

Executive Committee Meeting

February 15, 2017

Meeting Materials:

Meeting Agenda

Meeting Minutes

MRGESCP 2017 Retreat Planning

2016 Coordinated Spring Flow Operation [presentation]



**Middle Rio Grande Endangered Species Collaborative Program
EXECUTIVE COMMITTEE**

**Wednesday, February 15, 2017
9:00am – 1:00pm**

**Conference Call information:
Phone: 866-564-9902 Passcode: 1965181**

**Location: U.S. Bureau of Reclamation
555 Broadway Blvd NE # 100, Albuquerque, NM 87102**

-- MEETING AGENDA --

8:30-9:00	Arrival	
9:00-9:10	Welcome, Introductions, and Review of Proposed Agenda	
9:10-9:20	Decision – Approval of January 18, 2017 EC Meeting Summary	
9:20-9:40	Agency Roundtable	
9:40-9:50	Program Management Update	D. Strickland D. Lee
9:50-10:00	Adaptive Management Contract Update	S. Bittick T. Caplan
10:00-10:10	Coordinating Committee Updates	R. Billings D. Campbell
10:10-10:20	Minnow Action Team Update	G. Haggerty
10:20-10:45	Presentation: 2016 Coordinated Spring Runoff Operation	NM ISC
10:45-11:00	Break	
11:00-11:15	Retreat Logistics	D. Lee
11:15-12:30	Discussion: Future of the Collaborative Program (con't from last EC) • Goals and Objectives • Signatory Views of the Program • Role of the Program	D. Strickland (facilitator)
12:30-12:45	Retreat Agenda Items	
12:45-12:50	Meeting Summary and Next Steps • DECISION – NEXT PROPOSED EC MEETING: April 18-19, 2017 Retreat	
12:50-1:00	Public Comment and Announcements	
1:00	Adjourn	

**Middle Rio Grande Endangered Species Collaborative Program
Executive Committee Meeting
February 15, 2017 – 9:00am to 12:00pm**

Reclamation

**Conference Call information:
Phone: 1-800-621-8611 Passcode: 30230**

Decisions

- The January 18, 2017 EC meeting summary was approved for finalization with a name correction and revision to the Litigation Update.
- With a quorum present and no objections voiced, the EC rescheduled the retreat for the 26th and 27th of April.

Actions

- Debbie Lee will focus the retreat planning for Taos or New Mexico Tech in Socorro. It was suggested that other meeting rooms at NMT or the Bureau of Geology be explored.
- By the end of March, the federal signatories will provide a list of their priorities for the Program for consideration in the retreat agenda.
- By the end of March, all signatories are encouraged to submit a 1-page Agency Perspective for the April EC Retreat. It is requested this perspective include what they do, what they want to do, why they are involved in and what they need from the Program, what “adaptive management” means for that agency, and decision items to accomplish at the retreat.
- Rich Valdez will provide the adaptive management paper by Carl Walters to Debbie Lee for distribution to the EC in preparation for the April EC Retreat.
- The non-federal signatories will meet early next month to identify an EC co-chair before the April retreat.
- Debbie Lee will email a reminder to signatories encouraging the development and submittal of a 1-page “agency perspective” due at the end of March.

Requests/Recommendations

- It was suggested the Program consider “merging” the Program Document and Program Bylaws into an updated document that reflects the status of the Program going forward; specifically, how to “fill in the gaps” or update/replace the language in those documents to define the direction of the Program going forward.
- It was requested that the Retreat Agenda Section of the January EC meeting notes be turned into a comment sheet for signatories to provide feedback and agency perspective on those elements prior to the April EC Retreat.
- In preparation for the April EC Retreat, representatives were encouraged to review the following documents related to Adaptive Management:
 - Grand Canyon Adaptive Management
https://www.usbr.gov/uc/rm/amp/amwg/amwg_index.html
<https://www.usbr.gov/uc/rm/amp/>
 - Adaptive Management of Renewable Resources by Carl Walters (book);
 - Work Products and Presentations related to the Corps’ Adaptive Management Phase I contract (2010)

Suggested Tentative EC Retreat Agenda Items (in no particular order):

- Adaptive Management Presentation;
- Program Organization and Structure – specifically regarding the Adaptive Management Committee membership and operation;
- Summary of Minnow Science Panel Recommendations and key questions;
- Signatory Roundtable – presentation on Agency Perspective (who, what, where, why, how)

Announcements

- The Rio Grande Compact Commission is scheduled to meet in Santa Fe this year with a reception on April 4 at La Fonda and meeting on April 5, 2017.
- NM State Legislation Session resumes this Thursday (February 16) and continues through March 18.
- The Bosque Ecosystem Monitoring Program's (BEMP) Crawford Symposium annual conference is scheduled for March 7 from 4:00pm to 7:30pm. The conference will showcase scientific research by both students and professionals. William deBuys will deliver the keynote address and will be followed by a 20th Birthday Celebration.
 - o A few poster spots remain – please contact Kim Eichhorst if you would like to present an agency or project poster.
 - o <http://bemp.org/crawford-symposium/>
- The Collaborative Program's draft FY2015 Annual Report has been disseminated to the CC for review and feedback.

