

# History and Conservation of Columbian White-tailed Deer





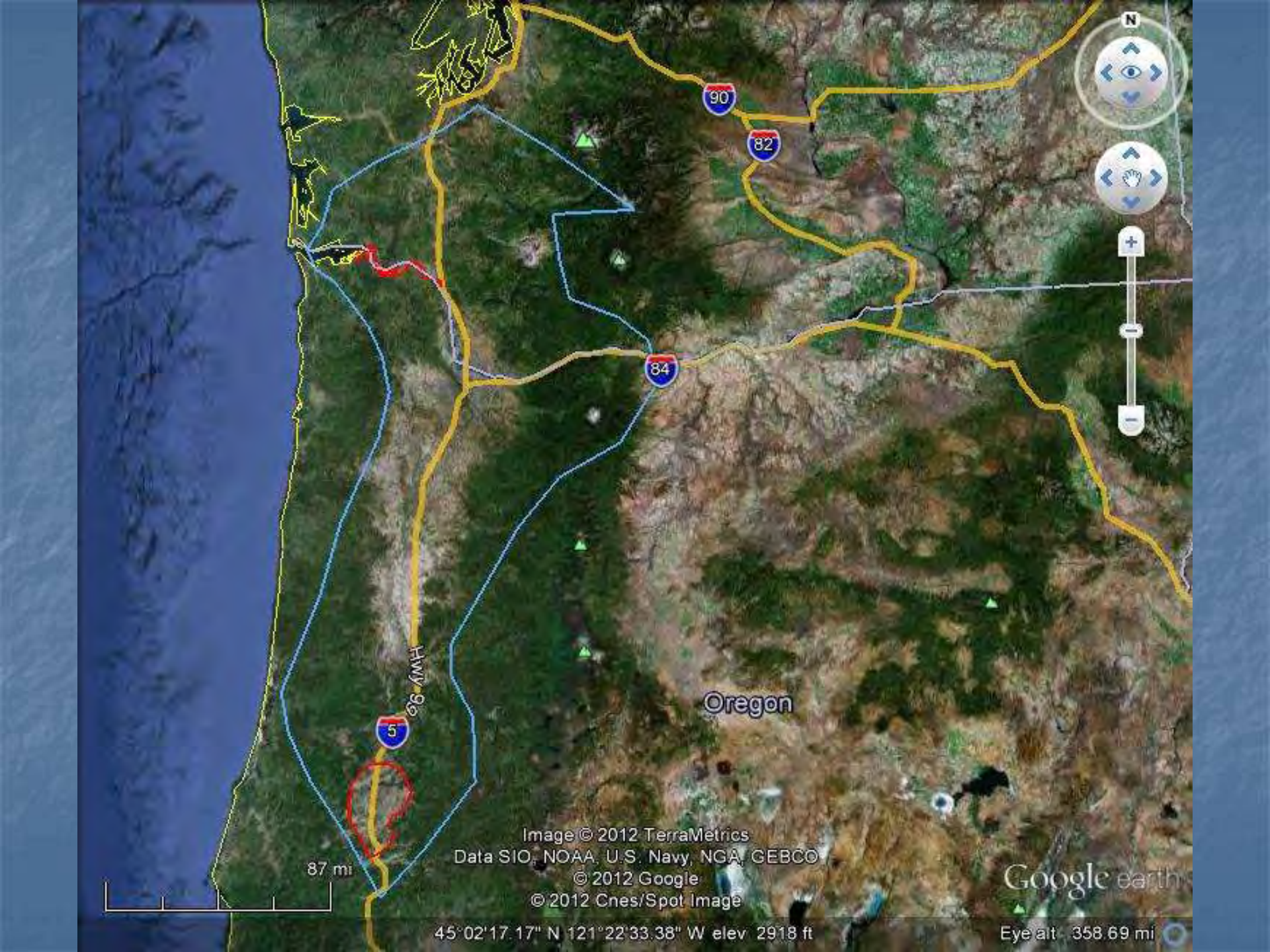


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Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
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45°02'17.17" N 121°22'33.38" W elev 2918 ft

