



# MIDDLE RIO GRANDE ENDANGERED SPECIES COLLABORATIVE PROGRAM

## April 2022 Newsletter

## ADAPTIVE MANAGEMENT OF THE NMMJM

Provided by Sarah Anderson & Catherine Murphy,  
Program Support Team (PST)

The endangered New Mexico meadow jumping mouse (*Zapus hudsonius luteus*; NMMJM) can be found in New Mexico, Arizona, and Colorado primarily near wetlands and streams within its range (USFWS 2021). The primary factors that negatively affect the species and its habitat are overgrazing, lack of water availability, and wildland fires (USFWS 2021). In New Mexico, the largest known population of this species is found at Bosque del Apache National Wildlife Refuge (BdA), which supports a small population of approximately 25-50 individuals. The NMMJM hibernates from October to May, which both limits its active period for foraging and breeding, and links its survival to the timing and availability of critical habitat (Frey 2015). Habitat is adaptively managed at BdA by focusing on creating and maintaining the optimum conditions for NMMJM breeding, reproduction, rearing young, and replenishing fat stores for their long hibernation period.

The NMMJM relies on the tall, dense herbaceous early-successional stage plant communities associated with a seasonal flooding regime that historically occurred in the Middle Rio Grande (MRG) Valley (Sanchez 2017). Historically, natural spring pulses and seasonal flooding events created the necessary disturbances to reset areas of herbaceous vegetation to the early successional stage and provide ideal habitat for the NMMJM (USFWS 2019). Changes to the historical disturbance regime have allowed plant communities to mature to later successional stages, which made former habitats unsuitable for NMMJM (USFWS 2019). To provide habitat for the NMMJM, active and adaptive management of habitat requires intensive manipulation of both hydrology and herbaceous forage in order to maintain areas with suitable habitat features. The two priority management goals for this species are to support its current population and to create conditions in which the population can increase. BdA staff monitor the population and use of habitat by the species, while continuing to improve our understanding of how recovery of this species can be further supported.

BdA's strategic water allocation plan is adapted each year to accommodate variability in water availability, including changes in both climate and management conditions.

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Photo credit: Greg Wright

# ADAPTIVE MANAGEMENT OF THE NMMJM

Choosing an allocation strategy according to this set of conditions helps staff to create a disturbance regime that efficiently and effectively utilizes available water. The team of biologists and interns at BdA implements a complex management scheme to create optimal habitat conditions for the NMMJM.

The 2021 Draft Recovery Plan for the NMMJM outlines ideal habitat conditions, including functionally connected habitat patches (i.e., suitable habitat patches connected by narrow corridors that are less than 200 meters in length; USFWS 2021). BdA creates a heterogeneous “mosaic” of habitat features within tiered wetland units through carefully planned mowing/seeding prescriptions and flood-up/draw-down schedules. The wetland units at BdA modified for the NMMJM incorporate habitat and disturbance features on a 5-year rotation adjacent to BdA water conveyance infrastructure.

Adaptively managing for the recovery of the NMMJM is a complex, time and resource intensive effort. BdA adapts their approach to the variability in both regulatory and hydrologic conditions in a pragmatic and effective manner. The work at BdA highlights how adaptive management can work under different scenarios to benefit endangered species.



Photo credit: Jennifer K. Frey

## REFERENCES:

- Frey, J. K. 2015. Variation in phenology of hibernation and reproduction in the endangered New Mexico meadow jumping mouse (*Zapus hudsonius luteus*). *PeerJ* 3:e1138, DOI 10.7717/peerj.1138. 27 pp/
- Sanchez, J. 2017. Maintaining Productive Wetlands: Year-round Teamwork. *Bosque Watch*, 24(4) October 2017: 1–4. [https://friendsofbosquedelapache.org/wp-content/uploads/2020/06/Bosque\\_Watch\\_October\\_2017\\_.pdf](https://friendsofbosquedelapache.org/wp-content/uploads/2020/06/Bosque_Watch_October_2017_.pdf).
- U.S. Fish and Wildlife Service. 2019, February 15. “Conserving Jumping Mice at Bosque del Apache” [Video]. YouTube. [https://www.youtube.com/watch?v=wmrmDPOs1XE&t=1s&ab\\_channel=U.S.Fish%26WildlifeService](https://www.youtube.com/watch?v=wmrmDPOs1XE&t=1s&ab_channel=U.S.Fish%26WildlifeService)
- U.S. Fish and Wildlife Service. 2021. Draft Recovery Plan for New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*). U.S. Fish and Wildlife Service, Region 2. Albuquerque, NM. [https://ecos.fws.gov/docs/recovery\\_plan/NM%20Meadow%20Jumping%20Mouse\\_Draft%20Recovery%20Plan\\_2021\\_508.pdf](https://ecos.fws.gov/docs/recovery_plan/NM%20Meadow%20Jumping%20Mouse_Draft%20Recovery%20Plan_2021_508.pdf)