Next Meeting: EC Retreat April 26 and 27, location TBD

- The EC will not meet in March unless the need arises. The EC will convene in special session at a retreat in April but the next regular meeting of the EC is scheduled for May 2017.
- Future Meeting Agenda Items: (1) MAT 2017 Recommendations – April?; (2)

Upcoming Dates and Deadlines

- February 21 – ScW/HRW Joint meeting, 1:00pm to 3:00pm at ISC
- March – CC meeting to be determined
- March 7 – BEMP Crawford Symposium
- April 12 – MAT, 9:00am to 11:00am at Reclamation
- April 26 and 27 – EC Retreat, location TBD

Meeting Summary

Introductions and Agenda Approval: Brent Esplin brought the meeting to order and introductions were made. The agenda was reviewed and approved the no changes.

Approval of the January 18, 2017 EC Meeting Summary:

- The January 18, 2017 EC meeting summary was approved for finalization with a name correction and revision to the Litigation Update.

Agency Roundtable:

- *U.S. Bureau of Reclamation (Reclamation):*
 - o Reclamation has begun hiring staff (project managers, team members) in preparation for Biological Opinion (BO) implementation and project planning. The BO schedule continues to be updated and refined.

- o Reclamation continues to operate under Continuing Resolution (CR) through the end of March. One large contract has been successfully awarded and many other are in the queue for award.
 - o The Program Science and Support (PASS) contract was a performance based contract to implement the Recovery Implementation Program (RIP). Significant contract modifications may need to be exercised in the first option year since the Program is no longer transitioning to a RIP. The outcomes and decisions of the EC at the April Retreat will help inform what changes might be warranted.
- *Hydrology Update:*
 - o Current forecasts for the 2017 spring runoff are good, even with the 2-weeks of warmer temperatures. In general, snowpack is above median almost everywhere. However, both Article VII and Article VIII will be in effect and it is unknown how the relinquishment credits will be addressed.
 - o Using the February NRCS forecast, the Upper Rio Grande Water Operators Model (URGWOM) was run to forecast the potential hydrology and storage at each location throughout the system for the 10% (wettest), 30%, 50% (most probable), 70%, and 90% (driest) exceedances. All model runs indicate the ability to achieve storages goals in El Vado for the Middle Rio Grande Conservancy District (District) and Reclamation. The volume of water predicated indicates channel capacity releases out of Abiquiu for one to two months. The magnitude and timing of the peak in the Middle Rio Grande (MRG) will depend on the main stem flow from Colorado. The model indicates a sustained flow of ~3,000 cfs for at least one month and peaking at ~4,000 cfs for about a week. This is the first time since 2010 that natural flows of this volume are expected.
- *Litigation Update:*
 - o The BO issued to Reclamation (and partners) in December 2016 appears to have nullified all the claims issued by WildEarth Guardians (WEG) against Reclamation. An immediate stay in the case was issued and WEG has until today to amend their claims or challenge the BO by adding the Fish and Wildlife Service (Service) to the lawsuit. The claims against the Army Corps of Engineers (Corps) remain. The BO implementation may be a deciding factor in how WEG proceeds. The Reclamation BO is strong as indicated by the prevention of additional litigation at this time. Please note that this information reflects email communications and any amendment needs to be formally filed to be official.
 - o The original complaint included both Reclamation and the District. WEG will have to provide additional clarification and reformulate the claims if they are to continue suing the Corps.
- *NM Interstate Stream Commission (ISC):*
 - o ISC is in the process of coordinating with Reclamation and the District on the next steps for BO implementation and the different Reasonable and Prudent Measures (RPMs). ISC and the Service are working to coordinate the critical pieces and establish an “umbrella” Memorandum of Agreement (MOA) on specific projects to develop and implement. The intent is to “team up” on the work instead of working individually.
 - o ISC is operating on the assumption that the budget will be 5 % to 15% lower this year and will require careful prioritizing.
 - o It was cautioned that the Corps’ Authorizations for reservoir operations are post-Compact. There is very specific language about the Corps’ operations in certain situations, specifically addressing flood operations and storage. If there is floodwater in storage after July 15 and flow at Otowi drops below 1,500 cfs, then releases have to cease

(held over) until the end of irrigation season. If this situation develops, it could cause a significant drop on the descending limb of the hydrograph.

Program Management Update

- *Program Organization*
 - The Coordination Committee has had some preliminary discussions on reorganizing and restructuring of the Program. This will be the starting point of discussions for the EC at the April Retreat.
 - There are several “groups” that are working on Program issues but are not exactly “part of the Program.” These groups, especially those funded by the Program, need to be brought into the new Program structure. This will help with tracking all the collective efforts and accounting of available resources.
- *Minnow Action Team (MAT)*
 - Statisticians from WEST attended the MAT meeting and will make recommendations on how to best modify ISC’s 2016 Sampling Plan for 2017 monitoring efforts.
- *EC Retreat*
 - Retreat planning is underway.
- *Program Manager Search*
 - One of the candidates has turned down consideration for personal reasons. The remaining candidate has excellent credentials and has been involved in similar collaborative efforts. She will be in Albuquerque this week to meet with the selected EC representatives.

Adaptive Management (AM) Contract Update

- GeoSystems Analysis (GSA), under their contract with the Corps, hosted a Rio Grande Silvery Minnow (minnow) workshop with an Independent Science Panel several weeks ago. The general consensus was that the workshop went well, had a great turnout, was very professional and focused. The presenters did an amazing job.
- GSA will work with the review panel to complete their report in April. In the meantime, the flycatcher meeting is scheduled for February 22 to prioritize the science workshop recommendations with managers.

