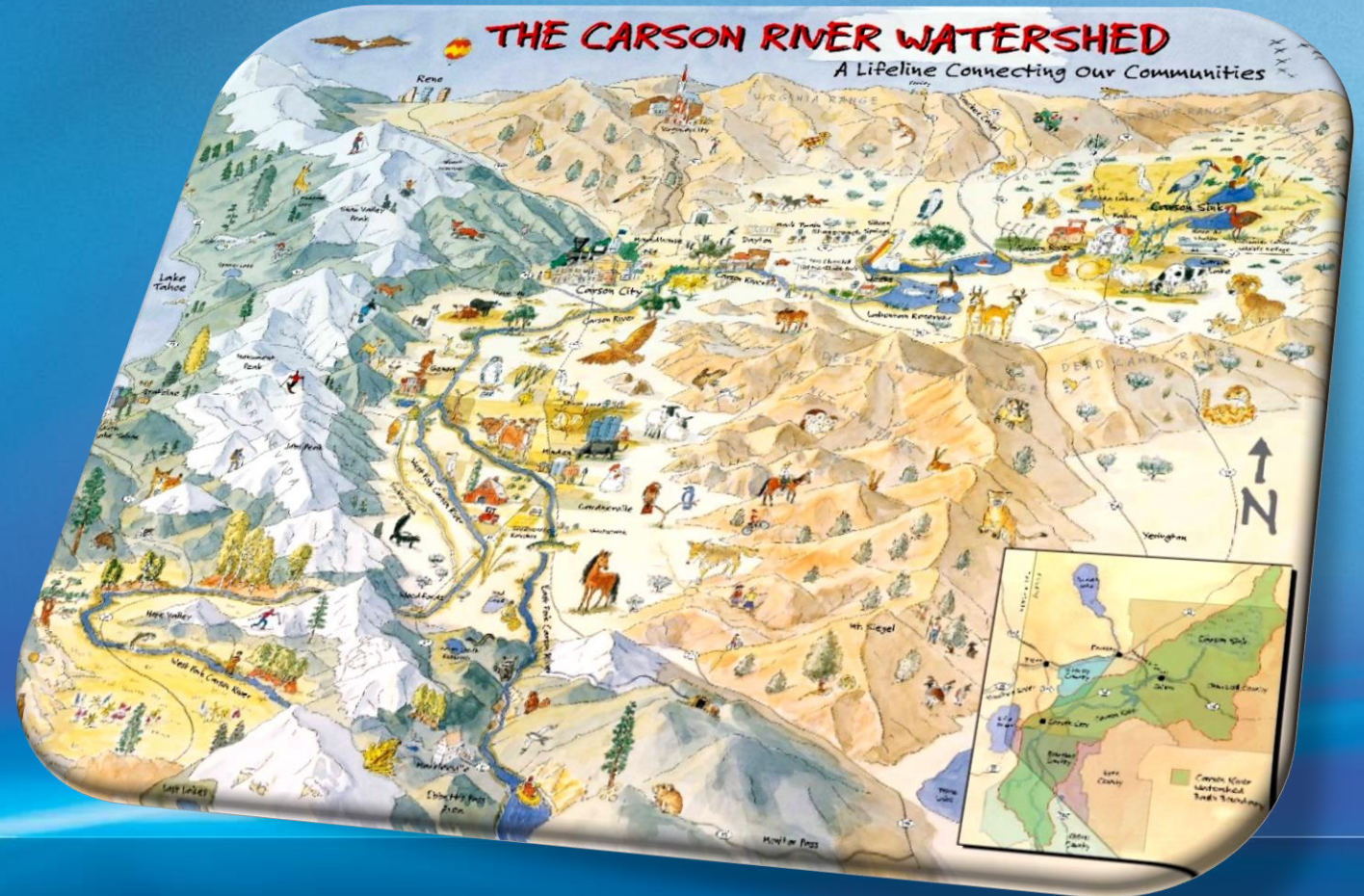
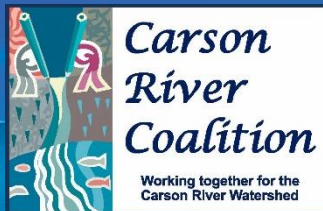


