

**Risk Communication and Project Engagement
FEMA Mapping Activity Statements 9 & 10
(Period of July 1, 2020 to June 30, 2021)**

These activities are associated with the

**Carson River Watershed
REGIONAL FLOODPLAIN MANAGEMENT PLAN
And the
NevadaFloods.org flood awareness campaign of the
Nevada Floodplain Manager's office, Division of Water
Resources
Submitted for:**

Carson River Watershed

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This report outlines regional floodplain management actions and lists the activities in the Community Outreach and Flood Awareness efforts conducted in Carson River Watershed which occurred during the period of July 1, 2020 to June 30, 2021. In addition to requirements of mapping activities statements 9 & 10, the Carson River Watershed Regional Floodplain Management Plan informs and guides CWSD's floodplain management activities as part of the Integrated Watershed Management Process.

1.0 Background

In 2008, the [Regional FMP](#) was formally adopted by the boards of the Carson Water Subconservancy District, Douglas, Carson City, Lyon, and Churchill Counties in Nevada, and Alpine County in California to provide a consistent approach to planning efforts, programs and projects, help protect community members from flooding hazards, and conserve floodplain lands. The plan was updated in 2013 and again in 2018 and adopted by all the counties in the Watershed including Storey County. The 2018 Revision process and document are discussed in Sections 3.0.

Federal Emergency Management Agency (FEMA) Cooperating Technical Partner

In 2005, CWSD became a [Cooperative Technical Partner \(CTP\) with FEMA](#). Through this program CWSD can apply for funding from FEMA to conduct floodplain mapping, flood studies, mitigation planning, public outreach, and other projects that reduce the flood risk in the Carson River Watershed. Since 2005, CWSD has received twelve CTP funding grants from FEMA. Each grant application includes a Mapping Activity Statement (MAS) which identifies the various flood studies and activities that will be accomplished (See specifics in Section 3.3 and 3.5 below).

Federal Emergency Management Agency (FEMA) Risk MAP Program

In 2011, CWSD and various federal, state, and county government bodies signed the first [FEMA Region IX Risk MAP Charter](#) agreement formalizing collaborative efforts for flood management in the Carson River Watershed. In October 2016, Storey County became a signatory to the Charter. This collaboration enhances hazard mitigation plans, improves community resiliency after flooding, protects beneficial functions of floodplains, and raises awareness about local flood risks. A RiskMap Charter meeting was held March 17, 2021 to discuss and identify projects for CWSD to pursue for FEMA Mapping Activity Statement (MAS) 12 funding. The agenda and meeting notes are available at www.CWSD.org.

2.0 Carson River Coalition Stakeholder Process

Carson River Coalition Meetings

The Carson River Coalition (CRC) is a bi-state, multi-county stakeholder group, hosted by the Carson Water Subconservancy District (CWSD) and funded by CWSD and the Nevada Division of Environmental Protection (NDEP). Planners, engineers, floodplain managers, and other staff members from all watershed counties participate in this group. In addition, employees from many other local; state and federal entities; and non-governmental agencies such as conservation districts, State Floodplain Manager, State Division of Emergency Management, FEMA, US Bureau of Reclamation, National Weather Service and The Nature Conservancy participate in CRC working groups with private citizens. CRC meetings are open to the public; meeting information is available at <https://www.cwsd.org/crc-meetings/>

3.0 Community Rating System Activities

The [2018 Regional FMP](#) divides implementation strategies into eight categories and provides suggested actions for each category. Table 3.1 correlates suggested actions in the 2018 Regional FMP to FEMA’s Community Rating System categories (Table 3.2). This section outlines CRS work completed by CWSD between July 1, 2020- June 30, 2021.

