

Executive Committee Meeting

March 27, 2019

Meeting Materials:

Meeting Agenda

Meeting Minutes

2018 Minnow Action Team Report Overview [presentation]

Middle Rio Grande Endangered Species Collaborative Program 2019 Work Plan [draft, spreadsheet]

Biological Opinion for the San Juan-Chama Drinking Water Project [presentation]

Middle Rio Grande Endangered Species Collaborative Program By-Laws: Membership and Fiscal Planning Committee Draft Language for Executive Committee Review [draft]

Middle Rio Grande Endangered Species Collaborative Program Fiscal Year 2018 Cost Share Report

Draft Middle Rio Grande Endangered Species Collaborative Program Mission and Core Values [draft]

Middle Rio Grande Endangered Species Collaborative Program Newsletter March 2019 [not included]

Organization of the Middle Rio Grande Endangered Species Collaborative Program Adaptive Management Implementation Strategy Report [revised]

Draft Middle Rio Grande Endangered Species Collaborative Program Population Monitoring Work Group 2019 Work Plan [draft]

Project Descriptions to Be Developed Into Full Scopes of Work [not included]

Middle Rio Grande Endangered Species Collaborative Program 2019 Science Symposium Update

Science and Habitat Restoration Work Group 2019 Work Plan



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

EXECUTIVE COMMITTEE MEETING
March 27, 2019 9:00 AM – 12:45 PM

Location: USGS New Mexico Water Science Center
6700 Edith Blvd NE, Albuquerque, NM 87113

Call-in Information:
Call-in Number: 888-935-0266 Passcode: 37748

MEETING AGENDA

- | | | |
|-------------|--|-------------------|
| 8:45 – 9:00 | Arrival | |
| 9:00 – 9:10 | Welcome and Introductions <ul style="list-style-type: none">• Ground rules• Agenda review➤ Decision: Approval of meeting agenda | <i>Co-Chairs</i> |
| 9:10 – 9:20 | Past Meeting Minutes <ul style="list-style-type: none">• Action items from the November 2018 meeting <p>Read-ahead:</p> <ul style="list-style-type: none"><input type="checkbox"/> November 2018 Meeting Minutes➤ Decision: Approval of November 2018 Meeting Minutes | <i>Co-Chairs</i> |
| 9:20 – 9:40 | Program Core Values <ul style="list-style-type: none">• Review draft core values language from the November 2018 meeting discussion• Review of draft document <p>Read ahead:</p> <ul style="list-style-type: none"><input type="checkbox"/> Draft Program Core Values➤ Decision: Approval of Program Core Values | <i>Debbie Lee</i> |
| 9:40 – 9:55 | Program Manager Update <ul style="list-style-type: none">• Annual Work Plan update• Newsletter updates• Cost-Share update• Science Symposium update• WEST staffing <p>Read-aheads:</p> <ul style="list-style-type: none"><input type="checkbox"/> Newsletter | <i>Debbie Lee</i> |

- ☐ FY18 Cost Share Summary
- ☐ Science Symposium Update

Work Group Updates

9:55 – 10:05	<ul style="list-style-type: none"> • Science/Habitat Restoration (ScW/HR) <ul style="list-style-type: none"> ○ 2019 Work Plan 	<i>Ashley Tanner</i>
10:05 – 10:15	<ul style="list-style-type: none"> • Population Monitoring (PMWG) <ul style="list-style-type: none"> ○ PMWG 2019 Work Plan ○ Update on 2018 activities 	<i>Grace Haggerty</i>
10:15 – 10:30	<ul style="list-style-type: none"> • Adaptive Management Work Group (AMWG) <ul style="list-style-type: none"> ○ Update on 2018 activities ○ Future direction 	<i>Dave Wegner</i>

Read-aheads:

- ☐ ScW/HR 2019 Work Plan
- ☐ PMWG 2019 Work Plan
- **Decision:** Approval of ScW/HR 2019 Work Plan
- **Decision:** Approval of PMWG 2019 Work Plan

10:30 – 10:40	Scope of Work (SOW) Descriptions <ul style="list-style-type: none"> • Evaluate and Quantify in Channel Habitat Diversity and Utilization for All Life Stages of RGSM (Project #20) • Habitat Restoration Revegetation Techniques (Project #41) • Restoration Prioritization Strategy for the Southwestern Willow Fly Catcher 1: Strategy Development (Project #77) • RGSM Modeling Support and Supplementation (Project #87) 	<i>Ashley Tanner</i>
---------------	---	----------------------

Read-ahead:

- ☐ Project descriptions
- **Decision:** Approval of project descriptions to be developed into full SOWs by the ScW/HR

10:40 – 10:55	Minnow Action Team Update	<i>Anne Marken Grace Haggerty</i>
---------------	----------------------------------	---------------------------------------

10:55 – 11:10	Break
---------------	--------------

11:10 – 11:25	By-laws Update <ul style="list-style-type: none"> • Membership language • Fiscal Planning Committee (FPC) language 	<i>Debbie Lee</i>
---------------	---	-------------------

Read-ahead:

- ☐ Draft Membership and FPC language
- **Decision:** Approval of draft by-laws language regarding Membership
- **Decision:** Approval of draft by-laws language regarding the FPC

11:25 – 11:55	Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Biological Opinion Presentation	<i>John Stomp</i>
---------------	---	-------------------

- Q&A and Discussion

11:55 – 12:15 **Audubon New Mexico Membership Application**

*Paul Tashjian
Jonathan Hayes*

- Presentation from Audubon New Mexico

12:15 – 12:25 **Announcements**

- March 29, 2019 – The City of Albuquerque Open Space Division will host a Discovery Hike at Candelaria Nature Preserve for the MRGESCP from 9:00-11:00am
- April 22, 2019 – Presentation on the Integrated Watershed Water Quality Modeling with USACE Software will be held from 1:30-3:30 at the USGS Water Science Center
- Others?

12:25 – 12:35 **Public Comment**

12:35 – 12:45 **Action Items and Next Steps**

Co-Chairs

- Action Item Review
- Next planned EC meeting: May 22, 2019

12:45 **Public Meeting Adjourn**

NOTE: A closed-door executive session of only Executive Committee signatory representatives to discuss Audubon New Mexico's membership application will follow the public meeting. All non-EC members shall exit the meeting room at the close of the public meeting.

**Executive Committee (EC)
Meeting Minutes**

March 27, 2019; 9:00 AM – 12:45 PM

Location: U.S. Geological Survey (USGS) New Mexico Water Science Center

Decisions:

- Approval of March 27, 2019 meeting agenda
- Approval of November 2018 meeting minutes with revisions
- Approval of the Science and Habitat Restoration Work Group (ScW/HR) 2019 Work Plan
- Approval of the Population Monitoring Work Group (PMWG) 2019 Work Plan
- Approval of the following project descriptions to be developed into full scopes of work (SOWs) by the ScW/HR:
 - Project 20: Evaluate and Quantify In-Channel Habitat Diversity and Utilization for All Life Stages of Rio Grande Silvery Minnow (RGSM)
 - Project 41: Habitat Restoration Revegetation Techniques
 - Project 77: Restoration Prioritization Strategy for the Southwestern Willow Flycatcher (SWFL) 1: Strategy Development
- Approval of Project #87 (RGSM Modeling Support and Supplementation) to go to the PMWG for SOW development
- Request that the U.S. Army Corps of Engineers (USACE) undertake the Inundation Mapping project in coordination with the New Mexico Interstate Stream Commission (NMISC) and the Middle Rio Grande Conservancy District (MRGCD)
- Approval to include the Inundation Mapping project in the Interim Long-Term Plan (I-LTP)
- Approval of the By-laws language for the Membership section
- Approval of the By-laws description for the Fiscal Planning Committee (FPC)

Action Items:

WHO	ACTION ITEM	BY WHEN
Western EcoSystems Technology, Inc. (WEST)	Distribute follow-up meeting materials and presentations	ASAP
WEST & Jim Wilber	Revise the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP or Program) Core Values based on conversation for next meeting	May 15
By-laws group & Kate Mendoza	Work on MRGESCP Mission for EC review	May 15
AMWG & Dave Wegner	Complete Adaptive Management (AM) draft document and distribute to the EC two weeks prior to the next EC meeting	May 8 or May 22 (for backup date)

By-laws group	Work on the details of the FPC for EC review	May 15
---------------	--	--------

Next Meeting: May 22, 2019 (backup date: June 5, 2019); location TBD

Meeting Summary

Welcome and Introductions

Ground rules

Agenda Review

Janet Jarratt, EC Co-Chair Assessment Payers Association of the MRGCD (APA), called the meeting to order, covered the ground rules, and initiated introductions. The agenda was briefly reviewed and approved with no changes.

