

# A YEAR OF DROUGHT, DIMINISHED WATER SUPPLIES, WATER EMERGENCIES...AND THEN FIRES

New Mexico Municipal League Annual  
Conference

August 31, 2011

Roswell, NM

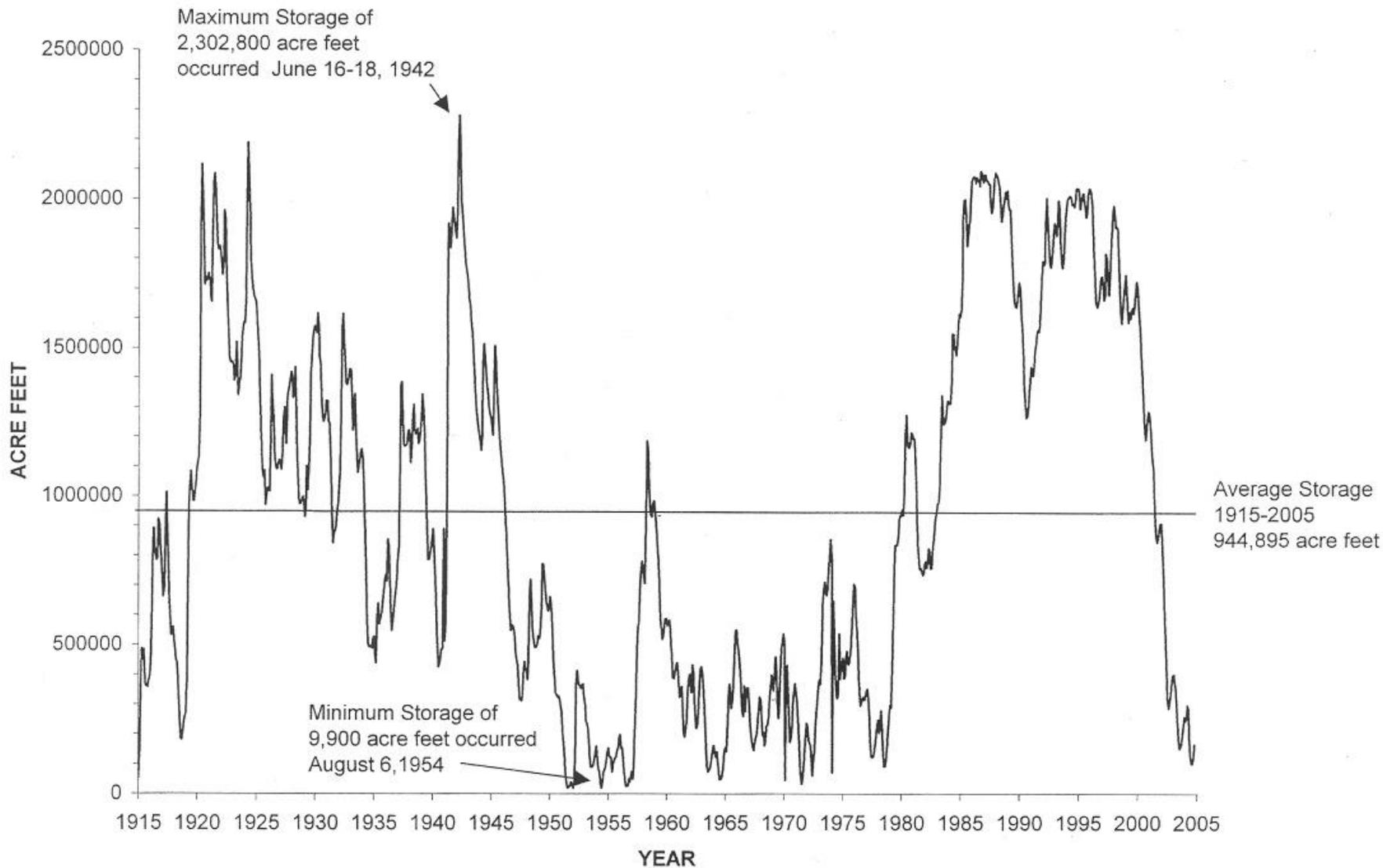
---

# Discussion Topics

- Drought
- Diminished Water Supplies
- Lake and Reservoir Water Quality
- Impacts of Fire on Water Quality
- Mitigation Measures/Solutions
- Questions

