Executive Committee Meeting

March 23, 2022

Meeting Materials:

Agenda

Minutes

Draft 2021 MRGESCP Annual Report [read-ahead, draft]

2022 MRGESCP Work Plan [read-ahead, spreadsheet, not included]

MRGESCP Long-Term Plan for Science and Adaptive Management [read-ahead, not included]

Summary of MRGESCP Long-Term Plan Sections and Revisions [read-ahead]

2022 Reclamation Hydrology Forecast [read-ahead]

2022 Reclamation Reservoir Storage Status [read-ahead]

2021 MRGESCP Annual Report [follow-up, not included]

Link to full Meeting Materials List

Executive Committee Meeting
March 23, 2022

See the following meeting material on the page below:

Agenda

Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Executive Committee (EC)
Meeting Agenda

March 23, 2022; 1:00 PM– 4:00 PM

***Location**: Zoom Meeting*
https://west-inc.zoom.us/j/8983593120?pwd=bU54V3NGeG93bXVlSlJFcEIzcE9wZz09
Call-In: +1-669-900-6833
Meeting ID: 898-359-3120; Passcode: 1251

Meeting Objectives:

- *Hear an update from the Program Support Team on MRGESCP activities.*
- *Discuss Annual Evaluation response summary.*
- *Discuss and approve proposed revisions to the 2022 work plan.*
- *Approve the 2021 MRGESCP Annual Report.*
- *Approve the Long-Term Plan for Science & Adaptive Management.*
- *Discuss the 2022 hydrology forecast, planned management actions, and opportunities for research and learning.*

1:00 – 1:05	**Welcome, Introductions, Agenda Review** • Ground rules for Zoom meeting ✓ **Decision**: Approval of March 23, 2022 EC meeting agenda	*EC Co-chairs*
1:05 – 1:10	**December 2021 Meeting Summary** • Action items review ✓ **Decision**: Approval of December 7, 2021 EC meeting minutes Read-ahead: ☐ December 7, 2021 Draft EC Meeting Minutes	*EC Co-chairs*
1:10 – 1:30	**Program Support Team (PST) Update** • Memorandum of Agreement (MOA) status • PST staffing update • Peer Review Admin Ad Hoc update • Science and Adaptive Management Committee update • Science & Technical Ad Hoc Group updates • SAMIS update	*Debbie Lee, PST* *Catherine Murphy, PST*
1:30 – 1:35	**Fiscal Planning Committee (FPC) Update** • Results of conversation on tracking cost-share	*Debbie Lee, PST*
1:35 – 1:45	**2021 Annual Report** ✓ **Decision**: Approval of 2021 MRGESCP Annual Report Read-ahead: ☐ Draft 2021 MRGESCP Annual Report	*Debbie Lee, PST*
1:45 – 2:00	**Annual Evaluation Summary of Responses**	*Debbie Lee, PST*

2:00 – 2:20	**2022 Work Plan Update and Proposed Revisions** • Summary of progress to date • Proposed revisions ✓ **Decision**: Approval of revised 2022 Work Plan Read-ahead: ☐ Draft Revised 2022 MRGESCP Work Plan	*Debbie Lee, PST*
2:20 – 2:30	**Break**	
2:30 – 2:50	**Long-Term Plan for Science & Adaptive Management** • Discussion of development of combined plan ✓ **Decision**: Approval of Long-Term Plan for Science & Adaptive Management Read-aheads: ☐ Draft Long-Term Plan for Science & Adaptive Management ☐ Summary of Long-Term Plan Sections	*Debbie Lee & Catherine Murphy, PST*
2:50 – 3:10	**2022 Hydrology Forecast and Planned Actions** • Discussion of 2022 hydrology conditions Read-aheads: ☐ 2022 Reclamation Hydrology Forecast ☐ 2022 Reclamation Reservoir Storage Status	*Jennifer Faler, U.S. Bureau of Reclamation*
3:10 – 3:40	**2022 Opportunities** • Recommended scientific activities • Management coordination needs	*Facilitated Discussion*
3:40 – 3:50	**Announcements and Public Comment**	
3:50 – 4:00	**Meeting Summary and Action Items Review** ➢ **Next EC Meeting**: June 2022	*EC Co-chairs*
4:00	**Adjourn**	

Link to full Meeting Materials List

Executive Committee Meeting
March 23, 2022

See the following meeting material on the page below:

Minutes

Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Executive Committee (EC)
Meeting Minutes

March 23, 2022; 1:00 PM–4:00 PM
Location: Zoom Meeting

Decisions:

- ✓ Approval of the March 23, 2022 EC meeting agenda
- ✓ Approval of the December 7, 2021 EC meeting minutes
- ✓ Approval of the 2021 Middle Rio Grande Endangered Species Collaborative Program (MRGESCP) Annual Report with amendments
- ✓ Approval of the Long-Term Plan for Science & Adaptive Management
- ✓ Approval of the revised 2022 Work Plan

Announcements:

- ❖ 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 is open until 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). The Bosque Ecosystem Monitoring Program (BEMP) is a USACE funding priority. The President's FY23 budget request will be released March 28, 2022.
- ❖ The new Program and Science Support (PASS) contract for third-party management of the MRGESCP was awarded to Western EcoSystems Technology (WEST), Inc. The five-year contract covers the period of April 2022 through March 2027.
- ❖ New Mexico entered 2022 under Article VII in the Rio Grande Compact, with 127,100 acre-feet of debit.
- ❖ 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, of which the non-federal share would be $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.
- ❖ The Minnow Action Team (MAT) draft 2022 recommendations are out for review, with comments due back by April 8, 2022. To receive a copy of the draft recommendations, contact Michelle Tuineau at mtuineau@west-inc.com.

Action Items:

WHO	ACTION ITEM	BY WHEN
Program Support Team (PST)	Send out Doodle Polls for the next two EC meetings	3/25/2022
PST	Finalize the approved 2021 Annual Report and post to the Program Portal	3/25/2022
PST	Schedule Science and Adaptive Management Information System (SAMIS) trainings	April 2022
PST	Work with U.S. Geological Survey to fix hydrology links on the Program Portal	4/15/2022
Kim Eichhorst	Provide an updated map of BEMP sites with continuous data collection and sites that were discontinued	4/15/2022
Jim Wilber	Provide questions for the Science and Adaptive Management Committee (SAMC) on potential Angostura Reach river drying scenarios	4/15/2022
PST	Coordinate with Charles Yackulic on using the model to address potential Angostura Reach river drying scenarios	4/30/2022
PST	Follow-up up with signatories to clarify planned 2022 activities and priority questions	4/30/2022
PST	Take list of priority 2022 questions from EC to the SAMC	July 2022
Signatories	Sign the 2022 Memorandum of Agreement (MOA)	5/1/2022
PST	Reassess feasibility of an in-person/virtual hybrid June EC meeting	5/1/2022
U.S. Bureau of Reclamation (Reclamation)	Notify Wayne Pullan that he has been awarded the Rick Billings Award and arrange the production and delivery of the award	5/1/2022
SAMC	Review the revised peer review process and submit for approval to the EC	June EC meeting
Signatories	Submit 2022 activities for entry in the SAMIS	November Fiscal Planning Committee (FPC) meeting

Next Meeting: June 23, 2022; 1:00 PM – 4:00 PM

Meeting Minutes

Welcome, Introductions, Agenda Review

The Non-Federal Co-Chair, Mark Kelly, Albuquerque Bernalillo County Water Utility Authority (ABCWUA), opened the meeting, led introductions, and reviewed the March 23, 2022 agenda. The EC approved the March 23, 2022 agenda.

Reclamation announced that WEST, Inc. was awarded the next five-year PASS contract for third-party management of the MRGESCP on April 1, 2022.

- ✓ **Decision**: Approval of the March 23, 2022 EC meeting agenda
- ❖ **Announcement**: The new PASS contract for third-party management of the MRGESCP was awarded to WEST, Inc. The five-year contract covers the period of April 2022 through March 2027.

December 2021 Meeting Summary

Debbie Lee, the Program Manager, PST, reviewed the December 7, 2021 meeting minutes and action items (see December 7, 2021 Draft EC Minutes). The EC approved the December 7, 2021 meeting minutes. Summary action item updates are below:

- The 2022 MOA was finalized and provided to the signatories. Signatures are needed from New Mexico Interstate Stream Commission (NMISC), MRGCD, Pueblo of Isleta, and University of New Mexico.
- The PST tried to set a standing meeting date but a consensus could not be met. The PST will schedule the next two meetings.
- The Peer Review Administrative (Admin) Ad Hoc Group revised the draft peer review process. The process will be reviewed by the SAMC in April.
- The Rick Billings Award winner Wayne Pullan has not received his award. Reclamation is working to provide the award. A Rick Billings Award page will be added to the Program Portal, but additional funding is needed.
- The FPC discussed additional reporting functions, which were conveyed to the SAMIS Development Team.
- The SAMC discussed balancing group membership for Science & Technical (S&T) Ad Hoc Groups.
- Program Evaluation forms were sent out and there were few responses.
- There will be an update on the SAMIS trainings during the meeting.
- The revised Long-Term Plan for Science & Adaptive Management is up for approval at this meeting.