Google earth

Eye alt 358.69 mi



# Reason for Decline

- Anthropogenic Changes—Habitat Loss
  - Agriculture
  - Development
  - Loss of Successional Habitat
- Overhunting
- Invasive Species
- Predation



# Current Issues Local

- Habitat Quality/Invasive Species
- Predation
- Habitat Barriers
- Social/Political Barriers



# Predation

- Fawn Recruitment
- Habitat Quality





Managing Deer in a Wetland







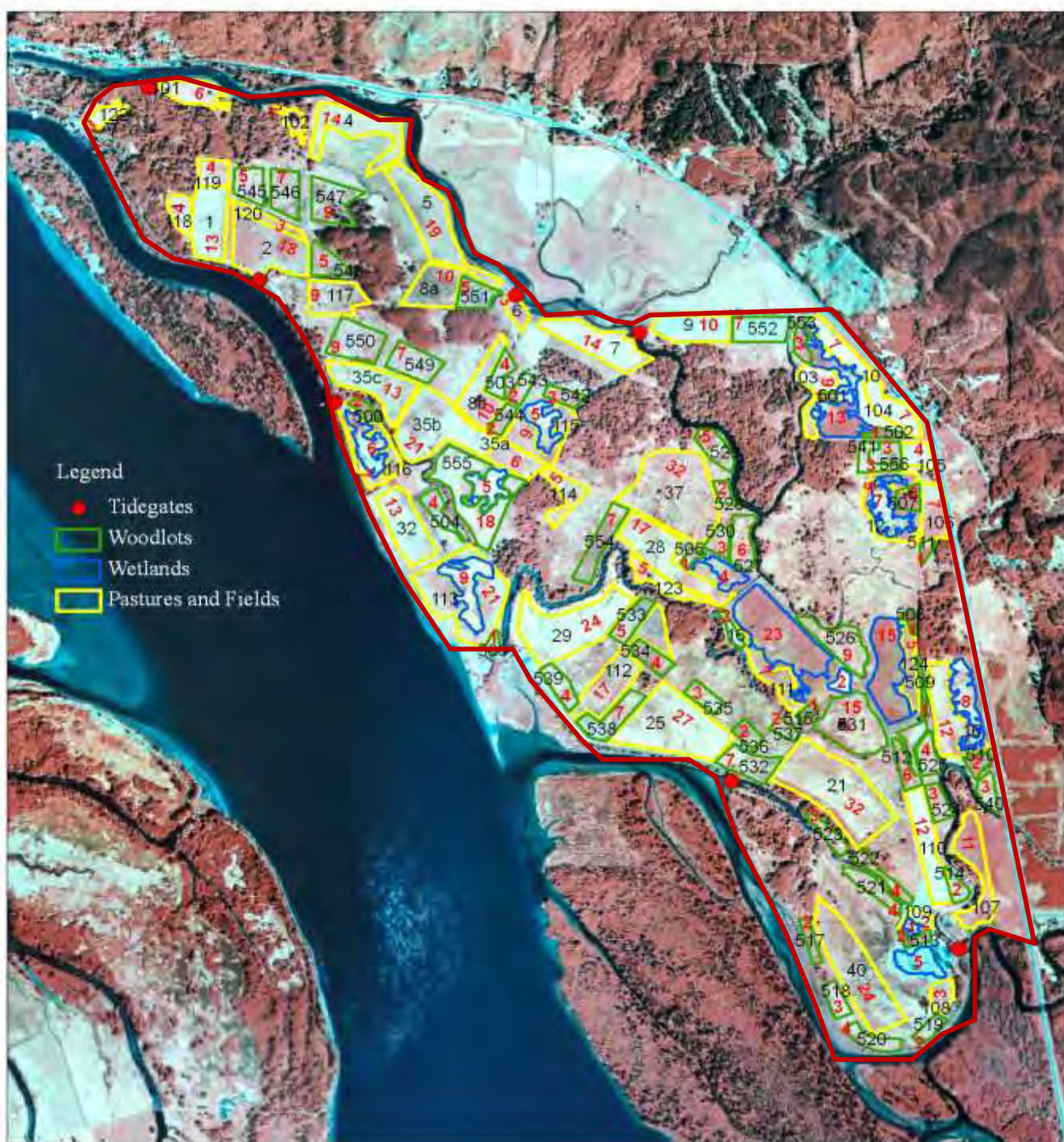


- Tilling
- Grazing
- Raising Soil Level









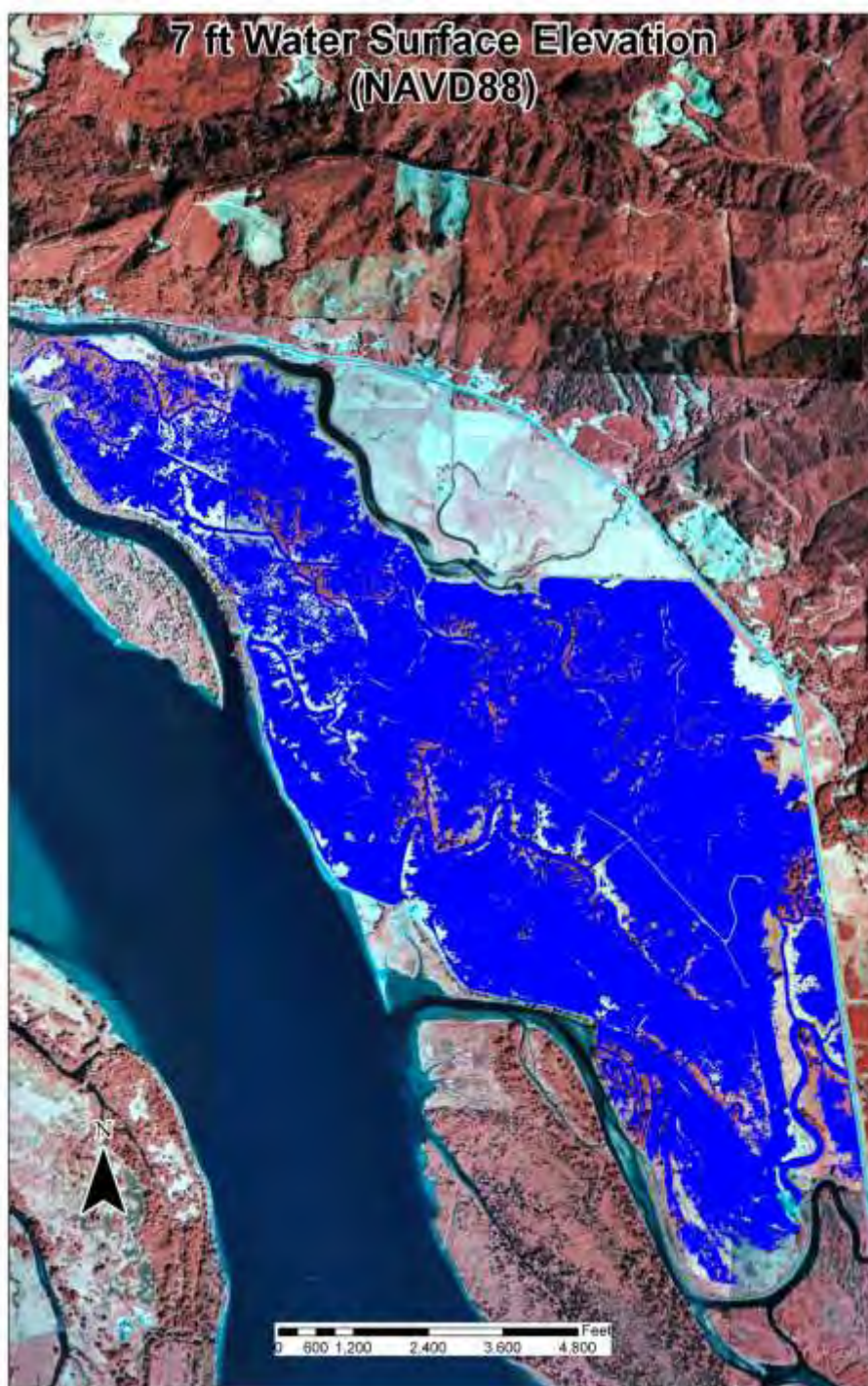


- Reclaimed Habitat
- Sea-level Rise





7 ft Water Surface Elevation  
(NAVD88)







