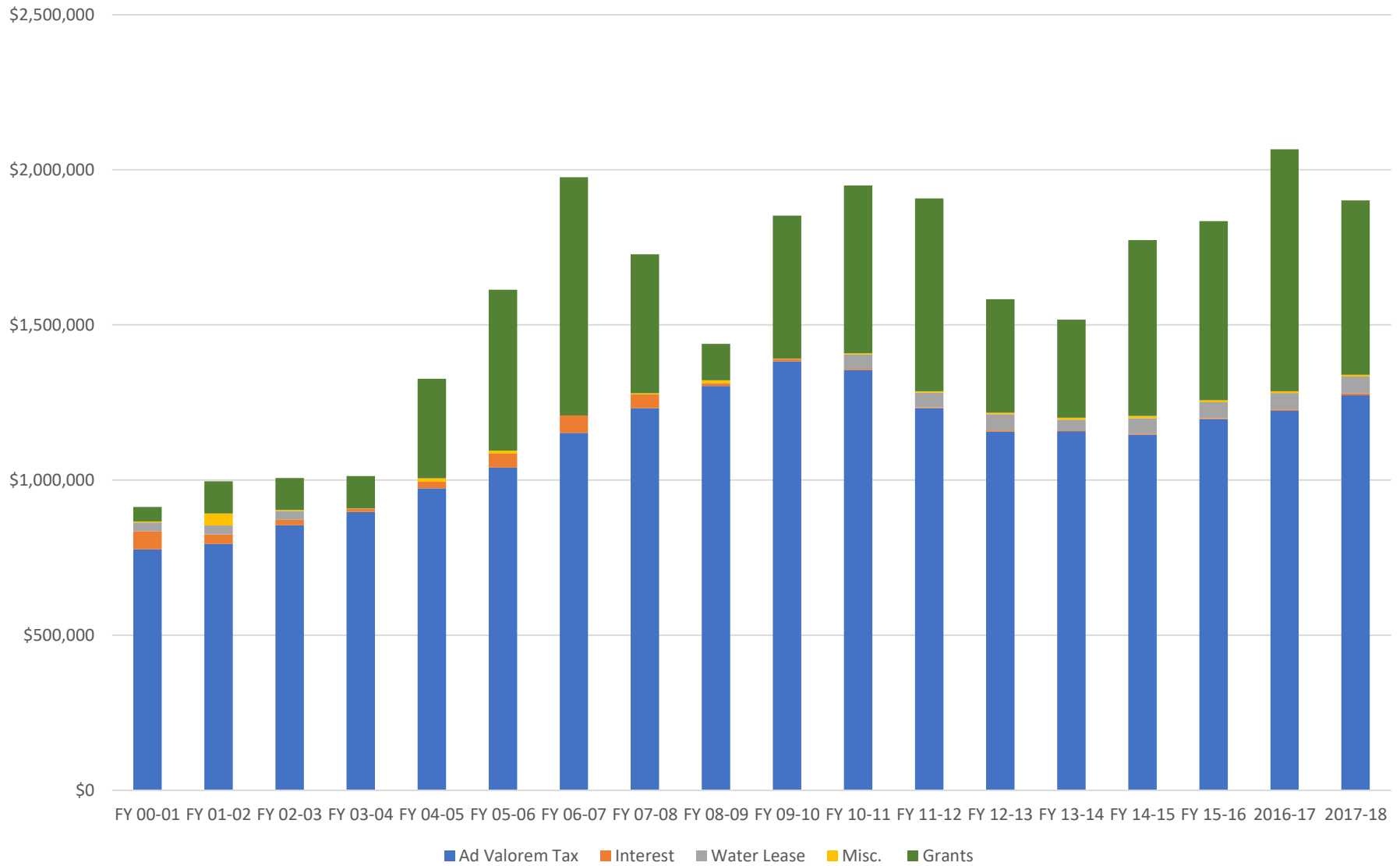


## 2017 Strategic Planning Session

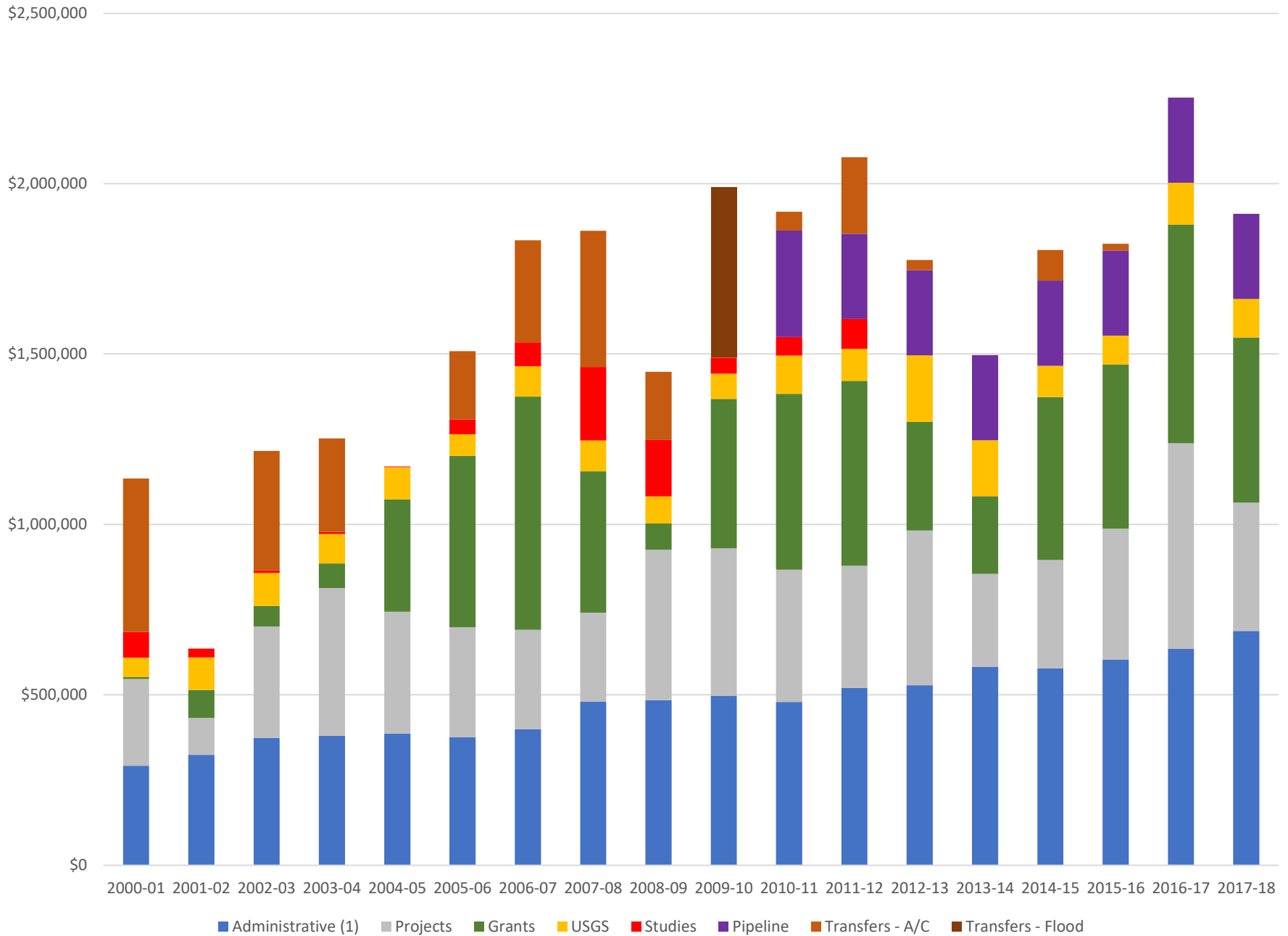
Below is the priority list that was developed from the 2017 Strategic Planning Session:

1. Floodplain Management
  - a. Restudy & Remapping Floodplains
  - b. Flood Mitigation Studies
  - c. Area Drainage Master Plan
  - d. Repairs to Stream Banks Along the Carson River.
    - i. Work with landowner, conservation districts, counties, & NV State Lands
2. Streambanks Rehabilitation & Stabilization
  - a. Clearing and Snagging Projects
  - b. Bioengineering
  - c. Erosion Control Projects
3. Water Supply & Demands
  - a. Groundwater Measurements
  - b. Stream Flow measurements
  - c. Water Conservation
  - d. Water Rights Dedication
  - e. Water Supply and Storage
  - f. Water Law and Legislation Review
4. Water Quality
  - a. Water Quality Sampling (Both Surface and Groundwater)
5. Invasive Species
  - a. Noxious Weed Control
6. Outreach & Education
  - a. Promote River Wranglers Program
  - b. Promote Watershed Literacy
7. Recreation
  - a. River Parks Access
  - b. River Recreation