# Carson River Integrated Watershed Management Program

2021 Strategic Planning  
CWSD Board Meeting  
February 17, 2021

Brenda Hunt  
Watershed Program Manager  
Shane Fryer  
Watershed Program Specialist  
Katie Smith  
Watershed Program Technician – AmeriCorps

Made possible by:





# Carson River Watershed



Carson City



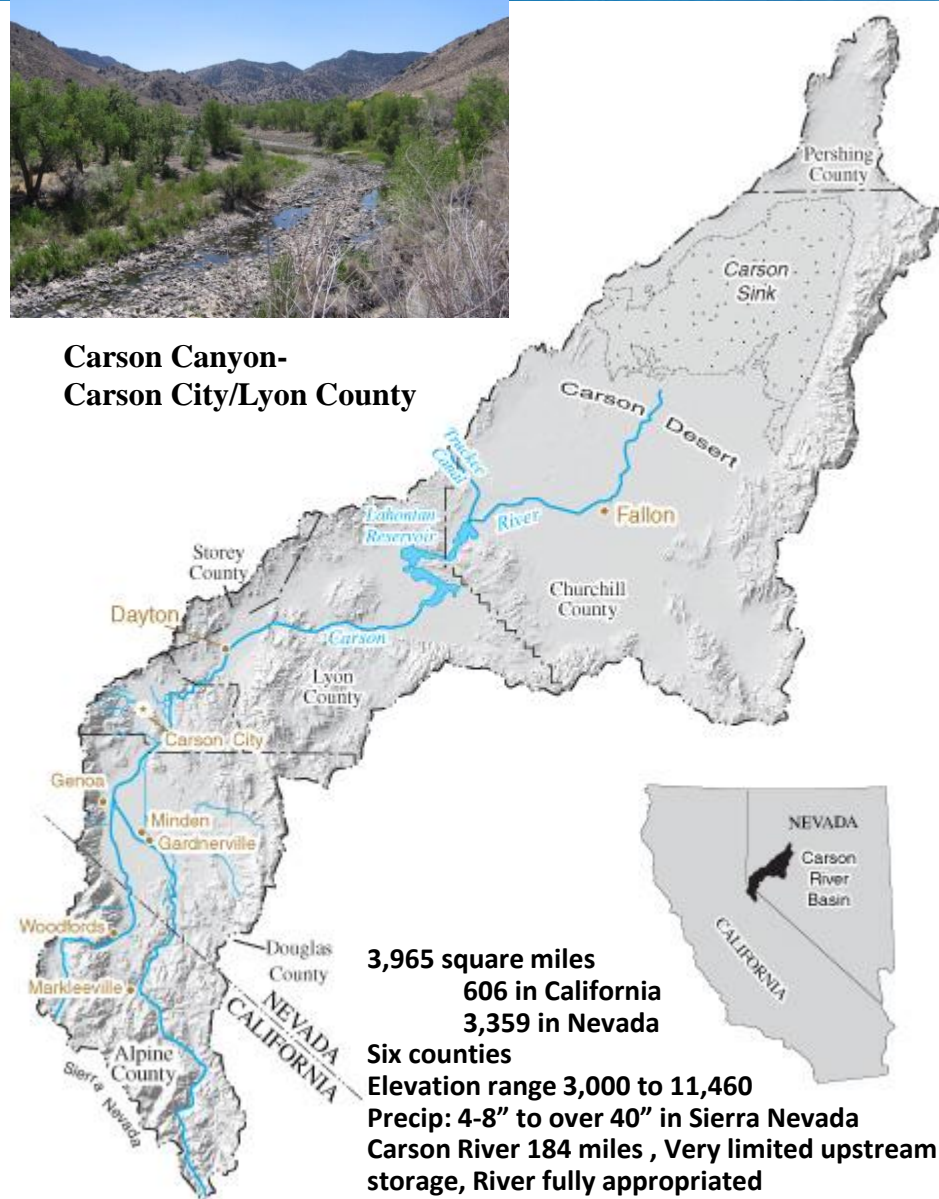
Douglas County



Alpine County, CA

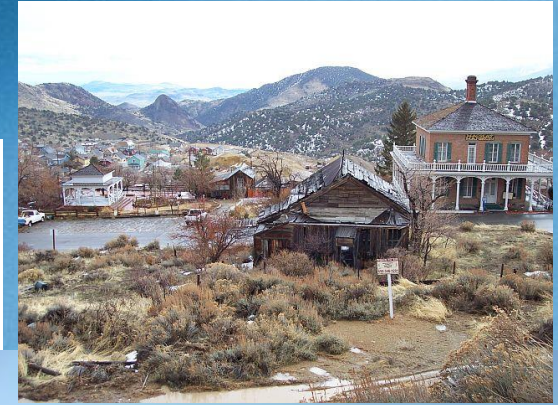


Carson Canyon-  
Carson City/Lyon County



3,965 square miles  
606 in California  
3,359 in Nevada

Six counties  
Elevation range 3,000 to 11,460  
Precip: 4-8" to over 40" in Sierra Nevada  
Carson River 184 miles , Very limited upstream  