Julia Butler Hansen  
Refuge for the

30




# Habitat Barriers



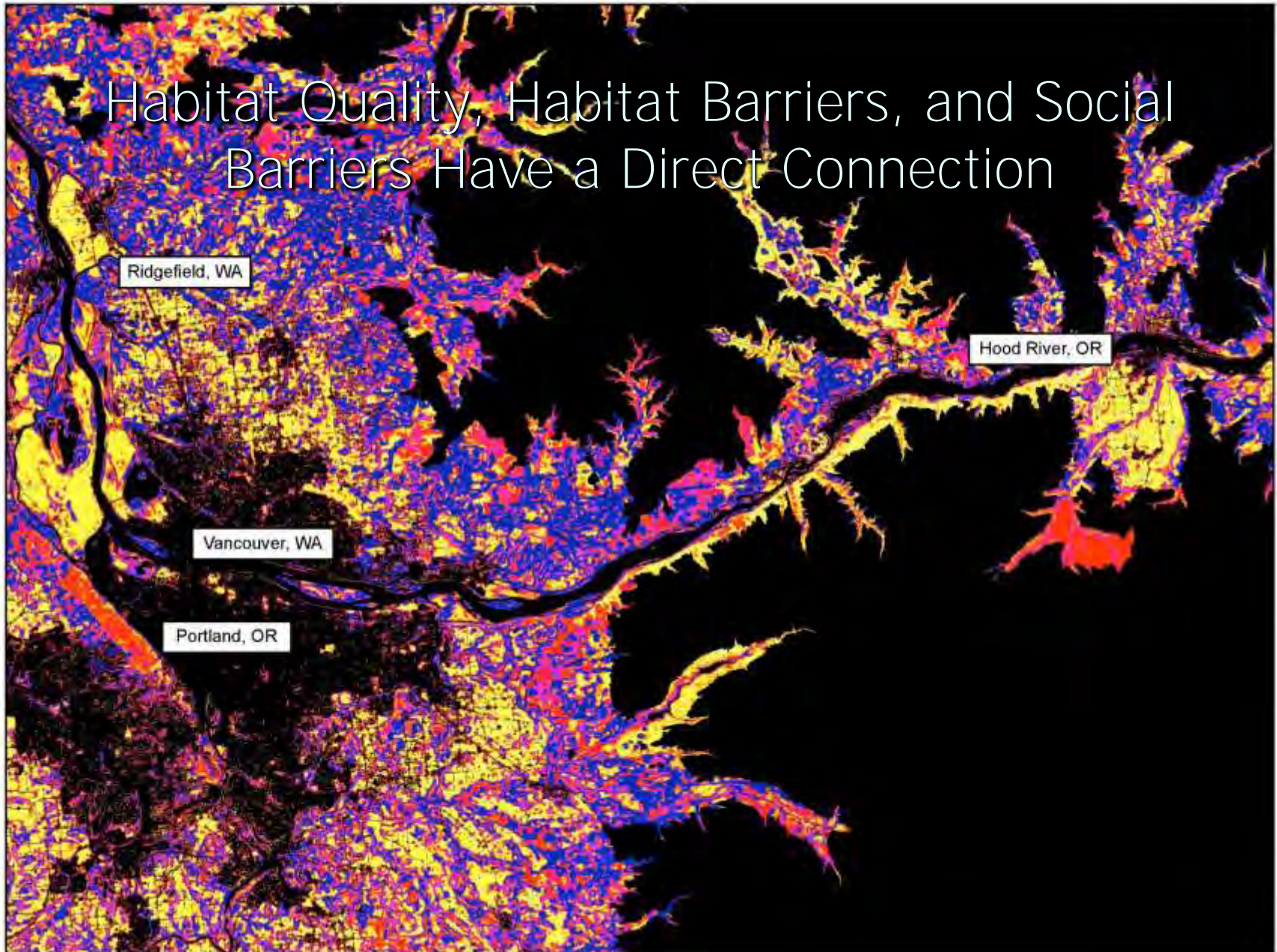


# Social/Political Barriers

- 
- Remove Social Concerns, and Solving the Problem is Easy
  - State vs. Federal Management
  - Property Damage, Hunting
  - Endangered Status



