

REINTRODUCTION OF ANADROMOUS FISHES THE UPPER KLAMATH BASIN

Oregon Department of Fish and Wildlife

Mark Hereford - Klamath Anadromous Fish Biologist

Ben Ramirez - Klamath Watershed District Fish
Biologist



Reintroduction Implementation Plan

- Co-authored with The Klamath Tribes
- Collaboration and feedback from basin fish management groups (Tribal, State, and Federal)
 - Multiple meetings
 - Reviews of the document

Goal: re-establish self-sustaining, naturally produced populations of historically present anadromous fishes

Purpose of Reintroduction Implementation Plan

- Guide efforts to monitor the natural repopulation of anadromous fish
- Recommend a strategy for any active efforts to repopulate habitat
- Can be found on ODFW website

IMPLEMENTATION PLAN FOR THE REINTRODUCTION OF ANADROMOUS FISHES INTO THE OREGON PORTION OF THE UPPER KLAMATH BASIN

Final – December 2021

Prepared by
Oregon Department of Fish and Wildlife
The Klamath Tribes



Reintroduction Implementation Plan

Reintroduction Approaches

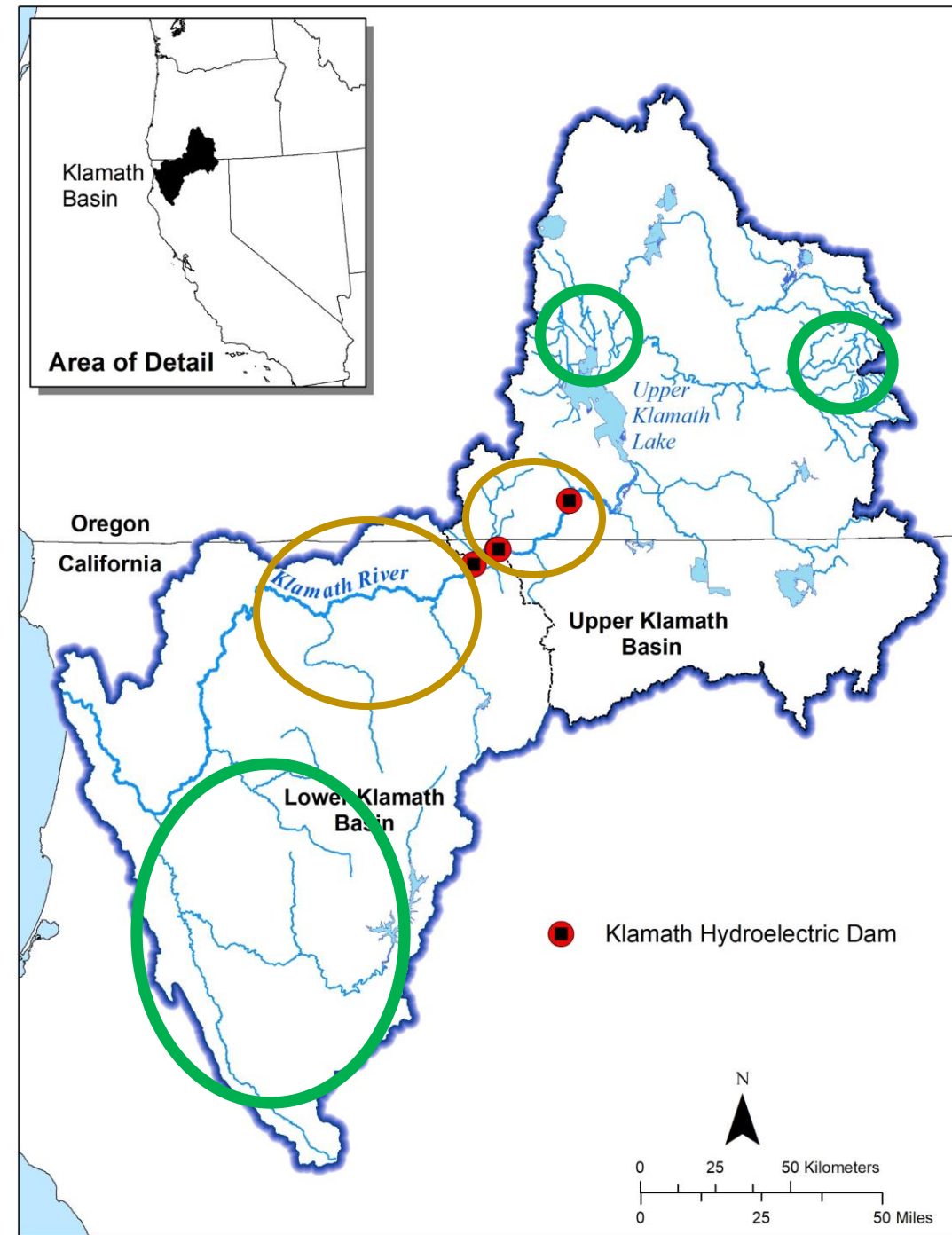
Natural Repopulation – Hands off approach

