

Figure 1. USGS hydrologic features map of the Carson River watershed and surroundings.

The Flow

Delivering News from the Carson River Watershed Community

Summer 2012

The Many Benefits of Mountain Meadows

By Sarah Green, Alpine Watershed Group

Driving the windy, narrow roads through our mountain community, we find ourselves surrounded by forests and open space extending up to the rocky mountain tops. If we are lucky, we will encounter a lush expanse of grass bordering a stream or river running off the steep slopes. We all likely know what a meadow looks like, but do we truly notice them as we drive by or recognize the important role they play in our mountain ecosystem?

In addition to the obvious benefits for human recreational activities, such as hiking and skiing, meadows offer a variety of environmental values including wildlife habitat. The region of land along a creek or river, the riparian area, is generally characterized by lush vegetation which overhangs the creek, creating cover for fish and a variety of other wildlife.

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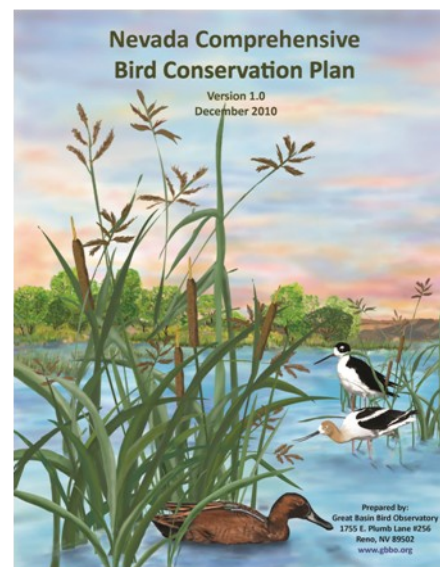
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Bird Conservation Planning in Nevada: A Great New Reference

By Elisabeth Ammon, Executive Director, Great Basin Bird Observatory

The Great Basin Bird Observatory (GBBO) is happy to share their many years of bird conservation research in Nevada through their new reference the *Nevada Comprehensive Bird Conservation Plan* (GBBO 2010). It is available for free on their website at http://www.gbbo.org/bird_conservation_plan.html. The plan features scientific information on which birds Nevadans should be most concerned about, in which habitats they occur, what is known about their conservation challenges, and how to implement bird conservation most effectively in our state.



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GBBO's intention with this plan was to provide up-to-date scientific knowledge that can help land managers decide on which projects and practices will be most effective for bird conservation. Secondly, anyone seeking funding or guidance on habitat projects is strongly encouraged to use the plan's content for writing strong project proposals, tweaking land use practices, and using its well-researched information to both justify conservation projects and measure their success. The plan is easy to read and uses a standardized format that allows for quick look-up of essential information. The reader can either focus on a habitat-wide view of bird conservation (comprehensive approach), or on a species-

specific approach (when only one or a few species are targeted). The reader can quickly find information on any habitat type in Nevada (How much aspen is there? Which conservation priority birds are there? How long is the habitat recovery time before it's useful to particular birds? Which habitat features are most important to birds?), or on each species of interest (Why are we concerned about Flammulated Owls? By how much are they declining? How many are there? Which habitats do they use in Nevada and how?). GBBO hopes that this plan helps get both more bird conservation projects funded and more bird conservation practices implemented in Nevada.

For more information, contact Elisabeth Ammon (ammon@gbbo.org).

2012 Andy Aldax Winner: John Cobourn

The Carson Water Subconservancy District awarded John Cobourn the 2012 Andy Aldax Carson River Watershed Award for exemplary service in conservation and protection of the Carson River Watershed on January 18, 2012. This award was created in 2007 to recognize individuals or organizations for significant contributions in promoting and achieving the Carson River Watershed Vision Statement. Mr. Cobourn was nominated for his active involvement in the Carson River Coalition's (CRC) efforts to raise watershed awareness, improve Carson River water quality, and protect the River's channels and floodplain from urban and residential development through educational programs and publications. Mr. Cobourn works for the University of Nevada Cooperative Extension and has been very active in the Carson River watershed since 1998. Mr. Cobourn is one of the original members who helped develop

the concept of the CRC. Since that time, Mr. Cobourn has continuously served on various Carson River Coalition committees and working groups; authored/co-authored numerous Carson River publications; helped to plan conferences, draft watershed plans; and obtain grant funding for watershed education programs. Not only has John given his time as a water resource professional, he has also volunteered untold hours which benefited the Carson River watershed. We continue to be grateful for his many years of dependable and enthusiastic service to the entire Carson River watershed.



John Cobourn receives his award from CWSD Chairman Chuck Roberts and Director Andy Aldax.

