YAKAMA NATION
Wildlife Resource Management Program

River Mile 89.5 Project – Phase 2
YBIP Habitat sub-committee, 8/24/2023

Yakama Nation Wildlife Areas

Ahtanum
Moxee
Wapato
White Swan
Toppenish
Granger
Sunnyside
Mabton
project area
82
97

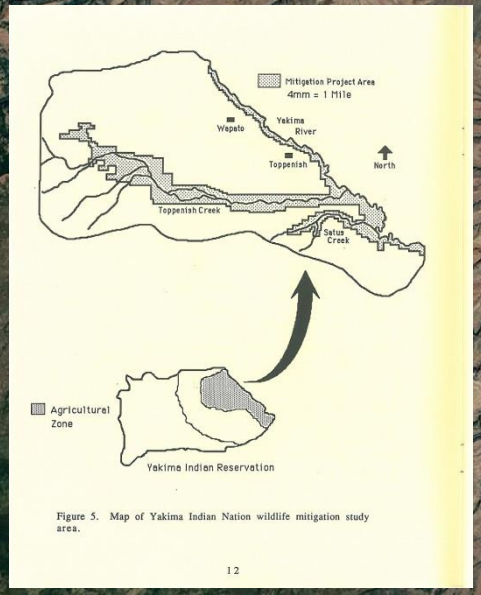
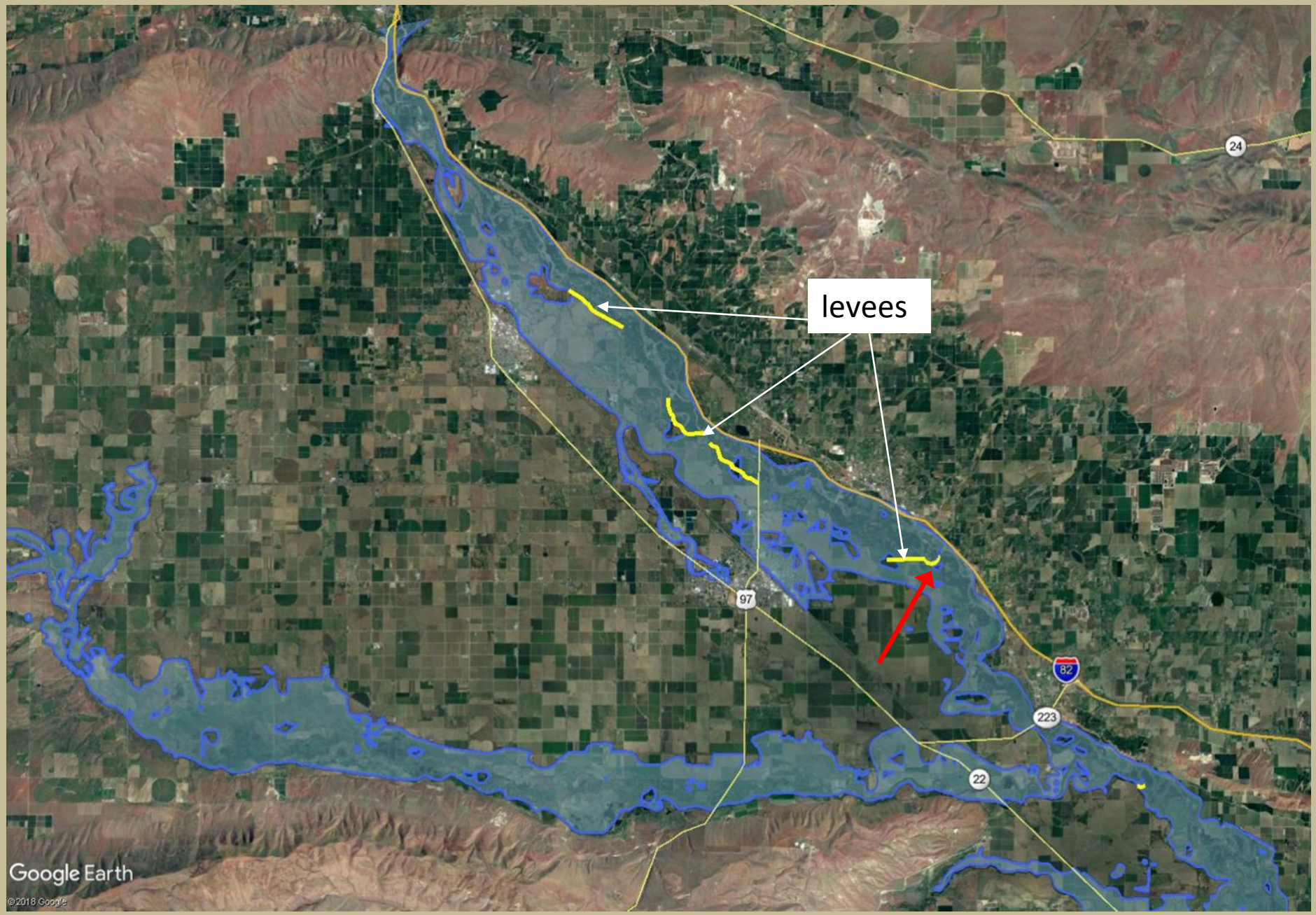