- Fall-run Chinook Salmon
 - Coho Salmon
 - Steelhead Trout
 - Pacific Lamprey
- } • Currently exist immediately below Iron Gate Dam
- } • Habitat immediately above dams

*After 3 fish generations an assessment will be made to determine if any active measures are needed

Active Repopulation – actively transporting fish

- **Spring-run Chinook Salmon**
 - Juveniles from an in-basin source
 - Conduct juvenile out-migration investigations prior to any reintroduction efforts

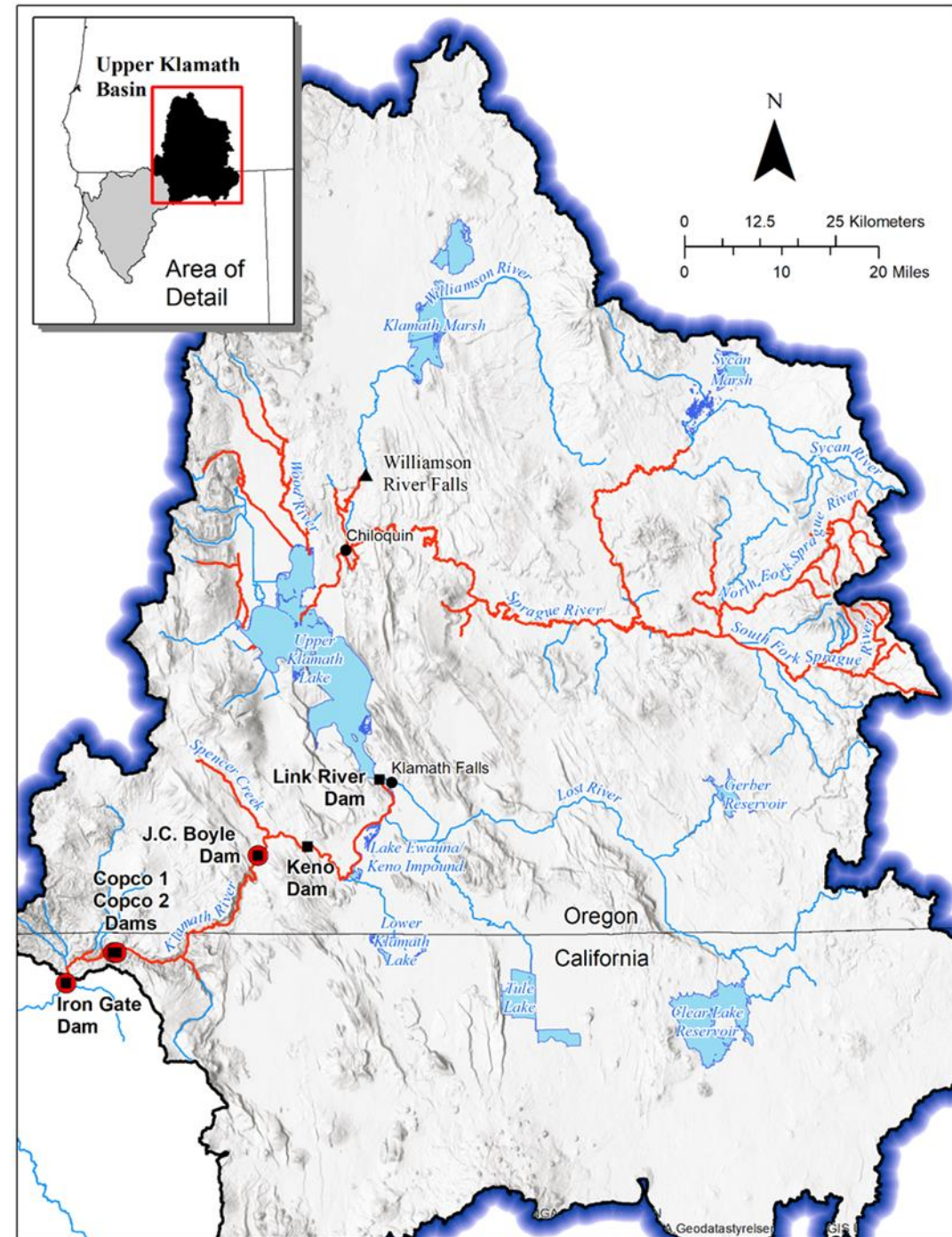


Reintroduction Implementation Plan

Two main parts of Implementation Plan

- **Strategy for monitoring the natural repopulation of Salmon, Steelhead, and Pacific Lamprey**
 - Determine if fish are migrating into Oregon
 - If so, how many, what species, and where?
 - Are juveniles outmigrating from the upper basin?
- **Strategy for actively reintroducing spring-run Chinook Salmon**
 - Initially, begin with fish release studies using juveniles from an in-basin source
 - Results will help guide repopulation efforts