storage, River fully appropriated



Storey  
County



Lyon  
County

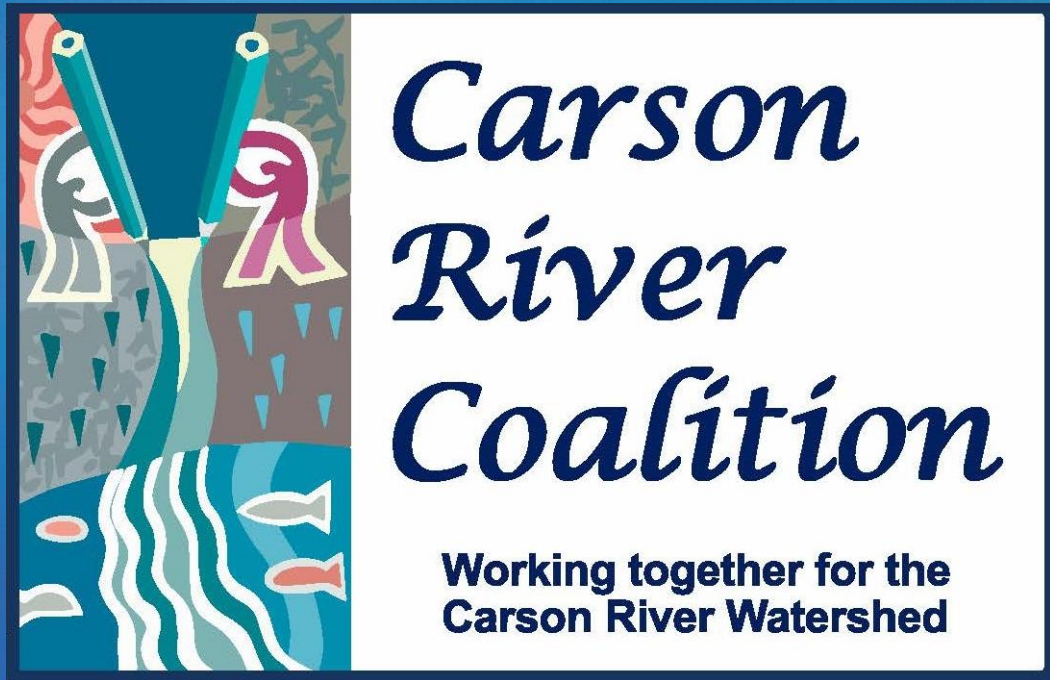


Churchill County



# Watershed Program Primary Goal

- Oversee and coordinate the Integrated Watershed Planning Process (IWPP) for the Carson River Watershed.





# Our Work:

CWSD works with local, state, and federal partners to plan, coordinate, and fund projects and programs that provide regional benefits.

We strive to:

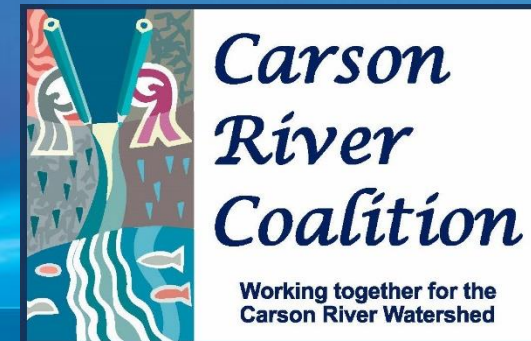
- meet the various future water needs
- enhance the health and water quality of the river system
- protect the floodplains, and
- provide outreach and information to the community





