June 28, 2018

Documents:

Meeting Agenda
Meeting Minutes

Read-Aheads and Presentations

- *Draft FY2016-FY2017 Annual Report MRGESCP*
- *Reservoir Storage Status*
- *Water Release and Storage Summary*
- *MRGESCP Goals Statement*
- *Draft Administrative Work Group Charge*
- *PMWG Charge*
- *ScW/HR Charge*
- *Summary of 2018 Jiggle Operations and Silvery Minnow Egg Collections (4 Jiggles + 2 Riggles) [presentation]*
- *MRGESCP Newsletter June 2018 [not included]*
- *Endangered Species Act Permit Guidance [presentation]*
- *Endangered Species Act Basics: 40 Years of Conserving Endangered Species*
- *Draft Endangered Species Act Permit Guidance*

Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

EXECUTIVE COMMITTEE MEETING
June 28, 2018 8:30 AM – 12:30 PM

Location: U.S. Fish and Wildlife Service Ecological Services Field Office
2105 Osuna Rd NE, Albuquerque, NM 87113

Call-in Information:
Phone: 888-989-3317 **Passcode:** 34344

MEETING AGENDA

8:15 – 8:30	**Arrival**	
8:30 – 8:40	**Welcome and Introductions**	*Co-Chairs*
8:40 – 9:00	**Review of April 2018 EC Meeting Minutes and Action Items** *(read ahead)* ➢ **Decision**: Approval of April 2018 EC Meeting Minutes	*Co-Chairs*
9:00 – 9:15	**Program Manager Update** • Newsletter Updates, Questions, and Discussion *(read ahead)* • DBMS Development Update – Survey reminder • FY16/FY17 Annual Report ➢ **Decision**: Approval of FY16-FY17 Annual Report	*Debbie Lee*
9:15 – 10:15	**Permitting Presentation** • Q&A and Discussion	*Clint Smith, USFWS*
10:15 – 10:25	**Break**	
10:25 – 10:40	**Work Group Charges and Charters** (*read ahead*) • Administrative Work Group (previously the By-Laws group) • Science and Habitat Restoration Work Group • Population Monitoring Work Group ➢ **Decision**: Approval of work group charges	*Ashley Tanner* *Rick Billings*
10:40 – 10:55	**Adaptive Management (AM) and Science Program Update** • AM Work Group Update • 2019 MRG Science Symposium • Pueblo Outreach and Letter • Peer Review Recommendations	*Dale Strickland* *Debbie Lee*

10:55 – 11:10	**Mission Statement of the MRGESCP**	*Debbie Lee*

- **Revised Proposed Language**: *To be a collaborative forum for the promotion and application of science as a basis for management, restoration, and recovery actions undertaken by organizations working in the Middle Rio Grande for the betterment of its systems, its listed species, and water users.*

➢ **Decision:** Adopt Mission Statement

11:10 – 11:25	**By-laws Revisions Update** • Proposed roles of Fiscal Planning Group, Administrative Work Group, and Program Management Team	*Debbie Lee*
11:25 – 11:50	**Program Structure** • Further discussion based on updates from AM Work Group and By-Laws Group • Role of the EC	*Debbie Lee (facilitator)*

➢ **Action Item**: AM, and Administrative Work Groups continue their work based on discussion and decisions from the EC on developing details for the Program structure

11:50 – 12:15	**Hydrology Update** • "Buckets" Update *(read ahead)* • Jiggle Update	*TBD*
12:15 – 12:30	**August EC Planning** • Program Structure recommendations from Administrative and Adaptive Management groups • Adaptive Management process • SOWs discussion and approvals • Other suggested agenda items • Location suggestions	*Debbie Lee*

➢ **Decision**: Next EC meeting – August 15, 2018 (proposed)

12:30 – 12:40	**Announcements** • Brown bags ➢ Others	
12:40 – 12:50	**Public Comment**	
12:50 – 1:00	**Meeting Summary and Next Steps**	*Co-Chairs*
1:00	**Adjourn**	
1:00 – 4:00	**Program Barbecue**	

Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Executive Committee (EC)
June 28, 2018, 8:30 – 1:00 PM
Location: U.S. Fish and Wildlife Service (USFWS), 2105 Osuna Rd NE

MEETING HIGHLIGHTS

Decisions

- ✓ The minutes of the April 12, 2018 EC meeting were approved with no comment and no objection.
- ✓ Pending a requested additional project description of work completed in FY16, and a minor change in the introduction, approval of the FY16-FY17 Annual Report was tabled until the next EC meeting.
- ✓ Based on discussions in the By-Laws Group, the Administrative Work Group (AWG) charge was removed from the charge/charter read aheads for EC review and approval.
- ✓ The Science/Habitat Restoration Work Group (ScW/HR) charge was approved for continuation of work to the end of calendar year 2018.
- ✓ Pending full development of a work group charge, a decision to approve continuation of the Population Monitoring Work Group (PMW) has been tabled until the next EC meeting.
- ✓ The Program Mission Statement will be called a Goals Statement and was revised and approved with no objection. The following is the approved Goals Statement:

  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 Middle Rio Grande for the betterment of the river system, its listed species, and water users.

Action Items

WHO	NEW ACTION ITEMS	BY WHEN
WEST	Distribute presentations and handouts given at the EC meeting; this includes: Permitting presentation and handout, the "Jiggle" update, and the spreadsheet for panel recommendations.	ASAP
Reclamation	Send WEST a description of the 2016 RGSM Population Monitoring Workshop peer review process to add to the FY16-FY17 Annual Report.	ASAP
WEST	Find venue for the March Science Symposium.	ASAP
WEST	Distribute the approved Program's Goals Statement.	ASAP
All Signatories	Send comments on the draft *Endangered Species Act Permit Guidance* to WEST, for consideration by USWFS as they finalize the permitting guidebook.	July 31
PMW	Resubmit a work group charge of greater detail that reflects specific tasks, deliverables, and timelines through the end of the year.	August 3
By-laws Work Group	Incorporate language to support unanimous consent in voting decisions.	In next By-laws meeting

All Signatories	Update ScW/HR participant list and send revisions to WEST.	July 13
WHO	**ONGOING ACTION ITEMS**	**BY WHEN**
Adaptive Management Work Group	Clarify the roles and details of the Adaptive Management Committee (AMC), Science and Technical Network (STN), and River Ecosystem Team (RET) [names subject to change] for consideration by the EC.	Ongoing
All Signatories	Send 2019 Program-related project information to WEST for inclusion in a project tracking sheet.	Ongoing
WEST	Upload presentation slides and meeting materials to the DBMS once it is functioning.	Ongoing
WEST	Refine the draft Communication Plan and distribute to the Program for feedback.	Ongoing
All signatories	Provide updates and other content to WEST for inclusion in the Program newsletter.	Ongoing
All signatories	Share Program-related project information, updates, and changes as they are awarded/revised/progressed/completed with WEST for inclusion in the project tracking sheet for review at each future EC meeting.	Ongoing

Next Meeting

- The next EC meeting is scheduled for August 15, 2018, 8:30 AM to 12:30 PM, location TBD.

Announcements and Deadlines:

- WEST will begin asking for FY19 non-federal cost share in August 2018
- July 24, 2018 – Brown Bag: A meteorologist from the National Oceanic and Atmospheric Administration (NOAA) will give a presentation.

MEETING MINUTES

Welcome and Introductions

- Brent Esplin, Federal Co-Chair, opened the meeting and introduced Lieutenant Colonel (LTC) Larry (Dale) Caswell, the new Albuquerque District Commander for the U.S. Army Corps of Engineers (USACE), who will be serving as USACE's EC member.

Review and Approval of April 2018 EC Meeting Minutes

- ✓ **The EC approved the minutes of the April 12, 2018 meeting with no changes and no objections.**

Program Manager Update

- Debbie Lee reviewed the recent issue of the Program newsletter. She highlighted a new section that was included: a hydrology update that was developed based on information from the National Weather Service.
  - EC members provided general positive feedback on the newsletter, noting it was useful and indicated interest in continuing to receive them.
  - LTC Dale Caswell will be the next Program Spotlight.
- Debbie reminded members of the database management system (DBMS) survey (https://www.surveymonkey.com /r/ZJ7MJ8T), and asked those who had not filled it out to

please do so, as it will help the U.S. Geological Survey (USGS) with developing the new DBMS.

- Julie Dickey presented the revised draft Program's FY16/17 Annual Report. She noted that comments received during the Program's two month review had been addressed. During the EC meeting, one signatory provided a minor comment for consideration, and another signatory requested an additional project write-up be included.
    - Approval of the FY16/17Annual Report was tabled until the next EC meeting, following the inclusion of the additional write-up.
    - **WEST will work with Reclamation to prepare a write-up for the Population Monitoring Workshop and report to include in the FY16/17 Annual Report.**
- Debbie informed EC members that in August, WEST will begin reaching out to the non-Federal signatories for their FY18 cost-share information.

Endangered Species Act (ESA) Permitting Presentation and Discussion

- Susan Millsap, the EC member for USFWS, noted that she had been hearing lots of questions about ESA permitting, and that her staff are developing a guide for the Program on permitting. A draft copy of the guide was distributed to the EC and will be emailed out to the participants following the meeting.
    - This guide will be made publically available once finalized.
    - The guide focused mainly on Section 10 permitting, but also includes information on Section 7.
- Susan introduced Clint Smith, who presented an overview of the permitting process.
    - His presentation slides will be distributed to participants following the meeting and will be archived on the Program DBMS.
    - Clint noted that the guide will have to be approved by the Regional Office before being finalized.
- **USFWS requested comments from the Program by July 31st. Comments should be emailed to WEST to compile and send to USFWS.**
- The presentation introduced ESA and defined "take." Clint discussed Section 7 Permits, Section 10 for the individual permits, permit qualifications, renewing/amending existing the Recovery Permit, and gave a brief overview of appendices A through I.
- Following the presentation, participants asked the following questions:
    - Q: The presentation focused on recovery permits, but the process is different for the other types of permits. Will that be addressed?
        - A: The flowchart for the permitting process can be expanded to include some specifics for enhancement and incidental take.
    - Q: How does this guide address the 2016 Biological Opinion (BO) for the Letter of Delegation/Letter of Authorized Individual (LOD/LAI) process and other BO's USFWS deals with?
        - A: The guide addresses only this region. Contractors would have a Section 10 Recovery Permit (the LAI they receive from USFWS would go with their recovery permit. Think of Section 7 as an umbrella. USFWS is trying to link the individual of Section 7 with Section 10 with this letter process. (See Appendix A-Section 10 Permit Process).
    - Q: Does permittee go through the NEPA process?
        - A: Yes, through USFWS.
- **WEST will distribute the permitting presentation and the draft permitting guide for comment.**

Work Group Charges and Charters

- At the April 2018 EC meeting, the EC had requested all the active work groups and committees develop charges and work plans through 2018, leading into the transition to a new Program structure. For this meeting, the EC was provided read aheads of the charges that had been developed by the following groups:
    - Administrative Work Group
    - Science/Habitat Restoration Work Group
    - Population Monitoring Work Group
- Debbie noted that the Genetics Subgroup had also met, but after reviewing the recommendations from the Genetics Peer Review, realized that they had been addressed, are in the process of being addressed, or need to wait for something else to happen first. Therefore, the group decided it did not have any further work for 2018, and did not develop a charge.
- Jim Wilber, who sits on the By-Laws Work Group, informed the EC that the members decided that the AWG should not be a standing group, but instead form as needed around a specific task, with a membership based on need.
    - Based on Jim's explanation, the EC decided to drop the AWG charge from consideration.
- Ashley Tanner, the Deputy Science Coordinator with WEST, reviewed the ScW/HR charge. She noted there were seven tasks laid out with deliverables and timelines for completion.
    - ➢ **It was requested that Program signatories review the ScW/HR membership roster and email WEST any updates.**
    - The EC discussed the RGSM monitoring plan listed in the ScW/HR charge, and decided that it did not belong as part of the ScW/HR. The EC suggested that it be moved to the PMW charge to avoid duplication of effort and redundancy.
    - ✓ **With the removal of Task 2, related to the RGSM monitoring plan and related deliverable, the EC approved the ScW/HR charge and directed the work group to continue its work.**
- One EC member reminded the group that the intent of the original request was to get the current groups' to wrap up their work so that their functions and outstanding tasks can be incorporated into the new Program structure and the Adaptive Management program. Existing groups should finish their work and sunset by the end of the calendar year.
    - Groups should also develop transition plans for work that is not completed in 2018, so that those tasks are not lost.
- The EC discussed the PMW charge, requesting more specifics on task and timeline, similar to how the ScW/HR charge is laid out.
    - ➢ **The PMW will meet and work on their charge, and present the revised charge to the EC for approval.**

Adaptive Management Update

- Dale Strickland, WEST's acting Science Coordinator on behalf of Dave Wegner, provided an update on the AMWG's progress.
- WEST has prepared a spreadsheet to track progress on addressing the recommendations from the Hubert, Fraser, and Noon panels, which will be shared with the EC following the meeting.
- ➢ **WEST will distribute the panel recommendation tracking spreadsheet.**

Mission Statement of the MRGESCP

- After a short discussion, it was agreed that the Program's Mission Statement as follows reflects the Program's goal:

  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 Middle Rio Grande for the betterment of the river system, its listed species, and water users.

- ✓ **The Program Mission Statement will be called a Goals Statement and was revised and approved with no objection.**

By-Laws Revisions Update

- Jim Wilber highlighted the progress of the By-Laws Work Group, adding that the group has not made a full pass through the by-laws document, but has given attention to the organizational side of the By-Laws Work Group, Fiscal Planning Group (FPG), and the AWG (as mentioned earlier). Additionally, changing the name Program Management Team (PMT) to Program Support Team (PST) better reflects their role and avoids confusion to the historic PMT.
  - The last By-Laws meeting spent some time on the FPG being a subgroup to the EC, which would be tasked to find funding streams to implement recommendations made by the EC. While the triennial process being developed in the AMWG would bring projects to the EC, there might be potential projects that go to the EC outside of the AM umbrella. The By-laws group is working on a process to encompass all possible avenues for projects to reach the EC and the role of the FPG.
- Another topic that came into focus at the last By-Laws meeting was the concept of unanimous consent. It was proposed that the Program consider getting rid of super majority voting and adopt unanimous consent. The following discussion points were considered:
  - Super majority voting can lead to contention in decision-making, as there may be those who do not agree with the final outcome but are out-voted. It is thought that with some hard work, the Program should be able to drive itself to unanimous consent.
  - Unanimous consent requires that all EC members make a commitment. As a collaborative program, members should be committed to working together to get to consensus.
  - Ultimately, a process and further discussion will be required to also keep unanimous consent from being a blockage to decision-making.
  - ➢ **By-Laws Work Group will incorporate language to support unanimous consent in voting decisions.**

Program Structure

- There was a short discussion on Program structure and the role of the EC and their priorities based on updates from AMWG and By-Laws Work Group; it summed up much of the discussion points of the meeting.
  - One member reminded the EC that it had previously agreed the Program was a collaboration of science and therefore, the EC body should stay updated on science such as through the brown bags and recommended projects.
  - Another member said tracking progress was also important as the collaboration was tax payer-funded. It would be important to make sure the Program moved toward

its stated goals. Another member added that tracking should also help the Program avoid duplication of effort.
    - Discussion included decisions made by unanimous consent imply that the EC would hold members accountable for point of view and action - not by being a forum for pointing fingers, but in keeping with the 2002 MOU, the Program ought to be democratic and inclusive.
    - One member stated that the role of decision-making isn't arduous with a goal and some leadership.

Hydrology Update

- Jim Wilber gave an update on reservoir storage status and water allocations made by Reclamation with a total acquisition of supplemental water released for the RGSM of 10,533 acre-feet to date in 2018, with all snowpack telemetry (SNOTEL) sites melted out. Active communication continues with suppliers; but absent a monsoon, supply water will run out in about a month. (See BucketSJCJun20-2018 and Storage summary EC-6-21-18 handouts.)
- Joel Lusk, USFWS, gave an update on the impact of "jiggle" operations between Albuquerque Bernalillo County Water Utility Authority (ABCWUA) and the Middle Rio Grande Conservancy District (MRGCD). The "jiggle" (operation resulting in an increase in flow at a gage below a diversion dam) and a "riggle" (the result of a rain event that increases flow at a downstream gage) together provided more water for a longer duration. This resulted in the ability to collect at least two-thirds of RGSM eggs needed. (See 2018 summary of jiggle operations and silvery minnow egg collections.)
- ➢ **WEST will distribute the hydrology handouts and "jiggle" update.**

August EC Planning

- August 15, 2018, location to be determined.
- Proposed agenda items:
    - In order to make federal funding agency deadlines, scopes of work (SOWs) should be approved by September. There are only a few SOWs currently in progress, but WEST will work with the ScW/HR to try moving others forward.
    - Work group/committee goals check for 2018 calendar year.
    - PMW charge update.
    - 2016 MRG BO update

Executive Committee
June 28, 2018
Meeting Attendees

***** denotes an EC member or representative

Rick Billings *
Albuquerque-Bernalillo County Water Utility Authority

Jen Bachus
U.S. Bureau of Reclamation

Dave Campbell
U.S. Fish & Wildlife Service

Rick Carpenter
City of Santa Fe

LTC Larry (Dale) Caswell, Jr. *
U.S. Army Corps of Engineers

Ann Demint
U.S. Bureau of Reclamation

Kim Eichhorst *
Bosque Ecosystem Monitoring Program

Brent Esplin *
U.S. Bureau of Reclamation

Lynette Giesen
U.S. Army Corps of Engineers

Ryan Gronewold
U.S. Army Corps of Engineers

Grace Haggerty
N.M. Interstate Stream Commission

Mo Hobbs
Albuquerque-Bernalillo County Water Utility Authority

Gizelle Hurtado
N.M. Department of Agriculture

John Longworth *
N.M. Interstate Stream Commission

Joel Lusk
U.S. Fish and Wildlife Service

George MacDonell
U.S. Army Corps of Engineers

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

Susan Millsap *
U.S. Fish & Wildlife Service

Megan Osborne *
University of New Mexico

Page Pegram
N.M. Interstate Stream Commission

Matthew Peterson
City of Albuquerque

Vicky Ryan
U.S. Fish and Wildlife Service

Nathan Schroeder *
Pueblo of Santa Ana

Christopher Shaw
N.M. Interstate Stream Commission

Clinton Smith
U.S. Fish & Wildlife Service

Ashley Tellier
U.S. Army Corps of Engineers

Jim Wilber *
U.S. Bureau of Reclamation

Matt Wunder *
New Mexico Department of Game and Fish

Ara Winter
Bosque Ecosystem Monitoring Program

PROGRAM SUPPORT TEAM:

Debbie Lee
Program Manager

Dale Strickland
Acting Science Coordinator

Julie Dickey
Assistant Program Manager

Ashley Tanner
Deputy Science Coordinator

Lana Mitchell
Project Coordinator

NOT PRESENT
Assessment Payers Association of the Middle Rio Grande
Conservancy District (Non-Federal Co-Chair)
New Mexico Attorney General's Office
Pueblo of Isleta
Pueblo of Sandia

FY2016 - FY2017 ANNUAL REPORT

Middle Rio Grande Endangered Species Collaborative Program

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

Middle Rio Grande Endangered Species Collaborative Program
FY2016 - FY2017 Annual Report

Prepared by:

Western EcoSystems Technology, Inc.
Environmental and Statistical Consultants
8500 Menaul Northeast, Suite B-342
Albuquerque, New Mexico 87112

On Behalf of:

The Middle Rio Grande Endangered Species Collborative Program

TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS

ABCWUA	Albuquerque Bernalillo County Water Utility Authority
ACF	Aquatic Conservation Facility
AF	Acre-feet
AMAFCA	Albuquerque Metropolitan Arroyo Flood Control Authority
AMP	Adaptive Management Program
APA	Assessment Payers Association of the Middle Rio Grande Conservancy District
ARRC	Aquatic Resource and Recovery Center
BO	Biological Opinion
BEMP	Bosque Ecosystem Monitoring Program
BIA	Bureau of Indian Affiars
BLM	Bureau of Land Management
CC	Coordination Committee
cfs	Cubic feet per second
CoA	City of Albuquerque
CPUE	Catch per unit effort
DBMS	Database management system
EC	Executive Committee
eDNA	Environmental DNA
ESA	Endangered Species Act
FY	Fiscal Year
IDD	Isleta Diversion Dam
LiDAR	Light Detection and Radar
LLSMR	Los Lunas Silvery Minnow Refugium
LTP	Long Term Plan
MAT	Minnow Action Team
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRG	Middle Rio Grande
MRGCD	Middle Rio Grande Conservancy District
MRGESCP	Middle Rio Grande Endangered Species Collaborative Program

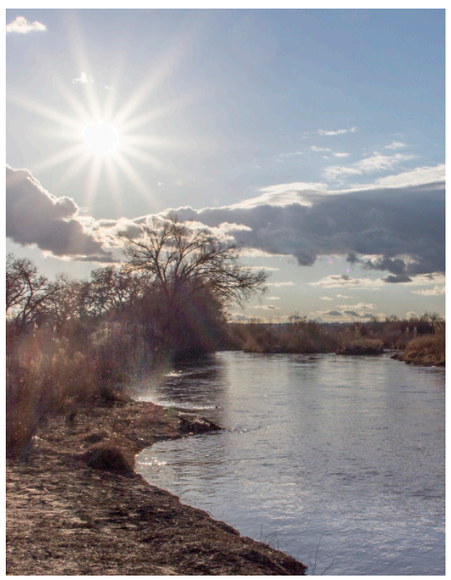
ACRONYMS & ABBREVIATIONS

mtDNA	Mitochondrial DNA
NMAGO	New Mexico Attorney General's Office
NMDA	New Mexico Department of Agriculture
NMFWCO	New Mexico Fish and Wildlife Conservation Office
NMED	New Mexico Environmental Department
NMDGF	New Mexico Department of Game and Fish
NMISC	New Mexico Interstate Stream Commission
NMMJM	New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)
NMT	New Mexico Institute of Mining and Technology
PMT	Program Management Team
Program	Middle Rio Grande Endangered Species Collaborative Program
Reclamation	U.S. Bureau of Reclamation
RGSM	Rio Grande silvery minnow (*Hybognathus amarus*)
RIP	Recovery Implementation Plan
SADD	San Acacia Diversion Dam
SSCAFA	Southern Sandoval County Arroyo Flood Control Authority
ScW	Science Work Group
ScW/HR	Science/Habitat Restoration Work Group
SWFL	Southwestern willow flycatcher (*Empidonax traillii extimus*)
UNM	Unversity of New Mexico
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WEST, Inc.	Western EcoSystems Technology, Inc.
YBCU	Yellow-billed cuckoo (*Coccyzus americanus*)
2003 MRG BO	Biological and Conference Opinions of the Effects of Actions Associated with the Programmatic Biological Assessment of Bureau of Reclamation's Water and River Maintenace Operations, Army Corps of Engineers' Flood Control Operation, and Related Non-Federal Actions on the Middle Rio Grande, New Mexico
2016 MRG BO	Final Biological and Conference Opinion for Bureau of Reclamation, Bureau of Indian Affairs, and Non-Federal Water Management and Maintenance Activities on the Middle Rio Grande, New Mexico

EXECUTIVE SUMMARY

The Middle Rio Grande Endangered Species Collaborative Program (Program or MRGESCP) is a diverse partnership bringing several federal, state, tribal, local, and university signatories together to address environmental concerns in the Middle Rio Grande (MRG) related to endangered species. The Program's collaborative efforts aim to protect and improve the status of endangered species and their habitats along the MRG, while also allowing existing and future regional water uses.

In fiscal years 2016 (FY16) and 2017 (FY17), the Program began to shift direction away from efforts to develop a MRG Recovery Implementation Plan (RIP) toward pursuing an Adaptive Management Program (AMP) and developing a new Long-Term Plan (LTP). Simultaneously, several signatories developed and implemented a new multi-party MRG Biological Opinion (BO). With these changes, and ongoing collaboration and support needed for other MRG BO's, and the Program's on-going activities geared toward species recovery, the U.S. Bureau of Reclamation (Reclamation), in coordination with the other Program signatories, contracted a third-party Program Management Team (PMT) to support the Program moving forward.



IMAGES: Scenic Views of the Rio Grande (Above and Front Page) ***CREDIT:*** Mike Marcus

In FY16 and FY17, the following signatories remained as participants under the 2008 Memorandum of Agreement (MOA):

- Assessment Payers Association of the Middle Rio Grande Conservancy District (APA)
- Albuquerque Bernalillo County Water Utility Authority (ABCWUA)
- Bosque Ecosystem Monitoring Program (BEMP)
- City of Albuquerque (CoA)
- Middle Rio Grande Conservancy District (MRGCD)
- New Mexico Attorney General's Office (NMAGO)
- New Mexico Department of Agriculture (NMDA)
- New Mexico Department of Game and Fish (NMDGF)
- New Mexico Interstate Stream Commission (NMISC)
- Pueblo of Isleta
- Pueblo of Sandia
- Pueblo of Santa Ana
- Santo Domingo Pueblo
- U.S. Army Corps of Engineers (USACE)
- U.S. Bureau of Reclamation
- U.S. Fish and Wildlife Service (USFWS)
- University of New Mexico (UNM)

Continuous collaboration around and coordinated support of habitat restoration projects, species management and monitoring, water management and operations, scientific studies, and Program a dministration has advanced the goals of contributing to the protection and recovery of federally listed species, while also protecting current and future water uses. This report describes the MRGESCP's goals and organization, summarizes Program expenditures, and highlights Program activities and accomplishments for FY16 and FY17.

IMAGE: MRGESCP Executive Committee Members ***CREDIT:*** WEST, Inc. Staff

1. INTRODUCTION

1.1 MRGESCP Background & Overview

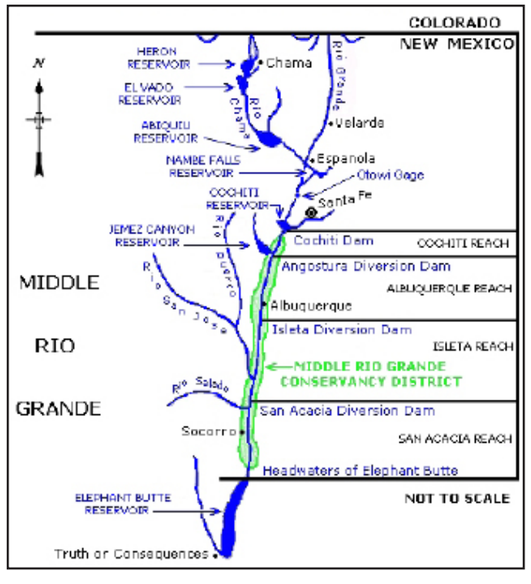
The MRGESCP was formed when conflict arose from the federally endangered listing of the Rio Grande silvery minnow (RGSM) in 1994, the southwestern willow flycatcher (SWFL) in 1995, and drought conditions in 1996 that exacerbated already stressed conditions in the MRG. When conflict resulted in litigation in 1999, stakeholders began to formulate workgroups to collaborate on species recovery and protection of the existing and future water uses in the MRG. Historically, these stakeholders included federal, state, and local agencies; environmental organizations; tribes and pueblos; agricultural interests; and business associations affected by and interested in resolving conflict and alleviating issues through collaboration.

The Endangered Species Act (ESA) Workgroup was formed in 2000 with the intent of developing the MRGESCP. The MRGESCP aimed to use the best available science to create economically viable and practical approaches to prevent species extinction, preserve reproductive integrity, improve habitat, and promote the recovery of species. A Memorandum of Understanding (MOU) was signed in 2002 and affirmed the commitment of signatories to the Program.

Since 2002, signatories continue to provide a variety of support in collaborating on numerous projects and programs benefitting federally listed species within the MRG. The species of principle interest have been the endangered RGSM and SWFL since the Program's inception. However, after their federal status listings in 2014, the Program also began to concentrate efforts on the New Mexico meadow jumping mouse (NMMJM; endangered) and the yellow-billed cuckoo (YBCU; threatened).

The Program area stretches from the headwaters of the Rio Chama watershed and the Rio Grande, including tributaries, from the New Mexico/Colorado border downstream to the elevation of the spillway crest of the Elephant Butte Reservoir at 4,450 feet above mean sea level, excluding the land area reserved for the full pool of the Elephant Butte Reservoir (Figure 1). Four reaches are delineated within the MRG: the Cochiti Reach, the Angostura Reach, the Isleta Reach, and the San Acacia Reach (Figure 1). Depending on their jurisdiction and authority, signatories may support activities within one or all four reaches, as well as north of the Cochiti Reach to the New Mexico/Colorado border.

Figure 1. Program Area Map



The MRGESP's purpose is multi-faceted:

1. To 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 MRG riverine and riparian ecosystem.
2. To exercise creative and flexible options so that existing water uses continue and future water development proceeds in compliance with applicable federal and state laws.

1.2 MRGESCP Governance

Adopted in 2008, the Program's by-laws describe the governance structure, the decision-making processes, and the roles and responsibilities of the signatories. The Program's by-laws have been amended over the years, and continued to be updated through FY17 to accommodate Program development. Documents related to governance including by-laws, authorities, and charters, are maintained on the Program's database management system (DBMS; https://webapps.USGS.gov/MRGESCP).

IMAGES: Scenic Views of the Rio Grande (Left and Below) ***CREDIT:*** Reclamation

1.3 MRGESCP's Organization & Structure

The MRGESCP's organizational structure in FY16 consisted of the Executive Committee (EC), the Coordination Committee (CC), the signatory-led PMT, and technical work groups. In FY17, Reclamation contracted Western EcoSystems Technology, Inc. (WEST, Inc.) as a third-party PMT, but the Program's organizational structure largely remained the same. The following summarizes the roles and functions of the Program's committees, technical groups, and the PMT. More information including Program documents and the Annual Administrative Record can be found on the DBMS.

Executive Committee

FY16 Federal Co-Chair: Brent Esplin, Reclamation *FY16 Non-Federal Co-Chair: Rick Billings, ABCWUA*

FY17 Federal Co-Chair: Brent Esplin, Reclamation *FY17 Non-Federal Co-Chair: Janet Jarratt, APA*

The EC is the Program's governing body and consists of one primary and one alternate representative from each signatory organization. This committee provides policy direction, approves budget recommendations, and holds decision-making authority unless specifically delegated to other committees or work groups. Representatives work to set Program priorities, coordinate policy, and authorize Program activities.

Coordination Committee

FY16 Federal Co-Chair: Jim Wilber, Reclamation *FY16 Non-Federal Co-Chair: Rick Billings, ABCWUA*

FY17 Federal Co-Chair: Dave Campbell, USFWS *FY17 Non-Federal Co-Chair: Rick Billings, ABCWUA*

Each EC signatory representative appoints a CC member from their organization, and may appoint an alternate. The committee was established to provide Program support by identifying and working to resolve concerns related to Program activities; communicating directives, information, and recommendations between work groups and the EC; and ensuring EC representatives are informed on Program matters.

IMAGE: San Acacia Diversion Dam ***CREDIT:*** WEST, Inc. Staff

Program Management Team

FY16 Program Assistant: Alighieri Saenz, Reclamation

In FY16, the PMT consisted of program management and administrative staff employed or contracted by Reclamation, USFWS, USACE, and NMISC. The PMT provided management, administrative, and technical support to the EC, CC, and work groups.

FY17 Program Manager: Debbie Lee, WEST, Inc. *FY17 Science Coordinator: Dave Wegner, WEST, Inc.*

In FY17, Reclamation contracted WEST, Inc. as a third-party PMT to support the Program. The WEST, Inc. PMT provides program and science support to the EC, CC, and work groups. The PMT is staffed by a Program Manager who directs PMT activities and Program support staff, and a Science Coordinator and Deputy Science Coordinator who provide science support to the Program. The PMT is responsible for managing the technical and administrative aspects of Program activities.

WORK GROUPS

The EC establishes work groups as needed to provide assistance and expertise in addressing Program tasks. Work group members include Program signatory professionals, their contractors, and other parties with expertise related to the group's directive. Work groups provide focused assistance and expertise, technical review and project oversight, and coordination to address Program directives and activities. Work groups meet regularly and provide a forum for Program matters and technical planning efforts.

Science/Habitat Restoration Work Group

FY16 Science Work Group (ScW)

Federal Co-Chair: Dana Price, USACE *Non-Federal Co-Chair: Rick Billings, ABCWUA*

FY16 Habitat Restoration Work Group

Federal Co-Chair: Danielle Galloway, USACE *Non-Federal Co-Chair: Rick Billings, ABCWUA*

FY17 Science/Habitat Restoration Work Group (ScW/HR)

Federal Co-Chair: Danielle Galloway, USACE *Non-Federal Co-Chair: Rick Billings, ABCWUA*

In FY16, the ScW and the HR Work Group met separately; however, in 2017 mutual tasks, schedules, and interests merged the groups to become the ScW/HR. The ScW/HR provides technical support and expertise to the Program for science activities benefitting the federally listed MRG species. The group's key roles include planning and recommending research and monitoring priorities; providing technical review and project coordination; and providing a framework and venue for exchanging scientific information.

AD HOC GROUPS AND SUBGROUPS

Temporary ad hoc groups occasionally tier from Program work groups and committees to advance individual projects or tasks. Ad hoc groups report to the primary committee or work group, and typically consist of individuals with expertise or interest in the specialized assignment. These groups disband once pre-determined objectives have been completed.

2. FINANCIAL SUMMARY

The MRGESCP's signatories contribute funding and other resources to Program-related activities. Two federal partners, Reclamation and USACE, receive funding from Congressional Energy and Water Development Appropriations. Four municipal and state signatories: ABCWUA, CoA, MRGCD, and NMISC receive local and state money for MRG projects. All Program signatories contribute personnel time, technical expertise, and a variety of other resources toward supporting Program activities and efforts. Figures 2 and 3 show the percentage of combined funding allocations for each category in this report.