# SIGNATORY UPDATES

Following the Executive Committee (EC) meeting on March 23, 2022, the PST compiled a list of updates from all signatories. These updates include 2022 announcements and activities. This list is a quick overview of the signatory activities discussed. The Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) will be incorporating these activities into its science and adaptive management framework.

## 2022 SIGNATORY ANNOUNCEMENTS:

- New Mexico entered 2022 under Article VII in the Rio Grande Compact, with 127,100 acre-feet of debit.
- The U.S. Army Corps of Engineers (USACE) has released a draft Environmental Assessment regarding its requested deviation to store water in Abiquiu in place of El Vado (while El Vado is under construction). The period of public review ended April 4, 2022.
- The Fiscal Year 2022 (FY22) omnibus appropriations bill was signed on March 15, 2022, and USACE will receive \$1.94 million in FY22 (through September 30, 2022) for its work with the Collaborative Program. The Bosque Ecosystem Monitoring Program (BEMP) is a USACE funding priority. The President's FY23 Preliminary Budget, released March 28, 2022, contains no funding allocation to USACE for the Collaborative Program.
- USACE is implementing the Sandia to Isleta Ecosystem Restoration Project. USACE partnered with Middle Rio Grande Conservancy District (MRGCD) to fund the study phase, and is now seeking a non-federal co-sponsor for the design/construction phase. The total estimated cost is \$24.7 million, and the non-federal share is estimated at \$8.6 million.
- Thomas Archdeacon, U.S. Fish and Wildlife Service (USFWS), is organizing the Rio Grande silvery minnow (RGSM) egg collection effort for the 2022 spawn. To volunteer, contact him at [thomas\\_archdeacon@fws.gov](mailto:thomas_archdeacon@fws.gov).
- The Minnow Action Team (MAT) draft 2022 recommendations were available for review, with comments due April 8, 2022. To receive a copy of the draft recommendations, contact Michelle Tuineau at [mtuineau@west-inc.com](mailto:mtuineau@west-inc.com).

## 2022 SIGNATORY ACTIVITIES:

### Albuquerque Bernalillo County Water Utility Authority

- Albuquerque Bernalillo County Water Utility Authority (ABCWUA) is continuing work on the Southside Water Reclamation Plant Outfall Project, and will conduct habitat restoration (HR) at the connection between the river and wastewater treatment plant. HR will be designed in 2022 and constructed in 2023.

### Audubon Southwest

- Audubon Southwest (Audubon) is partnering with MRGCD to monitor some outfall sites for connectivity. Audubon will construct backwaters at the Los Chavez site (complete), Belen site (near completion), and San Francisco drain (to be constructed in 2023).
- Audubon is leasing San Juan Chama water through MRGCD's Environmental Water Leasing Program; the amount is around 250–500 acre-feet.

### Bosque Ecosystem Monitoring Program

- Bosque Ecosystem Monitoring Program (BEMP) will receive funding from USACE now that the Congressional budget has passed. BEMP reduced monitoring sites in the absence of USACE funding, and now has the option to monitor new projects or conduct rapid assessments, rather than restore all previous sites. BEMP will be determining their capacity for new short- or long-term monitoring efforts. BEMP can conduct pre- and post-construction monitoring.
- BEMP will host the Crawford Symposium on May 13, 2022. Presentations will be pre-recorded, but BEMP is exploring adding an in-person component.