- ✓ **Decision**: Approval of the December 7, 2022 EC meeting minutes
- ➢ **Action Item**: The PST will send out Doodle Polls for the next two EC meetings
- ➢ **Action Item**: Reclamation will notify Wayne Pullan that he has been awarded the Rick Billings Award and arrange the production and delivery of the award
- ➢ **Action Item**: The SAMC will review the revised peer review process and submit for approval to the EC

Program Support Team Update

Debbie L. presented the administrative updates from the PST. Summary updates are below:

- The deadline for signing the 2022 MOA was extended to May 15, 2022.

- Kevin Shelley and Sarah Anderson joined the PST. They are available by email at kshelley@west-inc.com and sanderson@west-inc.com, respectively.
- Debbie L. will contact EC members to ask for any language from the peer review processes of their respective organizations.

Catherine Murphy, the Science Coordinator, PST, presented the science updates from the PST. Summary updates are below:

- The SAMC met on January 4, 2022.
- Katey Driscoll presented a Collaborative Seminar on ecological restoration, statistical design, and success metrics on January 12, 2022. The recording is available on the Program Portal.
- The RGSM Conceptual Ecological Model (CEM)/Genetics Ad Hoc Group met on February 9, 2022. They will need at least one more meeting before a report comes out. After the group finishes its work, an S&T Ad Hoc Group will peer review changes to the RGSM CEM.
- Dr. Charles Yackulic presented a Collaborative Seminar on the RGSM expert elicitation and integrated population model on February 24, 2022.
- PST members attended the following external meetings, which are also summarized in the February 2022 Newsletter. The MRGESCP's goal is to make the information shared as useful as possible to its members.
    - New Mexico Water Dialogue – January 12-13, 2022
    - Middle Rio Grande Water Advocates Conference – January 8, 12, 15, 19, and 22, 2022
    - Lower Middle Rio Grande Summit – January 6, 2022
- The next SAMC meeting will be on April 12, 2022 from 8:00 AM – 12:00 PM. The meeting is open to all. The group will be discussing the S&T Ad Hoc Groups, issues relating to management of vegetated islands, quality assurance and standards for data sets on the Program Portal, and scenario planning and adaptive management under climate change.
- The SAMIS trainings will focus on functionality of the user applications. The SAMIS Development Team has been working on adding cost share tracking. Catherine M. will add that functionality to the SAMIS User Guide. Each signatory will choose 1-2 users to attend SAMIS trainings.
- PST members attended and helped coordinate the MAT meeting on March 11, 2022. Draft 2022 recommendations are out for review by April 8, 2022. Contact Michelle Tuineau at mtuineau@west-inc.com for a copy.

➢ **Action Item**: The PST will schedule SAMIS trainings
➢ **Action Item**: Signatories will sign the 2022 MOA
❖ **Announcement**: The MAT draft 2022 recommendations are out for review, with comments due back by April 8, 2022. To receive a copy of the draft recommendations, contact Michelle Tuineau at mtuineau@west-inc.com.

Fiscal Planning Committee Update

Debbie L. gave an update on FPC activities. At the December EC meeting, the group discussed cost share and tracking cost share in the SAMIS. The EC tasked the FPC with coming up with recommendations for cost share to be presented to the SAMIS Development Team. This year, the FPC recommends all signatories input activities without noting which are contributing to cost share. At the end of the year, the FPC will reconvene to determine what will be categorized as cost share.

➢ **Action Item**: Signatories will submit 2022 activities for entry in the SAMIS

2021 Annual Report

Debbie L. presented the draft 2021 Annual Report for EC approval (see Draft 2021 MRGESCP Annual Report). In 2021, the EC approved a new annual report format. The annual report now spans the calendar year instead of the fiscal year and is streamlined to include highlights that tell the MRGESCP's story. The draft 2021 Annual Report includes the Guiding Principles, a foreword from the EC Co-Chairs, a list of the committee representatives, the winners of the Rick Billings Award, a 2021 Year in Review graphic and narrative, signatory contribution pie charts, highlight summaries from the signatories, and an outlook for 2022 provided by the PST. The EC provided the following suggestions:

- Add a note to the signatory contribution pie charts explaining why the percentages do not sum to 100.
- Change the footer year from 2022 to 2021.
- Fix the foreword so all text is visible.
- Update any out-of-date logos.

The EC approved the revised 2021 Annual Report with the listed amendments.

- ✓ **Decision**: Approval of the 2021 MRGESCP Annual Report with amendments
- ➢ **Action Item**: The PST will finalize the approved 2021 Annual Report and post to the Program Portal

Annual Evaluation Summary of Responses

Debbie L. gave an update on the annual evaluation. The PST received three annual evaluation forms. The responses were generally positive. There was feedback that the email was lost in the mix after the holidays. It was suggested the evaluation form be a read-ahead at the December meeting and the PST send a reminder after the holidays.

2022 MRGESCP Work Plan Update and Proposed Revisions

Debbie L. presented the revised 2022 MRGESCP Work Plan for EC approval (see Draft Revised 2022 MRGESCP Work Plan). The SAMIS trainings are pushed out until cost share tracking is live on SAMIS. A task was added for an S&T Ad Hoc Group to review the revised RGSM CEM. The RGSM Hypothesis Development S&T Ad Hoc, Habitat Restoration (HR) Guidance S&T Ad Hoc, and Scenario Planning S&T Ad Hoc need additional development, and are pushed out to spring 2022. The task of evaluating and refining Project Bank scoring elements needs additional SAMC conversations, and is pushed out to spring 2022. The EC approved the revised 2022 MRGESCP Work Plan. The vegetated islands issue and data management protocol are being discussed by the SAMC, and will be added to the Work Plan when they are fully developed.

- ✓ **Decision**: Approval of the revised 2022 Work Plan

Long-Term Plan for Science & Adaptive Management

Debbie L. presented an updated Long-Term Plan for Science & Adaptive Management (Long-Term Plan) for EC approval (see Draft Long-Term Plan and Summary of Long-Term Plan Sections and Revisions). The PST is instituting version numbers to help track updates to the Long-Term Plan. New sections on communications and future direction were added to the updated version. The appendices were revaluated to determine what information should be included or removed. The EC approved the updated Long-Term Plan.

- ✓ **Decision**: Approval of the Long-Term Plan

2022 Hydrology Forecast and Planned Actions

Jim Wilber, Reclamation, reviewed the update on the 2022 hydrology forecast (see 2022 Reclamation Hydrology Forecast and 2022 Reclamation Reservoir Storage Status). Hydrology information is available on the Program Portal. The PST will work with U.S. Geological Survey to fix any broken links. The EC announced and discussed their planned 2022 activities. Summary announcements and activities are below:

2022 Signatory Announcements:

- **Announcement**: The 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 is open until April 4, 2022.
- **Announcement**: The FY22 omnibus appropriations bill was signed on March 15, 2022 and USACE will receive $1.94 million in FY22 (through September 30, 2022). BEMP is a USACE funding priority. The President's FY23 budget request will be released March 28, 2022.
- **Announcement**: New Mexico entered 2022 under Article VII in the Rio Grande Compact, with 127,100 acre-feet of debit.
- **Announcement**: USACE is implementing the Sandia to Isleta Ecosystem Restoration Project. USACE partnered with 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, of which the non-federal share would be $8.6 million.
- **Announcement**: Thomas A. is organizing the RGSM egg collection effort for the 2022 spawn. To volunteer, contact him at thomas_archdeacon@fws.gov.

2022 Signatory Activities:

Albuquerque Bernalillo County Water Utility Authority

- ABCWUA is continuing work on the Southside Water Reclamation Plant Outfall Project, and will conduct 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 the 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

- 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.

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.

<u>New Mexico Interstate Stream Commission</u>

- 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 MRGESCP would have a role in designing a monitoring plan.

<u>U.S. Army Corps of Engineers</u>

- 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.

<u>U.S. Bureau of Reclamation</u>

- 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.

