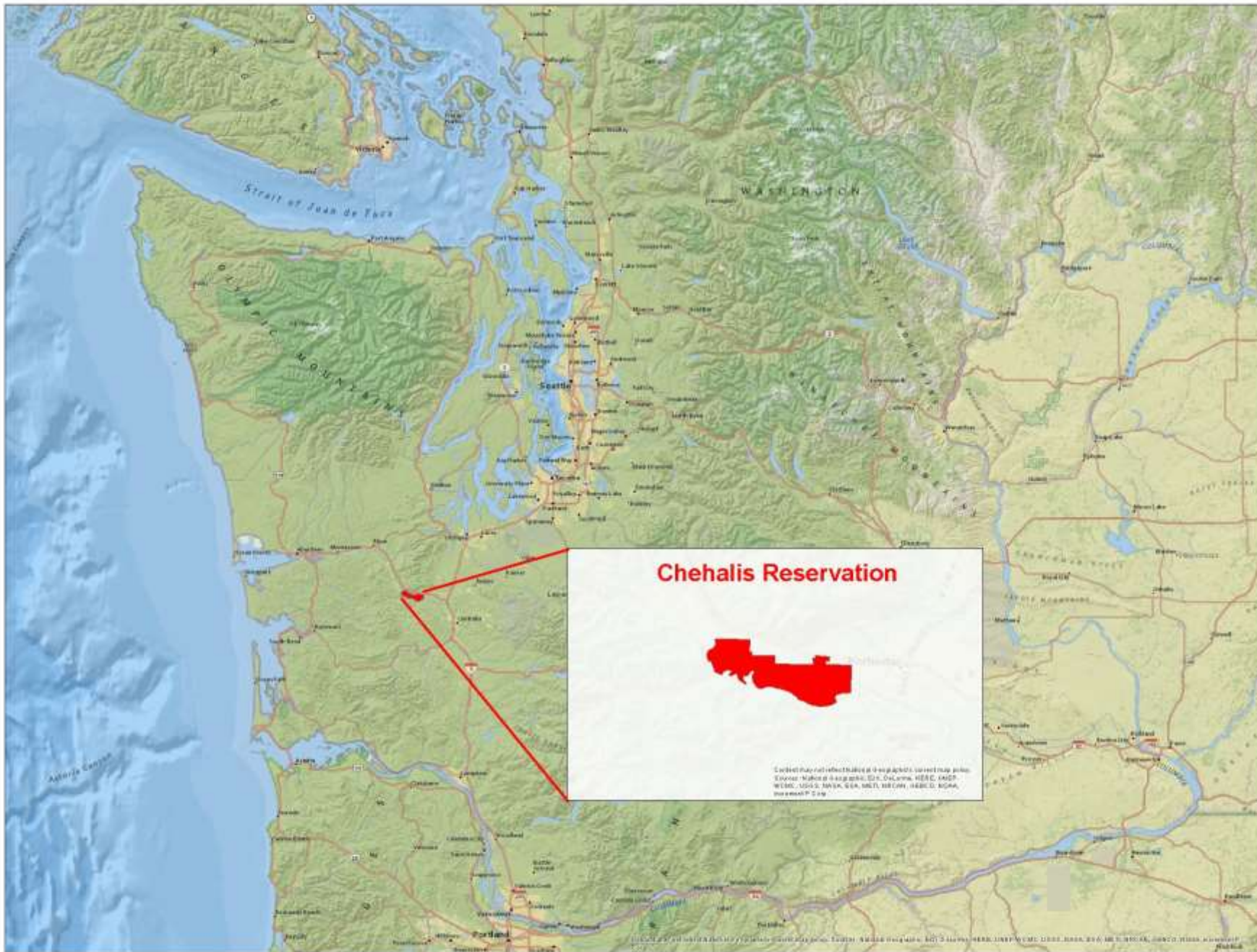


FLOODPLAIN MANAGEMENT ON THE CHEHALIS RESERVATION

Glen Connelly
Environmental Programs Manager
Chehalis Tribe



Chehalis Reservation



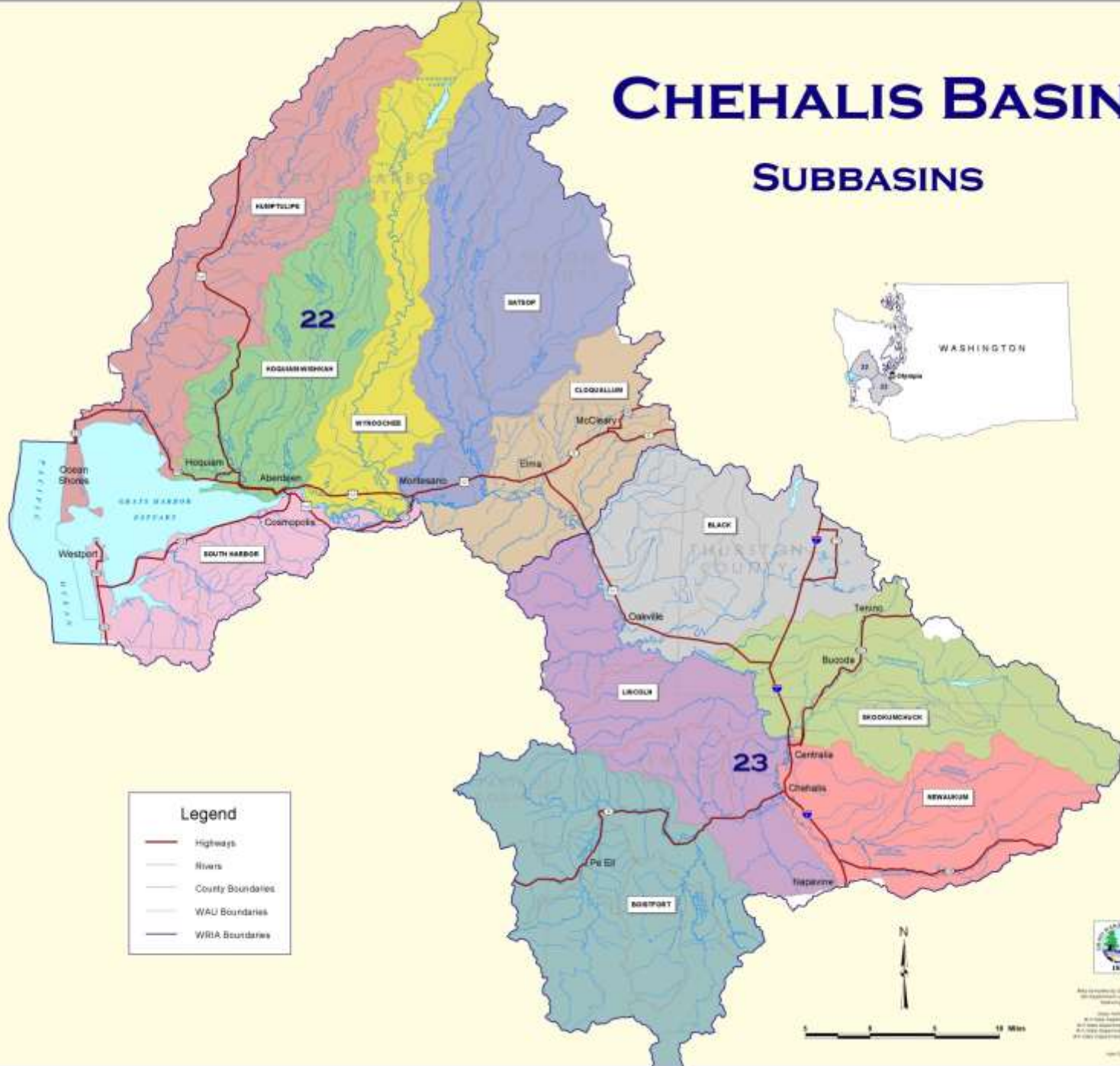
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Chehalis Basin



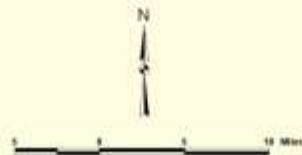
CHEHALIS BASIN

SUBBASINS



Legend

- Highways
- Rivers
- County Boundaries
- WAU Boundaries
- WRIA Boundaries



Washington State Department of Ecology
 1994

Map created by the author using data from the Washington State Department of Ecology. All other data is the property of the respective agencies.