Figure 2. Percentage Allocated Costs for FY16 per Category

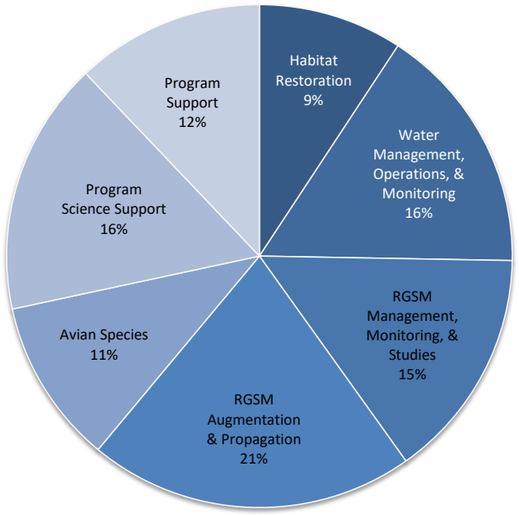
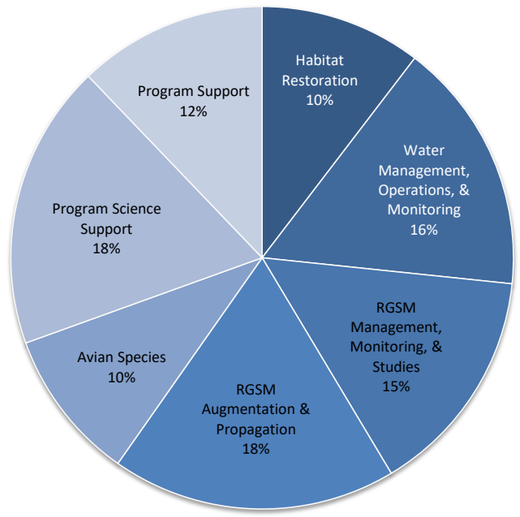


Figure 3. Percentage Allocated Costs for FY17 per Category



Non-Federal Cost Share

Reclamation's congressionally appropriated funding has a non-federal cost share requirement, and the non-federal signatories contribute financial and in-kind resources toward Program efforts. Two non-federal signatories, MRGCD and NMISC, are partners to the "Final Biological and Conference Opinion for Bureau of Reclamation, Bureau of Indian Affairs, and Non-Federal Water Management and Maintenance Activities on the Middle Rio Grande, New Mexico" (herein referred to as the 2016 MRG BO), and contribute funds toward implementation requirements. In addition to monetary contributions, other non-federal signatories provide in-kind resources such as personnel time, information, equipment, projects, and land access.

Three Pueblos actively participate in Program meetings and contribute to cost share with projects in their reaches of the MRG. The CoA Open Space division receives funding from the City's general obligation bonds toward habitat restoration and maintenance in the Albuquerque portion of the Angostura Reach. ABCWUA also works within this Reach to complete Program-related projects. BEMP produces research and science data with funding from a variety of sources, including MRGESCP partners. Other non-federal signatories commit time and expertise toward Program activities including attendance and participation at committee and work group meetings.

3. PROGRAM ACCOMPLISHMENTS

Throughout FY16 and FY17, the MRGESCP continued to promote the recovery of listed species. The Program collaborated to restore species habitat; acquire and manage supplemental water; perform water monitoring and studies related to listed species; conduct species monitoring, studies, augmentation, and propagation; support scientific analysis and adaptive management; and improve program management. An asterisk (*) next to activity titles indicates that the project is a 2016 MRG BO requirement.

RGSM Releases

Over 126,000 RSGM were released into the MRG in 2016 and 2017

SWFL Monitoring

2017: First confirmation of SWFL nest and breeding pair at the Pueblo of Santa Ana

Water Activities

Acquired and released 14,490 AF of supplemental water during 2016, and 14,540 AF in 2017

RGSM Rescue/Salvage

More than 55,000 RGSM salvalged and relocated to wet reaches of the Rio Grande in 2016

Water Activities

Sustained early spring runoff of 3,000 cfs in 2016, and 4,000 cfs in 2017

IMAGE: ABCWUA's San Juan Chama Diversion Fish Passage
CREDIT: Reclamation

IMAGE: Texas Spiny Softshell in the Rio Grande
CREDIT: WEST, Inc. Staff

3.1 Habitat Restoration Projects

In FY16 and FY17, Program signatories worked to restore and improve habitat along the MRG. Activities included planning, designing, constructing, and monitoring of projects in various locations to benefit the listed species. Habitat restoration in the MRG involves physical manipulations of the Rio Grande channel and the adjacent bosque. Table 1 lists habitat restoration-related activities, project duration, and signatories that contributed to the projects.

Table 1: Habitat Restoration Activities List

Project Name	Begin	End	Contributing Signatories
Habitat Restoration			
Habitat Restoration in the Isleta and San Acacia Reaches	FY16	Ongoing	NMISC; MRGCD; Reclamation; USFWS
Habitat Restoration Fisheries Monitoring	FY16	Ongoing	NMISC; ABCWUA
Iselta Diversion Dam Preliminary Engineering Analysis Report	FY17	FY23	Pueblo of Isleta; MRGCD; Reclamation
Riverine Habitat Restoration and Endangered Species Monitoring	FY07	Ongoing	Pueblo of Sandia; Reclamation
Bar 3 Restoration Project Update	FY08	Ongoing	Pueblo of Santa Ana
Groundwater Levels and Response to River Discharge in the Albuquerque Area	FY15	FY17	USACE
Literature Review of Techniques for Creating Channel Bars for Instream RGSM Habitat	FY15	FY18	USACE
Los Lunas Habitat Restoration Project Monitoring	FY00	Ongoing	USACE; Reclamation; MRGCD
Tamarisk Leaf Beetle Monitoring	FY13	FY19	USACE

Habitat Restoration in the Isleta and San Acacia Reaches*

This project focuses on characterizing hydrologic and geomorphic conditions in the lower Isleta Reach and upper San Acacia Reach, selecting potential restoration sites, modeling channel and overbank flows, and designing projects to improve RGSM, SWFL, and YBCU habitats in the MRG. In 2016 and 2017, NMISC collaborated with Sevilleta National Wildlife Refuge (NWR) and Reclamation to select, design, and construct habitat restoration projects. Cooperation between these agencies allowed these projects to be constructed using Reclamation and Sevilleta NWR field crews, which resulted in timely and cost-effective environmental compliance, design, and construction. One 16-acre overbank and backwater project has been constructed on the Sevilleta NWR and five off-channel projects, ranging from 1 to 10 acres, were constructed south of the San Acacia diversion dam (SADD). These projects provide habitat diversity and increase availability of the floodplain during spring runoff when several native fish species spawn.

Benefits to Species: Habitat restoration projects are intended to provide spawning and larval fish nursery habitats. In addition, SWFL and YBCU habitat is being created through regeneration of willow and cotton-wood trees in the restored areas.

Habitat Restoration Fisheries Monitoring*

Constructed habitats in the Isleta Reach and the Albuquerque Reach were monitored during spring runoffs in 2016 and 2017 to evaluate the effectiveness of the projects, including monitoring of adult and larval fish. In 2016, main stem spring runoff and modified flow from temporary storage in El Vado reservoir created a sustained flow of up to 3,000 cubic feet per second (cfs) for over 30 days. In 2017, spring runoff exceeded 4,000 cfs for over 30 days. Sustained flows provided opportunities to work on floodplain habitats constructed over the past eight years, and the results of those projects are being analyzed.

Benefits to Species: These monitoring efforts will provide valuable information to address data gaps regarding RGSM spawning cues and preferred habitats, including expanding on limited information about larval fish, growth rates, and specific needs for food and timing of inundation.

IMAGE: Constructed Floodplain ***CREDIT***: Mike Marcus

IMAGES: Habitat Restoration Site Constuction (Middle and Left) ***CREDIT:*** Reclamation

IMAGE: Bosque Views
CREDIT: Mike Marcus

Isleta Diversion Dam Preliminary Engineering Analysis Report*

This project involves development of a Preliminary Engineering Analysis Report, which is anticipated to be complete in FY19, for modification of the Isleta Diversion Dam (IDD) and irrigation infrastructure related to sediment management, fish passage, and geomorphic analysis. This project also includes development of a Bosque and Riverine Restoration Plan for the Pueblo of Isleta.

Benefits to Species: The decline in RGSM populations has been attributed to several factors, including decreased and interrupted stream flow caused by impoundments and permanent water diversion structures. The IDD is one of three diversion dams dividing the remaining RGSM range, and a fish passage at IDD will provide connectivity between the Isleta and Angostura Reaches of the MRG. When constructed, planned riparian restoration will enhance current habitat and provide new habitat for terrestrial species.

Riverine Habitat Restoration and Endangered Species Monitoring*

The Pueblo of Sandia completed riverine habitat restoration and endangered species monitoring during 2016 and 2017. The habitat restoration project is intended to increase riverine habitat complexity to support various life stages of RGSM as well as SWFL habitat. The phased project included habitat improvement work in the Sandia Subreach of the MRG.

Phase I planning efforts resulted in focused recommendations for improving habitat including the use of passive restoration, island and bar enhancement, bank lowering, and embayments. Phase II, completed in 2016, involved bank-lowering of a previously constructed flow-through channel so the channel entrance and exit function more like floodplains. Other flow channels were widened in targeted locations to create habitat for RGSM where they are documented to be using the channels. Channel widening also had the objective of expanding wetland vegetation and allowing overbank flooding. This phase also included shrub planting and seeding. Phase III, completed in 2017, involved bank-lowering and creation of another inlet, as well as shrub planting and seeding.

In addition to habitat restoration projects, the Pueblo of Sandia uses established protocols to document presence/absence of endangered species in the Sandia Subreach.

Benefits to Species: Year-round RGSM augmentation and salvage efforts have placed thousands of RGSM in areas directly upstream and within Pueblo of Sandia boundaries. Improvements to surface water hydrology and overbank flooding should have the additional benefit of supporting the creation and enhancement of suitable SWFL habitat. Increased habitat diversity will provide better egg retention and larval rearing so that the RGSM's documented use of the Sandia Subreach may be increased.

IMAGES:
Top: 2012 Aerial Image of Project Area
Middle: 2014 Aerial Image of Project Area
Bottom: 2017 Aerial Image of Project Area
CREDIT: Google Earth

Bar 3 Habitat Restoration Project Update

In 2011, the MRGESCP funded Santa Ana Pueblo's Bar 3 Modification and Habitat Restoration Project. This project aimed to develop RGSM wetted habitat by installing woody debris piles and creating low velocity channels to inundate at lower cfs than previous bar elevations. Additionally, several varieties of willows and other vegetation were planted to increase vegetation cover and structure necessary for SWFL habitat. Channel construction and vegetation plantings were completed in 2014, and additional plantings occurred at the end of 2015. The photos at left show the project site in 2012, 2014, and 2017. The Pueblo conducts monitoring of the fish community every spring, summer, and fall, including in locations above and below the Bar 3 project site.

In 2017, the Santa Ana Pueblo received funding through the New Mexico Environment Department (NMED) Surface Water Quality Bureau's River Stewardship Program for further habitat restoration efforts that will mimic the success of the Bar 3 project. Planning efforts began in FY17 for the Pueblo's upcoming Bar 1 Restoration Project. This project will restore 27 acres of river bar by removing exotic trees and shrubs, creating low flow channels through high and dry areas, and planting native trees and shrubs. Additionally, the Pueblo will begin planning efforts on a Southeast Bar Restoration Project. Planning efforts will include analysis of the project site, data collection, project design, reporting, and environmental compliance.

Groundwater Levels and Response to River Discharge in the Albuquerque Area

Data from this USACE monitoring project provide information regarding how long groundwater depths are sustained following repeated flood inundation. Moist surface soils are not only important for establishment and growth of riparian-wetland plant species, but for organic soil development, nutrient cycling, invertebrate diversity, and other ecological processes. Long-term monitoring will help determine if depth thresholds are exceeded after restoration features become repeatedly inundated. In addition, monitoring of groundwater levels is needed to evaluate if (and to what degree) soil moisture retention improves with time as restoration features become repeatedly inundated.

These data are useful for a number of reasons, including the following:

1) Evaluating differences in soil moisture availability on vegetation growth attributes in the constructed willow restoration features.
2) Informing future designs for SWFL restoration projects.
3) Evaluating differences in primary biological productivity between restoration features with and without a direct river connection.

Benefits to Species: This study will aid in the understanding of impacts to species' environments, support operational strategy decision-making, and contribute to maintaining healthy and suitable species habitat.

IMAGE: Groundwater Monitoring Site
CREDIT: Danielle Galloway, USACE

Literature Review of Techniques for Creating Channel Bars for Instream RGSM Habitat

Sand bars and similar geomorphic features are important for river ecosystems because they provide nesting and foraging habitat for birds and important shallow water habitat for numerous aquatic species. However, most rivers that are managed to prevent flooding lack sufficient sediment to maintain channel bars, which causes these features to erode and disappear. In channels that are being eroded and that lack floodplain connectivity, instream habitat is even more important. This project intends to identify effective techniques for creating these features.

Benefits to Species: The techniques, guidance, and models described in this literature review will provide planning support for USACE and other agencies to develop in-channel habitat restoration projects that better utilize river flows, structural modifications, and available sediment to create quality habitats for endangered avian and aquatic species.

IMAGES: Channel Bars (Left and Above) ***CREDIT:*** Michael Porter, USACE

Los Lunas Habitat Restoration Project Monitoring

Following a fire in April 2000, the Los Lunas Restoration Site was selected as the first restoration area under the "Biological and Conference Opinions on the Effects of Actions Associated with the Programmatic Biological Assessment of Bureau of Reclamation's Water and River Maintenance Operations, Army Corps of Engineers' Flood Control Operation, and Related Non-Federal Actions on the Middle Rio Grande, New Mexico" (herein referred to as the 2003 MRG BO). Reclamation and USACE have acted as joint lead federal agencies on this 40-acre project, and MRGCD is the primary non-federal cooperator. This was the first habitat restoration project funded by the MRGESCP.

The primary objective of the project is to improve habitat conditions for RGSM and SWFL. The project included removing non-native vegetation to promote native willow and cottonwood establishment and growth; excavating high-flow channels and terrace lowering to provide RGSM nursery habitat; and excavating a groundwater pond/wetland for other wildlife. This ongoing activity will monitor the availability and effectiveness of restored habitat, including physical elements related to habitat characteristics (hydrology, geomorphology, and vegetation) and the presence of RGSM and SWFL.

Benefits to Species: Habitat restoration may successfully create sustainable habitat features for RGSM and SWFL. Consistent monitoring will ensure that constructed projects are functioning as designed and assist in determining the effectiveness and life spans of various restoration techniques and treatments. This will also help with the design of future restoration projects, which can be refined based on monitoring results.

IMAGE: Los Lunas Habitat Restoration Site
CREDIT: Michael Porter, USACE

IMAGE: Tamarisk Leaf Beetle ***CREDIT:*** USDA

Tamarisk Leaf Beetle Monitoring

Tamarisk leaf beetle (*Diorhabda carinulata*) monitoring results revealed the spread of the beetle resulting in defoliation of tamarisk into the Rio Grande watershed. The spread of tamarisk leaf beetle from the north and potential spread of other species of tamarisk leaf beetle (e.g., *Diorhabda elongata*) from Texas will ultimately affect riparian forests in central and southern New Mexico. *Diorhabda carinulata* has already spread further south, and the spread of the Texas beetle species is expected to continue range expansion into New Mexico watersheds. These areas are suitable habitat for the endangered SWFL and important to many other riparian birds, reptiles, and amphibians.

The survey methods for tamarisk leaf beetle are based on those established by the Tamarisk Coalition. Field data sheets are compiled and entered into a database, the spatial data for the beetle numbers present in each sampling location are used to create a GIS map, and findings identify what beetle species are present in New Mexico. This work is used to coordinate and compile tamarisk leaf beetle monitoring datasets with the Tamarisk Coalition.

Benefits to Species: Suitable habitat for SWFL and other riparian birds, reptiles, and amphibians exists in the MRG. The spread of the tamarisk leaf beetle will ultimately impact riparian forests in central and southern New Mexico. This project provides valuable information to managers for habitat restoration and other projects in riparian forests along the MRG.

3.2 Water Management, Operations & Monitoring Projects

In FY16 and FY17, Program signatories worked to acquire and manage water, collaborated on water releases and species activity, and conducted hydrologic studies in the MRG. Table 2 gives an overview of water management, operations, and monitoring activities, project duration, and signatories that contributed to the projects.

Table 2. Water Management, Operations, and Monitoring Activities List

Project Name	Begin	End	Contributing Signatories
Habitat Restoration			
Minnow Action Team	FY12	Ongoing	All Signatories
Supplemental Water Program	FY01	Ongoing	Reclamation
Continuous Water Temperature Monitoring of the MRG Basin	FY13	Ongoing	USACE
Rio Grande Nature Center High Flow Channel Gage Monitoring	FY10	Ongoing	USACE
Water Quality Monitoring of Aquatic Refugia in the MRG	FY17	Ongoing	USACE

Minnow Action Team

The Minnow Action Team (MAT) began in 2012 as an ad hoc work group to coordinate activities related to MRG water and species activities for a particular year. Due to reports of low RGSM numbers in the MRG resulting from the prolonged drought in 2012, the MAT was formed to determine if management actions could be proposed to the EC.

The MAT assists resource management entities with annual coordination, evaluation, and recommendations on water operations and species management to meet BO and recovery goals for the RGSM. It does this by assimilating hydrologic, biological, and ecological information on an annual basis; and providing recommendations that could be used to reduce endangered species threats, and to enhance spawning, recruitment, and survival conditions for RGSM.

In 2016, the MAT performed its annual assessment of hydrologic conditions in the context of addressing species' needs. The MAT informed the EC of the technical recommendations to the management agencies on potential operational and monitoring actions that could be considered for the upcoming irrigation season. These recommendations included the following:

- Seek to maintain the 2003 MRG BO flow targets for dry year (Article VII) conditions
- Support efforts to collect RGSM eggs for captive propagation facilities
- Seek to create/enhance the spring runoff hydrograph for RGSM spawning and recruitment
- Seek to create and maintain perennially wet refugia in the Isleta and San Acacia reaches

In 2017, the runoff forecast was improved over the previous four years, and Article VII of the Rio Grande Compact was lifted for a portion of the spring runoff. The MAT's recommendations included the following:

- Maintain regular operating conditions with no modifications for spawning or recruitment operations
- Entities conducting RGSM monitoring efforts should monitor for the occurrence of eggs, larvae, and adults in both the main channel and inundated overbank areas, and should evaluate the need to improve connections between the floodplain and channel for receding flows

After meeting again in 2017 to discuss results of the spring runoff and what would be anticipated for summer flows and drying, the MAT provided the following additional recommendations:

- Use up to 18,000 acre-feet (AF) of supplemental water strategically to reduce drying in the San Acacia and Isleta reaches
- Seek to maintain continuous flows in the Albuquerque portion of the Angostura Reach
- As they are able, agency staff and contractors should quantify habitat extent, gains, and losses in the main channel during the summer months

Supplemental Water Program*

In accordance with commitments in Reclamation's 2016 MRG BO, water acquisition funding in 2016 and 2017 allowed releases of supplemental water to benefit RGSM and SWFL. Funds totaling $1,123,875 in 2016 and $1,119,900 in 2017 secured leases of San Juan-Chama Project water from willing lessors to release supplemental water into the Rio Grande. Table 3 summarizes the water leases in both fiscal years.

Table 3. Water Acquisition and Funding for the San Juan-Chama Project Supplemental Water

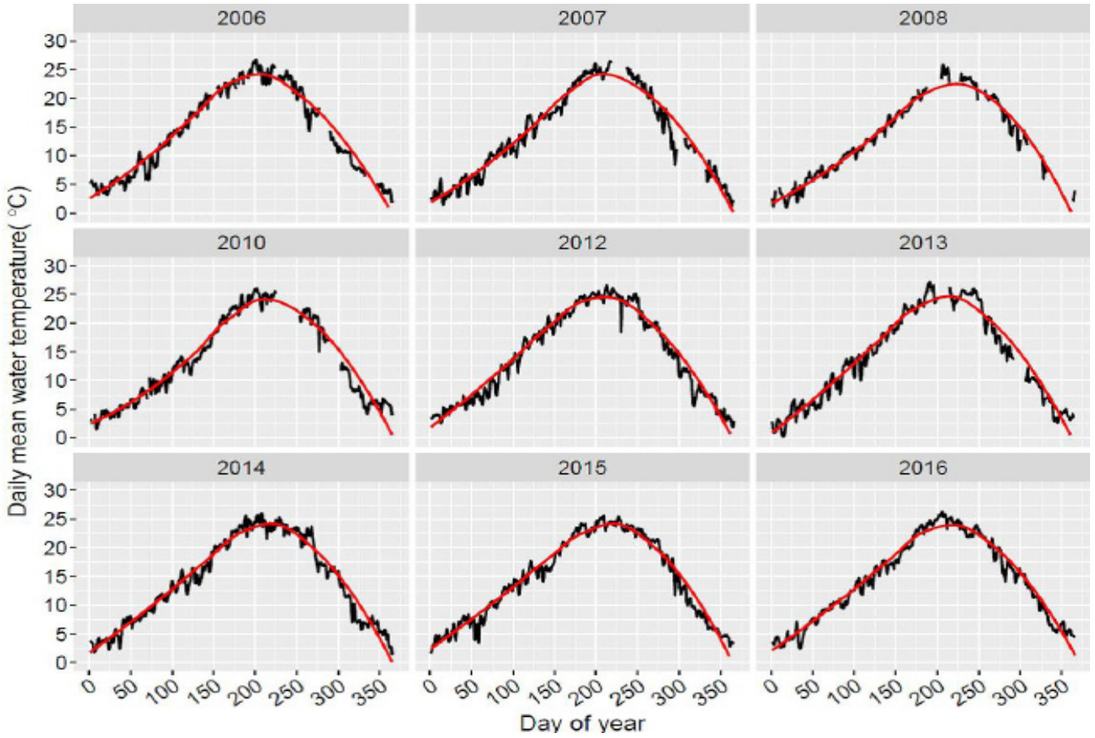
San Juan-Chama Contractor	2016 Leased Acre-Feet	2016 Funding	2017 Leased Acre-Feet	2017 Funding
City of Belen	450	$22,050	450	$21,600
City of Española	900	$44,100	930	$44,640
City of Santa Fe	50	$2,450	50	$2,400
County of Los Alamos	1,200	$58,800	1,200	$57,600
Couty of Santa Fe	375	$18,375	375	$18,000
El Prado W&S District	40	$1,960	40	$1,920
Jicarilla Apache Nation	5,900	$590,000	5,900	$590,00
OhKay Owingeh	2,000	$98,000	2,000	$96,000
Taos Pueblo	2,215	$221,500	2,215	$221,500
Town of Bernalillo	300	$14,700	300	$14,400
Town of Red River	60	$2,940	60	$2,880
Town of Taos (original + settlement allocations)	700	$34,300	700	$33,600
Village of Los Lunas	300	$14,700	320	$15,360
Total	**14,490**	**$1,123,875**	**14,540**	**$1,119,900**

Continuous Water Temperature Monitoring of the MRG Basin

The thermal regime of rivers is a key factor that determines the overall health of aquatic ecosystems as it influences the habitat suitability, distribution, and growth rates for most aquatic organisms. Temperature directly affects the level of dissolved oxygen in water, which is crucial for the health of aquatic organisms and for overall ecosystem health. Water temperature in the MRG fluctuates naturally (i.e., daily, seasonally and annually) and as of result of human activities that alter the flow of the river, such as dam releases and water diversions. RGSM evolved in a highly variable ecosystem, and is likely more tolerant of elevated temperatures and low dissolved oxygen concentrations for short periods. Despite this tolerance, degraded water quality can significantly affect the ability of RGSM to carry out biological processes, or even survive.

Project data are available in real-time via USGS (https://waterdata.usgs.gov/nm/nwis/current/?type=quality) and Reclamation (https://www.usbr.gov/uc/albuq/water/ETtoolbox/rg/riog/schematic/ SCHEMAT-ICwaterquality.html).

Figure 4. Daily mean (black line) and locally weighted scatter plot smoothed (LOESS; red line) water temperature (°C) for the Rio Grande at Alameda Bridge. Data was collected by the USGS, USACE, and UNM at the Alameda Bridge.



Benefits to Species: By collecting and analyzing water temperature data at fixed stations year-round and periodically during periods important to the life history of the RGSM (i.e., snowmelt pulse, flow reduction, flow alteration), scientists and engineers can assess seasonal and inter-annual variability, determine what environmental factors (e.g., discharge and air temperature) influence water temperature, and how water temperature influences RGSM (e.g., hatch periodicity, growth rates, survival, and population trends).

Rio Grande Nature Center High Flow Channel Gage Monitoring

The objective of this monitoring study is to collect data on stream flow through the channel during spring runoff. This information helps biologists understand whether and for how long flow conditions in this channel are suitable for RGSM spawning and recruitment. The amount and duration of flows also affect growth of native shrub species that provide essential SWFL habitat.

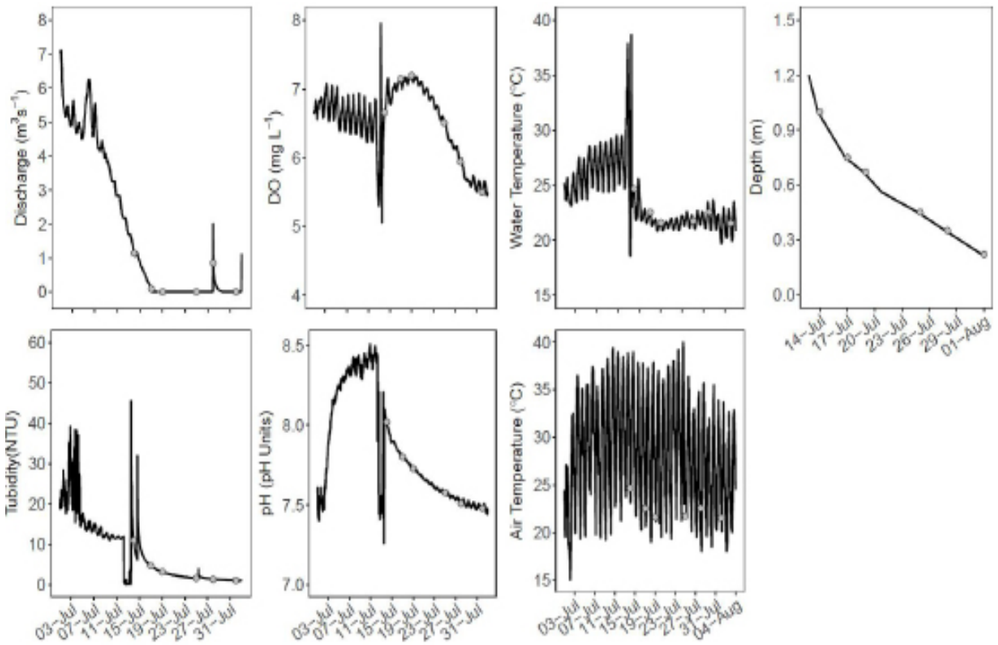
Benefits to Species: This project benefits RGSM and SWFL in the Albuquerque Reach by reestablishing hydrological connection between the river and channel.

IMAGE: High Flow Channel Gage Monitoring
CREDIT: Michael Porter, USACE

Water Quality Monitoring of Aquatic Refugia in the MRG

River intermittency, or drying of stretches of the river so there is not continuous flow, will continue to become more common because of climate change, especially in the southwestern U.S. On the MRG, significant river intermittency is now considered the norm, and will become more frequent and widespread given water scarcity predictions.

Figure 5. Estimate discharge (m 3 s-1) of the Rio Grande near San Antonio, NM (USGS gage No. 08355490), and dissolved oxygen (DO, mg L-1), water temperature (°C), pH, and turbidity (NTU) measured at 15-minute increments from an isolated pool near the south boundary of Bosque del Apache NWR during the summer of 2016. The isolated pool was approximately 24 river-km downstream of the USGS gage. Pool depth was measured periodically during discrete water quality sampling events (grey dots). Hourly air temperature data was obtained from the meteorological station at the Socorro municipal airport.



Aquatic wildlife experience habitat loss as drying occurs along stretches of the MRG. Remaining aquatic habitat, such as irrigation outfalls and isolated pools may provide temporary refuge for aquatic wildlife during periods of river intermittency. These spaces are known as aquatic refugia, and may become increasingly important as drying trends continue in the Rio Grande basin. Water quality factors within aquatic refugia including pH, nutrient content, temperature, and oxygen have been identified as potentially inhibiting the use of these spaces by endangered species such as the RGSM.

Continuous and discrete measurements of water quality within aquatic refugia will provide insight into factors that may influence fish survival, and more specifically, survival of the endangered RGSM. Moreover, the evaluation of these aquatic refugia will lead to a greater understanding of stream fish ecology and future challenges facing the MRG. The results of this work may then be used to inform management decisions.

Benefits to Species: Quantifying and evaluating the water quality and biogeochemistry, in combination with overlapping physical habitat and fish community assessments of MRG aquatic refugia help water managers determine how to manage water or other factors to support refugia for RGSM and the greater MRG fish community.

IMAGE: Water Quaility Monitoring in an Isolated Pool at Bosque del Apache NWR
CREDIT: Justin Reale, USACE

3.3 Rio Grande Silvery Minnow

In FY16 and FY17, MRGESCP signatories contributed funding and other resources toward protection and recovery of RGSM. Table 4 lists RGSM-related projects, project duration, and signatories that contributed to the projects. Activity areas in this section are divided into the following two categories:

1) Species Management, Monitoring, and Studies
2) Population Propagation and Augmentation

Table 4. Rio Grande Silvery Minnow Activities List

Project Name	Begin	End	Contributing Signatories
Species Management, Monitoring, and Studies			
Drain Outfall Monitoring	FY14	FY16	MRGCD
Fish Community Surveys	Ongoing		Pueblo of Santa Ana; USGWS
Assessment and Monitoring of RGSM Genetics	FY03	Ongoing	Reclamation; UNM
RGSM Population Monitoring	FY02	Ongoing	Reclamation
RGSM Spawning Monitoring/Egg Monitoring in Canals	FY99; FY01	Ongoing	Reclamation
Evaluation of RGSM Population Model Alternatives	FY15	FY18	USACE
Evaluation of using eDNA for Detecting Larval RGSM on the Rio Grande Floodplain	FY17	FY17	USACE
Investigation of RGSM Mesohabitat Preferences	FY15	FY18	USACE
RGSM Monitoring in Habitat Restoration Areas	FY14	FY17	USACE
Population Augmentation and Propagation			
Operations and Maintenace of the LLSMR	FY07	Ongoing	NMISC; Reclamation
CoA Rearing/Breeding Operations and Maintenance	FY01	Ongoing	Reclamation; ABCWUA; CoA
RGSM Propagation, Augmentation, and Rescue/ Salvage	FY01	Ongoing	Reclamation; USFWS
Southwestern Native ARRC Rearing/Breeding Operation and Maintenance	FY03	Ongoing	Reclamation; USACE; USFWS; MRGCD

SPECIES MANAGEMENT, MONITORING, & STUDIES

Drain Outfall Monitoring*

MRGCD and SWCA staff conducted sampling of the fish populations in three outfall locations in the Isleta Reach of the MRG. Small volumes of water were consistently discharged out of the wasteways during periods of river drying. Sampling was conducted during irrigation season at approximately three week intervals. The intention of the sampling was to determine if RGSM use the MRGCD drain outfalls as refugia when the adjacent river channel is dry.

Benefits to Species: RGSM may use MRGCD drain outfalls as habitat when the river channel is dry. Monitoring of RGSM populations in the drain can determine the effectiveness of this water management strategy. This information can be used to inform future management decisions and help determine the most economical use of water when supplies are limited, as well as aid in the formation and refinement of future studies and monitoring projects

IMAGES: Drain Outfall Monitoring Areas ***CREDIT:*** MRGCD Staff

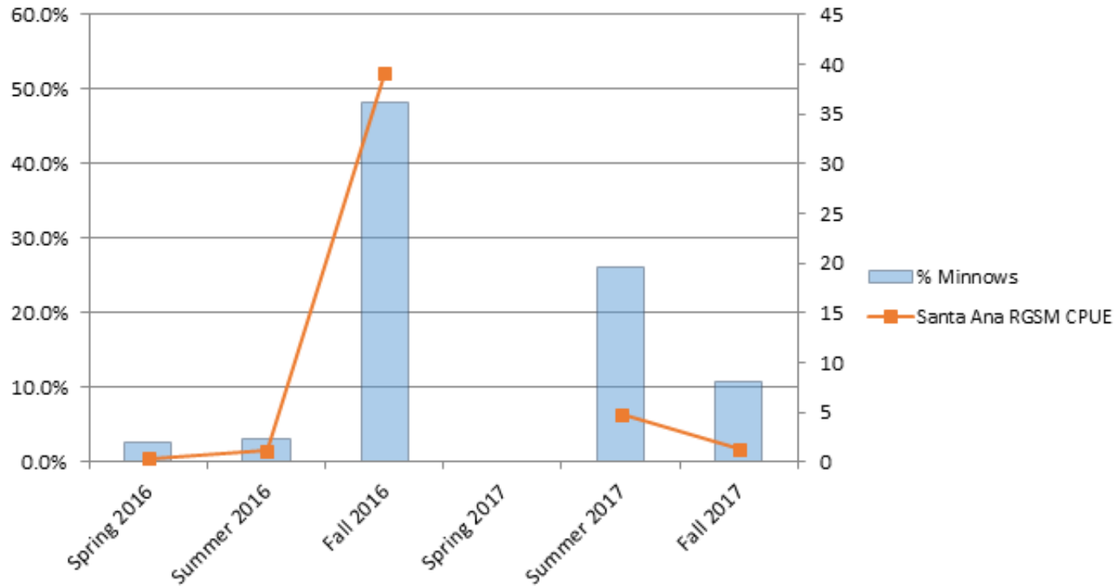
Fish Community Surveys

The Pueblo of Santa Ana completed fall 2016, and summer and fall 2017 fish community surveys in conjunction with USFWS staff. Due to high flows in spring 2017, data collection only happened during one day. The Pueblo monitored nine sites in the Santa Ana stretch of the Rio Grande during the fall and summer events. The Rio Jemez was dry during both events, and no data was collected for the six sites in that area. There were a total of 135 seine hauls at nine sites during each event.

The fall 2016 event fell on the same week that USFWS stocked 20,880 minnows into Santa Ana's reach of the Rio Grande. Subsequently, the Pueblo collected data on the stocking recapture and provided the data to USFWS. During the summer 2017 monitoring event, the Pueblo invited BEMP and WEST, Inc. staff to assist in monitoring efforts and learn to identify fish.

Benefits to Species: Surveying fish communities provides management-relevant information on RGSM, including population trends in response to habitat restoration projects.

Figure 6: 2016 and 2017 Surveying Data



Graph shows percentage of minnows caught compared to the entire species list numbers, and catch per unit effort (CPUE) as minnows/100m²

Assessment and Monitoring of RGSM Genetics*

Genetic monitoring of the MRG population of RGSM has been conducted from 1999 through 2012, and resumed from 2014 through 2017. Since 2002 when the augmentation program began, this has included monitoring stocks bred or reared in captivity and released to the MRG. In 2017, the project also began genotyping of all USFWS Southwestern Native Aquatic Resource and Recovery Center (ARRC) and the CoA Aquatic Conservation Facility (ACF) broodstocks used to produce fish for release in the fall.