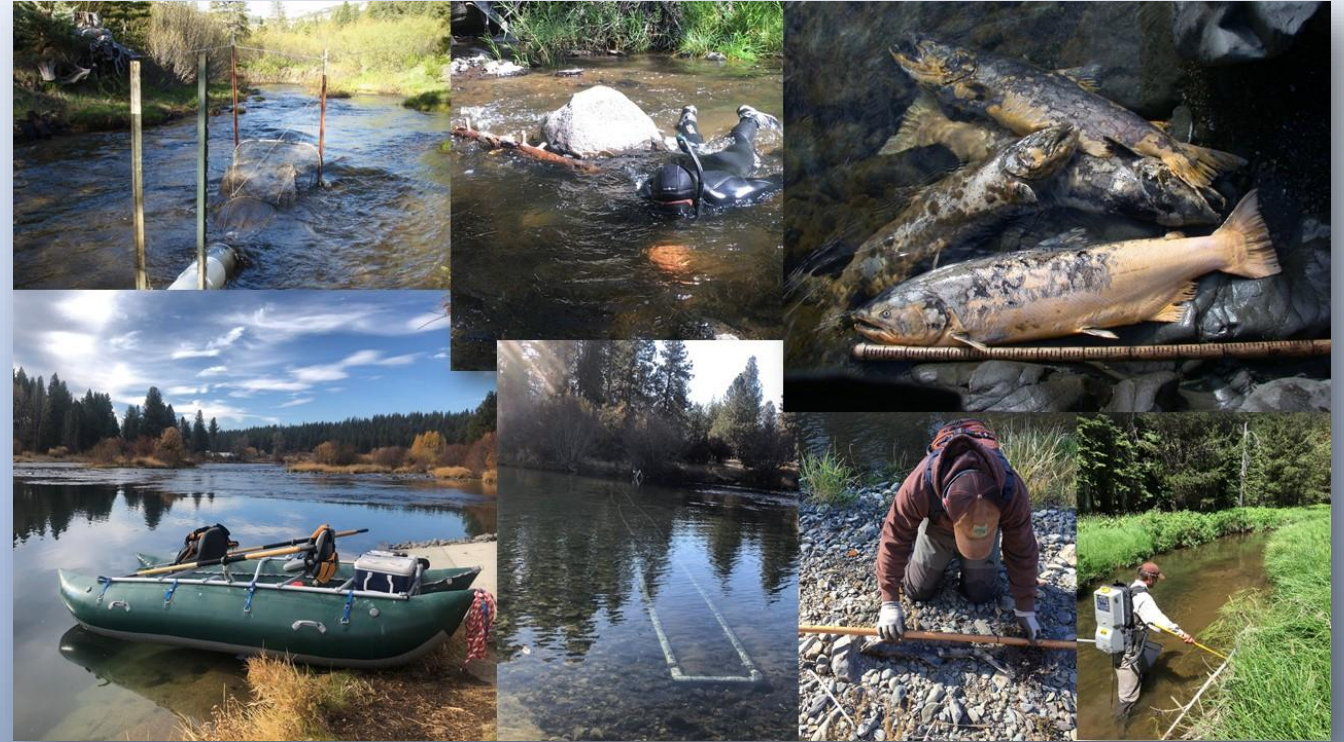
No funding in place to implement recommended strategies



Monitoring Repopulation

Determine if fish are repopulating habitat above the former dams

- An escapement estimate of fall-run Chinook Salmon
- Staff and equipment to conduct boots-on-the-ground monitoring on the Klamath River and tributaries
 - Modeled after current monitoring below Iron Gate Dam
- Utilize Link River Dam for monitoring
 - Create a fish passage facility
 - Count and sample adults moving upstream into Upper Klamath Lake and its tributaries



Link River Dam
(outlet of Upper Klamath Lake)



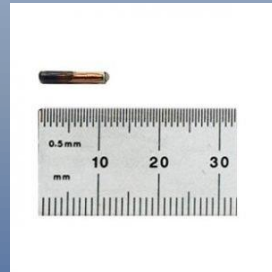
Active reintroduction of Spring-run Chinook Salmon

Currently working with multiple partners (Federal, State, Tribal, NGO, and private landowners) on a multi-year juvenile Chinook release study

- Mimic a hypothetical outmigration of juvenile Chinook salmon from tributaries of UKL, through the lake, and through Link River Dam and Keno Dam
- Using multiple tag-detection technologies
- Results will help inform any habitat restoration efforts
- and inform future active reintroduction efforts
 - Release timing, release location, monitoring techniques, and hatchery rearing techniques