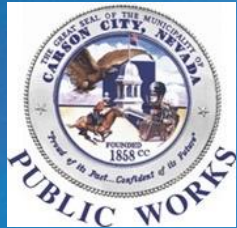
# Carson River Coalition

- Formed in 1998
- All Counties adopted CRC Guiding Principles
- Funding from CWSD & NDEP for Watershed Coordination Program
- Critical element of watershed process
- Working Groups
  - Education
  - Floodplain Management
  - Invasive Species
- Regular meetings & forums, tours, conferences
- Eblast list
- Bi-annual Newsletters





# Carson River Coalition



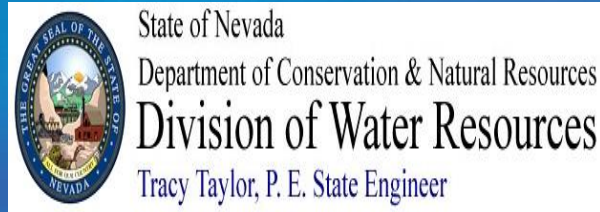
Conservation  
Districts:  
Carson Valley  
Dayton Valley  
Lahontan



CWMAs

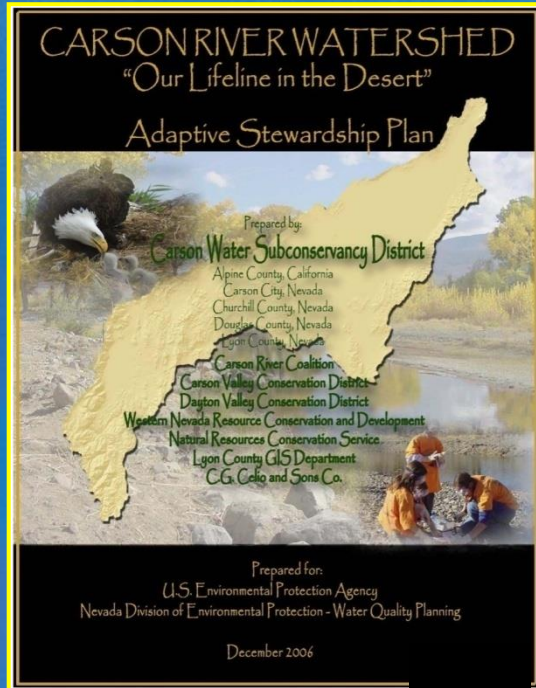


Private Citizens



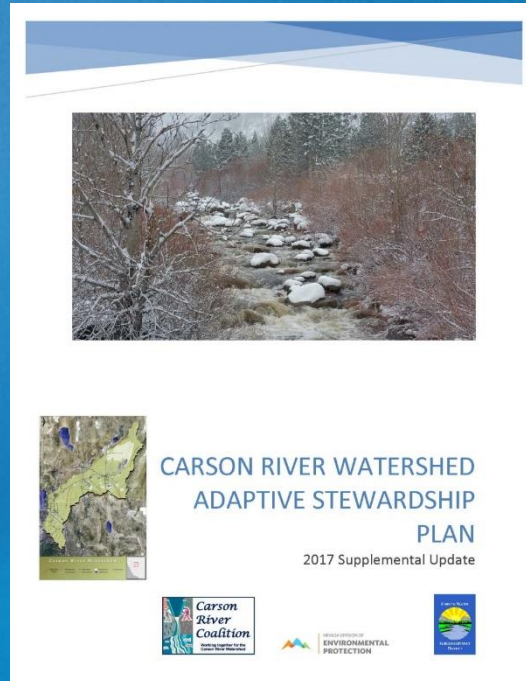


# Effective Planning

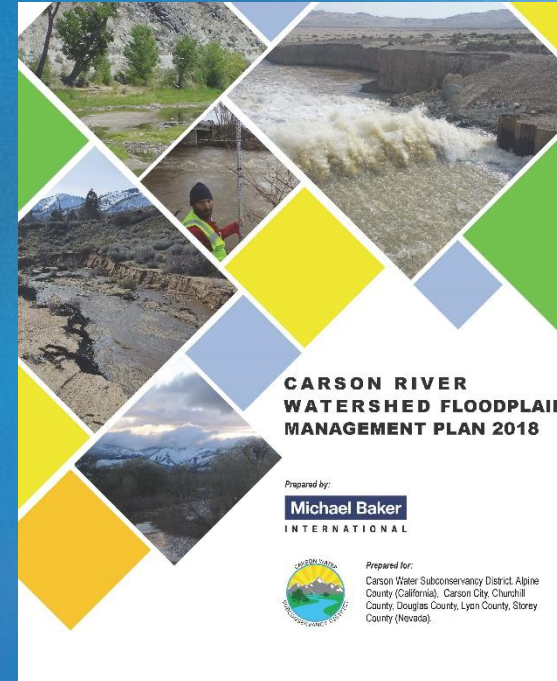


***Adopted by  
CWSD in 2007***

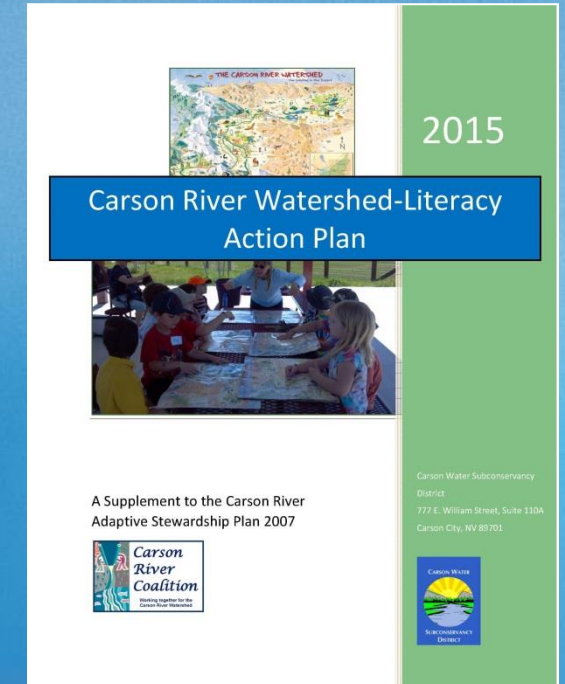
***Both original and updated Stewardship  
Plans meet EPA 319 criteria for  
watershed plans***



***Adopted by  
CWSD Jan 2018***