Table 3.1 Correlation of CRS Categories to Suggested Actions of 2018 Regional FMP

CRS Categories	2018 Regional Floodplain Management Plan Suggested Actions
310, 320, 350, 410, 420 , 450 510, 520, 530	Protect Natural Floodplain Function and Values
430	Set Higher Regulatory Standards
410, 440	Collect Flood Data Information and Maintenance
410, 430, 440, 510	Balance Channel Migration and Bank Erosion Monitoring
330	Increase Floodplain and Flood Hazard Outreach and Education
510, 540	Reduce Infrastructure Impact
440, 530	Map/Study Alluvial Fans
320, 450	Minimize Stormwater Impacts

Table 3.2 CRS activities outlined in CRS Coordinator’s Manual (2017)

CRS Category	ACTIVITY
300 Public Information Activities	310 Elevation Certificates 320 Map Information 330 Outreach Projects 340 Hazard Disclosure 350 Flood Protection Information 360 Flood Protection Assistance 370 Flood Insurance Promotion
400 Mapping and Regulatory Activities	410 Additional Flood Data 420 Open Space Preservation 430 Higher Regulatory Standards 440 Flood Data Maintenance 450 Stormwater Management
500 Flood Damage Reduction Activities	510 Floodplain Management Planning 520 Acquisition and Relocation 530 Flood Protection 540 Drainage System Maintenance
600 Flood Preparedness Activities	610 Flood Warning Program 620 Levee Safety 630 Dam Safety

The following sections provide an overview of CWSD’s work conducted for each CRS category during this reporting period.

300 - Public Information Activities

310 Elevation Certificate Activities: *The objective of this activity is to maintain correct Federal Emergency Management Agency (FEMA) Elevation Certificates and other needed certifications for new and substantially improved buildings in Special Flood Hazard Area (SFHA).*

CWSD Progress during this period on Elevation Certificates Activities include:

- While CWSD staff doesn’t specifically address Elevations Certificates in our public interactions, but we refer questions to the appropriate city or county staff.

320 Map Information Activities: *The objective of this activity is to provide inquirers with information about the local flood hazard and flood-prone areas that need special protection because of their natural functions.*

CWSD Progress during this period on Map Information Activities include:

- Ruhenstroth Area Drainage Master Plan outreach was conducted in Douglas County in two phases. Phase 1 was conducted October 2019 – January 2021. Phase 2 was conducted April 2021 - December 2021. This project includes public outreach events at beginning and end of project to allow community residents to review maps and provide data and photos to validate mapping results. A public outreach event to kick off this project was held January 1, 2020. A public meeting presenting results to

Ruhenstroth residents will be held October 2021. The long gap between public meetings is due to project delays as a result of pandemic.

- West Carson City Drainage Study outreach was conducted in Carson City . This project began in September 2019 and concluded in October 2021. This project included public outreach events at beginning and end of project which allowed community residents to review maps and provide data and photos to validate mapping results. This project was presented and accepted by the Board of Supervisors on July 15, 2021.

Table 3.3 Map Information Outreach

Map Information Outreach		
DATE (S)	LOCATION	EVENT/OUTREACH EFFORT
11/3/2020	Douglas County	Phase 1 Ruhenstroth ADMP Data Tour (Mas 10)
12/9/2020	Carson City Community Center	West Carson City Drainage Study Public Project Kickoff
5/11/2021	Carson City Community Center	West Carson City Drainage Study Public Project Results Meeting
7/15/2021	Carson City Community Center	Present WW Carson City Drainage Study to County Board
7/21/2021	Dayton Utilities, Lyon County	Present WW Carson City Drainage Study to CWSD Board
MAS 10		

330 Outreach Project Activities: *The objective of this activity is to provide the public with information needed to increase flood hazard awareness and to motivate actions to reduce flood damage, encourage flood insurance coverage, and protect the natural functions of floodplains.*

CWSD Progress during this period on Outreach Project Activities include:

- CWSD utilized FEMA funding to assist counties in Nevada Flood Awareness Outreach Events and Flood Awareness Week (FAW) held November 2020. CWSD maintains a webpage with [flood preparedness information for watershed residents](#). CWSD staff met sporadically through 2020 due to the pandemic, but met regularly in 2021. This FAW planning committee is led by Nevada’s Floodplain Management office. FAW activities included state and county proclamations, newspaper advertisements but public outreach events were limited because of pandemic. Douglas County planned a FAW event but it was cancelled due to pandemic directives about public meetings.
- CWSD staff highlights [NevadaFloods.org](#) website and the FEMA map service center at its outreach events. County and State Proclamations can be found at this website.
- CWSD’s flood awareness program expanded to watershed schools and other local venues. However, the pandemic curtailed 2020-2021 school year activities. CWSD is working to create digital content for this program. FAW outreach elements include:
 - Floodplain model is utilized to demonstrate to adults and students how floodplains work, flooding, risk, and the importance of floodplain protection.

