SCOTT AND SHASTA RIVERS FISH 101

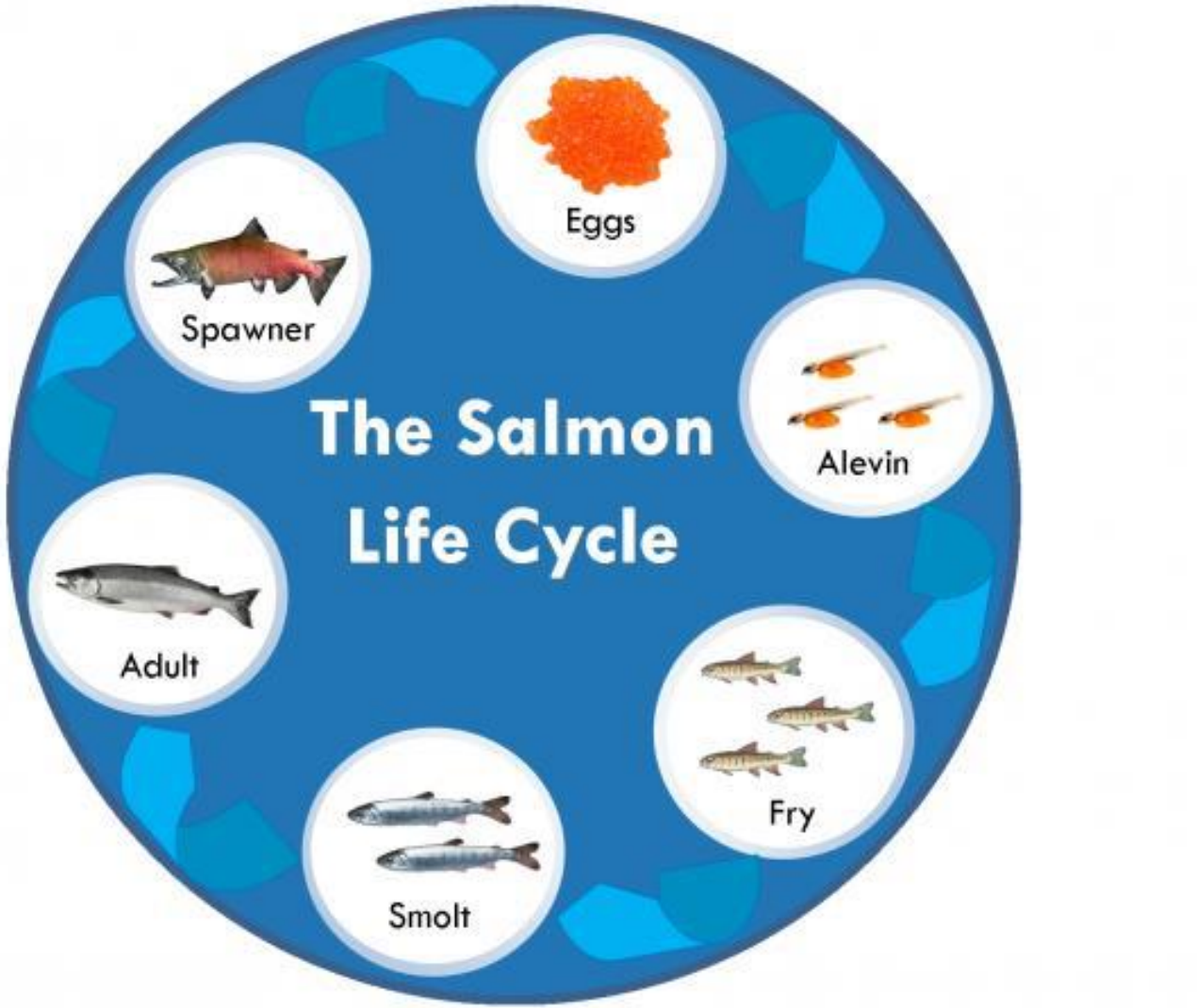
PRESENTED BY:

