



**Sequoia National Forest and Trout Unlimited**  
***Partnering in the Southern Sierra***

***Headwaters Protection and Restoration***  
***For Fisheries***

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# Goals of the 10 meadows restoration



- (1) Increase the pace and scale of meadow restoration by working in several watersheds.
- (2) Test the ability to do 10 meadows in one NEPA/CEQA document
- (3) Test the ability of the forest to contribute despite declining capacity
- (4) Test the permitting process as one NEPA/CEQA document would be used for all 10 meadows.

# Objectives

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- (1) Delineate areas that are critical for **protecting California's native trout species**
- (2) Delineate areas in need of restoration or protection
- (3) Prioritize those areas in partnership between Trout Unlimited, the Forest Service, designers, researchers and private land owners

# Approach to Achieving Objectives



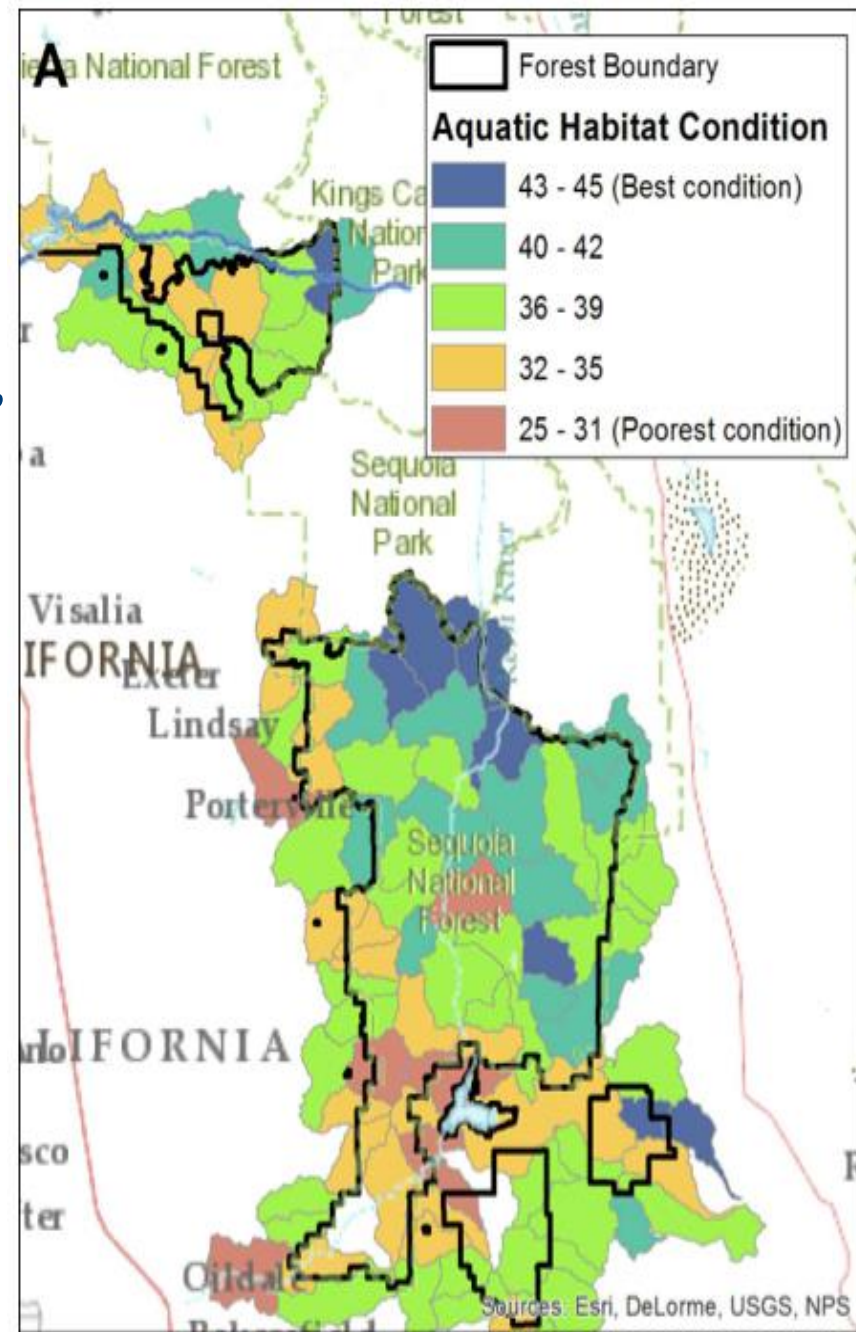
- (1) Determine relative **aquatic habitat integrity**
- (2) **Identify** subwatersheds with **at-risk and vulnerable aquatic species resources**
- (3) **Determine relative climate change and wildfire risk** within subwatersheds
- (4) **\*\*Identify OPPORTUNITIES** for strengthening the protection and restoration of fisheries flows, especially aquatic habitat connectivity and through partnerships.