- “I Am Ready” flood preparedness activity books provided by US Army Corps of Engineers. These books are used for 2 purposes – teachers provide a count of how many they need, so it is easy to track participant numbers. These books are passed out the week prior to flood awareness event. Students demonstrate how they acted on their knowledge when they return with their emergency information page filled in. As a reward , they receive program swag with nevadafloods.org logo – yoyo’s, Great Basin wildflower seeds, flood awareness bag, etc..
- A relay race game was developed to underscore the importance of disaster preparedness. Teams of 4-6 students race across field / gym and select items for a family of four with a dog to grab as they “evacuate” After the race, students brainstorm about items they may have forgotten.
- This program was developed in 2018 – 2019, and outreach events were chugging full steam ahead until March 2020. School outreach was severely hindered from 3/2020-6/30/2021. Schools were closed and about 27 hours of classroom outreach was canceled. The opportunity to present to over 1,200 children in the Carson River Watershed was lost. Table 3.4 lists these missed events.

Table 3.4 School Outreach Events

CORONAVIRUS PANDEMIC: Events cancelled due to school / work stay at home order			
3/24/2020	Carson Middle / Eagle Valley STEM night	Flood Awareness and Safety Preparedness	
4/18/2020	Fallon Shoshone Paiute Tribe Earth Day	Flood Awareness and Safety Preparedness	
5/5/2020	Carson Valley Middle School Flood Event	Flood Awareness and Safety Preparedness	
8/28/2020	Cantaloupe Festival, Fallon	Flood Awareness and Safety Preparedness	
9/1/2020	Silver Stage Fall Festival	Flood Awareness and Safety Preparedness	
10/23/2020	Carson Tahoe Hospital Spooktacular	Flood Awareness and Safety Preparedness	
9/1/2020	Gardnerville Elementary, Douglas County	Sierra Nevada Journeys (SNJ) STEM night	
11/1/2020	Fremont Elementary, Carson City	SNJ STEM night	
11/1/2020	Seeliger Elementrary, Carson City	SNJ STEM night	
2/11/2021	Empire Elementary School	Flood Awareness and Safety Preparedness	
3/12/2021	Mark Twain Elementary @ Fuji Park	Flood Awareness and Safety Preparedness	
3/13/2021	Minden Elementary @ River Fork	Flood Awareness and Safety Preparedness	

340 Hazard Disclosure Activities: *The objective of this activity is to disclose a property’s potential flood hazard to prospective buyers before the lender notifies them of the need for flood insurance.*

CWSD staff coordinates with city/county staff at public meetings to provide hazard maps of its flood projects to residents in the Carson River Watershed. At these public meetings, community residents can ask questions, discuss their property with project engineers, resource professionals, and city/county staff to better understand their specific flood hazards. Messaging directs watershed residents to NevadaFloods.org to discover their flood risk and determine whether or not they are required to purchase flood insurance. Staff also underscores the affordability of flood insurance for buildings not in SFHAs.

350 Flood Protection Information Activities: *The objective of this activity is to provide the public with information about flood protection that is more detailed than that provided through outreach projects.*

CWSD Progress during this period on Flood Protection Information Activities include:

- Public and Project outreach events were cancelled between 7/1/2020-6/30/2021 due to the pandemic. Missed opportunities to present flood information are listed in Table 3.5.

