

Nevada Floodplain

Management News

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2017 Begins with a Flood

By Bunny Bishop, Nevada Division of Water Resources

2017 has been a very active year for flooding, and it is not over yet. It is said that in Nevada most droughts end with a flood, and recent events support this observation. Currently in Nevada, we are dealing with four different flooding incidents, ongoing recovery for two flooding events and the anticipation of two possible flood events. These incidents include regional flooding for northern Nevada in January and February, and possible flooding for the northern and southern Nevada spring thaw.

January began with flooding that resulted in a Presidential Disaster Declaration: FEMA-4303-DR-NV, Severe Winter Storms, Flooding, and Mudslides, with an incident period of January 5 to January 14, 2017. The areas included in this disaster declaration were the independent city of Carson City, Douglas, Lyon, Storey, and Washoe Counties as well as for the Pyramid Lake Paiute Tribe, the Reno-Sparks Indian Colony and the Washoe Tribe of Nevada and California. The many proactive efforts undertaken to protect life and property in anticipation of this storm event should be applauded. However, even though these proactive efforts mitigated some flooding, flooding still destroyed and damaged public facilities and private property throughout the affected area.

Just as everyone was recovering from the flooding in January, more flooding occurred in February. The flooding in February affected many of the same communities recently flooded, but this time communities along the Humboldt River were affected including the City of Elko. The flooding in February also affected Lemmon Valley in Washoe County. Residents in Lemmon Valley have been dealing with flooding from Swan Lake, and have been receiving assistance from many county, state, federal and volunteer organizations. A second Presidential Disaster Declaration was received for the flooding in February: FEMA-4307-DR-NV, Severe Winter Storms, Flooding, and Mudslides, with an incident period of February 5 to February 22, 2017.

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Standing water is seen on the floodplain surrounding the Reno/Sparks Southeast Connector on Jan. 9, 2017.
JASON BEAN/RGJ, RENO GAZETTE-JOURNAL-USA TODAY NETWORK

2017 Begins with a Flood *Cont'd...*

The areas included in this disaster declaration were the counties of Douglas (including the Washoe Tribe of Nevada and California within the State of Nevada), Elko (including the South Fork Band of Te-Moak Tribe of Western Shoshone), Humboldt, and Washoe and the independent city of Carson City.



The process of pumping out the flood water from Lemmon Valley is seen on March 17, 2017.

JASON BEAN/RGJ, RENO GAZETTE-JOURNAL-USA TODAY NETWORK

Even while Nevada communities are recovering from recent flooding events, preparations are being made in anticipation of the spring thaw in northern and southern Nevada. The snowpack in the Sierra Nevada and Carson Ranges exceeds 200% of normal and due to all the recent precipitation and flooding the ground in northwest Nevada is saturated. In southern Nevada, the mountains of Southern Utah that feed into the Virgin River are the concern for possible spring thaw flooding. There is potential for spring runoff to cause flooding on the Virgin and Muddy Rivers that flow into Lake Mead.

As recovery efforts move forward for flooding that has already occurred, and preparations are being made in anticipation of the spring thaw in northern and southern Nevada, please keep in mind that now is a good time and opportunity for flood mitigation efforts. As projects are identified for repairing recent damages due to flooding, it is also prudent to identify where there are opportunities in these projects for mitigation against future flood damages where possible. Mitigation opportunities identified now can lessen the impacts of future flood events. Remember, flood insurance is also a strong mitigation tool. For more information about flood insurance, flood awareness and flood preparedness please visit NevadaFloods.org.

Bunny Bishop
Nevada Floodplain Manager

ASFPM Annual National Conference



SAVE THESE IMPORTANT DATES: April 30-May 5, 2017, for ASFPM's 41st annual national conference, "Managing Flood Risk in the Heartland" in Kansas City.

The ASFPM annual conference is recognized as the most important floodplain conference in the United States year after year. With more than 120 speakers and 1,200 participants, they are the national conferences all community, state and federal floodplain managers plan to attend. And because of that, many of the most important consulting firms and product vendors associated with floodplain management attend.



“The information that NFIP policyholders will receive, will help them make the best decisions about their flood risk.”