***Formally adopted  
by all 5 counties  
along the Carson  
River in 2008 and  
2018***



***Adopted by  
CWSD in  
April 2015***



[illegible]

- Floodplain Management
- Water Quality
- River Restoration/Rehabilitation
- Invasive Species
- Outreach and Education
- Water Quantity
- Recreation



# Current Challenges





# Floodplain Management

## Purpose:

To support the adopted *Living River Approach* in river and floodplain management and to reduce flood damage impacts in the Carson River Watershed.





# Floodplain Plan Suggested Action Categories

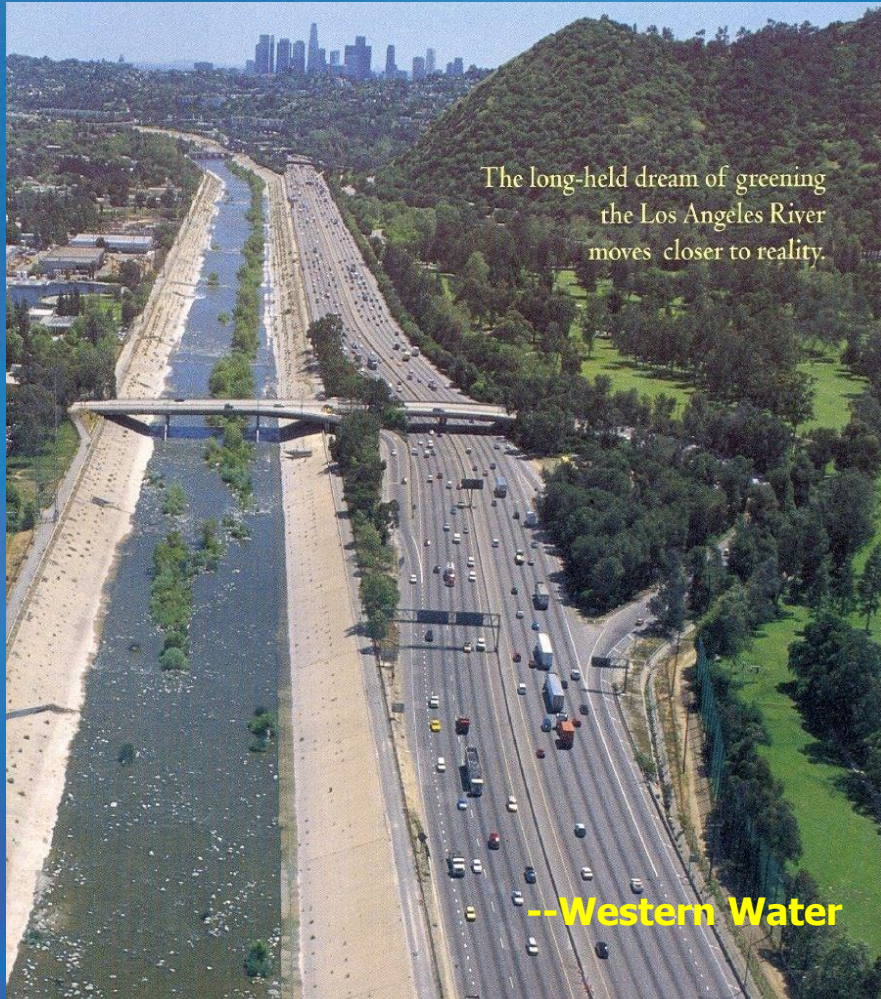
- Protect Floodplain Natural Functions & Values
- Set Higher Regulatory Standards
- Collect Flood Data Information and Management
- Balance Channel Migration and Bank Erosion Monitoring
- Increase Floodplain & Flood Hazard Outreach and Education
- Reduce Infrastructure Impacts
- Map/Study Alluvial Fans
- Minimize Stormwater Impacts



