



# **Floodplain Management & Water Supply in the Carson River Watershed**

**Deborah Neddenriep, Water Resource Specialist 2, CFM**

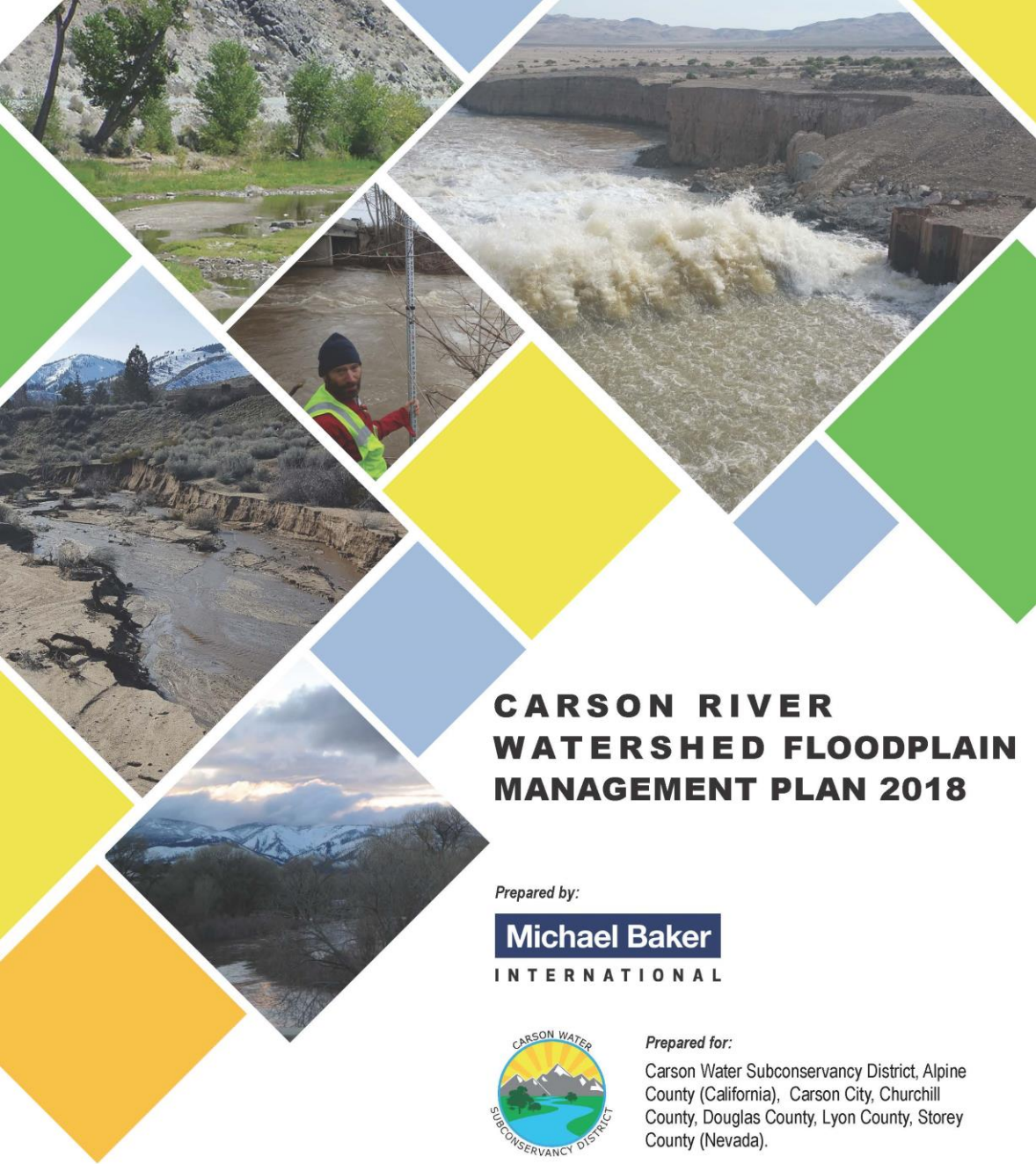
**775-887-1260, [debbie@cwsd.org](mailto:debbie@cwsd.org)**





# Floodplain Management





**CARSON RIVER  
WATERSHED FLOODPLAIN  
MANAGEMENT PLAN 2018**

*Prepared by:*

**Michael Baker**  
INTERNATIONAL



*Prepared for:*

Carson Water Subconservancy District, Alpine County (California), Carson City, Churchill County, Douglas County, Lyon County, Storey County (Nevada).