FEMA Sending Letters to Policyholders to Clearly Communicate Flood Risk

FEMA has now begun the next phase of implementation of Section 28, Clear Communication of Risk, of the Homeowner Flood Insurance Affordability Act of 2014, which requires the agency to clearly communicate full flood risk determinations to individual property owners.

To meet this requirement, the National Flood Insurance Program reviewed the flood risk and underwriting information for every flood insurance policy, and is writing to all NFIP policyholders to explain the current risk level for their property and the relation of the risk to their premium rates.

Starting January 2017, policyholders will begin receiving letters about two months after their policy renews. Policyholders who renewed policies in October 2016 through December 2016 will also receive their first mailing. FEMA will continue to mail the letter at each subsequent renewal.

Because policy information varies from one policy to the next, the letters encourage policyholders to contact their insurance agent to discuss their unique situation, or visit FEMA.gov/cost-of-flood to learn about their options.

All policyholders will eventually receive a letter upon the renewal of their policy. The NFIP has identified seven categories of policyholders to receive unique information based on their risk and current premium rates. The letters for each policyholder category are as follows:

- Letter A: Newly mapped into the Special Flood Hazard Area, or high risk flood zone
- Letter B: Standard X Zone (moderate risk), not grandfathered
- Letter C: Standard X Zone (moderate risk), grandfathered
- Letter D: Pre-FIRM subsidized, primary residences
- Letter E: Pre-FIRM subsidized, non-primary residences and businesses
- Letter F: Preferred Risk Policy (PRP)
- Letter G: Post-FIRM, full risk

Information for insurance agents, copies of each category of letter, details about what each letter means, and tips for how individual policyholders can lower their flood risk (and potentially their flood insurance premiums) can be found at FEMA.gov/cost-of-flood.

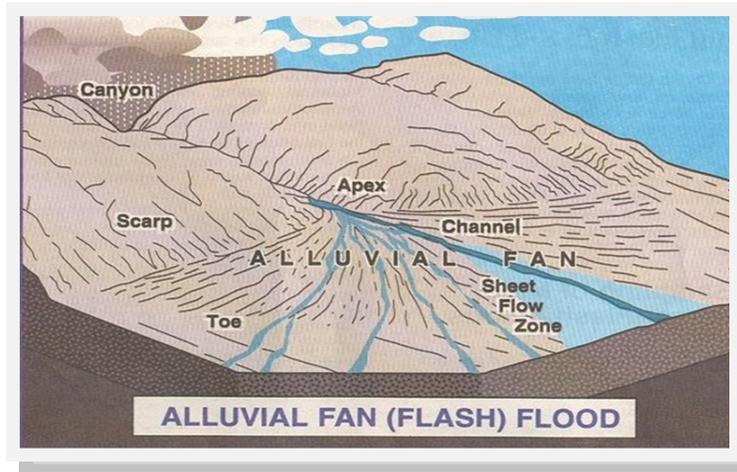
As you are aware, HFIAA requires gradual insurance rate increases for properties currently receiving artificially low (or subsidized) rates, rather than immediate full-risk rate increases. HFIAA requires increases to premiums for most subsidized properties of no less than 5 to 15 percent annually, but no more than 18 percent for an individual policyholder--with limited exceptions--until the premium reaches its full-risk insurance rate.

The information that NFIP policyholders will receive, will help them make the best decisions about their flood risk, including how to better prepare for flooding disasters in their community.

For more information, visit <https://www.fema.gov/cost-of-flood>

Alluvial Fan Flooding in Western Nevada

By John Coburn, University of Nevada Cooperative Extension



“ Due to the convex surface of fans, flood flowpaths can be unpredictable.”

Alluvial Fans are the gently sloping land surfaces at the foot of mountain canyons and dry washes. These are formed by thousands of years of deposition of rock and soil by flows from the canyon above. They are plentiful at the foot of Nevada’s 300 mountain ranges. They are often seen as favorable sites for residential development, because slopes are not steep, and homesites can have views of the valley below. When occasional intense summer thundershowers drench their upper drainages, large volumes of water can rush down onto alluvial fan surfaces. Due to the convex surface of fans, flood flowpaths can be unpredictable. See above diagram. Rectangular road patterns in neighborhoods can further complicate flood hazards.