The work under these contracts examines changes in levels of genetic variability in the wild population, impacts to viability, and impacts of captive propagation and augmentation on wild stocks. The RGSM genetics database is used to develop, parameterize, and verify models directed at predicting genetic effects of captive propagation on wild stocks of RGSM (under various scenarios) to inform captive propagation and augmentation strategies aimed at species recovery.

Monitoring in 2016 was based on genotyping 420 river-spawned RGSM collected in the three occupied reaches of the MRG, as well as wild-caught hatchery released fish, and progeny of captive stocks from USFWS Southwestern Native ARRC, the Los Lunas Silvery Minnow Refugium (LLSMR), and the CoA ACF. 2017 monitoring was based on genotyping 469 river-spawned RGSM collected in the three occupied reaches of the MRG, and progeny of captive stocks from Southwestern Native ARRC, Uvalde National Fish Hatchery, and the CoA ACF.

In 2016 and 2017, microsatellite diversity statistics (a measure of genetic variability within a population) were essentially unchanged from 2015 and 2016 values and exceeded minimum benchmark levels of diversity. In 2016, this stability is likely the result of the augmentation of the wild population with hatchery produced fish acting to buffer the population against loss of diversity. In 2017, the stability is also partly attributed to strong recruitment in fall 2016. The average number of alleles has remained relatively stable between 2006 and 2016, but in 2017 a decline in allelic diversity was observed, with this metric approaching the benchmark. Mitochondrial gene diversity and haplotype richness increased in 2016 and 2017 over most previous estimates, but remained within the range seen in previous years. Variance genetic effective size using the temporal comparison from 2015 to 2016 was greater (NeV=514-744) than for the previous comparison from 2012 to 2015 (NeV=193-328), and estimates from 2016 to 2017 were greater (NeV=1028-2325) than the comparison from 2015 to 2016. Higher NeV for 2017 suggests more stable allele frequencies between years and is consistent with higher densities in the wild.

In 2017, UNM began genotyping of all broodstock used to produce fish for release in the fall of 2017 from USFWS Southwestern Native ARRC and the CoA ACF. Gene diversity measured from microsatellites fell within the range seen in the samples collected from the Rio Grande over the course of the study. Haplotype diversity (calculated from mitochondrial DNA [mtDNA]) was lower in the broodstock from the CoA ACF compared to those from USFWS Southwestern Native ARRC.

Benefits to Species: This project provides long-term, annual genetic information on wild and captive-reared stocks of RGSM. It is critical to characterize the genetic diversity of the wild population of RGSM, both spatially and temporally, so that broodstock may be selected to mirror the pattern of wild variation in hatchery-propagated individuals. Having knowledge about the genetic diversity of captive-spawned RGSM ensures that artificial selection in hatcheries or variance in reproductive success among brooding individuals have not significantly altered (i.e., reduced) gene frequencies of individuals released into the wild population.

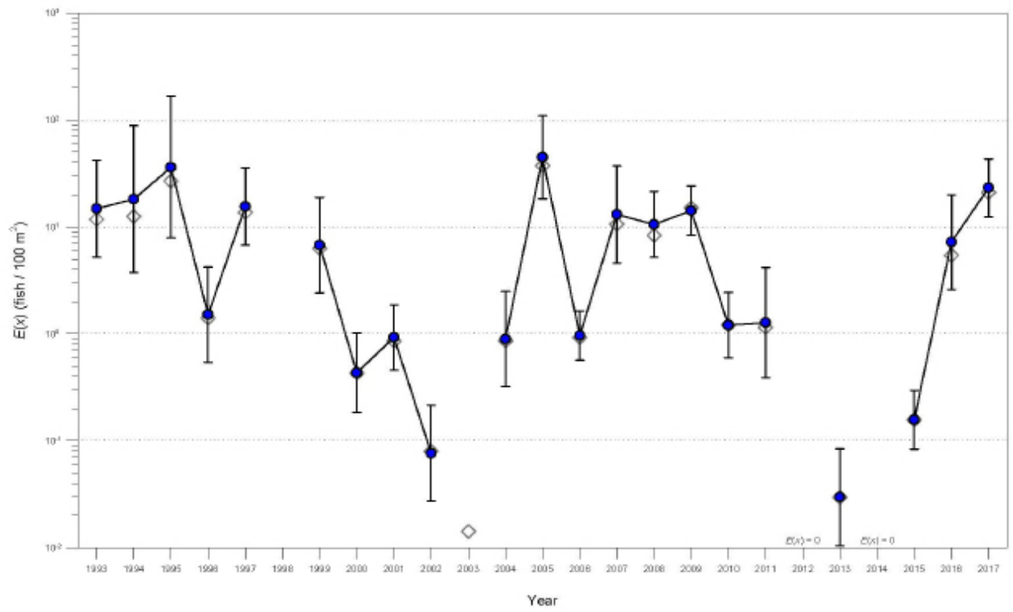
RGSM Population Monitoring*

The Program and Reclamation have funded systematic population monitoring of RGSM and the associated MRG fish community since 2002. Monitoring initially began in 1993 at multiple sites from Algodones to Elephant Butte Reservoir. This long-term sampling program documents RGSM population trends.

Monitoring occurs nine months of the year at 20 locations in the MRG. In 2017, peer review recommendations were added to the sampling design and a total of 30 sites were used during the key months of April and October, and two months were made optional tasks (December and February). Catch per unit effort (CPUE), or the number of RGSM individuals per unit area sampled, is used to measure the status of the species. A consistent monitoring protocol yields a nearly seamless long-term ecological data set to accomplish the following:

- Determine long-term (multi-year) and short-term (seasonal) trends in fish populations of the MRG using statistical approaches that discern spatiotemporal differences in the abundance of native and non-native fish, with a focus on RGSM
- Evaluate the influence of water discharge timing, magnitude, and duration on population fluctuations of both native and non-native fish species in the MRG over time and space, with a focus on RGSM
- Compare changes in RGSM absolute and rank abundance to that of other native and non-native fish species
- Determine site-specific sampling variation
- Examine spatial correlation of RGSM population dynamics over time

Figure 7. RGSM Estimates of Density using October Sampling-Site Density Data (1993–2017)



Solid circles indicate modeled estimates and bars represent 95% confidence intervals. Dotted horizontal lines represent orders of magnitude. Source: ASIR, LLC.

The estimated densities (E(x)) of RGSM in October were notably lower from 2010 to 2014 as compared to the 2007 to 2009 period. Estimated densities improved in October 2015 (E(x) = 0.16), and again in 2016 (E(x) = 7.20). Catch rates dramatically increased in October 2017 (21.56). Over 2,800 RGSM were detected at sampling sites during standard monitoring surveys in October 2017 as compared to 584 in October 2016.

Benefits to Species: Monitoring provides the foundation for assessing long-term changes in the MRG fish community, including RGSM. Specifically, these data have been used to document temporal and spatial trends in native and non-native fish populations, and to assess the influence of environmental variability (i.e., timing, magnitude, and duration of discharge) on species abundance and community structure. Monitoring fish communities at selected study sites provides information on RGSM and associated fish fauna, including population trends in response to water management practices.

RGSM Spawning Monitoring/Egg Monitoring in Canals*

Spawning activity of RGSM was monitored at sites in the Isleta and San Acacia reaches daily starting in 1999, and has continued annually since 2001 (with the exception of 2005). The sampling survey results were used to estimate the number of in-river RGSM eggs produced during major spawning events and over the duration of the principal spawning season (April - June). These results are also used to analyze egg passage rates, make correlations with water quality data, identify detailed spatial spawning patterns, and makes comparisons with prior years' data.

Reclamation has funded canal monitoring annually from 2003 to 2016 to document RGSM entrainment in main canals associated with diversion dams during the RGSM spawning period (May 1 - May 31). To minimize take as a result of diversions, catch rates in irrigation canals were used to determine the extent of the transport of eggs into the irrigation system at both IDD and SADD. Daily reports from this project inform resource management and river management decisions during the spring runoff. Canal monitoring was not conducted in 2017.

Monitoring from April 22 - June 10, 2016 detected a total of 496 eggs. The estimated number of eggs transported downstream was 166,147 at the Isleta Reach site, 144,374 at the San Acacia site, and 127,267 at San Marcial site. In 2017, monitoring occurred from May 2 - June 21 and detected a total of 450 eggs. The estimated number of eggs transported downstream was 149,818 at the lower Albuquerque site, 1,286,669 at the Sevilleta site, and 689,472 at San Marcial.

Benefits to Species: Long-term monitoring of the reproductive efforts of RGSM is necessary for recovery efforts and to facilitate effective management decisions. Research personnel use selected samples of wild eggs to conduct ongoing studies of population viability and genetics. Catch rates of drifting eggs during the spring peak flows are used to determine the magnitude and timing of the spring spawn for RGSM. Each yearly effort is also designed, in part, to provide insight into the success of recent stocking efforts. The future conservation status of RGSM appears to be dependent on ensuring adequate flow conditions during the spawning and early recruitment stages.

Evaluation of RGSM Population Model Alternatives

This project includes testing the potential for using a simulation model to evaluate the impact of environmental factors on the Rio Grande that have measurable effects on RGSM populations. This work involves modifications to a simulation model using publicly available software to test linking RGSM population parameters to space and time parameters, including habitat availability and quality, and timing of environmental flows for RGSM spawning and recruitment. The initial model, anticipated in the spring or summer 2018, compares river drying with a continuous flow to demonstrate the effect of drying on the population trajectories. Subsequent versions will evaluate possible management actions for population effects.

Benefits to Species: This information is useful for management decisions regarding river flow, water deliveries, aquatic and riparian habitat restoration, endangered species protection, and the public use of sensitive areas. These decisions will result in appropriate river flow levels that support improved environmental conditions and ecosystems for species that rely on riparian and aquatic habitats.

Evaluation of using eDNA for Detecting Larval RGSM on the Rio Grande Floodplain

This project involved conducting a literature review of RGSM DNA data archives and environmental DNA (eDNA) fish studies to determine effective field sampling protocols to assess the presence/absence of larval fish. The literature review supports planning for monitoring habitat restoration projects focused on RGSM floodplain habitat.

Benefits to Species: The eDNA methods would increase efficiency of monitoring RGSM populations, which would generate more detailed data. The optimized eDNA method for noninvasively monitoring larval fish could then be used for other species in the future.

Investigation of RGSM Mesohabitat Preferences

This project studied mesohabitat types and fish behavior under various levels of water velocity and depth at 15 sites on the MRG. The USGS mapped the spatial extents and physical characteristics of fish habitat, evaluating them at moderate and low stream flows. This information enables better understanding of RGSM mesohabitat preferences and modeling of fish movement.

Benefits to Species: It is important to understand RGSM mesohabitat use to develop effective river management tools. This information is useful for understanding the availability of habitats used by RGSM, which is necessary for maintaining viable fish populations.

IMAGE: Evaluation of RGSM Mesohabitat ***CREDIT:*** Michael Porter, USACE

RGSM Monitoring in Habitat Restoration Areas

Bosque habitat restoration projects have been constructed to benefit both aquatic and terrestrial species in the MRG. Specifically, the endangered RGSM may use inundated riparian habitat for spawning and recruitment. Evaluating the effectiveness of habitat restoration projects requires monitoring for RGSM during spring runoff and post runoff.

Benefits to Species: Habitat restoration is needed to reduce risk of extinction and increase recovery potential for RGSM in the MRG. The response of the fish community in the vicinity of habitat restoration projects in the months following recruitment provides a broad measure of project utilization. Measuring CPUE during post runoff monitoring enables general comparisons among sites and assessments of the effectiveness of the various treatment types.

POPULATION AUGMENTATION & PROPAGATION*

Operations and Maintenance of the Los Lunas Silvery Minnow Refugium

The LLSMR was built by NMISC with federal financial assistance, and is designed for the propagation and culture of RGSM within a natural environment. The facility began operation in 2009 and is located on State of New Mexico property in the Village of Los Lunas, about 20 miles south of Albuquerque. The facility includes an outdoor refugium that has a stream, ponds, islands, and overbank areas to mimic the Rio Grande's habitats. The LLSMR also has an indoor hatchery, quarantine building, outdoor tanks, and office building. The facility has a permanent staff of two aquaculturists and one technician, and NMISC works with the Program's ScW/HR and USFWS's Genetics and Captive Propagation Work Group to accomplish the facility's goals and objectives. The LLSMR is permitted by USFWS.

IMAGES: LLSMR includes a stream, ponds, islands, and overbank areas to mimic the Rio Grand habitats
CREDIT: NMISC

In 2016 and 2017, NMISC and USFWS worked on developing a MOA to provide guidance for better communication between the agencies and progress the LLMSR toward becoming one of the primary facilities for captive propagation of RGSM in the MRG. NMISC completed plans for expansion of the facility with the installation of large raceway tanks that have the capacity to produce 50,000 fish for augmentation each year. The LLSMR began construction of the new tanks in spring 2017 and completed construction in September 2017. The culture systems at the LLSMR were plumbed to primarily use groundwater from an on-site well, and with the capacity to use the municipal water supply as a backup source.

Benefits to Species: The LLSMR benefits RGSM by protecting the fish from extinction and assisting in its recovery in the following ways:

1. Raising RGSM for augmentation of wild populations in the MRG
2. Housing a broodstock population for species protection against extinction in case of river disasters
3. Housing an additional captive population in case of disease affecting the other two RGSM breeding and propagation facilities
4. Conducting studies that provide insight into the species, as well as improving hatchery management of the species

City of Albuquerque Rearing/Breeding Operations and Maintenance

The CoA ACF (formerly the RGSM Rearing and Breeding Facility) is located at the Albuquerque BioPark and it is maintained by CoA with funding from Reclamation and ABCWUA. The facility promotes the recovery of RGSM and increases RGSM numbers in the wild through captive propagation and augmentation. The ACF is a practical breeding and rearing center, and a research center. The facility includes indoor culture systems, outdoor culture systems, and a naturalized refugium. The indoor systems are used for quarantine, breeding, egg hatching, and rearing larvae. The outdoor systems are used for raising larvae to sub-adult age and for holding large numbers of broodstock. The outdoor naturalized refugium is a river-like environment with controllable flow, variable depth, variable habitat, and natural substrate.

IMAGE: ACF Broodstock
CREDIT: Kathy Lang, CoA BioPark

In 2016 and 2017, elevated flow rates in the MRG made collection of RGSM eggs difficult. In both years, collections of juvenile RGSM were also made to retain minimal levels of hatchery broodstock from these spawning years.

In 2016, ACF staff collected 910 RGSM eggs and approximately 3,300 juvenile RGSM. USFWS personnel made a separate collection of juvenile RGSM for the Southwestern Native ARRC. Captive spawning conducted at the ACF produced approximately 98,100 viable RGSM eggs. A total of 55,000 RGSM were tagged and released in November 2016.

In 2017, a significant amount of natural spawning of RGSM was expected, so operations at the CoA ACF were adjusted accordingly. ACF staff collected 10 RGSM eggs and approximately 5,500 juvenile RGSM. Approximately 3,000 of the juvenile RGSM were transferred to the Southwestern Native ARRC in October 2017. Captive spawning at the ACF produced approximately 30,068 viable RGSM eggs. A total of 12,000 tagged RGSM were released at three sites in the Isleta Reach in November 2017, and another 18,000 tagged RGSM will be released in February 2018.

Benefits to Species: The propagation techniques used by the facility staff have produced fish, eggs, and substantive information for other fish culturists. The CoA's facility aids in reestablishing, stabilizing, and enhancing populations of RGSM within its historic range of the Rio Grande Basin.

RGSM Propagation, Augmentation, and Rescue/Salvage*

The RGSM is restricted to a stretch of the Rio Grande in New Mexico, from the vicinity of Bernalillo downstream to the headwaters of Elephant Butte Reservoir. This distance is approximately 150 river miles, which fluctuates as the level of water in Elephant Butte Reservoir changes. The objectives of this project include the following:

1. Continued propagation of RGSM
2. Continued monitoring and augmentation of wild RGSM with hatchery-raised fish
3. Salvage, rescue, and transport of stranded RGSM when flow in the MRG becomes intermittent

For 2016, the project also determined the amount of incidental take, as defined in the 2003 MRG BO, due to water operations and drying. For 2017, the new 2016 MRG BO was in place, which no longer uses salvage data to calculate incidental take, and the project now informs adaptive management processes under the 2016 MRG BO.

Between July 13 and September 21, 2016, rescue/salvage efforts documented 15,282 live RGSM in isolated pools. Of these, 13,986 were released alive into the Rio Grande at sections of continuous flow within the same reach. Salvage efforts documented 13,940 dead RGSM, of which, 742 were considered incidental take associated with the first river drying and water operations in the MRG during the 2016 irrigation season as covered under the 2003 MRG BO. The other dead RGSM were assigned to the USFWS take permit, along with 1,296 RGSM that died during transport. The level of approved incidental take was 1,109 observed RGSM for 2016.

Between July 10 and September 11, 2017, rescue/salvage efforts documented 61,664 live RGSM in isolated pools. This represents the highest number in any year since 2007, likely due to high spring runoff conditions. Salvage efforts documented 3,284 dead RGSM. In addition, shoals of RGSM were visually identified, trapped, and seined in groups of more than 1,000 in a single seine haul during 2017 efforts.

This project also evaluates the effectiveness of RGSM population augmentation in the MRG and monitors the temporal and spatial movements of released RGSM. In 2016 and 2017, the USFWS's New Mexico Fish and Wildlife Conservation Office (NMFWCO) monitored stocked fish during surveys at approximately one-month intervals to determine survival, growth, and movement of hatchery-reared RGSM.

IMAGES: Left - USFWS Releasing RGSM into the Rio Grande; Right - RGSM ***CREDIT:*** NMFWCO Staff

From January 2016 to September 2016, 485 hatchery-released RGSM were documented as recaptures from several combined research projects. The majority of these recaptures occurred during population monitoring activities. Results of the 2017 monitoring are expected to be available in April 2018. About 65,880 RGSM were stocked in 2016 at four sites located within the MRG and 60,366 RGSM were stocked in 2017 at three sites. All released fish were supplied by hatchery operations with guidance from the RGSM Genetics Management and Propagation Plan.

Benefits to Species: This project benefits RGSM through continued propagation of RGSM, continued monitoring and augmentation of wild RGSM with hatchery-raised fish, and salvage of RGSM from intermittent reaches of the Rio Grande that would likely result in substantial RGSM mortality without management intervention. RGSM are rescued from isolated pools, transported, and released alive at locations that are perennially wet.

Over 2.5 million hatchery-raised RGSM have been released in the MRG since 2002. Additional studies are being conducted to understand the quantitative contribution of augmentation in currently occupied reaches.

Table 5. RGSM Augmentation Releases by Reach (2002–2017)

Year	Angostura Reach Releases	Isleta Reach Releases	San Acacia Reach Releases	Total Released
2002	2,082	0	11,900	13,982
2003	124,884	0	0	124,884
2004	115,157	0	0	115,157
2005	153,664	54,422	46,642	254,728
2006	135,539	61,278	222,034	418,851
2007	38,188	22,164	72,802	133,154
2008	0	0	0	0
2009	0	0	21,218	21,218
2010	0	43,990	92,000	135,990
2011	0	47,318	147,276	194,594
2012	0	130,552	144,000	274,552
2013	123,850	89,077	80,142	293,067
2014	113,407	78,114	76,767	268,348
2015	59,357	51,071	90,121	200,549
2016	20,880	2,000	43,000	65,880
2017	0	0	60,366	60,366

Table 5 represents yearly totals of all seasonal releases in the Angostura, Isleta, and San Acacia Reaches from the USFWS Southwestern Native ARRC, LLSMR, and CoA ACF. Data are from annual reports by the USFWS's NMFWCO, and are available at http://www.fws.gov/southwest/fisheries/nmfwco/reports.html.

USFWS Southwestern Native ARRC Rearing/Breeding Operation and Maintenance

This cooperative project at the USFWS's Southwestern Native ARRC in Dexter, NM utilizes the joint expertise of federal and state agencies and educational institutions to aid in reestablishing, stabilizing, and enhancing RGSM populations within its historic range of the Rio Grande Basin. The two facilities contributing to the effort are the USFWS Southwestern Native ARRC and the NMFWCO. USFWS Southwestern Native ARRC produces 250,000 to 300,000 RGSM annually for river augmentation. The facility holds an additional 16,000 to 20,000 refuge/broodstock year-round. The primary purpose of this activity is to propagate RGSM for augmentation efforts.

In 2016, USFWS Southwestern Native ARRC maintained a refuge/broodstock of 18,000 wild-caught adult fish, and 4,000 larvae from egg salvage operations. Additionally, the facility tagged age-0 fish with a Visible Implanted Elastomer (VIE) tag and stocked them into several locations in the MRG (Table 6). In October and November, an additional 180,135 age-0 fish were stocked at Shaffer's Crossing near Big Bend National Park in Texas. RGSM production for the year totaled 420,830.

In 2017, the facility maintained a refuge/broodstock of 18,000 wild-caught adult fish, and 2,000 larvae from larval collection operations. USFWS Southwestern Native ARRC tagged 10,880 age-0 fish with a VIE tag and stocked them into one location in the Angostura Reach of the MRG. An additional 290,175 age-0 marked fish were stocked in two locations near Big Bend National Park in Texas. Total RGSM production for the year equaled 441,055.

In both years, USFWS Southwestern Native ARRC also provided 140,000 newly hatched larval fish to the Uvalde National Fish Hatchery in Texas for grow-out and eventual stocking in the Big Bend Reach of the Rio Grande. This three year project evaluates the capacity of that facility to contribute to ongoing conservation efforts for the species by developing rearing and culture techniques in support of 10(j) population stockings.

Benefits to Species: The facility is used to conduct research for fish health assessments, maintain captive broodstocks, assist in preservation of genetic makeup, and rear and maintain larvae and adults. The propagation program began in 2001, and has made significant advances in developing appropriate and consistent propagation and culture methods.

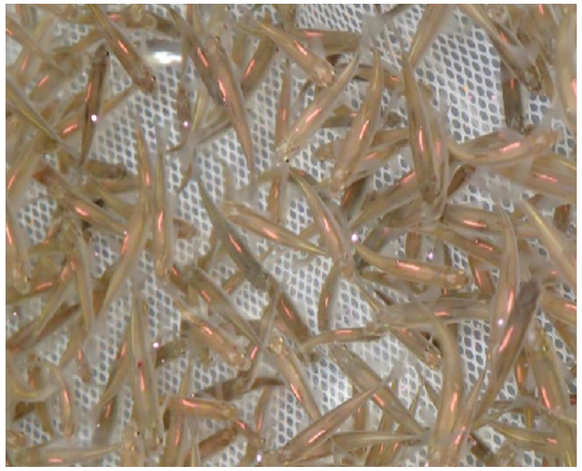


IMAGE: VIE Tagged RGSM ***CREDIT:*** USFWS Staff

Table 6. RGSM Releases per Reach

	2016	2017
Angostura Reach	62,479	10,880
San Acacia Reach	38,216	-
Isleta Reach	-	-
Cochiti Reach	**-**	**-**
Big Bend	180,135	290,175
Uvalde	140,000	140,000
Total Released	**420,830**	**441,055**

3.4 Avian Species Monitoring & Studies

In FY16 and FY17, the MRGESCP completed monitoring and studies related to SWFL, YBCU, and other avian species and their habitat. Table 7 lists projects that Program signatories funded and implemented during FY16 and FY17.

Table 7. Avian Species Monitoring and Studies Activities List

Project Name	Begin	End	Contributing Signatories
Avian Species Monitoring and Studies			
SWFL Monitoring	Ongoing		Pueblo of Santa Ana
SWFL Surveys and Nest Monitoring	FY95	Ongoing	USACE; Reclamation
Avian Monitoring	Ongoing		USACE
SWFL Surveys on the Rio Grande in the Albuquerque Metro Area	Ongoing		USACE

SWFL Monitoring

The Pueblo of Santa Ana is committed to protecting and enhancing wildlife habitat on its land. Through collaboration with federal, state, and local partners, the Pueblo and their economic enterprise, Hyatt Tamaya, have undertaken numerous ecosystem-based restoration initiatives resulting in the reduction of hazardous fuel loads from 1,321 acres. This has been accomplished by removing exotic plant species, restoring wetlands, promoting overbank flooding and widening of the floodplain by lowering river bars, arresting river channel incision within the active floodplain, and restoring habitat important to sensitive and endangered species.

In 2016 and 2017, the Pueblo monitored for SWFL according to standardized survey protocols (Table 8). Along the Pueblo's six mile reach of the MRG, three to five surveys occurred across eight locations of restored riparian habitat (67 acres). Surveyors observed that the riparian habitat adjacent to four of the survey polygons had grown enough to be considered suitable for flycatchers, and thereby increased the original survey areas by an additional nine acres (76 acres).

A minimum of one survey was conducted in each of the three survey periods. If willow flycatchers were only detected during the first survey period, it is most likely they were migrants and only three surveys were conducted. For survey locations that had willow flycatcher detections in both the first and second surveys, two additional surveys were conducted to determine status (resident versus migrant).

Table 8: Dates of each Survey Period as Set by SWFL Survey Protocol

Survey Periods	
First Survey Period	May 15 - May 31
Second Survey Period	June 1 - June 23
Third Survey Period	June 24 - July 17

During 2016, 42 SWFL's were detected at all eight survey polygons during either the first or second surveys (May 18 - June 10, 2016). No SWFL's were detected during the third, fourth, or fifth surveys (Table 8). Thus, all 2016 SWFL detections were considered migrants.

During 2017, 45 SWFL's were detected at seven of eight survey polygons. Thirty-nine of these were only detected once (Survey One only: 37 [May 16-30], Survey Two only: 2 [June 2-9]), and thus were considered migrants (Table 9). At five detection locations, SWFL's were present during both the first and second surveys. Four of these were gone by mid-June. So, despite being re-located during the second survey, detections were still within the migratory window. However, during 2017, the first confirmation of SWFL breeding on the Pueblo was recorded. On May 19, a male was first detected and consistently redetected at the same location. He appeared to be defending a territory from migrants moving through. On June 13, a pair was detected and the first documented SWFL nest on the Pueblo was found on June 15.

Table 9. 2016 and 2017 SWFL Detections along Pueblo of Santa Ana's Stretch of the MRG

Year	Survey Hours	S1	S2	S3	S4	S5
2016	76:35	38	5	0	0	0
2017	89:00	41	7	2	2	0

Benefits to Species: The Pueblo continues to perform habitat restoration and species monitoring on its lands. Metrics from monitoring help to gauge project effectiveness, guide the Pueblo's management direction adaptively, monitor population changes, and ensure restoration project implementation.

SWFL Surveys and Nest Monitoring*

Program signatory biologists have conducted SWFL surveys and studies at sites from Bandelier National Monument to Elephant Butte Reservoir since 1995. These studies were originally designed to provide insight into potential threats to SWFL populations and their habitats, and now they focus on completing presence/absence surveys and nest monitoring.

Reclamation conducted surveys and nest monitoring at selected project sites within the MRG Basin in 2016 and 2017. Survey resultsare used to determine the distribution, abundance, and productivity of breeding SWFL within the defined study area. These surveys are required to achieve compliance with the ESA and meet project obligations.

In both fiscal years, SWFL surveys were also conducted in the Albuquerque bosque as part of USACE's MRG Restoration Project using USACE-permitted staff. Presence/absence surveys, based on established survey protocols were conducted during the breeding season. Results are shown in Table 10.

Benefits to Species: This project is an essential component of tracking the status of the species. It provides a census of the present population, population trends, and the current distribution of SWFL in the region. These data enable managers to determine impacts to the species from specific actions and to adapt management actions as necessary.

Table 10. 2016 and 2017 SWFL Survey Results

MRG Area	Number of SWFL Territories	
	2016	2017
Frijoles	0	0
Belen	20	17
Sevilleta/La Joya	5	4
San Acacia	0	0
Escondida	5	8
Bosque del Apache NWR (active floodplain)	17	16
Tiffany	5	0
San Marcial	303	257
Annual Total	**355**	**302**

Avian Monitoring

Habitat suitability has been declining and transitioning to include more saltcedar in more recent years given drought conditions. Surveys sampling avian abundance and species richness relative to vegetation community and structure (C/S) types within the MRG bosque have occurred since December 2013. Established sites within the MRG are surveyed during both the breeding and wintering seasons. Locations within each reach are surveyed per previous survey data, and nest search and monitoring are also conducted. Various nest parameters including nest success, brood parasitism, predation, abandoment, and productivity are determined for raptors and songbirds, as well as SWFL and YBCU. An additional objective established in 2017 focused on changes in the bosque since the 1984 Middle Rio Grande Biological Survey. These include providing a 20-plus year comparison of changes in avian abundance and species richness, as well as changes in C/S types; and types present 20-plus years ago versus changes based upon construction of the MRG restoration sites.

Benefits to Species: The results of this study contribute to baseline population data, monitoring of population trends, and the determination of the current distribution of SWFL in the region. Additionally, this study tracks avian activity and assists in determining safe and usable avian habitat within the MRG.

IMAGE: Yellow-Billed Cuckoo
CREDIT: J. A. Spendelow, USFWS

SWFL Surveys on the Rio Grande in the Albuquerque Metro Area

This project aims to determine the presence or absence of SWFL within the MRG as a component of Program monitoring activities. Five locations in the Albuquerque Metro Area bosque are surveyed annually: Montano Southwest since 2004, Brown Burn and Rio Bravo Northeast since 2010, and Durand Outfall and South Corrales since 2011. Nest searches and monitoring are conducted at each site to determine various parameters including nest success, brood parasitism, predation, abandonment, and productivity. These variables are then compared under different hydrologic conditions found at the nest site.

Benefits to Species: The results of this study assist in determining available SWFL habitat and in tracking their activity within the MRG.

IMAGE: Potential SWFL Breeding Habitat at Rio Bravo
CREDIT: Hawks Aloft, Inc.

3.5 Program Science Support

In FY16 and FY17, Program signatories funded and implemented several scientific studies and projects toward benefiting listed and protected species. Signatories and contractors conducted spatial analyses and comparisons of historic and current MRG conditions, monitored and studied species habitat, and participated in regional climate change planning efforts. Table 11 lists activities related to Program Science Support, project duration, and contributing signatories.

Table 11. Program Science Support Activities List

Project Name	Begin	End	Contributing Signatories
Program Science Support			
Bosque School BEMP Site Monitoring	FY14	Ongoing	USACE; BEMP
Collaborative Aerial Data Collection and Analysis	FY16	FY18	USACE
All Hazards Bosque Runbook	FY10	FY17	USACE
Monitoring Climate Change in the MRG	FY12	Ongoing	USACE
Production of 1962 Image and Terrain Maps of the MRG	FY17	FY17	USACE
Rio Grande Study and Tributaries Geomorphic Characterization Study	FY11	FY17	USACE
Rio Grande Sediment Gages: Rio Puerco, San Acacia, San Marcial	FY10	Ongoing	USACE

Bosque School BEMP Site Monitoring

BEMP is a collaborative ecological monitoring program between UNM and the Bosque School funded, in part, by Reclamation in FY16, and USACE in both FY16 and FY17. BEMP uses volunteers and students to conduct regular and systematic monitoring of habitats on the historic floodplain while promoting education and awareness of the bosque's overall condition. BEMP collects long-term data at a total of 27 research sites along 270 miles of the Rio Grande including weather data, shallow groundwater table depth, monthly precipitation, surface arthropod activity, and forest-production measurements (leaf litter biomass, tree diameter, growth rates, and plant distribution). The data are shared with Program signatories and other land and natural resource managers.

Benefits to Species: BEMP provides long-term data collection, promotes public outreach, and furthers preservation of endangered species habitat.

IMAGE: Bosque Monitoring
CREDIT: WEST, Inc. Staff

IMAGES: Camera Array with USACE-produced Mount, In-flight Data Collection, and View from Aircraft Sensor Port
CREDIT: USACE Staff

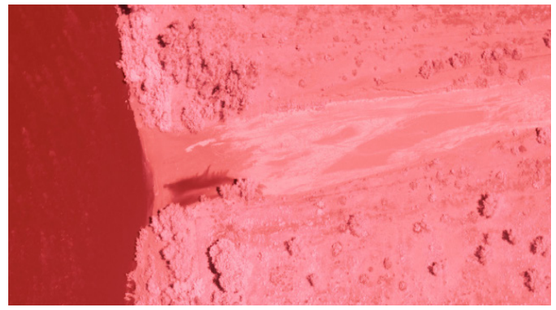
Collaborative Aerial Data Collection and Analysis

Movement of sediment in the southwestern U.S. tends to be initiated by flash flood events due to monsoons. These events are short-term and occur under monsoonal weather conditions, which makes it difficult to accurately measure sediment volumes and movement using common terrain mapping technologies such as aerial Light Detection and Ranging (LiDAR). The major impediments to using these methods are the short notice to activate flight missions and the inability to rapidly develop maps. This project develops tools to facilitate the rapid production of sediment-related measurements.

Since 2016, USACE has collaborated with the UNM GIScience for Environmental Management Lab, the U.S. Air Force (USAF) Civil Air Patrol (CAP), and Bureau of Land Management (BLM) to implement the sensor array and conduct aerial data collection. The Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) have also collaborated on arroyo data collection and ground control for aerial flights. Initial flights have been conducted with promising provisional results, and work is being done to produce additional tools for ongoing monitoring.

In 2017, this project conducted multiple flights along the MRG, including the full Arroyo de los Piños watershed. Data collected during peak spring runoff included floodplain habitat and levee inundation. The Arroyo de los Piños research site in Socorro, NM, is the focus of extensive, ground-based, instrumented sediment monitoring developed by Reclamation, USGS, and New Mexico Institute of Mining and Technology (NMT). The imagery from these flights will be used for high resolution geomorphic and vegetation analysis.

Benefits to Species: Sediment transport volume data provide important geomorphic snapshots for the calibration of hydraulic models. These models provide the foundation for Rio Grande tributary and main stem restoration efforts and efficient endangered species protection measures.



All Hazards Bosque Runbook

Wildfires burned over 300 acres within the Albuquerque bosque in the summers of 2003 and 2004. Firefighters working to battle these blazes were hampered by jettyjacks that blocked access to burn areas, by the small number of bridges providing access to the bosque from the levee roads, and by limited information available about other bosque landscape features. Following these fires, USACE's Albuquerque District received emergency Federal funds to assist local efforts to restore the burned areas and to improve access to and reduce the fire risk within the bosque. A part of this effort included keeping the public informed of these changes through the creation of the "All Hazards Bosque Runbook." The first edition of the book was created in 2010, and was updated in FY16 and FY17. However, to address the changing conditions in the bosque, the Albuquerque Fire and Rescue (AFR) convened a new All-Hazards Working Group to update the runbook on a five-year cycle, and expand its application for emergency response.