Figure 5. Map of Yakima Indian Nation wildlife mitigation study area.

Overview

- Reactivates 6.5 miles of existing off-channel fish and wildlife habitat
- Improves aquifer recharge and floodplain storage
- Benefits riparian forest

1996 flood-levees provided little protection



2 major phases

- Phase 1 (completed in 2019)-construct inlet structures to enhance inflow at head of project
- Phase 2: (planned for 2024)- selectively excavate plugged sections of existing channels and 1 new section of channel to convey flow through side channel and wetlands network.

Project Actions

-Excavate and grade plugged sections of channel to remove accumulated sediment and debris

-Construct two engineered log structures as an outlet (Phase 1)

--Enhance one current and construct two new fords across existing side channels

-Revegetate areas disturbed during project construction

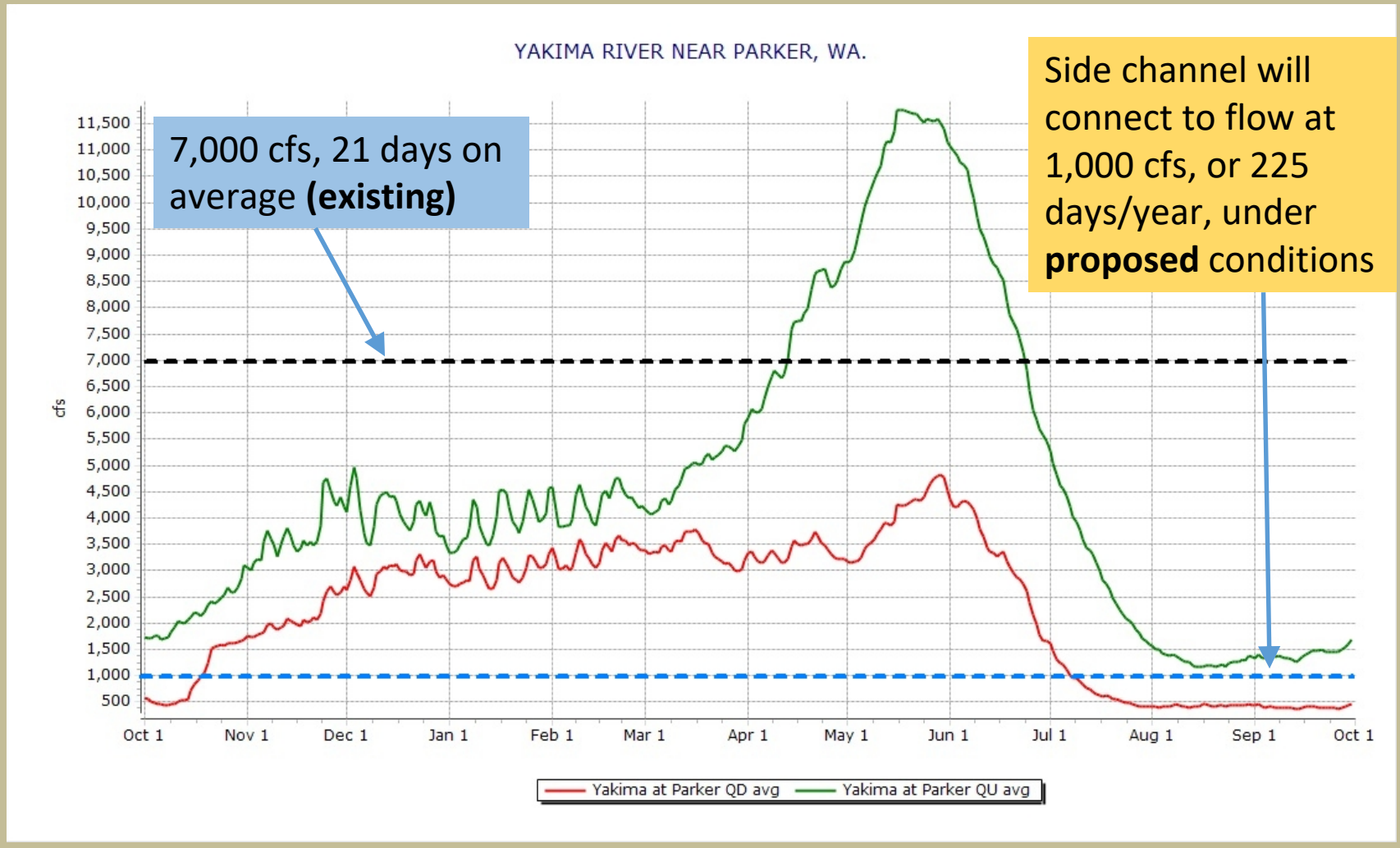
Phase 1 Completed

- Constructed inlet from Phase 1 – built fall 2019, functioning as intended during high water in spring 2020.