Douglas County in western Nevada had flash floods that affected neighborhoods in both July 2014 and July 2015. In the Johnson Lane neighborhood, these floods did extensive damage, and residents have requested that the County take action. Some residents were not previously aware that their “desert” home was susceptible to flood hazards. Small drainages between named washes, sometimes less than a quarter of a square mile in size can flood, though they are seldom shown on Federal Emergency Management Agency (FEMA) maps.

In order to address and mitigate these hazards, the Carson Water Subconservancy District (CWSD) applied for and received a \$285,000 grant from FEMA to help cover some of the costs to create an Area Drainage Master Plan for the Johnson Lane neighborhood. This plan will prioritize 10-15 potential structural and nonstructural projects that could be implemented to alleviate flooding damages. In addition, Douglas County is considering formation of a Stormwater Utility District to enable it to address drainage issues throughout the County.

The U. S. Army Corps of Engineers, Sacramento District, recently funded a Nevada Silver Jackets proposal to hold alluvial fan flooding workshops in Carson City and Las Vegas this spring. The Carson City workshop will be held on Wednesday, April 12, at the Carson City Sheriff’s Office. The Las Vegas Workshop will be held on Friday, April 14, at the Regional Flood Control District.

For more details about these workshops and to register, please email Margaret Engesser at margaret.c.engesser@usace.army.mil.

Nevada Alluvial Fan Flooding Workshops



The State of Nevada, the U.S. Army Corps of Engineers, and others are pleased to offer two **FREE** regional alluvial fan flooding workshops. The workshops will provide community leaders, local officials, stakeholders and the engineering community with information regarding alluvial fan flooding, nonstructural/structural flood proofing techniques, and local flooding issues. Both workshops will have a webinar/conference call for remote participation.

Earn Continuing Education Credits!
 5 CFM Credits (in person attendance)
 1 CFM Credit (webinar participation)
 1 PE PDH for each hour in attendance

Webinar Information:
www.webmeeting.att.com
 Meeting #: 8773361280
 Code: 3352531

Conference Call:
 Phone Number: (877) 336-1280
 Access code: 3352531

Carson City – Wednesday, April 12, 2017
 9:00 AM – 4:00 PM
 Carson City Sheriff's Office, Omsby Room
 911 E Musser Street
 Carson City, NV 89701

Las Vegas – Friday, April 14, 2017
 9:00 AM – 4:00 PM
 Regional Flood Control District, Room 108
 600 South Grand Central Parkway
 Las Vegas, NV 89106

Registrations will be accepted through **March 31**. Please submit your name, organization, workshop location, and continuing education credit request to: margaret.c.engesser@usace.army.mil.



Online Flood Mitigation Resource Launches

Flood Economics, an online research-based resource developed by the Economist Intelligence Unit (EIU) in partnership with FEMA, recently launched at floodeconomics.com.

“To gain a better understanding of the economic imperatives for investment in flood mitigation, the EIU undertook a research program to identify the business case for flood mitigation investment. Research spanned January-June 2016. The result is the Flood Economics website. The core of the research program is the in-depth community case studies. These case studies are comprised of insights from existing flood loss avoidance studies and additional community impacts data and analysis.”

Flood Economics seeks to aid decision making pertaining to flood mitigation action. Please share this resource widely with colleagues, partners and stakeholders. This resource is an important new addition to the FEMA toolbox being used to encourage flood mitigation action and it's widespread use is encouraged.

“... a research program to identify the business case for flood mitigation investment.”

For questions, please reach out to the FEMA contact for Flood Economics, [Kathleen Boyer](mailto:Kathleen.Boyer@fema.dhs.gov) (Kathleen.Boyer@fema.dhs.gov), or the CERC contact, [Jennifer Walton](mailto:Jennifer.Walton@mbakerintl.com) (Jennifer.Walton@mbakerintl.com).