- **Decision:** Approval of March 27, 2019 meeting agenda

Past Meeting Minutes

Action items from the November 2018 meeting

November 2018 meeting minutes and related action items were reviewed with comments by the EC members and signatory staff, and some edits were requested.

- **Decision:** Approval of November 2018 meeting minutes with revisions

Program Core Values

Review draft core values language from the November 2018 meeting discussion

Review of draft document

Debbie Lee, WEST, reviewed the draft Mission and Core Values read-ahead, which includes the Program's current mission statement, as well as core values language pulled together from prior EC discussions. Several suggestions were made requesting content and wording edits of the four core values bullets. The By-laws ad hoc group and Kate Mendoza, Albuquerque Bernalillo County Water Utility Authority (ABCWUA), were charged with re-examining the MRGESCP's mission.

- **Action item:** The By-laws group and Kate M. will work on the MRGESCP mission for EC review
- **Action item:** WEST will work with Jim Wilber, U.S. Bureau of Reclamation (Reclamation) to revise the core values based on conversation for the next EC meeting

Program Manager Update

2019 Work Plan update

Newsletter updates

FY18 Cost Share update

Science Symposium update

WEST Staffing

- Debbie L. presented the 2019 MRGESCP Work Plan and will send the updated version to the EC after the meeting.
- Julie Dickey, WEST, stated that a draft of the FY18 Annual Report would be sent to the Program for review in April 2019, and indicated that some signatories have not yet provided write-ups.

- No new information regarding species updates has become available, and the species information provided is the same as the January 2019 Newsletter.
 - The non-federal cost share was met at approximately 77% in FY18, which was above the 25% requirement.
 - The MRGESCP Science Symposium will be held over two days in the first week of December 2019. There will be an abstract submission process for the 15-minute talks, and a plenary session and poster session are also anticipated.
 - WEST's new assistant, Janet Armstead, started in January. Janet will be taking notes for Program meetings and working with other ongoing projects as needed.
- **Action Item:** WEST will send the 2019 Work Plan as a follow up to the EC

Work Group Updates

Science/Habitat Restoration Work Group

2019 ScW/HR Work Plan

Ashley Tanner, WEST, reviewed the tasks in the 2019 ScW/HR Work Plan. In addition to developing SOW's this year, the ScW/HR will continue to participate in Program Portal development and help with planning the Science Symposium as needed. The 2019 ScW/HR Work Plan timeline and member roster were briefly discussed.

- **Decision:** Approval of the 2019 ScW/HR Work Plan

Population Monitoring Work Group

2019 PMWG Work Plan

Update on 2018 activities

Grace Haggerty, NMISC, reviewed the tasks planned for 2019, including the review and integration of RGSM population monitoring data as it arrives from the contractor and is then stored in the database. The PMWG will also provide ongoing modeling support via analysis of RGSM population monitoring data. The PMWG is working with WEST to make data available to all MRGESCP work groups.

- **Decision:** Approval of the PMWG 2019 Work Plan

Adaptive Management Work Group

Update on 2018 activities

Future direction

Dave Wegner, WEST, discussed the outline of the Implementation Strategy Report read-ahead from the AMWG, and elaborated on the sections in the report. A draft of the administrative framework will be provided prior to the next EC meeting. There was discussion on whether May 22nd was too soon to meet expectations on report development, and June 5th was agreed upon as a backup date for the next EC meeting. EC guidance will be crucial to moving forward with implementation.

There was a brief conversation on how AM will address recovery of the listed species. A representative from the U.S. Fish and Wildlife Service (USFWS) informed the group that there are

recovery plans for each listed species, and the recovery plans go under review in five year cycles to reevaluate the status of the species, new information, and the recovery goals. It was suggested that the EC discuss the feasibility of recovery of Rio Grande silvery minnow at a future meeting.

- **Action item:** The AMWG and Dave W. will complete the AM draft document and WEST will distribute it to the EC two weeks prior to the next EC meeting

Scope of Work Descriptions

Project #20: Evaluate and Quantify in Channel Habitat Diversity and Utilization for All Life Stages of RGSM

Project #41: Habitat Restoration Revegetation Techniques

Project #77: Restoration Prioritization Strategy for the SWFL 1: Strategy Development

Project #87: RGSM Modeling Support and Supplementation

Ashley T. reviewed a read-ahead with descriptions of proposed projects that the ScW/HR agreed upon to move forward for full SOW development. Upon EC approval, small ad hoc groups will meet to develop Projects #20, 41, and 77 into full SOWs. The EC decided that the SOW for Project #87 will be further developed by PMWG.

Lynette Giesen, USACE, explained that USACE would like to undertake an Inundation Mapping project, in coordination with NMISC and MRGCD. The EC requested that USACE undertake the Inundation Mapping project as it provides planning or administrative assistance to the Program, and directed that the project be added to the I-LTP.

- **Decision:** Approval of the following project descriptions to be developed into full SOWs by the ScW/HR:
 - Evaluate and Quantify In-Channel Habitat Diversity and Utilization for All Life Stages of RGSM (Project #20)
 - Habitat Restoration Revegetation Techniques (Project #41)
 - Restoration Prioritization Strategy for the SWFL 1: Strategy Development (Project #77)
- **Decision:** Approval of Project #87: RGSM Modeling Support and Supplementation, to go to the PMWG for SOW development
- **Decision:** The EC requested that USACE, in coordination with NMISC and MRGCD, undertake the Inundation Mapping project as it provides planning or administrative assistance to the Program
- **Decision:** The EC approved the inclusion of the Inundation Mapping project in the I-LTP

Minnow Action Team (MAT) Update

Anne Marken, MRGCD, presented a summary update regarding the 2018 MAT recommendations and agency actions. Recommendations were divided between hydrology and biology with subdivisions for spring and summer. Grace H. commented that 2018 was the third driest year on record and many people had worked in coordination with the USFWS to accomplish monitoring.

Ryan Gronewold, USACE, provided hydrology updates for 2019. The March 1st volume forecast predicts over 100% of the 30-year average. There will be an 1800 cubic feet per second (cfs)

release for over a month at Abiquiu Dam. On the mainstem, there will be more than 4000 cfs approaching six weeks (in 2017, there was 4000 cfs for four weeks). Coordination with MRGCD and Reclamation will be important to planning water release. Reclamation has requested deviation to allow for El Vado modification. Also, Reclamation will be conducting flights and monitoring river status to detect the likelihood of flooding. More conclusive information will be available at the end of June or in early July 2019.

By-laws Update

Membership language

Fiscal Planning Committee language

Debbie L. provided a read-ahead with new language for the Membership and FPC sections of the by-laws (Articles 3.0 and 5.0, respectively). The by-laws language for the Membership section was approved with a minor correction in the first paragraph. The content of the FPC description was approved. The EC requested that the By-laws ad hoc group further develop the operation and details of the FPC.