Coordination Committee (CC) Update

- The CC met last week and discussed the agenda for today’s EC meeting as well as planning for the April EC Retreat. The FY2015 Annual Program Report is being circulated for review. The CC discussed the inclusion of other agencies contributions and projects in future annual reports. Cost share information is overdue.
 - In response to a request to elaborate on the cost share issue, it was clarified that the Program has a 75%/25% cost share stipulation. The 25% can include staff hours, projects, in-kind services, etc. However, most of the non-federal agencies have not regularly submitted their cost share reports for several years.
 - The cost share reporting needs to be caught up-to-date. Not only is it a requirement, it also provides Congress and others with a more accurate “big picture” of all the work being done.

Minnow Action Team (MAT) Update

- The MAT met for their first meeting of the year on February 10. As reported earlier in the meeting, current forecasts predict a decent spring.
- A brief background on the MAT was shared.
 - The MAT was formed in 2013 to help address three (3) consecutive years of poor runoff and provide a venue for hydrologists, biologists, and managers to find creative solutions

- to bolster minnow recruitment. This team operates at the will of the EC but as an ad hoc group.
- o Most MAT participants consider the multi-disciplinary group and annual format to be a very functional and efficient way to meet prior to each season to discuss projections, conditions, options, and projects.
- As of the October population sampling, the minnow density is over 5 minnow per 100 m². This is an indication that the 2016 modified flows supported recruitment well. If the 2017 natural flows are as high as predicted, good recruitment is expected this year as well.
 - o MAT may be most effective this year by concentrating on summer flows and fall drying – the potential storage of flood waters through the season could be one challenge.
- After the regular MAT meeting, several members stayed to discuss monitoring planning and coordination for this spring. Higher overbanking is anticipated this year - compared to 1,500 acres of floodplain inundated last year. (This was 200-300 acres more overbanking than what occurred in 2010.) Restoration projects are credited with this success.
 - o Statisticians from WEST were available for the planning session to help the group make monitoring and research improvements.
- Some EC members requested a MAT presentation of the 2017 Recommendations to occur in April.

Presentation: 2016 Coordinated Spring Runoff Operations

- Rich Valdez, with SWCA, presented the 2016 Coordinated Efforts. The intent of this presentation is to provide a summary of the biology studies that were conducted in May and June of last year during (or directly following) the modified release flows. Please note that the report on this work is not finalized yet.
- *History Of Species-Specific Modified Flows*
 - o The 2003 BO and the Hydrobiologic Objectives specify the relationship of spring flow and minnow response according to Catch Per Unit Effort (CPUE). This relationship drives the coordinated releases in the river in support of minnow recruitment. The monitoring work done during these “events” is to “parse” out the specific variables that impact this flow to population relationship.
 - o The 2003 BO included a call for “spiked” flows. There was a flow spike in 2002 and 2003 and eggs were produced but the corresponding October CPUE was low for both years. The cause for this is uncertain.
 - 2007-2013
 - Cochiti deviations (temporary storage and timed releases) were designed to provide inundation into the floodplains.
 - 2011-2014
 - Other flow options including native San Juan/Chama exchanges.
 - 2015
 - Modified release from El Vado was proposed to the Rio Grande Compact Commission and approved for spring 2015. This option can only be considered on a year-to-year basis.
 - 2016
 - El Vado release modifications were again agreed to by the Compact Commission. The population response to flows of similar volume was very different for 2015 compared to 2016.
- *2016 Floodplain Fish Study*
 - o Purpose: evaluate efficacy of restored sites to provide spawning and nursery habitat for minnow.

- Objectives: determine the occurrence and abundance of eggs, larvae, and adult minnow in the restored sites, including determining the movement to and from the restored sites. Are the fish using these sites? Are they moving into habitats in the spring? Which ones?
- Different analyses and techniques need to be developed to better understand the minnow data and the river effects.
- *Larval Development Phases*
 - Hypothesis: developing larvae need a minimum amount of time (~20 to 30 days) in sheltered productive habitat to develop full swimming ability
 - Protol larvae begin gulping air at ~Day 2 and begin feeding on exogenous food at ~Day 4. It takes until Day 7 for the development of the fin rays (that give rigidity to the fins (mesol larvae stage). By Day 10, the fish have a full complement of fin rays for swimming ability and can move in the current. At Day 14, they are considered metal larvae with fully formed fins and the ability to self-sustain as an individual.
 - Remember, the spawning period can last from 20 to 30 days resulting in staggered egg production and larvae development.
- *2016 Coordinated Spring Flow Duration Of Inundation*
 - Important flow variables to be considered include: timing, duration, magnitude, and increase/decrease of flow rate.
 - There was a “bi-modal” effect to flows in 2015 and a resulting very low CPUE. It is assumed that low survival during the larval stages resulted in the low adult population in October. The period of inundation was insufficient for the fish to have good productive, sheltered habitats.
 - In 2016, flows over 2,000 cfs for >26 days supported inundation. The restoration sites constructed to inundate at certain flows were able to overbank sufficiently.
 - Please note that we do not yet know which flow level is the most important: 1,500? 2,000? 2,500? Obviously, the higher the flow the more inundation can occur.
 - The order of importance for the key variables of flow (that affect the fish) is as follows:
 1. Timing – relative to the spawning of the fish is critical.
 2. Duration
 3. Magnitude – less critical since duration is more important to the development of the fish.
- *Six Restoration Sites*
 - During the 2016 efforts, eggs were sampled using Moore Egg Collectors (MECs), larvae were sampled with dip nets (to avoid stomping through the site, less obtrusively with small dip nets), and adults were sampled with hoop nets.
- *Aerial Photos Of Restored Sites During 2016 Controlled Spring Flow*
 - Comparison of aerial photos of the inundation indicates a “pattern” in the way the inundation occurs. Note there is a bit of a “terraced” affect. There are a lot of vegetated areas, most of which is terrestrial or riparian in type. This is important to the fish.
 - Larvae like woody debris and emergent vegetation, often tucked back into areas of cover.
- *Use Of Constructed Sites By Minnow: Results*
 - Seven (7) different fish species were found as larvae.
 - Of 2,430 larvae, 72% (or 1,758) were minnow. And 1,638 larvae were captured with dip nets.
 - Most of these young fish were found in shallow water (≤ 0.66 ft), low velocity (≤ 0.14 ft/sec), 98% in vegetation cover, and 73% near water’s edge.
 - This is not the “deep” floodplain but the shallow areas of the floodplain. As they grow, the larger fish need the deeper floodplain. The terraces and dips in the