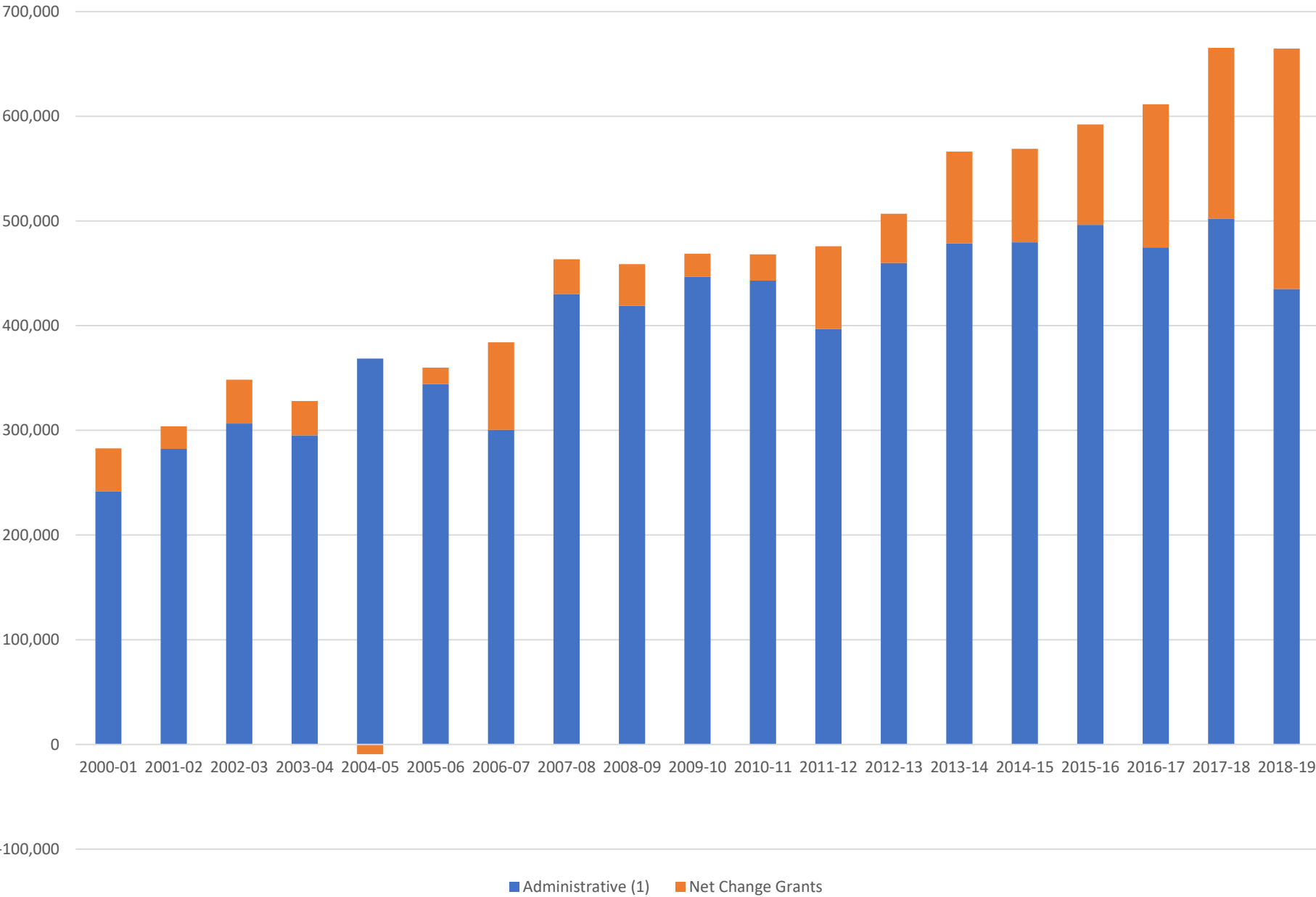
## Income



## Expenses



Administrative Costs



## Floodplain Management Fund

Beginning Fund Balance (6-30-19) est.	\$387,450
---------------------------------------	-----------

### Proposed Projects List

Flood Project SR 88-Minden	\$ 40,000
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Churchill Floodplain Evaluation	\$ 35,000
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Total Expenses for All Projects	\$ 75,000
---------------------------------	-----------

Ending Fund Balance	\$ 312,450
---------------------	------------

# Regional Water System List

## Acquisition/Construction Fund

### Proposed Project Costs

Beginning Fund Balance (6-30-19) est.	\$763,250
Proposed Projects List	
South Douglas County Pipeline Upsize	\$750,000
Gardnerville Water Co Upsize	\$25,000
Gardnerville Water Co-GRGID Intertie	\$75,000
Lyon County/Stagecoach Upsize	\$252,000
Upstream Storage Evaluation	\$50,000
Churchill County Regional Pipeline Upsize	<u>\$460,000</u>
Total Expenses for All Projects	\$1,612,000
Ending Fund Balance	-\$848,750

Regional Water System List  
Past Projects

Acquis./Const. Fund  
Expenditures

Water Rights

Lost Lakes	\$330 K
East Valley Upsizing	\$259 K
Heybourne Pipeline Upsizing	\$350 K
Stagecoach Pipeline Upsizing	\$112 K
N. Do Co Reg Pipeline Design	\$500 K
Minden Reg Pipeline Design	\$100 K
 Minden Reg Booster Station	 \$200 K
Do Co Reg Booster Station	\$250 K
Do Co Reg Sierra Estates System	\$ 25 K
CC/Do Intertie Vista	\$180 K
 Total Expenditures	 \$2,566 K

# Deborah Neddenriep

debbie@cwsd.org

## Who We Are

- ◆ A unique multi-county, bi-state agency;
- ◆ Originally established in 1959, revised by the Nevada legislature in 1989;
- ◆ 14 Directors comprising elected officials from six counties, two agricultural representatives, and one advisory member;
- ◆ Serve as lead agency for integrated watershed planning and management of the Carson River Watershed;
- ◆ Funded with ad valorem taxes and federal, state, and local grants.

## What We Do

- ◆ Promote cooperative action across agency and political boundaries;
- ◆ Establish a balance between the needs of communities in the Watershed and the function of the river system;
- ◆ Develop regional planning and management solutions for the Carson River Watershed;
- ◆ Provide local grant funding to local entities for project implementation;
- ◆ Coordinate the Carson River Coalition (CRC), a large stakeholder group of federal, state, county, and tribal agencies; non-governmental entities, private citizens and landowners.

## Integrated Watershed Planning and Management incorporates:

### Floodplain Management

Create regional level planning solutions focused on conserving our existing floodplain lands and raising public awareness of flooding hazards.

### Outreach & Education

Provide hands-on community watershed education opportunities that promote watershed health and stewardship action.