- **Action Item**: The PST will work with U.S. Geological Survey to fix hydrology links on the Program Portal
- **Action Item**: Kim Eichhorst will provide an updated map of BEMP sites with continuous data collection and sites that were discontinued

2022 Opportunities

Debbie L. opened discussion on priority questions and issues for 2022. Summary questions/issues are below:

2022 Signatory Questions/Issues:

- MRGESCP participants are interested in discussing wetland and "Waters of the United States" regulations pertaining to management of vegetated islands within the MRG.
    - The first step is to invite Chris Parrish, USACE, to present a seminar on interpretation of current waters if the U.S. (WOTUS) acts and regulations. This will feed into a larger conversation for the MRGESCP.
    - The issue applies to wetland delineation, non-native vegetation, sediment transport, HR, flow and conveyance, etc.
- Reclamation's LiDAR data is available, which may be useful for planned HR work.
- ABCWUA is interested in knowing what kind of flows to design for HR projects.
- Reclamation cannot wait for long-term studies to conclude regarding conveyance efficiency between BdA and Elephant Butte Reservoir.
- Reclamation is interested in MRGESCP development of short-term response planning for two potential scenarios during dry years within the Angostura Reach: 1) Applying lessons learned from responses to drying within downstream reaches to the response to drying in the Angostura Reach, should it occur, and 2) the feasibility of coordinated drying among the Angostura, Isleta and San Acacia Reaches.
    - Grace Haggerty, NMISC, suggests applying the Integrated Population Model (Yackulic et al. 2022) to this exercise.
- BEMP is reassessing its long-term monitoring sites, discontinuing "redundant" sites and considering the feasibility/utility of rapid bio-assessment protocols at potential short-term monitoring sites, if requested. BEMP asks signatories to contact them to discuss their monitoring needs.

- **Action Item**: Jim Wilber will provide questions for the SAMC on potential Angostura Reach river drying scenarios
- **Action Item**: The PST will coordinate with Charles Yackulic on using the model to address potential Angostura Reach river drying scenarios
- **Action Item**: The PST will follow-up up with signatories to clarify planned 2022 activities and priority questions
- **Action Item**: The PST will take list of priority 2022 questions from EC to the SAMC

Announcements and Public Comment

There were no additional announcements or public comment.

Closing Items

- There is interest in a hybrid in-person/virtual EC meeting in June. The PST is seeking a space for that event. There may be a social event following the EC meeting if there is enough interest.

➢ **Action Item**: The PST will reassess feasibility of an in-person/virtual hybrid June EC meeting

Meeting Participants

EC Representative	Organization
Anne Marken	Middle Rio Grande Conservancy District
Ara Winter	Bosque Ecosystem Monitoring Program
Bill Grantham	New Mexico Office of the Attorney General
Blane Sanchez	Pueblo of Isleta
Grace Haggerty	New Mexico Interstate Stream Commission
Jennifer Faler	U.S. Bureau of Reclamation
Jim Wilber	U.S. Bureau of Reclamation
Katrina Grantz, Federal Co-Chair	U.S. Bureau of Reclamation
Kelsey Bicknell	Albuquerque Bernalillo County Water Utility
Kim Eichhorst	Bosque Ecosystem Monitoring Program
Kyle Harwood	Buckman Direct Diversion
Mark Kelly, Non-Federal Co-Chair	Albuquerque Bernalillo County Water Utility Authority
Matthew Wunder	New Mexico Department of Game and Fish
Michael Scialdone	Pueblo of Sandia
Page Pegram	New Mexico Interstate Stream Commission
Paul Tashjian	Audubon Southwest
Rick Carpenter	Buckman Direct Diversion
Ryan Gronewold	U.S. Army Corps of Engineers
Shawn Sartorius	U.S. Fish and Wildlife Service

Participant	Organization
Andy Dean	U.S. Fish and Wildlife Service
Ari Posner	U.S. Bureau of Reclamation
Danielle Galloway	U.S. Army Corps of Engineers
Kyle Faig	City of Albuquerque, Open Space Division
Lynette Giesen	U.S. Bureau of Reclamation
Mick Porter	U.S. Army Corps of Engineers
Tricia Snyder	Wild Earth Guardians

Support	Organization
Catherine Murphy	Program Support Team
Dale Strickland	Program Support Team
Debbie Lee	Program Support Team
Kevin Shelley	Program Support Team
Michelle Tuineau	Program Support Team
Sarah Anderson	Program Support Team

Link to full Meeting Materials List

Executive Committee Meeting
March 23, 2022

See the following meeting material on the page below:

Draft 2021 MRGESCP Annual Report [read-ahead, draft]

Middle Rio Grande Endangered Species Collaborative Program

ANNUAL REPORT

2021

Program Website: https://webapps.usgs.gov/MRGESCP/

ACRONYMS & ABBREVIATONS

ABCWUA	Albuquerque Bernalillo County Water Utility Authority
Audubon	Audubon Southwest
CEM	Conceptual Ecological Model
CoA	City of Albuquerque
Collaborative Program	Middle Rio Grande Endangered Species Collaborative Program
EC	Executive Committee
ES	USFWS Ecological Services
EWLP	Environmental Water Leasing Program
HR	Habitat Restoration
LTP	Long-Term Plan
MRG	Middle Rio Grande
MRGCD	Middle Rio Grande Conservancy District
NMDGF	New Mexico Department of Game and Fish
NMISC	New Mexico Interstate Stream Commission
PoSA	Pueblo of Santa Ana
RGSM	Rio Grande Silvery Minnow
S&T Ad Hoc	Science & Technical Ad Hoc Group
SAMC	Science and Adaptive Management Committee
SAMIS	Science and Adaptive Management Information System
Science & AM Plan	Science & Adaptive Management Plan
SWFL	Southwestern Willow Flycatcher
SWR	Strategic Water Reserve
UNM	University of New Mexico
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife
WMA	Wildlife Management Area
YBCU	Yellow-billed Cuckoo

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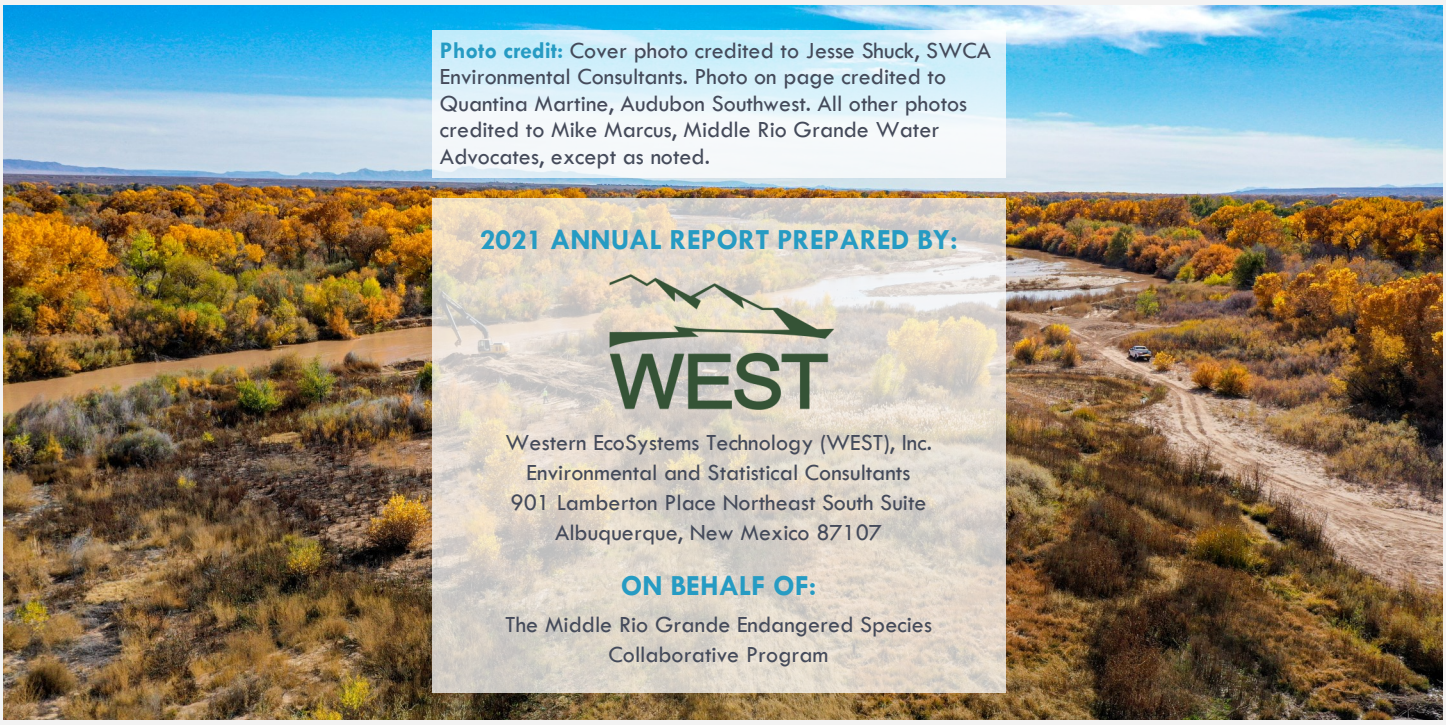

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2021 ANNUAL REPORT PREPARED BY:

WEST

Western EcoSystems Technology (WEST), Inc.
Environmental and Statistical Consultants
901 Lamberton Place Northeast South Suite
Albuquerque, New Mexico 87107

ON BEHALF OF:

The Middle Rio Grande Endangered Species Collaborative Program

GUIDING PRINCIPLES

Mission

The Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) provides a collaborative forum to support scientific analysis and implementation of adaptive management to the benefit and recovery of the listed species pursuant to the Endangered Species Act within the Program Area, and to protect existing and future water uses while complying with applicable state, federal and tribal laws, rules, and regulations.