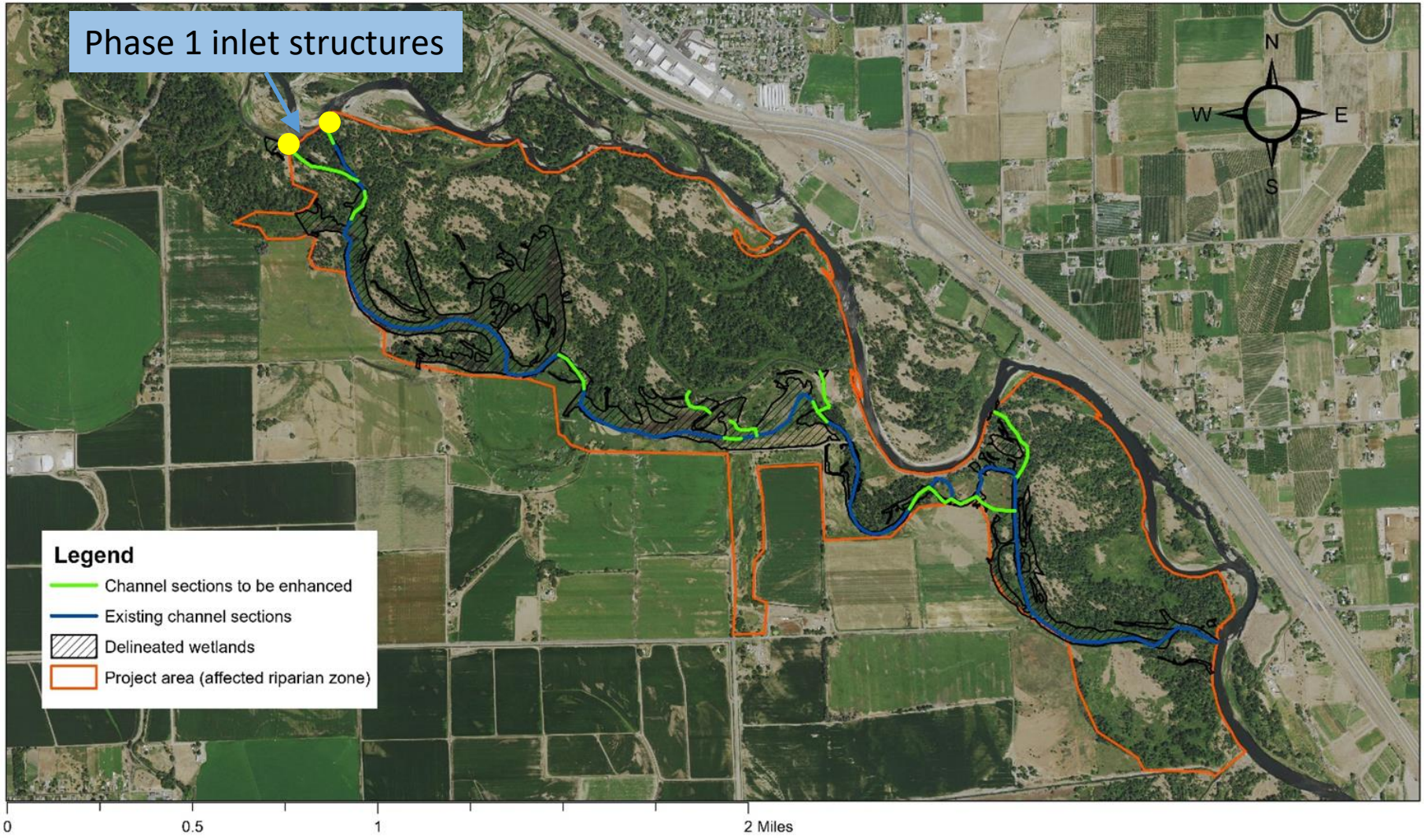
Phase 2-Project Goals

1. Ensure more frequent and consistent active flows in 6.5 miles of side channel (21 days/year –> 225 days/year)
2. Revitalize natural processes on ~900 acres of floodplain, including 130 acres of wetlands
3. Maintain flood safety for people and property

Yakima River at Parker, Regulated vs Unregulated hydrograph



River Mile 89.5 Project – Phase 2
Project #22-1571



Project Benefits

- Enhance wetland water supply-benefits habitat for migratory waterfowl and other wetland species
- Restore off-channel habitat for fish-extensive side channel habitat in this floodplain has been lost due to flow regulation
- Improve floodplain function by extending the period of inundation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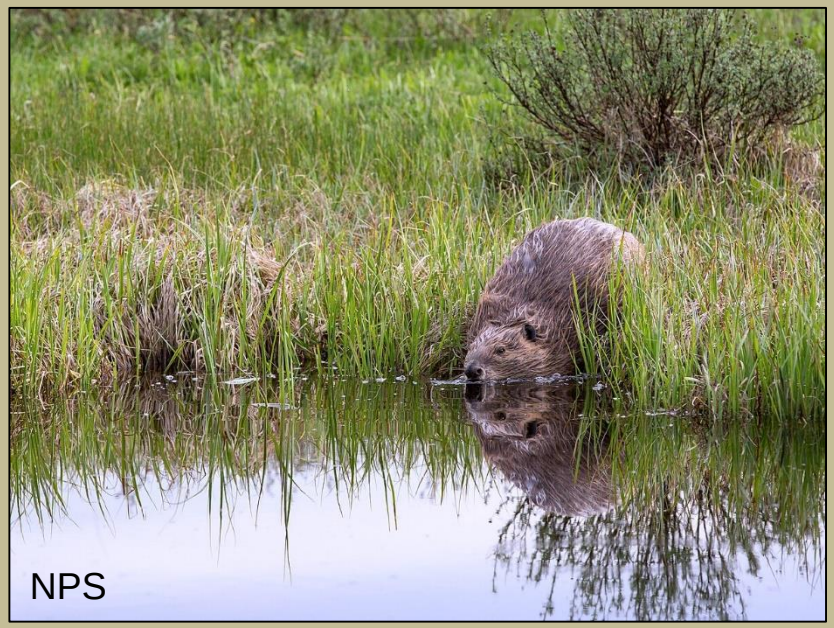

NPS

Maintain active flow

- Existing side channel typically sees active flow for a few days per year
- Degraded habitat and potential fish stranding