Crystal Robinson, California Department of Fish and Wildlife

Presentation Outline

Salmonid Life Cycle
    Chinook, Coho, Steelhead
Salmonid Habitat Needs
Distribution Maps
Best Management Practices
Enhancing Fish Habitat
Funding Opportunities

Salmonid Life Cycle



Chinook Salmon

Identification

- *Onchorynchus tshawytcha*
- Black gums at base of teeth
- spots on both lobs of caudal fin

Life History

- Scott occupancy:
  - Adults: September - November
  - Juveniles: January – June/July
- Shasta occupancy:
  - Adult: September - November
  - Juveniles: January – June/July

Coho Salmon

Identification

- *Onchorynchus kisutch*
- Spots on upper lobe of caudal fin only
- White gums

Life History

- Scott occupancy:
  - Adults: November-February
  - Juveniles: year-round
- Shasta occupancy:
  - Adults: November – February
  - Juveniles: year-round

Steelhead Trout

Identification

- *Oncorhynchus mykiss*
- Spots on both lobes of caudal fin
- White gums

Life History

- Scott occupancy:
  - Adults: year-round
  - Juveniles: year-round
- Shasta occupancy
  - Adults: year-round
  - Juveniles: year-round

Habitat Needs

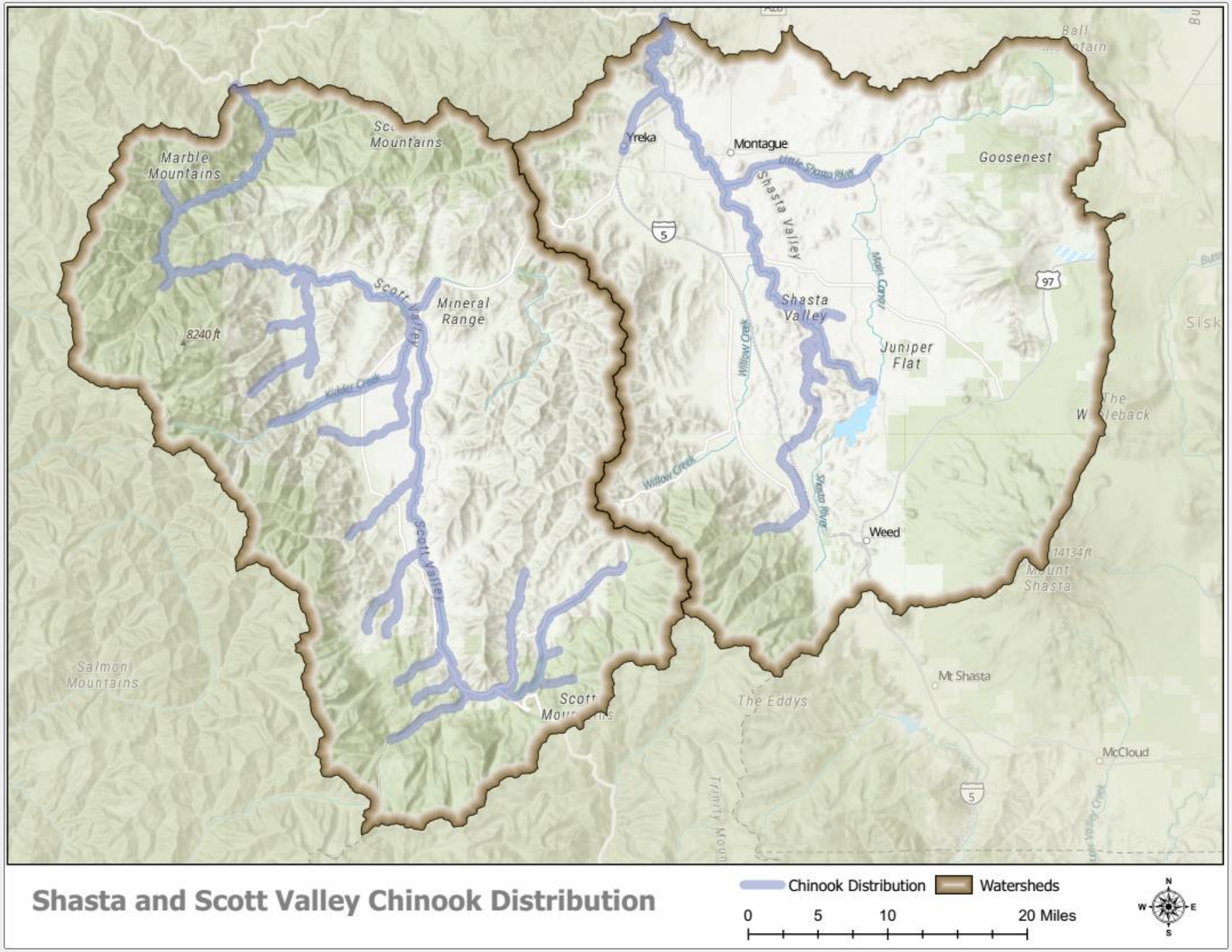
- Cold, well oxygenated water
- Healthy streamside vegetation
- Instream large wood debris
- An assortment of stream bed materials (sand, gravel, cobble)
- Meandering stream channel with defined pools and riffles
- Undercut banks on the outside river bends with sufficient vegetation to prevent erosion and bank failure