**Adopted by all 6 counties  
in the Watershed**



**Provides Community  
Rating System points to  
Carson City, Douglas  
County and Storey County**



**8 flood mitigation  
strategies**



**48 suggested actions to  
implement strategies**

Overall Benefit-Cost Ratio

11:1

4:1

4:1

4:1

6:1

Cost (\$ billion)

\$1<sub>/year</sub>

\$4<sub>/year</sub>

\$520

\$0.6

\$27

Benefit (\$ billion)

\$13<sub>/year</sub>

\$16<sub>/year</sub>

\$2200

\$2.5

\$160

6:1

5:1

6:1

8:1

7:1

 Riverine Flood

**Communities / Businesses save \$6 in disaster costs for every \$1 spent on hazard mitigation.**

**CWSD leverages mitigation funding so counties can hold onto their \$\$\$.**

- Natural Hazard Mitigation Saves: 2019 Interim Report, National Institute of Business Sciences
- <https://www.nibs.org/page/mitigationsaves>



**2014  
Douglas County**







**Lyon County  
2018**



**Carson City  
2017**









## STRATEGIES TO MITIGATE FLOOD HAZARDS:

1. Protect Natural Floodplain Function and Values
2. Set Higher Regulatory Standards
3. Collect Flood Data Information and Maintenance
4. Balance Channel Migration and Bank Erosion Monitoring
5. Increase Floodplain and Flood Hazard Outreach and Education
6. Reduce Infrastructure Impact
7. Map/Study Alluvial Fans
8. Minimize Stormwater Impacts





