MIDDLE RIO GRANDE ENDANGERED SPECIES COLLABORATIVE PROGRAM

June 2020 Newsletter

FEATURED IN THIS ISSUE:

Letter From the Program Manager

Dear Collaborative Program signatories, partners, and friends,

2020 has not been what any of us expected, and with every new turn, we have been forced to be flexible, innovative, and creative as we find new ways to operate. Coincidentally, these are the exact traits the Program needs as it establishes itself as a science-based program that informs adaptive management (AM). While this year has been and will continue to be challenging, it also offers an opportunity for us all to become more reflective and forward-thinking.

For the Program Support Team (PST), an unofficial theme of the year has been communication: how to facilitate better communication within the Program, whether amongst signatories or between scientists and technical experts, and how to translate complex technical information into a coherent and comprehensible message for the larger community. These avenues of communication are all vital to the Program's role in AM of the Middle Rio Grande (MRG).

Another unofficial theme for the Program has been planning for the future. The Program is in the last stretch of developing and transitioning to a self-sustaining AM framework that endures for a long time to come. To support this AM effort, the PST is developing a tool for the Program to track potential scientific questions, management options, and links between the two. Additionally, the Program is populating a project bank, which serves as an incubator for project ideas and accounts for the necessary hydrologic, biologic, and management conditions that are needed to implement each project. This will allow the Program to provide recommendations that meet the specific needs of a given time.

This Program is full of dedicated and passionate individuals doing great work. Our goal for the rest of 2020 is to build on that work by connecting the right pieces, improving communication, and out-planning for the future. These steps will poise the Collaborative Program to become a key part of AM in the MRG today and tomorrow.

Best wishes,
Debbie Lee
Program Manager

Hydrology Update

May 2020 Jiggle: Love in the Time of Corona

Update provided by Catherine Murphy, PST

This spring, Rio Grande silvery minnows (RGSM) ignored social-distancing guidelines thanks to the Minnow Action Team (MAT)'s successful late-May jiggle. The following partners participated in coordinating efforts: Middle Rio Grande Conservancy District, U.S. Fish and Wildlife Service, New Mexico Interstate Stream Commission, SWCA Environmental Consultants (SWCA), and the City of Albuquerque BioPark (BioPark), with assistance from the Albuquerque Bernalillo County Water Utility Authority, U.S. Bureau of Reclamation (Reclamation), and U.S. Army Corps of Engineers (USACE).

As a result of careful coordination between the groups, diversions for non-Pueblo irrigation were suspended at the Isleta Diversion Dam at 2 a.m. on Sunday, May 24th and resumed at 3 a.m. on Tuesday, May 26th. The flow modification created a sustained 300-500 cfs pulse of water intended to cue RGSM to spawn in several downstream reaches, where volunteers were positioned with egg-collecting equipment. In addition, the San Acacia Dam was kept open until 4 a.m. on Wednesday, May 27th to allow the majority of the pulse to continue down into the San Acacia Reach.

Beginning on May 25th, more than 113,000 RGSM eggs were collected from Los Chavez to San Marcial, with greater

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View of the jiggle from the Isleta Diversion Dam on the evening of Sunday, May 24th.
Credit: Catherine Murphy, PST

Pauletta Dodge (SWCA) and Anne Marken (MRGCD) clean an egg collector while trying not to spread COVID-19.
Credit: Catherine Murphy, PST

Hydrology Update (continued)

RGSM eggs on a collector screen.
Credit: Pauletta Dodge, SWCA

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than 80% collected at Highway 346 near Jarales, New Mexico. According to Kathy Lang with the BioPark, when large numbers of eggs are collected during a jiggle, some are transported to the Southwestern Native Aquatic Resources & Recovery Center (ARRC) in Dexter, NM and the remainder are usually taken to the BioPark. The fish hatched from these eggs are reared and kept for use as broodstock or they are tagged and released later the same year. During this year's event, the Southwestern Native ARRC received approximately 66,000 eggs, 50,000 to 70,000 eggs were transported to the BioPark, and additional collections were made by SWCA for the Los Lunas Silvery Minnow Refugium.