Hydraulic Model Developed and Calibrated

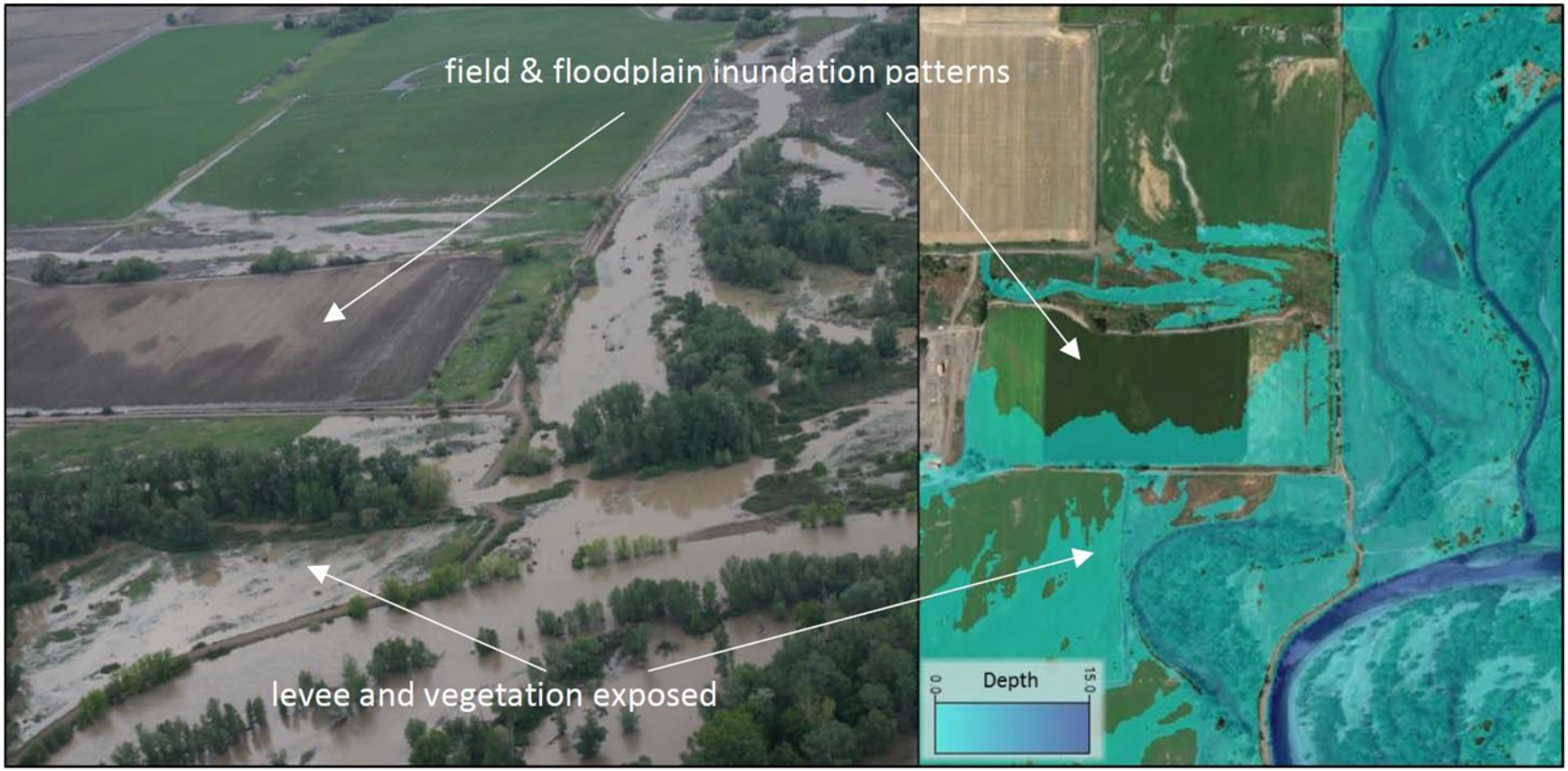
