CLEARING THE WATERS

A quarterly newsletter by the Surface Water Quality Bureau

Volume 24, No. 4 Winter 2019

In This Issue: **pg**

NMDGF Living with Beavers 1

Recovery Potential Screening 3

Updates from MASS 6

Events 8

Editor:
Susan j. Styer
susan.styer@state.nm.us

If you would like to receive this newsletter by email or be removed from the mailing list, please contact Susan j. Styer.

Clearing The Waters is available on our website at: https://www.env.nm.gov/surface-water-quality/newsletters/

This newsletter is published quarterly by the New Mexico Environment Department's (NMED) Surface Water Quality Bureau (SWQB). Funding is provided by a Clean Water Act (CWA) §319(h) grant from the EPA.

Living with Beavers on the Rio Fernando de Taos

By Jeff Ogburn, Northeast Regional Habitat Biologist,
New Mexico Department of Game and Fish

New Mexico Department of Game and Fish recently received a report of a wildlife/human conflict from the Rio Fernando de Taos. A family of beavers were hard at work preparing for winter, which included raising a dam and water levels within the Rio Fernando floodplain. The dam is immediately upstream of the Valle Escondido Road in Taos Canyon (off US 64 between Taos and Angel Fire, NM) above culverts under the road. Rising waters were threatening to flood the road, an access point to the Valle Escondido golf course, Valle Escondido community, and the Carson National Forest.

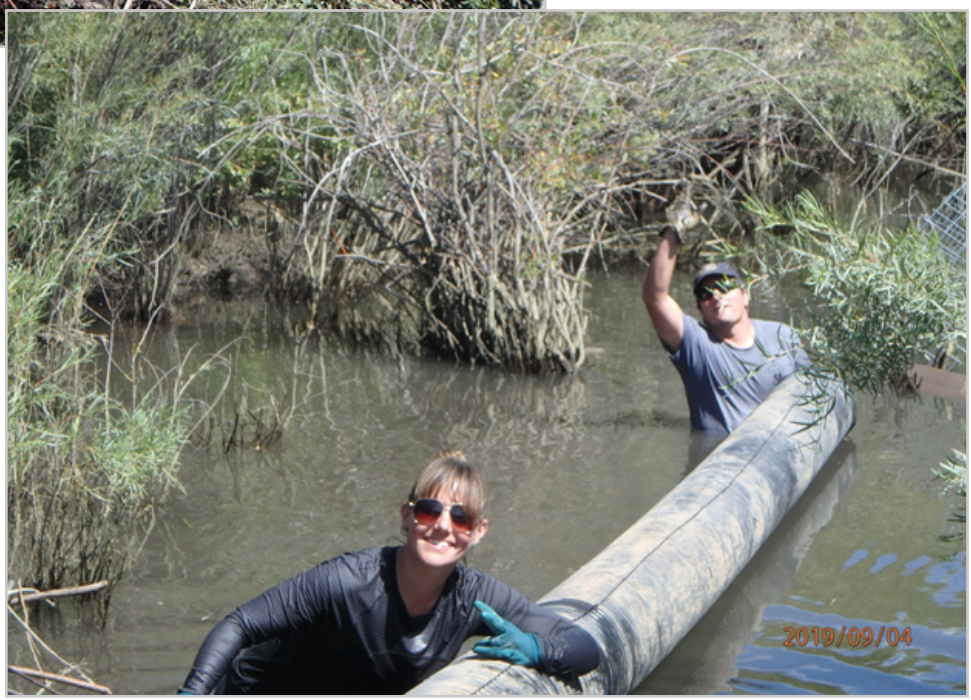
Working with the owners of the Taos Canyon Stop RV park, we were able to install a beaver pond leveler (also known as a Castor Master - thanks to Skip Lisle for the design!), and mitigate rising waters. The pond level has lowered approximately 14 inches; low enough to handle storm events, but high enough to allow the beavers to remain in their lodge. The beavers can add more material to the dam, but the water level won't rise any higher.

continued on page 2

NMED Surface Water Quality Bureau
1190 South St. Francis Drive, suite N2050
Santa Fe, NM 87502
www.env.nm.gov/surface-water-quality

Photo on left.
This beaver pond leveler lowered the water level in the pond by about 14 inches, reducing the threat to the county road immediately downstream.