Chehalis Basin Facts



Population: 140,000



Size of the Basin: 2700 square miles



Counties with significant land: Grays Harbor
Thurston
Lewis
Mason



Major Urban Centers:

Chehalis 7,055
Centralia 12,000
Aberdeen 16,000
Hoquiam 9,700



Major Rivers: Chehalis
Black
Humptulips
Hoquiam
Wishkah
Satsop
Wynoochee



Land Uses:

Forestry: 87%
Agriculture: 8%
Urban: 3%

Tribal Nations: Confederated Tribes of the Chehalis Reservation
Quinalt Indian Nation



Major anadromous fish species: Fall chinook
Coho
Steelhead Trout
Chum



Water facts: 180 lakes, ponds and reservoirs
3,350 linear stream miles

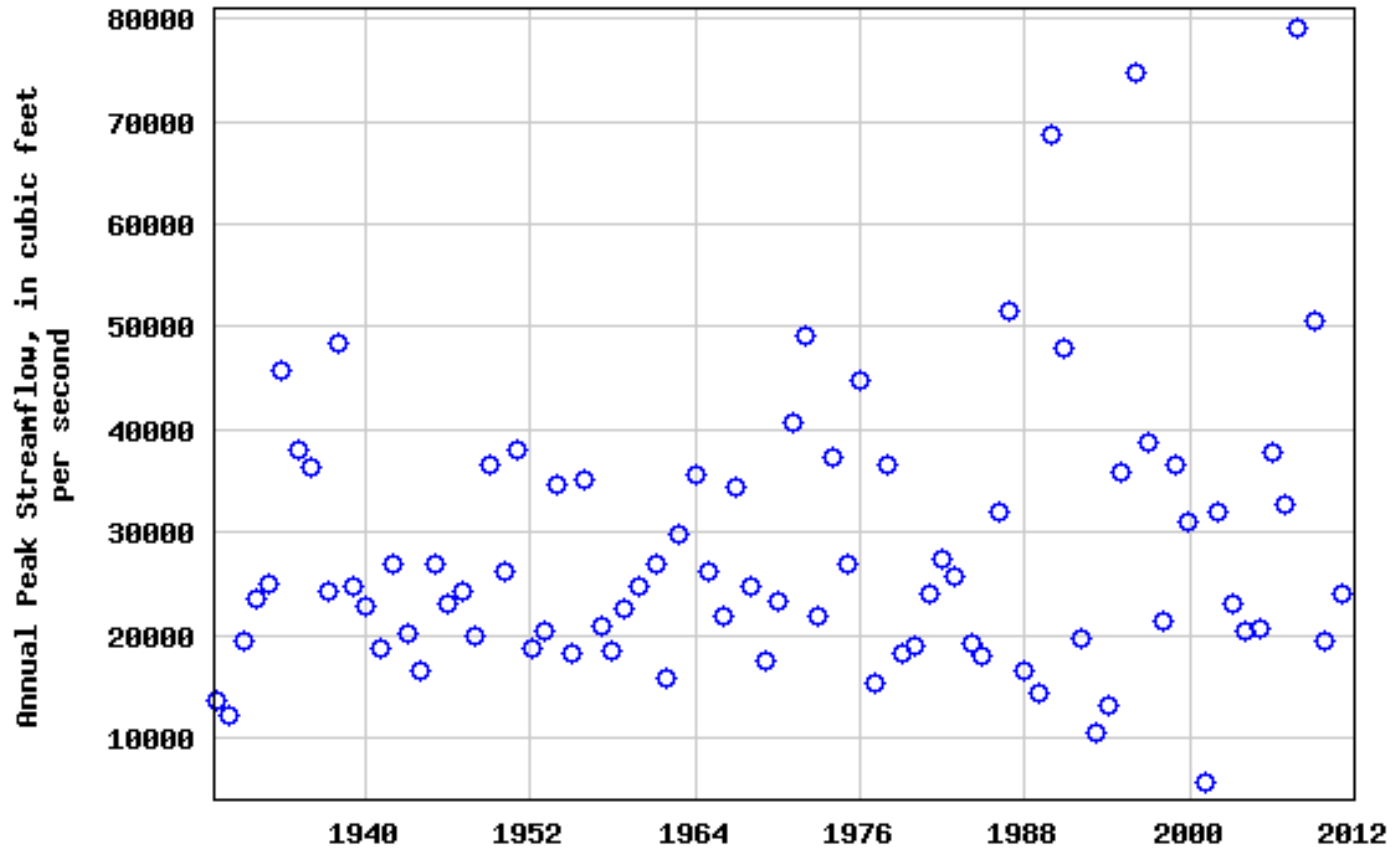
Chehalis Reservation Vicinity



Basin Flood History



USGS 12027500 CHEHALIS RIVER NEAR GRAND MOUND, WA



Historic Flooding



Tribal Gas Station 2007 Flood



Reservation Lowlands 2007 Flood



Highway 12 2007 Flood



Main Access Road 2009 Flood



Tribal Campus 2009 Flood



Overall Plan

- ⦿ Avoid development in the flood plain
- ⦿ Provide compensatory storage
- ⦿ Reconnect flood plains and restore habitat
- ⦿ Slow flood waters down
- ⦿ Allow for ponding and reduction of peak flows