- floodplain provide alternative habitats for the young fish to move into as it grows.
- Temperatures were recorded, but the backwaters have a fairly standard, stable temperature between 20°-22° C. More importantly, the majority of minnow larvae were found within one (1) meter of the edge. This is also where the periphyte food sources (algae, diatoms) are located.
 - In response to a question, it was clarified that this data was all taken last year during the 2016 modified flow operations. Many of the restoration sites are several years old already.
 - In response to a question on how the denser vegetation on the edge of the sites might influence the catchability, it was shared that there are catchability concerns with all stages of this animal. In many cases, their close proximity to the edge probably has more to do with the food periphyte since they begin to feed at Day 4. The periphyte was visually observed and recorded.
- *Corps' Simultaneous Study Data*
 - The Corps was also on the river and studying the fish response to the modified flows. The challenge is that there are no apparent trends (probably due to the variability between and in sites) and this means better study designs with data collections are needed to begin to understand this variability.
 - *Estimated Hatching Dates – 2016*
 - Because this fish has temperature-dependent growth, back-calculations were completed on the 2,500 minnow larvae to estimate hatching dates.
 - Comparing those estimated hatching dates to the flow, it appears that hatching began as flow was increasing. And a large number of larvae were found in restoration sites.
 - The majority of hatching occurred over 1-month's time with a peak occurring about the first week of May. If compared with the egg survey data, the "bell curve" boundaries of hatching are not included. (It was pointed out that due to the timing of the flow increases, the first eight (8) days or so were "missed" and not included in the monitoring.)
 - Interestingly, the spawning evidently took place before the peak increase of the flow. One might hypothesize that it began during the first little flow increase in mid- to late-April. There was some floodplain inundation at that point with small pockets of waters along the shoreline. There was apparently good entrainment by larvae in the restoration sites. The largest entrainment occurs on the increasing limb of the hydrograph. This goes to the issue of timing. Unless the timing is right to support the larval stages, a beautiful hydrograph may not solicit a positive minnow response.
 - In response to a question on food in the main channel, it was shared that what is known is that food is more abundant in the floodplain. But there has been no comprehensive study (of food) for the main channel.
 - There has been some work looking at the physical habitat conditions that allow for periphyte growth. When fine sediment is suspended, it prevents growth of periphytes.
 - It was pointed out that the hatching date calculation is based on a theoretical curve related to temperatures. A variety of age differences was observed throughout the monitoring period.
 - *Survival Of Minnow*
 - There is a negative exponential function for the monthly average CPUE data for Age 0 fish for June through October.
 - Comparison of the data indicates that a 10% increase in larval survival results in a doubling of the October CPUE.
 - This means that at a low starting population density, a 10% increase in larval survival could cause the population to increase from ~1 to 2 fish per 100 m² in

October; at a high starting population density, a 10% increase in larval survival could cause the population to increase from ~10 to 20 fish 100 m² come October.

- For most minnow species the bottleneck occurs in the early larval developmental phase when there are the most fish in the system.
- *Preliminary Findings*
 - There was an apparent positive response by minnow to the 2016 spring flow, as indicated by the increase in October CPUE from 0.17 in 2015 to >5 minnow per 100 m² in 2016.
 - The key variable is believed to be high flow duration: 20+ days at 1,500 to 2,500 cfs.
 - In 2016, most spawning occurred in mid-April to early June.
 - Larvae were in restored sites by entrainment of in-situ spawning.
 - Larvae use (prefer?) shallow, low velocity, vegetated area in restored sites.
- *Considerations*
 - Spring flows should continue to be evaluated for minnow response; this is a bottleneck time for the species.
 - Spring flow opportunities should be viewed as condition-dependent experiments, under adaptive management, to evaluate the 2016 BO; and be continued every possible year to increase the understanding of what is important to the fish.
 - The spring flows set the strength for the year class and impacts survival into the October CPUE counts.
- *Comments*
 - As was mentioned earlier, no one started monitoring for fish on the floodplain until April 24, 2016. There is a variety of reasons why, but we have to be ready to look and observe as soon as flows begin to increase instead of waiting for the actual peak. This opportunity in the monitoring data was missed last year.
 - Estimating hatch dates can be improved with laboratory studies, but air sac (that contain daily growth rings) analysis would provide the best idea of when the animal spawns.