Photo below.
Tiffany Ohman and Jeff Ogburn navigate deep waters to install the pond leveler on the Rio Fernando.



This project cost less than $500. Tiffany Ohman, proprietor, purchased and transported the supplies out of pocket. She even braved the deep waters and helped directly with the installation. Taos Canyon Stop was very much in favor of being proactive, rather than re-active to the potential flooding issue.

The beavers have become quite a hit for guests of Taos Canyon Stop. Bucky, Branches, and baby Twigs make a nightly appearance, as do a variety of other wildlife utilizing the habitat. The pond remains home base for the family, while their in-stream activities are slowly progressing upstream in a series of smaller dams.

If you are in the area, take the turn towards Valle Escondido and look upstream as you cross the river. You can see the dam and the pond leveler installation from the road; you won't even need to get out of your vehicle. But if you have a moment, stop in and say hi at the Taos Canyon Stop. They have some great t-shirts, koozies, and other essential beaver-watching gear. Most of all, they have stories; so their guests can observe and appreciate the resident wildlife in action.

A happy ending for all, especially little Twigs.

An Introduction to Recovery Potential Screening for New Mexico

By Davena Crosley, WPS Southern Field Office Team Leader

The Recovery Potential Screening (RPS) tool was developed by the Environmental Protection Agency (EPA) to assist states in prioritizing watershed restoration planning and project efforts based on scientific knowledge of recovery while using objective, consistent, and transparent methods. RPS is a systematic and flexible tool that allows multiple watersheds to be compared to one another based on their likelihood of attaining water quality standards. Limited funding for restoration and a seemingly unlimited number of impaired waterbodies is a challenge faced by every state. EPA used readily available geospatial data related to ecological conditions, exposure to stressors, and social contexts and applied those to each watershed in the United States. The data and measurement units of these indicators varies greatly, but the RPS tool ranks watersheds based on each indicator, and then uses the rank order of multiple indicators to produce a Recovery Potential Index (RPI), which allows a relative comparison of recovery potential among the watersheds of interest. The RPS tool was developed using Microsoft Excel, allowing anyone familiar with that software to learn how to use it quickly. EPA has also developed aids to assist in learning how to use RPS and to customize the tool to suit the user's needs. You Tube videos walk users through each tab of the Excel tool and a *User Guide for the Recovery Potential Screening (RPS) Scoring Spreadsheet Tool* is available on the EPA website. The RPS tool, user guides, and supporting documentation are available as free downloads on the EPA website at https://www.epa.gov/rps.