Photo by Wolf



# Alternative Futures for Carson River



The long-held dream of greening  
the Los Angeles River  
moves closer to reality.

--Western Water

Concrete flood channel  
containing Los Angeles River



--John Warpeha

Carson River through lands owned by the  
Washoe Tribe of Nevada



# Water Quality

## Clean Water Act Responsibilities

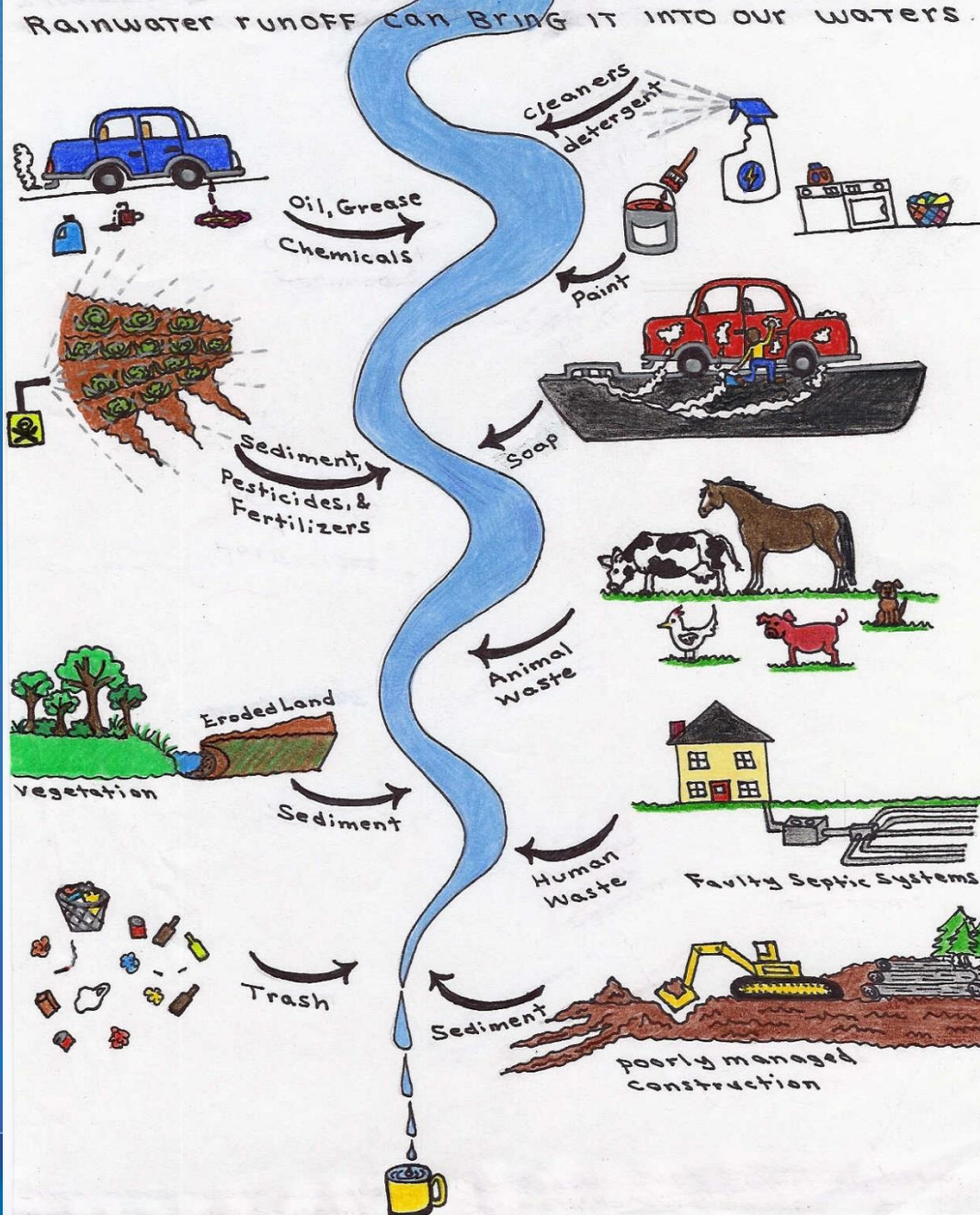
- 303(d) Impaired Waters
- Several TMDLs
- 208 Planning
  - Algae Studies
  - Low Impact Development
- 319(h) Programs
  - Watershed Program
  - Watershed-Literacy Implementation