- **Decision:** Approval of the By-laws language for the Membership section
- **Decision:** Approval of the By-laws description for the FPC

- **Action item:** The By-laws ad hoc group will work on details on the FPC for EC review

Albuquerque Bernalillo County Water Utility Authority

Biological Opinion Presentation

Q&A and Discussion

John Stomp, ABCWUA, made a presentation on the ABCWUA's biological opinion. Conservation measures are still underway from the five-year extension from 2014 (including funding for the City of Albuquerque BioPark). The aquifer has been rising and ABCWUA will continue to manage pumping effects. In the discussion that followed, John S. stated that habitat restoration requirements were complete. Outreach includes mandatory measures and rebates including a 30-year education project for fourth graders, enforcement of a grass policy (grass can be planted in up to 20% of a landscape), and planting of trees.

Audubon New Mexico Membership Application

Presentation from Audubon New Mexico

Paul Tashjian, Audubon New Mexico, presented regarding Audubon's request for signatory membership to the MRGESCP. Audubon's objective is conserving the Rio Grande for bird habitat, including wetland restoration for the Southwestern Willow Flycatcher (SWFL) and Yellow-billed Cuckoo. The Santa Fe office is involved in education and outreach. Audubon New Mexico would serve as a representative for non-governmental organizations and participate in adaptive management, science work, communication, and helping find solutions to issues.

A discussion followed the presentation. Someone questioned if Audubon had staff available for work group meetings; Paul T. responded that they will be adding staff within six months that will

include a person dedicated to the SWFL and working on Farm Bill projects in the Rio Grande. Several questions related to Audubon's capacity to provide or assist in finding funding for Program-related activities.

Announcements

March 29, 2019 – The City of Albuquerque Open Space Division will host a Discovery Hike at Candelaria Nature Preserve for the MRGESCP from 9:00-11:00am

April 22, 2019 – Presentation on the Integrated Watershed Water Quality Modeling with USACE Software will be held from 1:30-3:30 at the USGS Water Science Center

Others?

Debbie L. will be out-of-office during April; emails should be sent to Julie Dickey instead.

Public Comment

No public comments were provided.

Action Items and Next Steps

Action Item Review

Next planned EC meeting: May 22, 2019 (backup date: June 5, 2019); location TBD

- **Action item:** WEST will distribute follow-up meeting materials and presentations.

Adjourn

Meeting Participants

Participant	Organization
Janet Armstead	Western EcoSystems Technology, Inc.
Kim Bannerman	Department of the Interior - Office of the Solicitor
Dave Campbell	U.S. Fish & Wildlife Service
Rick Carpenter	Buckman Direct Diversion
Julie Dickey	Western EcoSystems Technology, Inc.
Kim Eichhorst	Bosque Ecosystem Monitoring Program
Brent Esplin	U.S. Bureau of Reclamation
Danielle Galloway	U.S. Army Corps of Engineers
Lynette Giesen	U.S. Army Corps of Engineers
Bill Grantham	Assistant New Mexico Attorney General's Office
Ryan Gronewold	U.S. Army Corps of Engineers
Grace Haggerty	New Mexico Interstate Stream Commission
Kyle Harwood	Buckman Direct Diversion
Alan Hatch	Pueblo of Santa Ana
Brian Hobbs	U.S. Bureau of Reclamation
Janet Jarratt	Assessment Payers Association of the Middle Rio Grande Conservancy District
Debbie Lee	Western EcoSystems Technology, Inc.
George MacDonell	U.S. Army Corps of Engineers
Adele Cardenas Malott	U.S. Environmental Protection Agency
Mike Marcus	Assessment Payers Association of the Middle Rio Grande Conservancy District
Anne Marken	Middle Rio Grande Conservancy District
Kate Mendoza	Albuquerque Bernalillo County Water Utility Authority

Megan Osborne	University of New Mexico
Page Pegram	New Mexico Interstate Stream Commission
Matthew Peterson	City of Albuquerque Open Space Division
Beth Pitrolo	U.S. Army Corps of Engineers
Shawn Sartorius	U.S. Fish and Wildlife Service
Trevor Stevens	U.S. Army Corps of Engineers
John Stomp	Albuquerque Bernalillo County Water Utility Authority
Dale Strickland	Western EcoSystems Technology, Inc.
Ashley Tanner	Western EcoSystems Technology, Inc.
Paul Tashjian	Audubon New Mexico
Cody Walker	Pueblo of Isleta
David Wegner	Western EcoSystems Technology, Inc.
Jim Wilber	U.S. Bureau of Reclamation
Leann Woodruff	U.S. Bureau of Reclamation
Matthew Wunder	New Mexico Department of Game & Fish

2018 MINNOW ACTION TEAM (MAT) REPORT OVERVIEW

Anne Marken, MRGCD and Grace Haggerty, NMISC

To the Middle Rio Grande Endangered Species Collaborative
Program Executive Committee

MARCH 27, 2019

2018 MAT SUMMARY

- The MAT held two meetings in 2018 to discuss the hydrologic and biologic conditions for RGSM for 2018.
- Given that the forecast for 2018 was extremely dry, the MAT discussed the limited options available to water managers.
- Focus was primarily on:
 - a ‘survival’ strategy to protect existing RGSM as possible
 - Provide opportunities for egg collection for captive propagation facilities to maintain genetic diversity in the augmentation program.
- From there, recommendations on specific water and species management actions were developed and provided to the EC in February 2018.
- The following presentation summarizes the developed recommendations, related activities and results.

2018 SPRING FLOW AT OTOWI

<https://nwis.waterdata.usgs.gov/nm>

2018 SPRING FLOW AT CENTRAL

<https://nwis.waterdata.usgs.gov/nm>

2018 SPRING FLOW BELOW SAN ACACIA

<https://nwis.waterdata.usgs.gov/nm>

2018 MAT SPRING HYDROLOGY RECOMMENDATION (1)

- Maintain continuous flows in MRG for as long as possible:
 - Channel drying began in the San Acacia Reach on March 29th and on May 31st in the Isleta Reach.
 - Between 4/2 and 9/12, 47.6 unique miles of intermittent main channel drying.
 - 4.2 miles of drying in Isleta.
 - 43.4 miles in San Acacia.

SOURCE: Archdeacon, T., et al., (2019)

2018 MAT SPRING HYDROLOGY RECOMMENDATION (2)

- Create short duration instantaneous increases in flow to trigger spawning:
 - During the 2018 spawning season for Rio Grande silvery minnow (RGSM) cooperating agencies were able to collect a significant number of eggs for the captive propagation facilities. The largest number of eggs were collected when rain occurred in association with a MAT planned event.
 - The MAT coordinated four alterations in river flow (“jiggles”) in 2018 to facilitate spawning of RGSM. These jiggles resulted from suspending river diversion by the ABCWUA and the MRGCD in the Angostura Reach (14 and 28 May) and by the MRGCD in the Isleta Reach (8, 15, 22 and 29 May). These actions alone led to the collection of 1,286 RGSM eggs.
 - There were also two notable rain events (“riggles”) that occurred in May and June of 2018. The rain in May coincided with the third jiggle in the Isleta Reach of the river, and that combination resulted in high flow rates that were sustained over a longer time frame. A total of 96,887 RGSM eggs were collected from this jiggle plus riggle. The rain in June also produced high flows, and a total of 61,385 RGSM eggs were collected following that event.

Source: Kathy Lang, personal communication

2018 MAT SPRING HYDROLOGY RECOMMENDATION (3)

- EC support of El Vado modification request:
 - Due to extremely low natural flows during spring runoff, this was not possible in 2018.
- Store EDWA water as possible:
 - Due to extremely low natural flows in 2018, this did not occur.
- Begin River Eyes in early March:
 - River Eyes monitoring began March 29, 2018 and drying began on April 1st, 2018.

2018 SPRING MAT BIOLOGY RECOMMENDATIONS

- Collect RGSM eggs for captive propagation facilities:
 - Conducted in coordination with MRGCD and ABCWUA “jiggle” operations as discussed in a previous slide.
- Collect RGSM eggs for stocking in reaches with higher likelihood of staying wetted:
 - This did not occur, collected eggs were transported to captive propagation facilities.
- Install temporary habitat improvements to entrain eggs and larval fish:
 - This did not occur.