# Habitat Quality, Habitat Barriers, and Social Barriers Have a Direct Connection









# Darting

■ BAM





# Drive Netting





# Drop Netting

















# 2013 CWTD Translocation









Wahkiakum



Kelso

Image © 2012 TerraMetrics

© 2012 Google

Google earth

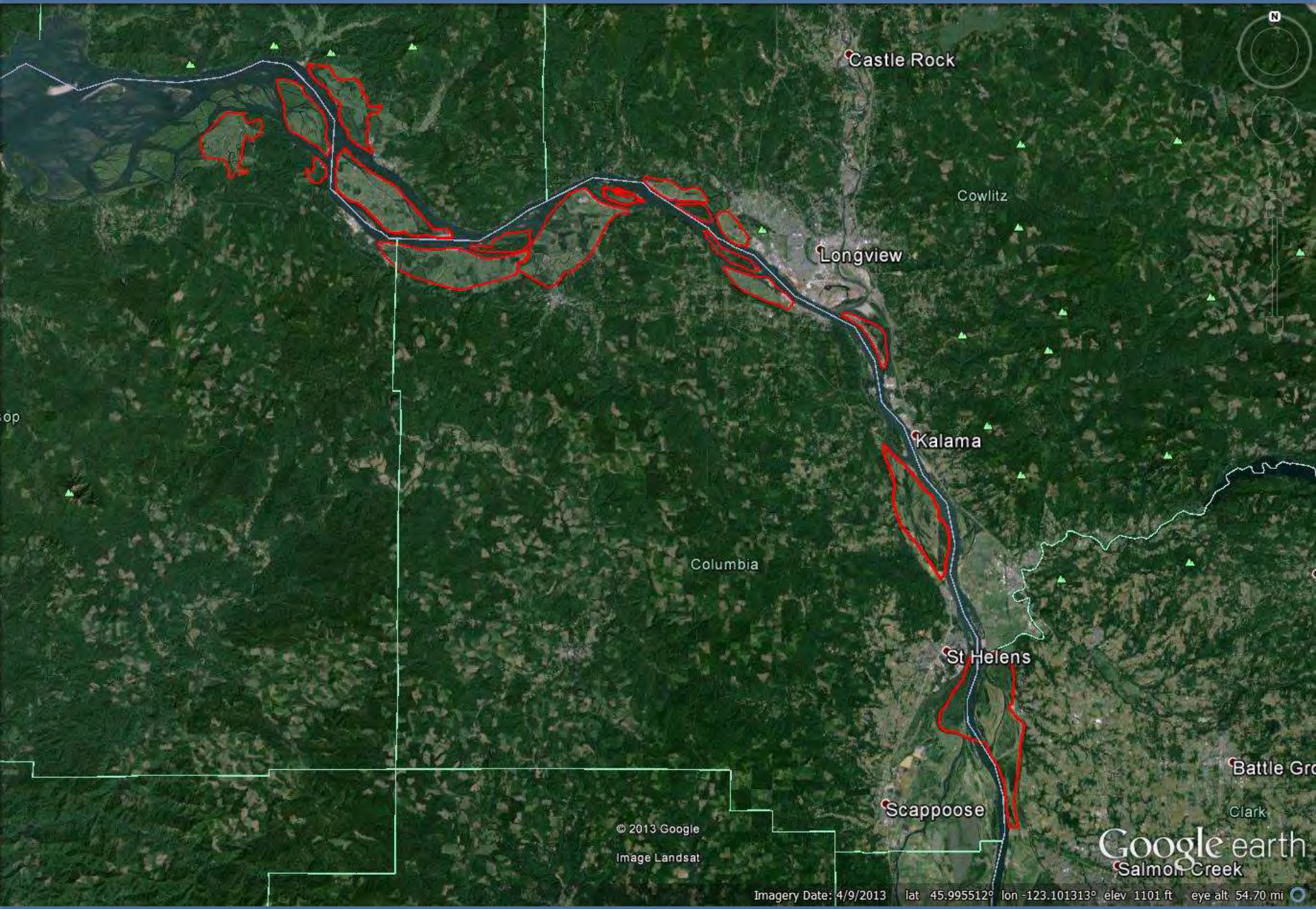
7.49 mi