Activities that Can Degrade Habitat

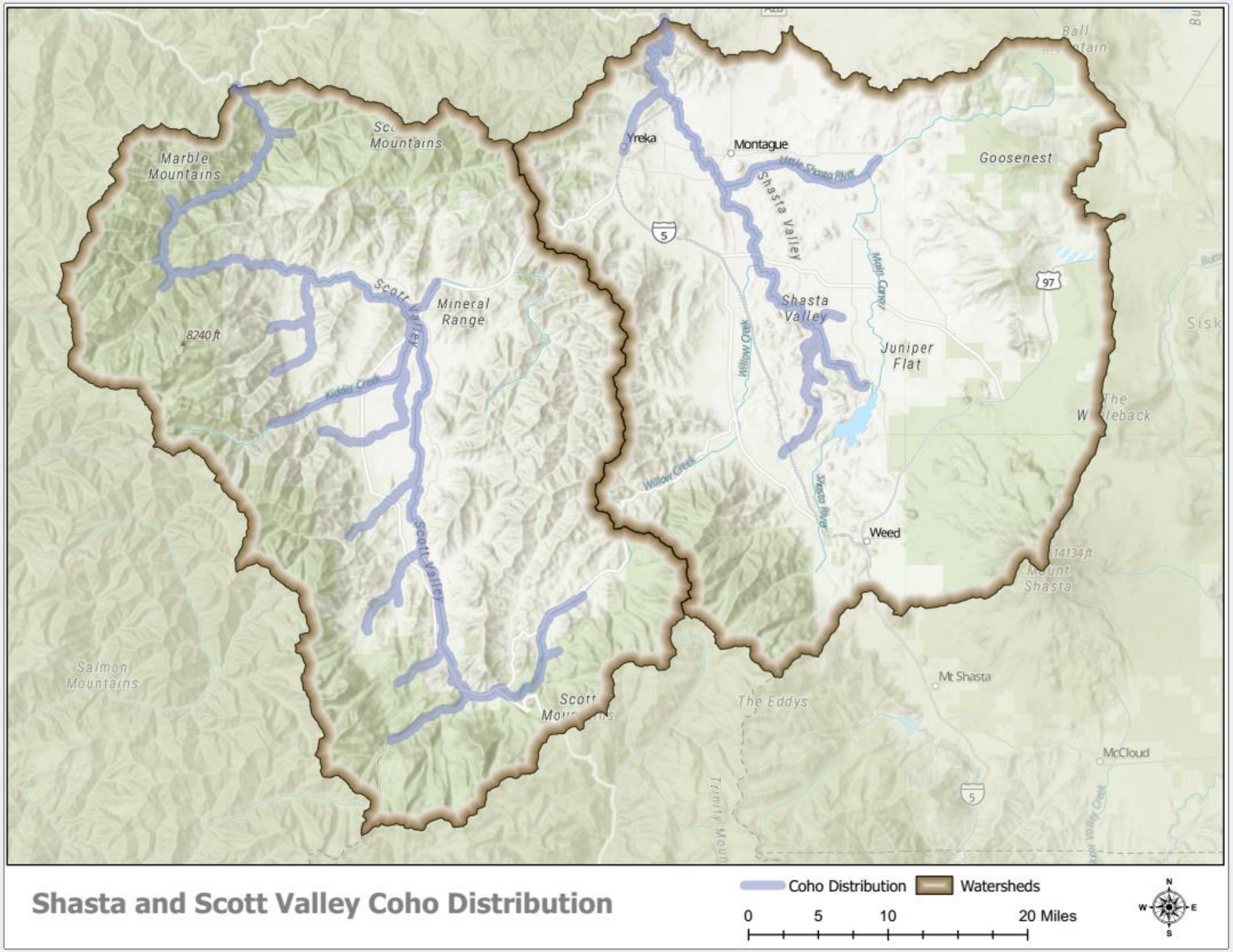
Image: US Forest Service

- Increased sedimentation from management activities, roads, wildfires, etc. Too much sediment can:
  - Fill pools fish need for resting
  - Elevate streambeds creating low flow conditions
    - Habitat fragmentation - blocks fish from getting to needed habitats
    - Water temperature increases
- Streamside canopy removal can lead to an increase in water temperatures and sediment
- Instream wood harvesting and stream clearing can deplete the rivers large woody debris
    - Depletes fish habitat complexity
    - Removes instream fish cover