# ***DROUGHT***

- The Southwest experiences periodic drought cycles.
  - New Mexico has been in a drought for over 10 years.
  - 2011 has been the driest year on record for many areas of the state.
  - Drought leads to stressed conditions in our watersheds.
    - Insect infestations.
    - Standing dead trees.
    - Extremely low relative humidity.
-



**Elephant Butte Reservoir Storage 1915-2005**

# ***DIMINISHED WATER SUPPLIES***

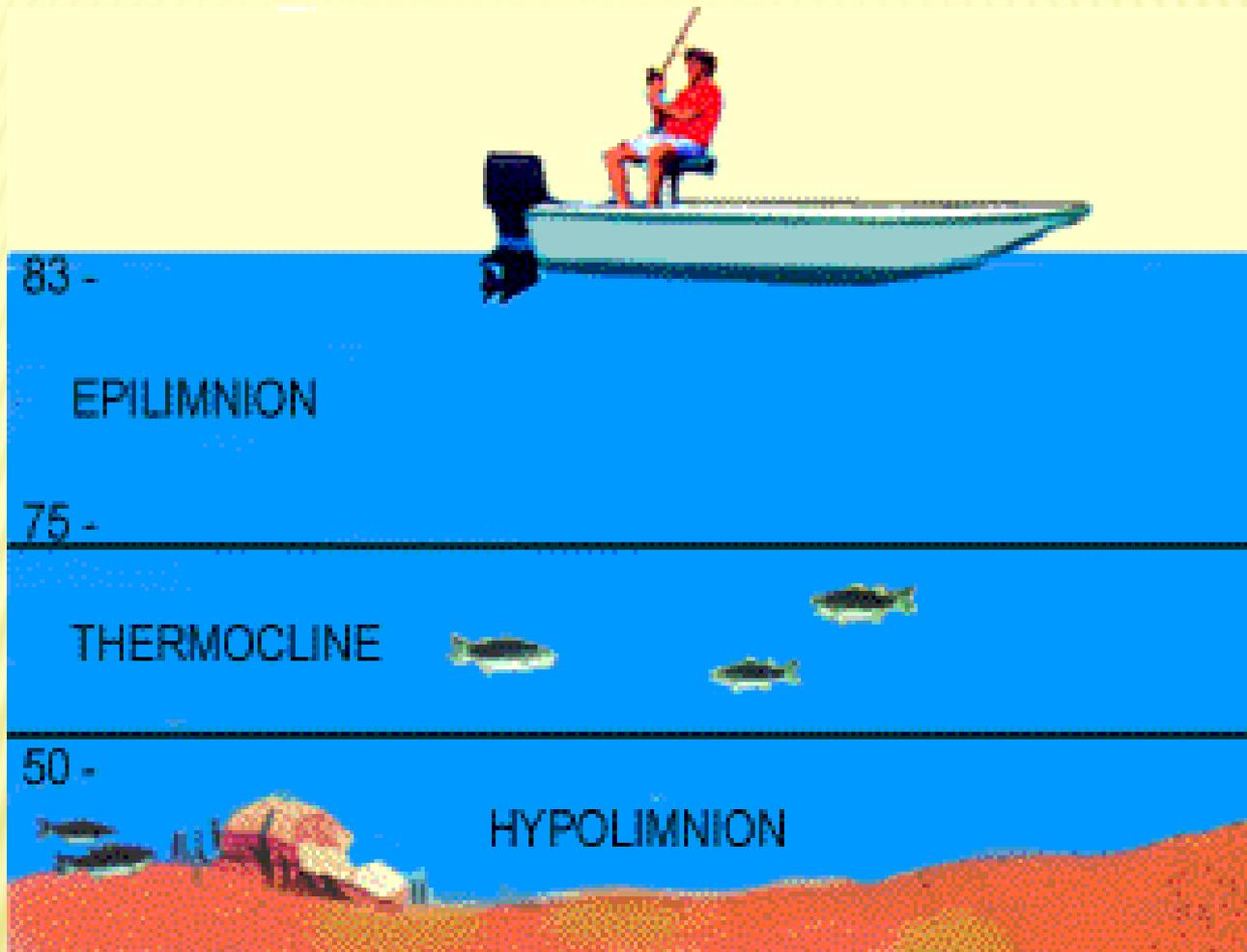
- Population growth.
  - Lack of resource protection.
  - Mining springs and aquifers.
  - Trans-watershed water transport.
    - Bonito Lake
    - San Juan-Chama
    - Grindstone Reservoir
  - Insufficient water conservation.
-