2018 MAT SUMMER HYDROLOGY RECOMMENDATIONS (1)

- Manage the timing and rate of river recessions to minimize the need for supplemental water:
 - Diversion structures were utilized to manage a controlled river recession starting in early April in the San Acacia Reach and early May in the Isleta Reach. The rate of river drying was designed to prompt RGSM to follow the river recession to wetted areas and prevent them from remaining in isolated pools.
- Provide flows that create refugia in all three reaches:
 - MRGCD conveyed water to areas of the river that are prone to main channel drying in the Isleta Reach, creating refugia for fish.

2018 MAT SUMMER HYDROLOGY RECOMMENDATIONS (2)

- Keep Angostura Reach wet through summer
 - In late summer the MRGCD had exhausted its water supplies. ABCWUA provided Reclamation with San Juan Chama water to maintain flows for RGSM in the Angostura Reach.

2018 MAT SUMMER BIOLOGY RECOMMENDATIONS(1)

- River recessions should be managed to reduce fish mortality:
 - Rates of river recession were set to allow for fish movement upstream, and to allow for salvage activities to occur.
- Keep as many adult and juvenile fish alive through summer as possible:
 - Entities within the MRG worked to maintain flows to keep as many fish alive as possible.

2018 MAT SUMMER BIOLOGY RECOMMENDATION (2)

- Install temporary habitat improvements to increase fish survival through summer:
 - This activity did not occur.

2018 MAT SUMMER BIOLOGY RECOMMENDATIONS (3)

- Conduct Fish Rescue:
 - The FWS conducted fish rescue in the Isleta and San Acacia reaches, with the support of multiple entities within the MRG.
 - 70,797 live RGSM rescued, only 27 were YOY and 342 were hatchery reared fish.
 - Highest number of adult RGSM rescued since standard protocol was implemented, due to strength of 2017 year-class.

Year	Extent of drying	Miles Rescued	Pools Rescued	Total RGSM
2007	30.0	119.2	1,052	15,636
2008	0.0	NA	NA	NA
2009	19.9	65.0	522	27,712
2010	28.2	118.2	1,232	12,349
2011	40.2	163.7	2,054	9,277
2012	51.0	204.0	2,774	5,014
2013	36.5	47.4	1,037	1,492
2014	24.5	62.6	754	614
2015	17.4	23.3	396	1,320
2016	28.6	35.4	549	*29,222
2017	24.2	35.6	225	64,948
2018	40.6	98.2	1,308	93,607

Table 3- Summary of rescue activities in the Middle Rio Grande, New Mexico, during summer drying, 2007-2018. Total RGSM is the number of Rio Grande Silvery Minnow found, regardless of condition. *Reflects an estimated 10,000 YOY < 30 mm SL observed dead in a single pool, high end of estimated range may be over 40,000 total RGSM.

SOURCE: Archdeacon, T., et al.,
(2019)

2018 MAT SUMMER BIOLOGY RECOMMENDATIONS (4)

RGSM per pool per day in 2018.

SOURCE: Archdeacon, T., et al., (2019)

Number of YOY, hatchery marked adult,
and wild adult Rio Grande Silvery
Minnow collected per km during rescue
activities in MRG, 2007-2018

2018 MAT Hydrology and Biology Coordination

- Egg Collection
- Spring studies and monitoring efforts
- Fish rescue
- Summer studies and monitoring efforts
- Data collection

Questions?

Middle Rio Grande Endangered Species Collaborative Program (MRGESCP) 2019 Work Plan

Task	Program Group	Timeline (milestones, deadlines)	Deliverable	Status	Notes	Completed Date
PROGRAM STRATEGIC PLANNING						
Implement the new MRGESCP structure as approved in 2018	EC & PST	Ongoing through 2019; into 2020	Revised and implemented MRGESCP structure	Ongoing	By-laws will continue to address the upper portion of the structure, and the AMWG will address the lower portion of the structure	
Revise by-laws	By-laws & PST	Ongoing through 2019; into 2020	Updated By-Laws	Ongoing	The By-laws group has completed a draft of the Fiscal Planning Committee (FPC) section, and revised the membership section; Report to EC at March 2019 meeting	
Develop and approve operating guidelines and membership roster for FPC	By-laws, EC, PST	Fall 2019	Finalized operational guidelines and membership roster for the FPC	Ongoing	By-laws group developed draft language on FPC for review at March 2019 EC	
Continue discussions related to the MRGESCP's mission, core values, goals, objectives, and limitations	EC & PST	Summer 2019	Decision on the MRGESCP's future operational space	Ongoing	Discussion of the MRGESCP's mission and core values at the March 2019 meeting	
Continue developing an AM framework	AMWG	Spring 2019	AM Program	Ongoing	Draft presented to AMWG January 2019	
Adaptive Management (AM) Plan	AMWG	Ongoing through 2019; into 2020	AM Process and Plan	Pending	Draft AM Framework presented to AMWG January 2019	
Long-Term Plan	EC & PST	Ongoing	Long-Term Plan	Pending		
ANNUAL MRGESCP PLANNING						
Implement the MRGESCP 2019 Work Plan	MRGESCP & PST	Ongoing through 2019	Completed 2019 Annual Work Plan tasks	Ongoing	Present Draft 2019 Work Plan at March 2019 EC	
Develop the MRGESCP 2020 Work Plan	MRGESCP & PST	November - December 2019	Finalized 2020 Annual Work Plan for implementation	Pending		
Implement the Science/Habitat Restoration Work Group (ScW/HR) 2019 Work Plan	ScW/HR & PST	Ongoing through 2019	Completed 2019 Annual Work Plan tasks	Ongoing	Present Draft 2019 Work Plan at March 2019 EC	
Develop the ScW/HR 2020 Work Plan	ScW/HR & PST	November - December 2019	Finalized 2020 Annual Work Plan for implementation	Pending		
Implement the Population Monitoring Work Group (PMWG) 2019 Work Plan	PMWG & PST	Ongoing through 2019	Completed 2019 Annual Work Plan tasks	Ongoing	Present Draft 2019 Work Plan at March 2019 EC	
Develop the PMWG 2020 Work Plan	PMWG & PST	November - December 2019	Finalized 2020 Annual Work Plan for implementation	Pending		

ADMINISTRATION AND REPORTING						
<i>Annual Report</i>						
Prepare first draft FY18 Annual Report for Program review	MRGESCP & PST	April 2019	Draft FY18 Annual Report for review	Ongoing	Signatories send FY18 write-ups to WEST	
Finalize and approve FY18 Annual Report	EC & PST	July 2019	Finalized FY18 Annual Report	Pending		
Prepare first draft FY19 Annual Report	MRGESCP & PST	October 2019	Signatory coordination	Pending	Signatories send FY19 write-ups to WEST	
<i>Cost-Share</i>						
Report FY18 Non-Federal Signatory Cost-Share	Non-feds & PST	January 2019	Non-federal signatory coordination	Ongoing	Report to EC at March 2019 meeting	
Report FY19 Non-Federal Signatory Cost-Share	Non-feds & PST	September - November 2019	Non-federal signatory coordination	Pending	Report to WEST by November 2019	
<i>Program Portal (Formerly DBMS)</i>						
Continue development of the new Program Portal	MRGESCP & PST	Through 2019	Operational Program Portal for MRGESCP use	Ongoing	A beta site was released in 2018, and the MRGESCP will continue to engage in developing the Portal elements	
ENGAGEMENT AND OUTREACH						
<i>Science Symposium</i>						
Organize and hold a 2019 Science Symposium	PST & Small Planning Group	December 2019	Science Symposium	Ongoing	Present update to EC at March 2019 meeting	

John M. Stomp III, P.E.
Chief Operating Officer
March 27, 2019

Biological Opinion for the San Juan-Chama Drinking Water Project

Overview

- 2002 – City of Albuquerque submitted Biological Assessment (BA) and Draft Environmental Impact Statement (DEIS) for the San Juan-Chama Drinking Water Project (SJCDWP)
- 2004 – Final Biological Opinion issued for the SJCDWP
- 2008 – SJCDWP construction completed; San Juan-Chama water added to drinking water supply
- Reclamation as lead federal agency
- Non-jeopardy determination