Retreat Logistics

- Due to potential scheduling conflicts, the EC retreat was rescheduled for the 26th and 27th of April.
- Attendees were briefed on the seven (7) potential venues being considered. *Please refer to read-ahead for additional details.*
- After discussing distance, cost, accommodations, and the desire to have informal “after meeting” conversation, EC members requested that the search focus on Socorro and Taos. Specifically, additional meeting space at New Mexico Tech or the Bureau of Geology should be considered.
- The EC agreed that participation should not formally be limited – signatories should be able to bring important support staff.
 - Primary and alternate members total close to 40; including some technical staff would increase the room count to ~50. Participants are expected to cover the cost of their own rooms.
- No additional “planning” for the retreat (such as how it will be facilitated, decision making process, when decisions will occur, break out groups, etc.) has occurred yet.

Discussion: Future of the Collaborative Program (continued from last EC)

- At the January meeting, the EC began identifying issues and questions for consideration for the future of the Program.
- The non-federal members provided a list of priorities and the federal members were asked to supply similar feedback by the end of March.

Retreat Agenda Items

- *Adaptive Management*

- It was suggested the EC consider having a presentation on “adaptive management” from a Platte program representative. The observation is that there is a broad spectrum on what adaptive management means. The intent is for a “practitioner” to describe how they use adaptive management in an operating program and to illustrate how the adaptive management flowchart translates into on-the-ground work and evaluation processes.
 - EC members discussed this suggestion. There was general agreement on the importance of defining and understanding the function of adaptive management for this Program. No objections were voiced, but some members suggested not limiting the presenters to the Platte program but including another program that has to manage both species and habitat components.
 - Other members issued a caution on time management for the retreat. There are several key works that are not completed yet and will be very informative: the minnow workshop panel report and the Corps’ Adaptive Management Phase II (to lead to an Adaptive Management Plan). It was recommended that the Program structure/reorganization be addressed first and if implemented, the Adaptive Management Team (AMT) can begin the discussions on specific adaptive management practices. It would be more appropriate for the AMT to have joint sessions with the EC if/as necessary.
 - Others agreed and reiterated that the EC is the group responsible for the leadership of the Program and the future of the Program is a more priority discussion for the retreat.
 - It was suggested that the preliminary findings of the minnow science panel could be reported to the EC in April, if available. Originally, adaptive management was viewed as one of the means of judging sufficient progress for the RIP. Now decisions are needed on how the Program intends to use adaptive management going forward and supporting scientifically-based activities and meeting the 2016 BO.
 - It was reiterated that the opportunities this spring need to be utilized to collect and evaluate that data and use that information in some contextual way going forward.
 - Attendees were reminded that the contracting process takes time. Projects and activities for 2018 need to be planned and in the queue soon.
 - As a starting point, agencies were asked to include their perceptions of adaptive management (definition, what it might look like for the Program in the future, etc.) in the signatory roundtable discussion.
 - It was cautioned that all systems are different. There are multiple papers and available documents on adaptive management in other areas (ex. Grand Canyon) that can be reviewed in preparation for retreat discussions.
 - Attendees were also reminded that there are many Program-specific documents, discussions, and presentations that were developed for the Corps’ 2010 Adaptive Management Phase I work.

- *Program Organization*

- Attendees briefly reviewed the draft organizational chart developed by WEST. Please note that the CC has already discussed this draft and revisions were made but are not reflected in this older version.
- All signatories are encouraged to submit a 1-page Agency Perspective for the April EC Retreat. It is requested this perspective include what they do, what they want to do, why

they are involved in and what they need from the Program, what “adaptive management” means for that agency, and decision items to accomplish at the retreat.

- It was requested that the Retreat Agenda Section of the January EC meeting notes be turned into a comment sheet for signatories to provide feedback and agency perspective on those elements prior to the April EC Retreat.

Meeting Summary and Next Steps

- The non-federal signatories will meet early next month to identify an EC co-chair before the April retreat.
- Agencies presented updates during the Agency Roundtable. The current forecasts for the spring runoff are good but a lot depends on what happens over the next few months. Recent changes with the litigations are encouraging.
- An update on the Corps’ Adaptive Management contract was shared.
- The MAT met earlier this month and has begun planning for this spring.
- A presentation on the 2016 effectiveness monitoring of restoration sites was given. Agencies are going great work but not much is really known on what “drives” minnow population response.
- The upcoming April EC Retreat was discussed.

Public Comment

- There was no public comment.

Next Meeting: EC Retreat April 26 and 27, location TBD

- The EC will not meet in March unless the need arises. The EC will convene in special session at a retreat in April but the next regular meeting of the EC is scheduled for May 2017.

Executive Committee Meeting Attendees February 15, 2017

Attendees:*Representative*

Brent Esplin

Rick Billings (A)

Jennifer Faler (P)

LTC Jamie Booth

Tanya Scott (A)

Rolf Schmidt-Petersen (P)

Susan Millsap (P)

Kim Eichhorst (P)

Matt Wunder (P)

Janet Jarratt (P)

Cody Walker (A)

Lacy Levine (A) (via phone)

Bill Grantham (A)

Organization

Bureau of Reclamation

Albuquerque/Bernalillo County

Water Utility Authority

Bureau of Reclamation

U.S. Army Corps of Engineers

Middle Rio Grande Conservancy District

NM Interstate Stream Commission

U.S. Fish and Wildlife Service

Bosque Ecosystem Monitoring Program

NM Department of Game and Fish

Assessment Payers Association of the MRGCD

Pueblo of Isleta

NM Department of Agriculture

NM Attorney General's Office

Seat

Federal co-chair

Non-federal co-chair

Reclamation

Corps

MRGCD

NMISC

USFWS

BEMP

NMDGF

APA

Isleta

NMDA

NMAGO

Others

Ann Demint

Jim Wilber

Josh Mann

Susan Bittick (A)

