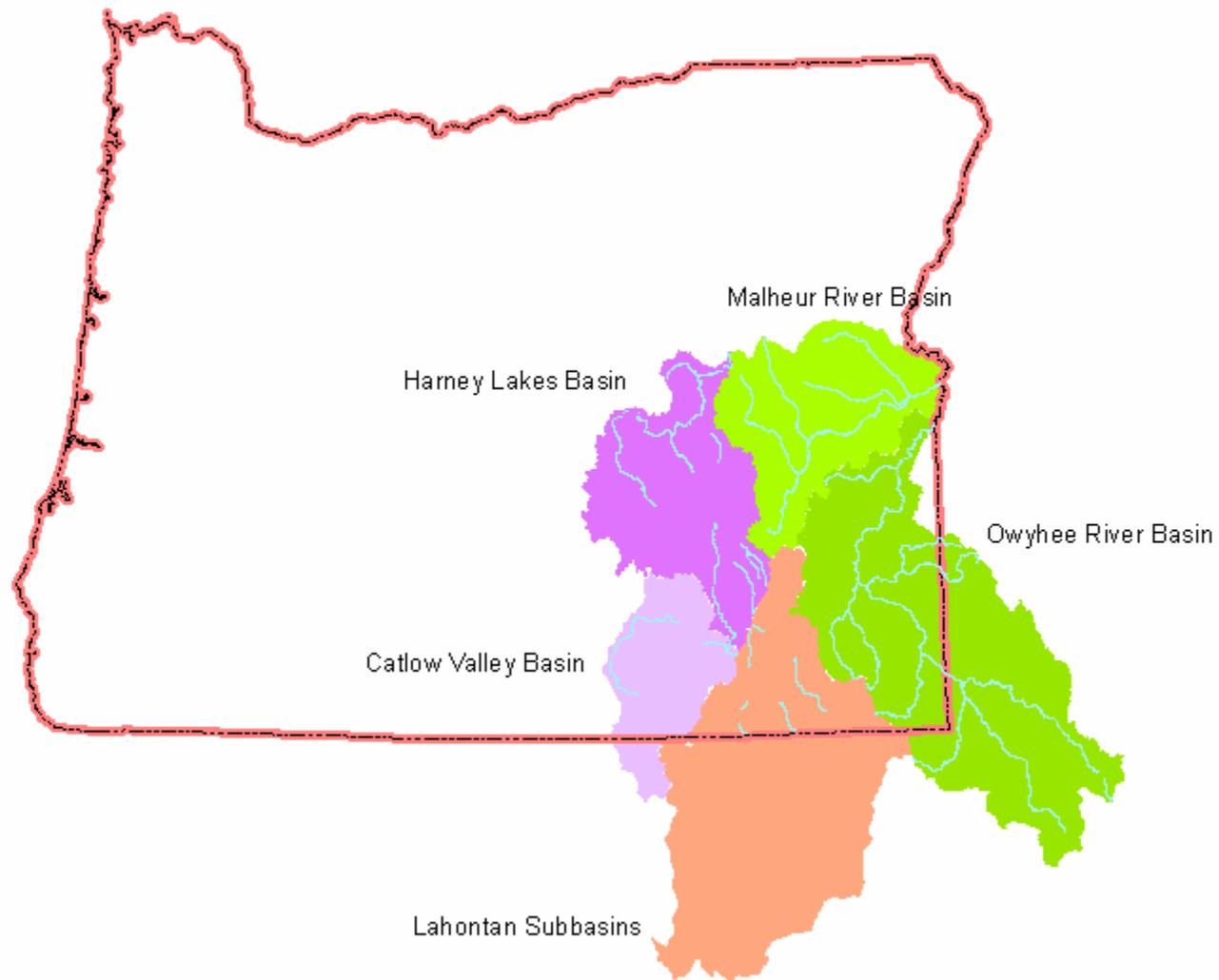


# **Fish and Water Issues in Southeast Oregon** **or** ***Fish Need Water, Too***



**Bob Hooton**  
**Oregon Dept. of Fish & Wildlife**

# Malheur Watershed District



# Malheur Watershed District

- *High Desert. Elevations from approximately 2,000 feet to over 9,000 feet. Water is critical.*