Albuquerque Bernalillo County
Water Utility Authority

Proposed Actions

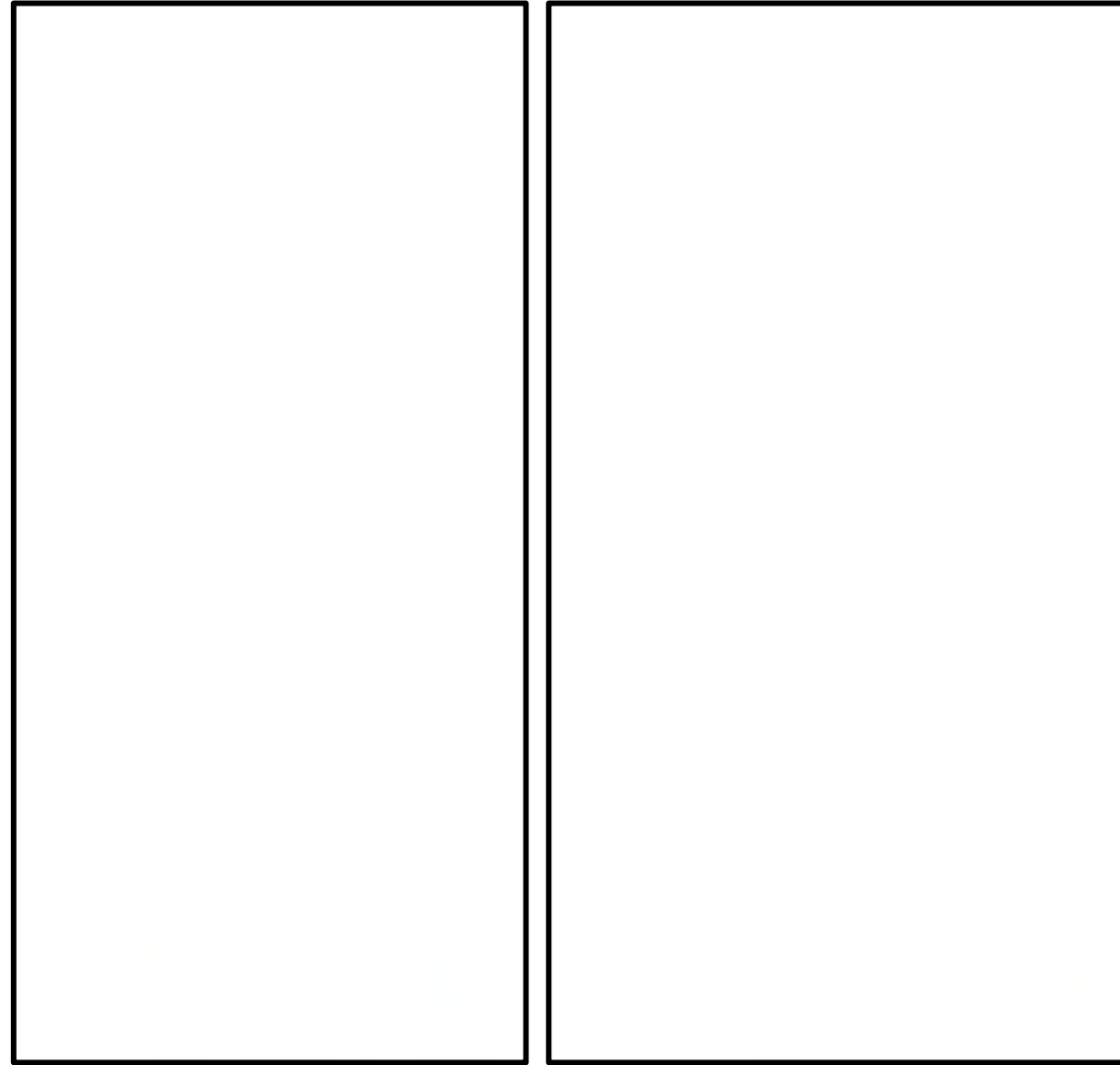
- San Juan-Chama Drinking Water Project includes:
 - River diversion dam between Alameda and Paseo del Norte bridges including fish passage and fish screens
 - Raw water conveyance lines and pump station to San Juan-Chama Drinking Water Plant
 - Construction of the San Juan-Chama Drinking Water Plant
 - Transmission pipeline(s) of treated water to Water Authority customers
 - Aquifer storage and recovery
 - Operations and maintenance for the San Juan-Chama Drinking Water Project



Albuquerque Bernalillo County
Water Utility Authority

Construction Mitigations

- 14 Minimization Measures
 - Replacing exotic vegetation with native plants for flycatcher habitat
 - Monitoring during construction for minnow entrapment, potential water quality impacts, and bald eagle presence
 - Restore the Bosque by completing habitat restoration for minnow and flycatcher
 - Continue monitoring for minnows at habitat restoration sites
 - Monthly and annual reporting for construction



Albuquerque Bernalillo County
Water Utility Authority

Operational Mitigations - ongoing

- Normal, peak diversion, and low-flow or curtailment operations
- Timing upstream water releases to benefit Rio Chama (i.e., support fisheries and recreation)
- Offsets for river depletions



Albuquerque Bernalillo County
Water Utility Authority

Conjunctive Management of Surface and Ground Water

- Groundwater pumping requires offsets for river effects
 - Return Flows from Southside Water Reclamation Plant
 - Native Water Rights
 - San Juan-Chama Water
- Condition No. 3 – Storage in Abiquiu to offset ground water during the “hump effect”



Conservation Measures

- 10 ongoing conservation measures
 - Support for the Aquatic Conservation Facility at the Albuquerque BioPark
 - Water Authority provides \$165,000/year
 - Continued participation in the MRGESCP
 - Water conservation goals
 - The Water Authority reached 125 GPCD in March 2019
 - Fish monitoring and habitat surveys
 - Contributions to research to increase understanding of species
 - Programs to improve the Bosque and remove non-native species



Albuquerque Bernalillo County
Water Utility Authority

Effects Determination

- The SJCDWP was determined by the U.S. Fish and Wildlife Service (Service) to adversely affect the silvery minnow during construction and operation.
 - Minimization measures and mitigations of adverse affects were determined to not jeopardize the continued survival and recovery of the silvery minnow.
 - The Service determined that the SJCDWP will not result in adverse modification of silvery minnow critical habitat.
- The SJCDWP was determined by the Service to not likely adversely affect the southwestern willow flycatcher or the bald eagle (threatened when BO was issued).



BO-Related Projects and Studies

- La Orilla habitat restoration site
- Paseo del Norte habitat restoration sites
- Supplemental water agreements
- Numerous studies and research
 - Early-life history of RGSM (otolith work)
 - Sediment studies
 - Water quality studies
- Monitoring
 - Groundwater
 - Fish passage
 - RGSM egg monitoring



Albuquerque Bernalillo County
Water Utility Authority

Questions?



Albuquerque Bernalillo County
Water Utility Authority

Middle Rio Grande Endangered Species Collaborative Program
By-Laws: Membership and Fiscal Planning Committee
Draft Language for Executive Committee Review

Article 3.0. PROGRAM MEMBERSHIP

3.1. Membership

The Program membership consists of Signatories to the MOA. A list of current members shall be maintained by the Program Manager and made publicly available.

In addressing requests to become a Signatory, the Executive Committee shall seek to maintain a broad and representative membership that includes:

- a) Federal agencies;
- b) Middle Rio Grande Pueblos (Sandia, Isleta, San Felipe, Cochiti, Santa Ana, and Kewa);
- c) State of New Mexico agencies;
- d) Irrigation districts, including the Middle Rio Grande Conservancy District;
- e) municipalities;
- f) agricultural communities;
- g) universities; and
- h) environmental groups.