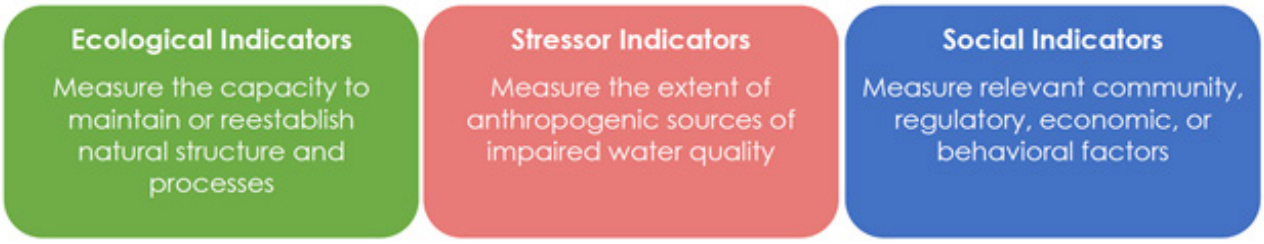


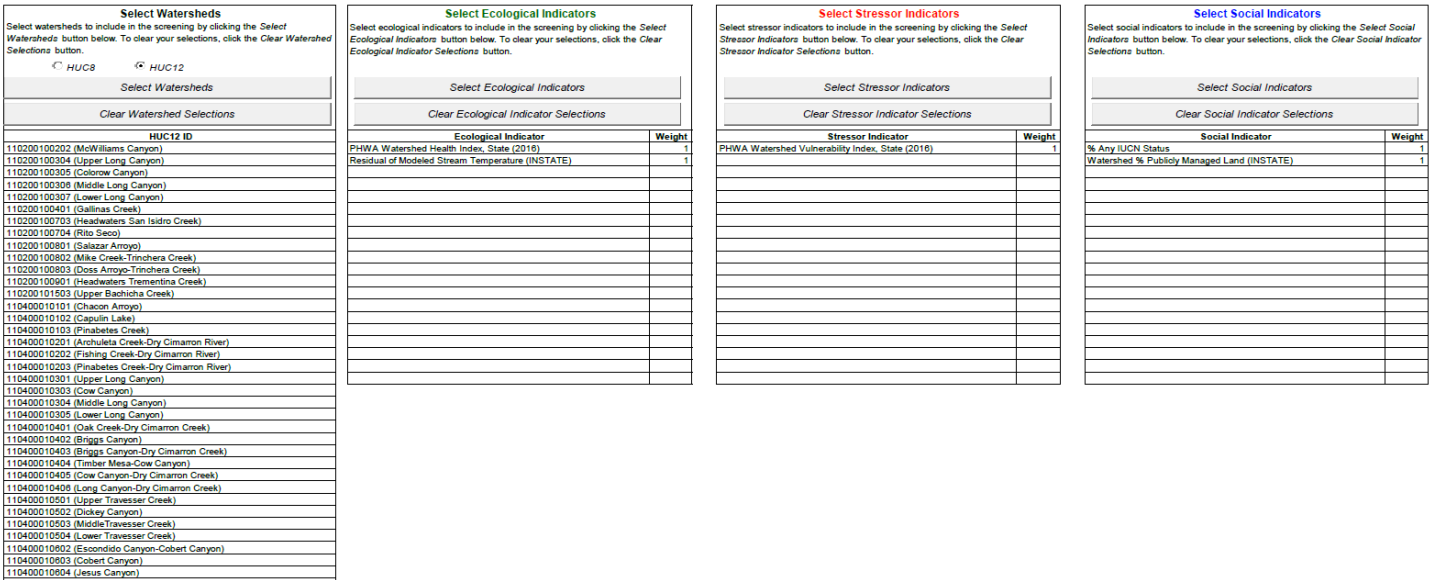
Figure 1: RPS uses three categories of recovery potential indicators to compare watersheds from: "User Guide for the Recovery Potential Screening (RPS) Scoring Spreadsheet Tool", January 2017, p. 4.

Watershed restoration is frequently challenged by complex interactions of the ecological condition, local community use, and number and intensity of factors contributing to water quality degradation. Land managers may easily identify stressors in a watershed and plan cost effective projects to reduce or eliminate the stressors. However, if the watershed lacks the ecological capacity to regain function or stakeholders in the watershed are opposed to the changes (for example, abandoning or relocating a forest road), the project has little chance of long-term success at improving water quality. Alternately, stakeholders in a watershed may be one-hundred percent supportive of projects within a watershed, but its ecological condition or the number of stressors present may be so challenging that the money and effort required to realize water quality improvements may be better spent elsewhere. Using the RPS tool provides a frame work to examine three of the broad categories that may impact the success of a project. If using the tool simply prompts conversations among decision makers in understanding the RPI scores and determining if the score reflects what is seen on the ground, it is a worthwhile effort!