Culvert Replacement





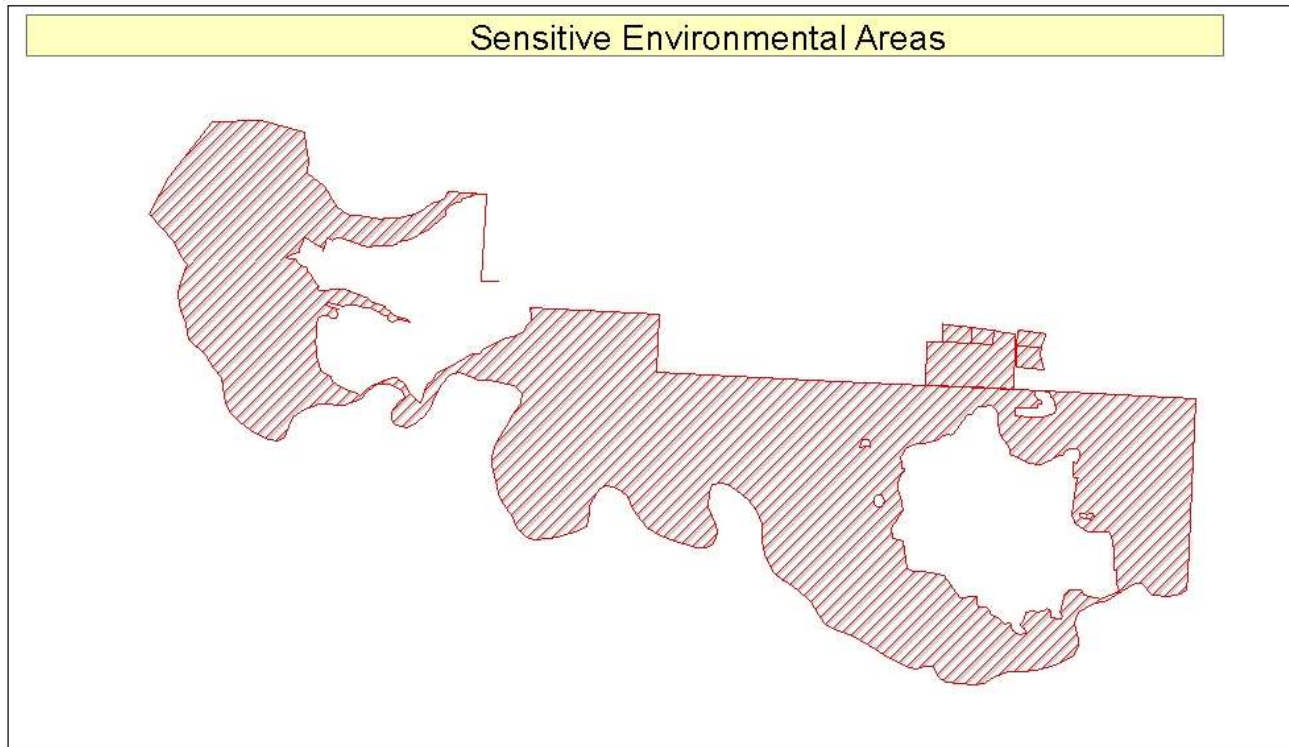




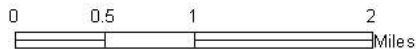
10/29/2012



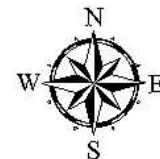
Limited Areas For Development



This map represents land on the Chehalis Reservation that has severe development restrictions. Layer was developed using lidar data modeled against a 1996 Digitized Flood Map.