Members are expected to actively participate in the Program, including attending Executive Committee meetings, providing representatives to relevant work groups and committees, and remaining up-to-date on Program activities and initiatives.

3.2. Addition of Signatories

Any organization that operates within the Program area and that has a demonstrated interest in the success of the Program may apply to become a Signatory.

To qualify for consideration, the applicant organization must submit a letter of interest to the Executive Committee co-chairs supporting the goals and success of the Program and expressing its intent to sign the MOA if the application is accepted.

Applications shall be submitted to the co-chairs through the Program Manager and will be considered in the date-order they are received. The co-chairs shall acknowledge receipt to the applicant within 30 days of the application being received. The application will be announced to the Executive Committee at its next scheduled meeting. The co-chairs, with assistance from the Program Manager, will do a preliminary review of the application, and may request more information or clarification before the application goes before the Executive Committee for deliberation.

Within 90 days of receipt of the application, or of a response from the applicant to a request for additional information or clarification, the application will be forwarded to the Executive Committee for consideration at its next meeting. All discussions and decisions regarding acceptance of applications received by the Executive Committee will be in a closed Executive Committee meeting session. The Executive Committee may request additional information of the applicant before the final decision is made. Acceptance of an application requires unanimous consent by the Executive Committee. The co-chairs will notify the applicant in writing of the Executive Committee's decision within one week following the Executive Committee action on the application.

The Executive Committee's consideration of each application may include, but is not limited to, the following criteria:

- a) contribution to the non-federal cost share, reported annually, including financial contributions and in-kind services;
- b) ownership of an interest affected by the Program, such as land, water, or other property rights;
- c) jurisdictional or regulatory responsibility, including sovereignty;
- d) a demonstrated interest in contributing to the recovery of listed species within the Program area;
- e) commitment to participation;
- f) whether the organization maintains a physical presence in the Program area;
- g) the number of individuals residing in the Program area who are members of the organization; and/or
- h) provide a unique interest or perspective to the Executive Committee.

The Executive Committee has sole discretion in accepting an applicant for membership. The Executive Committee has the responsibility to maintain balanced interests and a practicable committee size, and to ensure that members further the Program's purpose.

Applicants who are not accepted may reapply for membership one calendar year after the date of the letter notifying them of the rejection of their application.

3.3. Resignation, Removal, and Reinstatement of Signatories

A Signatory may resign from the Program at any time upon written notice to the Executive Committee co-chairs through the Program Manager. A Signatory that has resigned by this process may request reinstatement of membership by submitting a written request to the co-chairs, and is not required to submit a new application for membership under the terms of Section 3.2. The co-chairs will announce such a past Signatory organization's intent to reengage with Program at the next Executive Committee meeting. Reinstatement of a past Signatory to the Program must be agreed to by unanimous consent of the Executive Committee.

If a Signatory is not represented at two consecutive Executive Committee meetings, the co-chairs and the Program Manager shall provide written notice to that Signatory that its membership in the Program will be terminated unless that Signatory is represented at the next Executive Committee meeting. The Executive Committee will consider members who are unresponsive to attendance-related inquiries as having terminated their membership and such members will not be counted toward a quorum. Signatories whose membership is terminated as a result of non-attendance may reapply for reinstatement in the Program per the process laid out in Section 3.2, Addition of Signatories.

Article 5.0 ORGANIZATION

Fiscal Planning Committee

The Fiscal Planning Committee is a group of Program representatives selected by the Executive Committee and tasked with identifying funding streams for Program-related activities. The Fiscal Planning Committee reports directly to the Executive Committee and coordinates on Signatory funding capabilities (i.e. authorities, budget restraints, interests) to support priority Program work, and will identify other potential resources such as partnerships to support Program-related project implementation. If gaps in available funding for Executive Committee-approved activities and projects are identified, those gaps will be reported back to the Executive Committee.

The Fiscal Planning Committee will also engage in building a diverse financial support system for Program activities. The Fiscal Planning Committee will meet as needed to coordinate for various funding-related timelines and deadlines, and will help coordinate the supporting information for those Signatories that can appropriately seek additional funding. The Fiscal Planning Committee's Signatories, with the capability of doing so, will meet to identify and pursue additional funding sources (i.e. seeking grants, requesting appropriations) in support of funding Program activities.

Middle Rio Grande Endangered Species Collaborative Program FY18 Cost Share Report

Non-Federal Signatories that Reported Cost Share:

- Albuquerque Bernalillo County Water Utility Authority
- Bosque Ecosystem Monitoring Program
- City of Albuquerque Open Space Division
- Middle Rio Grande Conservancy District
- New Mexico Interstate Stream Commission
- Pueblo of Santa Ana
- Pueblo of Isleta

U.S. Bureau of Reclamation's FY18 budget to be met at 25% cost share by the non-federal signatories totaled \$3,355,653.51. The total FY18 non-federal cost share reported was \$2,597,829.24. For FY18, non-federal cost share was met at approximately 77%.

Middle Rio Grande Endangered Species Collaborative Program Mission and Core Values

This document outlines the mission and core values of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP or Program).

MRGESCP Mission

Since its inception, the Program's mission has been to:

- a) prevent extinction, preserve reproductive integrity, improve habitat, support scientific analysis, and promote recovery of the listed species within the Program area in a manner that benefits the ecological integrity, where feasible, of the Middle Rio Grande (MRG) riverine and riparian ecosystem; and,
- b) exercise creative and flexible options so that existing water uses continue and future water development proceeds in compliance with applicable federal and state laws.

MRGESCP Core Values

- To be a collaborative forum for the promotion and application of science to support management, restoration, and recovery actions undertaken by organizations working in the MRG for the betterment of the river system, its listed species, and water users.
- To provide a space for all signatory agencies and organizations to work together on issues at the landscape level, and to coordinate on activities beyond the purview of their own individual agencies.
- To foster a collaborative environment based on respect, participation in good faith, and civil discourse.
- To promote the use of sound scientific process and principles in all work.

Organization of the MRGESCP Adaptive Management Implementation Strategy Report

[Revised from comments provided by the Adaptive Management Work Group]

March 27, 2019 Executive Committee meeting

Section I. Critical Elements

- Framework for MRG Adaptive Management process
 - Guidance and direction
 - Drivers and focal elements
- Administrative framework for MRG Adaptive Management
- Relation to other ongoing regulatory efforts (ESA, Clean Water Act, etc.)
- Implementation

Section II. Supporting Documentation

- Introduction
- Assumptions and lessons learned from other adaptive management applications
 - Hydrographic variability due to climate change and addressing risk to water and ecosystem management in the Rio Grande
 - Middle Rio Grande management in relation to Rio Grande river system management
 - Single species versus river system risk management
- Conceptual framework for MRGESCP Adaptive Management Process
 - EC Objectives – identified in Long-Term (2011) Plan and Mission Statement
 - Adaptive Management Work Group objectives based on EC charge
 - Utilization and guidance from DOI and USACOE reports
 - Identification of concurrent and outside adaptive management efforts being implemented by other federal and non-federal entities
- Modules of an integrative adaptive management process for MRGESCP
 - Technical
 - Long-Term Plan (2011 document) – 50,000 ft perspective
 - Priorities of MRGESCP
 - Five-year review schedule (Knowledge assessment integration)
 - Defining objectives for MRGESCP science program – 20,000 ft perspective
 - Identifying tasks required to meet MRGESCP priorities

- Prioritization of tasks (sequential building blocks of information for management)
 - Adaptive management process
 - Apply knowledge assessments
 - Triennial Work Plan (3WP)
 - Annual science work plan (ASWP)
 - Integration of information from other programs
 - Budget development and review
 - Prioritization of needs and responsibility process
 - Implementation
 - Sequential steps and EC priority actions for implementation
 - Organization
 - Support and coordination
 - Organizational structure
 - Data and information management coordination
- Relation to ESA and other regulatory programs and proposed integration
 - Characterization of ongoing efforts in ESA regulatory process and their relevance to the MRGESCP adaptive management effort
 - Characterization of other regulatory processes to the MRGESCP adaptive management effort
- Scientific review and protocols
 - Conflict management related to objectives and prioritization of work
 - Applied science tasks
 - Monitoring tasks
 - Proposed studies
 - Data management
 - Role and value of models for predictive assessments
 - Peer review [USGS Fundamental Science Practices guidance]
 - Knowledge assessments – regularly scheduled and designed to fit the needs of the adaptive management process
 - Annual science meeting – feed into Triennial Work Plan and Annual Science Plan
- Recommendations
 - Short-term actions (next 6 months)
 - Mid-term actions (6 months to 2 years)
 - Long-term actions (2 to 5 years)
- Literature Cited

**Middle Rio Grande Endangered Species Collaborative Program
Population Monitoring Work Group
2019 Work Plan**

The Population Monitoring Work Group (PMWG) was established by the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP) Executive Committee (EC) in 2012. The group was tasked with providing technical review, focused assessment, and recommendations related to monitoring of fish populations in the Middle Rio Grande (MRG), as impacted by water management and river dynamics.