continued on page 4

Recovery Potential Screening *continued from page 3*

The RPS tool is a custom coded Microsoft Excel workbook that allows users to select important indicators for a specific project or question. In the Setup tab, users will select the scale of HUC 8 or HUC 12 watersheds and produce a list of the watersheds of interest. This may include all watersheds in the state or some subset, such as the watersheds within the Gila National Forest or those adjacent to Turkey Creek. Next, users select at least one indicator from each of the three indicator categories, ecological indicator, stressor indicator, and social indicator. The *User Guide for the Recovery Potential Screening (RPS) Scoring Spreadsheet Tool* (2017) recommends selecting between three and ten indicators for each category. If there is a very specific question, fewer indicators may be needed to produce an informative RPI ranking of the watersheds. Determining which indicators to select requires some research and thought about which indicators are important and a bit of trial and error. The Indicator Info tab provides descriptions for about 125 Ecological Indicators, 210 Stressor Indicators, and 75 Social Indicators. Users select indicators that will be informative and then run the screening to see if the results make sense. Some results will not be what were expected, which prompts an exploration of the data present in that indicator data set (sometimes very little data is available for an area or the data across selected watersheds is homogeneous). It is helpful to select an indicator that the data can be easily visualized, such as precipitation (*Figure 3*) and run the screening to see if the results match expectations. Then, try adding additional indicators to see how various combinations produce RPI scores and what they look like on the map. To get the most out of the tool, the process requires several trials and a willingness to tinker.



Select Watersheds

Select watersheds to include in the screening by clicking the *Select Watersheds* button below. To clear your selections, click the *Clear Watershed Selections* button.

○ HUC8 ◉ HUC12

Select Watersheds

Clear Watershed Selections

HUC12 ID
110200100202 (McWilliams Canyon)
110200100304 (Upper Long Canyon)
110200100305 (Colorow Canyon)
110200100306 (Middle Long Canyon)
110200100307 (Lower Long Canyon)
110200100401 (Gallinas Creek)
110200100703 (Headwaters San Isidro Creek)
110200100704 (Rito Seco)
110200100801 (Salazar Arroyo)
110200100802 (Mike Creek-Trinchera Creek)
110200100803 (Doss Arroyo-Trinchera Creek)
110200100901 (Headwaters Trementina Creek)
110200101503 (Upper Bachicha Creek)
110400010101 (Chacon Arroyo)
110400010102 (Capulin Lake)
110400010103 (Pinabetes Creek)
110400010201 (Archuleta Creek-Dry Cimarron River)
110400010202 (Fishing Creek-Dry Cimarron River)
110400010203 (Pinabetes Creek-Dry Cimarron River)
110400010301 (Upper Long Canyon)
110400010303 (Cow Canyon)
110400010304 (Middle Long Canyon)
110400010305 (Lower Long Canyon)
110400010401 (Oak Creek-Dry Cimarron Creek)
110400010402 (Briggs Canyon)
110400010403 (Briggs Canyon-Dry Cimarron Creek)
110400010404 (Timber Mesa-Cow Canyon)
110400010405 (Cow Canyon-Dry Cimarron Creek)
110400010406 (Long Canyon-Dry Cimarron Creek)
110400010501 (Upper Travesser Creek)
110400010502 (Dickey Canyon)
110400010503 (MiddleTravesser Creek)
110400010504 (Lower Travesser Creek)
110400010602 (Escondido Canyon-Cobert Canyon)
110400010603 (Cobert Canyon)
110400010604 (Jesus Canyon)

Select Ecological Indicators

Select ecological indicators to include in the screening by clicking the *Select Ecological Indicators* button below. To clear your selections, click the *Clear Ecological Indicator Selections* button.

Select Ecological Indicators

Clear Ecological Indicator Selections

Ecological Indicator	Weight
PHWA Watershed Health Index, State (2016)	1
Residual of Modeled Stream Temperature (INSTATE)	1

Select Stressor Indicators

Select stressor indicators to include in the screening by clicking the *Select Stressor Indicators* button below. To clear your selections, click the *Clear Stressor Indicator Selections* button.