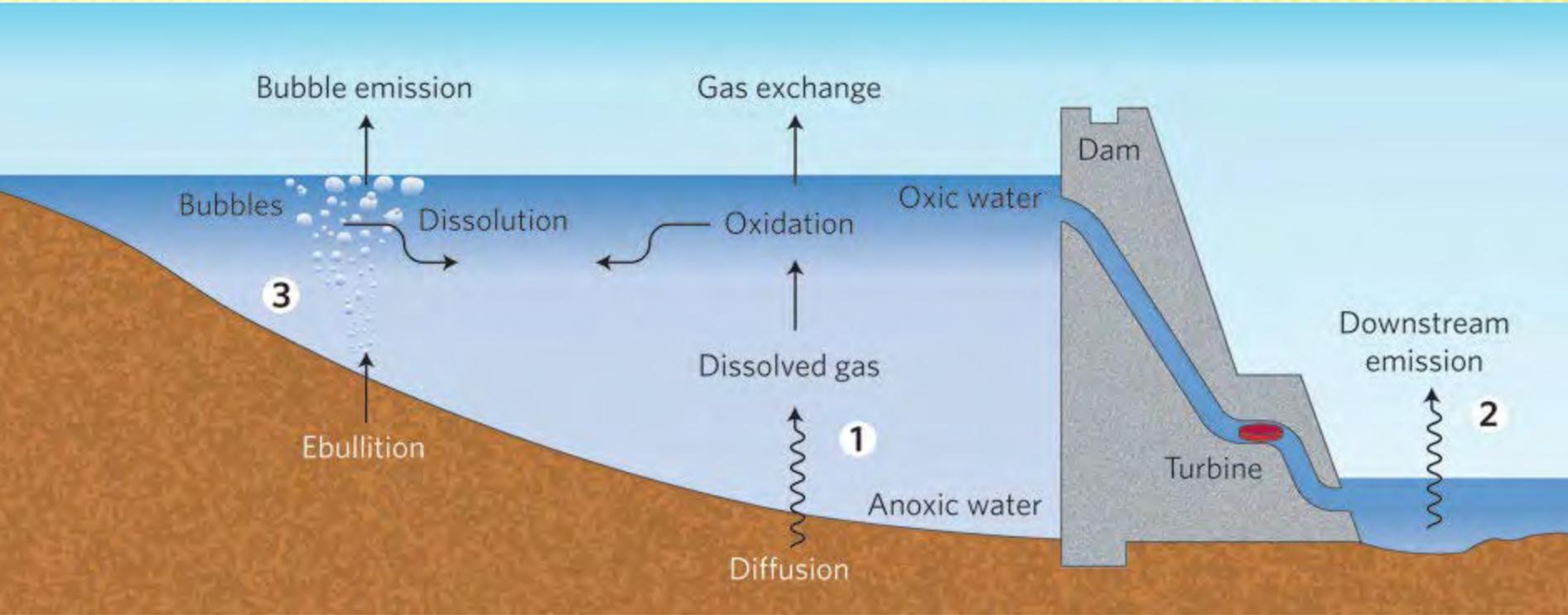
# ***DIMINISHED WATER SUPPLIES SOLUTIONS?***

- Green Infrastructure and Low Impact Development.
  - Promote reclaimed water use.
  - Promote healthy watersheds.
    - Progressive forestry management.
    - Protecting riparian corridors.
    - Wetland protection.
  - Promote water conservation.
-

# **LAKE AND RESERVOIR WATER QUALITY**

- Water movement.
  - Temperature.
  - Stratification.
  - Oxygen.
  - Water Chemistry.
  - Biological processes.
-







McClure Reservoir



Bonito Lake



Grindstone Reservoir



Lake Maloya

# ***IMPACTS OF FIRE ON WATER QUALITY***

- Low intensity fire.
    - High increase in surface debris.
    - High carbon input: dissolved and particulate.
    - Low oxygen levels resulting from carbon decomposition.
  - High intensity fire.
    - High ash input.
    - High inorganic inputs: phosphorous
    - High phosphorous can lead to algal blooms.
  - Increased sediment loading under both conditions.
-



Lake Maloya Post Fire

# ***POST FIRE MANAGEMENT***

- Reseeding burned area.
  - Contour tree felling.
  - Riparian and wetland restoration. Buffer areas.
  - Sediment retention structures.
  - Floating surface booms.
  - Dam operations.
-

**Questions/Comments**

**Discussion**