Benefit to Species: Provides public outreach and education about New Mexico's endangered species and their local habitat requirements.

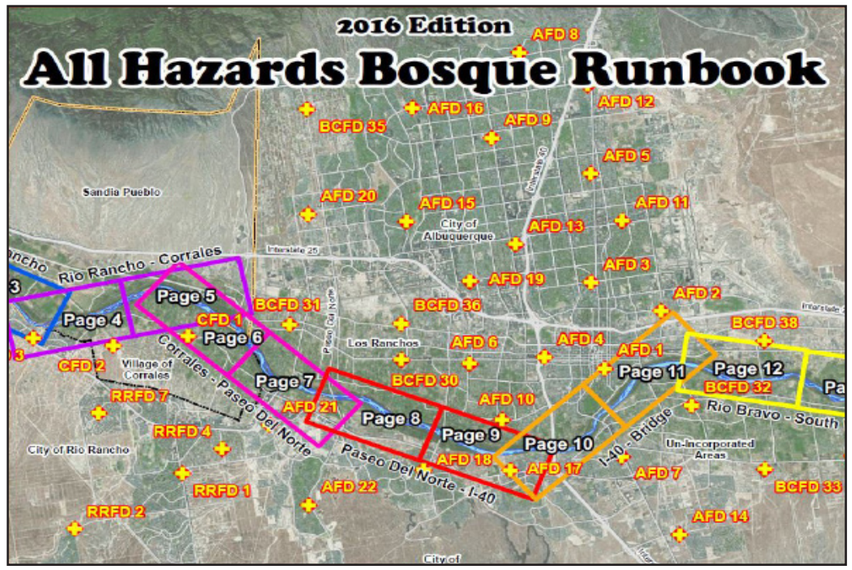


IMAGE: Fire Access Run Book Cover
CREDIT: USACE

Monitoring Climate Change in the MRG

Most model projections of future climate in the Rio Grande basin are characterized by persistent drought. Recent drought has highlighted the vulnerability of regional water supplies to persistent drought, and the potential impacts of drought on habitat and species conservation efforts. This project helps decision-makers understand and plan for climate change impacts to endangered species and suitable habitat by creating and maintaining an ongoing summary and analysis of current trends in climate and resulting hydrologic changes in the Rio Grande basin above Elephant Butte Reservoir. In addition, this project supports active participation in several regional climate change planning efforts including the following:

- Reclamation and MRGCD WaterSMART climate change projects, including the Rio Grande-New Mexico Basin Study and the Drought Framework Planning Study
- City of Las Cruces and Southwest Climate Science Center Extreme Weather Events, Critical Thresholds, and Climate Preparedness study
- Los Alamos National Laboratory Climate Research Symposium and Adaptation Round Tables
- Rio Grande basin representation on the South Central Climate Science Center Rio Grande Coordinating Call and to the Southern Rockies Landscape Conservation Cooperative
- Information sharing with federal agencies through the Watershed Futures initiative

Benefits to Species: This project contributes information necessary for planning and implementing projects that increase and improve occupied, suitable, and potential habitat for RGSM and SWFL.

Production of 1962 Image and Terrain Maps of the MRG

Structure from motion (SfM) is a technology that is commonly used to process drone-collected imagery. This project used SfM processing on 1,379 USGS high resolution 1962 prints to build a contiguous image that covers 175 miles of the Rio Grande from Cochiti Lake south to Elephant Butte Reservoir. Cochiti Dam was completed in 1974, creating Cochiti Lake, which impacted the downstream river environment. The contiguous image created by this process is of the river before Cochiti Dam was completed.

To ensure that the resulting image was correct, over 300 visible fixed objects were identified in the 1962 imagery and used for verification with those objects that are still visible today. To assign elevations to these points, a 2010 LiDAR set of this river reach was used to measure heights of the LiDAR points at the visible fixed object points. This was applied to the processed image, resulting in an excellent, accurate reference of the image to real world coordinates.

The SfM process also produced a digital surface model that represents a novel 3-dimensional picture of the river reach's braided stream geomorphology and adjacent riparian woodlands as they existed in 1962 before Cochiti Dam's influence affected the downstream environment.

Benefits to Species: As the most accurate pre-Cochiti Lake data set, the products produced by the SfM processes will enable multiple vegetation, sediment, and habitat analyses, including study of change over time, sedimentation monitoring, and restoration projects. These products also serve as an accurate baseline for future studies.

Restoration, Geomorphology, and Monitoring

This study investigates geomorphic trends at select high flow channels within the Rio Grande floodway. The high flow channels were constructed as part of various riparian and riverine habitat restoration projects. Detailed topographic surveys of the constructed features were conducted annually, and are anticipated to continue in coming years for adaptive management purposes. Reporting details which channels were analyzed and documents the geomorphic changes of the areas studied.

Current survey methods and practices were used to achieve the highest accuracy possible. Fiscal year 2017 continued use of a GPS RTK unit to allow efficient, versatile, and precise data collection. Monuments serve as the basis for ground control for the topographic surveys. Two monuments were installed at each site to provide better control over the large restoration areas. Monument installation has now become a standard practice at all monitoring sites. Flow and velocity measurements are being collected at multiple sites as well as refined sediment cross sections in order to provide calibration data for 2D hydraulic and sediment modeling.

Benefits to Species: The study establishes methods that allow engineers and scientists to investigate channel geomorphology and constructed features through an adaptively managed process.

IMAGE: MRG geomorphology has been affected by flood control and irrigation projects
CREDIT: USACE Staff

Rio Grande and Tributaries Geomorphic Characterization Study

The overall goal of the study is to assess the relative contributions of the dams and the secondary influences on the geomorphology of the Rio Grande through a combination of quantifying key secondary influences and numerical sedimentation modeling. The objective of the current phase of the study is to characterize the impact of primary and secondary influences on main stem geomorphology and sedimentation between Cochiti Dam and Angostura Diversion Dam.

Benefits to Species: This and related studies will aid in the understanding of how human activities impact endangered species' habitats, and will support operational and strategic decision-making.

Rio Grande Sediment Gages: Rio Puerco, San Acacia, San Marcial

The overall goal of the data collection effort is to provide information by which to assess the relative contributions of dams and secondary influences on the geomorphology of the Rio Grande. The geomorphology of the Rio Grande within the Middle Valley has been affected by flood control and irrigation projects, with secondary influences (dams, channel rectification measures, and sediment delivery from contributing drainage areas) altering the geomorphology of the channel.

Accurate sediment gage data are critical to understanding these effects, and this project supports data collection at three gages essential to this effort.

Benefits to Species: This data collection effort will aid in the understanding of how USACE project activities affect species' environments, and will support operational and strategic decision-making.

IMAGE: MRG geomorphology has been affected by flood control and irrigation projects
CREDIT: USACE Staff

3.6 Program Support

During FY16 and FY17, MRGESCP signatories worked to maintain the DBMS, contract third-party program and science support through Reclamation, and provide contract and signatory staff and resources toward achieving Program goals. Table 12 lists Program Support-related activities, project duration, and signatories that contributed to the projects.

Table 12. Program Support Activities List

Project Name	Begin	End	Contributing Signatories
Program Support			
Signatory Program Support	FY00	Ongoing	All Signatories
Database Management System	FY07	Ongoing	ABCWUA; USACE
Program Support Contractor Services	FY16	FY16	Reclamation
Program and Science Support Services	FY16	FY21	Reclamation
USFWS Management and Support	FY02	Ongoing	Reclamation
Adaptive Management Framework for the MRGESCP	FY15	FY18	USACE

Signatory Program Support

In FY16 and FY17, MRGESCP signatories provided management and support staff responsible for overall Program administration, coordination, and dissemination of information about Program activities. In addition, each signatory provided an EC member, CC member, and representatives for the technical work groups, and contracting support.

Benefits to Species: Program management and support staff are required to implement Program activities. Signatories also provide technical support representatives to assist with the evaluation of proposed projects, review project deliverables, develop scopes of work and independent government cost estimates, and develops monitoring and program assessment plans.

IMAGE: EC Meeting ***CREDIT:*** Reclamation

MRGESCP Database Management System

The DBMS is the Program's website, meeting calendar, and file library. It is regularly maintained and updated, and stores and facilitates access to all scientific data, reports, and papers relating to endangered species and suitable habitat in the MRG. It also functions as the document repository for the Program's administrative record for meetings and activities. Stored information and data is available for use by Program members and the public. The DBMS can be found at https://webapps.usgs.gov/MRGESCP/.

Benefits to Species: The DBMS provides a comprehensive clearinghouse for data and information related to endangered species and suitable habitat in the MRG to facilitate analysis, hypothesis testing, and management decisions.

IMAGE: Program DBMS Homepage ***ADDRESS:*** https://webapps.usgs.gov/MRGESCP/

MRGESCP Program Support Contractor Services

In FY16, Reclamation contracted Program support services to assist the PMT on specific projects and tasks. FY16 contracted support services included coordination and drafting of the Program's FY15 Annual Report with Genquest, Inc., and note-taking support for Program meetings with Alliant Environmental, LLC. Additionally, Reclamation contracted third-party program and science support services through WEST, Inc to support the MRGESCP.

Benefits to Species: Contracting MRGESCP support services is essential in moving the Program forward and in implementing Program activities. Coordination around research and monitoring allows for Program science and other activities to better inform management decisions on the MRG related to listed and protected species.

IMAGE: Bosque Vegetation
CREDIT: Mike Marcus

IMAGE: Scenic Views of the Rio Grande ***CREDIT:*** Mike Marcus

Program and Science Support Services

In FY17, Reclamation contracted WEST, Inc. to provide third-party program management and science support services to the MRGESCP. The WEST, Inc. PMT includes a Program Manager, a Science Coordinator, and support staff as described in Section 1.3. The PMT is responsible for facilitating achievement of Program goals by providing program management services, science coordination services, and statistical support services. Program management services include overall administration, coordination, and dissemination of information about Program activities. Science coordination services include support of the Program's science activities, and coordination with Program scientists and technical experts to begin development of an adaptive management plan.

Benefits to Species: Program management and science support activities are essential in moving the MRGESCP forward and in implementing Program activities. Coordination around research and monitoring allows for Program science and other activities to better inform management decisions on the MRG related to listed and protected species.

USFWS Management and Support

In 2016 and 2017, Reclamation provided funding to USFWS for personnel to support MRGESCP management activities and to facilitate ESA compliance. USFWS assisted in the coordination, planning, and management of work groups staffed by Program participants to fulfill Program By-Laws. Specific ESA compliance tasks included facilitating Section 7 consultations for the Program's federal partners, and managing Section 10 permits for other Program signatories.

Benefits to Species: USFWS provides program management and on-the-ground support for activities that advance the recovery of endangered species, including the facilitation of ESA compliance to minimize adverse effects of actions in the MRG on listed species and their suitable habitat.

IMAGE: USFWS Conducting Fish Community Surveys
CREDIT: WEST, Inc. Staff

IMAGE: Bosque Vegetation
CREDIT: Mike Marcus

Adaptive Management Framework

USACE contracted with GeoSystems Analysis to serve as a neutral third-party in developing a framework that includes the critical scientific uncertainties and key study questions that need to be addressed to better inform management actions. This framework builds on the Draft Adaptive Management Plan, Version 1 (from June 2011) and will help inform the development of a MRGESCP adaptive management plan.

Benefits to Species: The framework will identify critical scientific uncertainties and recommend associated studies for four of the federally listed listed and protected species in the MRG; these include the RGSM, SWFL, YBCU, and the NMMJM.

Middle Rio Grande Endangered Species Collaborative Program

New Mexico

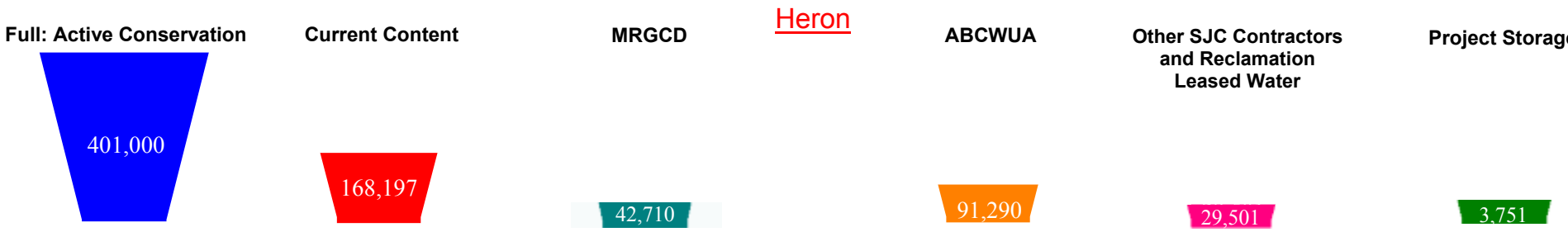
RECLAMATION
Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

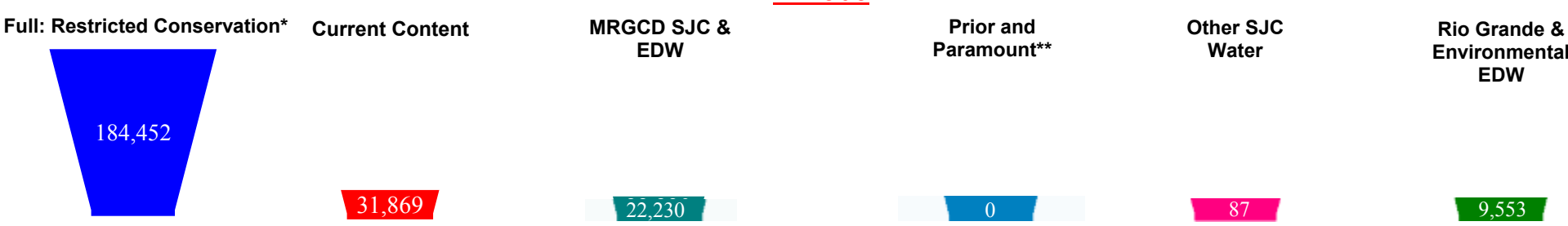
Reservoir Storage Status

Drafted 6/20/2018 with 06/19/2018 data.

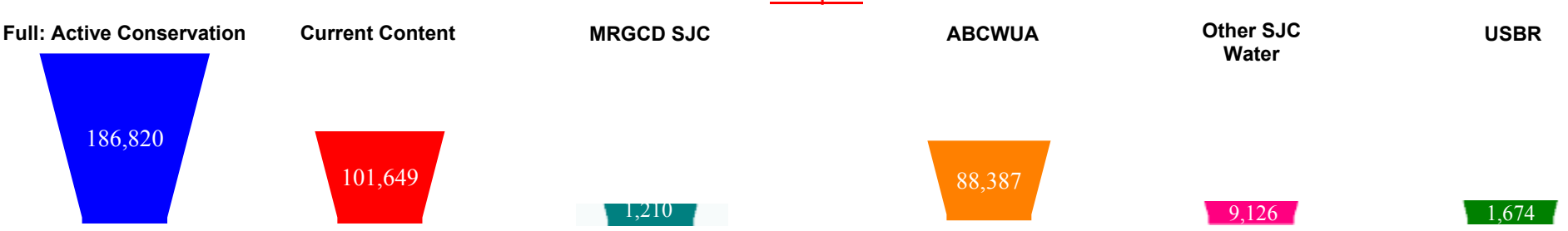
Heron



El Vado



Abiquiu



Cochiti

Elephant Butte and Caballo

* 172,656 AF 06/01 - 09/30 unless waiver requested. Otherwise, reported number.

** Storage volume TBD in May of given year.

*** Varies by time of year. Reported number is for irrigation season (06/01 - 09/30)

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.

EC MEETING (6-21-18)

1. Heron Summary

   Content = 168,197 ac-ft (6/19)
   Azotea tunnel: 25-50 cfs
   Total SJC inflow year-to-date: 32,558 a.f.
   Currently releasing 50 cfs
   Current MRGCD storage: 42,710 ac-ft

2. El Vado Summary

   A. Total storage (all contractors and natural) in El Vado as of 6/19:
      31,869 ac-ft.

   B. Native in El Vado
      9,553 ac-ft.

   C. MRGCD's SJ-C storage in El Vado
      22,230 ac-ft.

   D. P & P: 0 ac-ft

   E. EDWA: 0 ac-ft

   F. All other SJ-C contractors: 86 ac-ft

      Current release is 750 cfs RG Inflow is 50-100 cfs

3. Storage in Abiquiu

   Content = 101,649 ac-ft (6/19)
   MRGCD's SJ-C storage= 1,210 ac-ft

Total water released for minnow to date in 2018: 10,533 ac-ft

Snowpack Data:

All SNOTEL sites melted out

MRGESCP Goals Statement

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 Middle Rio Grande for the betterment of the river system, its listed species, and water users.

Administrative Work Group Charge

Overall purpose:
To revise the Program By-Laws, incorporating decisions by the EC and making recommendations on Program structure and function.

Management/Science Implications:
This task will enable the Program to complete its transition to a new structure and adaptive management.

Deliverables:
Revised Program structure
Recommendations to the EC on specifics

Timeline to complete work:
By December 2018

Member roster:
Ashley Tellier, USACE
Bill Grantham, NM AOG
Chris Shaw, NM ISC
Janet Jarratt, APA
Jim Wilber, Reclamation
Josh Mann, US DOI Solicitor's Office
Lynette Giesen, USACE

Population Monitoring Workgroup Charge

Task 1 focuses on addressing technical questions concerning use of CPUE in the current RGSM monitoring program (see detailed write-up of Task 1 in Appendix A). This task should be approved and implemented as soon as possible to provide sufficient time to identify and invite qualified scientists to participate in the workshop process and to plan and organize the workshop. **Complete.**

Task 2 is a review of the current monitoring program including temporal and spatial aspects of sampling design, data collection protocols, and data analyses.

Task 3 is the development of a formal Fish Monitoring Plan with details of sampling design (e.g., number and location of samples, frequency of sampling, gear types, etc.), data collection protocols (e.g., data to be collected, manner of storage, etc.), and analytical methods (e.g., CPUE computation, relationship of CPUE to population estimates, use in PVA models, etc.).

Science/Habitat Restoration Workgroup Charge

Overall purpose:
Complete the 2018 Science/Habitat Restoration Work Plan as approved in the February 2018 Science and Habitat Restoration Workgroup Meeting.

Tasks and Management/Science Implications:
1.) Finish Prioritizing Peer Reviews Recommendations
In recent years, the Collaborative Program has sponsored three independent science panels/peer review panels:

- RGSM Life History (February 2017)
- RGSM Genetics Project Peer Review (February 2016)
- RGSM Population Monitoring (December 2015)

The Collaborative Program has undertaken some prioritization of the recommendations from the panel reports, but has not completed these efforts, or looked at prioritizing the recommendations from all three panels as a whole.

Continuing the prioritization effort will help inform he development of a long-term science work plan, as well as an interim work plan for the next year.

2.) GIS Map of Projects
In 2017, the ScW/HR had begun developing a GIS map of all projects in the MRG. Due to staffing changes at NMISC, that effort had stalled. Completing the map development will inform ongoing and future projects, and help with coordination efforts for on-the-ground activities.

3.) Data Inventory and Consolidation
Since its inception, the Collaborative Program and its 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 what data are available where, and if possible, to consolidate datasets. This will inform science and adaptive management activities in the Program, and minimize duplicate monitoring efforts. Data inventory and consolidation will be a targeted effort, concentrating on specific species/datasets of interest in order to better meet the needs of the end data users.

4.) DBMS Development
In 2018, the Collaborative Program will be developing a new DBMS through an Army Corps contract with USGS. This new DBMS needs to be responsive to the needs of the Program, including its scientists and technical experts. The ScW/HR as a group can work with USGS to develop a list of requirements for the database and data management portion of the DBMS. Overall, a DBMS will help the program organize, store, share, and ultimately better utilize data collected and reports written by multiple stakeholders within the MRGESCP.

These services may inspire scientific studies, provide data for scientific research, and allow managers to interact with resources needed to inform decisions.

5.) Habitat Restoration Assessment

The ScW/HR raised the need to go back and evaluate past habitat restoration projects, whether they met projected objectives (why/why not?), and to document any additional benefits from a project. There is an existing SOW from 2007 which the group can update to address this project.

An assessment of past habitat restoration activities will allow the program to learn from past efforts, plan for future activities, and develop studies to fill knowledge gaps.

Note: Project #2, GIS Map of Projects, needs to be completed first.

6.) RGSM Monitoring Plan

As part of the original charge to the Population Monitoring Work Group, the EC had tasked the group with evaluating and refining the MRG Fish Population Monitoring Plan following the completion of the CPUE Workshop. The RGSM Monitoring Plan will detail the methods of fish monitoring for the mutual benefit of all stakeholders who may conduct fish monitoring.

Note: Project #1, Finish Prioritizing Peer Reviews Recommendations, has to be completed first. The current data analysis effort will also inform this effort.

7.) Develop Scopes of Work for EC Consideration

The funding agencies have requested SOWs from the Collaborative Program for inclusion in FY2019 and beyond. Deadlines for the initial list of SOWs (including a short description and cost estimate) are due by the end of April in order to meet Reclamation's deadline. The ScW/HR will use the results of the peer review prioritization effort, old work plans, and individual participant ideas to help identify projects to put forward.

Deliverables:

1.) A final list of all the peer review recommendations with the group's priority ranking, some detail on how rankings were given, and any recommendations for how to move forward with that recommendation.

2.) A complete and current GIS map containing all habitat restoration projects that can be mapped. This layer will ideally be updateable and able to transfer directly onto the DBMS. This layer will be created by the GIS specialists at USACE and the final product housed at WEST until the DBMS is ready to host it.

3.) Data consolidation and inventory will be conducted for targeted objectives. Data consolidation/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 DBMS.

4.) The Science/HR workgroup will support the USGS' efforts to develop the DBMS by attending meetings with them, responding to surveys, and providing specific feedback to improve the design/function of the site.

5.) The group will develop a SOW to assess past habitat restoration projects with specific emphasis on the results of monitoring associated with each project.

6.) Use the results of any population monitoring data analyses and reports to update the fish monitoring plan.

7.) Develop SOW descriptions to submit to Reclamation and USACE in mid-April. Write and finalize these SOWs for review by the Science/HR workgroup and EC. Submit final SOWs to funding agencies in September.

Timeline to complete work:

1.) Finish prioritization	July 2018
Develop recommendations to address top priorities	September 2018
2.) Send GIS files to WEST (Ashley Tanner) or John Peterson (USACE)	May 2018
3.) Send GIS files to WEST (Ashley Tanner) or John Peterson (USACE)	May 2018
Identify habitat past restoration projects suitable for analysis	July 2018
4.) Respond to first survey	May 2018
Participate in meetings	Through 2018
5.) Develop first draft of HR SOW	June 31, 2018
6.) Continue to develop Fish Monitoring Plan using best available information.	Through 2018
7.) Develop SOW descriptions and submit to Reclamation	April 15, 2018
Form groups to write SOW	May 2018
Have SOWs ready for EC review	August 2018
Submit final SOW to funding agencies	September 2018

Member roster:

First Name	Last Name	Affiliation
Thomas	Archdeacon	U.S. Fish & Wildlife Service Ecological Services
Jonathan	Aubuchon	U.S. Bureau of Reclamation - Albuquerque Area Office
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
Ann	Demint	U.S. Bureau of Reclamation- Albuquerque Area Office
Julie	Dickey	Western Ecosytems Technology, Inc.
Kim	Eichorst	Bosque Ecosystem Monitoring Program (BEMP)
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
Debra	Hill	U.S. Fish & Wild Life Service Ecological Services
Brian	Hobbs	U.S. Bureau of Reclamation
Mo	Hobbs	Albuquerque Bernalillo County Water Utility Authority
Ondrea	Hummel	Tetra Tech
Alison	Hutson	NM Interstate Stream Commission
Kathy	Lang	City of Albuquerque
Debbie	Lee	Western Ecosystems Technology, Inc.
CW	Lujan	
Joel	Lusk	U.S. Fish & Wildlife Service Ecological Services
Shannon	Mann	Pueblo of Sandia
Mike	Marcus	Assessment Payers Association of the MRGCD
Maceo	Martinet	U.S. Fish & Wildlife Service
Matt	Martinez	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
Michael	Porter	U.S. Army Corps of Engineers
Dana	Price	U.S. Army Corps of Engineers
Justin	Reale	U.S. Army Corps of Engineers CESPA-DE
Ken	Richards	U.S. Bureau of Reclamation
Ashlee	Rudolph	U.S. Bureau of Reclamation
Vicky	Ryan	U.S. Fish & Wildlife Service Ecological Services
Stephen	Ryan	U.S. Army Corps of Engineers
Jeff	Sanchez	U.S. Fish & Wildlife Service
Nathan	Schroeder	Pueblo of Santa Ana; Department of Natural Resources
Summer	Schulz	U.S. Army Corps of Engineers
Michael	Scialdone	Pueblo of Sandia
Clint	Smith	U.S. Fish & Wildlife Service
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.
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
Leann	Woodruff	U.S. Bureau of Reclamation - Albuquerque Area Office
Brooke	Wyman	Pueblo of Sandia

Summary of 2018 jiggle operations and silvery minnow egg collections (4 jiggles + 2 riggles)

A “jiggle” operation resulted in an increase in flow at a gage below a diversion dam.

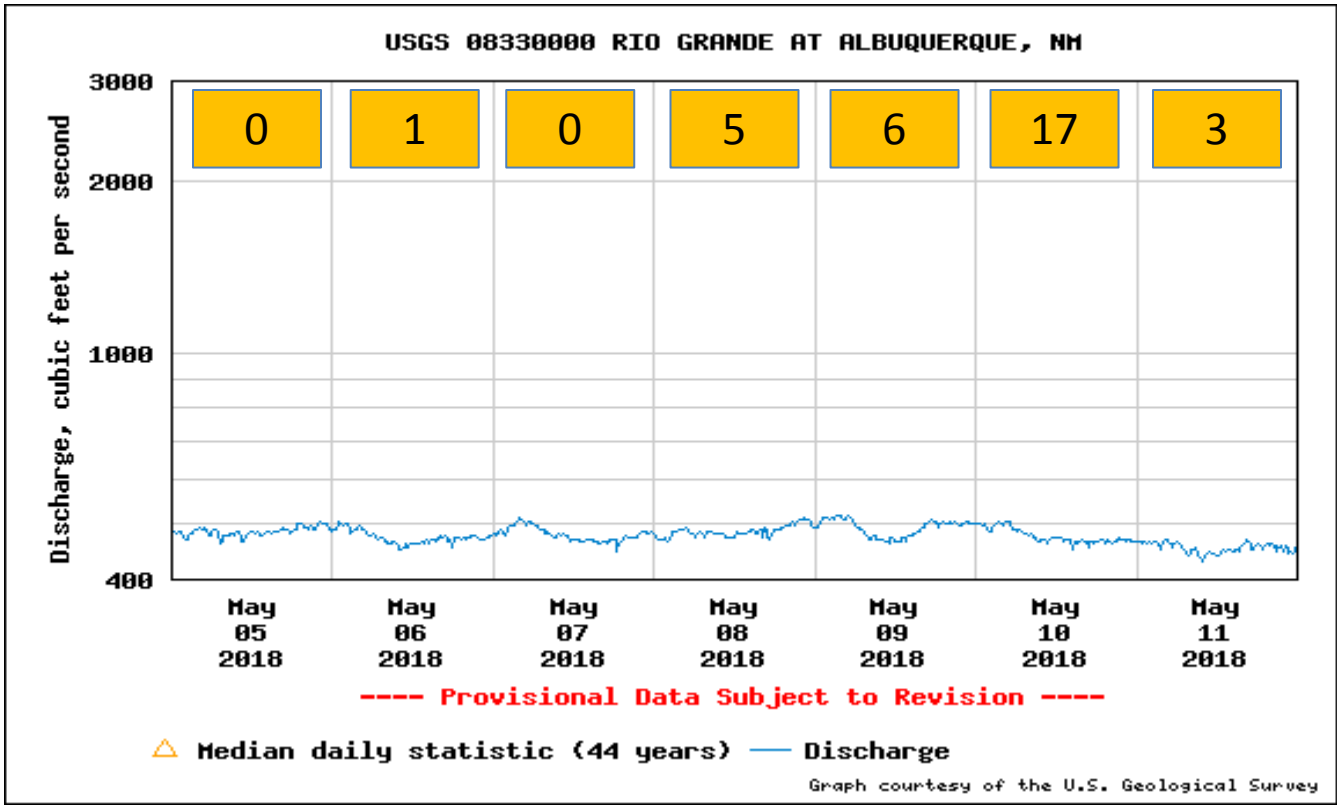
A “riggle” is the result of a rain event that increased flow at a downstream gage.

Joel D. Lusk[1] and Kathy Lang[2]