Species of Interest

The Collaborative Program supports the recovery of five listed species inhabiting the Middle Rio Grande (MRG): the endangered Rio Grande silvery minnow (RGSM; *Hybognathus am*arus), the endangered southwestern willow flycatcher (SWFL; *Empidonax traillii extimus*), the threatened yellow-billed flycatcher (YBCU; *Coccyzus americanus*), the endangered New Mexico meadow jumping mouse (PESU; *Zapus hudsonius luteus*), and the threatened Pecos sunflower (NMMJM; *Helianthus paradoxus*).

Goals

- Establish and maintain a self-sustaining population of endangered RGSM distributed throughout the MRG.
- Maintain and protect the MRG recovery unit goals for endangered SWFL.
- Maintain and protect suitable threatened YBCU habitat in the MRG.
- Establish and maintain a self-sustaining endangered NMMJM population in the MRG.
- Maintain and protect the threatened PESU in the MRG.
- Avoid the future listing or up-listing of species in the Collaborative Program area.
- Manage available water to meet the needs of endangered species and their habitat.

FOREWORD FROM THE CO-CHAIRS

We are pleased to present the Collaborative Program's 2021 Annual Report, which covers our first year formally operating within a science and adaptive management framework. 2021 was a year of immense change for the Collaborative Program, which resulted in many accomplishments and a palpable sense of momentum. The changes in the Collaborative Program highlight the immense potential it has for the future.

"Science is a way of thinking much more than it is a body of knowledge."
– Carl Sagan

In 2021, the Collaborative Program embraced science in a more formal way, focusing on evidence-based recommendations. This included developing and standardizing review processes and tools used to assess our understanding of the MRG's listed species, as well as committing to continually refining that understanding. The newly formed Science and Adaptive Management Committee (SAMC) helped guide the Collaborative Program's science activities, ensuring that processes were followed and results of activities were evaluated collectively. By analyzing and applying scientific findings within the broader management context, we are building a cumulative knowledge base with which to formulate better recommendations.

One thing we learned in 2021 is that a science and adaptive management program requires navigation of both change and uncertainty. To manage a dynamic system effectively, we must regularly acknowledge and test our assumptions, and critically evaluate what we learn from scientific research. Keeping an open mind to novel ideas that might break with conventional thinking is vital to finding solutions to complex problems. Diverse perspectives are key and, together, we are much more likely to identify and ask the essential questions needed to focus our conservation efforts.

This annual report is a celebration of the Collaborative Program's accomplishments in 2021. The sixteen signatories brought their unique strengths and resources to the table, leveraged partnerships to create stronger projects, and collectively worked towards shared goals. We truly are an example of the whole being greater than the sum of its parts, as every signatory's work collectively improves our scientific understanding and informs future activities. We hope readers of this annual report will get a sense of the

Katrina Grantz

FEDERAL CO-CHAIR OF THE EXECUTIVE COMMITTEE

U.S. Bureau of Reclamation

Mark Kelly

NON-FEDERAL CO-CHAIR OF THE EXECUTIVE COMMITTEE

Albuquerque-Bernalillo County Water Utility Authority

COMMITTEE REPRESENTATIVES

Executive Committee (EC)

CO-CHAIRS

Mark Kelly	Non-Federal Co-Chair
Wayne Pullan [Jan-Apr 2021]	Federal Co-Chair
Katrina Grantz [Apr-Dec 2021]	Federal Co-Chair

REPRESENTATIVES

Paul Tashjian	Audubon Southwest (Audubon)
Kim Eichhorst	Bosque Ecosystem Monitoring Program
Rick Carpenter	Buckman Direct Diversion
Colleen Langan-McRoberts	City of Albuquerque (CoA)
Dave Gensler [Jan–Jun 2021]	Middle Rio Grande Conservancy District (MRGCD)
Anne Marken [Jun–Dec 2021]	MRGCD
William Grantham	New Mexico Office of the Attorney General
Matthew Wunder	New Mexico Department of Game and Fish (NMDGF)
Page Pegram	New Mexico Interstate Stream Commission (NMISC)
Blane Sanchez	Pueblo of Isleta
Michael Scialdone	Pueblo of Sandia
Alan Hatch	Pueblo of Santa Ana (PoSA)
Thomas Turner	University of New Mexico (UNM)
LTC Patrick Stevens	U.S. Army Corps of Engineers (USACE)
Jennifer Faler	U.S. Bureau of Reclamation (Reclamation)
Shawn Sartorius	U.S. Fish and Wildlife Service (USFWS)

Science and Adaptive Management Committee (SAMC)

Thomas Archdeacon	Aquatic Ecology Expert
Meaghan Conway	Ecosystem Function Expert
Megan Friggens	Climate Science Expert
Ryan Gronewold	Hydrology Expert
Mo Hobbs	Aquatic Ecology Expert
S. Dave Moore	Terrestrial Ecology Expert
Ari Posner	Geomorphology Expert
Ara Winter	Statistics/Modeling Expert
Alan Hatch	Executive Committee *Ex Officio* Member

Fiscal Planning Committee (FPC)

CO-CHAIRS

Grace Haggerty	Non-Federal Co-Chair
Debra Hill	Federal Co-Chair

REPRESENTATIVES

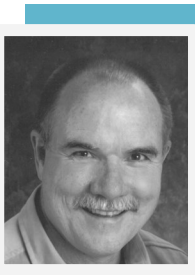
Representatives are selected by the EC to address meeting topics.

THE RICK BILLINGS MEMORIAL AWARD

Rick Billings was the former EC Non-Federal Co-Chair, an EC member, and a long-time supporter of the Collaborative Program. In his memory, Reclamation's Albuquerque Area Office sponsors an annual award recognizing an individual's contributions to the success of the Collaborative Program.

The first Rick Billings Memorial Award was granted in December 2020 to John Stomp, the former Chief Operating Officer for the Albuquerque Bernalillo County Water Utility Authority (ABCWUA). John served as the EC Non-Federal Co-Chair from June 2019 to December 2020, when he retired. John was instrumental in supporting the Collaborative Program in developing a Science & Adaptive Management Plan (Science & AM Plan). He helped the EC navigate difficult decisions and hurdles, and adopt a forward-looking, solution-focused perspective.

The 2021 Rick Billings Memorial Award recipient is Wayne Pullan. Wayne is the Regional Director of Reclamation's Upper Colorado Basin Region and former Federal Co-Chair from April 2020 to May 2021. He was a decisive leader during a major period of transition for the Collaborative Program, and was often praised for his ability to provide clarity and guidance during EC meetings. Without a doubt, Wayne was instrumental in transforming the Collaborative Program into the program it is today.



Rick Billings

FORMER MEMBER AND SUPPORTER OF THE COLLABORATIVE PROGRAM, AWARD NAMESAKE

John Stomp

FORMER NON-FEDERAL CO-CHAIR (2019-2020), WINNER OF THE 2020 RICK BILLINGS MEMORIAL AWARD

Wayne Pullan

FORMER FEDERAL CO-CHAIR (2020-2021), WINNER OF THE 2021 RICK BILLINGS MEMORIAL AWARD

2021 YEAR IN REVIEW

Collaborative Program

WHAT IS THE COLLABORATIVE PROGRAM?

The Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) is a partnership of 16 signatory entities (3 Federal agencies, 3 State agencies, 2 local agencies, 2 non-governmental organizations, 3 Pueblos, 2 municipal water utilities, and 1 university) that supports actions in the Middle Rio Grande aimed at protecting and recovering five federally listed species, while preserving existing and future water uses.

PARTICIPANTS

In 2021, over 140 participants (both signatory representatives and members of the public) contributed to Collaborative Program efforts, including meetings, seminars, workshops, and the Science Symposium.

SCIENCE OUTREACH BY THE NUMBERS

- **1** Science Symposium
- **2** Workshops
- **2** Collaborative Seminars
- **6** Newsletters
- **17** Publications Shared
- **38** Signatory Announcements

SPECIES BY THE NUMBERS

Rio Grade Silvery Minnow

6 Science Objectives & **20** Science Strategies

31 2021 Projects • **3** S&T Ad Hocs* • ☑ CEM*

Southwestern Willow Flycatcher

3 Science Objectives & **15** Science Strategies

14 2021 Projects • **1** S&T Ad Hoc • ☑ CEM

Yellow-Billed Cuckoo

1 Science Objective & **4** Science Strategies

12 2021 Projects • **1** S&T Ad Hoc • ☑ CEM

NM* Meadow Jumping Mouse

1 Science Objective & **5** Science Strategies

5 2021 Projects • **0** S&T Ad Hocs • ☐ CEM

Pecos Sunflower

1 Science Objective & **3** Science Strategies

5 2021 Projects • **0** S&T Ad Hocs • ☐ CEM

*S&T = Science & Technical Ad Hoc Groups, CEM = conceptual ecological model, NM = New Mexico

MAJOR ACCOMPLISHMENTS

Oct 2020 Formed the Science and Adaptive Management Committee.