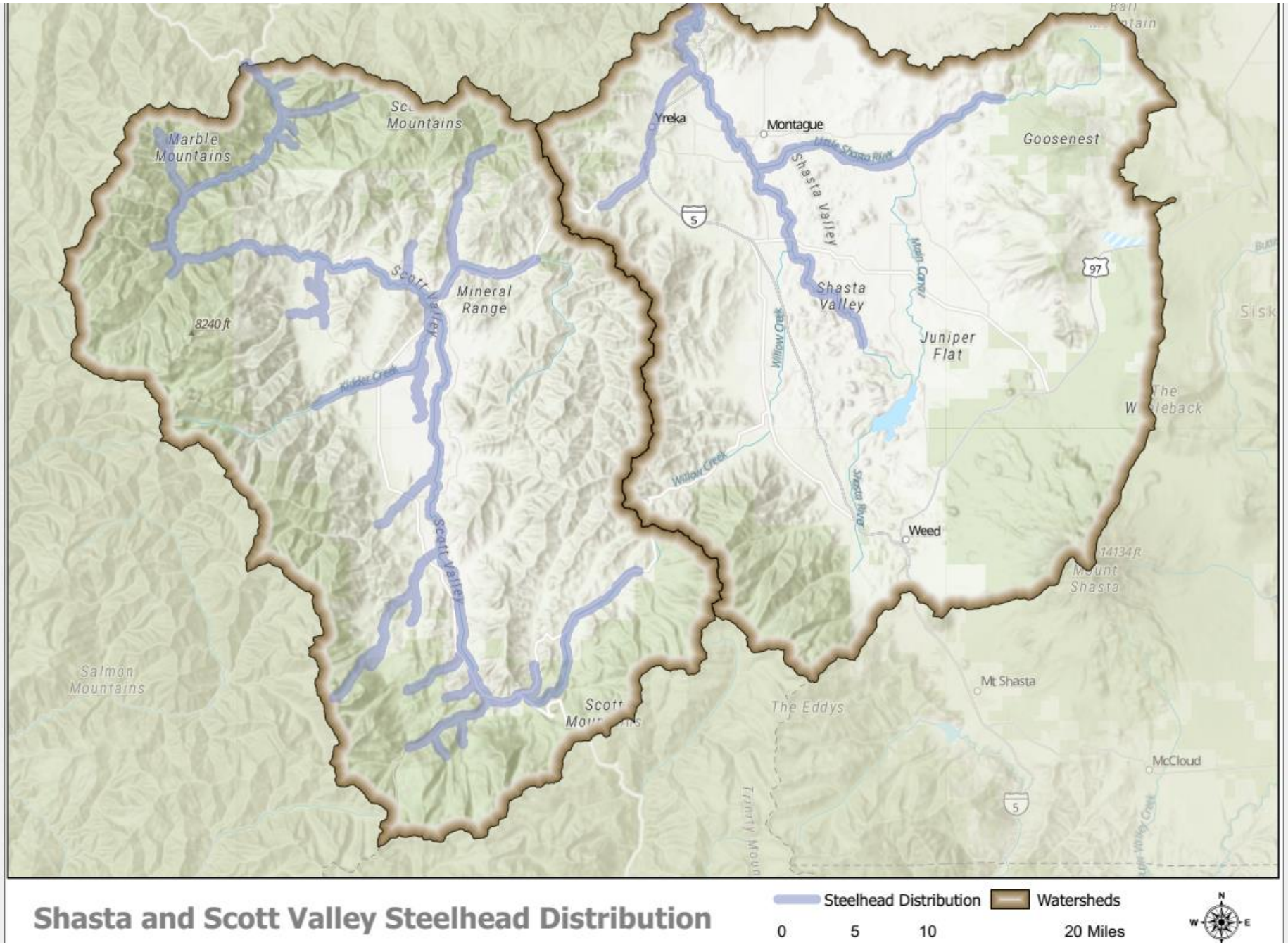
Salmonid Distribution Maps



Current Chinook Distribution



Current Coho Distribution



Current Steelhead Distribution

Best Management Practices

Fish Screens

- Maintain connectivity between the headgate and the bypass outlet and fish passage at the diversion structure
- Operate headgates at the end of the season to ensure fish have opportunities to return to the creek
- On site consultation with CDFW and/or Watermaster
- Manage tailwater to minimize warm water flowing back directly to streams
- Use alternative stockwater during baseflow until fall rains improve flow
- Leave as much water in stream as feasible