46°10'41.87" N 123°13'47.47" W elev 487 ft

Eye alt 32.68 mi





Castle Rock

Cowlitz

Longview

Kalama

Columbia

St Helens

Scappoose

Battle Ground

Clark

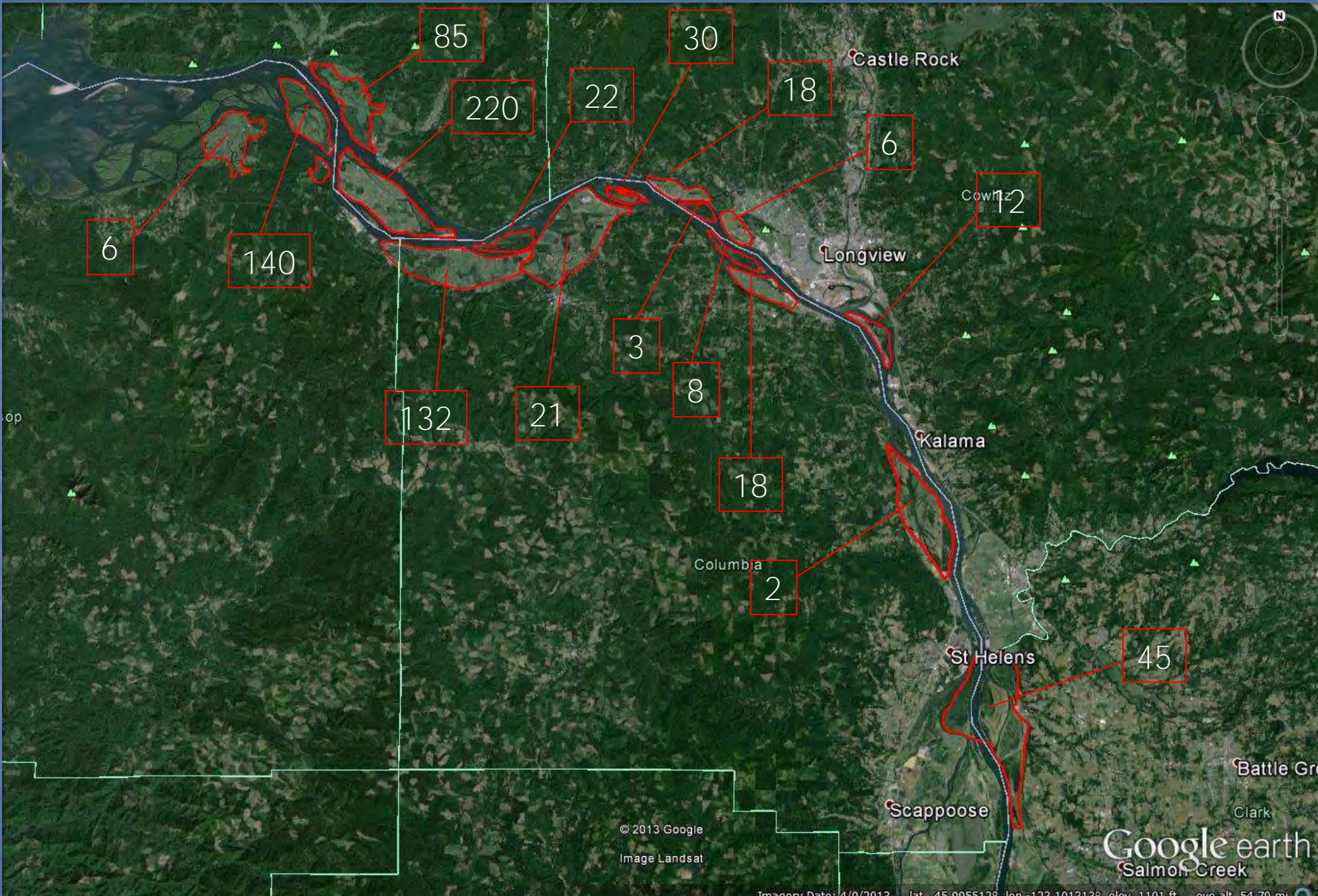
Google earth  
Salmon Creek

© 2013 Google  
Image Landsat

Imagery Date: 4/9/2013 lat 45.995512° lon -123.101313° elev 1101 ft eye alt 54.70 mi