The PMWG plans to complete the following tasks in 2019:

Task	Subtasks	Target Completion Date
1. Integrate and prioritize recommendations from the science panels	a) Evaluate recent modifications to RGSM population monitoring program	August 2019
	b) Gear selectivity study	December 2019
	c) Track progress in addressing panel recommendations	Ongoing
2. Review and integrate RGSM population monitoring data	a) Incorporate the 2018 finalized data	May 2019
3. Gather other RGSM and RGSM habitat datasets	a) Provide consolidated data sets and metadata	December 2019
4. Analyze RGSM data to support modeling efforts	a) Survival, age composition, recruitment, and other analyses as identified	December 2019
5. Develop and review RGSM population models	a) RGSM population assessment model (USGS)	December 2019
	b) RGSM population simulation model (NMSU)	December 2019
	c) RGSM data variability modeling (BEMP)	December 2019
6. Give a progress update to EC		December 2019/January 2020

These tasks support the completion of Task 2 under the original PMWG charge approved by the EC in May 2016.

Middle Rio Grande Endangered Species Collaborative Program Science Symposium Update

The Middle Rio Grande Endangered Species Collaborative Program (Program) will hold a Science Symposium to encourage information sharing and collaboration among those working in the Middle Rio Grande (MRG). The Symposium small group met to begin planning the 2019 Symposium, and anticipates that while the first Symposium will be small, it may be an event that grows with time.

Purpose:

- To provide a collaborative space to share scientific research related to the MRG.
- To foster dialogue and collaboration between scientists within and external to the Program.

Proposed timing:

- The first week of December 2019
- Two full days

Structure:

- Abstract submission process
- Pre-determined session topics
- 15 minute talks with 5 minutes for questions
- One plenary session
- Poster session

Science and Habitat Restoration Work Group 2019 Work Plan

PURPOSE:

Complete the Science and Habitat Restoration Work Group's (ScW/HR) 2019 Work Plan as approved at the December 6, 2018 Work group meeting.

TASKS AND MANAGEMENT/SCIENCE IMPLICATIONS:

The following tasks are not listed in any specific order. The numbering is intended to ease conversation and be used for reference.

1) Continuously Add to and Maintain the Scope of Work (SOW) Ideas List with Consideration for the Peer Review Recommendations and Inclusion in the Long-Term Plan

In March 2018, the ScW/HR developed ideas for SOWs, including a template for describing these ideas and a table to track them. This SOW ideas list allowed the ScW/HR to more readily discuss SOWs in 2018. In 2019, the ScW/HR will add to and maintain the SOW ideas list continually throughout the year. As the list grows, the ScW/HR will continue to prioritize and develop full SOWs.

2) Develop Fiscal Year (FY) 2020 and FY 2021 Full Scopes of Work for Executive Committee (EC) Consideration

One of the primary objectives in 2019 for the ScW/HR is to develop full SOWs for both FY20 and FY21. By November 2019, the goal of the ScW/HR is to have, at minimum, one SOW completely written for FY 2021. In order to transition to a triennial study planning process, it is necessary for the ScW/HR to write SOWs for more than just the current year.

3) Develop a SOW Process to Include the Following:

- **Determine how SOWs will be prioritized**
- **Determine how peer review will be utilized (i.e. who/what/when/where/how)**
- **Timeline for development (including transition years) toward triennial planning**
- **Incorporate peer review recommendations**
- **Identify management decisions associated with all SOWs**

In 2018, the ScW/HR identified areas in the SOW development process that required further discussion and direction. The bulleted list above will be discussed by the ScW/HR in 2019 with the objective of refining the SOW development process. As parts of this process are developed, they will be documented and further modified as needed.

4) Incorporate Peer Review Recommendations

In recent years, the Middle Rio Grande Endangered Species Collaborative Program (Program) has sponsored four independent science/peer review panels:

- Middle Rio Grande Adaptive Management (AM) Framework: Identifying Critical Uncertainties (May 2018)
- Rio Grande Silvery Minnow (RGSM) Life History (February 2017)
- RGSM Genetics Project Peer Review (February 2016)
- RGSM Population Monitoring (December 2015)

The Genetics Ad Hoc Group and the Population Monitoring work group are continuing to prioritize the genetics, RGSM Population Monitoring, and RGSM Life History peer review panel recommendations. The ScW/HR will continue to use these prioritizations when developing SOWs, prioritizing ideas for SOWs, modifying the Long-Term Plan, and supporting the AM Program.

5) **Continue Data Inventory and Consolidation Efforts**

Since its inception, the Program's signatories have collected a large amount of data, including, but not limited to, endangered species population numbers, hydrology, water quality, and habitat restoration.

There is a need to inventory these data, and to consolidate datasets where possible. This will inform the Program's science and AM activities, and minimize duplicate efforts. Data inventory and consolidation will be a targeted and objective-driven effort, concentrating on specific datasets of interest to better meet the needs of the end data users. The ScW/HR will work with the U.S. Geological Survey (USGS) and those working to develop the Program Portal (formerly the Program's database management system [DBMS]) to ensure that all data consolidation efforts result in a dataset that can be uploaded onto the Program Portal.

6) **Continue Participation in Program Portal Development**

In 2018 and 2019, the USGS will be developing a Program Portal to replace the Program's DBMS. This Program Portal will need to be responsive to the needs of the Program, including its scientists and technical experts. The ScW/HR will provide input to the USGS as needed. Overall, a Program Portal will help the Program organize, store, share, and ultimately better utilize data collected and reports written by its multiple stakeholders. These services may inspire scientific studies, provide data for scientific research, and allow managers to interact with resources needed to inform decisions.

7) **Participate in the Planning and Development of a Science Symposium**

The Program has identified the need for a Science Symposium to improve science communication, inform SOW development, and assist in long-term planning. The ScW/HR will assist in the planning of and provide needed input on a science symposium in 2019.