# Cooperating Technical Partner - 2005



**2012 FEMA Risk Map  
Charter**



**Participates in Nevada  
Silver Jackets**



**11 funding awards since  
2011**



**FEMA**



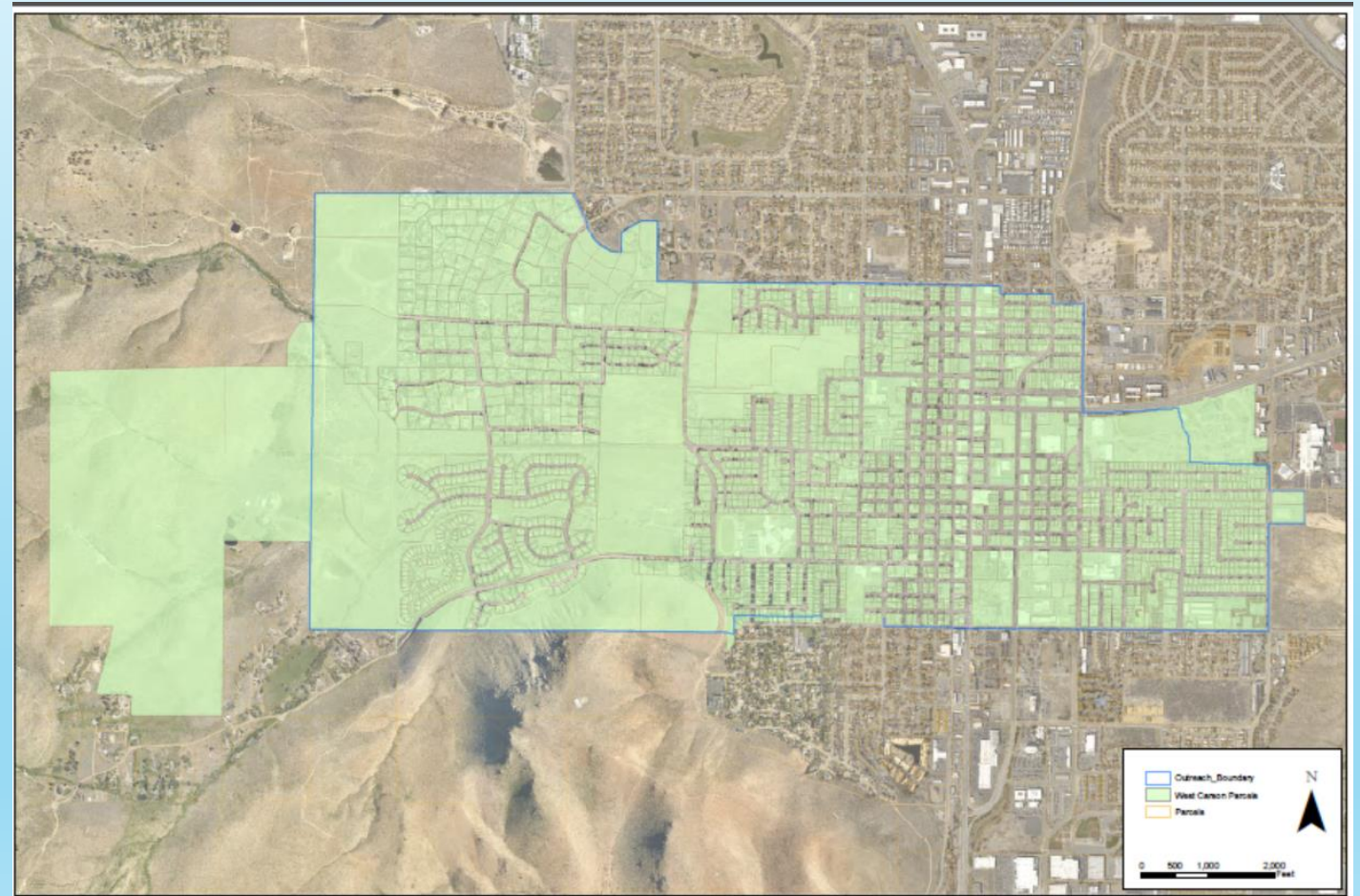
## Mapping Activity Statement (MAS)

MAS #1	Carson River Remap and Restudy - Lahontan to Dayton Valley & Discovery	\$ 300,000
MAS #2	Carson River Remap and Restudy - Dayton Valley - Carson City	\$ 300,000
MAS #3	Carson River Remap and Restudy - Carson Valley Phase 1 (H & H for Carson River)	\$ 375,000
MAS #4	Carson River Remap and Restudy - Carson Valley Phase 2 Added Community Outreach	\$ 290,000
MAS #5	Eagle Valley & Alpine Creek Letters of Map Revision (LOMRs), Smelter Creek & Sheckler Shunt Mitigation Studies & Community Engagment	\$ 375,000
MAS #6	Goni Canyon & Ramsey Canyon Letters of Map Revision (LOMRs), Inundation Maps, & Stephanie Lane Mitigation Study & Community Engagment	\$ 327,000
MAS #7	Johnson Lane Area Drainage Master Plan (ADMP), Update FP Mgt Plan/Discovery, Saliman/Voltaire LOMR & Community Outreach	\$ 475,000
MAS #8	(North) Dayton Valley ADMP, Floodplain Ordinance Update, & Community Outreach	\$ 403,360
MAS #9	South Dayton Valley ADMP, N. Carson City Drainage Study, PineNut Creek LOMR & Community Outreach	\$ 649,803
MAS #10	Churchill County Physical Map Revision, Ruhenstroth ADMP Phase 1, Carson City Drainage Study, & Community Outreach	\$ 645,550
MAS #11	Ruhenstroth ADMP Phase 2, Clear Creek & Smelter Creek LOMRs, Flood Forecast Model, Web Access System, & Community Outreach	\$ 640,000
<b>Total</b>		<b>\$ 4,780,713</b>