Chehalis Tribe Dept. Natural Resources
October, 2015
G. Connelly



Tribal Zoning Map



Compensatory Storage



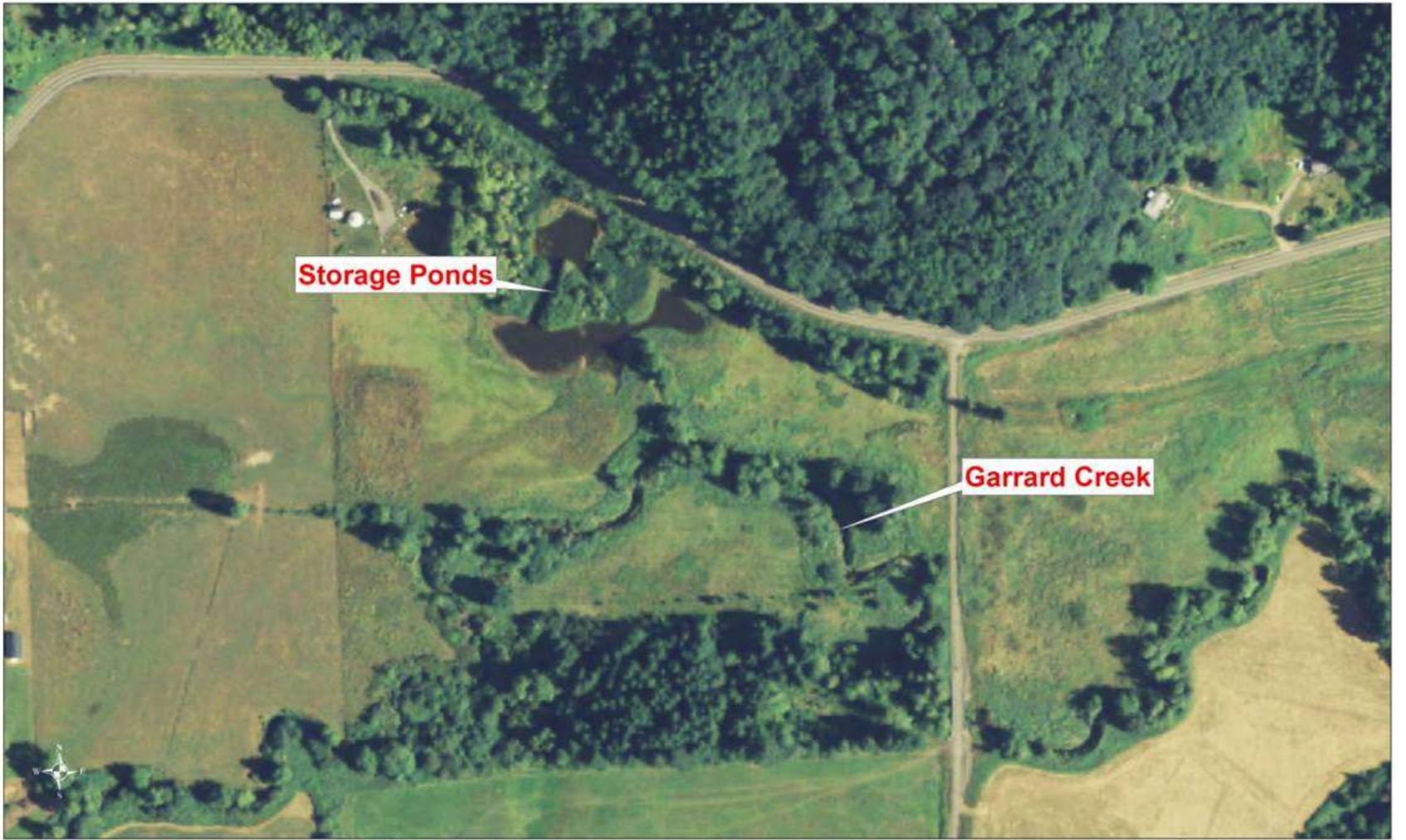
Storage Pond





Small Scale Storage Projects





Storage Ponds

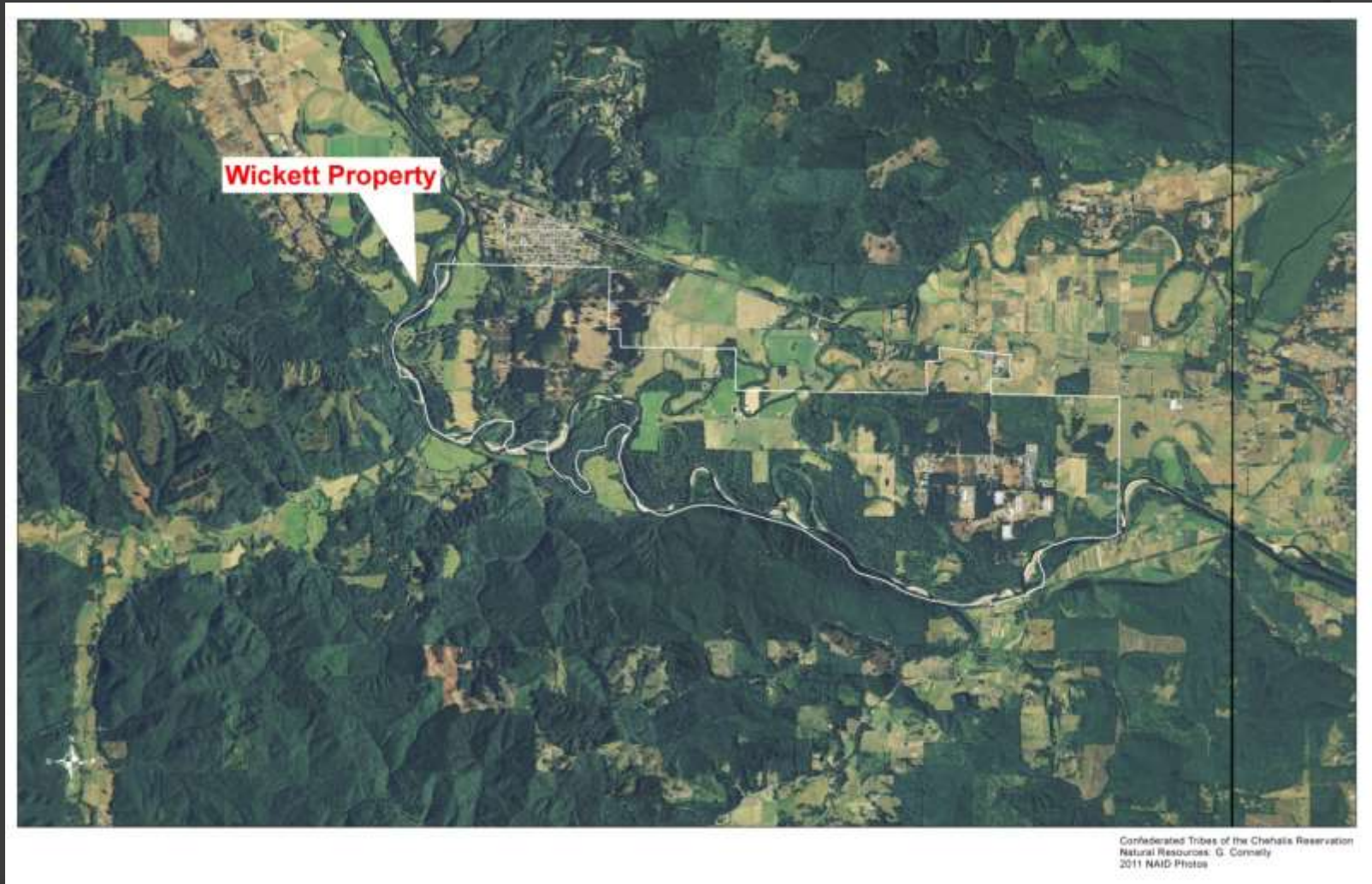
Garrard Creek

Flood Plain Reconnection