Establish and Respect Filter Areas

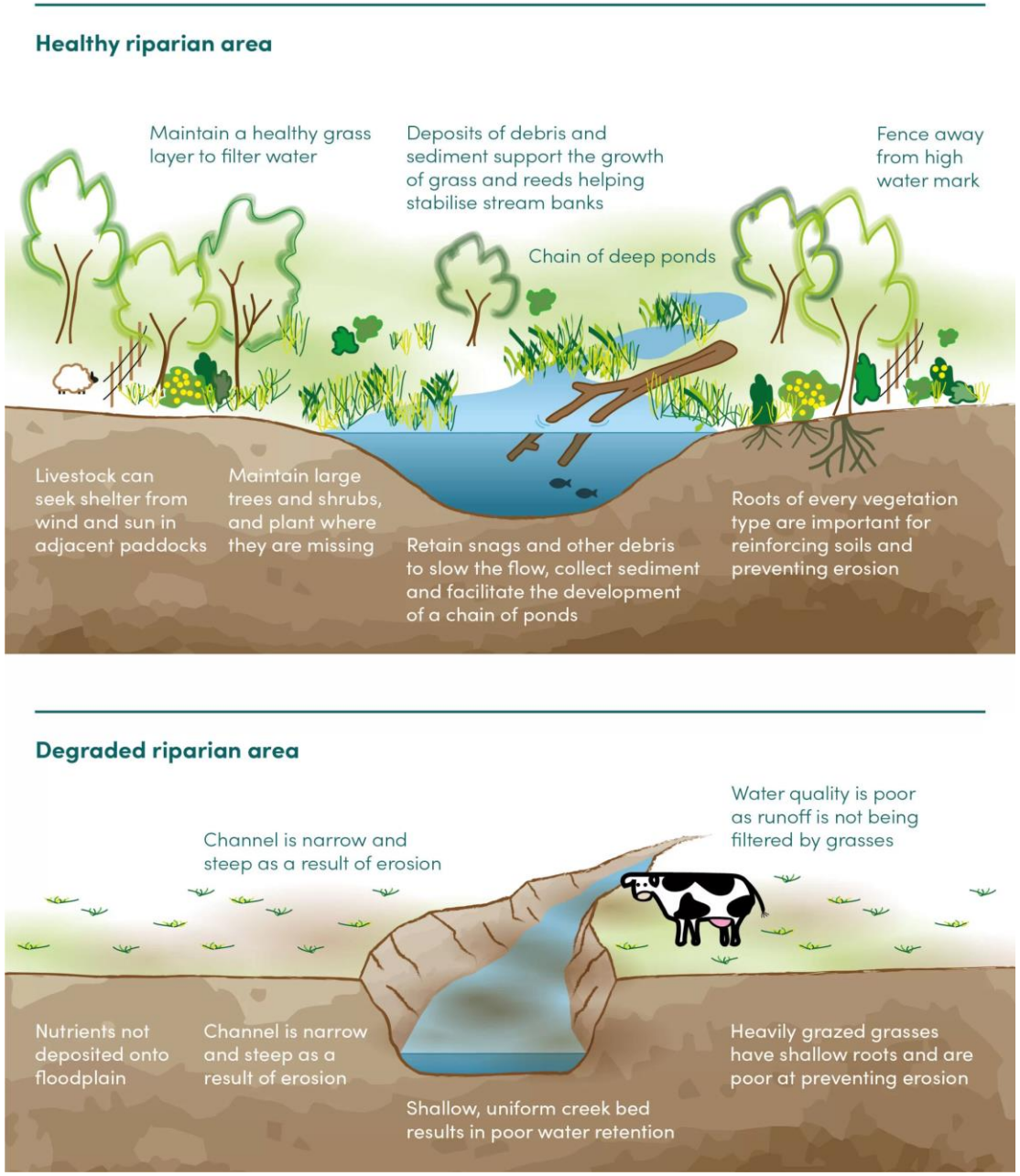


Image from www.sustainablefarms.org

Riparian & Wetlands