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# SIGNATORY UPDATES

## 2022 SIGNATORY ACTIVITIES (CONTINUED):

### Middle Rio Grande Conservancy District

- The MRGCD is offering per-acre payments on a voluntary basis to qualifying farmers and landowners who participate in the 2022 Emergency Fallowing and Water Leasing Program (EF-EWLP). This program is intended to support deliveries of water to support New Mexico's obligation to the Rio Grande Compact, as well as support RGSM through deliveries of water to strategic outfalls in the Isleta Reach. Participation in the program is voluntary and there is no danger of losing a water right for non-use during a water shortage.
- The Corrales Siphon will be inoperable for the 2022 irrigation season; the MRGCD will be pumping from the river into the Corrales Main Canal to supply water to irrigators in the Corrales area. Target flow delivery is 20 cubic-feet per second. The MRGCD will conduct egg monitoring at the pump location during RGSM spawning.
- The MRGCD will be discharging leased water from the outfalls in the Isleta Reach using the Alejandro Wasteway, 240 Wasteway, Los Chavez Wasteway, New Belen Wasteway, Lower Peralta 2 Wasteway, and San Francisco Outfall. In the 2021 off season, the MRGCD built two additional outfall locations it will utilize in 2022 (San Francisco and New Belen Wasteways).
- The MRGCD plans to divert no more than 50 percent of flows for irrigation to maximize delivery to Elephant Butte during spring runoff. The MRGCD will also use a staggered start-up strategy for its divisions: 1) Belen and Socorro, 2) Albuquerque, 3) Cochiti.
- U.S. Bureau of Reclamation's (Reclamation) Regional Director Wayne Pullan toured outfall and habitat sites in early April.

### New Mexico Interstate Stream Commission

- New Mexico Interstate Stream Commission (NMISC) is considering runoff monitoring (photos or on-the-ground observations) at restored sites, and may try satellite imagery again. No runoff monitoring is currently planned.
- NMISC anticipates a moderate water year, for which HR sites were designed, and will collect monitoring data at sites in the Albuquerque, Isleta, and San Acacia reaches. NMISC will be identifying potential locations for new sites as well.
- NMISC will conduct floodplain monitoring in spring.
- NMISC submitted a proposal for a Water Trust Board grant. Under this grant, NMISC would partner with others on HR and the Collaborative Program would have a role in designing a monitoring plan.

### U.S. Army Corps of Engineers

- USACE is partnered with MRGCD on the Bernalillo to Belen Levee Project, which will reconstruct levees from the southern end of Albuquerque to Belen. The project is phased out over years; the first phase is the Mountainview unit on the east side of river, from the south diversion channel (Tijeras Canyon Arroyo) to where I-25 crosses the Rio Grande (at Isleta Pueblo). Subsequent phases will work downstream to Belen.

*Continued on pg 5*



Photo credit: Mike Marcus,  
MRG Water Advocates



# SIGNATORY UPDATES

## 2022 SIGNATORY ACTIVITIES (CONTINUED):

### U.S. Bureau of Reclamation

- Reclamation is engaged in a lower reach planning effort to improve water delivery effectiveness. Reclamation will conduct a feasibility study on its long-term planning ideas. The area between Bosque del Apache (BdA) and Elephant Butte, specifically between Bosque del Apache and an existing delta, is of particular concern. Reclamation will treat the situation as an emergency and urgently work on-the-ground to improve delivery.
- Reclamation's Rio Grande districts will start first week of June. Releases need to be made prior to that. It is still to be determined whether New Mexico will be released from Article VII restrictions under the Rio Grande Compact in 2022.
- Reclamation will function under drought conditions and have supplemental water available. It will work to extend the period of continuous flow and manage drying in the summer, potentially in the Albuquerque Reach. Reclamation will support the fish monitoring, egg collection, and bird monitoring, as regular.
- Reclamation has river maintenance projects planned at the Sandia Pueblo and in the Isleta Reach, and will continue realignment for BdA. For projects with major construction, Reclamation will work to include HR. Reclamation is implementing the River Mile 60 Project regarding low flow conveyance channel inefficiencies.

### U.S. Fish and Wildlife Service

- The MAT anticipates a natural (i.e., no "jiggle") RGSM spawn in May, and USFWS will coordinate volunteers to ramp up egg collection for propagation and maximizing genetic diversity.