Ryan Gronewold

Michael Porter

Beth Pitrolo

George MacDonell

Ashley Tellier

Stephen Brown

David Campbell (A)

Joel Lusk

Kevin Cobble

Jeff Sanchez

Grace Haggerty (A)

Chris Shaw

Matthew Peterson

Kim Fike

Cameron Weber

Rich Valdez

Brian Bader

Todd Caplan

Ondrea Hummel

Mike Marcus

Patrick Redmond

Dale Strickland

Debbie Lee

Marta Wood

Bureau of Reclamation

Bureau of Reclamation

Solicitor's Office

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Service

U.S. Fish and Wildlife Service

U.S. Fish and Wildlife Service/BdA

U.S. Fish and Wildlife Service/BdA

NMISC

NMISC

COA/Open Space

BEMP

BEMP

SWCA for NMISC

SWCA

GeoSystems Analysis (GSA)

Tetra Tech

for APA

Member of the Public

WEST, Inc./Interim Program Manager

WEST, Inc.

Alliant Environmental (note taker)

Middle Rio Grande Endangered Species Collaborative Program

2017 Retreat Planning

Dates: April 18-19, 2017

Location Options

	Distance	Notes	Meeting Space Pricing	Hotel Room Cost
Tamaya Resort & Spa Pueblo of Santa Ana, NM	24 miles 0.5 hour	Happy medium with close to ABQ so most wouldn't need hotel rooms, but remote enough to avoid attrition	\$400/day	\$159 (\$91 gov't rate)
Sevilleta National Wildlife Refuge UNM Field Station La Joya, NM	~60 miles 1 hour	Meeting space at Visitors Center Dorms at Field Station Catering would be through external vendor	Free	\$35/person/night + \$10 one-time linen charge per person
New Mexico Institute of Mining and Technology Socorro, NM https://www.nmt.edu/fidel-center-fs-campus-services	~80 miles 1.25 hours	Hotels are off-site.	\$385 per ballroom section/day	\$65-\$90
Best Western Kachina Lodge Taos, NM	134 miles 2.5 hours	Where the previous retreat was held.	\$2500 total for room, AV, and food Breakfast included	\$60
Sagebrush Inn & Suites Taos, NM	134 miles 2.5 hours		\$1690 total for room, AV, and food	\$93
Elephant Butte Inn Elephant Butte, NM	151 miles 2.25 hours	44 guest rooms	\$200/day	\$93
Sierra Grande Lodge Truth or Consequences, NM	151 miles 2.25 hours	18 guest rooms total Nearby hotels available	\$250/half day \$400/day	TBD (\$93 gov't rate)

2016 Coordinated Spring Flow Operation

Presented by

New Mexico Interstate Stream Commission

Richard Valdez, Ph.D., SWCA

Grace Haggerty, NMISC

Ken Richard, NMISC

Middle Rio Grande Collaborative Program
Executive Committee Meeting
February 15, 2017

History of Species-Specific Modified Flows

➤ 2003 BO:

- Flow spike to cue spawning prescribed every year as determined in coordination with USFWS.
- Flow spike in 2002 and 2003 produced eggs, but Oct CPUE was low in both years.

➤ 2007-2013:

- Cochiti deviations allowed for 1-yr study in 2007, and 5-year study in 2009-2013.
- Water stored temporarily in Cochiti during spring runoff for overbanking in 2007 and 2010.
- Corps determined the need for Congressional reauthorization to store if not in flood operations.

➤ 2011-2014:

- Other options were considered during drought years including native-SJC exchanges.

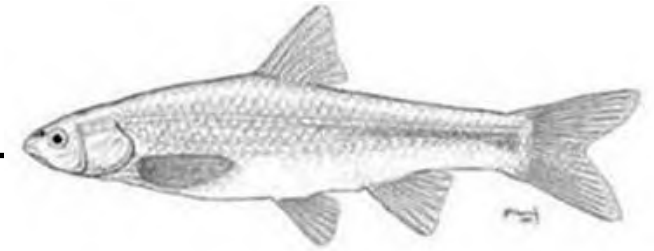
➤ 2015:

- El Vado modification was proposed to the RG Compact Commission and approved for spring 2015.
- Considered on a year-to-year basis.
- Recommended by the Minnow Action Team

➤ 2016:

- El Vado modification was again agreed upon by the RG Compact Commission for spring of 2016.

2016 Floodplain Fish Study



Purpose:

- Evaluate efficacy of restored sites to provide spawning and nursery habitat for RGSM