# NON-POINT SOURCE POLLUTION

Rainwater runoff can bring it into our waters.

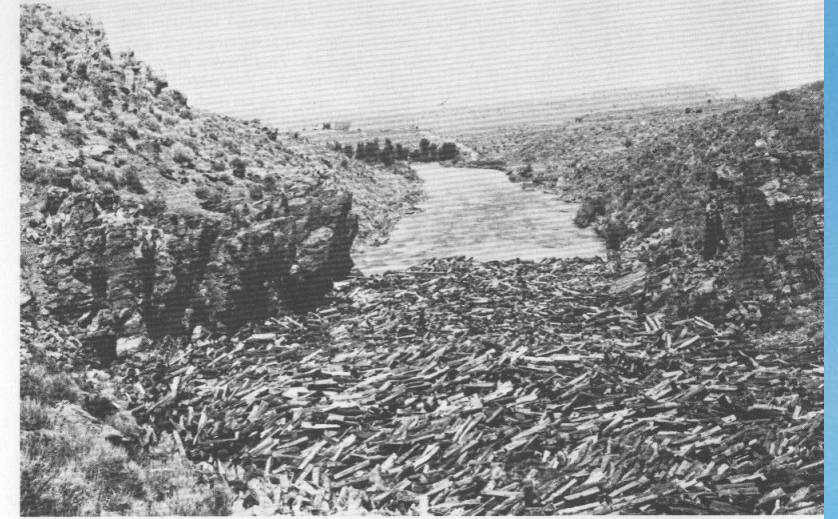


Non-point  
Source Pollution  
or polluted  
run-off comes  
from  
you and me.



# Historical Human Impacts on WQ

- Historic mining impacts
- Superfund Sites
  - Leviathan Mine
    - 22 million tons overburden with sulfide to region
  - Carson River Mercury Site
    - Comstock Mining Era
    - 186 mills, 16 on river
    - 14 million lbs mercury
    - 40 yrs wood drives
- Channelization & levees
  - 70 miles of river channelized in 1960's
- Diversion structures