Select Stressor Indicators

Clear Stressor Indicator Selections

Stressor Indicator	Weight
PHWA Watershed Vulnerability Index, State (2016)	1

Select Social Indicators

Select social indicators to include in the screening by clicking the *Select Social Indicators* button below. To clear your selections, click the *Clear Social Indicator Selections* button.

Select Social Indicators

Clear Social Indicator Selections

Social Indicator	Weight
% Any IUCN Status	1
Watershed % Publicly Managed Land (INSTATE)	1

Figure 2. RPS Setup Screen

RPS produces four auto calculated indices and ranks the user selected watersheds from 1 to the total number selected. These scores are presented in the Results tab and can be sorted by any of the indexes, scores, or indicators. The HUC8_MAP and HUC12_MAP tabs allow any of the indicators to be mapped and visualized independently, or results can be mapped based on the ecological, stressor, social data, the RPI index, or score. Using the tool may prompt decision makers to further explore indicators or RPI scores that don't intuitively make sense. RPS may also help in making the intuitive understanding of an expert explicit to others. It can't be over emphasized that the RPS tool does not replace professional judgement!

continued on page 5

Recovery Potential Screening *continued from page 4*

RPS is another tool in a land manager's tool box. It's utility is increased when used with other data sources such as the Surface Water Quality Bureau (SWQB) Mapper, available on the New Mexico Environment Department web site at https://gis.web.env.nm.gov/oem/?map=swqb. Accessing data in SWQB Mapper that is related to the RPS results provides details to help flesh out RPI scores. In some cases, such as wild fire data, SWQB Mapper contains more recent information at a finer scale that is essential for planning projects. For agencies, RPS augments inhouse data sources and tools providing additional information, or independent verification for decision making. Watershed Groups and Non-Governmental Organizations who may not have access to specialized Geographic Information System (GIS) software can access data from multiple databases free of charge, using common Microsoft Office software through RPS.