Acoustic telemetry



PIT (RFID)



Radio (VHF) telemetry



Tagged juvenile Chinook Salmon



Groundwater sourced tributaries



Upper Klamath Lake



Outlet of Upper Klamath Lake/Link River Dam

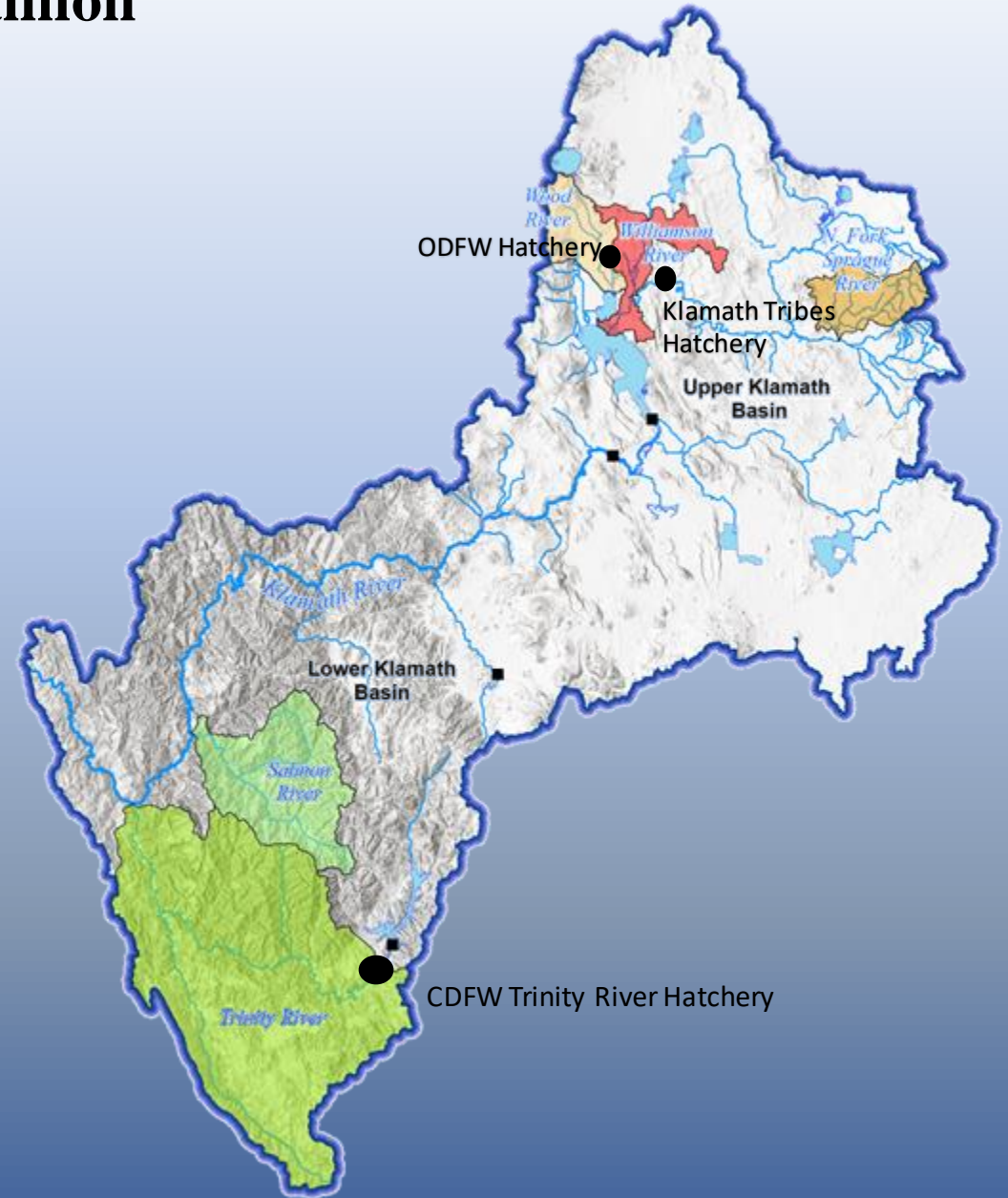


Lake Ewuana/Keno Impoundment

Active reintroduction of Spring-run Chinook Salmon

Juvenile spring-run Chinook release study

- So far, through partnerships we have pieced together enough funds to accomplish some of our goals
- Releases of fish in spring of 2022, fall 2022, and will release in spring of 2023
- Funding is needed to continue this important study
 - Investigate other release methods (age of fish, timing, locations)
 - Increase release numbers (following dam removal) to begin investigations of released fish in the lower basin and in the fishery
 - Continue to work with Tribal, State, Federal, Community, landowners, and NGO partners



Thank you



Klamath River, Oregon