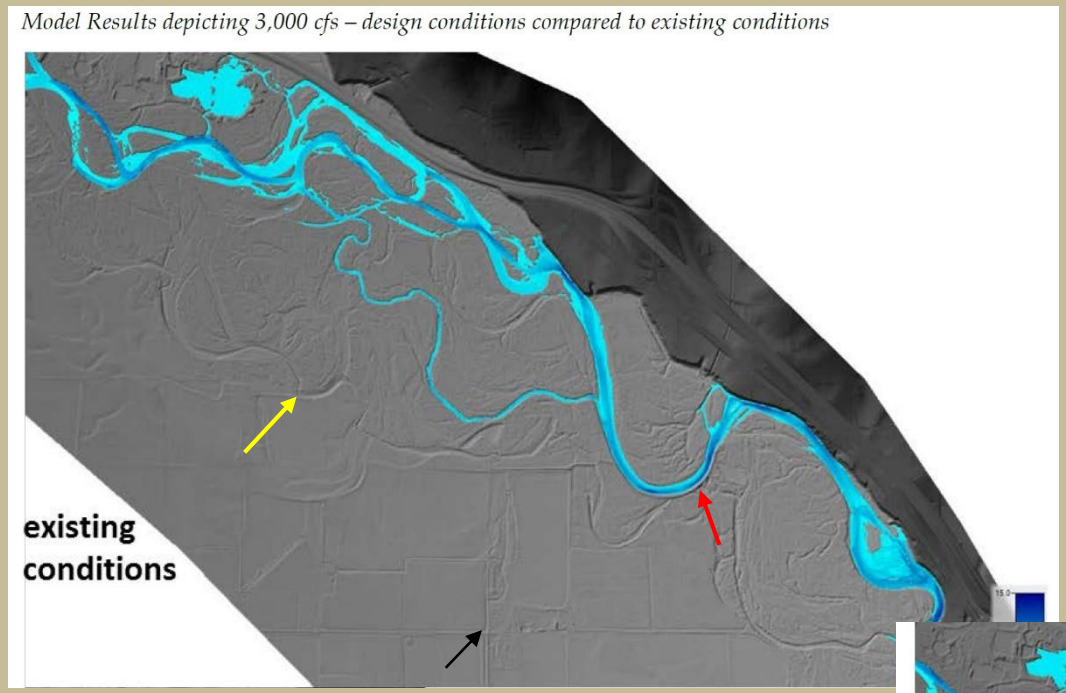
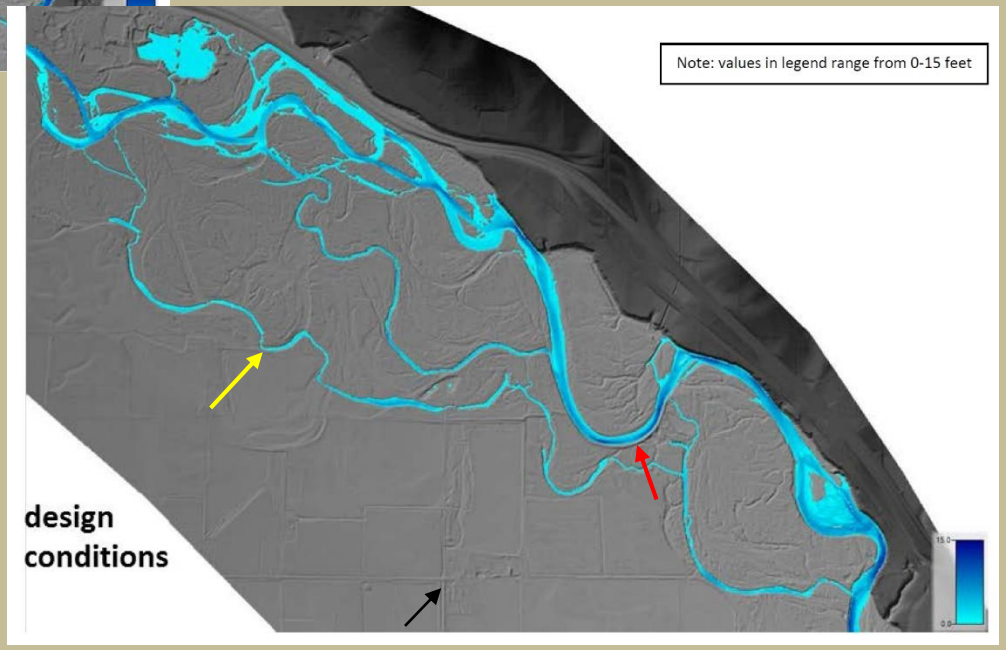