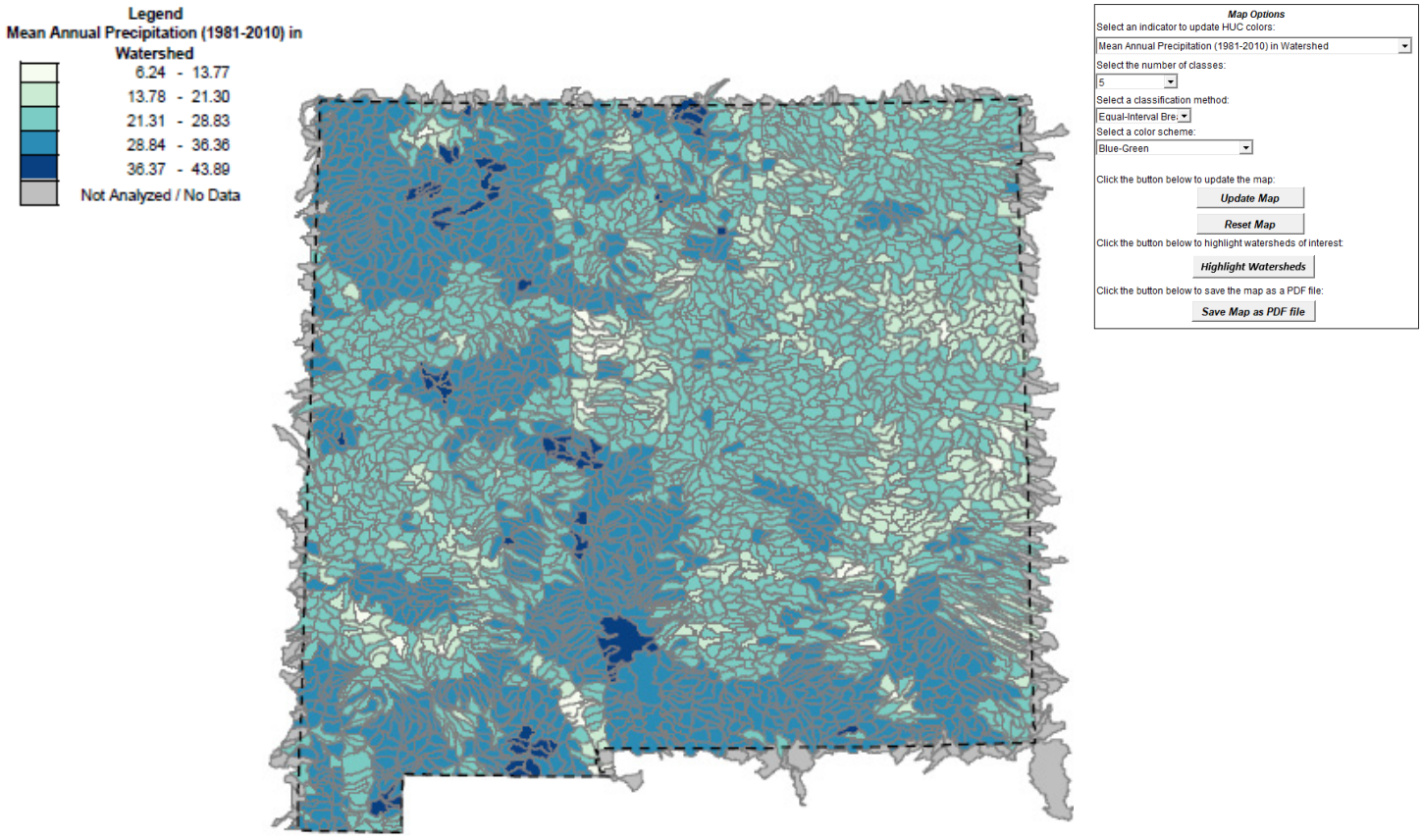


Figure 3: Mean Annual Precipitation data for New Mexico watersheds

The New Mexico Environment Department SWQB is piloting use of RPS index to award a portion of points in the 2020 Solicitation For Applications for on-the-ground surface water quality improvement projects funded under Section 319 of the Clean Water Act. Using the RPS screening tool is another way SWQB is improving our ability to select projects that effectively improve water quality and make the most of restoration funds in our state. We encourage our partners in improving water quality in New Mexico to explore using the RPS tool!

Updates from The SWQB Monitoring, Assessment and Standards Section

Monitoring Team News

The monitoring team has wrapped up the 2019 sampling season, having accomplished almost all of the planned activities for the year in the Upper Pecos, Lower Rio Grande, and Gila/Mimbres/San Francisco basins. Preliminary results are being processed. Lake monitoring was conducted using our brand new V-bottom Tracker boat.

Water quality information generated by SWQB will soon be available online through the New Mexico Water Data Portal at https://newmexicowaterdata.org/. Datasets from the Earth Data Analysis Center at UNM, the NM Bureau of Geology and Mineral Resources, the NM Energy, Minerals and Natural Resources Department, and the NM Office of the State Engineer, as well as NMED, are or soon will be available. These data can be used to support analysis and decision made by the public, technical users, or researchers.

Above Photo: John Moeny and Susan Styer retrieved remaining temperature loggers in December that were buried in now icy waters using a metal detector and shovel. John's turn shoveling at San Francisco River at Cienega Canyon – loggers retrieved (no one fell in).
Photo: Susan Styer

Chuck Dentino in the new SWQB lake monitoring boat.
Photo: Jon Celmer

Water Quality Standards Team News

A hearing will be held March 10, 2020 before the New Mexico Water Quality Control Commission (WQCC) on the request by Raton Waste Water Treatment Plant for a temporary standard for plant nutrients (total phosphorus and total nitrogen). Details of the Raton petition can be found on the Bureau's website at https://www.env.nm.gov/surface-water-quality/ts-raton/.

continued on page 7

MASS continued from page 6

Public comment will be received through close of business on February 5, 2020 on the SWQB revised draft Water Quality Management Plan and Continuing Planning Process (WQMP/CPP). The WQMP/CPP will be presented to the WQCC for their review and approval in late winter or early spring. The date will be announced on the WQCC webpage (https://www.env.nm.gov/water-quality-control-commission/wqcc-18-05-a/).