# Resident Sport Fish

- **Primary Sport Fish**

- *Lahontan Cutthroat Trout (Listed)*
- *Redband Trout*
- *Brown Trout*
- *Warmwater Species*



- **Native Anadromous Fish Lost from Owyhee and Malheur Basins**

- *Steelhead Trout*
- *Chinook Salmon*

# Listed Native Fish

- ***Lahontan Cutthroat Trout (Threatened)***
- ***Bull Trout (Threatened)***
- ***Borax Lake Chub (Endangered)***



# How can we protect these fish?

- *Water*
- *Habitat*
- *Screening/Passage*
- *Angling Regulations*

# What are Instream Water Rights?

- ***Certificated Water Rights***
  - *Held in Trust by the Water Resources Department*
- ***Purpose:***
  - *To support flows instream for use by fish, aquatic life, wildlife, recreation, aesthetics and pollution abatement*
- ***Cannot take away or impair legally established senior water rights***

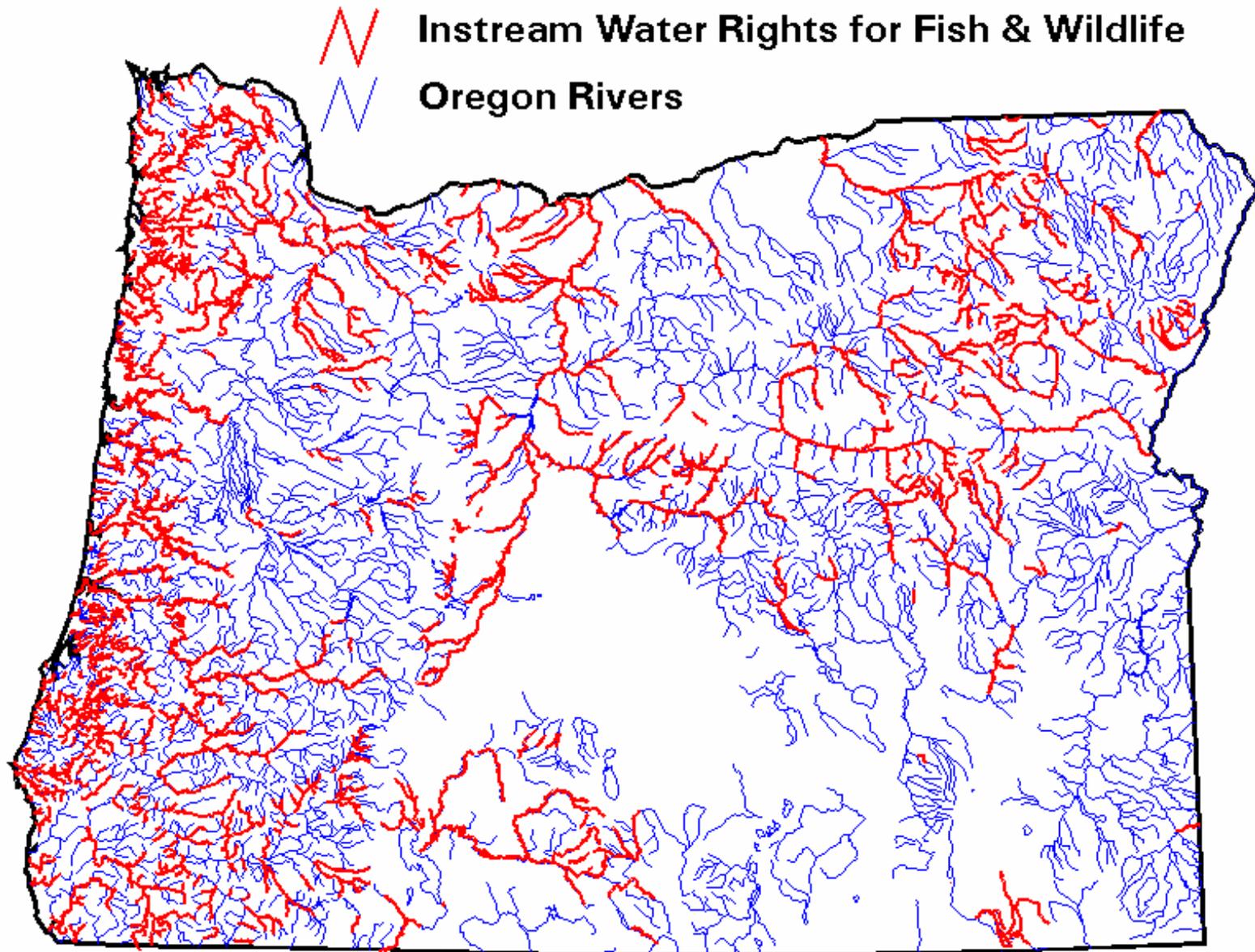
# Why Are Instream Water Rights Necessary?