Dec 2020 Hosted the 2020 Science Symposium.

Dec 2020 Approved the Science & Adaptive Management Plan and Long-Term Plan (LTP).

Feb 2021 Hosted the Objectives Workshop to revise proposed Science Objectives.

Jul 2021 Approved the Science Objectives.

Jul 2021 Approved the revised By-Laws.

Jul 2021 Approved a proposal for compiling Signatory Contributions

Jul 2021 Approved findings and recommendations from the Rio Grande Silvery Minnow Population Monitoring Summary Report.

Aug 2021 Hosted the Habitat Restoration (HR) Workshop to discuss defining HR success.

Sep 2021 Developed the SAMIS and Project Bank, along with two user applications.

Dec 2021 Approved the updated LTP with the Biennial Schedule.

Dec 2021 Approved the Annual Program Evaluation.

2021 YEAR IN REVIEW COLLABORATIVE PROGRAM

In 2021, the Collaborative Program fully transitioned to a science-focused program that informs adaptive management of listed species connected to a dynamic and highly utilized river system. 2021 was a productive year filled with activities that enhanced the impact and direction of the Collaborative Program both administratively and scientifically, setting the stage for progress in 2022.

CONTRIBUTING ACCOMPLISHMENTS IN 2020

Three accomplishments in late 2020 set the stage for the progress the Collaborative Program saw in 2021: formation of the **SAMC**, hosting a virtual **2020 Science Symposium**, and EC approval of both the **LTP** and **Science & AM Plan**.

SCIENCE ACCOMPLISHMENTS IN 2021

As a first step toward implementing the LTP and Science & AM Plan, the Collaborative Program convened an **Objectives Workshop** to revise a set of proposed **Science Objectives** that address the Collaborative Program's Goals. The Science Objectives were then reported, along with a summary of their role and application as part of the scientific guiding principles for the Collaborative Program, to the EC for comment, review, and approval. This accomplishment led the way for integration of the Science Objectives into the **Science and Adaptive Management Information System (SAMIS)**. The SAMIS is a relational tool developed in 2021 that draws linkages between ongoing or proposed activities and the scientific uncertainties, management questions, and strategic planning objectives they address. Two user applications were deployed as part of development of the SAMIS: the **SAMIS Data Viewer App**, which allows signatories to view and filter the Project Bank (i.e., the list of Collaborative Program activities linked to science and management initiatives), and the **SAMIS Data Entry App**, which is used to add or update information in the **Project Bank**. Scientists and managers of the MRG Valley can use the SAMIS to document and summarize their activities, link to scientific uncertainties and management questions, and inform planning decisions – all important steps for adaptive management. Use of the SAMIS applications and updates to the Project Bank will commence in 2022.

The formation of several **S&T Ad Hoc Groups** by the SAMC was an important achievement in 2021, as it allowed the Collaborative Program to convene technical experts to address its science priorities. The 2021 S&T Ad Hoc Groups included the RGSM Population Monitoring Summary Report Ad Hoc, which was responsible for reviewing and finalizing the deliverables from the Population Monitoring Work Group, the RGSM Integrated Population Model Ad Hoc, the SWFL and YBCU Conceptual Ecological Model (CEM) Refinement Ad Hoc, and the RGSM CEM/Genetics Ad Hoc.

The SAMC reviewed the **RGSM Population Monitoring Summary Report** and presented a memo to the EC with **findings and recommendations**, including steps to address remaining questions raised in the summary report, and broader next steps for the Collaborative Program to consider. The EC approved the memo, solidifying the Collaborative Program's first recommendations as a science program, and the first application of the S&T Ad Hoc Group process laid out in the Science & AM Plan.

In response to rising signatory needs in 2021, the SAMC hosted a **Habitat Restoration (HR) Workshop** featuring a facilitated discussion on how to define and effectively document HR "success," and how lessons learned from existing HR projects can inform future efforts. In concert with this workshop, the Collaborative Program also hosted a HR Coordination Meeting for managers implementing HR in the MRG to discuss planned projects, potential areas for coordination, and areas the Collaborative Program could provide guidance for design, implementation, and/or monitoring.

ADMINISTRATIVE ACCOMPLISHMENTS IN 2021

The Collaborative Program formalized its **transition to a science and adaptive management program** by approving **revised By-Laws**, which codified the adoption of a new program structure and operations to support the Science & AM Plan. Approval of the revised By-Laws was the culmination of an effort over several years to transition to a new operational and organizational structure. As part of this transition, the EC approved a **Biennial Schedule** outlining the timeline for Collaborative Program activities over a two-year time period – an important step for improving planning and communication in the Collaborative Program, and one that helps enable adaptive management in the MRG.

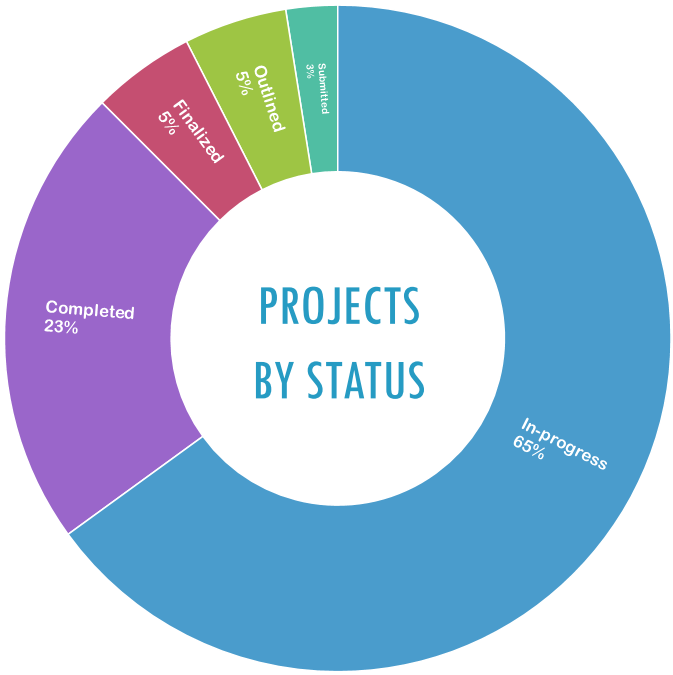
The **updated LTP** was approved by the EC in December 2021. The Collaborative Program also determined the LTP should be combined with the Science & AM Plan in 2022 to produce one comprehensive document. The LTP is informed by tracking **Signatory Contributions**, which the EC approved to account for the administrative and scientific contributions to the Collaborative Program. Signatory Contributions are tracked in the SAMIS and should be regularly updated with findings to inform Collaborative Program efforts. The following five categories are used to define Signatory Contributions: Program Management and Administration, Species Management and Recovery, Population Monitoring and Modeling, Habitat Assessments and Modeling, and Field and Laboratory Experiments.

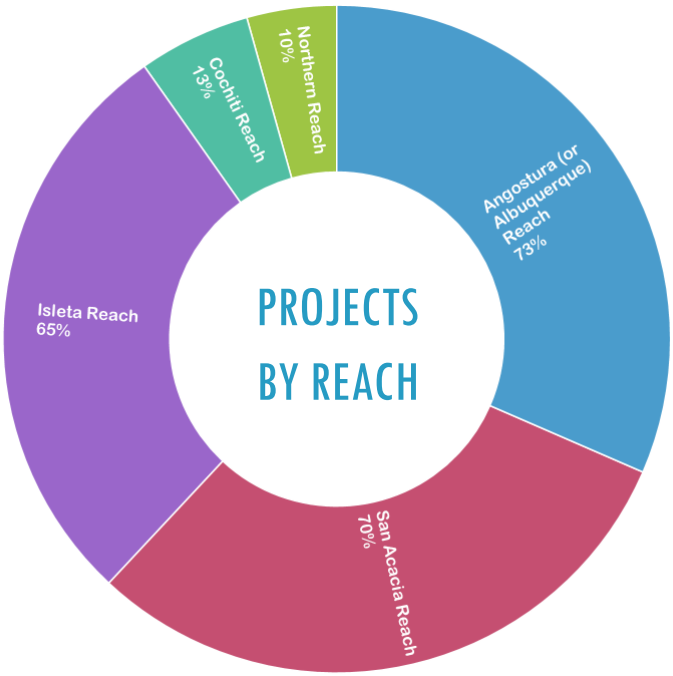
To inform adaptive management and maintain its relevance to its signatories, the Collaborative Program approved an **Annual Program Evaluation** allowing for the review and modification of Collaborative Program operations and functions, guiding principles, plans, tools, and processes. This annual effort will become a tool for guiding and increasing the impact of the Collaborative Program's activities.