Keeping Flood Waters Away From People

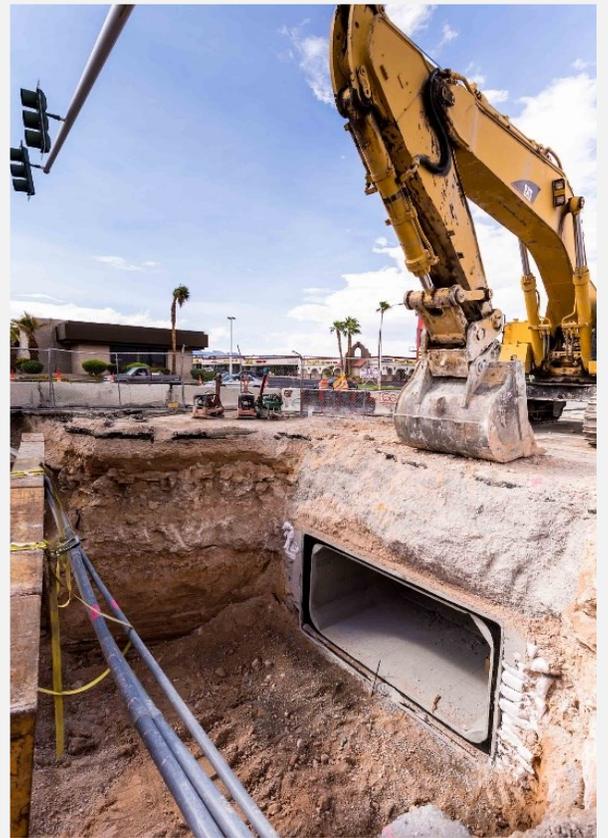
By Beatriz Martinez and Andrew Trelease, Clark County Regional Flood Control District

This year marks the 31st year the Regional Flood Control District (the District) has been in operations. Clark County residents voted to fund the District in 1986 to develop a coordinated and comprehensive Master Plan to solve flooding problems, to regulate land use in flood hazard areas, to fund and coordinate the construction of flood control facilities and to develop and to contribute to the funding of a maintenance program for Master Plan flood control facilities. The District’s mission is to improve the protection of life and property for existing residents, future residents and visitors from the impacts of flooding while also protecting the environment.

Master Planning:

A recent study commissioned by the District determined that the District would need approximately 30 years to complete the current master plan in place for flood control in Clark County. The District’s master plans include descriptions of the proposed flood control facilities, cost estimates and recommended phasing for five areas in Clark County, Nevada. These areas are the Las Vegas Valley, Mesquite and Bunkerville, Boulder City, Moapa Valley, and outlying areas that include Blue Diamond, Coyote Springs, Goodsprings, Indian Springs, Jean, Laughlin, Mount Charleston, Nelson, Primm, and Searchlight. The master planning for each area is required by Nevada Revised Statute (NRS 543.596) to be updated every five years. The Master Plan for the Las Vegas Valley along with the Mesquite and Bunkerville Master Plans are currently being updated by the District with the help of their technical consultant Atkins North America.

The process to update these plans includes data collection, updating land use data, determining hydrologic modeling parameters using GIS capabilities, updating hydrologic models, updating the flood control facilities inventory in a GIS geodatabase, making master plan facility



recommendations, and estimating facility construction costs (Atkins). The next Master Plan update will be for Boulder City in 2018.

Continued on page 7...

**REGIONAL FLOOD
CONTROL DISTRICT**



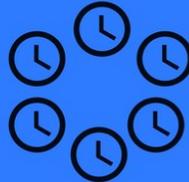
Capital Improvement Projects:

CAPITAL IMPROVEMENT PROJECTS

The District's Capital Improvement Project (CIP) are updated every ten years and are prioritized by the participating entities.