### Water Supply & Demand

Balance regional water supply demands among municipal, environmental, and agricultural users through cooperative action.

### Water Quality

Monitor, assess, and evaluate water quality to determine correct water quality standards and overall health of the river.

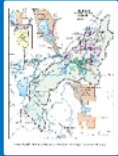
### Invasive Species

Map, monitor, and treat invasive animals and plants to prevent and mitigate spreading. Educate public through outreach efforts.

### Rehabilitation & Stabilization

Enhance riparian habitat, mitigate severe erosion, restore river bank form & function to improve the overall health of the river.

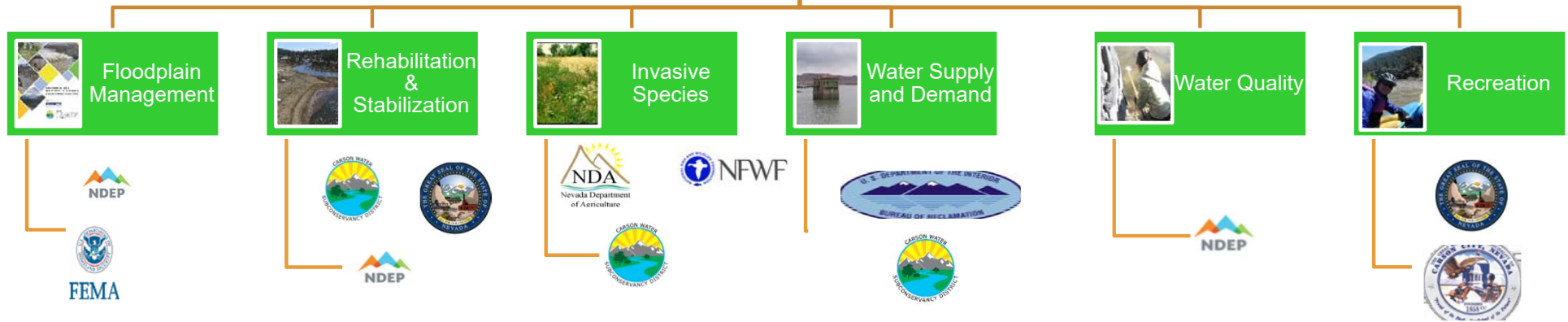




# Integrated Watershed Planning & Management



NDEP - 2008, 2012 & 2017



Outreach and Education is Multi-faceted and works to mesh CWSD goals & objectives with those of funding partners to leverage CWSD local money with federal and state money.

# Past Practices

## Water Law –

1. Support the Alpine Decree and Nevada Water Law
2. Any project proposed must be in-line with Nevada Water Law and the Alpine Decree
3. Don't change the Alpine Decree (Work within the Decree parameters )

## Funding Priorities with Ad Valorem Taxes – (Match is not necessary but recommended)

1. Work along the Carson River (Bank Erosion/Stabilization)
2. Work in the Carson River Watershed (Weed Control, Storm Water Basins)
3. Water Supply (Surface, Groundwater, & Reclaimed Water)
4. Water Quality (USGS Data Gathering)
5. Education & Outreach
6. River Recreation
7. Watershed Planning Tools

## Accounting –

1. Goal to keep Administrative Costs under 35 % total budget

## Board Meetings –

1. Move Meetings in the Summer to Include Each County
2. Hold a Field Trip Before Each Board Meeting – Focusing on something the county wants to show to the rest of the Board
3. Streamline Board Letter's and Board Package
4. Maximize the Consent Agenda
5. Goal to reach consensus on all activities

## Leadership –

1. Be a leader in the watershed regarding water supply and water quality.
2. Be a leader in outreach to the community regarding agriculture, floodplain protection, reduce flood risk, regional water supply, watershed awareness, environment, and promote data collection.
3. Be a leader in the state and country
4. Provide information to the counties, cities, and the various water purveyors in the watershed.