Flow alterations conducted in past years included a short-term jiggle in mid-May of 2013, a longer-term "recruitment flow" modification in mid-May of 2014, and four separate jiggles throughout the Angostura and Isleta Reaches in early to late May 2018. Summary data from these events indicate that jiggles in the Isleta Reach are most successful when they are conducted later in May and for longer than 24 hours. Additionally, keeping gates open at the San Acacia Dam may generate a secondary spawning event downstream. Together, the multi-agency coordination accomplished for the event, the dedication of the volunteers and staff, and the sharing of results and lessons learned exemplify the value and impact of adaptive management in the MRG.

Congratulations to the MAT on a successful 2020 jiggle!

RGSM egg attached to detritus.
Credit: Pauletta Dodge, SWCA

Program Spotlight

Michael Porter

U.S. ARMY CORPS OF ENGINEERS

Michael 'Mick' Porter is a fisheries biologist who has worked in the MRG for 19 years. He currently works for the Albuquerque District in the Environmental Resources section. Previously, he spent seven years at Reclamation. Porter has bachelor's and master's degrees from Eastern New Mexico University and earned his doctorate in fisheries biology from the University of Oklahoma. His teaching experience includes courses at several universities and the Gulf Coast Research Laboratory. He has volunteered for science trips in the Grand Canyon and Gulf of Mexico.

As a certified fisheries biologist for the Albuquerque District, Porter is responsible for protecting the endangered RGSM. He works to understand the habitat, behavior, diet, and reproductive cycle of the RGSM. Helping to better understand the RGSM through his broad, in-depth knowledge of fish biology and ecology is Porter's greatest contribution to the Albuquerque District. His expertise is further utilized by the USACE Environmental Research and Review Group.

Porter became a fisheries biologist because he enjoys collaborative problem-solving of challenging puzzles. Understanding fish ecology requires him to connect seemingly unrelated observations to form hypotheses, then create the techniques necessary to gather data that answer big questions. He enjoys using what he learns from engineers and scientists to discover how RGSM life history contributed to its persistence.

Porter views adaptive management as the framework for success in the MRG. His approach to adaptive management is grounded in his experience racing sailboats. While at the helm of a sailboat, he saw firsthand that success depended on constant observation of changing conditions, learning, and adjustment — all key steps in the adaptive management cycle.

Porter believes the convergence of population biology and environmental flow offers opportunities to learn more about RGSM persistence in the MRG. Looking forward, he predicts that understanding advances in population dynamics and fluvial geomorphology will shift management of the species away from construction of small patches of nursery habitat and towards a more resilient ecosystem approach.

2020 Graduates Spotlight

The Kids Are Alright

BOSQUE SCHOOL GRADUATES IN ACTION

We are proud to spotlight two of the highest-achieving graduates of Bosque School: Alyssa Nelson and Isabel Dalton. These young women were co-recipients of the Aldo Leopold Legacy Award thanks to their tireless work on wildlife projects. The distinction is granted to those who engage in building a land ethic for a healthier environmental and human community, and these students have more than earned the award.

Clockwise starting top left: Isabel pipetting in the lab; Mexican gray wolf; Northern leopard frog; Alyssa holding a small snake
Credits: Student photos by Katie Elder; animal photos by Dan Shaw, Bosque Ecosystem Monitoring Program

Both students have done extensive work on multiple wildlife projects in the MRG and developed unique focuses. Alyssa's work focused on mapping the spread of chrytid fungus in efforts to protect species of amphibians across New Mexico. Isabel researched the effect of pack size on captive Mexican gray wolves' stress using fecal glucocorticoids. This past February, Alyssa and Isabel traveled to Arizona to present their work at the 53rd Joint Annual Meeting of the Arizona and New Mexico Chapters of the American Fisheries Society and The Wildlife Society.

In addition to their individual projects, these talented scientists enjoyed plenty of other wildlife adventures through their work on turtles, RGSM, and porcupine projects. In fact, both students were said to have earned "over a million" extra credit points by volunteering for any wildlife projects that needed help.

After graduation, both students plan to continue their educations. While Isabel will study the Kentucky cave shrimp of the Flint-Mammoth cave system at Berea College, Alyssa will attend the University of San Francisco as a political science major focusing on environmental justice and policy. Before heading off to college, both young women will spend their summer hiking, backpacking, and camping in New Mexico. Undoubtedly, their many experiences as wildlife adventurers and scientists will help shape their future journeys.