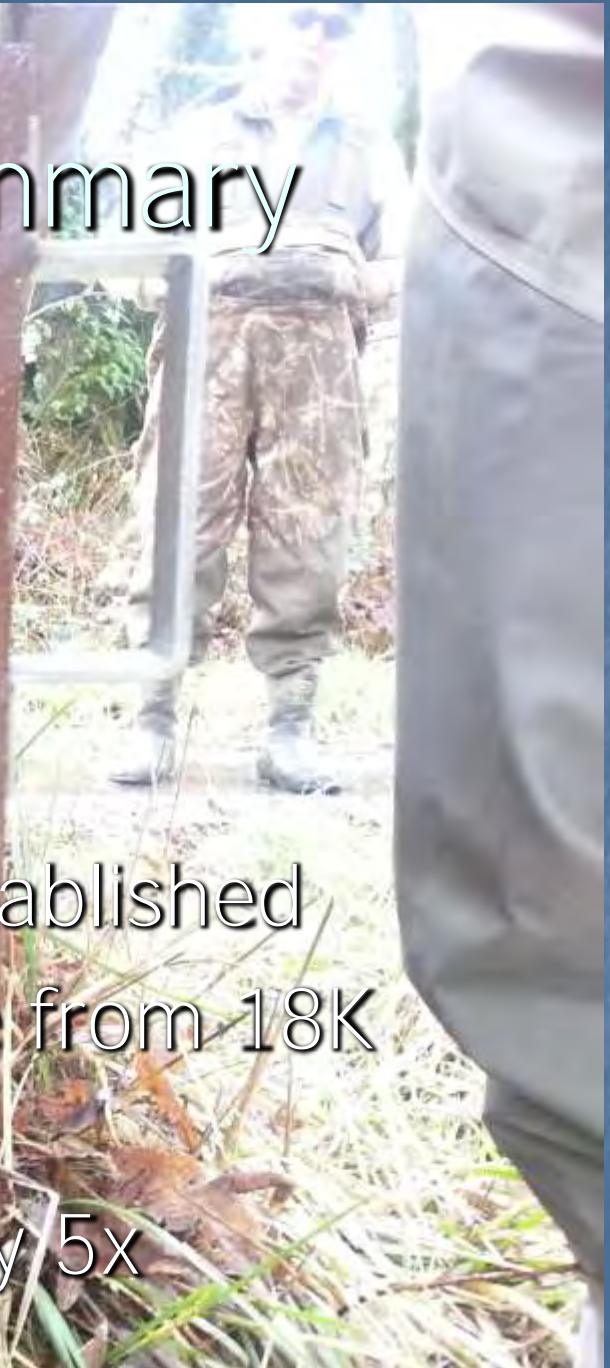
# Deer Numbers by Subpopulation





# Translocation Summary

- 329 Deer Moved
- 4-5 New Subpopulations Established
- Expansion Population Range from 18K Acres to 48K Acres
- Reduce Extinction Probability 5x





# Where are We Now

- 40 Years since Listing
- Recovery Recommendations



# Habitat Enhancement

- Browse
- Forage
- Cover



# Browsers and Foragers

- 
- Blackberry
  - Red Alder
  - Dogwood
  - Willow
  - Pacific Ninebark
  - Salmonberry
  - Cottonwood
  - Clover
  - Buttercup
  - Trefoil
  - Equisetum
  - Cut-leaved Geranium
  - Bindweed
  - Grasses



# Cover

- Park Forest Habitat
- Open Canopy Forest (30-70% Cover)
- Deciduous
- Mixed Deciduous
- Mixed Shrub
- Cover Can Also Be Used as Browse