## Propose 2019 Goals

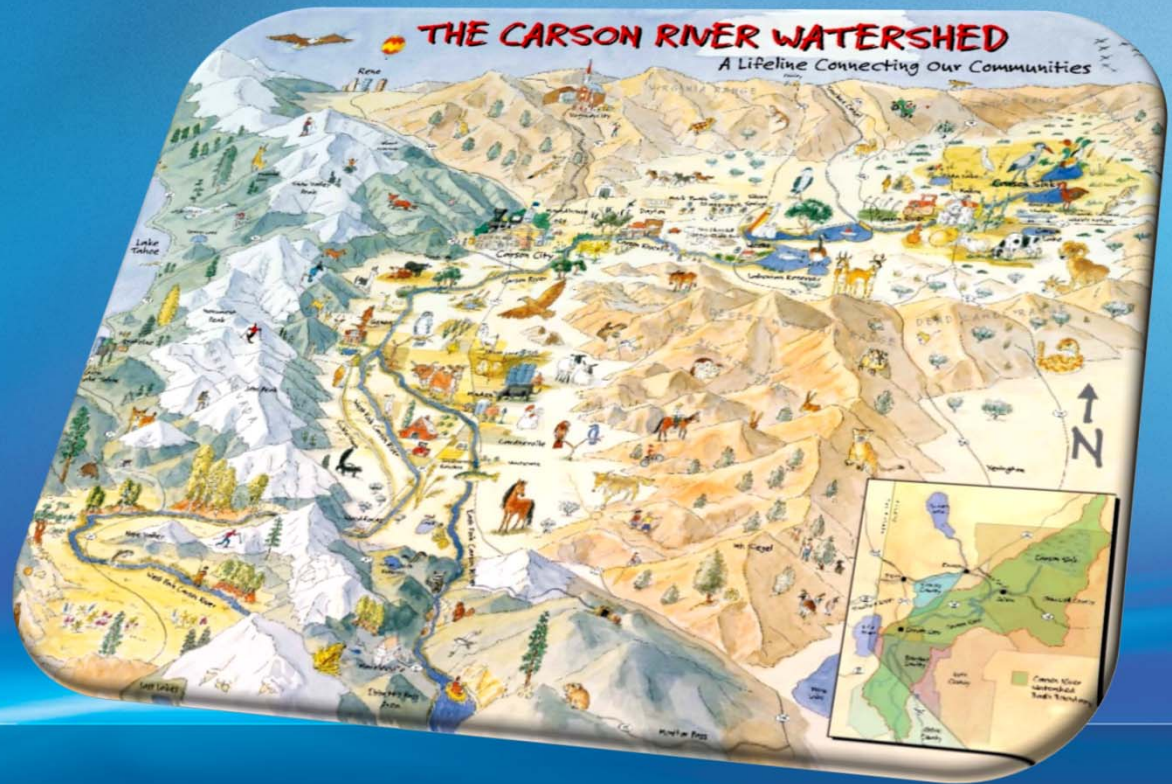
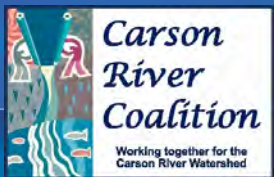
- Work closely with conservation districts to better identify better identify who is responsible for the various grade structures and projects that have been completed in and along the river so there is a clearer understanding of how repairs get funded.
- Be able to utilize GIS or equivalent to follow up on river improvement & repair projects.
- Permitting issues may need to be addressed under #2. It sounds like some project permits are more difficult to deal with than the actual repair work.
- CWSD focus should be on controlling erosion and flood damage, repair and stabilize riverbanks, working with landowners and governmental agencies to repair and maintain grade control and diversion structures, educate the public about the river basin and then monitor quality and quantity.
- Developing an inventory of all the repairs to stream banks along the Carson River which would include: date, cost, a good narration of the work accomplished, map, photos, name of contractor, plans of the project, cost and those who contributed monies for the project.
- Develop a second inventory of the areas and scope of work that clearing and snagging projects accomplish.
- Continue to work with USGS to make sure a useful and user-friendly network of stream gauging stations are maintained and upgraded as necessary.
- Promote a "Citizen's Committee" of professional and water users to work with the State Engineer in reviewing State water law and participating in bill drafts for future legislative sessions.
- Develop an outreach program including some PSA's with local conservation districts as our partner in working on eradication of noxious weeds 1) in the Carson River stream bed and banks and 2) within the Carson River Water shed. Many of the local conservation districts have herbicides to give free of charge to local co-operators. We could help promote that program in an outreach program.
- Interested in getting a comprehensive inventory of improvements along the Carson River. The more information we have (along the lines of a hazard mitigation-type inventory) the better.
- Interested in promoting the river as a recreational destination. Our region is the perfect spot for adventure recreation and the river is a great natural resource that contributes to this greatly.
- To promote collaborative relationships with all of the parties who have management responsibility in the watershed. Ensuring all of the organizations that have an interest in the watershed feel like they have a voice.

# Carson River Integrated Watershed Management Program

2019 Strategic Planning  
CWSD Board Meeting  
March 18, 2019

*Brenda Hunt*  
Watershed Program Manager  
*Shane Fryer*  
Watershed Program Specialist

Made possible by:





# Carson River Watershed



Carson City



Douglas County



Alpine County, CA



Carson Canyon-  
Carson City/Lyon County



Storey  
County



Lyon  
County

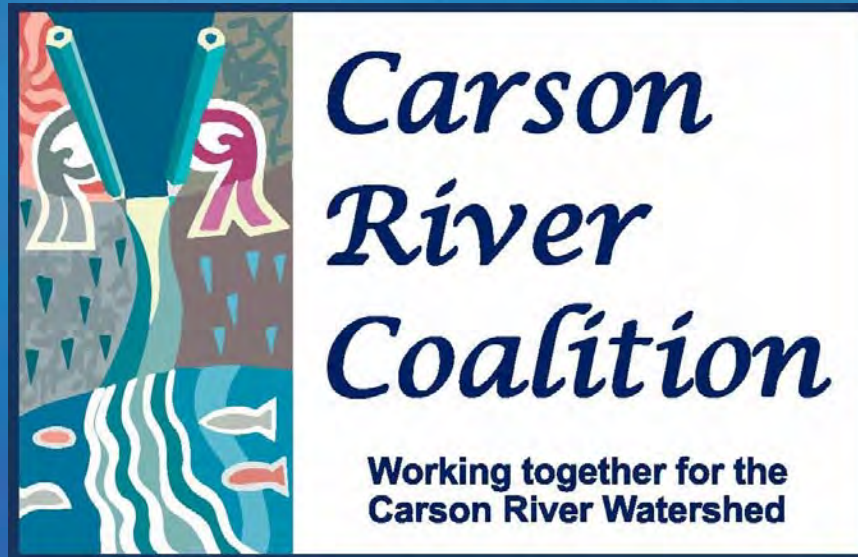


Churchill County



# Watershed Program Primary Goal

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



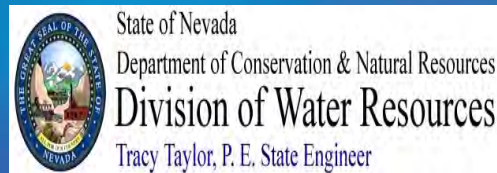
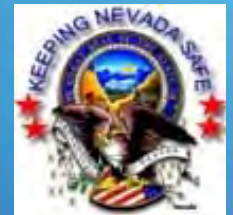
# Carson River Coalition



**Conservation Districts:**  
Carson Valley  
Dayton Valley  
Lahontan  
  
**CWMAs**



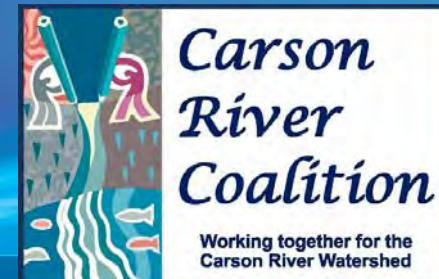
**Private Citizens**





# Carson River Coalition

- Formed in 1998
- Funding by CWSD & NDEP for Watershed Coordinator
- Critical element of watershed process
- Working Groups
  - Education
  - River Corridor
  - Invasive Species
- Regular meetings & forums, tours, conferences
- Email list
- Quarterly Newsletter





## Our Work:

CWSD strives to involve all counties and communities within the watershed 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