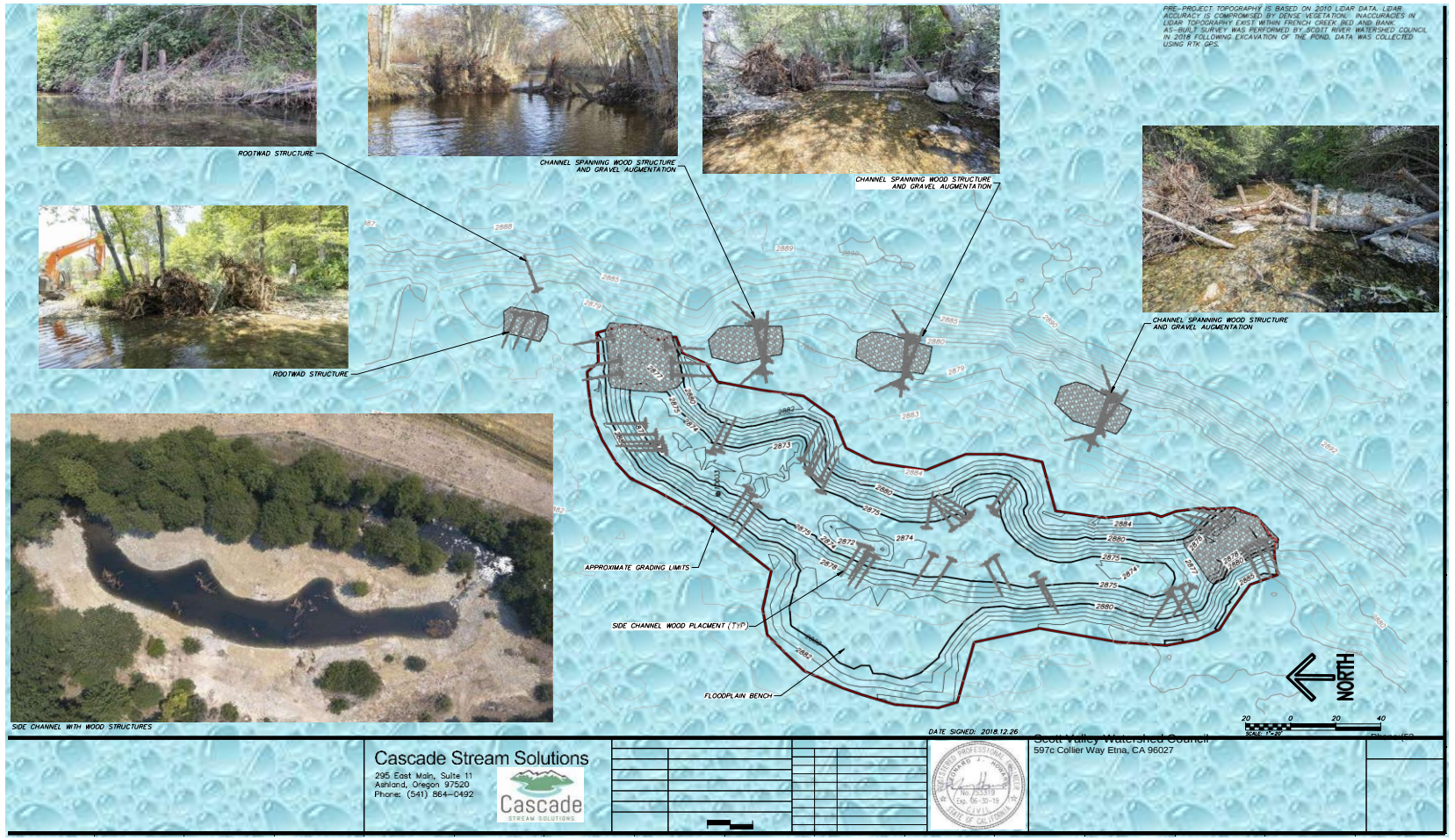
- Filter debris, sediment, nutrients, pesticides/herbicides
- Store Water
- Wood recruitment