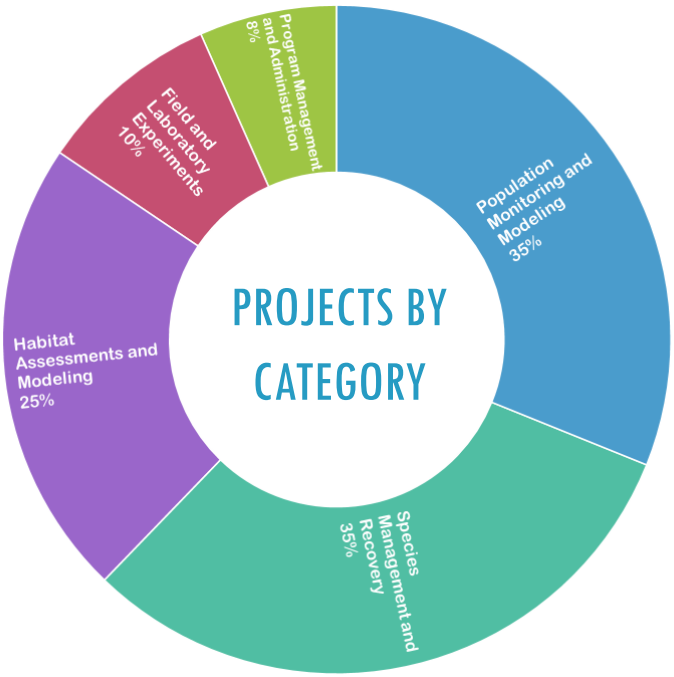

Photo credit: J. N. Stuart

SIGNATORY CONTRIBUTIONS

Signatories submitted 2021 projects relating to the Collaborative Program. These signatory contributions were entered into the SAMIS for integration into the science and adaptive management processes. Forty signatory contributions were submitted, and are reported by species, status, reach, and category below:







SIGNATORY HIGHLIGHTS

Collaborative Program signatories provided highlights summarizing the activities that best exemplified their work in 2021. The following highlights offer a short insight into the work done by signatories in 2021:

ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY

The ABCWUA continued its commitment to endangered species in the MRG in 2021 through several projects including: RGSM egg entrainment monitoring, funding support for the CoA Aquatic Conservation Facility, and maintenance of the Paseo del Norte Restoration sites. The ABCWUA continued to collaborate with NMISC to conduct spring monitoring of spawning and nursery habitat used by RGSM in restored and natural flood plains. A synthesis report on this data that will provide information on conditions most beneficial to RGSM spawning is expected soon. The ABCWUA initiated the design of restoration work near the Southside Water Reclamation Plant outfall that would provide new floodplain habitat, improved riparian vegetation, improved water quality, and new community trails. This project will be a collaboration between the Office of Natural Resources Trustee, CoA Open Space, and MRGCD. The ABCWUA has also been coordinating with the NMISC and USACE on the restoration project.

– Kelsey Bicknell, Senior Water Resource Scientist

AUDUBON SOUTHWEST

During 2021, Audubon conducted the following activities within the MRG: 1) Managed the Isleta Reach Stewardship Association (WaterSMART funded), 2) coordinated the Non-Governmental Organizations Sectoral Committee for the Rio Grande Basin Study, 3) leased San Juan Chama water and brought water to Isleta Reach outfalls with MRGCD, 4) assisted the MRGCD with outfall restoration and monitoring, 5) board representation on Rio Grande Agricultural Land Trust, 6) held informational webinars on MRG water and habitat, 8) developed map-based web page for the Isleta Reach, 9) provided technical assistance to private landowners regarding Natural Resources Conservation Service programs, and 10) took part in New Mexico 50 Year Water Plan activities.

– Paul Tashjian, Director of Freshwater Conservation

MIDDLE RIO GRANDE CONSERVANCY DISTRICT

In 2021, MRGCD secured and delivered just under 1,616 acre-feet of water through the Conservation Program's Environmental Water Leasing Program (EWLP) to four strategic outfall habitat sites. These sites are located within the Isleta Reach, which can experience extensive drying during parts of the irrigation season. The EWLP is an important tool that supports the RGSM as part of the District's 2016 Biological Opinion obligation. Habitat sites included Alejandro Outfall, Los Chavez Outfall, 240 Wasteway, and Lower Peralta #2 Wasteway. Refugial habitat was sustained at these locations throughout the peak of the irrigation season when main channel drying occurred in the Isleta Reach, providing habitat for RGSM and other aquatic and riparian species until river conditions improved and allowed for re-occupation of main channel habitat. Deliveries typically consisted of 3-5 cubic feet per second and were successful at maintaining water temperatures below 30°C within habitat sites.

– Anne Marken, Water Operations Division Manager

NEW MEXICO DEPARTMENT OF GAME AND FISH

Bernardo Wildlife Management Area

The NMDGF masticated an additional 20 acres of invasive tamarisk and applied follow-up herbicide treatments to 530 acres of regrowth tamarisk. Recovery of native Alkali Sacaton and inland salt grass have exceeded expectations in these areas. Department staff and contractors planted 2,000 cottonwood poles, 500 Goodding's willows, and 200 coyote willows. Six hundred cages and two 5-acre exclosures were installed to protect plantings.

La Joya Wildlife Management Area

The NMDGF masticated 130 acres of invasive tamarisk and 100 acres of dead Russian olive and applied follow -up herbicide treatments to 270 acres of regrowth tamarisk. Recovery of native Alkali Sacaton and inland salt grass have begun to occur and is meeting expectations.

Socorro-Escondida Wildlife Management Area

The NMDGF cooperated with New Mexico State Forestry and Save Our Bosque Task Force to remove 89 acres of invasive tamarisk and Russian olive. The entire Wildlife Management Area [WMA] was fenced to exclude trespass livestock grazing, which has hindered recovery and long-term viability of riparian habitats on the WMA. Habitat restoration and fencing improvement are expected to help reduce nonpoint source pollution, benefitting the nearby Rio Grande.

– Matthew Wunder, Chief of Conservation Services

NEW MEXICO INTERSTATE STREAM COMMISSION

The NMISC has broad powers to investigate, protect, conserve, and develop New Mexico's waters. The NMISC manages the Strategic Water Reserve [SWR], which allows water rights in the SWR to be used flexibly for Endangered Species Act and Rio Grande Compact delivery purposes. It has been used primarily to offset habitat restoration project depletions in the MRG. The NMISC would like to obtain additional water rights for conservation purposes. Since 2016, NMISC research has focused on RGSM larval fish and its habitat during spring runoff. Understanding when and where fish spawn and detailing the early life stages of the RGSM are critical uncertainties that need to be better understood to manage flows in the MRG. The NMISC's Los Lunas Silvery Minnow Refugium raised over 30,000 fish for augmentation in 2021 and conducted research on captive spawning. We thank Dr. Douglas Tave for his years of service and best regards on a happy retirement, and welcome Pauletta Dodge to the team.

– Grace Haggerty, Hydrologist

PUEBLO OF SANTA ANA

The PoSA was able to maintain many operations despite the severe limitations the pandemic caused. The monitoring of the PoSA's fish and bird communities was completed with data collection emphasis on RGSM, SWFL, and YBCU. The PoSA uses these surveys to monitor the health of these communities and as a basis for National Environmental Policy Act compliance for restoration project work within the channel and surrounding bosque. These projects include ongoing partnerships with Reclamation for streambank stabilization and habitat modification and with Bureau of Indian Affairs for invasive species removal and native revegetation work. The PoSA also maintains a strong relationship with USFWS for completing fish surveys as well as RGSM augmentation. This past year, the PoSA received over 20,000 hatchery-reared RGSM through our partnership with USFWS. Currently, we are preparing for the 2022 field season and are excited to continue this work with all of our partners.

– Alan Hatch, Director of Department of Natural Resources

UNIVERSITY OF NEW MEXICO

UNM is a comprehensive, research-intensive (R1) institution of higher education that serves the State of New Mexico and the nation. In 2021, UNM led research in water quality, ecosystem dynamics, hydrodynamic modeling, habitat mapping, and population biology of protected species. Research activities engaged students at all levels to create pathways to careers in environmental science and policy. Databases, specimens and archives that support MRG research and management are held at UNM facilities like the Earth Data Analysis Center, New Mexico Natural Heritage and the Museum of Southwestern Biology. UNM personnel are active in the EC, the SAMC, and Rio Grande Silvery Minnow Conceptual Ecological Model/Genetics Ad Hoc. UNM collaborates broadly with other program partners to connect scientific results to adaptive management action to benefit species and the ecosystems that they depend on.