Program Updates

FAREWELL BRENT ESPLIN, WELCOME WAYNE PULLAN

Brent Esplin served as the Program's Federal Co-chair since 2014. His tenure as co-chair ended in 2020 and he recently made way for Wayne Pullan (pictured to the right) to join the Program as the new Federal Co-chair.

Wayne is the Deputy Regional Director of Reclamation's Upper Colorado Basin Region. He oversees a variety of water and hydropower programs in Arizona, Colorado, New Mexico, Texas, Utah, and Wyoming. He stepped into his new Program role in April 2020.

PLEASE JOIN US IN WELCOMING WAYNE PULLAN TO THE MRGESCP!

Science & Adaptive Management Plan Timeline

Periodic items to the Adaptive Management Work Group (AMWG)	JUNE 1—AUGUST 5
AMWG review period	AUGUST 20—SEPTEMBER 17
PST & AMWG individual review meetings	AUGUST 28—SEPTEMBER 17
PST revision period	SEPTEMBER 17—29
Full revised draft to AMWG as read-ahead	SEPTEMBER 30
AMWG meeting	WEEK OF OCTOBER 5
PST revision & technical editing period	OCTOBER 8—16
Executive Committee (EC) review period	OCTOBER 19—DECEMBER 2
PST & EC members individual review meetings	OCTOBER 26—NOVEMBER 18
PST revision period	NOVEMBER 18—DECEMBER 4
Final draft to EC as read-ahead	WEEK OF DECEMBER 7
EC meeting & final draft approval	WEEK OF DECEMBER 14

Recent Publications

The following are recent publications provided by MRGESCP participants:

Dudley RK, Platania SP, White GC. 2020. ***Rio Grande Silvery Minnow Population Monitoring During 2019***. Final Report submitted to the U.S. Bureau of Reclamation.

Dudley RK, Platania SP, White GC. 2020. ***Rio Grande Silvery Minnow Population Monitoring During April 2020***. Submitted to the U.S. Bureau of Reclamation.

Hatch MD, Abadi F, Boeing WJ, Lois S, Porter MD, Cowley DE. 2020. ***Sustainability management of short-lived freshwater fish in human-altered ecosystems should focus on adult survival***. PLoS ONE 15(5): e0232872. https://doi.org/10.1371/journal.pone.0232872

Regier PJ, González-Pinzón R, Van Horn DJ, Reale JK, Nichols J, Khandewal A. 2020. ***Water quality impacts of urban and non-urban arid-land runoff on the Rio Grande***. Science of the Total Environment 729. https://doi.org/10.1016/j.scitotenv.2020.138443

Unfunded FY21 Activities

The following activities were funded by USACE through fiscal year 2020 (FY20). In FY21, these activities will be defunded due to budget cuts. Please review this list and contact Lynette Giesen at lynette.m.giesen@usace.army.mil with any questions and funding opportunities.

- ◊ Avian Monitoring in the MRG
- ◊ Bosque Ecological Monitoring Program
- ◊ Changes in Terrestrial Soil Loss in the MRG Basin to 2100
- ◊ Development and Application of a HEC-RAS, Mobile-bed, Sediment Transport Model of the MRG
- ◊ Evaluating the Grain Size of Bedload Transported from Arroyos into the Rio Grande
- ◊ Evaluation of Sediment Dynamics in Habitat Restoration Features of the Albuquerque Reach
- ◊ Habitat Restoration Site Surveying
- ◊ Monitoring Climate Change in the MRG
- ◊ MRG Groundwater Monitoring
- ◊ MRGESCP Portal and Database
- ◊ Multi-agency Assessment and Quantification of Sediment and Discharge at Arroyo de los Piños
- ◊ Multi-agency Continuous Water Temperature Monitoring of the MRG Basin
- ◊ Multi-agency Engineering Modeling Applications for Quantifying Habitat for the RGSM
- ◊ Multi-agency Environmental Flow Analysis of Hydrograph and Population Parameters for RGSM Recruitment
- ◊ Multi-agency Los Lunas Habitat Restoration Project
- ◊ Multi-agency Study for Identifying Restoration Priorities for Threatened Tamarisk-Dominated Habitat to Benefit Future Habitat for SWFL
- ◊ SWFL Surveys on the Rio Grande in the Albuquerque Metro Area
- ◊ Tamarisk Leaf Beetle Monitoring
- ◊ Water Quality Monitoring of Aquatic Refugia in the MRG
- ◊ YBCU Noise and Telemetry Study