# Results: Sequoia

## *Aquatic habitat integrity*

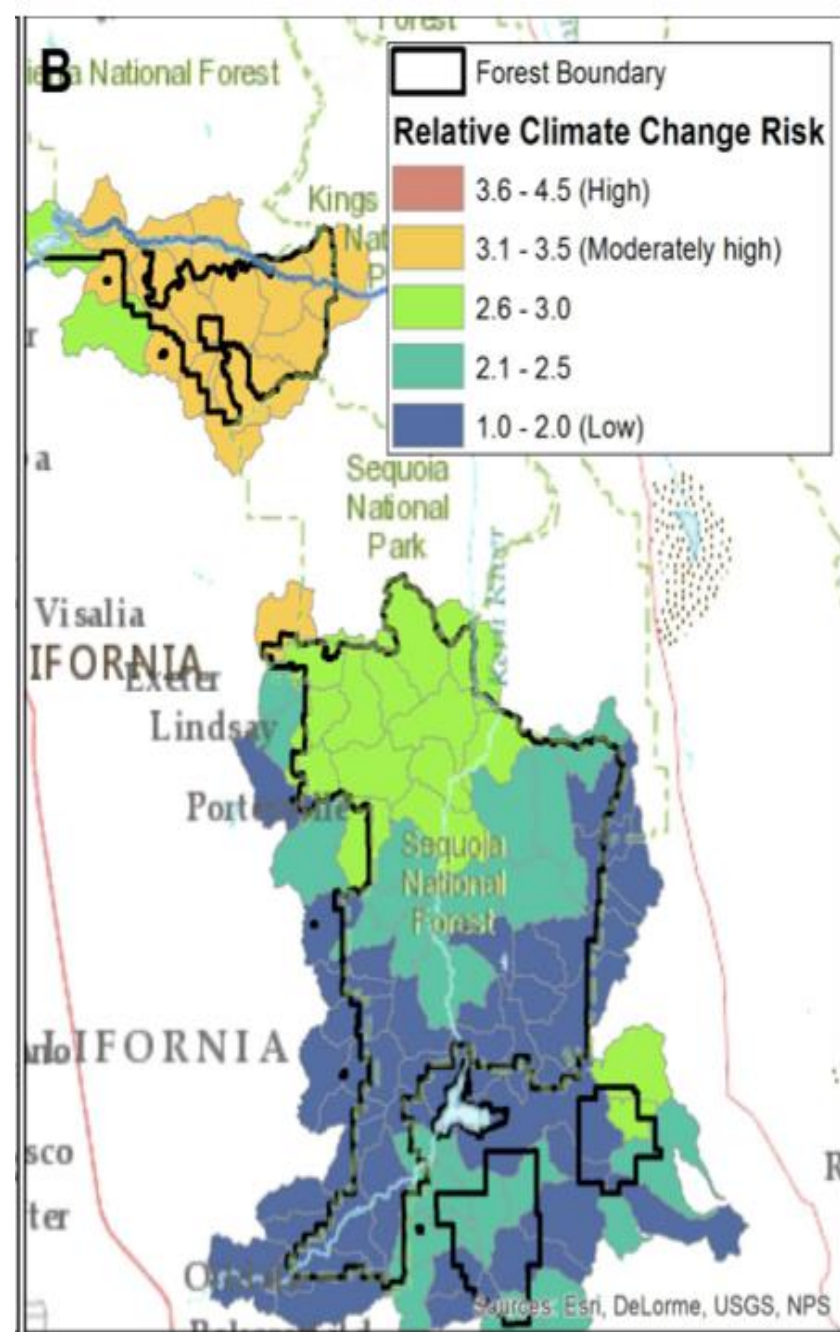
- Generally highest in the higher elevations, and lowest in lower elevations
- The primary factors contributing to the lowest aquatic integrity scores:
  - Dams
  - Road densities and riparian road networks
  - Grazing
  - Mining lands, and
  - Diversions



# Results: Sequoia

## *Future Risk: Climate & Fire*

- Climate change risk to aquatic species and habitats is higher at high elevation and lowest at low elevation **in the Kern River Drainage**
- Change in fire severity is forecast to be lowest in the lower and mid elevations of the Kern River portion of the forest