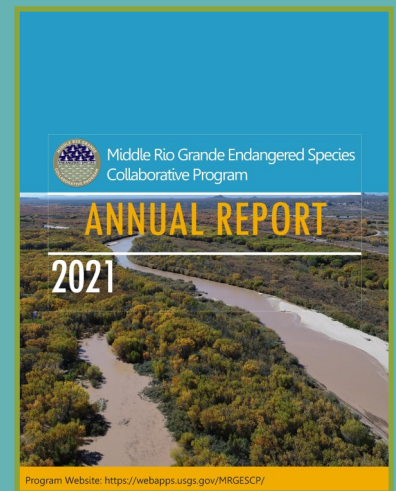


Photo credit: S. Dave Moore,  
U.S. Bureau of Reclamation

# ADMIN & SCIENCE UPDATES

## Admin Updates

- The 2021 Annual Report (cover pictured right) is now out and available on the Program Portal (<https://rb.gy/dljspe>). The report features a new format that provides a quick overview of the Collaborative Program and its recent accomplishments. Please use it as a tool to share the Collaborative Program's work with others!
- The Long-Term Plan for Science & Adaptive Management (Long-Term Plan) is available on the Program Portal (<https://rb.gy/7fwm49>)! The plan serves as a living document that houses the most current information about the Collaborative Program's guiding principles, structure and operations, and recommended activities within an adaptive management framework.



## Science Updates

- The Science and Adaptive Management Committee (SAMC) has agreed to host a **Program-wide workshop** on issues relating to the **management of vegetated islands and bars, successional processes and ecological function of riparian vegetative communities, wetland protections, and waters of the United States**. The tentative objectives of the workshop are 1) to determine how these issues intersect and affect signatory activities within the MRG, 2) to discuss the potential for adaptive management and the role of the Collaborative Program, and 3) to recommend next steps for consideration by the Executive Committee. The workshop will be scheduled later this year and anyone interested in planning and/or participating can email the Science Coordinator at [cmurphy@west-inc.com](mailto:cmurphy@west-inc.com).
- To inform the discussions at the workshop on vegetated islands and bars (see previous bullet), Chris Parrish (Chief of New Mexico/West Texas Branch Regulatory Division, Albuquerque District, U.S. Army Corps of Engineers) and others from the Regulatory Division have agreed to present a **Collaborative Seminar** on **jurisdictional waters, permits, wetland delineation, and compensatory mitigation**. The presentation will cover the current implementation of "waters of the United States" [Clean Water Act § 502(7)] and its implications within the MRG. The virtual seminar is scheduled for **May 5, 2022 at 2:00 PM**.
- The **Western Yellow-billed Cuckoo Working Group**, founded in 2008, has reengaged and is reaching out to interested Collaborative Program participants. Information about their meetings, including links to recent presentations, can be found at <https://www.yellowbilledcuckoo.org> (currently under construction). The mission of the group is to bring diverse partners together to promote scientific research and monitoring that 1) contribute to the understanding of the Western Yellow-billed Cuckoo population distribution, status, trends, and threats, and 2) lead to effective recovery actions. The focus is primarily on the Western Distinct Population Segment, including New Mexico, but the group is expanding their geographic scope to include the species' entire breeding, migratory, and wintering ranges. Anyone interested in joining the listserv for the Western Yellow-billed Cuckoo Working Group should contact Hira Walker, Coordinator, at [coordinator@yellowbilledcuckoo.org](mailto:coordinator@yellowbilledcuckoo.org).

# WHAT'S HAPPENING IN THE MRG BASIN?

## 2022 MAT UPDATE

Provided by Anne Marken, Middle Rio Grande Conservancy District

The Minnow Action Team (MAT) began in 2012 as an ad hoc multidisciplinary work group tasked with providing an adaptive management focus to annual MRG water and species activities. The MAT provides a platform for entities to engage in exchange of information on the year's hydrology, coupled with knowledge on RGSM status with the purpose of improving habitat conditions for spawning, recruitment, and survival of the species. The MAT informs resource management entities and the Collaborative Program through annual coordination, evaluation, and recommendations specific to water operations related to the RGSM. The MAT has also assisted with coordination of field activities such as spring runoff monitoring, RGSM egg collections for captive propagation, floodplain and channel data collection, and summer flow measurements.

2022 is shaping up to look a great deal like 2021 with poor forecasted hydrologic conditions due to below average snowpack and restrictions on upstream storage. Flows in the mainstem of the Rio Grande are forecasted to be insufficient to meet the needs of the basin, and very little stored water will be available to make up the difference.