Funding Opportunities

Endangered Species Act Collaborative Projects

New Mexico Water Trust Board/New Mexico Finance Authority

Application Cycle: early August 2020—mid-December 2020

The 2001 Legislature enacted the Water Project Finance Act, which created the Water Project Fund. Under the Act, there are five project types eligible for consideration of financial assistance, of which, Endangered Species Act (ESA) Collaborative Projects are considered. The Water Trust Board supports implementation of river riparian and watershed restoration projects that aid in the recovery of listed species, satisfy water demands for the species, or reduce the likelihood of additional listings.

Qualified entities seeking funding for water projects from the Water Trust Board must submit an application each year. Qualified entities include state departments and municipal entities. For more information, visit the New Mexico Finance Authority website: https://www.nmfa.net/financing/water-programs/water-project-fund/

2020 National Fish Passage Program

Department of Interior, U.S. Fish and Wildlife Service

Application Due: September 30, 2020

The National Fish Passage Program is a voluntary program that provides direct technical and financial assistance to partners. Activities that restore fish passage also support the modernization of the country's infrastructure such as road culverts, bridges and water diversions. Example project types include dam removals, culvert replacements, and the installation of fishways. For more information, visit the grants.gov website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=321478

State Wildlife Grant Program

Department of Interior, U.S. Fish and Wildlife Service

Application Due: August 31, 2020

The State Wildlife Grant Program provides states, the District of Columbia, commonwealths and territories federal grant funds for the development and implementation of programs for the benefit of wildlife and their habitats, including species that are not hunted or fished. Eligible activities include both conservation planning and implementation activities. For more information, visit the grants.gov website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=314325

2020 National Fish Habitat Action Plan

Department of Interior, U.S. Fish and Wildlife Service

Application Due: September 30, 2020

The Fish and Wildlife Management Assistance Program provides technical and financial assistance to other federal agencies, states, local governments, Native American tribes, non-governmental organizations, citizen groups, and landowners for the conservation and management of fish and wildlife resources. This includes minimizing the establishment, spread, and impact of aquatic invasive species. Specifically, aquatic habitat conservation projects under this program must protect, restore, and enhance fish and aquatic habitats, as outlined in the National Fish Habitat Action Plan. Likewise, projects under this program, directly or indirectly, support and promote public access to recreational fishing opportunities and the sustainable use of other natural resources. For more information, visit the grants.gov website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=321454

Upcoming Dates & Deadlines

Upcoming Meetings

Genetics Ad Hoc Group Meeting
June 25, 2020
9:00 AM—11:00 AM

Executive Committee Meeting
June 29, 2020
1:30 PM—4:30 PM

Minnow Action Team Meeting
July 23, 2020
9:00 AM—11:00 AM

Middle Rio Grande Deadlines

New Mexico Water Trust Board 2021 application cycle begins
August 2020

State Wildlife Grant Program applications due
August 31, 2020

2020 National Fish Passage Program applications due
September 30, 2020

2020 National Fish Habitat Action Plan applications due
September 30, 2020

CALL FOR ABSTRACTS

A River Runs Through It: People, Wildlife, and Habitat

RiversEdge West is calling for abstracts for its 19th Annual Research and Management Conference in Grand Junction on February 16—19, 2021 at Colorado Mesa University. You are invited to explore the ways in which river restoration impacts people, wildlife, and habitat for native species.

Abstracts for oral presentations and symposia are due October 16, 2020. Abstracts for poster presentations are due January 15, 2021. Email your abstract(s) in a Word document to Cara Kukuraitis at ckukuraitis@riversedgewest.org. For more information, follow the link: https://riversedgewest.org/events/2021-conference.

Photo: Scenic view of the MRG; Photo Credit: Mike Marcus, Assessment Payers Association of the Middle Rio Grande Conservancy District