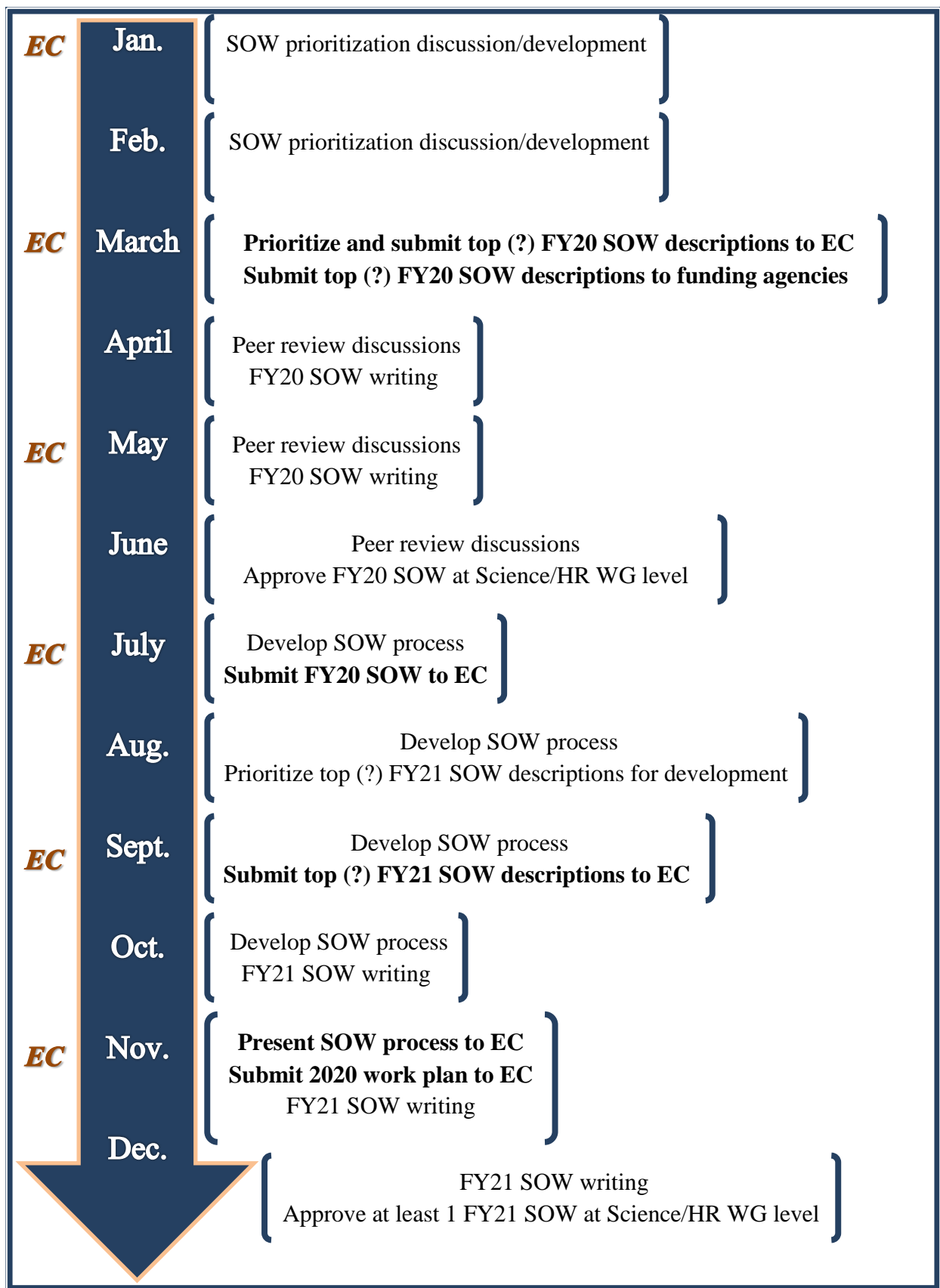
DELIVERABLES:

1. A prioritized SOW ideas list to develop full SOWs through at least FY21. This list will follow agreed-upon formatting and be prioritized using agreed-upon criteria.

2. Develop SOW descriptions for submittal to the EC, then after approval, submittal to funding agencies in late March 2019 and 2020.
3. Write and finalize these SOWs for review by the ScW/HR and the EC. Submit final SOWs to funding agencies in September 2019 for FY20.
4. Develop and document a process for developing SOWs, including the following details:
 - How SOWs will be prioritized
 - How peer review will be utilized
 - How the existing peer review panel recommendations will be accounted for
 - Management implications or relationship to a management action for each SOW
 - A timeline for SOW development
5. Data consolidation and inventory will be conducted for targeted objectives. Data consolidation and inventory may be included as one of the first objectives or deliverables for SOWs that requires data from many sources. These final datasets will then move forward onto the Program Portal.
6. The ScW/HR will support the USGS' efforts to develop the Program Portal by attending related meetings, responding to surveys, and testing and providing specific feedback to improve the design and function of the site.
7. The ScW/HR will provide support in the planning and development of a Science Symposium by attending related meetings, reviewing planning documents, assisting in the development of symposium sessions, and attending the symposium.

TIMELINE TO COMPLETE WORK:

The timeline below depicts the schedule the ScW/HR will follow in 2019. Months with EC meetings are marked by an orange "EC." Significant deliverables are bolded.



MEMBER ROSTER:

First Name	Last Name	Affiliation
Thomas	Archdeacon	U.S. Fish & Wildlife Service, Ecological Services
Jonathan	AuBuchon	U.S. Army Corps of Engineers
Jennifer	Bachus	U.S. Bureau of Reclamation
Brian	Bader	SWCA Environmental Consultants
Rick	Billings	Albuquerque Bernalillo County Water Utility Authority
Holly	Casman	City of Albuquerque, ABQ BioPark
Kevin	Cobble	U.S. Fish & Wildlife Service
Julie	Dickey	Western Ecosystems Technology, Inc.
Kim	Eichhorst	Bosque Ecosystem Monitoring Program
Kim	Fike	Bosque Ecosystem Monitoring Program
Danielle	Galloway	U.S. Army Corps of Engineers
Lynette	Giesen	U.S. Army Corps of Engineers
Eric	Gonzales	U.S. Bureau of Reclamation
Grace	Haggerty	NM Interstate Stream Commission
Mo	Hobbs	Albuquerque Bernalillo County Water Utility Authority
Brian	Hobbs	U.S. Bureau of Reclamation
Ondrea	Hummel	Tetra Tech
Alison	Hutson	NM Interstate Stream Commission
Kathy	Lang	City of Albuquerque, ABQ BioPark
Debbie	Lee	Western Ecosystems Technology, Inc.
Joel	Lusk	U.S. Fish & Wildlife Service, Ecological Services
Shannon	Mann	Pueblo of Sandia
Mike	Marcus	Assessment Payers Association of the Middle Rio Grande Conservancy District
Yvette	McKenna	U.S. Bureau of Reclamation
Kate	Mendoza	Albuquerque Bernalillo County Water Utility Authority
Yasmeen	Najmi	Middle Rio Grande Conservancy District
Robert	Padilla	U.S. Bureau of Reclamation
Kirk	Patten	NM Department of Game and Fish
Page	Pegram	NM Interstate Stream Commission
Matthew	Peterson	City of Albuquerque, Open Space Division

Mick	Porter	U.S. Army Corps of Engineers
Dana	Price	U.S. Army Corps of Engineers
Justin	Reale	U.S. Army Corps of Engineers
Ken	Richards	U.S. Bureau of Reclamation
Ashlee	Rudolph	U.S. Bureau of Reclamation
Stephen	Ryan	U.S. Army Corps of Engineers
Vicky	Ryan	U.S. Fish & Wildlife Service, Ecological Services
Jeff	Sanchez	U.S. Fish & Wildlife Service, Bosque Del Apache National Wildlife Refuge
Nathan	Schroeder	Pueblo of Santa Ana, Department of Natural Resources
Summer	Schulz	U.S. Army Corps of Engineers
Michael	Scialdone	Pueblo of Sandia
Lauren	Sherson	U.S. Geological Survey
Clint	Smith	U.S. Fish & Wildlife Service, Ecological Services
Ashley	Tanner	Western Ecosystems Technology, Inc.
Douglas	Tave	Los Lunas Silvery Minnow Refugium
Malia	Volke	NM Department of Game and Fish
Cody	Walker	Pueblo of Isleta, Natural Resources Department, Water Resources Div.
Lori	Walton	U.S. Bureau of Reclamation
Kim	Ward	City of Albuquerque
Dave	Wegner	Western Ecosystems Technology, Inc.
Wade	Wilson	U.S Fish & Wildlife Service, Southwestern Native Aquatic Resources and Recovery Center
Ara	Winter	Bosque Ecosystem Monitoring Program
Leann	Woodruff	U.S. Bureau of Reclamation
Brooke	Wyman	Pueblo of Sandia