Minimize and Stabilize Exposed Soils

- Reduces and prevents erosion
- Temporary materials
  - Straw mulch
  - Brush/slash
  - Erosion control blankets
- Permanent materials
  - Wood chips/waste/bark mulch
  - Plant vegetation
  - Permanent erosion control blankets

Enhancing Fish Habitat

Enhancing Fish Habitat



- Off Channel Ponds
- Beaver Dam Analogs
- Instream Wood Structures
- Riparian Planting and Fencing

Off Channel Ponds

- Thermal Refugia for Winter & Summer Rearing
- Low Velocity Refugia from High Stream Flows
- Shelter Habitat

Beaver Dam Analogs

- Man-made, mimics natural dams
- Slows down water
- Recharges the groundwater table
- Filters nutrients

Instream Wood Structures

- Stream Velocity Refugia
- Cover from predators
- Riparian Recruitment
- Restore Geomorphologic Instream Function
  - Sediment retention and gravel sorting
  - Expand floodplain connectivity

Riparian Planting and Fencing

- Protect & Improve Riparian Vegetation
- Improve Water Quality
- Stabilize Streambank Erosion

Funding Opportunities

CDFW Grant Opportunities

CDFW grant programs fund projects that sustain, restore and enhance California's fish, wildlife, plants and their habitats.

Go to the
CALIFORNIA GRANTS PORTAL

Grant Programs

Drought Response

- CDFW Drought Response

Boating Access

NEW! Sport Fish Restoration Grant Program - Boating Access

Fish and Wildlife Management

- Native Wildlife Rehabilitation Voluntary Tax Contribution Fund Grant Program
- State Wildlife Grants
- Fisheries Restoration Grant Program (FRGP)

Watershed Restoration, Planning and Protection

- **NEW!** Restoration Grant Programs - Drought, Climate and Nature-Based Solutions
  - View Project StoryMaps!
- **NEW!** George H.W. Bush Vamos A Pescar™ Education Fund
- Cannabis Restoration Grant Program
- California Winter Rice Habitat Incentive Program
- Ecosystem Restoration Program (ERP)
- Natural Community Conservation Planning (NCCP) Local Assistance Grants
- Endangered Species Conservation and Recovery Land

Subscribe

Sign up for grant related notices:

Email or phone *

enter an email or mobile number

By checking this box, you consent to our data privacy policy. *

Subscribe

- Drought Response
- Fish and Wildlife Management
- Watershed Restoration, Planning and Protection

www.https://wildlife.ca.gov/Grants

Thank you!

Klamath Watershed Program
California Department of Fish and Wildlife
KlamathWatershed@wildlife.ca.gov