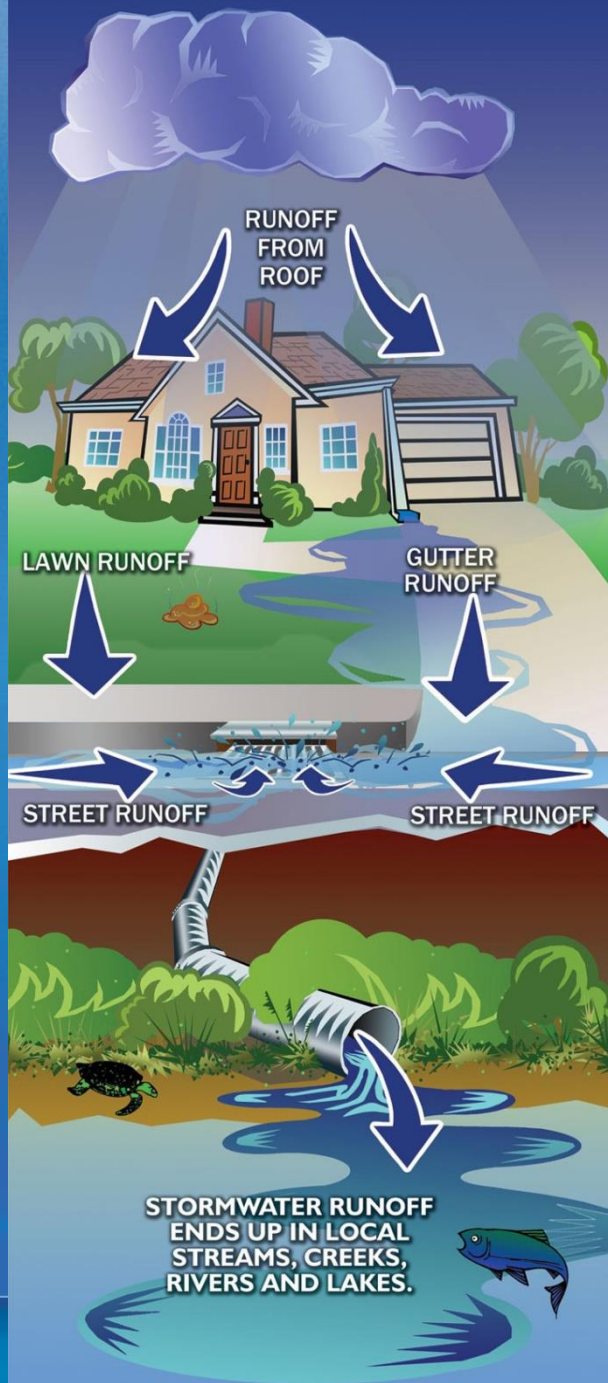
Wood drive on the East Fork of the Carson. Holding the wood at Young's Crossing, waiting for a head of water that would permit floating it through Carson Valley. (Courtesy of Nevada State Museum)



Leviathan Mine Superfund Site



# Current Human Impacts on WQ



Courtesy NCDENR

- Stormwater
  - MS4s
  - BMPs
  - LID
- Septic Tanks
  - Throughout Watershed
- Contaminant Plumes
  - Bently and Mallory plumes
- Waste Water Treatment Facilities
  - Variety throughout Watershed



# River Stabilization & Rehabilitation

- Conservation District Projects



- AWG River Restoration Projects





# Invasive Species Management

- CWMA's – CWSD funds \$15k per year
- Coordinate the Invasive Species Working Group
- Actively participate in watershed CWMA's
- Aquatic Invasive Species proactive action





# Education & Outreach

**I AM  
CARSON  
RIVER  
WATERSHED**

**I AM  
CARSON RIVER  
WATERSHED, AND  
YOU ARE TOO!**

We live in a wonderful watershed. Here's what you can do to keep pollutants out of our waters.



BAG IT



CURB CHEMICAL USE



USE A CAR WASH



RECYCLE MOTOR OIL

Be proud and display your sticker on your vehicle, water bottle or window!

[IAmCarsonRiver.org](http://IAmCarsonRiver.org)



# Environmental Education

## CRC Education Working Group

- Watershed Map & website
- Baseline Watershed-Literacy Survey
- Watershed-Literacy Campaign
- Watershed School Programs
- Carson River Workdays
- Annual SnapShot Day
- Watershed Education Roundtable
- Water festivals & other community events



*Dayton High Students Identifying River  
Macroinvertebrates*



# Water Quantity



- Irrigation
- Drinking (groundwater)
- Interties
- Recreation
- Fish and wildlife habitat
- Wastewater Reuse



# Recreation

***“Protect and support opportunities for public recreational access to natural areas throughout the watershed – including the river corridor – where appropriate”.***

- Carson River Aquatic Trail
- Bailey Fishing Pond in Carson City
- Sheckler Cut-off River Park Design Study for Churchill County
- Carson River Park
- USFS East Fork Strategy Plan





# Questions?