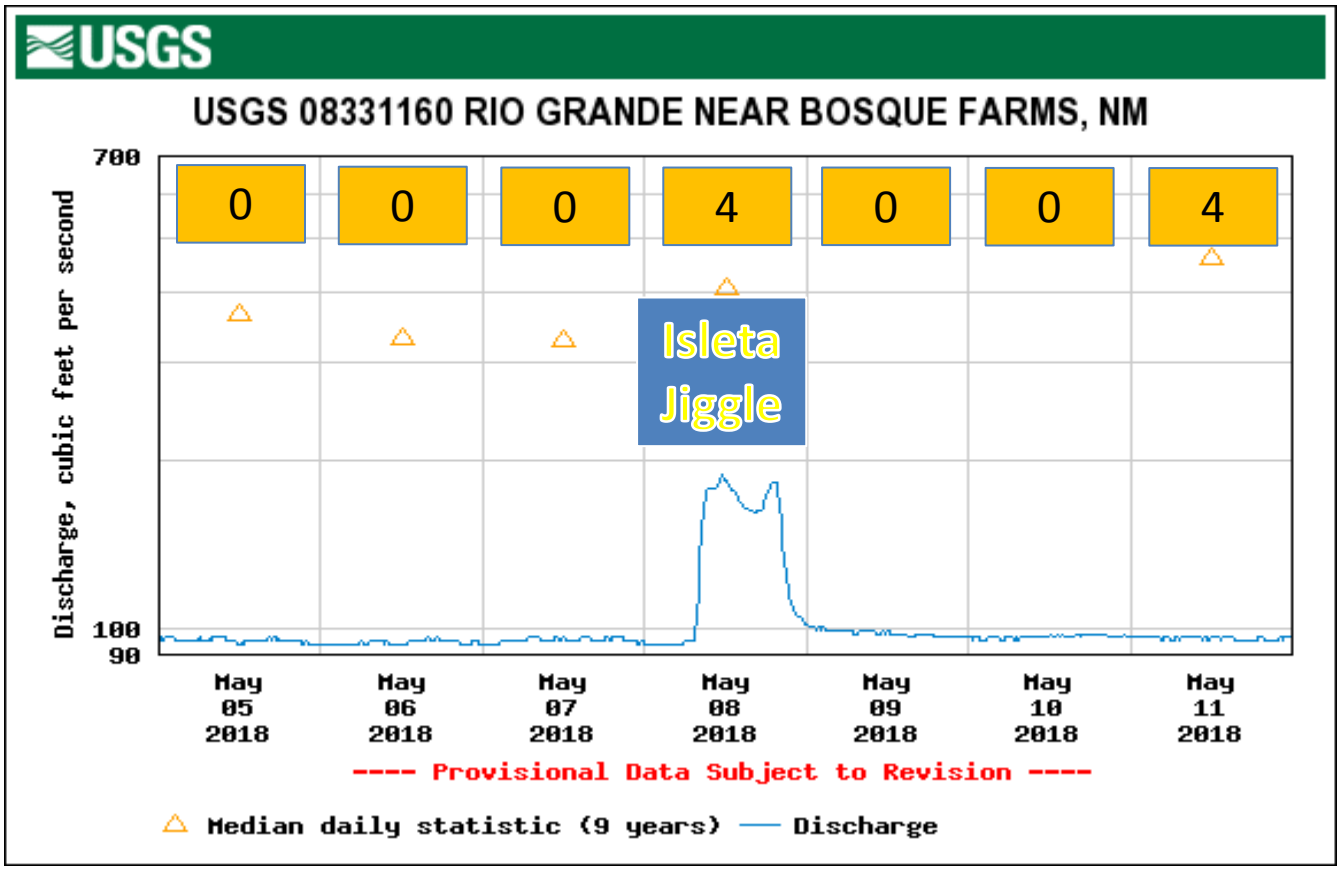
[1]US Fish and Wildlife Service

[2]City of Albuquerque Biological Park ACF

June 28, 2018



May 5-11, 2018, ABQ Gage flow & RGSM eggs collected

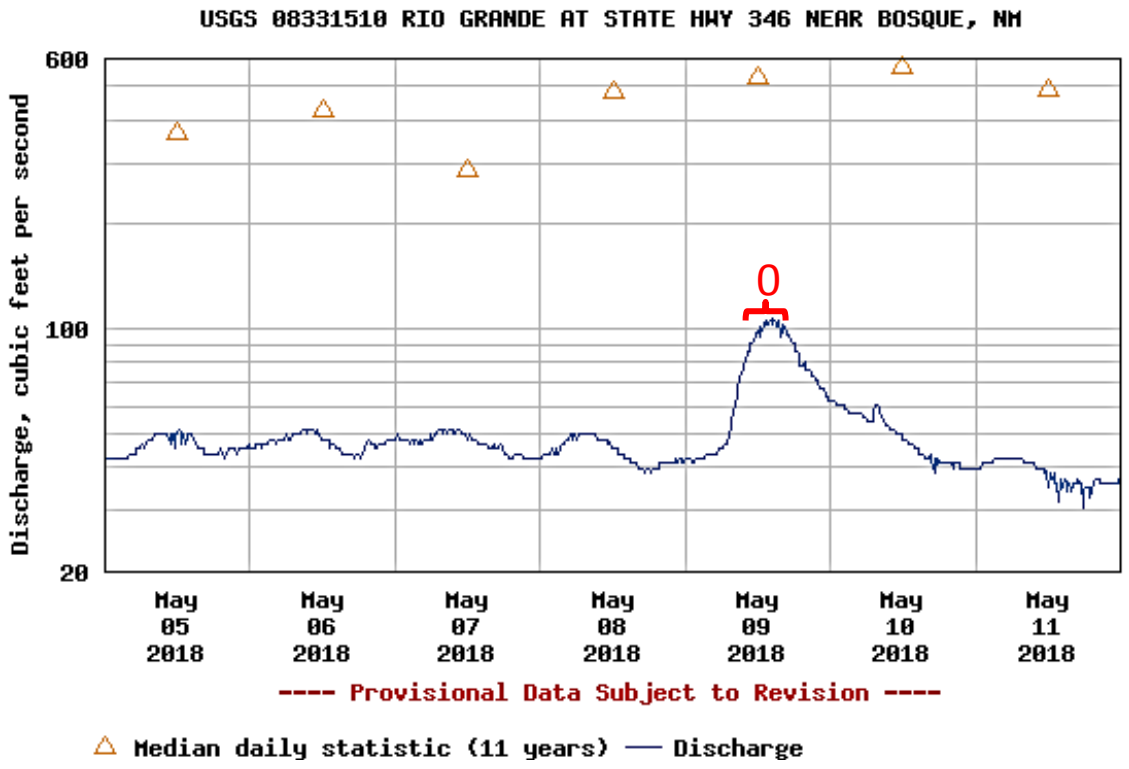


Source: Lusk

May 5-11, 2018, Bosque Farms Gage flow & RGSM eggs collected

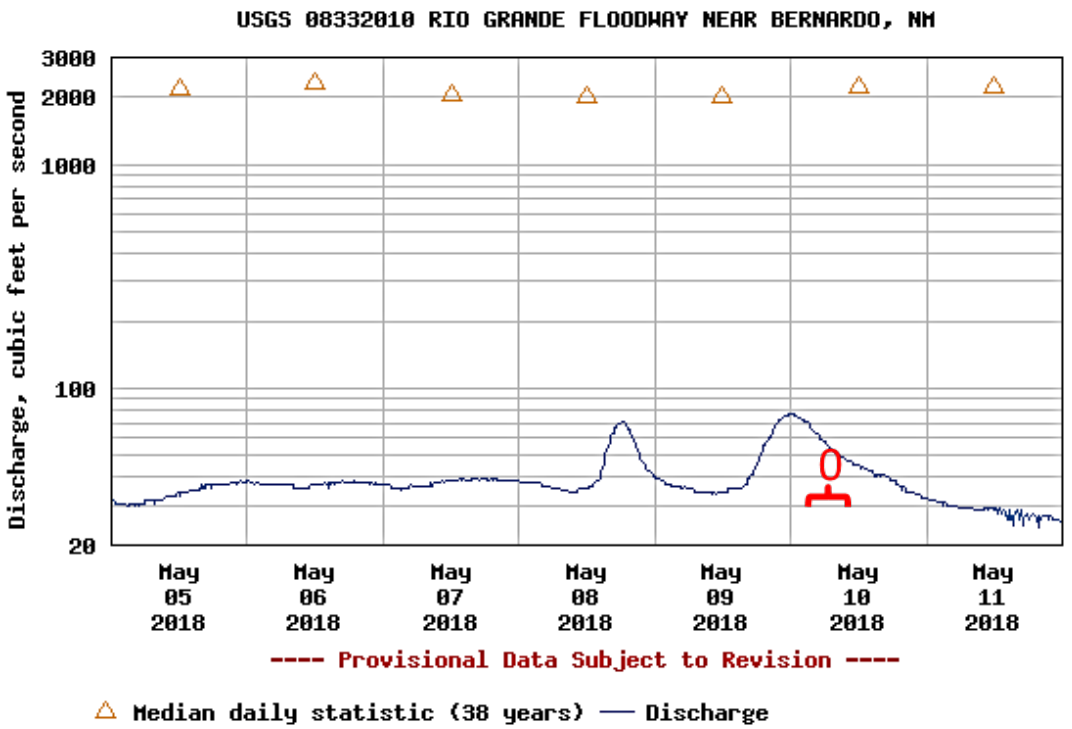
Discharge, cubic feet per second

Most recent instantaneous value: 15.5 06-27-2018 08:45 MDT

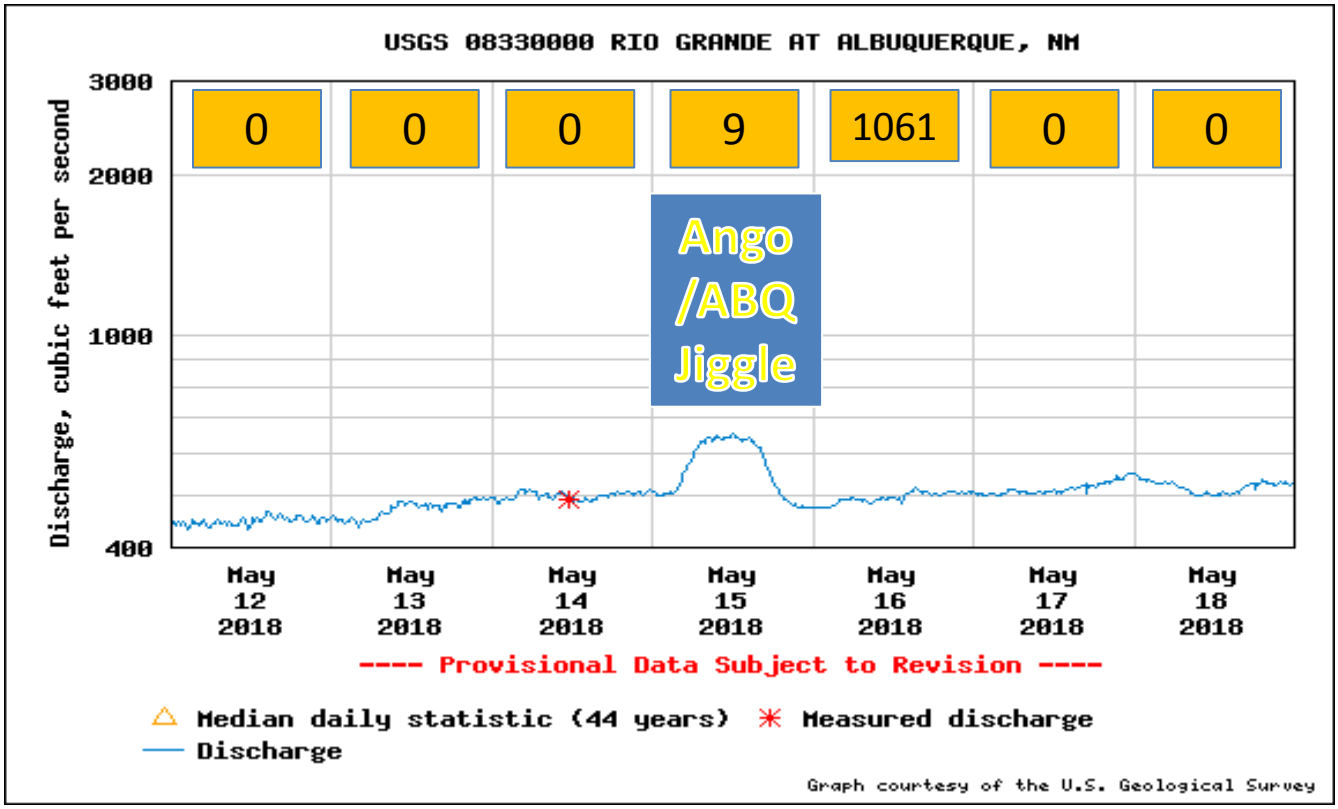


Discharge, cubic feet per second

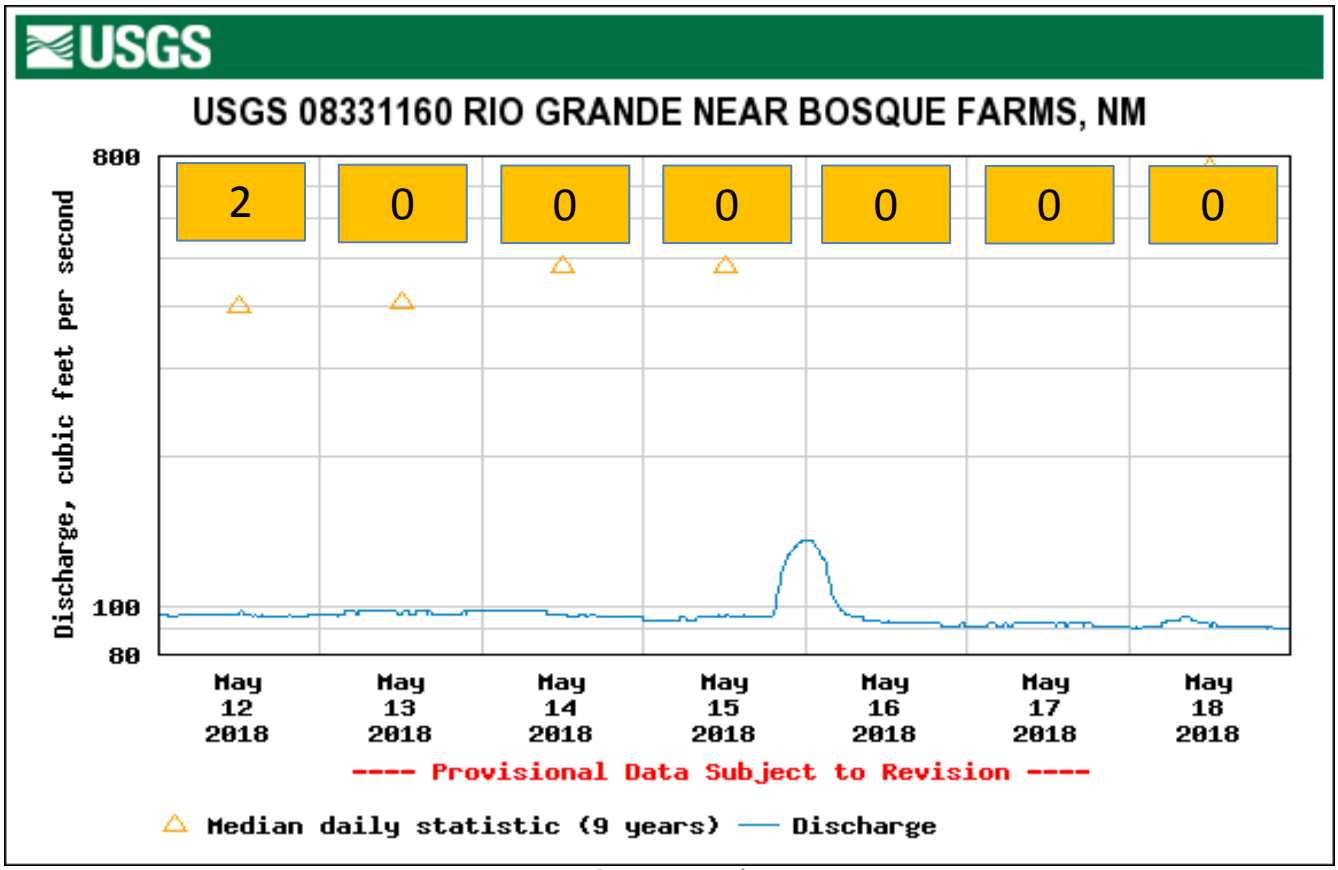
Most recent instantaneous value: 11.6 06-27-2018 08:15 MDT



Source: Lang

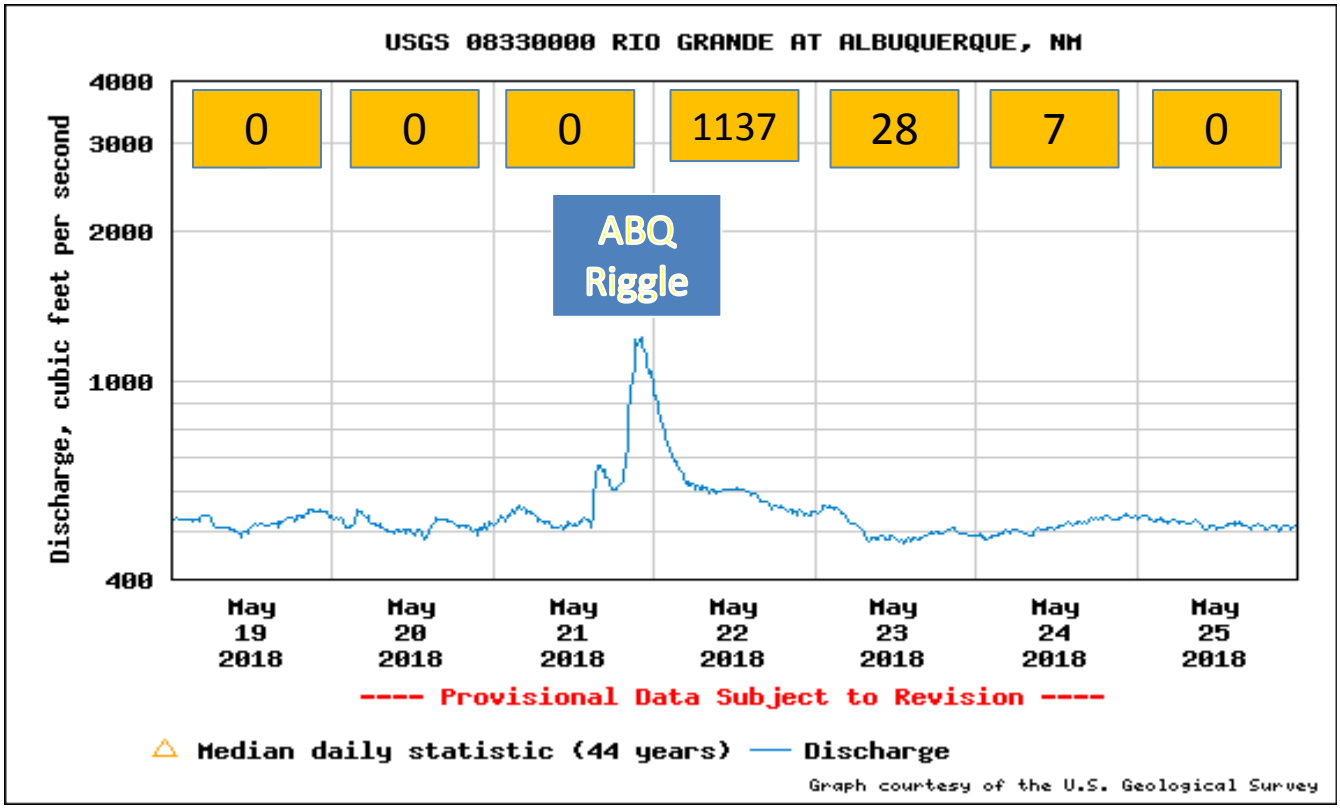


May 12-18, 2018, ABQ Gage flow & RGSM eggs collected

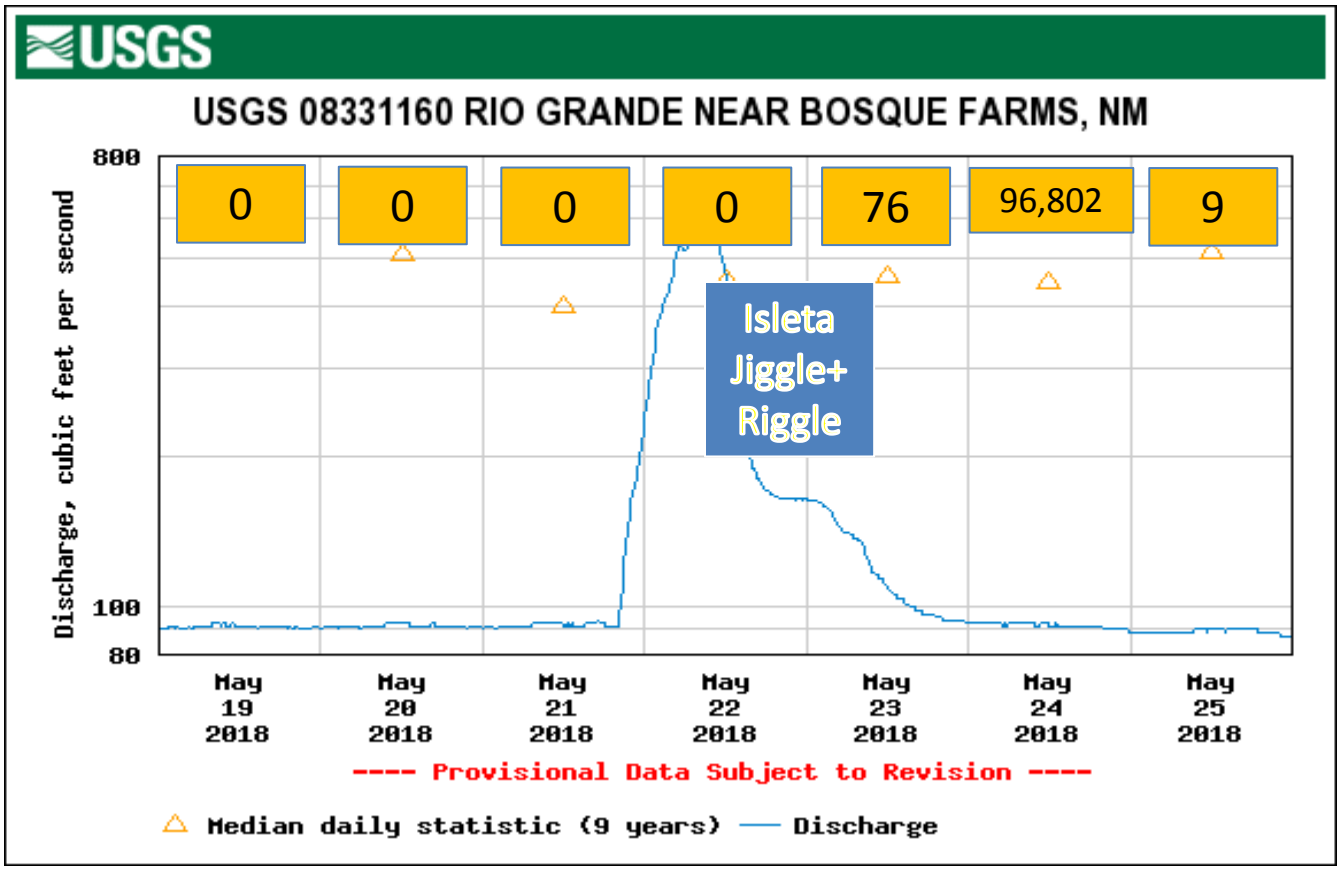


Source: Lusk

May 12-18, 2018, Bosque Farms Gage flow & RGSM eggs collected



May 19-25, 2018, ABQ Gage flow & RGSM eggs collected

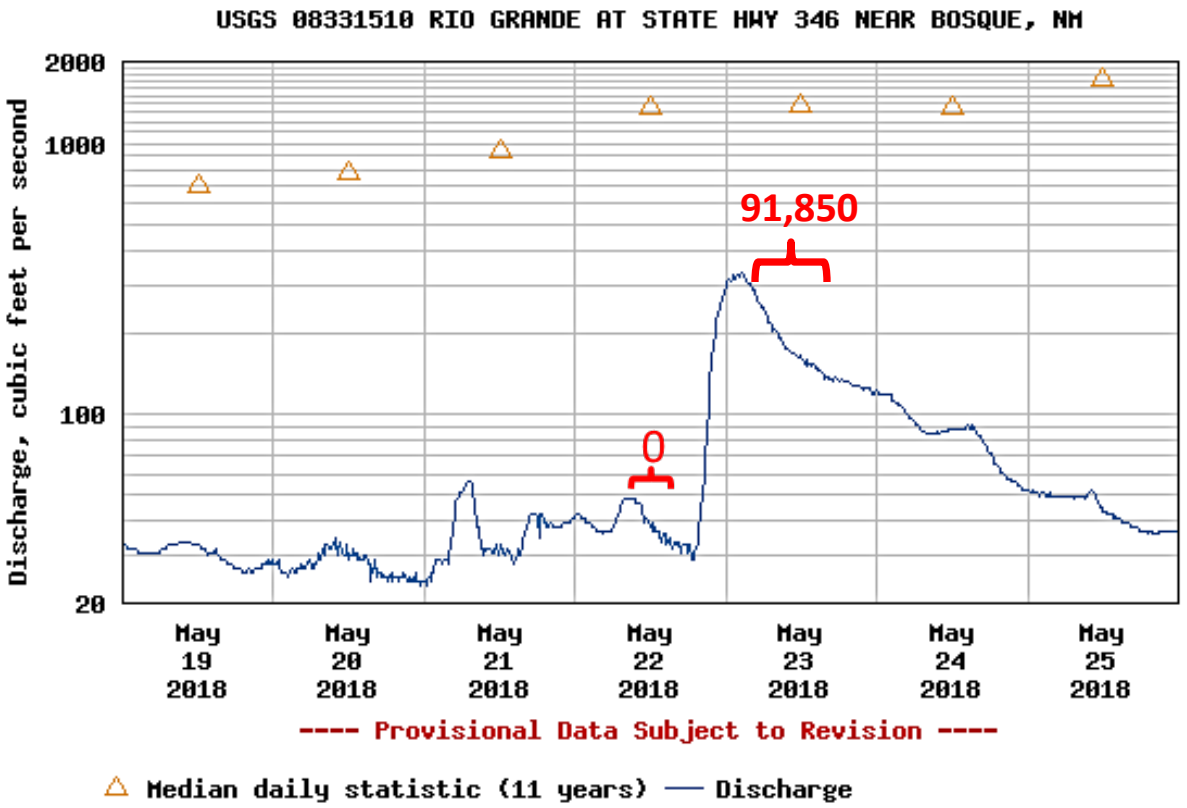


Source: Lusk

May 19-25, 2018, Bosque Farms Gage flow & RGSM eggs collected

Discharge, cubic feet per second

Most recent instantaneous value: 15.5 06-27-2018 08:45 MDT



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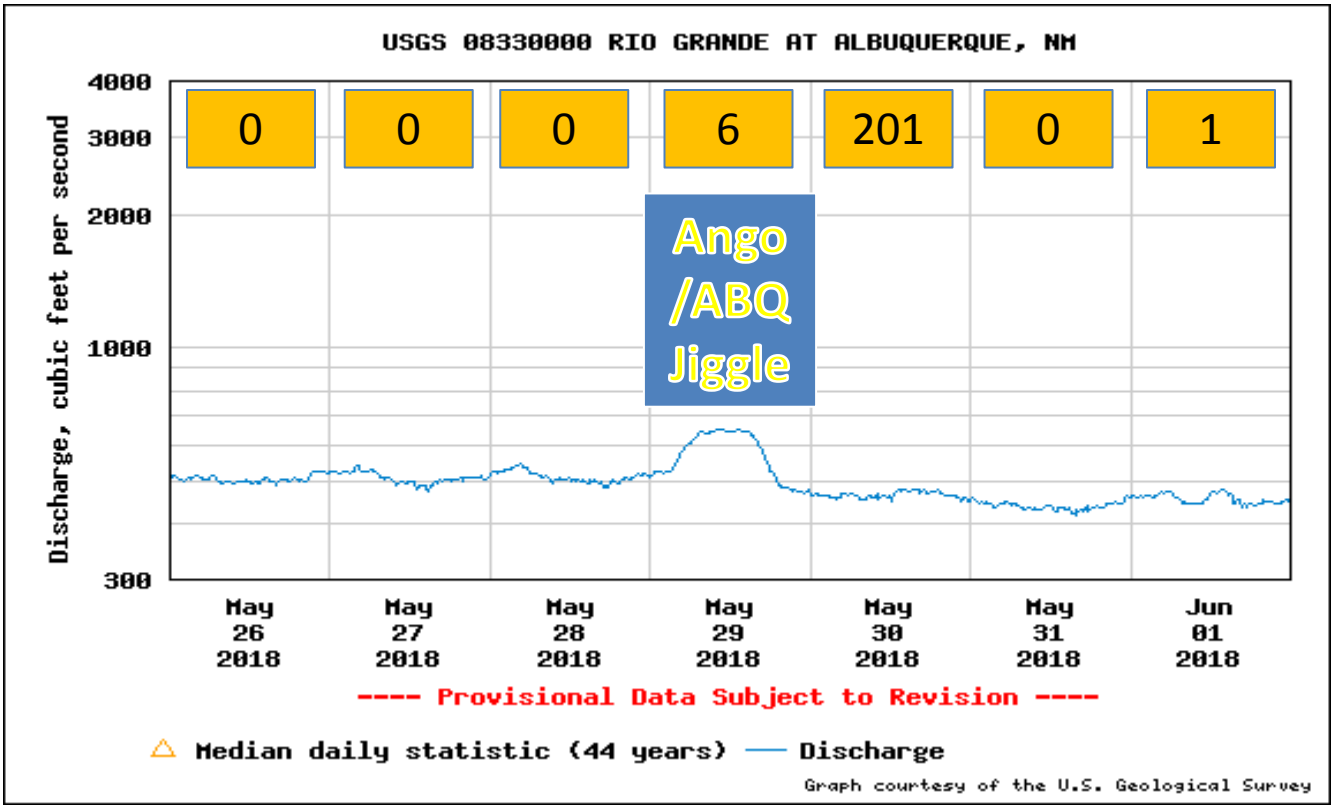
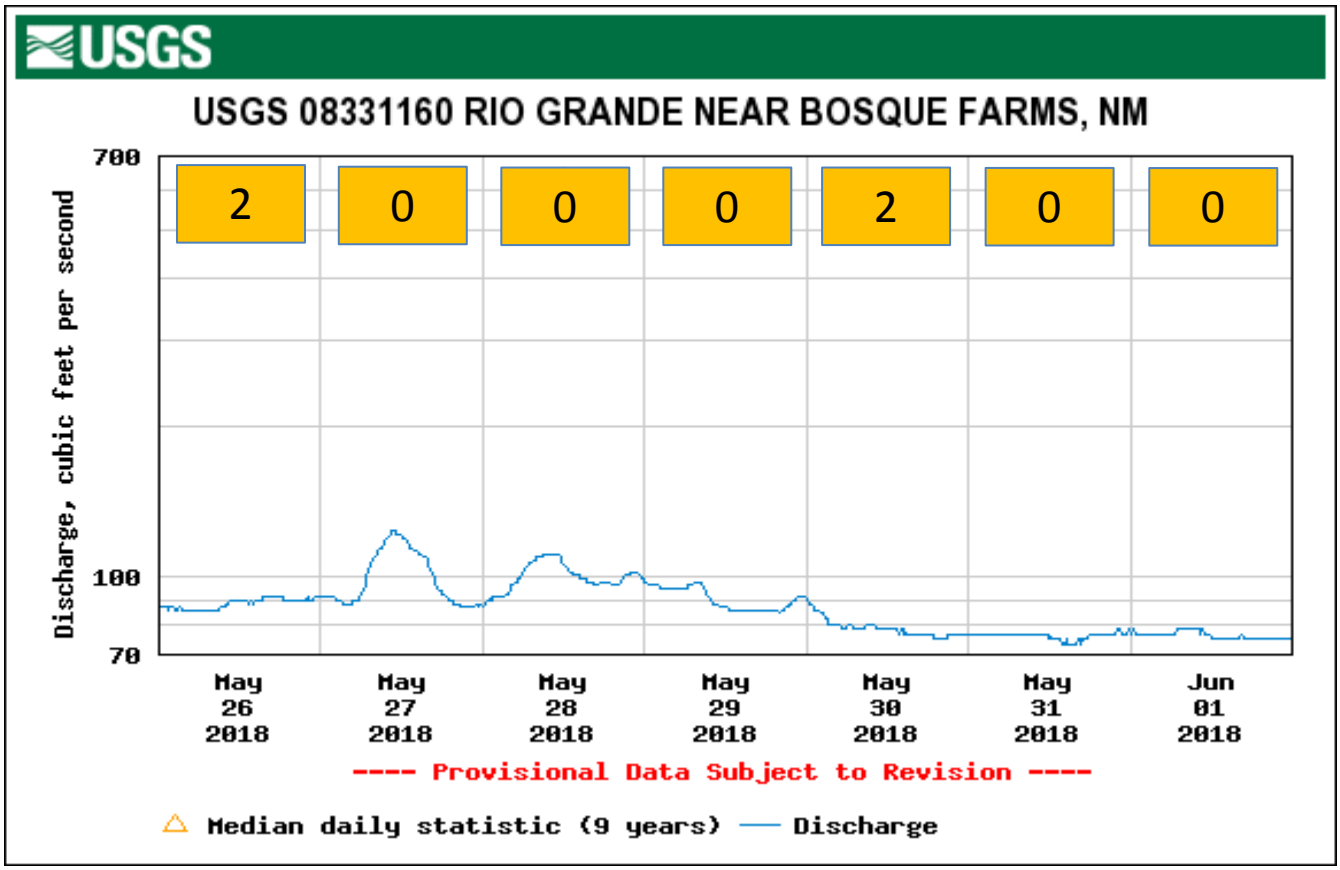
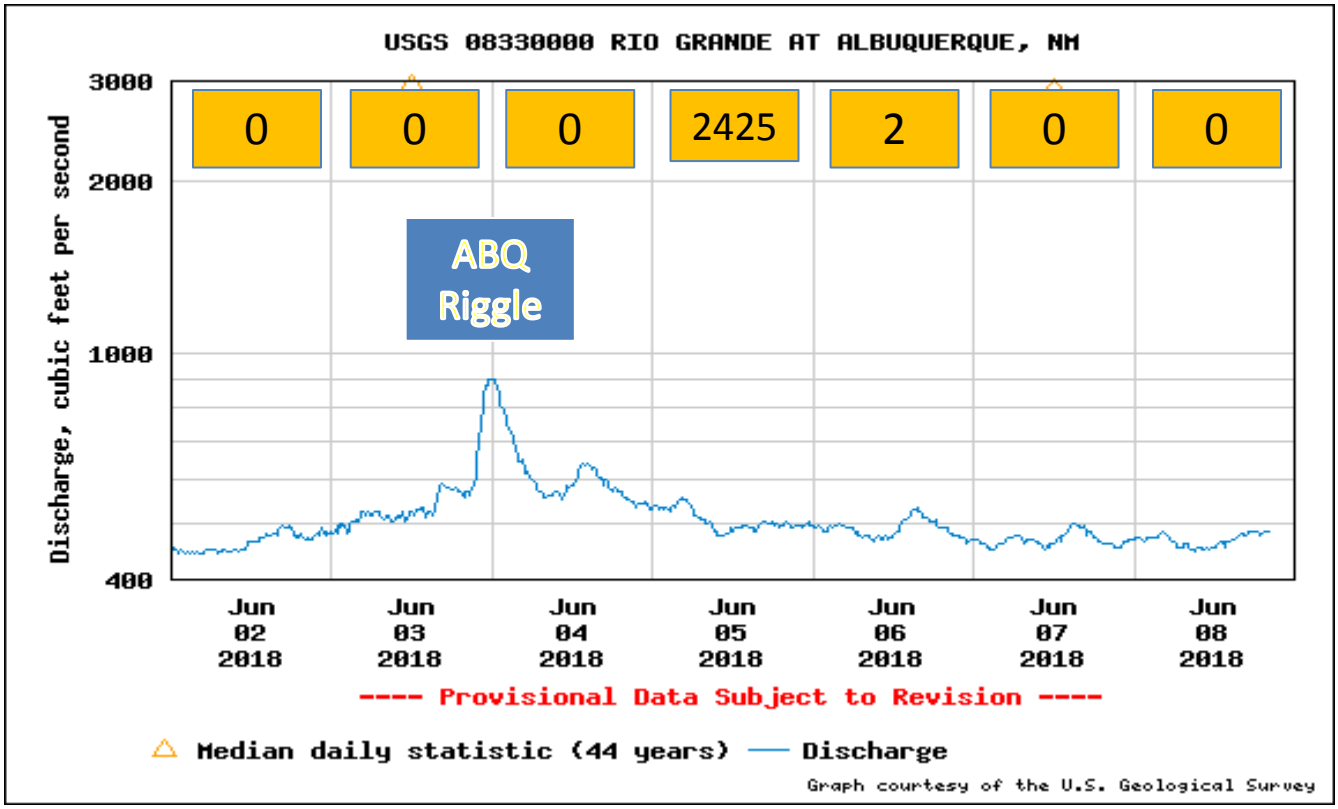


May 26-June 1, 2018, ABQ Gage flow & RGSM eggs collected

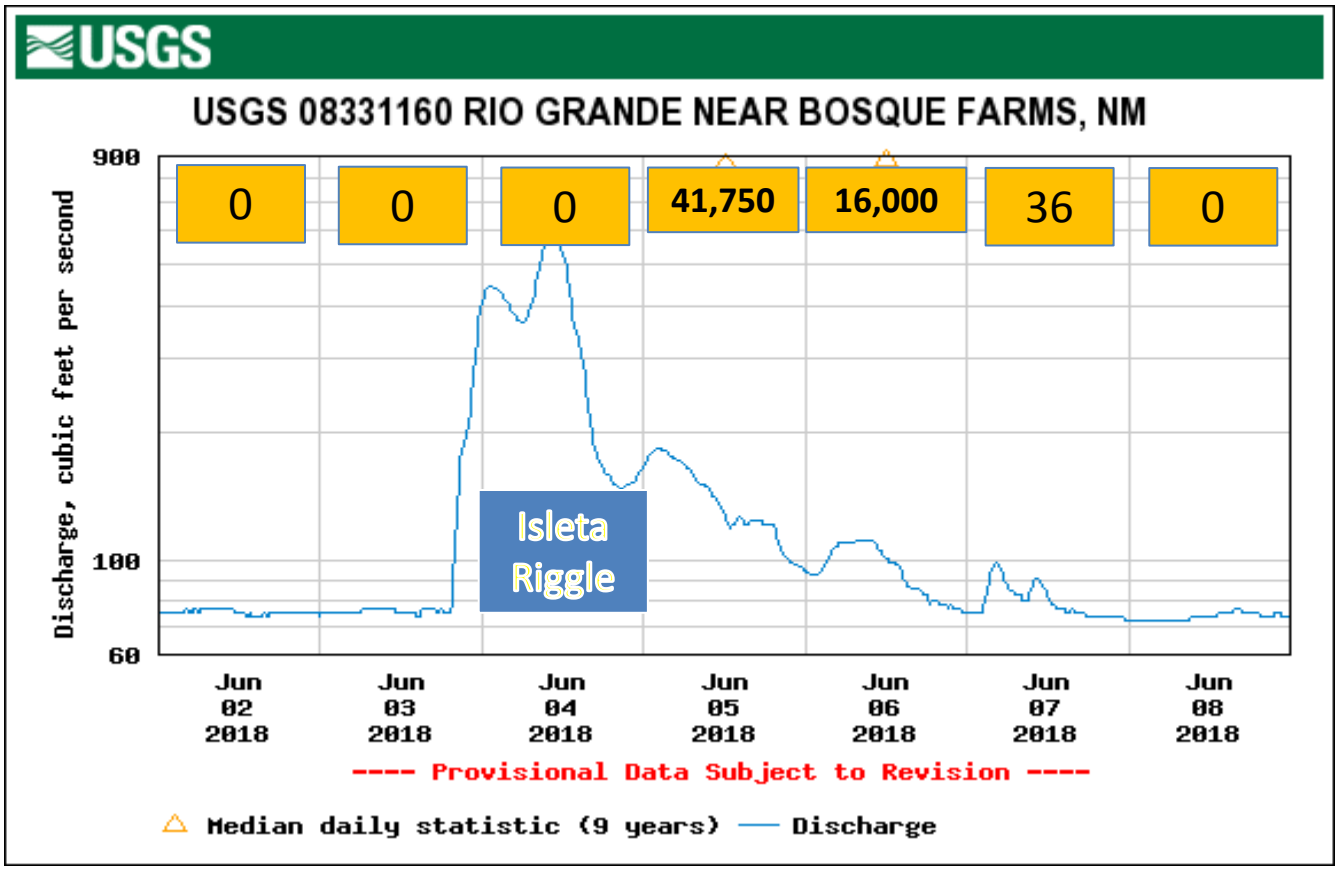


Source: Lusk

May 26-June 1, 2018, Bosque Farms Gage flow & RGSM eggs collected



June 2-8, 2018, ABQ Gage flow & RGSM eggs collected

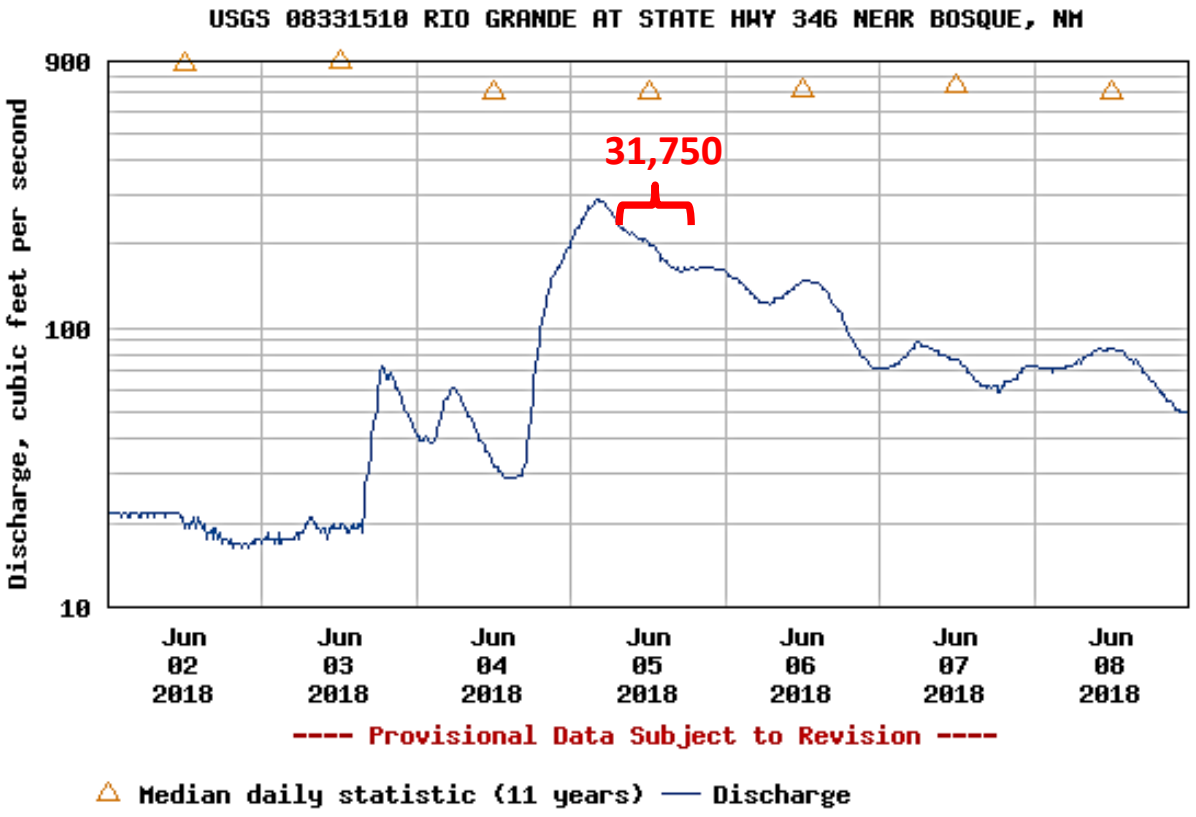


Source: Lusk

June 2-8, 2018, Bosque Farms Gage flow & RGSM eggs collected

Discharge, cubic feet per second

Most recent instantaneous value: 15.5 06-27-2018 09:45 MDT



	River Reach	Increase in Flow (cfs)	Duration of Increase (hours)	Eggs Collected	Location of collection within Reach
Jiggle 1	Isleta	100	12	4	upper
	Isleta	60	12	0	mid and lower
Jiggle 2	Angostura	150	12	1,070	middle
	Angostura	*	12	577	lower
	Isleta	50	12	0	upper
Riggle 1	Angostura	800	12	1,165	middle
Riggle 1 + Jiggle 3	Isleta	**500**	**36**	**91,850**	**middle**
Jiggle 4	Angostura	150	12	201	middle
	Angostura	*	12	101	lower
Riggle 2	Angostura	400	12	2,425	middle
	Isleta	**250**	**24 - 36**	**31,750**	**middle**

* gage near Valle del Oro?