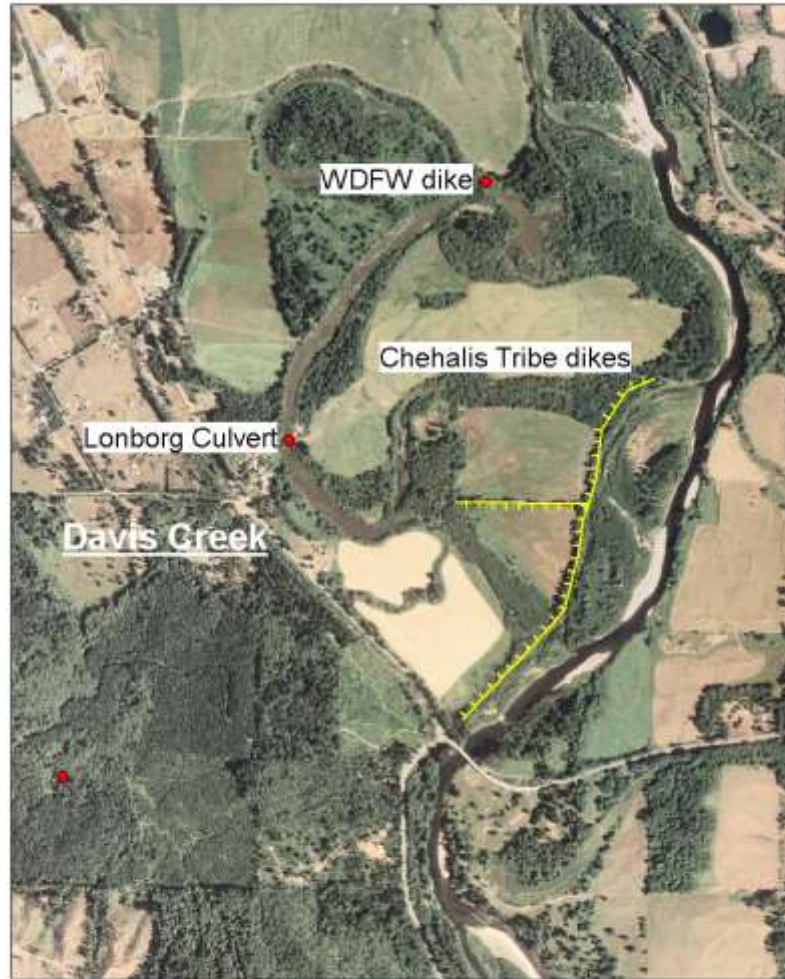


0 800 1,600 3,200 4,800 6,400 Feet

Wickett Levee Removal Project



Wickett Property



Levee Removal



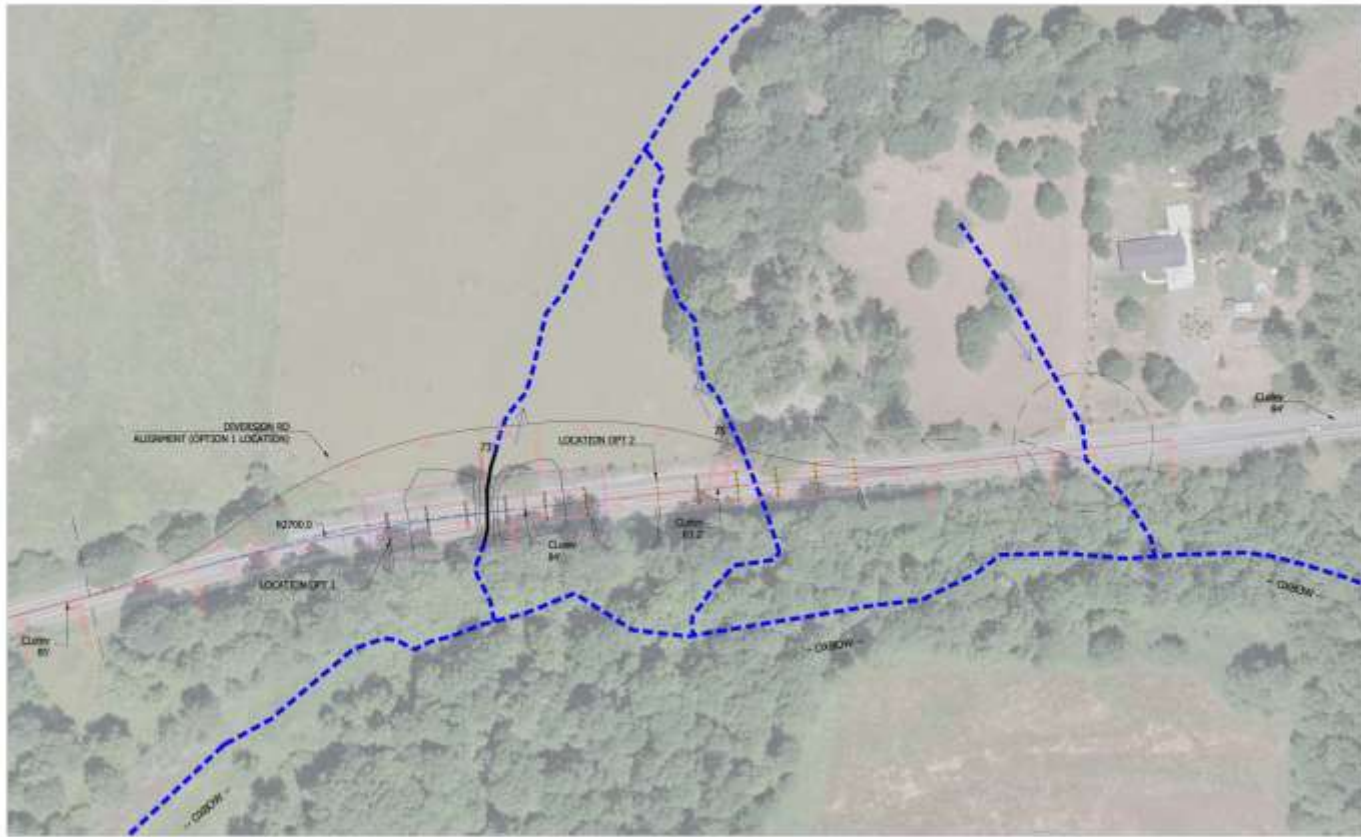
After Removal



Farmer Access Bridge



Restoring Historic Flood Channels



Flood Relief Bridge



08_004



Porter Oxbow Reconnection



Legend

-  Lake (15.6 acres)
-  Wetlands (20.2 Acres)
-  Trails/Roads (5728ft trails, 775ft Road)



M. White
CTDNR
July 31, 2014

Porter Project Storage Pond



Porter Engineered Wetlands



Review

- ⦿ Restrict development in the flood plain.
- ⦿ Compensate for past fill and create small storage areas to slow flood waters and temporarily hold them to lower peak flows and improve water quality.
- ⦿ Give the river room to move.
- ⦿ Utilize multi-benefit restoration projects to restore natural flood plains and their beneficial functions.

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Thank you!