The MAT met in March and developed recommendations for water and species management, as well as recommendations for monitoring activities. In its recommendations, the MAT acknowledged that operational flexibility was limited in 2022 under the forecasted streamflow conditions and regulatory constraints. Recommendations developed by the group include managing the rate of river recession to allow for RGSM rescue operations, utilizing Reclamation's supplemental water in the Albuquerque Reach if conditions warrant, collecting eggs for captive propagation facilities, creating RGSM refugia with small and consistent discharges from MRGCD outfalls in the Isleta Reach, and mapping areas of inundation during recruitment. The MAT decided not to meet again in 2022 unless conditions change. For a copy of the March 2022 MAT Recommendations document please email Anne Marken at [Anne@mrgcd.us](mailto:Anne@mrgcd.us).

## RECENT PUBLICATIONS

Rio Grande Silvery Minnow Augmentation in the Middle Rio Grande, New Mexico Annual Report 2021. Archdeacon T.P. (2022). Prepared by U.S. Fish and Wildlife Service, New Mexico Fish and Wildlife Conservation Office. Prepared for U.S. Bureau of Reclamation. <https://rb.gy/cb0ips>

Genetic Monitoring of the Rio Grande Silvery Minnow: Genetic Status of Wild and Captive Stocks in 2021. Osborne M.J., Turner T.F. (2021). Prepared for U.S. Bureau of Reclamation. <https://rb.gy/dn8hn1>

Rio Grande Silvery Minnow Fish Rescue 2021 Annual Report. Archdeacon T.P., Thomas L.I. (2021). Prepared by U.S. Fish and Wildlife Service, New Mexico Fish and Wildlife Conservation Office. Prepared for U.S. Bureau of Reclamation. <https://rb.gy/sn561j>

## MRG ANNOUNCEMENTS

- City of Albuquerque Open Space Division and Open Space Alliance are hosting the **National River Clean-Up** on **May 21st from 8:30 AM to 12:30 PM** at the Central Ave. Bridge in the Bosque. Arrive by 8:30 to enjoy donated morning snacks, sign in, and choose a project. Prize for the weirdest piece of trash! Click the link for more information (<https://rb.gy/ll5k4x>).
- BEMP's **2022 Crawford Symposium** with take place on **May 13th from 5:30 PM to 7:30 PM** at the Valle de Oro Visitor's Center. Contact [bemp.education@bemp.org](mailto:bemp.education@bemp.org) with any questions about the event.
- RiverEdge West recently updated its interactive online tamarisk leaf beetle distribution map. Check out the link to track the progression of the beetle over the years! (<https://rb.gy/jnmbg6>).



# PROGRAM ANNOUNCEMENTS & UPCOMING DATES

## INTRODUCING KEVIN SHELLEY!

Kevin Shelley began with WEST in the fall of 2021 as a part-time Advisor on the Collaborative Program. He joined the PST in a full time capacity as the new Contract and Project Manager, and will be helping implement administrative and scientific initiatives and activities. Kevin founded his own environmental consulting practice in 2018 after serving for over 28 years with the US Fish and Wildlife Service (Ecological Services), and worked in that capacity before coming to WEST.

Kevin has a broad scope of regulatory, decision-making, and technical expertise related to endangered species. His strengths include regulatory compliance with the Endangered Species Act; Federal-Tribal Trust Responsibilities and Tribal coordination pursuant to Secretarial Order 3206; population-level assessments for survival and recovery; risk assessments; decision analysis; and preparing for ESA-based litigation. Kevin can be reached at [kshelly@west-in.com](mailto:kshelly@west-in.com).



## UPCOMING MEETINGS

### Executive Committee Meeting

June 23, 2022

1:00 PM—4:00 PM

### Science and Adaptive Management Committee Meeting

July 12, 2022

8:00 AM—12:00 PM

### Executive Committee Meeting

September 8, 2022

9:00 AM—12:00 PM

## EVENTS

### 2022 Crawford Symposium

May 13, 2022

5:30 PM—7:30 PM

### National River Clean-Up

May 21, 2022

8:30 AM—12:30 PM

## WELCOME KYLE FAIG!



Kyle Faig, Open Space Field Biologist, joined the Executive Committee as the alternate representative for City of Albuquerque.

Photo credit: Mike Marcus, MRG Water Advocates

The information in this newsletter should not be attributed to the Collaborative Program or its Executive Committee, but to the organization from which it was submitted.

For comments and inquiries, contact:

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