TMDL/Assessment Team News

A public comment period will take place in early 2020 for the draft *2020-2022 State of New Mexico CWA §303(d)/§305(b) Integrated List & Report*. The Report serves as a source of basic information on water quality and water pollution control programs in New Mexico. The Integrated List identifies whether or not a particular surface water of the state is currently meeting its designated uses as defined in the NM Water Quality Standards.

EVENTS & ANNOUNCEMENTS

January

Now - January 5th - Various locations statewide. Audubon New Mexico's Christmas Bird Count - Join Audubon for the NM Christmas Bird Count. This winter, at nearly 50 locations in New Mexico, groups of bird-watchers will be counting every bird they see or hear! As participants in the Audubon Christmas Bird Count, they will be a part of the more than 70,000 counters at more than 2,300 locations stretching from the Arctic Circle to the tip of South America. Since 1900, the Christmas Bird Count has provided scientists with critical data about bird populations in the Americas. Visit the Audubon website for more information and to view the schedule: https://nm.audubon.org/conservation/audubon-new-mexicos-christmas-bird-count.

January 9th, 2020 - Albuquerque. New Mexico Water Dialogue's 26th Annual Meeting - BUILDING WATER RESILIENCE FOR NEW MEXICO COMMUNITIES. The New Mexico Water Dialogue has been holding annual, statewide meetings for 25 years. This year the focus is on building resilience. As our climate changes, temperatures rise with greater extremes between hot and cold, and droughts and floods become more severe. Resilience is the capacity of a system to respond to disturbance by resisting damage and recovering quickly. 8:00 AM to 4:30 PM at the Indian Pueblo Cultural Center - 2401 12th St. NW, Albuquerque, NM 87104. For more information and to register visit: https://allaboutwatersheds.org/new-mexico-water-dialogue/events/new-mexico-water-dialogues-26th-annual-meeting-january-9-2020.

January 31st - Proposal Deadline. The National Fish and Wildlife Foundation (NFWF) and the Wildlife Habitat Council (WHC), in cooperation with the U.S. Environmental Protection Agency (EPA), USDA Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), FedEx, Southern Company and BNSF Railway are pleased to solicit applications for the 2020 Five Star and Urban Waters Restoration program. The Five Star and Urban Waters program will award approximately $1.5 million in grants nationwide. The Five Star and Urban Waters Restoration grant program seeks to develop community capacity to sustain local natural resources for future generations by providing modest financial assistance to diverse local partnerships focused on improving water quality, watersheds and the species and habitats they support. Projects include a variety of ecological improvements along with targeted community outreach, education and stewardship. For more information please visit: https://www.nfwf.org/fivestar/Pages/home.aspx.

February

February 15th - Santa Fe. Santa Fe Watershed Association - *Love Your River Day*. 9:00 a.m. to 12:00 p.m. Join us for our first community cleanup event of the year, and give some love to the Santa Fe River! For more information please contact Raquel at 505-820-1696 or raquel@santafewatershed.org, or visit: https://www.santafewatershed.org/event/love-your-river-day/.

February 26th - 28th - Albuquerque. The 2020 Land & Water Summit. This years theme is: *Climate Ready Water Management*. Join Xeriscape Council of New Mexico and the Arid Low Impact Development Coalition. For more information and to register https://landandwatersummit.org.

If you have a related event that you would like distributed, please send an email to susan.styer@state.nm.us