– Thomas Turner, Professor of Biology and Curator of Fishes in the Museum of Southwestern Biology

U.S. FISH AND WILDLIFE SERVICE

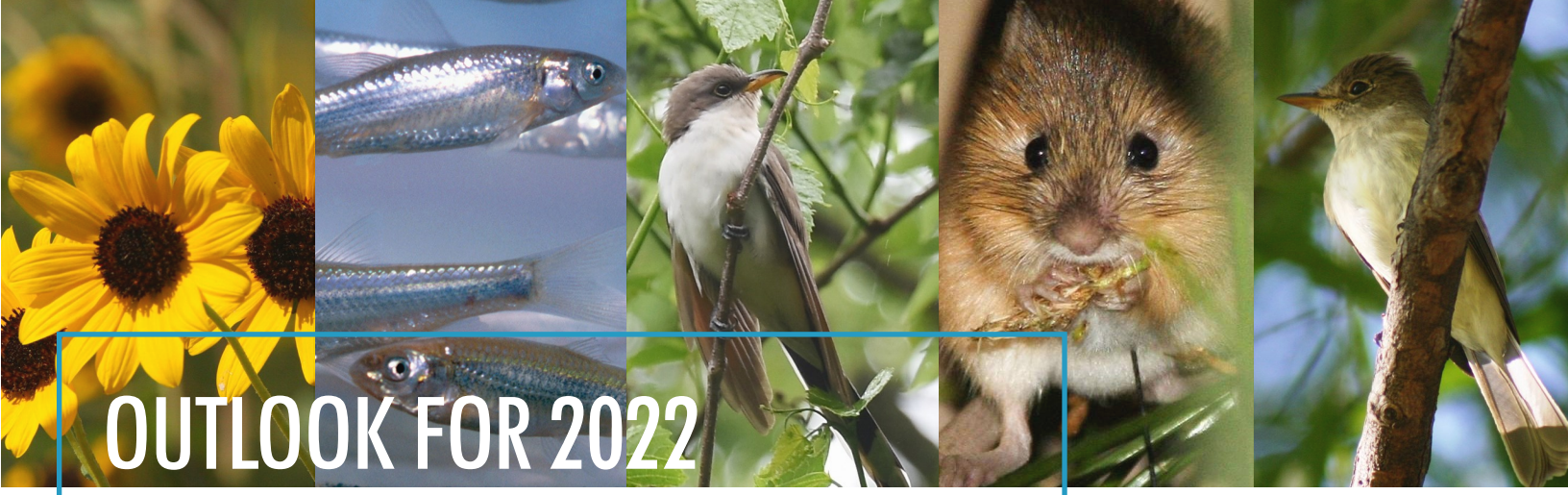
The USFWS Ecological Services (ES), Fisheries, and Refuge Programs leads Recovery efforts for Threatened and Endangered species in the MRG. In 2021, we surveyed and monitored SWFL, yellow-billed cuckoo, New Mexico meadow jumping mouse, and Pecos sunflower, as well as produced, augmented, and salvaged Rio Grande silvery minnow. Our refuges actively restore and maintain habitat, and ES is working with our partners to conserve the species and move towards Recovery. We also participated in the planning process for the lower reach of the river and provided technical assistance towards the implementation of the 2016 Biological Opinion. Specifically, we have begun planning for future reintroductions of RGSM outside of currently occupied areas. These plans include Tribal and partner coordination that will kick off in 2022.

– Debra Hill, Large River Restoration and Recovery Program Supervisor

U.S. BUREAU OF RECLAMATION

Reclamation, through its commitment to the Collaborative Program, continues to work hard to find a balance in meeting the needs of endangered species and other wildlife, as well as the Pueblos, farmers, cities, and compact agreements. Reclamation remains steadfast in its the support of the Collaborative Program's mission through a variety of projects, as well as funding the third-party management of the Collaborative Program. One of the projects we would like to highlight in our efforts is the CSU-UNM Geomorphology/Habitat Linkage Research Project, which uses an interdisciplinary approach to improve understanding of the linkages among dynamic hydrologic and geomorphic processes, the physical habitat conditions needed by the RGSM and observed RGSM population dynamics. The study analyzes long-term datasets to identify geomorphic trends and modeling is performed to simulate hydraulics in the river channel and floodplains. Maps identify potentially inundated areas for a range of flows and those areas are filtered by the RGSM life-stage habitat criteria. This allows for development of flow-habitat rating curves that are used to assess the interaction between discharge and habitat availability in multiple subreaches for all years. Some key insights include: 1) Habitat projects should encourage bank erosion, channel migration, or other actions that increase habitat complexity, and 2) analyses that include habitat metrics should investigate methods to improve accuracy or account for uncertainty of bankfull/ overbanking discharge estimates.

– Ari Posner, Physical Scientist, Technical Services Division



OUTLOOK FOR 2022

Photo credit (left to right): Pecos sunflower, J. N. Stuart | Rio Grande silvery minnow, Museum of the Big Bend | yellow-billed cuckoo, Andy Reago and Chrissy McClarren | New Mexico meadow jumping mouse, U.S. Fish and Wildlife Service | southwestern willow flycatcher, Shannon Caruso, University of New Mexico

The planned direction for 2022 builds on the many accomplishments of 2021. Moving forward, the Collaborative Program is poised to be more relevant and responsive to management needs and questions. New Mexico faces a worsening water crisis that threatens conservation, research and planning efforts. This situation is an opportunity for the Collaborative Program to increase its relevance by considering the effects of climate change on the ecosystem, as well as on individual signatories and the Collaborative Program's progress toward its mission. The Science & AM Plan and LTP provide a solid framework within which to sculpt the Collaborative Program's response to management needs in light of drought and climate change. By building on these plans and utilizing tools such as the SAMIS, the Collaborative Program will better understand and support ecosystem health in the Middle Rio Grande Valley. In 2022, the Collaborative Program will build on existing signatory partnerships, transparently share information, evaluate and apply new findings, and generate management-relevant recommendations. Although there will be challenges, the Collaborative Program is better prepared than ever to embrace what lies ahead.

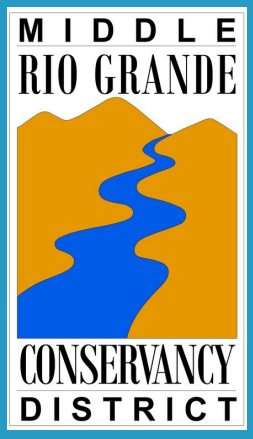
Many organizations, including our signatories, are implementing programs to tackle issues associated with climate change in New Mexico. The Collaborative Program will serve as a forum to share and synthesize information from these varied efforts, and use that information to develop adaptive management recommendations. In this way, the Collaborative Program will serve as both a clearinghouse and an incubator of adaptive strategies relating to listed species.

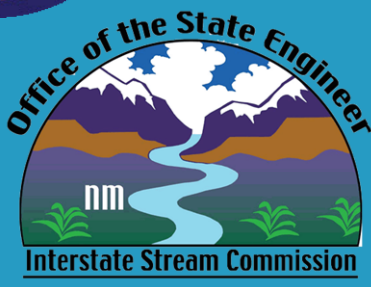
By building partnerships with external programs based upon the mutual and open exchange of information, the Collaborative Program will strengthen the caliber of its research and management recommendations. To collect, organize, synthesize, and evaluate scientific findings in the context of management needs, the Collaborative Program will utilize the tools and venues its developed, including the SAMIS, Collaborative Seminars, Science & Technical Ad Hoc Groups, the Science Symposium, and the Collaboratory, which will debut in 2022. Through participation in the Collaborative Program, signatories will have the opportunity to contribute cooperatively to the advancement of science related to listed species and the greater Middle Rio Grande ecosystem, and to respond to the priority questions and issues of today and tomorrow.

Debbie Lee
PROGRAM MANAGER
Program Support Team
WEST, Inc.

Catherine Murphy
SCIENCE COORDINATOR
Program Support Team
WEST, Inc.

US Army Corps of Engineers®





Middle Rio Grande Endangered Species Collaborative Program

ANNUAL REPORT | 2021

Link to full Meeting Materials List

Executive Committee Meeting
March 23, 2022

See the following meeting material on the page below:

Summary of MRGESCP Long-Term Plan Sections and Revisions [read-ahead]

Long-Term Plan for Science & Adaptive Management (v. 2.0)
Summary of Sections and Revisions

This summary table is provided to the Executive Committee for the March 23, 2022 meeting, and is meant to help guide the review related to the Long-Term Plan for Science & Adaptive Management (v. 2.0). The first column outlines the different sections of the document. The second column notes where language was taken from the 2020 Science & Adaptive Management Plan (2020 S&AM Plan) or the 2021 Long-Term Plan (2021 LTP). The third column includes notes on revisions to the language, or the focus of any new language.