- To place protection of flows instream on the same legal standing as consumptive water rights.

# **Instream Water Rights SE Oregon**

- ***In place primarily for listed and sensitive fish populations***
- ***ODFW applied for SE Oregon water rights from the mid 1980's through 1991***
- ***Instream water rights have a late priority date, and do not interfere or take away any senior water rights***

# Instream Water Rights for Fish & Wildlife



# **Desert Fish Adaptations**

- ***Temperature Tolerance***
- ***Salinity Tolerance***
- ***Movement***
- ***Cool Water Refuge***
- ***Rapid Response to Available Water***

# Lahontan Cutthroat & Redband Trout

- During the last ice age (Pleistocene), Great Basin Lahontan cutthroat and redband trout occupied large alkaline lakes.
- Desiccation of the lakes formed stream/marsh/lake or stream/marsh complexes.
- In most basins, it appears that these trout established migratory life histories



# Desert Trout Abundance

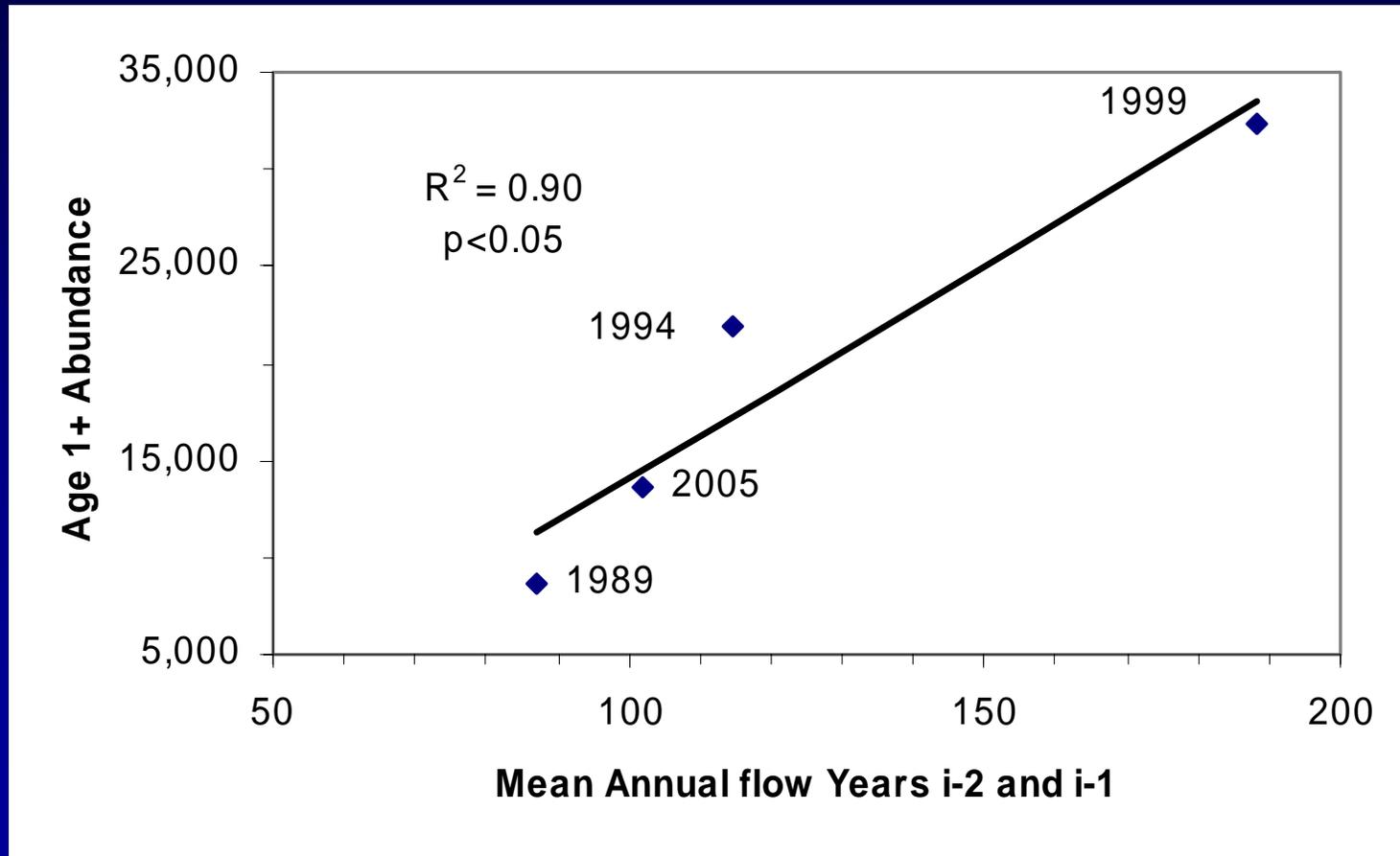


# Desert Trout

- *Climate/streamflow seems to be a major driving force in Lahontan cutthroat & Redband trout abundance*

# Trout Population Trends vs. Climatic Conditions

## Population Estimate vs. Average Annual Flow



# Lahontan Cutthroat & Redband Trout

- *Many isolated populations*
- *Very susceptible to habitat fragmentation and degradation*
- *Streamflow & Passage is Critical to long term persistence*



# Great Basin Redband Trout Populations



# **Climate, Water Storage, Tailrace Fisheries**

- *Reservoirs have been near minimum pool or gone dry more frequently over the last 20 years than the previous time periods*
- *Warm Springs and Beulah reservoirs have no designated minimum pool or minimum winter streamflow*
- *Losing recreational fisheries quite frequently, and if these reservoirs go dry before fall, we lose tailrace fisheries.*

# **Water Quality Challenges**

- **Extensive use of flood irrigation**
  - **Malheur and Owyhee Basins**
  - **Sediment-laden runoff from fields**
  - **Erosion from return ditches**
  - **High nutrient loads**
  - **Restricts fish distribution-summer months**

# **Fishery Economics in Oregon**

- **\$507.6 Million annual expenditures**
- **\$331.1 Million in personal income**
- **\$181.7 Million expenditures in Eastern Oregon**

A scenic landscape featuring a river in the foreground, a silver aluminum boat with the registration number "OR 327 XX" on its bow, and a large, rugged mountain in the background under a clear blue sky. The boat is partially obscured by tall grasses on the right. The word "Questions?" is overlaid in the center in a bold, yellow font with a white outline.

**Questions?**