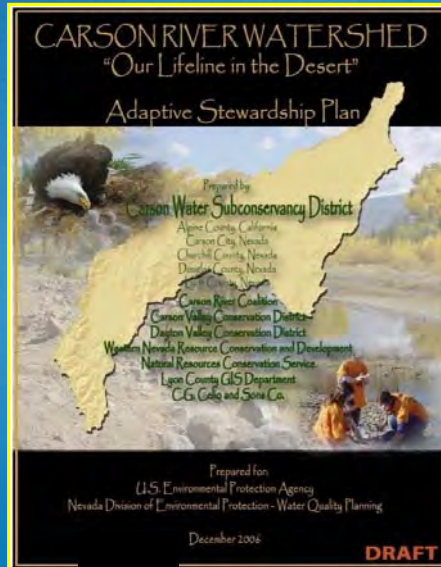


# Current Challenges

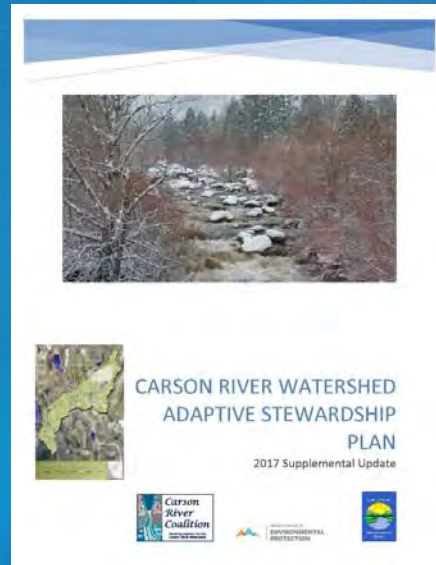




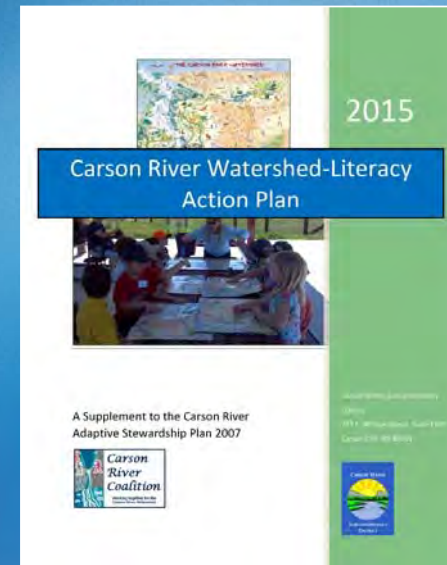
# Effective Planning



***Meets EPA 319  
criteria for  
watershed plans***

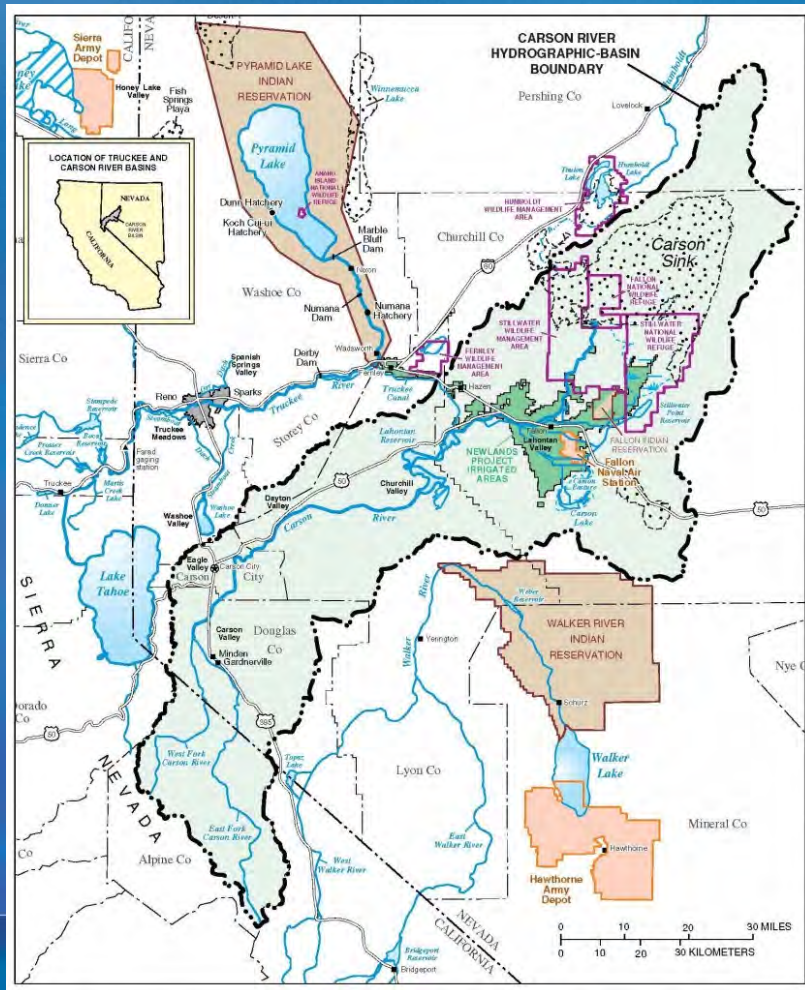


***Adopted 2018***



***Adopted in April 2015***

# Integrated Watershed Planning and Management



CWSD works at a regional level helping to plan, coordinate and fund projects...

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



# Floodplain Management

Purpose:

To create a long-term vision and strategies for floodplain management to reduce flood damage impacts.



# Floodplain Plan Components

- Suggested Actions Categories

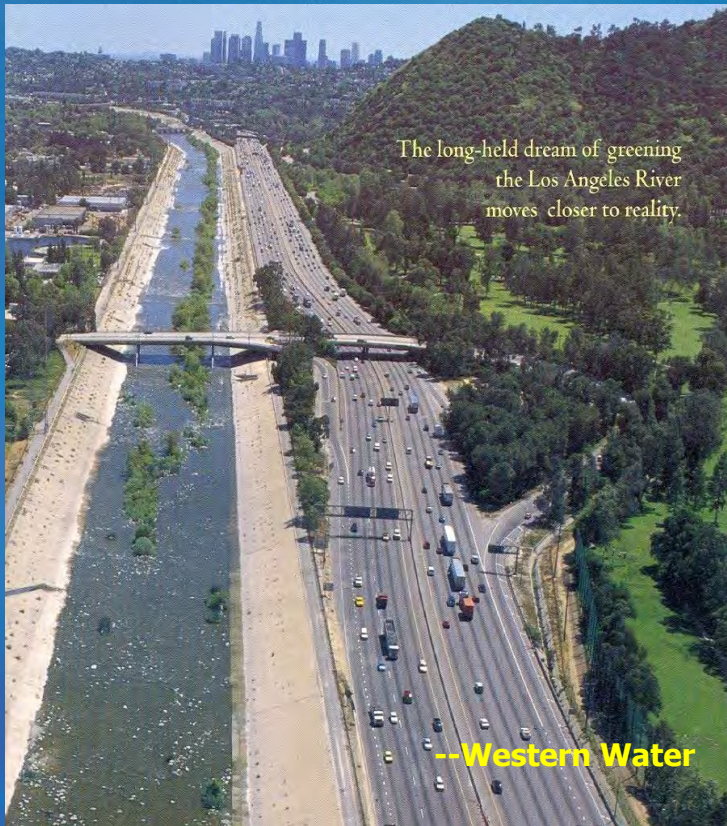
- Protect Floodplain Natural Functions & Values
- Higher Regulatory Standards
- Flood Data Information and Management
- Channel Migration and Bank Erosion Monitoring
- Floodplain & Flood Hazard Outreach and Education
- Reduce Infrastructure Impacts