Figure 2. Left: oblique aerial photo showing inundation wetting pattern in a field from a ~30,000-35,000 cfs flow recorded the night before (photo: Yakama Nation May 17, 2011); Right: Hec-Ras existing conditions floodplain inundation (depth) results from ~35,000 cfs.

3000 cubic feet/second (104 times since 1934)

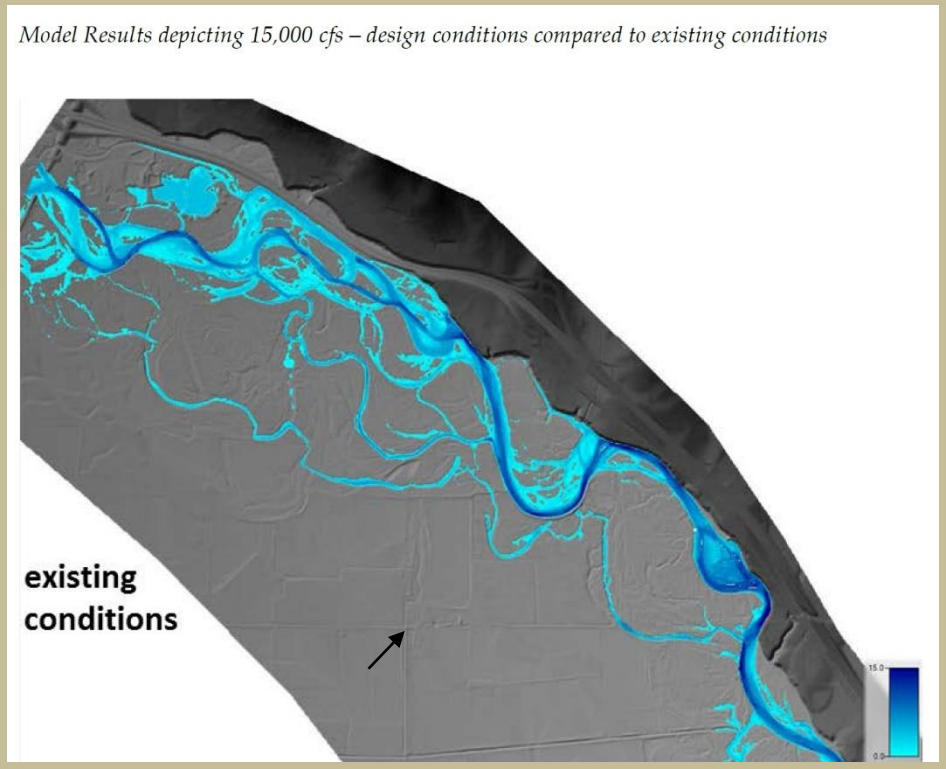




Black arrows show intersection of Curlew and Blue Heron Roads. Red arrows show levee.

15,000 cubic feet/second (35 times since ‘34)

Model Results depicting 15,000 cfs – design conditions compared to existing conditions