Five total projects currently in construction totaling \$190.4 million (RFCD share is \$97.6 million)



Six projects about to start totaling \$68.2 million (RFCD share is \$38.9 million)



Three projects out to bid totaling \$18.1 million (RFCD share is \$13.4 million)



Five projects soon to advertise totaling \$14.1 million (RFCD share is \$12.4 million)

Three projects in construction, soon to start, out to bid, and soon to advertise in



totaling \$14.8 million (RFCD share)

Five projects in construction, soon to start, out to bid, and soon to advertise in



totaling \$20.9 million (RFCD share)

Three projects in construction, soon to start, out to bid, and soon to advertise in



totaling \$16.5 million (RFCD share)

One project in construction, soon to start, out to bid, or soon to advertise in



totaling \$2 million (RFCD share)

Seven projects in construction, soon to start, out to bid, and soon to advertise in



totaling \$108.1 million (RFCD share)

For more details, please go to www.regionalflood.org or call at (702)685-0000



Information last updated February 2017.

The District's Capital Improvement Projects make up about 70% of the annual expenditures. The projects are prioritized based on a mandated selection criteria evaluated by each of the participating entities (Clark County, City of Las Vegas, City of North Las Vegas, City of Henderson, City of Mesquite, and City of Boulder City). These projects are prioritized on a ten-year cycle. The infographic to the left shows the District's current Capital Improvement Projects in the current ten-year plan.

Maintenance Program

The District's founding purposes were not only to build flood control facilities but also to maintain them through the establishment of a funding maintenance work program. Each of the separate entities in Clark County is provided funds by the District to maintain the regional flood control facilities within their respective jurisdictions. The District works with the entities to develop Maintenance Work Plans and Budgets every fiscal year, which are approved by the District's Board of Directors. Flood control facility maintenance is performed using a combination of private contractors and entity maintenance staff. During the year, Entity staff inspects and maintains numerous facilities throughout the District service area including, 91 detention basins and 611 miles of underground storm drains and channels, of which 129 miles are natural washes.

Atkins. Las Vegas Valley Flood Control Master Plan Updates. Atkingsglobal.com. N.p., n.d. Web.

Preview: In the next issue, RFCD will explore how the District keeps people away from flood waters.

Update: FEMA Flood Zone Removal

Recent flood control improvements have prompted federal officials to revise flood zone maps affecting approximately 1,400 parcels around the Club at Sunrise Golf Course, formerly known as the Desert Rose Golf Course. These changes took effect September 22, 2016.

Carson River Coalition Seeks to Protect River's Floodplains

By John Coburn, University of Nevada Cooperative Extension



A flooded Carson Valley in 1997 .

In 2003, members of the integrated watershed management group, the Carson River Coalition, reached consensus that out of all their activities, the single most important message of the group was to "protect the river's floodplains from development." Riverine floodplains in Douglas, Lyon and Carson City Counties are relatively undeveloped and used primarily for agricultural production. In the near record New Year's floods of 1997, flood damage estimates on the heavily developed Truckee River floodplain in Reno and Sparks were approximately 30 times the cost of damages in the Carson River watershed. See photo of flooded Carson Valley in 1997.

In 2008, Carson River Coalition members and the Carson Water Subconservancy District completed the Regional Floodplain Management Plan for the Carson River Watershed. This plan emphasizes the goal of protecting riverine floodplains from urban development, recommending a "living river approach," where the river will continue to be able to access and store floodwaters on its floodplain during heavy flows. To accomplish this goal, construction of homes and businesses in the floodplain, especially close to the channel, needs to be curtailed. Once structures are built in such locations, there is a tendency for communities to want to protect them from floods by trying to confine high flows in the channels with levees. This reduces storage on floodplains and increases peak flows downstream.

In 2012, Carson River Coalition members expressed the need for an inventory of land parcels in the floodplain that are protected from development. After years of research and careful checking, a group led by the University of Nevada Cooperative Extension (UNCE) completed a detailed accounting of protected parcels. The UNCE publication, "Floodplain Protection Inventory for the Carson River," explains the reasoning for protecting floodplains and displays GIS maps of the floodplain and all protected parcels. This Special Publication is available at <https://www.unce.unr.edu/publications/files/nr/2015/sp1505.pdf>

In order to achieve the goal of protecting riverine floodplains, millions of dollars of funding is needed to compensate private landowners for the cost of retiring development rights through conservation easements or other means. Many local ranchers would consider such solutions if the funds were available. Carson River Coalition members are seeking to spread the word about the benefits of such a course to the general public. NGOs like The Nature Conservancy and local consultants, Legacy Land and Water can assist ranchers with the process, which includes seeking funding, getting appraisals and writing contracts. Through such methods, they have succeeded in protecting a few ranches so far. To learn how you might be able to help this cause, contact Brenda Hunt, Watershed Coordinator at CWSD at Brenda@cwsd.org or Duane Petite at The Nature Conservancy, dpetite@TNC.ORG.