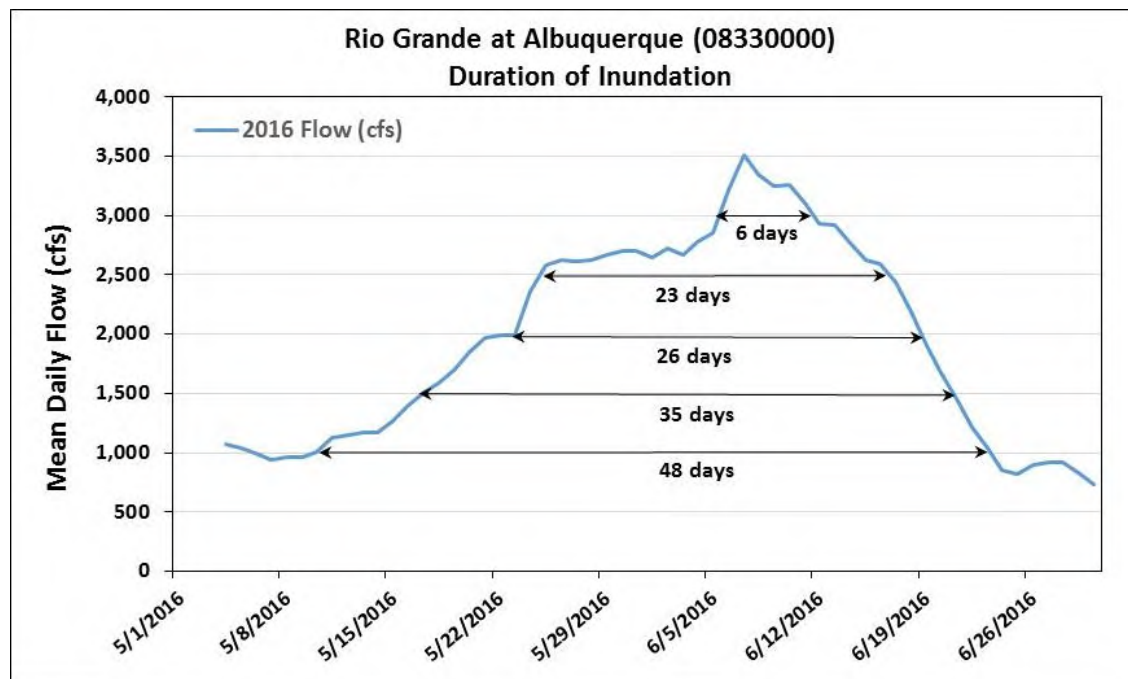
Objectives:

- Determine the occurrence and abundance of eggs, larvae, adult RGSM in restored sites.
- Determine movement to and from restored sites.

Larval Developmental Phases

- Ho: Developing larvae need a minimum amount of time in sheltered productive habitat to develop full swimming ability (~20-30 days).