Table 3.5 Carson River Watershed Public and Project Outreach Events

CORONAVIRUS PANDEMIC: Events cancelled due to school / work stay at home order		
5/9/2020	Douglas County Safety Day	Flood Awareness and Safety Preparedness
5/9/2020	Earth Day - Washoe Tribe of Nevada & California	Flood Awareness and Safety Preparedness
5/30/2020	Oodles of Noodles	Flood Awareness and Safety Preparedness
6/26-28/2020	Epic Ride Bike Race	Flood Awareness and Safety Preparedness
7/29/2020	Carson City Fair - Agriculture Safety Day	Flood Awareness and Safety Preparedness
8/4/2020	National Night Out - Carson City	Flood Awareness and Safety Preparedness
8/4/2020	National Night Out - Virginia City	Flood Awareness and Safety Preparedness
11/17/2020	Douglas County, NV	Flood Awareness Outreach Event at Community Center
10/8/2021	Carson City Linear Trail	Flood Awareness and Safety Preparedness

- CWSD staff created a Carson City library display for the month of November.
- CWSD’s website provides link to the Floodplain Management Plan and its updates, on www.cwsd.org.

- County floodplain and emergency manager information was updated and will be available on the Flood Awareness section on www.cwsd.org.
- Floodplain protection and flooding articles were included in CWSD's newsletter, "[Watershed Connections](#)" that is distributed to over 1000 individuals throughout the six counties located in the Carson River watershed.

360 Flood Protection Assistance: *The objective is to provide one-on-one help to people who are interested in protecting their property from flooding.*

CWSD Progress during this period on Flood Protection Assistance Activities include:

- CWSD staff works with people who inquire about how they can protect their property from flooding in flood outreach efforts.
- CWSD staff also refers property owners with specific questions to appropriate city or county staff member.

370 Flood Insurance Promotion: *The objective of this activity is to improve flood insurance coverage in the community.*

CWSD Progress during this period on Flood Insurance Promotion Activities include:

- CWSD staff coordinates with staff from counties, state and FEMA at various outreach events listed in sections 320, 330 and 340 to include flood insurance promotion. Flood awareness week events include FEMA flood insurance specialists so residents can ask specific questions. Common themes of this messaging include why it may be prudent to purchase even if one is not required; check out Nevadafloods.org to know your flood risk; and money spent on flood insurance (aka mitigation) reduces disaster costs.

400 Mapping and Regulatory Activities

410 Flood Hazard Mapping Activities: *The objective of this activity is to improve the quality of the mapping that is used to identify and regulate development as risk from flood hazards.*

CWSD Progress during this period on Flood Hazard Mapping Activities include:

- As part of MAS 9 and 10, CWSD mapped alluvial fan drainages in Ruhenstroth Area of Douglas County and East Carson City.
- Dayton Valley Area Drainage Master Plan was conducted in North Dayton Valley and encompasses alluvial fan / stormwater flooding in in Lyon County and Storey County. This project began in September 2017 will conclude in August 2019. This project provided data to community officials to plan for future flood events. It also included public outreach events which allowed community residents to provide data and photos to validate mapping results.

420 Open Space Preservation: *The objectives of this activity are to:*

- 1) *Prevent flood damage by keeping flood-prone lands free of development, and*
- 2) *Protect and enhance the natural functions of floodplains.*

CWSD Progress during this period for Open Space Preservation efforts include:

- In March 2021, CWSD hosted a Watershed Wednesdays virtual forum series on its YouTube Channel *Carson River Watershed*. On March 17, 2020, discussed the importance of floodplain protection. The *Living River Approach* in CWSD's Regional FMP recognizes the importance of balancing the natural floodplain form and function of the river was highlighted by conserving open floodplain lands. Speakers presented Geomorphology 101 and addressed conservation efforts and funding mechanisms available to protect open space in our watershed.
- CWSD helped fund the [Alpine Watershed Group](#) (AWG) in the Upper Carson River Watershed. AWG works to *preserve and enhance the natural system functions in Alpine County's watersheds for future generations through collaboration, education, and proactively implementing stewardship projects.*

430 Higher Regulatory Standards: *The objective of this activity is to credit regulations to protect existing and future development and natural floodplain functions that exceed the minimum criteria of the National Flood Insurance Program (NFIP).*

CWSD Progress during this period on Higher Regulatory Standards Activities include:

- CWSD is working collaboratively with City or County planners and floodplain managers to update local flood regulations.
- Draft ordinances were presented for adoption by , Douglas County, and Lyon County in fall 2019. Lyon County adopted the floodplain ordinances. Douglas County and Carson City's floodplain ordinances are still in review.
- Alpine County adoption process will take longer since California requires it goes through CEQA review before final adoption. However, county staff has worked to inform planning commission, residents and county board of supervisors of the benefits of this plan.
- Storey County used the same language template and chose to fund an update of their floodplain ordinances in conjunction with the Project.