Best combination of factors:

Higher flow
Sustained duration
Downstream locations

Note: the 2 best collections were obtained at the same location

Questions and Comments?

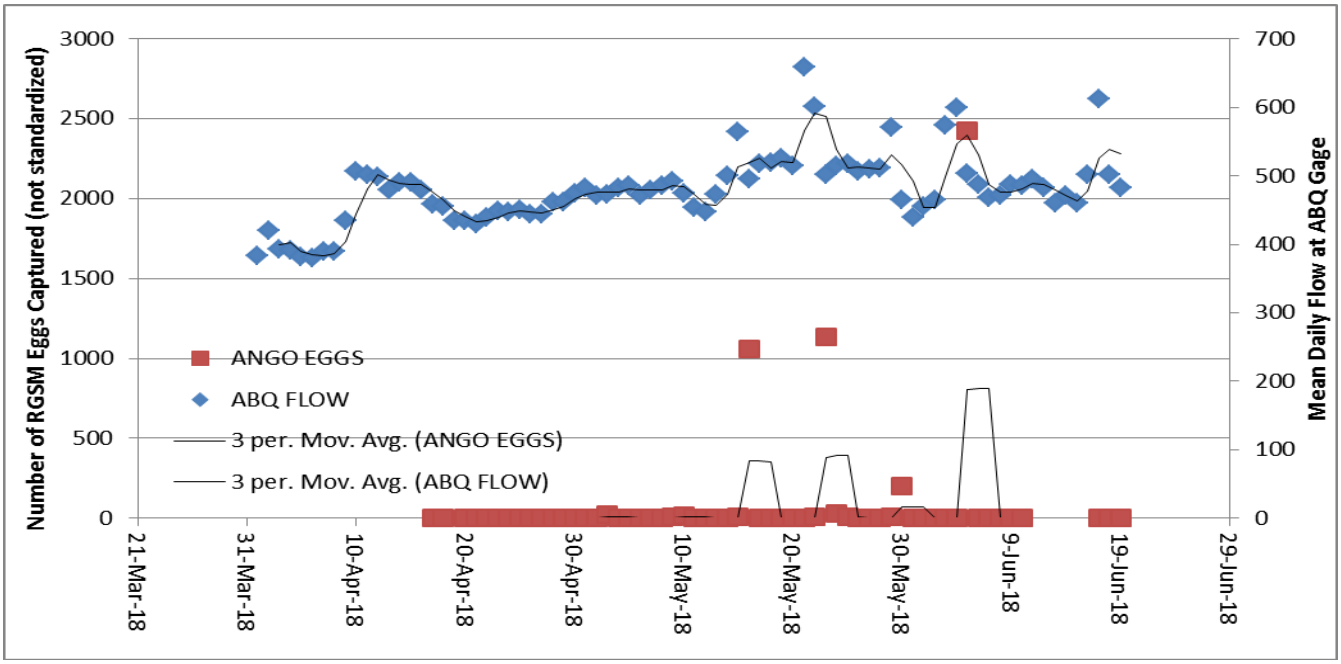
Jiggles alone = (8+9+1061+6+202=) 1,286

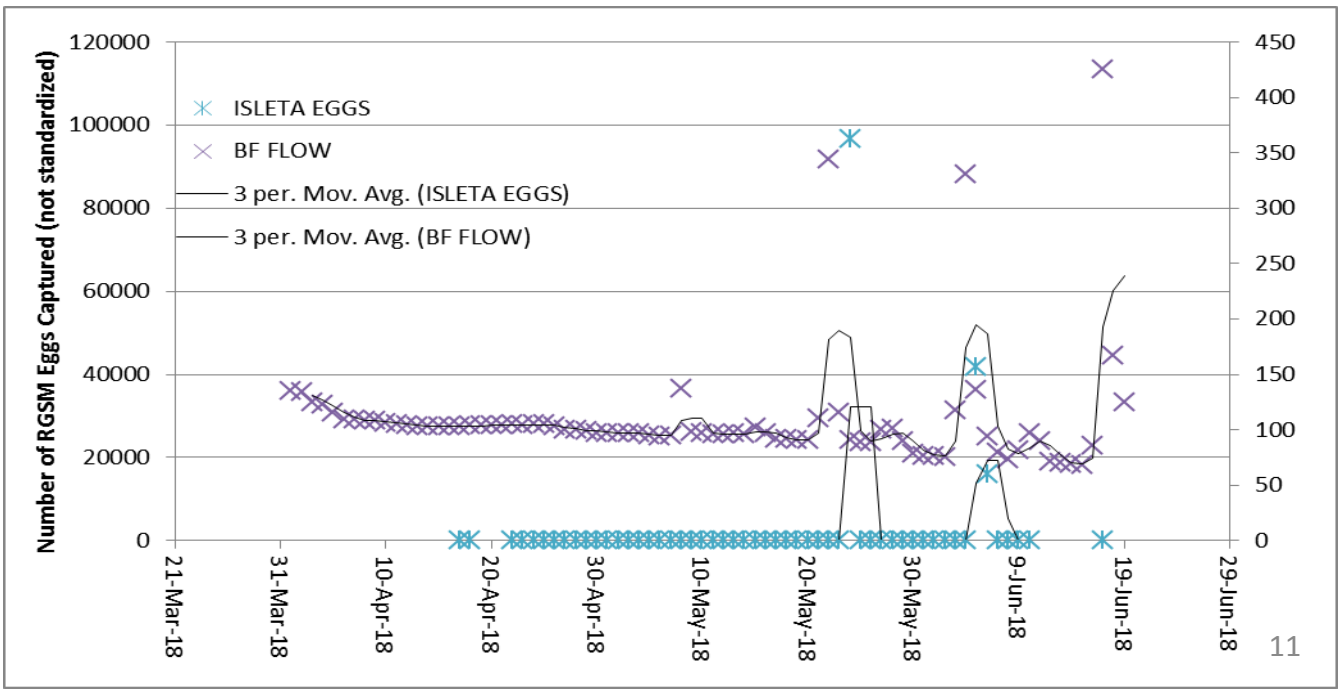
Riggles alone = (1172+2427+41750+16036=) 61,385

Jiggles + Riggles = (76+96,802+9=) 96,887

TOTAL RGSM EGGS MONITORED IN 2018 = 159,558

RGSM egg captures were associated with increased flow per Dudley et al. 2017 RGSM periodicity report





Source: Lusk

Endangered Species Act Permit Guidance

Presentation prepared by New Mexico Ecological Services Field Office (Field Office)

June 28, 2018

Introduction

- The Service administers Endangered Species Act (ESA).
- ESA purpose – protect and recover imperiled species and ecosystems.
- Under ESA species listed as Endangered or Threatened.
- ESA protects listed species by prohibiting "take" except under Federal permit.
  - **"take"** – harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any listed species or to attempt to engage in any such conduct.
  - **Federal permit authorizes or exempts "take".**
- Not all activities result in take and some may not require a permit (e.g. plant monitoring).

Section 7 permits

- Involves Federal agencies.
- Federal agency activities *may affect* listed species.
- Must consult with Service, actions can't jeopardize listed species.
- Federal agency receives "biological opinion" or concurrence.
  - Service's opinion on how action might affect listed species or critical habitat.
  - Biological Opinion contains Incidental take statement – estimates listed species incidental take likely from action and exempts that take from Section 9.
  - Concurrence – Service agrees with Federal agency's finding of *may affect not likely to adversely affect* a listed species.

Section 10 permits

- Issued to individuals authorizing take for recovery purpose.
- When is a Section 10 permit required?
  - Does activity involve a federally listed species?
  - Does activity have potential to negatively affect listed species or their habitat?

YES

Section 10 permit likely required.

NO

Or if there's no listed species or critical habitat Section 10 is not required.

- How do I know if there are listed species in the area or what potential effect the activity will have on them?

  "Completing Project Reviews Under the Endangered Species Act"

  Contact NMESFO Species Lead(s)

Section 10 permits:

Who, How, and Examples

Permit type	Who can apply?	How the permit works	Examples, but not limited to
Recovery and interstate commerce permits 10(a)(1)(a)	Individuals (e.g. Biologists, Consultants, Researchers, Scientists)	Allows purposeful take but activities must foster recovery as described in a species Recovery Plan (if applicable). These allow for scientific research on species in order to understand species' long-term survival needs. Interstate commerce permits allow transport and sale of listed species across State lines (e.g., breeding program).	Some presence/absence surveys, population monitoring, genetic research, relocations, capture and marking, telemetric monitoring and (under certain circumstances) to possess tissues or body parts of listed species
Enhancement of survival permits 10(a)(1)(a)	Non-Fed landowners (i.e. private or other landowner, tribes) participating in Safe Harbor Agreements (SHA) or Candidate Conservation Agreements with Assurances (CCAA).	SHA/CCAA encourage landowners to take actions to benefit species while also providing assurances that they will not be subject to additional regulatory restrictions as a result of their conservation actions and subsequent listing of an affected species.	Actions to enhance, restore, or maintain habitat (e.g., prescribed burning, restoring hydrological conditions), so that it is suitable for listed species.
Incidental take permit 10(a)(1)(b)	Anyone whose non-Fed otherwise-lawful activities result in take of listed species (i.e. private landowner or project proponent).	A Habitat Conservation Plan (HCP) must accompany this. HCP is tied to this, authorizes incidental take and ensure that effects of take are adequately minimized and mitigated.	Construction or development activities or in-stream or watershed activities that impact listed species

Permit Qualifications

- **Conditional permits will not be issued.**
- **Required…**
  - **Resume**
  - **Reference Letter(s)**
  - **Qualification statements**
  - **Protocol training certificates (if applicable)**
- Recommended…
  - Journal articles you've written or published
  - Educational background
  - Other experience or employment details
  - Enviro laws and Regs familiarity statement
  - Study plans (if applicable)

When in doubt just give your respective species lead at NMESFO a call!

Applying for a Recovery Permit

- Fill out Form 3-200-55.
- Last two pages of the form are instructions.
- A fee may or may not be required. Page two of the form has fee information.
  New permit, renewal, amendment to add species, state, or activity - $100
  Amendment to add personnel - $50
  Public institutions and Federal, state, and local agencies -$0
- For some questions, additional information in a separate document is needed.
- **Application must be submitted to the Regional Office – Region 2 Permit Coordinator**:

permitsR2ES@fws.gov
U.S. Fish and Wildlife Service
Southwest Region 2 Endangered Species Permit Office
500 Gold Avenue S.W. (street address) Room 6018
P.O. Box 1306 (mailing address)
Albuquerque, New Mexico 87103-1306

- ***Permits are for specific individuals conducting specific activities for specific species.***
- Can take 90 days or longer…

After submitting the Recovery Permit application

Regional Office

- Checks completeness, performs background checks.
- Prepares Federal Register notice (if applicable).
- Sends to species lead(s) in field office.

Field Office

- Species lead(s) conducts biological review for recommendation.
- May contact applicant for more information.
- Send recommendation to Regional Office.

Regional Office

- Authority to approve or deny permits.
- Prepares and signs approved permits.
- Notifies permit applicant of permit status, approved or denied with explanation.

After application is processed

- Permits issued for specific individuals conducting specific activities for specific species.
- **If approved**
  - Applicant becomes permit holder and physical copy must be kept with them when conducting activities listed in permit.
  - Appendix E – Approved permit example.
  - **Read permit and follow the Terms and Conditions**.
  - Additional other permits may be required.
  - Permit holders required to submit annual survey.
  - Check expiration date for when to renew.
- **If denied**
  - Follow instructions in cover letter and resubmit.
  - Appendix F – Permit cover letter with denied individual(s) example.

Renew/Amend existing Recovery Permit

- Eventually, **renew** or **amend** permit.
- Use same form Form 3-200-55 for **Renewal** or **Amendment**.
- **Renewal**
  - Must be received 30 days prior to current permit expiration date.
  - Allows permit holder to retain authorization in current permit while renewal is processed.
- **Amendment**
  - Adding or deleting permittees (seasonal/temporary individuals see List of Authorized Individuals [LAI] process, next slide).
  - Adding a new species or new activities.
  - Changes in study plan.
  - Addition of locations.
  - Changes to the amount or type of take.

Add seasonal/temporary individuals to a Recovery permit

Permit Holder

- Drafts letter listing individuals, requested activities, locations and timing.
- Sends letter to Field Office instead of Regional Office.

Field Office

- Species lead(s) make recommendation.
- Drafts “Letter of Authorized Individuals (LAI)” see Appendix G.
- Field Supervisor signs LAI .

Permit Holder

- Keep LAI copy with Recovery permit.
- Start process again before LAI expires.

Adding contractor to a Federal agency's Biological Opinion

Federal Agency

- Sends Letter of Delegation (LOD) to Field Office.
- Letter includes individuals to add, activities, locations, timing associated with a Section 7 consultation.

Field Office

- Field Office receives LOD, not Regional Office.
- Species leads check qualifications and activities, make recommendation.
- Field Office Supervisor signs LAI.

Contractor

- Receives LAI, valid for 12 months.
- Must keep with Recovery Permit.
- Must adhere to T&C in Federal agency's BO.

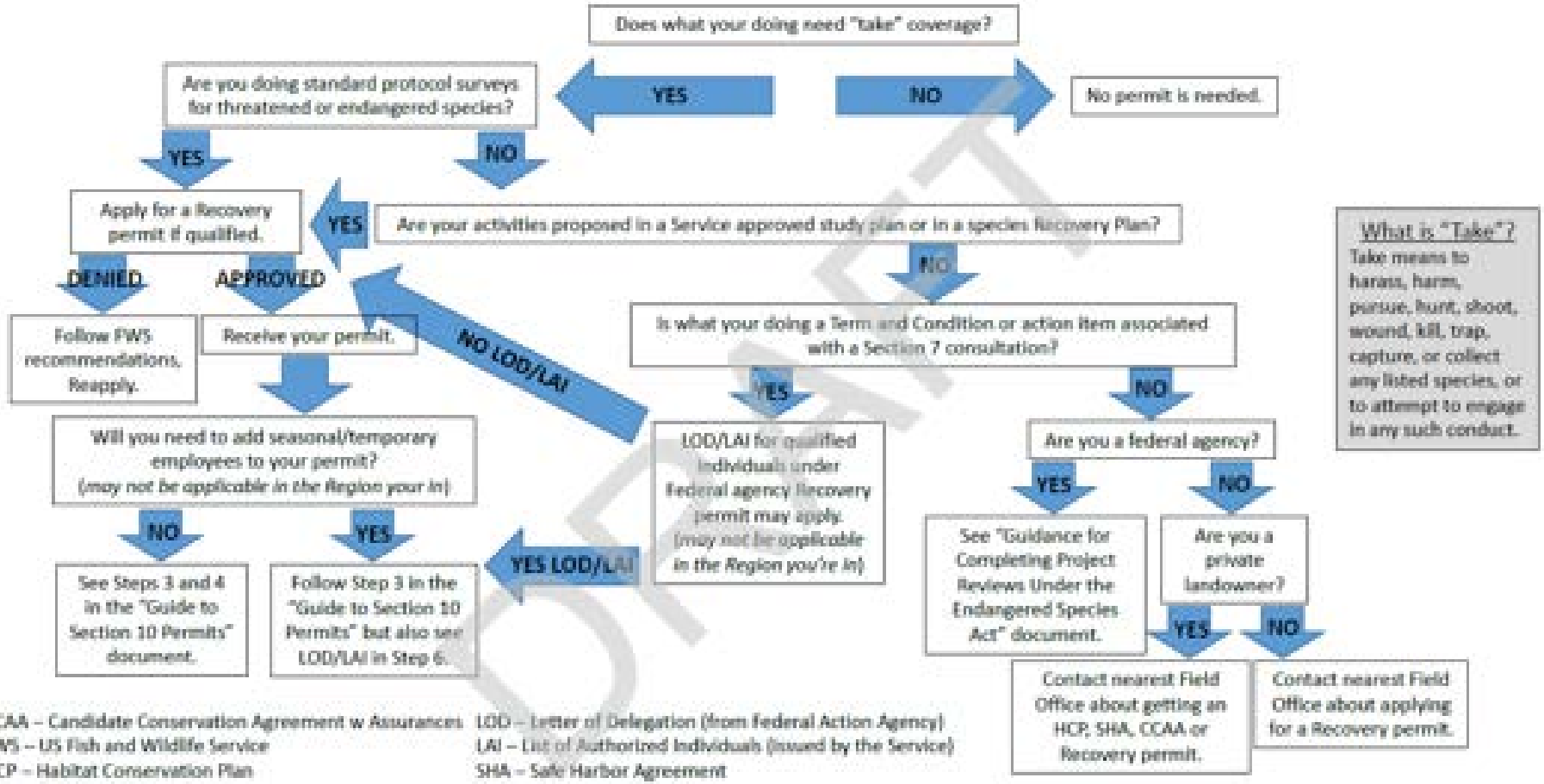
Federal Agency

- Submit LOD/restart process before LAI expires or for new contractor.

Appendices

- Appendix A – Section 10 Permit Process.
- Appendix B – Endangered Species Permits: Choosing the Right Permit Scenarios.
- Appendix C – Examples of Species Specific Qualifications.
- Appendix D – Federal Register publication example.
- Appendix E – Approved Permit Example.
- Appendix F – Permit cover letter with denied individual(s) example.
- Appendix G – Letter of Authorized Individual (Blank).
- Appendix H – Letter of Delegation (Blank).
- Appendix I – List of weblinks.

Appendix A – Section 10 Permit Process



CCAA – Candidate Conservation Agreement w Assurances
FWS – US Fish and Wildlife Service
HCP – Habitat Conservation Plan
LOD – Letter of Delegation (from Federal Action Agency)
LAI – List of Authorized Individuals (issued by the Service)
SHA – Safe Harbor Agreement

Section 10 Recovery and Interstate Commerce Permit ("Recovery Permit" Form 3-200-55) – https://www.fws.gov/forms/3-200-55.pdf

USFWS Guidance for Completing Project Reviews Under the Endangered Species Act - https://www.fws.gov/southwest/es/NewMexico/documents/Guidance_for_Completing_Project_Reviews.pdf

USFWS Ecological Services Regional Offices Map (with contact information) – https://www.fws.gov/ecological-services/map/index.html

Questions?

Clint Smith – Clinton_Smith@fws.gov 505-761-4743

U.S. Fish & Wildlife Service

ESA Basics

40 Years of Conserving Endangered Species

When Congress passed the Endangered Species Act (ESA) in 1973, it recognized that our rich natural heritage is of "esthetic, ecological, educational, recreational, and scientific value to our Nation and its people." It further expressed concern that many of our nation's native plants and animals were in danger of becoming extinct.

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. The Interior Department's U.S. Fish and Wildlife Service (FWS) and the Commerce Department's National Marine Fisheries Service (NMFS) administer the ESA. The FWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon.

Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

As of January 2013, the FWS has listed 2,054 species worldwide as endangered or threatened, of which 1,436 occur in the United States.

How are Species Listed?

Section 4 of the ESA requires species to be listed as endangered or threatened solely on the basis of their biological status and threats to their existence. When evaluating a species for listing, the FWS considers five factors: 1) damage to, or destruction of, a species' habitat; 2) overutilization of the species for commercial, recreational, scientific, or educational purposes; 3) disease or predation; 4) inadequacy of existing protection; and 5) other natural or manmade factors that affect the continued existence of the species. When one or more of these factors imperils the survival of a species, the FWS takes action to protect it. The Fish and Wildlife Service is required to base its listing decisions on the best scientific information available.

USFWS

Bart Gamett/USFWS

At home in streams and lakes in Washington, Oregon, Idaho, Montana, and Nevada, the threatened bull trout needs clean, cold water with deep pools, logs for hiding, connected habitat across the landscape and, for spawning and rearing, clean streambed gravel.

Candidates for Listing

The FWS also maintains a list of "candidate" species. These are species for which the FWS has enough information to warrant proposing them for listing but is precluded from doing so by higher listing priorities. While listing actions of higher priority go forward, the FWS works with States, Tribes, private landowners, private partners, and other Federal agencies to carry out conservation actions for these species to prevent further decline and possibly eliminate the need for listing.

Protection

The ESA protects endangered and threatened species and their habitats by prohibiting the "take" of listed animals and the interstate or international trade in listed plants and animals, including their parts and products, except under Federal permit. Such permits generally are available for conservation and scientific purposes.

What is "Take"?

The ESA makes it unlawful for a person to take a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." Listed plants are not protected from take, although it is illegal to collect or maliciously harm them on Federal land. Protection from commercial trade and the effects of Federal actions do apply for plants. In addtion, States may have their own laws restricting activity involving listed species.

Recovery

The law's ultimate goal is to "recover" species so they no longer need protection under the ESA. Recovery plans describe the steps needed to restore a species to ecological health. FWS biologists write and implement these plans with the assistance of species experts; other Federal, State, and local agencies; Tribes; nongovernmental organizations; academia; and other stakeholders.

Federal Agency Cooperation

Section 7 of the ESA requires Federal agencies to use their legal authorities to promote the conservation purposes of the ESA and to consult with the FWS and NMFS, as appropriate, to ensure that effects of actions they authorize, fund, or

carry out are not likely to jeopardize the continued existence of listed species. During consultation the "action" agency receives a "biological opinion" or concurrence letter addressing the proposed action. In the relatively few cases in which the FWS or NMFS makes a jeopardy determination, the agency offers "reasonable and prudent alternatives" about how the proposed action could be modified to avoid jeopardy. It is extremely rare that a project ends up being withdrawn or terminated because of jeopardy to a listed species.

The ESA also requires the designation of "critical habitat" for listed species when "prudent and determinable." Critical habitat includes geographic areas that contain the physical or biological features that are essential to the conservation of the species and that may need special management or protection. Critical habitat designations affect only Federal agency actions or federally funded or permitted activities. Federal agencies are required to avoid "destruction" or "adverse modification" of designated critical habitat.

Critical habitat may include areas that are not occupied by the species at the time of listing but are essential to its conservation. An area can be excluded from critical habitat designation if an economic analysis determines that the benefits of excluding it outweigh the benefits of including it, unless failure to designate the area as critical habitat may lead to extinction of the listed species.

The ESA provides a process for exempting development projects from the restrictions if a Cabinet-level "Endangered Species Committee" decides the benefits of the project clearly outweigh the benefits of conserving a species. Since its creation in 1978, the Committee has only been convened three times to make this decision.

Working with States

Partnerships with States are critical to our efforts to conserve listed species. Section 6 of the ESA encourages States to develop and maintain conservation programs for threatened and endangered species. Federal funding is available to promote State participation. Some State laws and regulations are more restrictive than the ESA in granting exceptions or permits.

Working with Landowners

Two-thirds of federally listed species have at least some habitat on private land, and some species have most of their remaining habitat on private land. The FWS has developed an array of tools and incentives to protect the interests of private landowners while encouraging management activities that benefit listed and other at-risk species.

Habitat Conservation Plans

Section 10 of the ESA may be used by landowners including private citizens, corporations, Tribes, States, and counties who want to develop property inhabited by listed species. Landowners may receive a permit to take such species incidental to otherwise legal activities, provided they have developed an approved habitat conservation plan (HCP). HCPs include an assessment of the likely impacts on the species from the proposed action, the steps that the permit holder will take to avoid, minimize, and mitigate the impacts, and the funding available to carry out the steps.

HCPs may benefit not only landowners but also species by securing and managing important habitat and by addressing economic development with a focus on species conservation.

Safe Harbor Agreements

Safe Harbor Agreements (SHAs) provide regulatory assurance for non-Federal landowners who voluntarily aid in the recovery of listed species by improving or maintaining wildlife habitat. Under SHAs, landowners manage the enrolled property and may return it to originally agreed-upon "baseline" conditions for the species and its habitat at the end of the agreement, even if this means incidentally taking the species.

Candidate Conservation Agreements

It is easier to conserve species before they need to be listed as endangered or threatened than to try to recover them when they are in danger of extinction or likely to become so. Candidate Conservation agreements (CCAs) are voluntary agreements between landowners—including Federal land management Agencies— and one or more other parties to reduce or remove threats to candidate or other at-risk species. Parties to the CCA work with the FWS to design conservation measures and monitor the effectiveness of plan implementation.

Candidate Conservation Agreements with Assurances

Under Candidate Conservation Agreements with Assurances (CCAA), non-Federal landowners volunteer to work with the FWS on plans to conserve candidate and other at-risk species so that protection of the ESA is not needed. In return, landowners receive regulatory assurances that, if a species covered by the CCAA is listed, they will not be required to do anything beyond what is specified in the agreement, and they will receive an enhancement of survival permit, allowing incidental take in reference to the management activities identified in the agreement.

Conservation Banks

Conservation banks are lands that are permanently protected and managed as mitigation for the loss elsewhere of listed and other at-risk species and their habitat. Conservation banking is a free-market enterprise based on supply and demand of mitigation credits. Credits are supplied by landowners who enter into a Conservation Bank Agreement with the FWS agreeing to protect and manage their lands for one or more species. Others who need to mitigate for adverse impacts to those same species may purchase conservation bank credits to meet their mitigation requirements. Conservation banking benefits species by reducing the piecemeal approach to mitigation that often results in many small, isolated and unsustainable preserves that lose their habitat functions and values over time.

International Species

The ESA also implements U.S. participation in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a 175-nation agreement designed to prevent species from becoming endangered or extinct due to international trade. Except as allowed by permit, CITES prohibits importing or exporting species listed on its three appendices. A species may require a permit under the ESA, CITES, or both.

For More Information

For more information, contact the U.S. Fish and Wildlife Service at the address below, or visit *http://www.fws.gov/endangered/*.

U. S. Fish and Wildlife Service
Endangered Species Program
4401 N. Fairfax Drive, Room 420
Arlington, VA 22203
703-358-2171
http://www.fws.gov/endangered/

January 2013

Endangered Species Act Permit Guidance

U.S. Fish and Wildlife Service (Service)
New Mexico Ecological Services Field Office (NMESFO)
June 21, 2018

The U.S. Fish and Wildlife Service and the National Marine Fisheries Service (referred to as Service throughout this document) administers the Endangered Species Act (Act). The purpose of the Act is to protect and recover imperiled species and the ecosystems upon which they depend. Under the Act, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened.

The Act protects endangered and threatened species and their habitats by prohibiting the "take" (under Section 9 of the Act) of listed animals and the interstate or international trade in listed plants and animals, including their parts and products, except under Federal permit. "Take" is defined in the regulations as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any listed species, or to attempt to engage in any such conduct. Take is defined because many types of activities may affect listed species. Because these activities are necessary, we must have a way to authorize or exempt take. That's where Federal permits under Section 7 and Section 10 come in.

Under Section 7 of the Act, any federal agency that carries out, permits, licenses, funds, or otherwise authorizes activities that *may affect* a listed species must consult with the Service to ensure that its actions are not likely to jeopardize the continued existence of affected listed species. During consultation the federal agency receives a "biological opinion" (opinion from the Service on how federal action affects listed species or critical habitat) or concurrence letter addressing the proposed action. The biological opinion contains the incidental take statement which estimates the amount of incidental take of listed species likely to result from the action and exempts that take from Section 9 take prohibitions. Section 10 of the Act lays out issuance criteria under which individuals can be issued a permit that authorize "take" for scientific purposes, to enhance the propagation or survival of an affected species, or for incidental take of an otherwise lawful activity. Note that there are other processes for certain threatened species or federally listed plants and not all activities with listed species result in take, some may not even require a permit (e.g. monitoring listed plants).

Step 1. When is a Section 10 permit required?

Does your activity or your business/group/tribe/organization activity involve a listed species? Does that activity have the potential to negatively affect listed species or their habitat (e.g. monitoring the species)? If *yes*, then a Section 10 permit is likely required. Note that if there are no listed species or critical habitats that would be affected by the activity then a Section 10 permit is not required *and you don't need this document*. If you are unsure if there are species in the area of your activity and its potential effect on listed species then please review Steps 1 and 2 in our "Guidance for Completing Project Reviews Under the Endangered Species Act". Additionally, you may contact species leads using the NMESFO Species Lead webpage.

Step 2. What type of Section 10 permit do I need?

There are three different types of Section 10 permits.

1. 10(a)(1)(A) Recovery and Interstate Commerce Permits (Recovery Permit). If your activity involves conducting purposeful take activities by engaging in scientific research on or recovering by propagation or increasing survival of a listed species, a Recovery Permit may be required. Examples of activities that may require a Recovery Permit include, but are not limited to: some presence/absence surveys, population monitoring, genetic research, relocations, capture and marking, telemetric monitoring and (under certain circumstances) to possess tissues or body parts of listed species.
2. 10(a)(1)(A) Enhancement of Survival Permits (ESP). If your activity may benefit a listed species through conservation of habitat and there is no federal agency involvement, you may need an ESP as part of a Safe Harbor Agreement or Candidate Conservation Agreement with Assurances. Examples of activities that may require an ESP include actions to enhance, restore, or maintain habitat (e.g., prescribed burning, restoring hydrological conditions), so that it is suitable for listed species.
3. 10(a)(1)(B) Incidental Take Permits (ITP). If your activity is otherwise lawful, does not have federal agency involvement, would likely result in take of a listed species, and the purpose of your activity is not scientific research or recovery of a listed species, you may need to obtain an ITP. Note that an ITP requires a Habitat Conservation Plan, which ensures that the effects of the take are adequately minimized and mitigated. Examples of activities that may require an ITP include, but are not limited to: construction or development activities or in-stream or watershed activities that impact listed species.

Additional information on the type of Section 10 permits you need can be found in Table 1 (next page), Appendix A for Section 10 Permit Process and Appendix B for Endangered Species Permits: Choosing the Right Permit Scenarios.

Table 1. Section 10 permit type with who should apply, how the permit works and links for more information.

