

OREGON DEPARTMENT OF FISH AND WILDLIFE

2015

Drought

▶ Direct impacts

- ▶ Reduced forage
- ▶ Reduction in available water sources
- ▶ Increased Wildlife-human conflicts and damage (because of reduced forage, berries, etc.).
- ▶ Wetland habitat impacts (Amphibians, reptiles and shore and water birds)
- ▶ Disease impacts due to concentration of animals around remaining water sources

▶ Indirect impacts

- ▶ Short term habitat loss due to increased wildfire
- ▶ Some mortality due to wildfire
- ▶ Timing and availability of food sources

**IMPACTS OF DROUGHT
WILDLIFE**

Direct impacts

- ▶ Low stream flows and low lake and reservoir pool levels combined with very low or no snow pack
 - ▶ Elevated water temperatures
 - ▶ Native cold water fish effects (salmon, steelhead, trout)
 - ▶ Range expansion of invasive species
 - ▶ Blue-green algae blooms resulting in depleted oxygen levels
 - ▶ Increased stress causing increased susceptibility to disease, parasites, predation.
 - ▶ Reduced Habitat
 - ▶ Reduction in accessibility of rearing habitat (shelter and forage)
 - ▶ Fish mortality

Indirect impacts

- ▶ Reduced salmon and steelhead returns in later years.
- ▶ Stream sedimentation from removal of vegetation due to wildfire.

**IMPACTS OF DROUGHT
FISH**

- ▶ Cold water native fish mortality (Fish kills due to warm water) Willamette, Clackamas, John Day and Deschutes Rivers and some hatcheries.
- ▶ Ocean effects as a result of the same weather patterns (algal blooms, domoic acid and low oxygen levels).
- ▶ Half of the banner year 500,000+ adult sockeye run in the Columbia were lost.
- ▶ White sturgeon mortalities in the reservoirs
- ▶ Likely reduced salmon and steelhead runs in future years
- ▶ Reduced herds
- ▶ Reduced fishing access due to lower water levels (boat ramps)
- ▶ Less fishing and hunting opportunities in the future
- ▶ Economic effects (especially in rural areas)

SOME EFFECTS OF DROUGHT ON FISH AND WILDLIFE

- ▶ Understand the local situation
- ▶ Minimize stress, mortality, and adverse harvest
- ▶ Adjust Opportunity to prevent “wasting” of game and fish
- ▶ Take advantage of drought outcomes to manage invasive species
- ▶ Manage ODFW facilities to reduce impacts of drought
 - ▶ Emergency Water Conservation and Curtailment plans
- ▶ Educate the public about actions they can take
- ▶ Track Actions

STRATEGIES TAKEN BY ODFW

- ▶ More planting of dryland crops or drought tolerant crops (low water use)
- ▶ Placing of guzzlers to provide water for wildlife
- ▶ Opportunity to manage invasive vegetation and restore native vegetation
- ▶ Early fish releases from hatcheries
- ▶ Access reductions for both fishing and hunting due to wildfire concerns
- ▶ Selective Fishing and Hunting restrictions and changes
- ▶ Implementation of Emergency Water Conservation and Curtailment plans
- ▶ Drought focused monitoring changes
- ▶ Fish salvage and stocking changes
- ▶ Participation in wildfire fighting operations
- ▶ Cooperative efforts to increase instream flows
- ▶ Pursue opportunity to remove invasive fish species

SOME ODFW ACTIONS