Risk Mapping Assessment and Planning Program

In the last edition of the Flow, Mitch Blum explained the partnership between Carson Water Subconservancy District (CWSD) and the Federal Emergency Management Agency (FEMA) to complete the Carson River Flood Mapping Project. Another program FEMA has recently developed is called Risk Mapping Assessment & Planning (Risk MAP). The goal of this program is to work closely with communities to better understand local flood risk, mitigation efforts, and spark watershed-wide discussions on flood awareness. Historically, FEMA has dealt with flood mapping and issues on a county-by-county basis. The Risk MAP process allows FEMA to work with local stakeholder to focus on flood

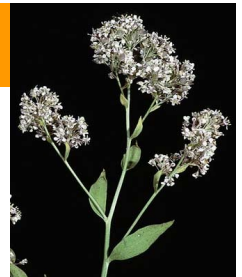


Flooding in Dayton Valley, Nevada

issues on a watershed-wide basis. For the last six months, CWSD, FEMA, State of Nevada, flood administrators, and other federal agencies have been working on a Risk MAP charter (Charter) for the Carson River Watershed. The Charter represents a good faith effort by all parties to share data, communicate findings, and plan mitigation activities to protect communities within the watershed from flood risks. The Charter does not legally bind nor preclude communities from participating in the FIRM appeal process. ~ Ed James

OFF With Their Heads !

Two more offenders in the watershed are the noxious plants Perennial Pepperweed and Russian Knapweed. **Perennial Pepperweed** is a common plague in the watershed. You will recognize its bright green-grayish leaves, with its small clusters of white flowers atop waxy stocks. It typically blooms in mid-June, and its creeping root system causes erosion along waterways, ditch banks, and wet meadows in the entire watershed. It also interferes with the regeneration of willows and cottonwoods and lowers the quality of livestock feed from pastures and hay fields. Efforts to combat this nasty weed include mowing, grazing, spraying, and burning, but the most effective control of weed requires killing the below-ground root mass.



**PERENNIAL
PEPPERWEED**



**RUSSIAN
KNAPWEED**

Russian Knapweed is found in cultivated fields, pastures, disturbed sites, roadsides, waste areas, and dry rangelands. Its pink, lavender, or white flowers bloom from June till September and may look attractive, but this scourge is very toxic to horses, resulting in "chewing disease". Russian knapweed is found in almost every Nevada county and covers 75,000 acres. Mowing, herbicide treatments, and continuous tillage is somewhat effective, but this invader is very tolerant of drought because its deep rootedness allows it to survive dry surface soils for long periods.

~ Kendra Krupp

To learn more or to report these to your local [conservation district or CWSD](#).



Clear Creek Watershed Council

The Clear Creek Watershed Council held its first bi-annual Council meeting of 2012 on April 12th at the Stewart Street Fire Station in Carson City. Eric Yount, Nevada Department of Transportation (NDOT); Tim Rowe, United States Geological Survey (USGS); and Jeremy Vican, Carson Valley Trails Association (CVTA) each presented information and progress reports on their on-going projects located within the Clear Creek Watershed to the Council's membership.



Eric Yount, NDOT, provided an overview of several projects NDOT is working on in the vicinity of Clear Creek. The Clear Creek erosion control project along Highway 50 is a

critical project. As stated in a previous newsletter article (Winter 2011-2012), the project aims to correct the wrongs of the past which have caused severe erosion that continues to impact the creek. In 2010, this construction program was the largest ever and approximately 3300 feet of drainage areas were stabilized. In 2011, an additional 3600 feet of eroded drainage areas were stabilized. For the 2012 construction season the program plans to stabilize 3800 feet of eroding drainage areas. Water quality monitoring of Clear Creek and the ground water is also a part of project implementation and maintenance. For more information on the project please contact Eric Yount at 775.888.7531 or

eyount@dot.state.nv.us.

Tim Rowe, USGS, presented the Council historical and preliminary with results on the water quality sampling of Clear Creek. NDOT has contracted with the USGS to complete the water



quality monitoring portions of the Clear Creek erosion control project. This project is a 3-year (2010-2012) study to monitor sediment & bed-load transport and water quality of Clear Creek. The project will help determine long-term sediment transport properties and

potential changes in total sediment load over time, determine concentrations of selected water quality constituents to provide additional background data, and define baseline conditions to evaluate potential changes in water quality and sediment yield over time. Data on continuous streamflow, water temperature, specific conductance, pH, suspended

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“The study will improve the understanding of sediment transport and the effectiveness of erosion control structures in the Clear Creek watershed. The information will benefit managers tasked with making informed decisions on the design and types of structures for controlling erosion.”-Tim Rowe

sediment, and stream bed-load are being collected at three locations on Clear Creek. Preliminary results were shared via PowerPoint. If you are interested in specific results to date, please contact Tim Rowe,

USGS on 775.887.7627 or tgrowe@usgs.gov.

Jeremy Vican, CVTA, provided the Council with an update on the Jacks Valley to Clear Creek

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Trail implementation. The trail will be 8.8 miles long with trail work proposed to begin Fall 2012. Stay tuned for a full article on the trail implementation in



our next quarterly newsletter. If you want further information on the trail now, please go to CVTA's website at www.carsonvalleytrails.org.