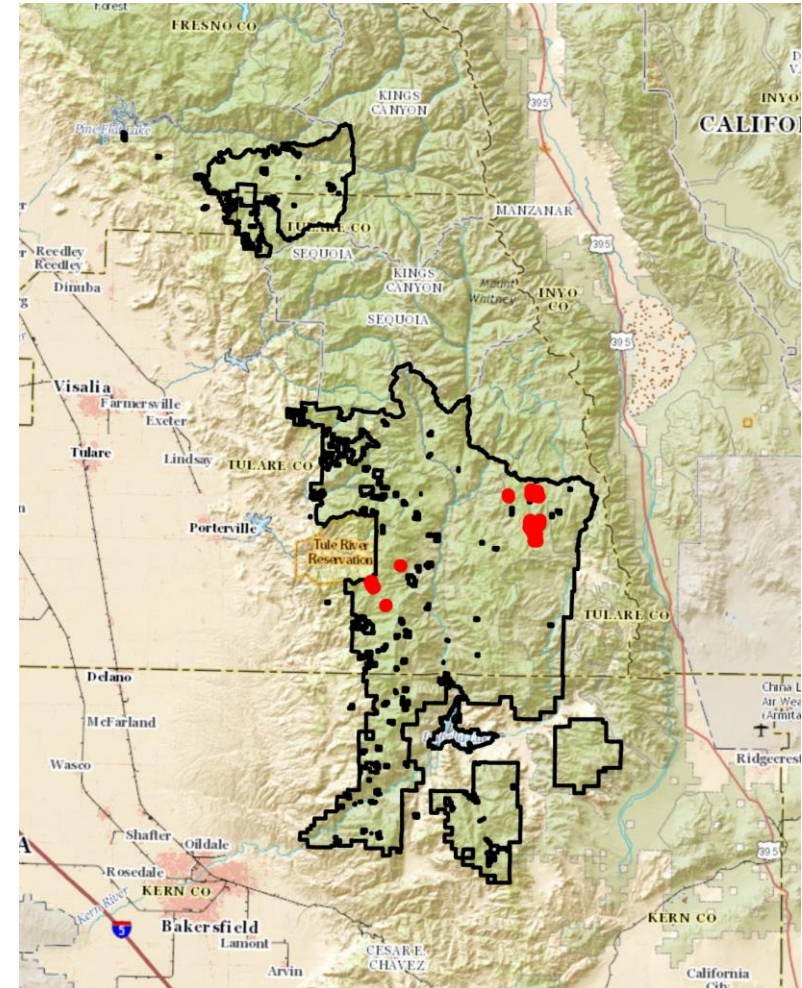


# MEADOWS RESTORATION: Sequoia Projects



## Sequoia National Forest Prioritized Meadow Restoration Project

- 11 Meadows
- ~550 acres
- All within CA Golden Trout or Kern River Rainbow Trout Habitat
- CDFW and WCB Prop I Funded



# Successes



- ✦ Great Partnership with TU and many others
- ✦ Lots of good discussions with a great inter-disciplinary team
- ✦ Objectives discussed; performance measures discussed and developed
- ✦ Well written draft EA addressing public concerns ready to go to the public and will be ready to sign FONSI in 45 days
- ✦ It was joy to work with so many thoughtful, smart and dedicated specialists





# What have we learned on the forest?



- ✦ We need to rely on our partners for botany, range, archeology, hydrology, wildlife, aquatic species surveys, restoration designs, wetland delineations, and reports.
- ✦ The forest specialists must be able to review reports in a timely way
- ✦ We need to rely on our partners to write NEPA for us.
- ✦ Line officers need to be briefed on progress every 4- 6 months.
- ✦ We need to start early scoping to the public once we have preliminary designs.
  - We waited until we were done with all reports to scope the project.
- ✦ Had we started this first step almost a year earlier we could have moved the writing of the NEPA/CEQA document up months earlier to meet our deadlines better.

# Other Lessons?








- ✦ Capacity of our partners may be stretched to survey so many meadows in one year.
- ✦ Asking our partners to do everything needs to be stated right up front in grants.
- ✦ It should be made clear early in the grant discussions just what the forest can or cannot do.
- ✦ Situations change quickly as staff leave the forest or retire.
- ✦ Certainly as we move forward it is clear that we can review and oversee only.



# Would I do this again?



-  **Absolutely!!!**
-  **We have great partners in Trout Unlimited, Cal Trout, Plumas Corporation, Todd Sloat, Sabra Purdy and many others.**
-  **Caltrout has already used an excellent method to evaluate meadows in need of restoration.**
-  **These will need NEPA/CEQA**
-  **The Sequoia is grateful for our partners, and the State, without them we could not increase the scale and pace of watershed restoration and improve resilience to climate change.**

# Questions?