After ASFPM Input, FEMA Revises Elevation Certificate

FEMA announced in a March 1 bulletin that the newly revised Elevation Certificate (FEMA form 086-0-33) can now be accessed at: <https://www.fema.gov/media-library/assets/documents/160>

Bruce Bender, ASFPM Insurance Committee co-chair, said of the announcement, "After the initial release of the Elevation Certificate, the ASFPM Insurance Committee began gathering feedback about issues users were having. Last October at a Flood Insurance Producers National Committee (FIPNC) meeting, which the Insurance Committee sits on, FEMA stated they were aware of issues with the EC (including a major rounding issue), and were addressing them. The Insurance

Committee continued to gather EC issues and ASFPM formally shared them with FEMA in January (view document here: [http://www.floods.org/ace-files/documentlibrary/committees/Insurance/ASFPM Comments EC Memo 1-20-17.pdf](http://www.floods.org/ace-files/documentlibrary/committees/Insurance/ASFPM%20Comments%20EC%20Memo%201-20-17.pdf)).

Bender said, "At the Feb. 28 FIPNC meeting, FEMA announced they were issuing a corrected EC. This reflects *some* of the recommended changes, including the rounding issue. Here is the [Bulletin](#) that was issued. As you use the Elevation Certificate, please provide any suggested changes or comments to InsuranceCorner@floods.org."

"One comment received already is that C2.a-h, Section E and G8-G10 forces the

entry of two decimal places (whether the data was captured to 2 place-accuracy or not). Section E instructions have been updated to reference the two decimal places ("nearest hundredth"); however, C2 was not," he said.

"This form expires November 2018. FEMA officials at the FIPNC meeting agreed that it would be good to have industry users 'test drive' future forms before officially releasing it," Bender said.



Message sent by the Association of State Flood Plain Managers (ASFPM).

Flood Education & Outreach



"With recent flooding events, there is no better tool for education than real world application."

Nevada Division of Water Resources Floodplain Management and Division of Environmental Protection staff educating students about flood safety and storm water pollution in their community. These education efforts reached a total of over 500 hundred students in Elko, NV!

Upcoming Events



- ◆ April 30-May 5, 2017 — ASFPM Annual Conference in Kanas City, MO
- ◆ April 12, 2017 — USACE Alluvial Fan Workshop, 9:00-4:00pm, Carson City, NV
- ◆ April 14, 2017 — USACE Alluvial Fan Workshop, 9:00-4:00pm, Las Vegas, NV
- ◆ April 22, 2017 — Earth Day
- ◆ June 6-7, 2017 — Carson River Watershed “Get on the Bus Tour”
- ◆ June 15, 2017 — CA/NV Substantial Improvement/ Substantial Damage Workshop, South Lake Tahoe, CA, Venue/Time: TBD
- ◆ September 5-8, 2017 — FMA Annual Conference, Long Beach, CA

**Nevada Floodplain Management News is a Publication of
the Nevada Floodplain Management Program.**

The Nevada Floodplain Management Program was established in the Department of Conservation and Natural Resources, Division of Water Planning by the 1997 Nevada State Legislature after the need for a statewide flood management program became apparent when damages from the 1997 New Years Flood on the Truckee River were assessed.

In the Spring of 2001 the Nevada Floodplain Management Program was transferred within the Department of Conservation and Natural Resources and was later confirmed by Governor’s Executive Order, dated April 10, 2003, to its current residence within the Division of Water Resources under the direction of the Nevada State Engineer.



Questions?

If you have any questions regarding the content of this newsletter or are interested in contributing articles to future issues, please contact NDWR’s Public Outreach Manager, Kayla Meyer at kmeyer@water.nv.gov