Permit type	Who can apply?	How the permit works	More Info?
Recovery and interstate commerce permits 10(a)(1)(A)	Individuals (e.g. Biologists, Consultants, Researchers, Scientists)	Allows for purposeful take but activities must foster listed species recovery as described in a species Recovery Plan (if applicable). Recovery permits allow for scientific research on a listed species in order to understand better the species' long-term survival needs. Interstate commerce permits allow transport and sale of listed species across State lines (e.g., breeding program).	FWS Recovery Permits page Recovery permits use Form 3-200-55 FWS Permits – Application Forms for Interstate forms
Enhancement of survival permits 10(a)(1)(A)	Non-Federal landowners (i.e. private or non-federal landowner, tribes) participating in Safe Harbor Agreements (SHA) or Candidate Conservation Agreements with Assurances (CCAA).	SHA/CCAA encourage landowners to take actions to benefit species while also providing assurances that they will not be subject to additional regulatory restrictions as a result of their conservation actions and subsequent listing of an affected species.	FWS Endangered Species page click on HCP/SHA/ CCA headings under tab "For Landowners" Working Together: Tools for Helping Imperiled Wildlife on Private Lands
Incidental take permit 10(a)(1)(B)	Anyone whose non-Federal otherwise-lawful activities result in take of listed species (i.e. private landowner or project proponent).	Incidental Take Permits (ITP) are issued when non-Federal activities will result in take of listed species. A Habitat Conservation Plan (HCP) must accompany an application for an ITP. The HCP is tied to the ITP to authorize incidental take and ensure that the effects of the take are adequately minimized and mitigated.	SHA/CCAA permits use Form 3-200-54 (contact the nearest Ecological Services Field Office for guidance to develop complete and adequate application materials).

Step 3. What qualifications do individuals need for a Recovery Permits?

The Service has established required qualifications for many of our listed species that specific individuals (listed as "permittee(s)" on the permit) must meet to conduct specific activities on specific species prior to applying for a recovery permit. These qualifications may vary depending on the species or activity requested. Please see Table 2 for minimum qualifications examples in Appendix C for Examples of Species Specific Qualifications.

When addressing the minimum qualifications, applicants should explicitly document their experience with the specific species and activities that they are requesting to be permitted for. The Service recommends that applicants submit copies of resumes, including a qualifications statement and any applicable training certificates with the permit application. This information documents an individual's relevant educational background, work history, and details of direct field experience with the target species and activities being requested. Examples of typical qualification documents included with applications which assist the Service in evaluating your expertise and ability to independently conduct recovery activities include the following:

1. Letter(s) of reference by the permitted individual(s) from whom you acquired the field experience/training who can quantify and verify the experience received.
2. Qualification statements that include verifiable field experience not only with the target listed species, but with similar or sympatric species or experience conducting similar activities with other species (either listed or non-listed species).

3. Protocol training certificates, with date and location (check NMESFO Species Protocol to see if applicable).
4. References to any scientific journal articles you have written or published, especially if the articles pertain to similar species or activities.
5. Details of your educational background including any degrees received along with any theses, independent studies, or pertinent projects completed.
6. Any additional details from your background including any pertinent projects or experience working at universities, museums, consulting firms, government agencies, or other relevant organizations.
7. Statements about your familiarity with pertinent environmental laws and regulations.
8. Study plans that describe how the activity contributes to the recovery of the species and how you plan on reporting your results, including a species protocol or Recovery Plan task or method that you intend to follow (if applicable).
9. One or more permits from other regulatory agencies may be required. See the contact list of state and territorial fish and wildlife offices for further information. Before conducting activities on tribal land, you may need to obtain a tribal permit or authorization. Information about working with tribes, including a contact list of tribal leaders, is available on the Service's Office of the Native American Liaison.

The Service reviews the application and supporting materials to determine whether specific individuals meet applicable issuance criteria for specific species and specific activities in the permit. This can be a lengthy process, so if you are uncertain about whether or not you or your study plan would qualify, contact the Service using the NMESFO Species Lead webpage prior to completing and submitting your application.

Step 4. How do you apply for a Recovery Permit?

Recovery Permits are issued by the Regional Office associated with the location of the proposed activity. For New Mexico this is the Southwest Region 2 Ecological Services office. The Southwest Region 2 Ecological Services includes the states of Arizona, New Mexico, Oklahoma, and Texas. If the proposed activity will take place in multiple states that cross regional office lines, you should submit your application to the Regional Office that is responsible for activities in the state in which you reside.

A fee is required to apply for a permit from the Service, and to amend or renew an existing permit (*$100 for new permit, renewal or major amendment, $50 for minor amendment. Minor amendment is adding an individual to a species only. Major amendment is adding a species or location*). Applicants should allow at least 90 days for processing of the completed application. However, average processing times may vary based on complexity of the permit and current volume of applications.

Instructions

1. Use Form 3-200-55 for Section 10 Recovery Permits. Before starting the application, please read the instructions (last two pages of the form).
2. Fill out the form
    a. On page one, to add the return address to the upper left corner of the application form, click on the return address hyperlink in the upper left corner of the form. This will send you to a separate web page that lists the

Regional addresses for our Endangered Species Permit program. The top of the address page contains instructions for copying the return address from the address web page and pasting it into the application form.

b. On page 3, under "Referral of a Recovery permittee's contact information (optional)" if you select yes then the Service can share your contact information with companies or individuals looking for permitted biologists to conduct surveys.

3. Provide the remaining information in a separate document. It would help us to process your application more efficiently if you would first type the item number and title in bold text, and then provide your response underneath.

4. For activities in Region 2, you must submit your permit to the Southwest Region 2 Endangered Species Permit Office at the Regional Office via email to permitsR2ES@fws.gov or by mail to:

U.S. Fish and Wildlife Service
Southwest Region 2 Endangered Species Permit Office
500 Gold Avenue S.W. (street address) Room 6018
P.O. Box 1306 (mailing address)
Albuquerque, New Mexico 87103-1306

Step 5. What to expect after you submit a Recovery Permit application?

Upon receipt of a permit application:

1. Regional Office checks for package completeness and performs background checks.
2. A Federal Register publication and a 30 day public comment period is required for endangered species permits only (threatened species do not require a Federal Register publication) including such actions as new permit applications, or for amendments to add new endangered species, add a new geographic location, or add a new activity (see Appendix D for Federal Register publication example).
3. Application packages are sent to the species lead biologist(s) in each geographic location for review of qualifications, study proposal, and overall contribution to recovery for each requested species. For example, if an applicant applied to do flycatcher surveys in New Mexico and Arizona, the review packet would be sent to species leads in both of those states.
4. Species leads conduct biological reviews that assess the qualifications of applicants, adequacy of facilities and methodology, ensure there is no duplication of research, check changes in species needs or current information available, and ensure that proposed activities will benefit species recovery. A biological review is sent back to the Regional Office with a recommendation from the species lead.
5. Authority to approve or deny the permit is made by the Regional Office. Approved permits are prepared and signed by the Regional Office.
6. Permit applicant will be notified of permit status Approved or Denied including explanation.

If approved, applicant then becomes a permit holder and a physical copy of the permit must be with permit holder/permittee when conducting specified permit activities. The permit holder must read and adhere to the Terms and Conditions listed in the permit. The permit is considered a legal document and the permit lists specific individuals that are limited to conducting specific activities for specific species. Additionally, applicants are required to submit annual survey reports or report if no surveys were conducted for each permit. Reporting details for each species may vary and are listed in applicant's permit. See Appendix E for an Approved Permit Example.

Please note that individuals will not be named on permits with contingencies stipulating that training or additional experience must be obtained (these individuals will be "denied" a permit). If the individual is not qualified to conduct independent monitoring, his/her name will appear within a cover letter (see Appendix F for a Permit Cover Letter with Denied Individual(s) Example) that stipulates the training or additional experience required of the individual. After fulfilling the requirements, the permit can be amended to add the individual to the permit.

Step 6. How do you amend/renew your existing Recovery Permit?

Follow guidance from Step 3 above. When filling out Form 3-200-55, you will want to check "Yes" that you have an existing permit (on form, page 1) and list the permit number. Also on page 2 or 3 you will want to check the appropriate box for "Amendment" or "Renewal" and list the reason.

An amendment to an existing permit would be needed for:

- Adding or deleting permittees (for seasonal/temporary individuals see the List of Authorized Individuals (LAI) process below)
- Adding a new species or new activities
- Changes in study plan
- Addition of locations
- Changes to the amount or type of take

An application for a renewal or amendment needs to be submitted and received at the Service Regional Office 30 days prior to the existing permit expiration or else it is considered a new permit. Applying for a renewal or amendment allows the permit holder to retain authorizations from the original permit while the renewal is being processed. In addition to providing all of the above mentioned requirements (Step 2), permit holders must have submitted annual reports as required within the existing permit.

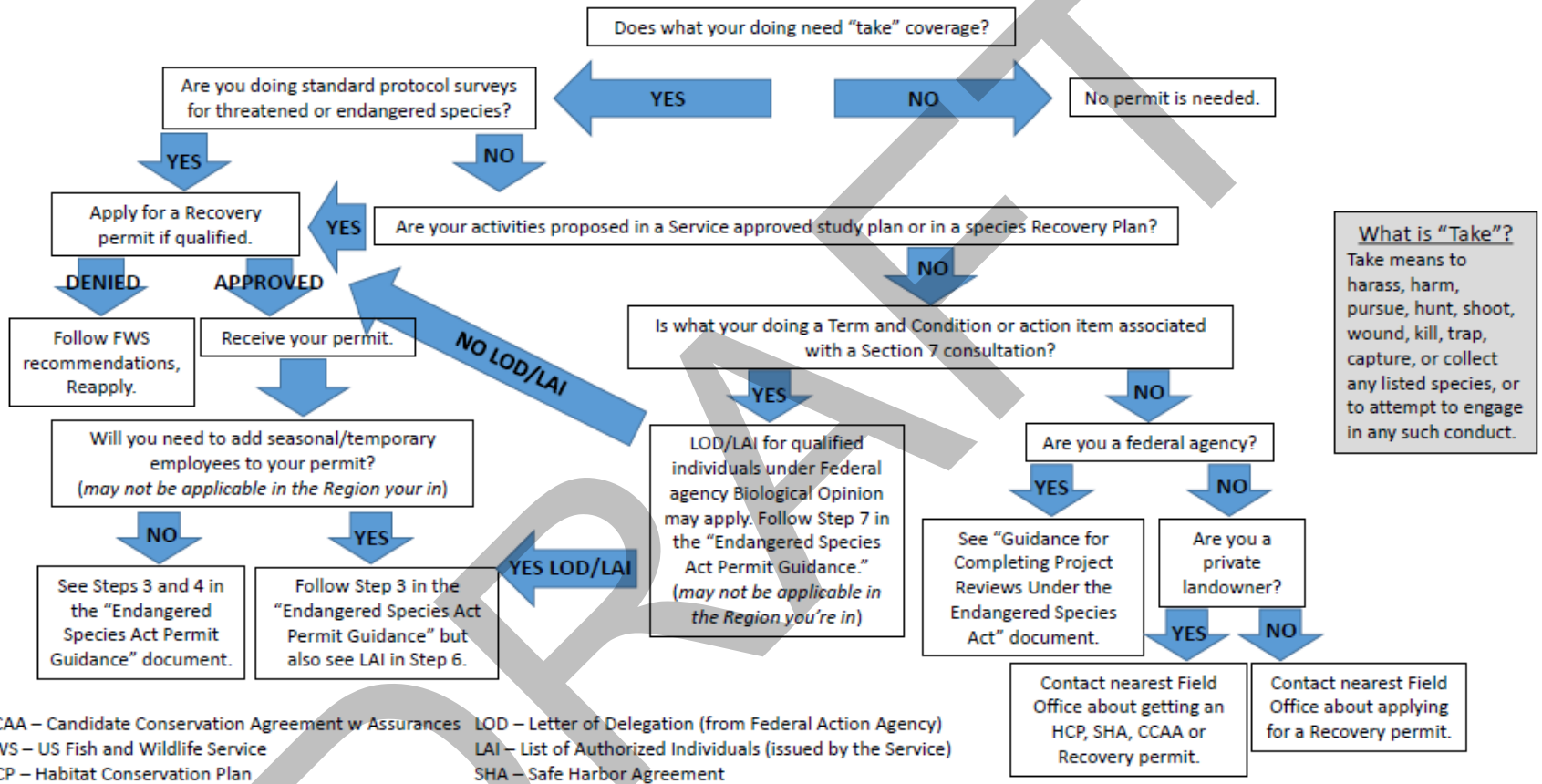
Adding seasonal/temporary individuals, to a permit will require a letter from the permit holder and a Letter of Authorized Individuals (LAI) issued by the Service (see Appendix G for Letter of Authorized Individual (Blank Example)). The permit holder sends a letter (which lists specific individuals to be added to the permit, requested activities, locations and timing) to the NMESFO without having to go through the permit amendment process with the Regional Office. These individuals would be listed under the permit on a "temporary" basis, working for a12 month period under the permit holder. Requirements listed under Step 2 are also required for these individuals. Species leads then check over individual or study plan qualifications for approval, denial or to request more information from the permit holder. Based on the species lead recommendations, the NMESFO Field Supervisor would then issue the LAI that goes with the Recovery permit.

Step 7. How do you add a contractor to a Federal agency Biological Opinion?

A Federal agency can use the Letter of Delegation/Letter of Authorized Individual (LOD/LAI) process when working with a contractor to conduct activities listed in a Section 7 consultation. The Federal agency sends a LOD (which includes individuals delegated to conduct activities on behalf of the federal agency, which are authorized under the Biological Opinion, describes the activities, locations and timing, and the Terms and Conditions for which the LOD is being submitted) to the NMESFO to add qualified individuals to conduct specific activities or studies on specific species associated with a Section 7 consultation. This may involve scientific research or monitoring activities outside of species' specific protocol or Recovery Plans. Once the LOD is sent in to the NMESFO, then species leads check over individual qualifications or study plan for approval, denial or to request more information. Based on the species lead recommendations, the NMESFO Field Supervisor would then issue the LAI that goes with contractor's Section 10(a)(1)(A) permit and take is accounted for under the ITS of the Biological Opinion. See Appendix H for Letter of Delegation (Blank Example).

All hyperlinks in this document can also be found in Appendix I – List of weblinks.

Appendix A – Section 10 Permit Process



CCAA – Candidate Conservation Agreement w Assurances
FWS – US Fish and Wildlife Service
HCP – Habitat Conservation Plan
LOD – Letter of Delegation (from Federal Action Agency)
LAI – List of Authorized Individuals (issued by the Service)
SHA – Safe Harbor Agreement

Section 10 Recovery and Interstate Commerce Permit ("Recovery Permit" Form 3-200-55) – https://www.fws.gov/forms/3-200-55.pdf

USFWS Guidance for Completing Project Reviews Under the Endangered Species Act - https://www.fws.gov/southwest/es/NewMexico/documents/Guidance_for_Completing_Project_Reviews.pdf

USFWS Ecological Services Regional Offices Map (with contact information) – https://www.fws.gov/ecological-services/map/index.html

Appendix B – Endangered Species Permits: Choosing the Right Permit Scenarios

The following six scenarios will help you determine what type of Permit is most appropriate for a given situation. Your choices are: Research/Recovery Permit, Incidental Take Permit, and Enhancement of Survival Permit.

Scenario 1:
A Native American Tribe wants to voluntarily enhance a riparian area along 3 miles of stream that flows through the property. They want to do such things as planting cottonwood poles and willows, but they have come to you because they expect they may draw in some federally listed threatened and endangered species. They might even attract some species not yet listed.

Answer:
Enhancement of Survival Permit via a Safe Harbor Agreement (SHA), Candidate Conservation Agreement or Candidate Conservation Agreement with Assurances (CCAA) for threatened and endangered species, maybe candidate species as well. If the species can be quantified, you may wish to consider a SHA over a CCAA since the action will occur over the long-term and will provide a net conservation benefit for federally threatened, endangered, and candidate species.

Scenario 2:
A private developer wishes to build houses in an area that supports an endangered snake. The number of snakes present and their distribution on the site are not known; survey work is recommended to locate the snakes so their habitats can be avoided.

Answer:
10(a)(1)(A) Research/Recovery Permit to survey for snakes. An 10(a)(1)(B) Incidental take permit with a Habitat Conservation Plan (HCP) may also be recommended if incidental take cannot be avoided. An HCP that incorporates Section 10(a)(1)(A) research activities within its ITP and mitigation is also a possibility.

Scenario 3:
A non-profit organization specializes in captive breeding of a southwestern frog that is on the list of Federal species that are candidates for listing under the Endangered Species Act. This non-profit would like to set up a program to reintroduce this rare frog to stock tanks on cattle ranches owned by interested private citizens in five specific counties in southern Arizona.

Answer:
Enhancement of Survival Permit via a CCAA. It is a federal candidate species. It will be voluntary on the part of the non-government organization and on the part of any rancher participants. Once the assurances associated with the CCAA are granted, there really is no need for using any other tool (like a SHA), since the assurances will follow the species should it become listed.

Scenario 4:
An extremely imperiled federally listed endangered species lives on private property. The landowner owns a forest on which he has a common species of tree that this imperiled species utilizes for feeding and breeding. At least two individuals of this endangered species have been attracted to a large stand of this particular species of tree that is at the edge of the property. The landowner anticipates cutting these trees at some time in the future to maintain the viability of his timber business. It is anticipated that two stands will be mature enough to be cut NOW, with others maturing at 10 years and 30 years.

Answer:
Incidental Take Permit via a HCP. The otherwise lawful activity is managing for forest practices. The U.S. Fish and Wildlife Service (Service) Regional Director believes that the animal species involved here is too imperiled for the Service to extend the SHA tool to the client. The Service recommends a 10(a)(1)(B) permit and a HCP to the landowner, because "take" will be occurring NOW, not in the future, each time he cuts down one of these trees. A SHA is a possible option for the future cutting of stands that are not mature enough for harvest now, if the landowner would be willing to leave the trees long enough for the "net conservation benefit" standard to be met.

Scenario 5:
The State Department of Transportation (DOT) has to mow its road rights-of-way regularly to maintain safe highway conditions. An endangered butterfly lives in the grasses along the roadways. This species prefers areas where there are few trees or shrubs. The DOT realizes that it may take individuals of this species as it mows its roadways on a regular rotating basis.

Answer:
Enhancement of Survival Permit via a SHA. The DOT is a nonfederal landowner and an endangered butterfly is involved. The DOT wants to mow sometime in the future and can structure the mowing in such a way as to maintain habitat that the butterfly prefers. An HCP could also be an option, if the DOT wanted to start mowing today and sought assurances long into the future.

Scenario 6:
The only two known populations of a listed plant occur on National Forest land. The U.S. Forest Service (Forest Service) has identified other habitat areas on the National Forest that appear to contain the necessary habitat characteristics; however, the areas have been degraded by off-road vehicles. The Forest Service wants to restore these areas, collect seeds from the existing plant populations, grow them in a greenhouse, and then plant them on the restored sites.

Answer:
Research/Recovery Permit. A permit would be needed to collect the seeds, grow them in a greenhouse, and plant the seedlings.

Appendix C – Examples of Species Specific Qualifications

Table 2. Examples of some species from New Mexico, protocol training/dates (if required), permit activities and qualifications to receive a permit for those activities. For a full list of all species and species leads use the NMESFO Species Lead webpage. For information on species protocols and additional qualifications that are necessary visit the NMESFO Species Protocol webpage.

Species	Protocol training	Activity	Qualifications	Recovery Plan Link (if applicable)
Jemez Mountains salamander	July (every year)	Presence/absence surveys	Protocol survey training	N/A
NM meadow jumping mouse	None	Presence/absence surveys	Provide experience with NM meadow jumping mouse surveys and habitat ID; significant experience with other small mammal ID and surveys should also be included. At least two letter of recommendations from jumping mouse or small mammal experts documenting field experience required.	Recovery Plan
Mexican Spotted owl	March/April (every year)	Presence/absence surveys	Protocol survey training, ~40 hours survey experience completed under a permitted individual	Recovery Plan
Rio Grande silvery minnow	None	Presence/absence surveys	108 hours of fisheries survey experience for adult RGSM 216 hours of fisheries survey experience for juvenile RGSM 432 hours of fisheries survey experience for larval RGSM	Recovery Plan
Southwestern willow flycatcher	May (every year)	Presence/absence surveys	Protocol survey training, ~40 hours riparian bird experience	Recovery Plan
Yellow-billed cuckoo	June (every year)	Presence/absence surveys	Protocol survey training, ~40 hours riparian bird experience	N/A

Appendix D – Federal Register publication example

2009–0021. To avoid duplicate submissions, please use only *one* of the following methods to submit comments:

(1) *Online.* Submit comments via the Federal eRulemaking Portal Web site at *http://www.regulations.gov* under e-Docket ID number USCIS–2009–0021;

(2) *Mail.* Submit written comments to DHS, USCIS, Office of Policy and Strategy, Chief, Regulatory Coordination Division, 20 Massachusetts Avenue NW., Washington, DC 20529–2140.

FOR FURTHER INFORMATION CONTACT: USCIS, Office of Policy and Strategy, Regulatory Coordination Division, Samantha Deshommes, Chief, 20 Massachusetts Avenue NW., Washington, DC 20529–2140, telephone number 202–272–8377 (This is not a toll-free number. Comments are not accepted via telephone message). Please note contact information provided here is solely for questions regarding this notice. It is not for individual case status inquiries. Applicants seeking information about the status of their individual cases can check Case Status Online, available at the USCIS Web site at *http://www.uscis.gov,* or call the USCIS National Customer Service Center at 800–375–5283 (TTY 800–767–1833).

SUPPLEMENTARY INFORMATION:

Comments

You may access the information collection instrument with instructions, or additional information by visiting the Federal eRulemaking Portal site at: *http://www.regulations.gov* and enter USCIS–2009–0021 in the search box. Regardless of the method used for submitting comments or material, all submissions will be posted, without change, to the Federal eRulemaking Portal at *http://www.regulations.gov,* and will include any personal information you provide. Therefore, submitting this information makes it public. You may wish to consider limiting the amount of personal information that you provide in any voluntary submission you make to DHS. DHS may withhold information provided in comments from public viewing that it determines may impact the privacy of an individual or is offensive. For additional information, please read the Privacy Act notice that is available via the link in the footer of *http://www.regulations.gov.*

Written comments and suggestions from the public and affected agencies should address one or more of the following four points:

(1) Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility;

(2) Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

(3) Enhance the quality, utility, and clarity of the information to be collected; and

(4) Minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, *e.g.,* permitting electronic submission of responses.

Overview of This Information Collection

(1) *Type of Information Collection:* Extension, Without Change, of a Currently Approved Collection.

(2) *Title of the Form/Collection:* Application for Family Unity Benefits.

(3) *Agency form number, if any, and the applicable component of the DHS sponsoring the collection:* I–817; USCIS.

(4) *Affected public who will be asked or required to respond, as well as a brief abstract: Primary:* Individuals or households: The information collected will be used to determine whether the applicant meets the eligibility requirements for benefits under 8 CFR 236.14 and 245a.33.

(5) *An estimate of the total number of respondents and the amount of time estimated for an average respondent to respond:* The estimated total number of respondents for the information collection I–817 is approximately 1,358 and the estimated hour burden per response is 2 hours per response; and the estimated number of respondents providing biometrics is 1,358 and the estimated hour burden per response is 1.17 hours.

(6) *An estimate of the total public burden (in hours) associated with the collection:* The total estimated annual hour burden associated with this collection is 4,210 hours.

(7) *An estimate of the total public burden (in cost) associated with the collection:* The estimated total annual cost burden associated with this collection of information is $166,355.

Dated: March 28, 2017.

Samantha Deshommes,

Chief, Regulatory Coordination Division, Office of Policy and Strategy, U.S. Citizenship and Immigration Services, Department of Homeland Security.

[FR Doc. 2017–07062 Filed 4–7–17; 8:45 am]

BILLING CODE 9111–97–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R2–ES–2017–N243; FXES11130200000–178–FF02ENEH00]

Endangered and Threatened Species Permit Applications

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of receipt of applications; request for public comment.

SUMMARY: We, the U.S. Fish and Wildlife Service, invite the public to comment on the following applications to conduct certain activities with endangered or threatened species. The Endangered Species Act of 1973 (Act), as amended, prohibits activities with endangered and threatened species unless a Federal permit allows such activities. Both the Act and the National Environmental Policy Act require that we invite public comment before issuing these permits.

DATES: To ensure consideration, written comments must be received on or before May 10, 2017.

ADDRESSES: Susan Jacobsen, Chief, Division of Classification and Restoration, by U.S. mail at Division of Classification and Recovery, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, NM 87103; or by telephone at 505–248–6641. Please refer to the respective permit number for each application when submitting comments.

FOR FURTHER INFORMATION CONTACT: Susan Jacobsen, Chief, Division of Classification and Restoration, by U.S. mail at P.O. Box 1306, Albuquerque, NM 87103; or by telephone at 505–248–6641.

SUPPLEMENTARY INFORMATION: The Act (16 U.S.C. 1531 *et seq.*) prohibits activities with endangered and threatened species unless a Federal permit allows such activities. Along with our implementing regulations in the Code of Federal Regulations (CFR) at 50 CFR part 17, the Act provides for permits, and requires that we invite public comment before issuing these permits.

A permit granted by us under section 10(a)(1)(A) of the Act authorizes applicants to conduct activities with U.S. endangered or threatened species for scientific purposes, enhancement of survival or propagation, or interstate commerce. Our regulations regarding implementing section 10(a)(1)(A) permits are found at 50 CFR 17.22 for endangered wildlife species, 50 CFR 17.32 for threatened wildlife species, 50 CFR 17.62 for endangered plant species,

and 50 CFR 17.72 for threatened plant species.

Applications Available for Review and Comment

We invite local, State, Tribal, and Federal agencies, and the public to comment on the following applications. Please refer to the appropriate permit number (*e.g.*, Permit No. TE–123456) when requesting application documents and when submitting comments.

Documents and other information the applicants have submitted with these applications are available for review, subject to Privacy Act (5 U.S.C. 552a) and Freedom of Information Act (5 U.S.C. 552) requirements.

Permit TE–099278

Applicant: Fred Phillips Consulting, Flagstaff, Arizona.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for southwestern willow flycatcher (*Empidonax traillii extimus*) in California.

Permit TE–10107C

Applicant: Bandelier National Monument, Los Alamos, New Mexico.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) and Jemez Mountains salamanders (*Plethodon neomexicanus*) in New Mexico.

Permit TE–10642C

Applicant: Jeffery Williams, Gilmer, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys and nest monitoring activities for red-cockaded woodpeckers (*Picoides borealis*) in Arkansas, Louisiana, and Texas.

Permit TE–37418B

Applicant: Brown and Gay Engineers, Inc., Frisco, Texas.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for the following species in Oklahoma and Texas:

- Golden-cheeked warbler (*Dendroica chrysoparia*)
- Black-capped vireo (*Vireo atricapilla*)
- Red-cockaded woodpecker (*Picoides borealis*)
- American burying beetle (*Nicrophorus americanus*)

Permit TE–52420A

Applicant: Pima County, Tucson, Arizona.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for the following species in Arizona:

- Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Gila chub (*Gila intermedia*)
- Gila topminnow (*Poeciliopsis occidentalis*)

Permit TE–85077A

Applicant: Zara Environmental LLC, Manchaca, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys, salvage, transportation, research, and captive husbandry for the following species in Arkansas, Louisiana, New Mexico, Oklahoma, and Texas:

- Coffin Cave mold beetle (*Batrisodes texanus*)
- Helotes mold beetle (*Batrisodes venyivi*)
- Robber Baron Cave meshweaver (*Cicurina baronia*)
- Madla's Cave meshweaver (*Cicurina madla*)
- Bracken Bat Cave meshweaver (*Cicurina venii*)
- Government Canyon Bat Cave meshweaver (*Cicurina vespera*)
- Tooth Cave spider (*Neoleptoneta myopica*)
- Ground beetle (*Rhadine exilis*)
- Ground beetle (*Rhadine infernalis*)
- Tooth Cave ground beetle (*Rhadine persephone*)
- Tooth Cave pseudoscorpion (*Tartarocreagris texana*)
- Kretschmarr Cave mold beetle (*Texamaurops reddelli*)
- Cokendolpher Cave harvestman (*Texella cokendolpheri*)
- Bee Creek Cave harvestman (*Texella reddelli*)
- Bone Cave harvestman (*Texella reyesi*)
- Diminutive amphipod (*Gammarus hyalleloides*)
- Phantom tryonia (*Tryonia cheatumi*)
- Phantom springsnail (*Pyrgulopsis texana*)
- Golden-cheeked warbler (*Setophaga chrysoparia*)
- Black-capped vireo (*Vireo atricapilla*)
- Comanche Springs pupfish (*Cyprinodon elegans*)
- Fountain darter (*Etheostoma fonticula*)
- San Marcos gambusia (*Gambusia georgei*)
- Pecos gambusia (*Gambusia nobilis*)
- Mexican blindcat (*Prietella phreatophila*)
- Ouachita Rock Pocketbook (*Arkansia wheeleri*)
- Pink mucket (*Lampsilis abrupta*)
- Scaleshell (*Leptodea leptodori*)
- Rabbitsfoot (*Quadrula cylindrica cylindrica*)
- Winged mapleleaf (*Quadrula fragosa*)
- Tobusch fishhook cactus (*Sclerocactus brevihamatus* ssp. *tobuschii*)
- Navasota ladies'-tresses (*Spiranthes parksii*)
- Texas snowbells (*Styrax texanus*)
- Texas wild-rice (*Zizania texana*)

Permit TE–11267C

Applicant: Marissa Ann Buschow, Avondale, Arizona.

Applicant requests a new permit for research and recovery purposes to conduct activities for southwestern willow flycatchers (*Empidonax traillii extimus*) in Arizona, California, Nevada, New Mexico, and Texas.

Permit TE–65178A

Applicant: Jennifer L. Reidy, Liberty, Missouri.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct tracking and radio-tagging of golden-cheeked warblers (*Dendroica chrysoparia*) in Texas.

Permit TE–828963

Applicant: Connors State College, Muskogee, Oklahoma.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for American burying beetles (*Nicrophorus americanus*) in Oklahoma.

Permit TE–88214B

Applicant: John N. Macey, Temple, Texas.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct nest monitoring of black-capped vireos (*Vireo atricapilla*) in Texas.

Permit TE–12438C

Applicant: University of Texas, Austin, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys and captive care of Mexican blindcats (*Prietella phreatophila*) in Texas.

Permit TE–12441C

Applicant: Jimmy Joe Lovett, Stillwater, Oklahoma.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for gray bats (*Myotis grisescens*) in Oklahoma.

Permit TE–168189

Applicant: Michael Clay Green, San Marcos, Texas.

Applicant requests a renewal to an expired permit for research and recovery purposes to conduct presence/absence surveys for golden-cheeked warblers (*Dendroica chrysoparia*) in Texas.

Permit TE–103076

Applicant: Transcon Environmental, Inc., Mesa, Arizona.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for California tiger salamanders (*Ambystoma californiense*) in California.

Permit TE–92222A

Applicant: Elena C. Pinto-Torres, Austin, Texas.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for northern aplomado falcons (*Falco femoralis septentrionalis*) in Texas.

Permit TE–17037C

Applicant: International Boundary and Water Commission, El Paso, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) in New Mexico and Texas.

Permit TE–17880C

Applicant: Timothy Brent Garrett, College Station, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for Houston toads (*Bufo houstonensis*) in Texas.

Permit TE–023643

Applicant: U.S. Army, III Corps and Fort Hood, Fort Hood, Texas.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct tracking and radio-tagging of golden-cheeked warblers (*Dendroica chrysoparia*) in Texas.

Permit TE–44542B

Applicant: Olsson Associates, Oklahoma City, Oklahoma.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct surveys for the following species within Illinois, Iowa, Kansas, Missouri, Nebraska, Oklahoma, and Texas:

- Gray bat (*Myotis grisescens*)
- Indiana bat (*Myotis sodalis*)
- Ozark big-eared bat (*Corynorhinus (=plecotus) townsendii ingens*)

Permit TE–081884

Applicant: Andrew G. Gluesenkamp, San Antonio, Texas.

Applicant requests a renewal and amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys, collection, research, and captive husbandry for the following species in Texas:

- Austin blind salamander (*Eurycea waterlooensis*)
- Barton Springs salamander (*Eurycea sosorum*)
- Comal Springs dryopid beetle (*Stygoparnus comalensis*)
- Comal Springs riffle beetle (*Heterelmis comalensis*)
- Mexican blindcat (*Prietella phreatophila*)
- Reticulated flatwoods salamander (*Ambystoma bishop*)
- Texas blind salamander (*Typhlomolge rathbuni*)

Permit TE–17907C

Applicant: Landhawk Consulting LLC, Pharr, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for the following species in Texas:

- Black-capped vireo (*Vireo atricapilla*)
- Northern aplomado falcon (*Falco femoralis septentrionalis*)
- Interior least tern (*Sterna antillarum*)
- Red-cockaded woodpecker (*Picoides borealis*)
- Houston toad (*Bufo houstonensis*)

Permit TE–35163A

Applicant: Joseph A. Grzybowski, Norman, Oklahoma.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys, mist-net, band, collect blood, and attach radio-transmitters to black-capped vireos (*Vireo atricapilla*) in Oklahoma.

Permit TE–17466C

Applicant: David L. Dickson, Dallas, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for American burying beetles (*Nicrophorus americanus*) in Oklahoma and Texas.

Permit TE–17021C

Applicant: April Michelle Beard, Abilene, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for black-capped vireos (*Vireo atricapilla*) in Texas.

Permit TE–17040C

Applicant: Paul B. Samollow, College Station, Texas.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys and collect fin clips from Leon Springs pupfish (*Cyprinodon bovinus*) in Texas.

Permit TE–206016

Applicant: Andrew R. Middick, Edmond, Oklahoma.

Applicant requests an amendment and renewal to an existing permit for research and recovery purposes to conduct presence/absence surveys for American burying beetles (*Nicrophorus americanus*) in Arkansas, Kansas, Oklahoma, and Texas.

Permit TE–799103

Applicant: Hicks & Company, Austin, Texas.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) in Arizona, New Mexico, and Texas.

Permit TE–19907C

Applicant: Amanda Lillie Miller, Lascassas, Tennessee.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys, salvage, transportation, and research on the following species in Texas:

- Helotes mold beetle (*Batrisodes venyivi*)
- Robber Baron Cave meshweaver (*Cicurina baronia*)
- Madla's Cave meshweaver (*Cicurina madla*)
- Bracken Bat Cave meshweaver (*Cicurina venii*)
- Government Canyon Bat Cave meshweaver (*Cicurina vespera*)
- Government Canyon Bat Cave spider (*Neoleptoneta microps*)
- Ground beetle (*Rhadine exilis*)
- Ground beetle (*Rhadine infernalis*)
- Cokendolpher Cave harvestman (*Texella cokendolpheri*)

Permit TE–20270C

Applicant: National Park Service—Sonoran Desert Network, Tucson, Arizona.