**Learn more about these projects at [CWSD plans](#) or contact staff.**

<b>MAS #12 Projects Identified</b>
<b>Buckeye Creek Detention Mitigation</b>
<b>Virginia City Drainage Study</b>
<b>East Carson City Area Drainage Plan</b>
<b>Southeast Carson City Area Drainage Study</b>
<b>Six Mile Canyon Hazard Mitigation</b>
<b>Community Outreach</b>





**Floodplains are Worth Protecting**





# Water Supply

[Learn more about the Marlette Water System's History!](#)







# Regulatory Frameworks



**Alpine Decree  
regulates surface  
water**



**Nevada State  
Engineer regulates  
groundwater**

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEVADA

THE UNITED STATES OF AMERICA, Civil No. D-183 BRT

Plaintiff,

vs.

ALPINE LAND & RESERVOIR COMPANY,  
a corporation, et al.,

Defendants.

## O P I N I O N

This is a quiet title suit to adjudicate the rights to the use of the water of Carson River in Nevada and California. The case was tried before the Court and John V. Mueller, a Special Master, the Master having heretofore submitted proposed findings of fact, conclusions of law and decree. Objections to the Master's report have been filed by the parties and further trial proceedings to resolve those objections have been held before the Court as provided by the proposed preliminary pretrial order heretofore filed and approved by the Court on October 20, 1977.

This Court has jurisdiction over this matter under 28 U.S.C. §1345 and the Act of September 19, 1922, 42 Stat. 849. The question of the jurisdiction of the Court over successors in interest to the original defendants, including

**CARSON RIVER WATERSHED WATER MARKET  
(EXCHANGE/TRANSFER) PROGRAM**

Water Smart Grant Application; FOA # BOR-DO-18-F010; Funding Group 1



Edwin D. James, General Manager  
777 E. William Street, Carson City, NV 89701  
775.887.7456  
edjames@cwsd.org

## Project Goals:



**Meet Future Water Demands**



**Reduce Water Conflicts**



**Develop Potential Off-stream Storage Matrix**



**Determine legal & physical constraints to water exchange/transfer program**



# Water Supply Workshop

[Watch the Supply Workshop!](#)



## Addressing Nevada Water Supply Challenges in the Carson River Watershed

Wednesday, October 14, 2020	
8:30 AM	<b>Welcome</b> Carson Water Subconservancy District (CWSD) video
8:40 AM	<b>Plans for Planning: Water Planning and Drought Resiliency Section Goals</b> <i>Bunny Bishop, Chief, Nevada Division of Water Resources (NV DWR), Water Planning &amp; Drought Resiliency Section</i>
9:00 AM	<b>So you need a Water Conservation Plan? A look at NRS 540 Requirements</b> <i>Nicole Goehring, NV DWR Water Resource Specialist</i>
9:20 AM	<b>Overview of Surface and Groundwater Data for the Carson River Watershed</b> <i>Ed James, General Manager, CWSD</i>
9:40 AM	<b>Carson River Water Marketing Study: Findings and Next Steps</b> <i>Nick Charles, Lumos &amp; Associates</i>
10:10 AM	Break
10:30 AM	<b>"Stream capture under varying streamflow conditions, lessons learned from the Humboldt River capture study".</b> <i>Kip Allander, Steven Jepsen, and Kyle Davis, United State Geological Survey (USGS)</i>
11:00 AM	<b>Humboldt River Basin Conjunctive Management: Challenges and Statewide Implications</b> <i>Jon Benedict, NV DWR</i>
11:30 AM	<b>"Assessing Potential Effects of Changes in Water Use in the Middle Carson River Basin with a Numerical Groundwater-Flow Model for Eagle, Dayton, and Churchill Valleys, West-Central, Nevada"</b> <i>Eric Morway, USGS</i>
12:00 PM	Lunch

Contact Catrina information to register for this event and be sent a Zoom link.

[catrina@cwsd.org](mailto:catrina@cwsd.org)



## Funds surface & groundwater data collection



**Creates annual Water Rate Advisory Report**



**Collects & Reports on Alpine County Groundwater**



Questions?