General revisions to the narrative throughout include:

- Taking out references to a separate LTP and S&AM Plan
- Standardizing names and acronyms
- Replacing references of the Adaptive Management Relational Database/AMRDB with Science and Adaptive Management Information System/SAMIS
- Removing URLs that lead to dead links

The following sections from the 2020 S&AM Plan were not included in the new document:

- Section 1.5.2, Preceding Adaptive Management Efforts, as this will be incorporated on the Program Portal in a "History" page
- Section 4.4, Topical Executive Summaries, as the thinking behind those have changed
- Sections 5.1-5.6, as this was made superfluous with the biennial schedule
- Appendix A, Science and Adaptive Management Plan Implementation Task List, as this is no longer relevant
- Appendices B&C, conceptual ecological models, as these are being revised

SECTION	INITIAL SOURCE	REVISION NOTES
1.0 Introduction		
1.1 Purpose of the Long-Term Plan for Science & Adaptive Management	From 2020 S&AM Plan, Section 1.0 & 2021 LTP, Section 1.0	Revised to note the role of a combined LTP and S&AM Plan
How to use the Long-Term Plan		This is a new section to provide an overview of the administrative and scientific purposes of the LTP
1.2 Development and Structure	From 2021 LTP, Section 1.3	Revised to note combined plan
1.3 Updates	From 2021 LTP, Section 1.4	• Updates are more explicitly tied to the annual evaluation. • Moved the subsections around to put the Collaboratory first.
2.0 Overview of the Collaborative Program	From 2020 S&AM Plan, Section 1.1 & 2021 LTP, Section 1.1	
2.1 Collaborative Program Area	From 2020 S&AM Plan, Section 1.3	No significant change

2.2 Stakeholders	From 2020 S&AM Plan, 1.4	No significant change
2.3 Operational Space	From 2020 S&AM Plan, Section 1.5	Removed section 1.5.2, Preceding Adaptive Management Efforts. The PST plans to revise this language and add it to the Program Portal as part of the history of the Collaborative Program.
3.0 Guiding Principles	From 2021 LTP, Section 2.0	No significant change
3.1 Using the Guiding Principles to Plan in the Face of Uncertainty	From 2021 LTP, Section 2.4	No significant change
4.0 Collaborative Program Organizational and Operational Structures	From 2020 S&AM Plan, Section 3.0	No significant change
4.1 Organizational Structure	From 2020 S&AM Plan, Section 3.1	No significant change
4.2 Operational Structure	From 2020 S&AM Plan, Section 3.2	• Moved section internal and external reviews to "Tools" under a new "Peer Review" subsection. • Revised description of FPC to better reflect FPC activities
5.0 Communication Principles and Platforms		New section
5.1 Communication Principles	Includes the communication principles adopted by the EC in 2017.	New language about communication principles and a communication framework for the Collaborative Program.
5.2 Venues and Opportunities	Language about the Science Symposium and Collaboratory are adapted from the 2021 LTP, Section 1.4.	New language to describe workshops, seminars, and newsletters.
6.0 Tools Supporting the Long-Term Science & Adaptive Management Plan	From 2020 S&AM Plan, Section 4.0	Removed sections on the Long-Term Plan and Topical Executive Summaries
6.1 Science and Adaptive Management Information System (SAMIS)	From 2021 LTP, Section 4.0	Revised to reflect new understanding of SAMIS
6.2 Program Portal	From 2020 S&AM Plan, 4.3, 4.5	• Included Geospatial Mapper description as a subsection to the Program Portal. • New subsections: Added descriptions of the Document Library and Datasets.

6.3 Peer Review	From 2020 S&AM Plan, Section 3.2, Internal and External Work Product Review, Internal Review, and External Review	New section: Updated existing language to reflect the draft peer review process
6.4 Modelling Tools	From 2020 S&AM Plan, Section 4.6	Revised to better reflect the actual tools and how they will be used in the Collaborative Program.
7.0 Adaptive Management Application	From 2020 S&AM Plan, Section 2.0	No significant change
7.1 The Adaptive Management Cycle	From 2020 S&AM Plan, Section 2.1	No significant change
7.2 Defining Adaptive Management for the Collaborative Program	From 2020 S&AM Plan, Section 2.2	No significant change
7.3 Implementing Adaptive Management with the Collaborative Program	From 2020 S&AM Plan, Section 5.0	Removed details of the Collaborative Program tasks that fit under each AM cycle stage, as this is covered with the biennial schedule.
7.4 Supporting Adaptive Management in the Middle Rio Grande	From 2021 LTP, Section 3.0	No significant change
8.0 Administrative Schedule	From 2021 LTP, Section 5.0	
8.1 Committee Tasks and Coordination	From 2021 LTP, Section 5.1	Revised FPC description of activities to better reflect actual activities and included a mention of the Habitat Restoration Coordination meetings
8.2 Collaborative Program Administrative Schedule	From 2021 LTP, Section 5.2	Reformatted the biennial schedule table
9.0 Future Direction		New section: Describes future opportunities for the Collaborative Program
9.1 Work Plan Process		New section: Describes the annual work plan development process
9.2 Future Focus		New section: Describes some of the specific future opportunities for the Program
10.0 Collaborative Program Recommended Activities	From 2021 LTP, Section 6.0	Revised scoring criteria description to reflect current SAMC deliberations
11.0 Glossary		
12.0 References	Combined the references from 2020 S&AM Plan and 2021 LTP	

13.0 Appendices		
a. 2022 Collaborative Program Work Plan		
b. Scientific code of conduct and principles	Previously approved and adopted by the EC	New appendix
c. Peer review process		This is a placeholder for now until the EC approves the peer review process (scheduled for June EC)
d. SAMIS Reference Guide of Strategies and Independent Science Recommendations	From SAMIS and panel reports	New appendix
e. Climate-related tools and planning initiatives implemented by Collaborative Program signatories and research partners	From the December 2021 Newsletter	New appendix

Link to full Meeting Materials List

Executive Committee Meeting
March 23, 2022

See the following meeting material on the page below:

2022 Reclamation Hydrology Forecast [read-ahead]

COLLABORATIVE PROGRAM EC MEETING (03-23-22)

1. Heron Summary

   Content = 40,907 ac-ft (03/15)
   Azotea tunnel: <10 cfs
   Total SJC inflow year-to-date: 185 a.f.
   Currently releasing 0 cfs
   Current MRGCD storage: 0 ac-ft

2. El Vado Summary

   A. Total storage (all contractors and natural) in El Vado as of 03/15: 8,567 ac-ft.

   B. Native in El Vado
   0 ac-ft.

   C. MRGCD's SJ-C storage in El Vado
   0 ac-ft.

   D. P & P: 6,673 ac-ft

   E. EDWA: 0 ac-ft

   F. All other SJ-C contractors: 1,894 ac-ft

   Current release is 100 cfs RG Inflow is 75-100 cfs

3. Storage in Abiquiu

   Content = 83,304 ac-ft (03/15)
   MRGCD's SJ-C storage= 0 ac-ft

Total water released for minnow to date in 2022: 0 ac-ft

Snowpack Data:

As of 3/16/22 (% of median)
Rio Chama Basin.....108%
Upper Rio Grande Basin.....93%
Rio Grande Headwaters.....98%
Jemez Basin.....90%
San Juan River Basin.....104%

March Streamflow Forecast

Rio Grande @ Del Norte CO	395,000 ac-ft (82%)
El Vado Reservoir Inflow (Mar-Jul)	164,000 ac-ft (88%)
Rio Grande @ Otowi	390,000 ac-ft (69%)
Jemez R. below dam	11,200 ac-ft (51%)
Rio Grande @ San Marcial	158,000 ac-ft (46%)

Link to full Meeting Materials List

Executive Committee Meeting
March 23, 2022

See the following meeting material on the page below:

2022 Reclamation Reservoir Storage Status [read-ahead]

RECLAMATION
Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

Reservoir Storage Status

Drafted 3/16/2022 with 03/15/2022 data.

Heron

Full: Active Conservation	Current Content	MRGCD	ABCWUA	Other SJC Contractors and Reclamation Leased Water	Project Storage
401,000	40,907	0	31,565	8,887	25

El Vado

Full: Restricted Conservation*	Current Content	MRGCD SJC & EDW	Prior and Paramount**	Other SJC Water	Rio Grande & Environmental EDW
184,452	8,567	0	6,673	1,894	0

Abiquiu

Full: Active Conservation	Current Content	MRGCD SJC	ABCWUA	Other SJC Water	USBR
186,820	83,304	0	75,929	6,112	0

Cochiti

Current Content
42,230

Elephant Butte and Caballo

Full Active Conservation***	Combined Current Content	SJC Content
2,185,364	245,253	838

* Current restriction capacity is 114,202 af.

** Storage volume TBD in May of given year.

*** Varies by time of year. Reported number is for April 1 - September 30.

All values less than 17% of Active Conservation are displayed with same bucket size.

Total reservoir content may include incidental storage of water in transit.