440 Flood Data Maintenance: *The objective of this activity is to make community floodplain data more accessible, current, useful, and/or accurate so that the information contributes to the improvement of local regulations, insurance rating, planning, disclosure, and property appraisals.*

CWSD Progress during this period on Flood Data Maintenance Activities include:

CWSD has a website pages which directs watershed residents [to community floodplain data](#) with links to [NevadaFloods.org](#) and the [FEMA Map Service Center](#).

450 Stormwater Management: *The objective of this activity is to prevent future development from increasing flood hazards to existing development, to protecting existing hydrologic functions within the watershed, and to maintain and improve water quality.*

CWSD Progress during this period on Stormwater Management Activities include:

- CWSD promotes Low Impact Development (LID) Use in the Carson River Watershed. In 2018, CWSD received Clean Water 208 funding. In discussion with the various counties, it was decided the funding should be utilized to update LID ordinances throughout the watershed. In February 2018, CWSD hired a consultant to update LID ordinances. This project examined existing LID language and provided draft LID ordinance language to Douglas, Lyon and Carson City. Douglas County is still working on new draft language. Douglas County's draft language will be geared towards incentivizing the use of LIDs for urban and agricultural applications. The language will be proposed to the County Commissioners in early 2022. Lyon County wants to pursue this further, however, their staff does not have the capacity to do so at this time. On March 18, 2021, Carson City approved and adopted a new drainage manual that has makes LID mandatory and outlines a suite of LID practices a developer can choose from to include in their design and project implementation. LID projects which capture polluted stormwater benefit a community's floodplain management program. <https://www.carson.org/home/showpublisheddocument/76280/637624691903200000>
- Several area drainage studies (refer to section 410) are being conducted in the Carson River Watershed. These studies assist city/county staff and board members by informing decisions by identifying areas likely to flood, considering infrastructure, mapping flooding, and providing alternative solutions to reduce alluvial and stormwater flooding.

500 Flood Damage Reduction Activities

510 Floodplain Management Planning: *The objective of this activity is to credit the overall strategy of programs, projects, and measures that will reduce the adverse impact of the hazard on the community and help meet other community needs.*

CWSD Progress during this period on Floodplain Management Planning activities include:

Floodplain Management Working Group

The River Corridor Working Group was renamed the Floodplain Management Working Group and is a sub-committee of the CRC with a focus on regional floodplain management issues. This group meets on a regular basis as listed in Table 3.6. County and regional floodplain & stormwater projects are highlighted and attendees are able to share work done in their counties. The group also discussed implementation of river rehabilitation and flood projects funded by other state and federal entities. [Agendas and Meeting notes](#) are available on our website.

Table 3.6 Stakeholder Outreach

Stakeholder Outreach			
DATE (S)	LOCATION	EVENT/OUTREACH EFFORT	A
9/22/2020	Carson City, NV	CWSD Floodplain Management Working Group Meeting (via Zoom)	
11/10/2020	Carson City, NV	CWSD Floodplain Management Working Group Meeting (via Zoom)	
3/17/2021	Carson City, NV	Watershed Wednesdays - Floodplain Protection	
3/31/2021	Carson City, NV	Watershed Wednesdays - Floodplain Management	
6/24/2021	Carson City, NV	CWSD Floodplain Management Working Group Meeting	

Risk MAP Discovery

In 2011, CWSD working closely with local watershed communities staff members, conducted the Risk MAP Discovery process to better understand the local flood risk, mitigation efforts, etc., and to spur watershed-wide discussions about increasing the area’s resilience after flooding. The [FEMA RiskMAP Discovery Report](#) was updated in 2018 and is part of the [2018 Regional FMP](#). This Regional FMP will be updated in 2023.

Please contact CWSD staff with any questions or comments regarding the above report:

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