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



# 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



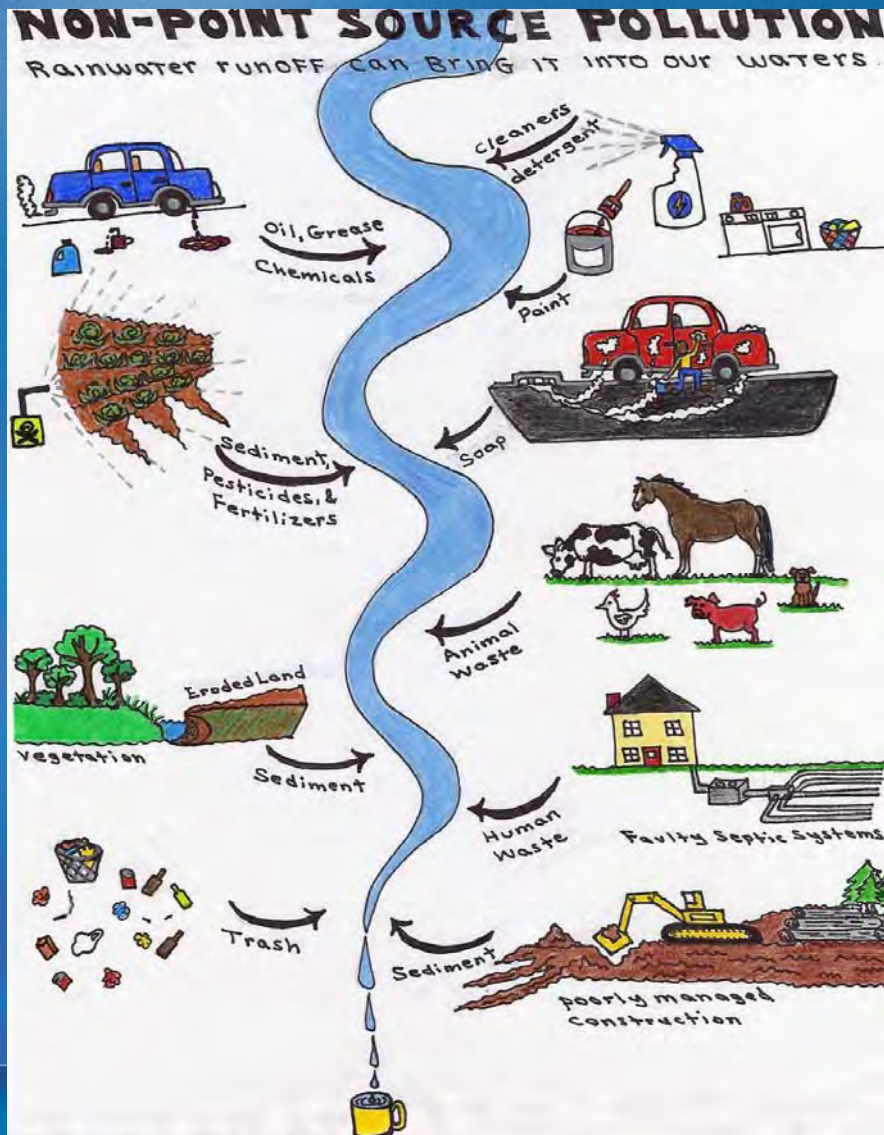


# Water Quality

## Clean Water Act Responsibilities

- 303(d) Impaired Waters
- Several TMDLs
- 208 Planning
- 319(h) Programs





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



- 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





# Education & Outreach



# Environmental Education

## CRC Education Working Group

- Watershed Map & website
- Baseline Watershed-Literacy Survey
- Watershed-Literacy Campaign
- Watershed School Program
- Children's Museum Interactive Exhibit
- Carson River Work Days
- Annual SnapShot Day
- Watershed Education Roundtable
- Water festivals & other community events



*Dayton High Students Identifying River  
Macroinvertebrates*



# Water Quantity

- Irrigation
- Drinking (groundwater)
- Recreation
- Fish and wildlife habitat



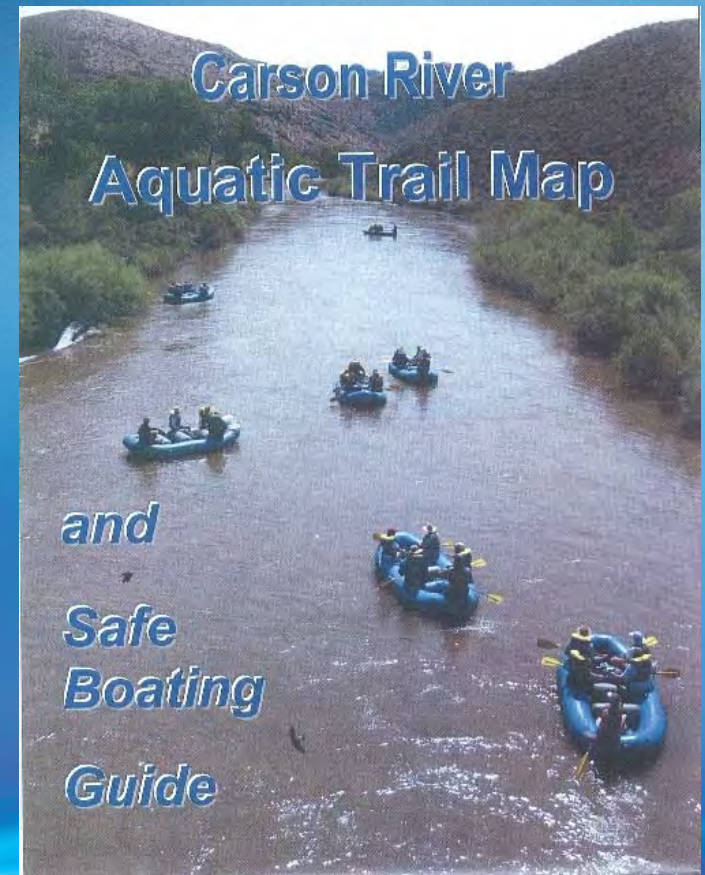


# Recreation

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

CWSD funded projects that promote responsible recreation:

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



Questions?