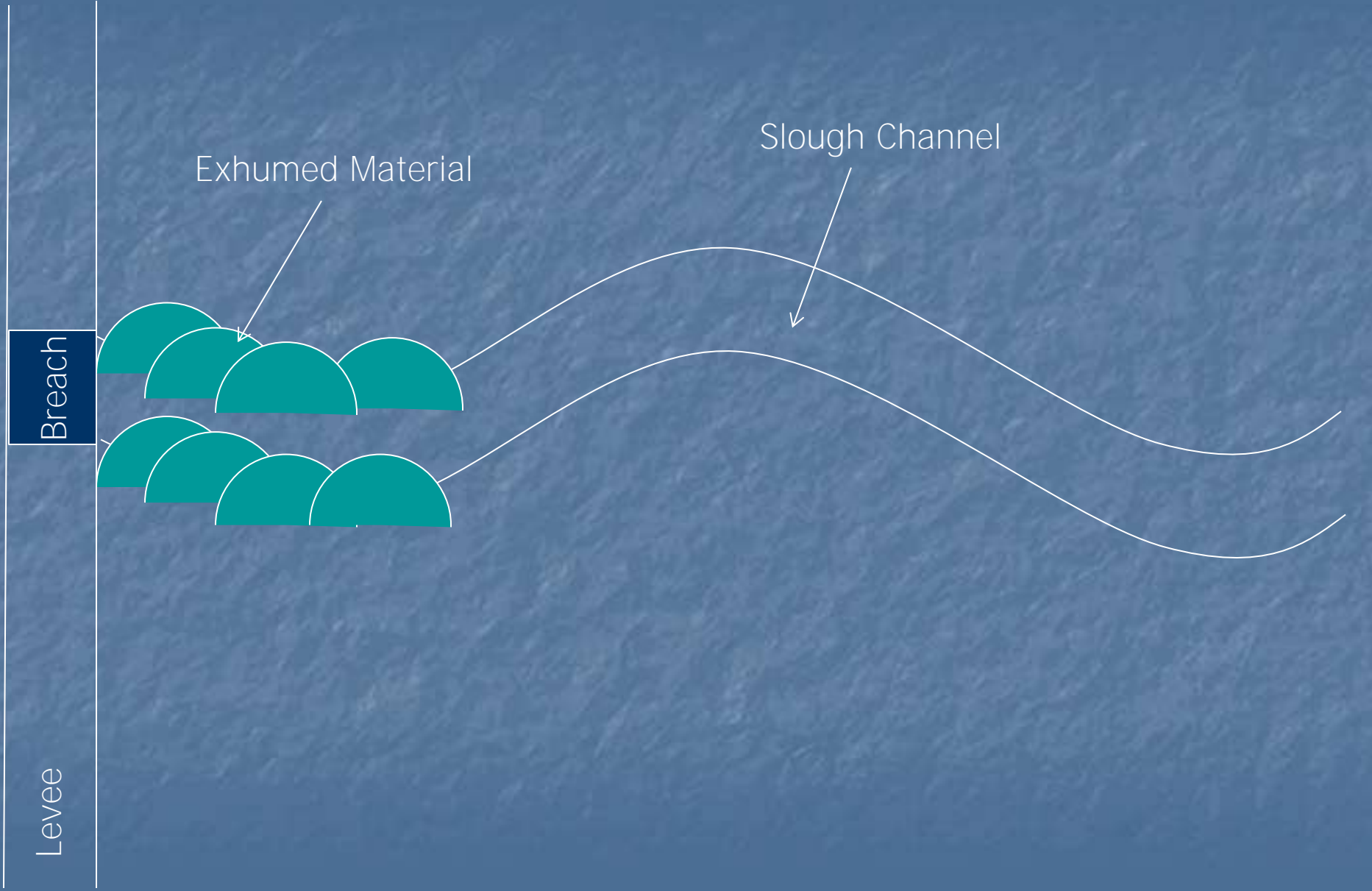


# Habitat Enhancement

- Dike Removal/Sloughs
- Wetlands
- Shrubs







Exhumed Material

Slough Channel

Breach

Levee



# Wetland Construction













# Summary

- 40 Years of Recovery
- Habitat/Sea Level Rise
- Opportunities for CWTD Habitat Improvements in other Projects