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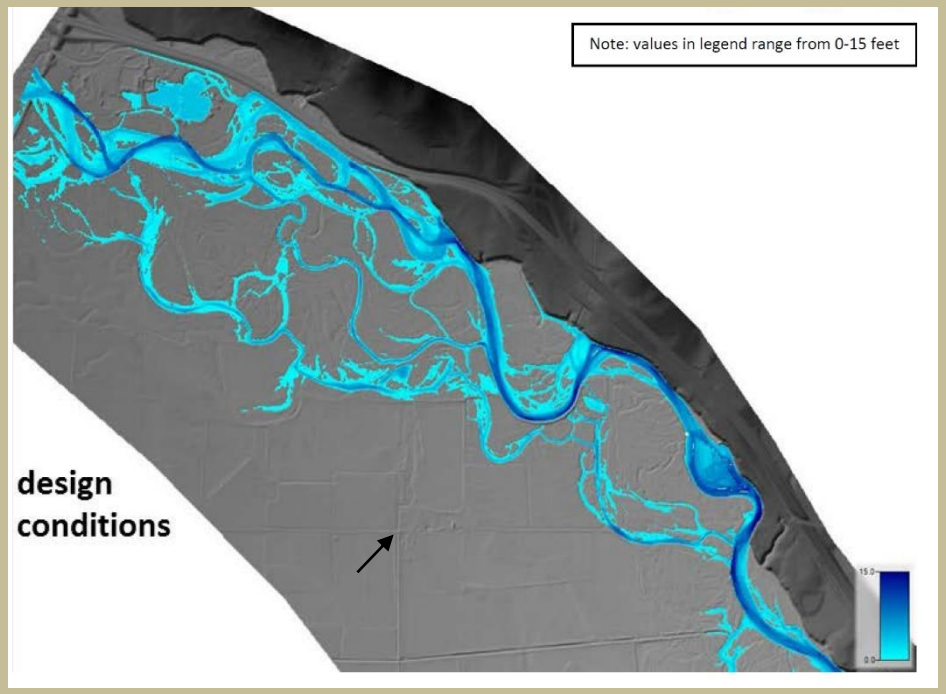
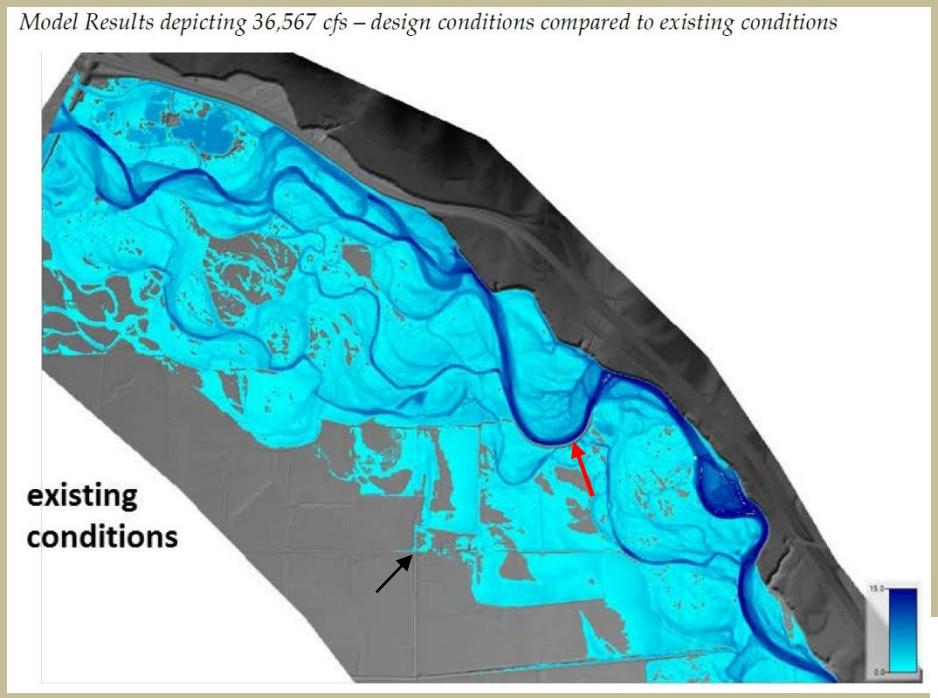
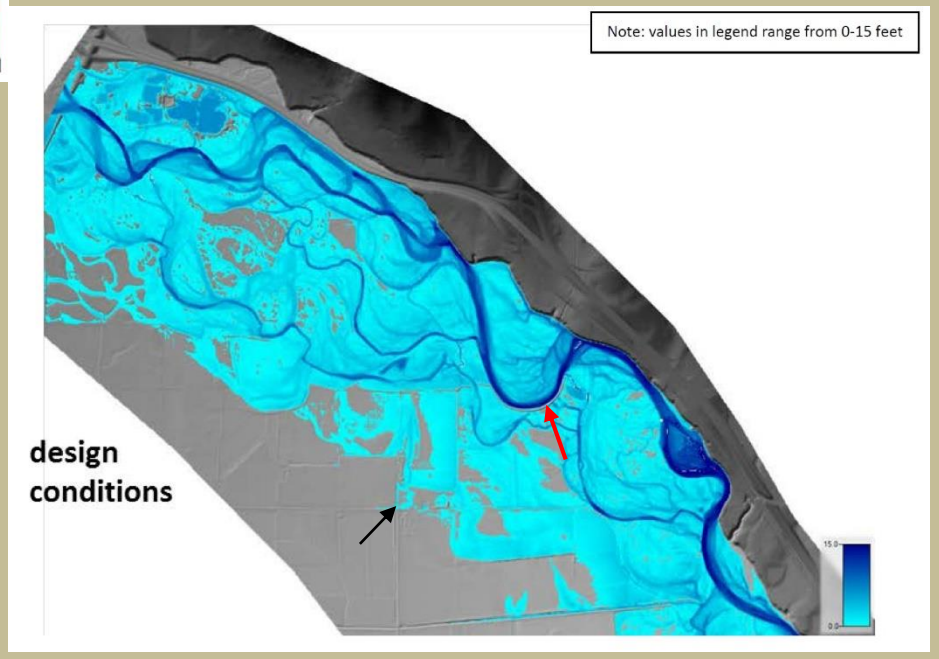


36,567 cubic feet/second (4 times since ‘34))





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Funding

- Cost effective per mile restored at ~$1.5 to $2 million
  - funding from USFWS, BPA, Washington Dept. of Ecology, and current proposal from Salmon Recovery Board
  - Phase I-YBIP $330,000
  - Phase 2-YBIP $250,000 (Wapato Reach and tribs)
  - SRF $960,000
  - YN $200,000
  - AERP #1 $600,000 ?
- Construction and oversight will be contracted
- Yakama Nation will complete permitting.
- Implementation planned for 2024.

Questions?