Applicant requests a new permit for research and recovery purposes to conduct captive care and reintroduction activities for Gila topminnow (*Poeciliopsis occidentalis*) in Arizona.

Permit TE–88519A

Applicant: Forest Service—Southwestern Regional Office, Albuquerque, New Mexico.

Applicant requests an amendment and renewal to an existing permit for research and recovery purposes to conduct presence/absence surveys for New Mexico meadow jumping mice (*Zapus hudsonius luteus*) in Arizona and New Mexico.

Permit TE–21339C

Applicant: Erik M. Andersen, Tucson, Arizona.

Applicant requests a new permit for research and recovery purposes to conduct presence/absence surveys for southwestern willow flycatchers (*Empidonax traillii extimus*) in Arizona and New Mexico.

Permit TE–800611

Applicant: SWCA, Incorporated, Austin, Texas.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for the American burying beetle (*Nicrophorus americanus*) in, Arkansas, Kansas, Massachusetts Michigan, Missouri, Nebraska, Ohio, Oklahoma, Rhode Island, South Dakota, and Texas; and to conduct presence/absence surveys for the following species in Arizona and New Mexico:

- Rio Grande silvery minnow (*Hybognathus amarus*)
- Loach minnow (*Tiaroga cobitis*)
- Spikedace (*Meda fulgida*)

Permit TE–80964B

Applicant: Jean Marie L. Rieck, Flagstaff, Arizona.

Applicant requests an amendment to an existing permit for research and recovery purposes to conduct presence/absence surveys for southwestern willow flycatcher (*Empidonax traillii extimus*) in Arizona, Colorado, Nevada, New Mexico, and Utah.

National Environmental Policy Act (NEPA)

In compliance with NEPA (42 U.S.C. 4321 *et seq.*), we have made an initial determination that the proposed activities in these permits are categorically excluded from the requirement to prepare an environmental assessment or environmental impact statement as provided by Department of the Interior implementing regulations in the Code of Federal Regulations, title 43, part 46 (43 CFR 46.205, 46.210, and 46.215).

Comments Publically Available

All comments and materials we receive in response to this request will be available for public inspection, by appointment, during normal business hours at the address listed in the **ADDRESSES** section.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority

We provide this notice under the Act, section 10 (16 U.S.C. 1531 *et seq.*).

Dated: March 2, 2017.

Joy E. Nicholopoulos,

Acting Regional Director, Southwest Region, U.S. Fish and Wildlife Service.

[FR Doc. 2017–07073 Filed 4–7–17; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

[178A2100DD/AAKC001030/A0A501010.999900253G]

Indian Gaming; Tribal-State Class III Gaming Compact Taking Effect in the State of California

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice.

SUMMARY: This notice announces that the Tribal-State Class III Gaming Compact entered into between the San Manuel Band of Mission Indians and the State of California is taking effect.

DATES: The effective date of the compact is April 10, 2017.

FOR FURTHER INFORMATION CONTACT: Ms. Paula L. Hart, Director, Office of Indian Gaming, Office of the Assistant Secretary—Indian Affairs, Washington, DC 20240, (202) 219–4066.

SUPPLEMENTARY INFORMATION: Section 11 of the Indian Gaming Regulatory Act (IGRA) requires the Secretary of the Interior to publish in the **Federal Register** notice of an approved Tribal-State compact that is for the purpose of engaging in Class III gaming activities on Indian lands. *See* Public Law 100–497, 25 U.S.C. 2701 *et. seq.* All Tribal-State Class III compacts, including amendments, are subject to review and approval by the Secretary under 25 CFR 293.4. The Secretary took no action on the compact entered into between the San Manuel Band of Mission Indians and the State of California within 45 days of its submission. Therefore, the compact is considered to have been approved, but only to the extent the compact is consistent with IGRA. *See* 25 U.S.C. 2710(d)(8)(C).

Dated: April 3, 2017.

Michael S. Black,

Acting Assistant Secretary—Indian Affairs.

[FR Doc. 2017–07190 Filed 4–7–17; 8:45 am]

BILLING CODE 4337–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNMA00000.L12200000.AL0000 17X LXSSG0860000]

Notice of Public Meeting for the Albuquerque District Resource Advisory Council

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of meeting.

SUMMARY: In accordance with the Federal Land Policy and Management Act of 1976 and the Federal Advisory Committee Act of 1972, the U.S. Department of the Interior, Bureau of Land Management (BLM) Albuquerque District Resource Advisory Council (RAC) will meet as indicated below.

DATES: The Albuquerque District RAC will hold a public meeting on Monday, May 1, 2017. The meeting will begin at 9:30 a.m. MT and end at 4:00 p.m. MT.

ADDRESSES: The meeting will be held at the BLM Socorro Field Office, 901 South Old Highway 85, Socorro, NM 87801.

FOR FURTHER INFORMATION CONTACT: Jack River, Forester, BLM Albuquerque District Office, 100 Sun Avenue NE., Suite 330, Albuquerque, NM 87109, (505) 761–8755 or *jriver@blm.gov*. Persons who use a telecommunications device for the deaf may call the Federal Relay Service at 1(800) 877–8339 to contact the above individual during normal business hours. The Service is

Appendix E – Approved Permit Example

United States Department of the Interior

FISH AND WILDLIFE SERVICE
500 Gold Avenue SW
Albuquerque, New Mexico 87102

Revised February 2016

GENERAL CONDITIONS
FOR NATIVE ENDANGERED AND THREATENED WILDLIFE SPECIES
RECOVERY AND INTERSTATE COMMERCE PERMITS

1. This Endangered Species Act (ESA) permit is issued under the authority of section 10(a)(1)(A) of the ESA and its implementing regulations at 50 CFR 17.

2. All sections of Title 50 Code of Federal Regulations Part 13 (50 CFR 13) are conditions of the permit.

3. All applicable foreign, State, local, tribal, or other Federal laws, including trespass laws, and other laws requiring permits, must be observed.

4. The permittee must carry a copy of the permit while conducting authorized activities.

5. The permit number must be legibly printed on all documents and advertisements involving activities conducted under the permit.

6. Unless otherwise authorized on the face of the permit, the wildlife must be immediately released at or near the capture site after completion of the permitted activity.

7. Living wildlife specimens must be handled and shipped so as to minimize risk of injury, damage to health, or cruel treatment. The standards of care during handling and shipment of living wildlife specimens must comply with the U.S. Department of Agriculture, Animal and Plant Health Inspection Service regulations at 9 CFR 3 for humane handling, care, treatment, and transportation.

8. The container in which authorized wildlife are shipped must be plainly marked with names and addresses of the shipper and the consignee, and with an accurate description of the contents, including common and scientific name and number of each wildlife specimen within.

9. Any dead specimens of the authorized wildlife found may be salvaged. Any injured specimens of the authorized wildlife must be maintained, rehabilitated, and then released at or near the capture site as soon as possible.

10. At the discretion of the U.S. Fish and Wildlife Service (Service), a Service employee may inspect the facilities or accompany the permittee during any activity conducted pursuant to this permit. The permittee shall allow Service personnel complete and immediate access to any materials and information generated as a result of this permit. Any refusal, obstruction, or hindrance of Service participation in such work shall be grounds for suspension or revocation of this permit in accordance with 50 CFR 13.27 or 50 CFR 13.28, respectively.

11. BIRDS: banding, marking, radio tagging, etc., must be conducted in accordance with a Federal Bird Marking and Salvage Permit.

12. MARINE MAMMALS: This permit does not authorize the incidental or direct take of any marine mammal under the Marine Mammal Protection Act (MMPA) or its implementing regulations for the Service at 50 CFR 18, or its implementing regulations for the National Marine Fisheries Service's Office of Protected Resources (NOAA/Fisheries) at 50 CFR 216.

    Any activity that may result in the *incidental* take of manatees, sea otters, walruses, and polar bears must be authorized separately under the MMPA by the appropriate Service Field Office. Any request for the *direct take* of these same marine mammals must be authorized separately under the MMPA by the Service's Division of Management Authority (DMA). For more information, please refer to the Service's marine mammal website at http://www.fws.gov/ecological-services/species/marine-mammals.html or the DMA website at http://www.fws.gov/international/permits/by-species/marine-mammals.html.

    NOAA/Fisheries authorizes take for whales, dolphins, seals, and sea lions (but not walruses) under both the ESA and the MMPA. For more information, please refer to the NOAA/Fisheries marine mammal permits and authorizations website at http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.html.

    Federal agency consultations under section 7 of the ESA: Any take authorization for marine mammals must be addressed first under the MMPA and meet the required findings of the MMPA, in coordination with the responsible Service Field Office, the DMA, or the NOAA/Fisheries as specified above. Incidental take of a marine mammal cannot be authorized under section 7 of the ESA until it has been authorized under section 101(a)(5) of the MMPA and/or its 1994 amendments. Following issuance of such authorizations under the MMPA, the Service may amend its biological opinion to include an incidental take statement for marine mammals, as appropriate.

Note: The following conditions apply until the Service authorizes disposal of the wildlife (live or dead), and their progeny, regardless of the expiration date of the permit.

13. The authorized wildlife may NOT be sold, donated, or transferred without written authorization from the Service.

14. Any dead authorized wildlife shall be preserved according to standard museum practices and held for scientific purposes whenever practical.

15. Any live SEA TURTLES held must be maintained in accordance with the Service's February 13, 2013, Standard Permit Conditions for Care and Maintenance of Captive Sea Turtles available at: https://www.fws.gov/northflorida/SeaTurtles/Captive_Forms/20130213_revised%20_standard_permit_conditions_for_captive_sea_turtles.pdf

NATIVE THREATENED SPECIES-RECOVERY
THREATENED WILDLIFE
Permit Number: TE########-0
Effective: 00/00/0000 Expires: 00/00/0000

Issuing Office:

Department of the Interior
U.S. FISH & WILDLIFE SERVICE
Endangered Species Permit Office
500 Gold Avenue S.W.
P.O.Box 1306
Albuquerque, NM 87103-1306

Designated Regional Office Representative Signature

Permittee:
SOMEONE CONSULTING
ADDRESS
SOMEWHERE, STATE ZIP CODE
U.S.A.

Name and Title of Principal Officer:
MR/MRS SOMEONE- PRESEIDENT

Authority: Statutes and Regulations: 16 USC 1533(d); 50 CFR 17.32; 50 CFR 13.

Location where authorized activity may be conducted:
At locations specified within permit terms and conditions.

Reporting requirements:
See terms and conditions.

Authorizations and Conditions:

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other Federal law.

C. Valid for use by Permittee named above.

D. Your permit is being issued for a period of 5 years.

E. Acceptance of this permit serves as evidence that Permittee agrees to abide by the "General Conditions for Native Endangered and Threatened Wildlife Species Permits" (copy attached).

F. Acceptance of this permit serves as evidence that the Permittee agrees to abide by all conditions stated. **Some terms and conditions within this permit may have changed, either to reflect the most current language available or in response to requests by applicants or requirements by species' lead biologist(s).** Terms and conditions of this permit are inclusive. Any activity not specifically permitted is prohibited. Please read through these conditions carefully as violations of permit terms and conditions could result in your permit being revoked or denial of a new permit when the current one expires. Violations of your permit terms and conditions which contribute to a violation of the Endangered Species Act (ESA or Act) could also subject the Permittees to criminal or civil penalties.

G. Disposal, transplant, or release of live wildlife/plants or plant parts taken or held under the terms of this permit, unless specifically authorized, requires prior written approval by the species' lead U.S. Fish and Wildlife Service (USFWS) office. You must dispose of dead wildlife/plants or plant parts as specified by the terms of this permit. If terms are not specified, specimens can be destroyed or transferred to a public institution. A copy of this permit and a cover letter referencing your permit number, must accompany each shipment and must be retained with the specimens. The cover letter must specify who will receive the specimens and the numbers involved. A copy of the letter must be furnished to the following addresses:

U.S. Fish and Wildlife Service
Regional Office
Division of Classification and Restoration - Recovery Permits
P.O. Box 1306
Albuquerque, New Mexico 87103
505/248-6420 or 505/248-6920

Arizona Ecological Services Tucson Sub-Office
201 N. Bonita Ave., Suite 141
Tucson, Arizona 85745
520/670-6145

Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Compass Bank Building
Austin, Texas 78758
512/490-0057

New Mexico Fish and Wildlife Conservation Office
3800 Commons Avenue NE
Albuquerque, New Mexico 87109
505/342-9900

A copy should also be retained in your files. Transfers deviating from the above conditions require prior written approval by the USFWS.

H. *Unless otherwise instructed within the species-specific language below*, an **annual report** based on each species and activity conducted under the authority of this permit (including where activities took place, number and location of species collected/captured, and field data forms, if appropriate) must be submitted to the respective

Ecological Services Field Office (ESFO) listed above, including negative data (i.e., negative survey findings or lack of breeding success). If no activities were conducted under this permit, for one or more species during the calendar year, a report stating such will satisfy the annual reporting requirements. The annual report should also include recovery permit number, species' common and scientific name, date of survey, observer, observer contact information (in case of questions), location (provide GPS or UTM coordinates, or Township and Range and at least quarter Section), number of individuals observed, their sex, age class, and breeding condition, if known or determined in recovery permit report for all surveys conducted. If habitat quality/condition was noted at the time of surveys, please include that information. Annual reports may also be submitted on a CD. Failure to submit a report, or failure to submit an adequate report, is a violation of the permit and is cause for suspension or revocation of the permit. A violation may disqualify a person from receiving or exercising the privileges of a permit as long as the deficiency exists.

Data collected in lat/long, NAD 83 is preferred. If collected in an alternate coordinate system, please report the coordinate system and datum the information was collected in. Optional information that can be included to help further define the precision of the locational information includes: 1) Positional Dilution of Precision (PDOP) level at time of acquisition, and 2) whether the Wide Area Augmentation System (WAAS) was enabled.
For all surveys conducted within New Mexico, you must submit your annual report in the University of New Mexico's Natural Heritage Program **USFWS Permit Data Template** available at ***http://nhnm.unm.edu/data/fws_permit_template***. Completed annual reports must be submitted to ***nhnm@unm.edu*** as well as the appropriate ESFO listed above in Condition G. If your annual report is too large to send via e-mail, you may submit required copies on a CD. To send a CD to the Natural Heritage Program by mail or courier, please use the following addresses:

Mail To:
Natural Heritage New Mexico
UNM Biology Dept.
MSC03 2020
1 University of New Mexico
Albuquerque, NM 87131-0001
505/277-3822
Email: ***nhnm@unm.edu***

Courier Delivery:
Natural Heritage New Mexico
University of New Mexico Main Campus
Castetter Hall - Room 167
Albuquerque, NM 87131

I. An annual report transmittal letter is the only document to be submitted to the **Regional Office**, Division of Classification and Restoration - Recovery Permits, Albuquerque, NM at the above address (or to the following electronic mailing address: ***FW2_TE_Permits@fws.gov*** on or before December 15 of each year (unless date is otherwise stated). The transmittal letter should state the following information: name of field office(s) and name of species where data was forwarded; date report(s) sent to field office; and list of species for which no activities were conducted, if applicable.

If an amendment or renewal request is also needed at the time that the annual report is submitted, please make sure the annual report transmittal letter and request(s) are submitted under separate cover. Do not include permit requests along with annual reports.

J. Copies of any unpublished or published reports generated by the studies or projects covered by this permit and other data that would be useful for the conservation or recovery of the species should also be submitted to the ESFO(s). Reports should include one copy of USGS 7.5 minute quad sheets or larger scale maps, depicting sites

where listed species covered by this permit were found or not found. These reports may be disclosed pursuant to the Freedom of Information Act.

K. Should any mortality or physical injury occur to an individual of the species during permitted activities (above the amount that may be specified below for a specific species) all operations must immediately cease and you are required to contact the ESFO(s) above within 24 hours.

L. Please note that this permit is limited to the activities and species described below, and is functional only when used in combination with a valid state permit.

M. Activities involving migratory birds and their parts (see 50 CFR 10, Migratory Bird Treaty Act (16 USC 703 et seq.) and implementing Regulations at 50 CFR 21) or bald and golden eagles (see Bald and Golden Eagle Protection Act (16 USC 668a) and 50 CFR 22), may require additional permits or authorizations. Please contact the respective Regional Migratory Bird Permit Office, ***http://www.fws.gov/permits/contacts/contacts.html***, for additional information.

N. This permit does not, either directly or by implication, allow or grant right of trespass. Permission to enter lands must be obtained in writing from the landowner or land managing agency.

O. If conducting research on a National Wildlife Refuge, you must obtain a refuge special use permit. The refuge permit will need to be used in conjunction with this permit and a valid state permit in order to meet all applicable laws.

P. You must furnish the USFWS, Division of Classification and Restoration - Recovery Permits (address above) with a copy of the permit issued to you by the Indian Tribal Government(s) prior to conducting research and recovery activities on Tribal lands.

Q. You must have a copy of this permit and any other pertinent information in your possession while conducting the authorized activities.

R. A request for **renewal**, if appropriate, must be submitted to the USFWS Division of Classification and Restoration - Recovery Permits (at the above address) prior to the expiration date of the current permit. Any person holding a valid, renewable permit who submits a written request (application form 3-200-55) for renewal at least 30 days prior to the expiration date, may continue to conduct those activities under the expired permit while the USFWS takes action on such person's request for renewal.

If a request for permit renewal is received in the Regional Office **less than 30 days prior to permit expiration**, ***all activities authorized by the permit must cease upon permit expiration***.

All requests to renew, amend, or obtain a new permit will require submittal of an application. The application may be obtained by going to the following website: ***http://forms.fws.gov/3-200-55.pdf***. Please submit this application and a cover letter describing your request to the attention of the Recovery Permits Coordinator located in the Regional Office. The address is listed under condition G above. If you wish to confirm your application request was received, please send your application via certified mail or Federal Express, or provide an e-mail address for electronic notification.

WESTERN YELLOW-BILLED CUCKOO

X. Mr/Mrs Someone (Permittee) is authorized for scientific research and recovery purposes to survey for western yellow-billed cuckoos (*Coccyzus americanus*, YBCU) using vocalization playback within Arizona, New Mexico, and Texas. The following conditions also apply:

1. Permittees and agents who have not attended training within the last two years are encouraged to attend a USFWS-approved training workshop to ensure they receive new information on yellow-billed cuckoo status of the species, survey protocol, field forms, and permits. Permittees planning to conduct surveys within Arizona or New Mexico are encouraged to take training within one of these states to learn about unique habitat conditions where YBCU are found.

2. Permittee must notify Susan Sferra at ***susan_sferra@fws.gov*** (Arizona ESFO Tucson Sub-Office) and Vicky Ryan at ***vicky_ryan@fws.gov*** and Clinton Smith at ***clinton_smith@fws.gov*** (New Mexico ESFO), and Clayton Napier at ***clayton_napier@fws.gov*** (Texas Austin ESFO) respectively where surveys will be conducted in Arizona, New Mexico, and Texas prior to the beginning of the each field season.

3. All surveys shall be conducted according to the most recent USFWS-accepted survey protocol which can be found at: ***https://www.fws.gov/southwest/es/arizona/Yellow.htm***. Permittee must visit this website prior to conducting YBCU surveys.

4. Permittees conducting surveys must be able to hear and distinguish between all YBCU vocalizations in the field. Permittees with little previous bird survey and YBCU observation experience are highly encouraged to accompany experienced surveyors to hone auditory and visual identification skills.

5. Nesting YBCU can be very sensitive to human disturbance and may abandon nests. Permittee shall exercise extreme caution while surveying by minimizing noise and time spent in suspected nest areas. Permittee shall avoid making new trails or damaging vegetation. Surveyors must be alert to YBCUs' behavioral signs of disturbance near a nest, which include alarm calls given repeatedly while watching the intruder, broken wing displays, or flying in with prey and eating the prey item instead of going to the nest. If these occur, the observer has been detected, the YBCU is distressed, and the observer should move back (Halterman et al. 2016).

6. If a nest is inadvertently found, observers should move away slowly to avoid startling the birds or force-fledging the young. Avoid physical contact with the nest or nest tree, to prevent physical disturbance and leaving a scent. Do not leave the nest area by the same route that you approached. This leaves a "dead end" trail that could guide a potential predator to the nest/nest tree. Mark the general nest location with a GPS and record the general description of the nest site (e.g., plant species used for nest substrate, approximate height of nest, and placement within the tree/shrub canopy). GPS readings are taken no closer than 10 m from the nest, to avoid disturbance. A general description of the nest site should be completed soon after leaving the area. This information may be used for follow-up monitoring by an appropriately permitted individual (Halterman et al. 2016).

7. Non-indigenous plants and animals can pose a significant threat to YBCU habitat and may be unintentionally spread by field personnel, including those conducting surveys. Simple avoidance and sanitation measures can help prevent the spread of these organisms to other environments. To avoid being a carrier of non-indigenous plants or animals from one field site to another, visually inspect and clean your clothing, gear, and vehicles before moving to a different field site. A detailed description on how to prevent and control the spread of these species is available by visiting the Hazard Analysis and Critical Control Point Planning for Natural Resource Management web site

(***http://www.haccp-nrm.org***). Several non-native species of concern in survey locations are: the tamarisk leaf beetle (*Diorhabda* spp.), quagga mussel (*Dreissena rostriformis bugensis*), cheatgrass (*Bromus tectorum*), red brome (*Bromus rubens*), giant salvinia (*Salvinia molesta*), water milfoil (*Myriophyllum spicatum*), parrot's feather (*M. aquaticum*), and amphibian chytrid fungus (*Batrachochytrium dendrobatidis*) (Halterman et al. 2016).

8. Permittee shall note if YBCUs are fitted with attachments such as transmitters with antennae or geolocators and/or marked with a silver aluminum band and/or color bands. If banded birds are sighted and the band combination can be determined without disturbing the birds, note the number of bands, colors, and band location and sequence on the birds' legs (e.g., blue over pink over silver left leg/red over yellow right leg).

9. If banded YBCUs are sighted when surveying in Arizona, Permittees must contact Susan Sferra at ***susan_sferra@fws.gov*** at the Arizona ESFO Tucson Sub-Office within 24 hours. If banded YBCUs are sighted when surveying in New Mexico, permittee must contact Vicky Ryan at ***vicky_ryan@fws.gov*** and Clinton Smith at ***clinton_smith@fws.gov*** at the New Mexico ESFO within 24 hours. If banded YBCUs are sighted when surveying in Texas, Permittee must contact Clayton Napier at ***clayton_napier@fws.gov*** at the Austin ESFO within 24 hours.

10. Permittee must possess valid State permits where required and follow terms and reporting requirements. This Federal recovery permit is not valid without the necessary state permits, which may differ between states. It is the responsibility of the Permittee to ensure that they have the proper permits in the states in which surveys will be conducted.

11. For annual reports, Permittee is required to furnish digitally: (1) copies of all field data forms with positive or negative survey results; (2) copy of USGS quad/topographical map or similar (REQUIRED) of survey area, outlining survey site and location of YBCU detections; (3) sketch or aerial photo showing site location, patch shape, survey route covered during each survey, location of any detected YBCU or their nests; (4) photos (if taken) of the interior of the patch, exterior of the patch, and overall site and (5) bird photos (if taken) to the appropriate ESFO listed in Section G (***susan_sferra@fws.gov, vicky_ryan@fws.gov, clinton_smith@fws.gov, clayton_napier@fws.gov***). Permittees will be responsible for making sure that they submit the appropriate data to the states in which surveys were conducted. Permittees must complete the forms digitally (Microsoft Word or Excel posted at **http://www.fws.gov/southwest/es/arizona/Yellow.htm**) and submit them via email with attached or embedded topographic maps, GIS data (i.e., shapefile, personal or file geodatabase), and photographs. Results must be furnished by October 15, following each survey season covered by this permit (***susan_sferra@fws.gov*** for Arizona or ***vicky_ryan@fws.gov*** and ***clinton_smith@fws.gov*** for New Mexico, ***clayton_napier@fws.gov*** for Texas). These survey requirements will replace the annual USFWS reporting activities for this species.

12. Permittee is **not** authorized to monitor nests, mist net, capture, handle, band, or fit YBCU with geolocator or telemetry gear unless indicated below.

Literature Cited:

Halterman, M., M.J. Johnson, J.A. Holmes, and S.A. Laymon. 2016. A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo.

*****End Permit TE######-0*****

Appendix F – Permit Cover Letter with Denied Individual(s) Example

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Ecological Services
P.O. Box 1306, Room 6034
Albuquerque, New Mexico 87103

DATE HERE

Mr/Mrs Someone
Someone Consulting
Address
Somewhere, State Zip Code

Dear Mr/Mrs Someone:

The U.S. Fish and Wildlife Service (Service) regrets to inform you that in accordance with regulations at §17.22 (a)(2), 17.32 (a)(2), and 50 CFR §13.21 (b)(5), a portion of your Recovery Permit (TE######-0) (enclosed) request has been denied for southwestern willow flycatcher (*Empidonax traillii extimus*) within Arizona, New Mexico, Texas, Utah, and Colorado.

Individuals will no longer be named on permits with contingencies stipulating that training or additional experience must be obtained. If the individual is not qualified to conduct independent monitoring, his or her name will appear within a cover letter that stipulates the training or additional experience required of the individual so that independent monitoring may be conducted.

Mr/Mrs Someone does not have the minimum species-specific training and field experience in order for the Service to determine that h/shee is qualified to survey for southwestern willow flycatcher and in Arizona, New Mexico, Texas, Utah, and Colorado; and yellow-billed cuckoo in Utah and Colorado.

To gain the necessary field experience, Mr/Mrs Someone may work as a field assistant with a qualified, permitted biologist who is authorized to conduct presence/absence surveys. He/she must be able to demonstrate his/her ability to recognize and identify species, using accepted resource agency or scientific techniques, and be experienced in the biology, ecology, and scientific techniques needed to conduct research, such as presence/absence surveys. Once training is complete, a formal amendment must be submitted to the Service. In the amendment package, please provide the name of the surveying trainer and the date and place of training. A letter from the species-specific supervising biologist is preferred.

You may request reconsideration of this denial, as provided in 50 CFR §13.29, by submitting a written request to this office within 45 calendar days of the date of this letter. The request should

include the following: (1) a statement of the reason(s) for reconsideration, and (2) new information or facts pertinent to the issues raised in this letter.

Thank you for your commitment to threatened and endangered species conservation. If you have any questions or comments, please contact Recovery Permits Coordinator, at PHONE NUMBER.

Sincerely,

Designated Regional Office Representative Signature

Enclosure

Appendix G – Letter of Authorized Individual (Blank Example)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

INSERT DATE HERE

LIST OF AUTHORIZED INDIVIDUALS FOR
Permit Holder's Name
TEXXXXXX

Individuals authorized to conduct activities pursuant to this permit:

NAME OF PERSON is authorized to conduct ACTIVITY for the SPECIES in LOCATION during CURRENT YEAR. This authorization expires on INSERT DATE HERE.

Each individual named above shall be responsible for compliance with the terms and conditions in sections E, F, and H of this permit. The principal officer identified on box 8 on the face of this permit is responsible to ensure that the activities of all individuals listed herein are in compliance with the terms and conditions of this permit.

Individuals not named above may conduct activities pursuant to this permit **only** under the direct, on-site supervision of an above-named authorized individual.

_____ _____
Project Leader, New Mexico ES Field Office Date

This List of Authorized Individuals (LAI) is valid only if it is dated on or after the permit issuance date. This permit will be considered invalid without this LAI.

To request changes to the LAI, the permittee shall submit a written request to the Project Leader. The request shall include the name of each individual to be appended to the LAI; a resume of qualifications of each person to be appended to the LAI detailing their experience with each species and type of activity for which authorization is requested; the names and phone numbers of a minimum of two references; and the names of individuals to be deleted from the LAI, if applicable.

Appendix H – Letter of Delegation (Blank Example)

HYPOTHETICAL **LETTER OF DELEGATION**

On LEAD FEDERAL AGENCY LETTERHEAD

Letter or Memo format (but this will be termed a "Letter of Delegation" nonetheless)

INSERT DATE HERE

Dear FIELD OFFICE SUPERVISOR:

In accordance with section 7(o)(2) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*), and as part of their Section 10(a)(1)(A) permit TEXXXXXX, the LEAD FEDERAL AGENCY is delegating CONTRACTOR to conduct specific compliance monitoring activities on behalf of LEAD FEDERAL AGENCY for Consultation Number XXXXXXXX-YEAR-F-XXXX which constitute takings of various Rio Grande Silvery Minnow life stages. These activities were described in LEAD FEDERAL AGENCY BIOLOGICAL ASSESSMENT and incorporated by Term and Condition XXX into the BIOLOGICAL OPINION for Consultation Number XXXXXXXX-YEAR-F-XXXX. The activities that LEAD FEDERAL AGENCY have delegated to CONTRACTOR are strictly limited to those activities described below and are in compliance with all Terms and Conditions for Consultation Number XXXXXXXX-YEAR-F-XXXX. This letter is in effect until rescinded or DATE, whichever comes first.

The CONTRACTOR permittees listed below will conduct the work in INSERT DATE HERE, described below:

Individual Permittee	RGSM Life Stages	Fish Collection Gear Types used
SOMEONE, Crew Leader	eggs, larvae, juveniles, adults	dip net, MEC, larval seine, beach seine, Fyke net
SOMEONE, Crew Leader	eggs, juveniles, adults	dip net, MEC, beach seine, Fyke net
SOMEONE, Crew Member	eggs	dip net, MEC

According to their qualifications, CONTRACTORS permittees will conduct the activities described in the attached PLAN, "INSERT PLAN NAME HERE" (CITATION). Recall that the USFWS NMESFO reviewed this PLAN in INSERT DATE HERE.

Generally, CONTRACTOR permittees will conduct systematic sampling at randomly selected sites to document the occurrence and relative abundance of RGSM adults, eggs, and larvae in the MRG. Using two motorized boats, two biologists will access all sites from the river. It is anticipated that sampling the 10 sites within each of the three reaches (i.e., Albuquerque, Isleta, and San Acacia) will require two days; hence a total of six days will be spent on the river on each of three trips spaced two weeks apart for a total of 120 sampling sites. This will result in a total of 20 dip net samples at each of ten sites for a total of 200 samples in each reach, or 600 samples total for all three reaches per trip. A sampling trip will be taken every two weeks beginning about May 22 and ending about June 15, for a total of three trips.

Dip Net Surveys for up to 2,700 RGSM Larvae

An average of 1.5 silvery minnow was captured in each dip net in 2016, and it is estimated that 2,700 larval silvery minnow will be collected and preserved for identification with this sampling method in 2017 (i.e., 1,800 dip nets x 1.5 larvae/dip net = 2,700 larvae). All larval fish collected will be preserved and transferred to a contract laboratory for identification, and developmental phase described as protolarvae, mesolarvae, metalarvae, and juvenile; standard and total lengths

HYPOTHETICAL **LETTER OF DELEGATION**

On LEAD FEDERAL AGENCY LETTERHEAD

of each silvery minnow larvae will be measured and recorded at the contract laboratory.

Fyke Netting for up to 500 Adult RGSM
Winged fyke nets will be used to enumerate fish by species moving to and from each habitat restoration site; 2-4 fyke nets may be set in the inflow and outflow of each site and 2-4 nets may be set within each site, depending on the size of the site. The fyke nets will be set for the duration of the 4-day sample period and checked daily for fish.

Annual reports will be provided by CONTRACTOR in December, following each year this letter is in effect. Additionally, the takes will be enumerated in LEAD FEDERAL AGENCY's Annual Report.

We request that the NMESFO provide a Letter of Authorized Individuals to the CONTRACTOR thereby authorizing their participation on behalf of LEAD FEDERAL AGENCY for these RGSM compliance monitoring activities as soon as possible.

Any questions you may have regarding this request should be directed to JOB TITLE [CONTACT FOR LEAD FEDERAL AGENCY, at [(000) 000-0000].

Sincerely,

SOMEONE
LEAD FEDERAL AGENCY JOB TITLE

Attachments:

LIST OF CCWA CONTACTS

CONTRACTOR Principal Officer, 1234 STREET, TOWN, NM XXXXX, telephone xxx-xxx-xxx

CONTRACTOR Crew Lead, 1234 STREET, TOWN, NM XXXXX, telephone xxx-xxx-xxx

CONTRACTOR Crew Lead, 1234 STREET, TOWN, NM XXXXX, telephone xxx-xxx-xxx

Appendix I – List of weblinks

Bureau of Indian Affairs Tribal Leaders Directory – https://www.bia.gov/tribal-leaders-directory

List of state and territorial fish and wildlife offices – https://www.fws.gov/offices/statelinks.html

NMESFO "How to use IPAC – Guidance for Completing Project Reviews" – https://www.fws.gov/southwest/es/NewMexico/documents/Guidance_for_Completing_Project_Reviews.pdf

NMESFO Species Leads – https://www.fws.gov/southwest/es/newmexico/ES_SLC.cfm

NMESFO Species Protocols – https://www.fws.gov/southwest/es/newmexico/ES_Protocols.cfm

USFWS Candidate Conservation Agreements with Assurances – https://www.fws.gov/endangered/what-we-do/cca.html

USFWS Ecological Services Regional Offices Map – https://www.fws.gov/ecological-services/map/index.html

USFWS Endangered Species Act page with link to Sections - https://www.fws.gov/endangered/laws-policies/esa.html

USFWS ESA Permits for Native Species FAQ sheet – https://www.fws.gov/endangered/esa-library/pdf/permits.pdf

USFWS Endangered Species – https://www.fws.gov/endangered/

USFWS Habitat Conservation Plans –https://www.fws.gov/endangered/what-we-do/hcp-overview.html

USFWS Office of the Native American Liaison – https://www.fws.gov/nativeamerican/

USFWS Permits – https://www.fws.gov/permits/

USFWS Permits Form 3-200-55 – https://www.fws.gov/forms/3-200-55.pdf

USFWS Permits Forms – https://www.fws.gov/permits/applicationforms/ApplicationE.html#esa

USFWS Recovery Permits – https://www.fws.gov/endangered/permits/recovery_permits.html

USFWS Regions Map – https://www.fws.gov/where/

USFWS Safe Harbor Agreements –https://www.fws.gov/endangered/landowners/safe-harbor-agreements.html

USFWS Southwest Ecological Services Region 2 – https://www.fws.gov/southwest/es/

USFWS "Working Together: Tools for Helping Imperiled Wildlife on Private Lands" – https://www.fws.gov/endangered/esa-library/pdf/ImperiledWildlifeFinalDec2005.pdf