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Meadows also serve an important role in water storage. When a healthy, mountain stream swells with spring run-off from the winter's snowpack, it overflows its banks, inundating the adjacent meadow. The grassy area acts like a sponge, offering water storage which improves late season stream flows.

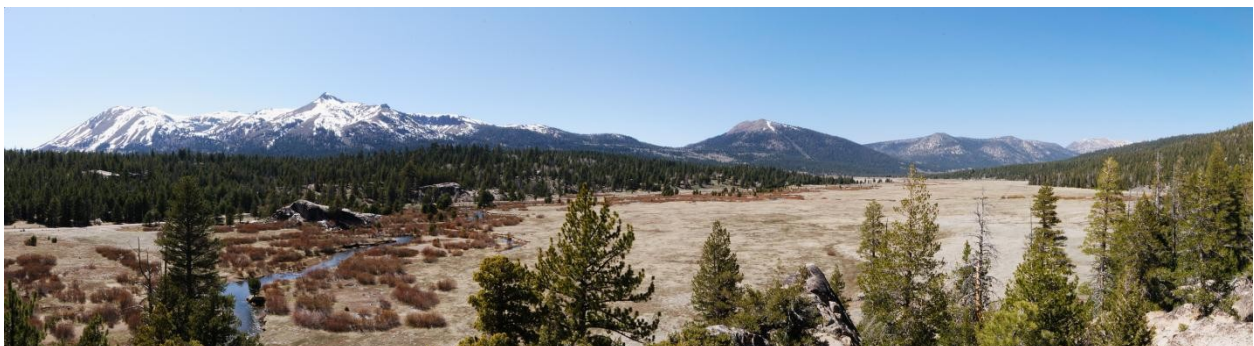
In order for the water storage function of a meadow to succeed, creek water must be able to access the meadow during flood events. Over the last 150 years, Sierra Nevada lands have been impacted extensively by human activities, some of which have led to the degradation of stream channels. For instance, the loss of riparian vegetation and stream channelization have caused increased stream velocities and less bank stability.

As a stream bank slowly erodes, the water channel deepens, which is referred to as incision. A deeper stream channel means that flood waters cannot access the floodplain or meadow. When creeks overflow into their floodplains during high water events, the water spreads out over a larger area, slows down and can infiltrate into the soil. Ensuring that a stream can access its floodplain is crucial for a naturally functioning ecosystem.

The Alpine Watershed Group is currently participating in restoration planning efforts in Hope Valley and downtown Markleeville. The goal is to assess watershed needs and potentially restore conditions where the rivers have lost connection to their natural historic floodplains.

The Alpine Watershed Group offers a variety of ways for volunteers to get involved in maintaining healthy watersheds. The annual Markleeville Creek Day event is coming up on Saturday, September 15, 2012. The event focuses on river restoration work, including stream bank stabilization, invasive weed removal and trash clean-up.

For more information about the Alpine Watershed Group or to sign up for Creek Day, please go to our website at www.alpinecountyca.gov/watershed_group or call 530-694-2327.



Hope Valley's Beautiful Panorama

Photo Courtesy of Daniel Nylen

Do you have events or articles that you would like to have published in "The Flow"?

Please send email to debbie@cwsd.org.

Editor:

Debbie Neddenriep

Thanks to these

Contributors!

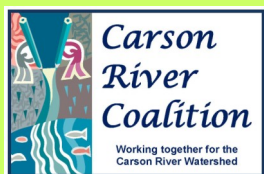
Elizabeth Ammon

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Sarah Green

Brenda Hunt

Ed James



This newsletter has been developed in part with Clean Water Act 319 (h) funds from the Nevada Division of Environmental Protection.

Upcoming Events

NOTE: The **CRC Education Working Group** Meeting on July 9, 2012 has been **cancelled**, contact Brenda@cwsd.org.

CRC Recreation Working Group:

July 11, 2012, 9:00 a.m. to 11:00 am.

Clear Creek Watershed Council

Leadership Meeting: July 12, 2012, 6:00 p.m. at 3646 Summerhill Drive.

Join **CVTA Trail building Events** in Carson Valley and Clear Creek in July check out their website at <http://www.carsonvalleytrails.org>

Newlands Water Protection Association's Ag Expo: July 27-28, 2012,

Fallon Convention Center contact Jamie Mills at 775-423-7774 or newlands222@msn.com for details.

Markleeville Creek Day: September 15, 2012. To sign up go Alpine Watershed Group's website at www.alpinecountyca.gov/watershed_group or call 530-694-2327.

Grow Your Own Nevada Series: Mondays from 2:00 p.m. - 4:00 p.m. from July 9 to August 27. Contact Ashley at the University of Nevada Cooperative Extension at 775-336-0231 or andrewsa@unce.unr.edu or download a brochure at <http://www.unce.unr.edu/calendar/files/pdf/2012SummerGYO.pdf>

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