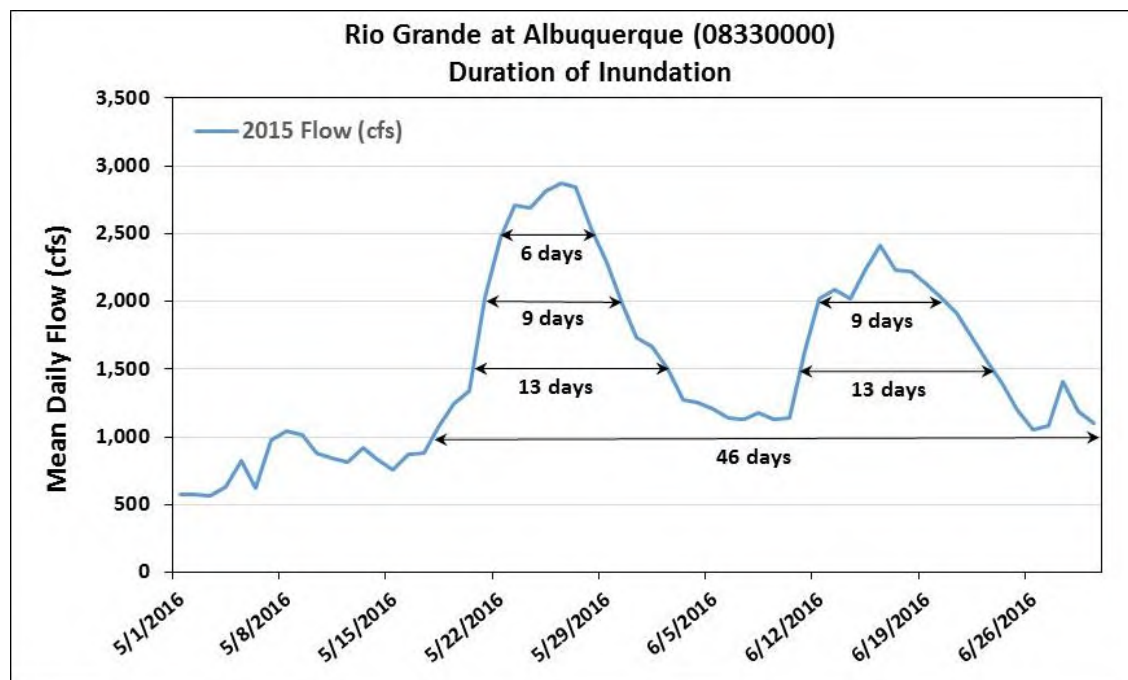




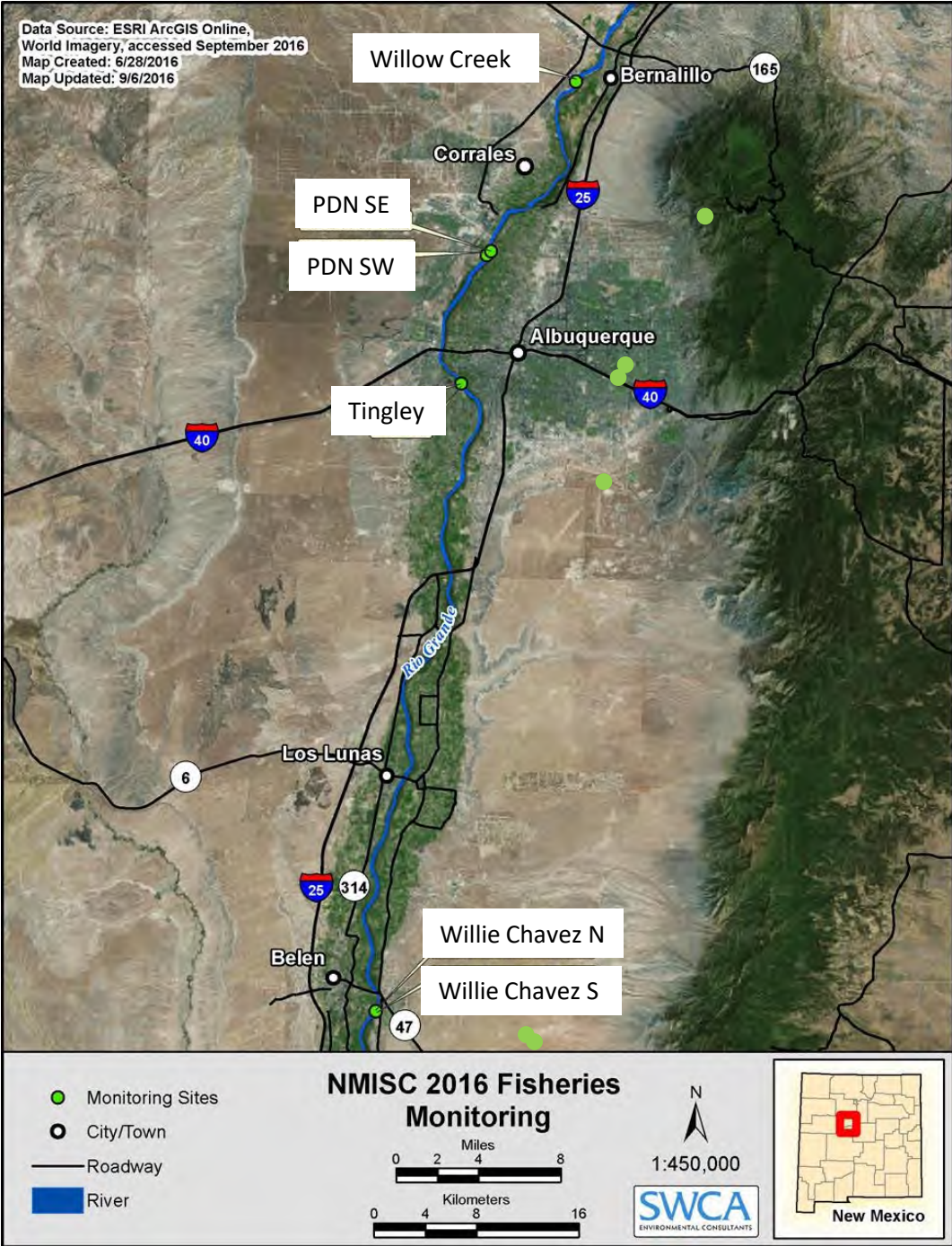
2016 Coordinated Spring Flow Duration of Inundation

Important Flow Variables

1. Timing
2. Duration
3. Magnitude
4. Increase/Decrease Flow Rate



Six Restoration Sites



Aerial Photos Restored Sites during 2016 Controlled Spring Flow



Photos courtesy of Todd Caplan

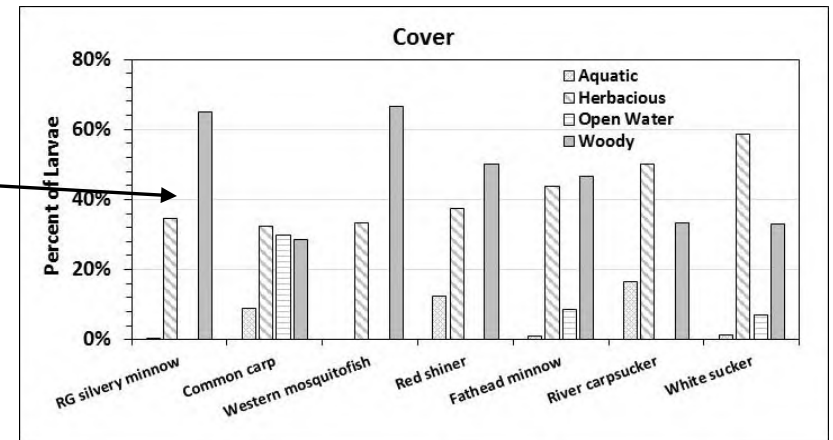
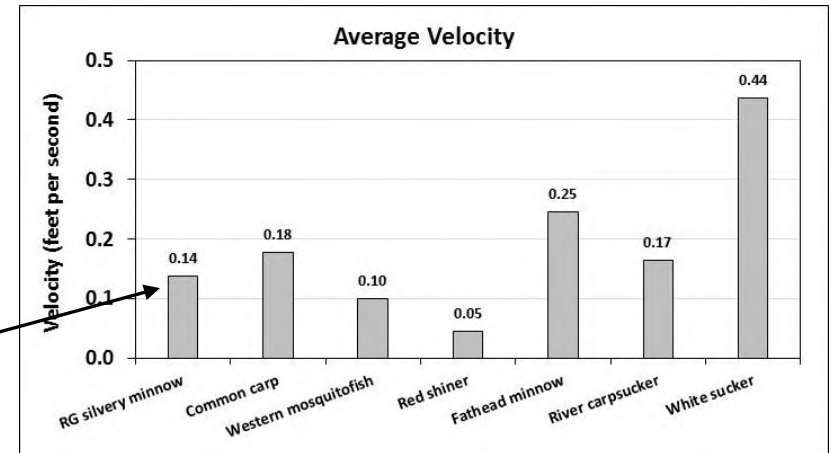
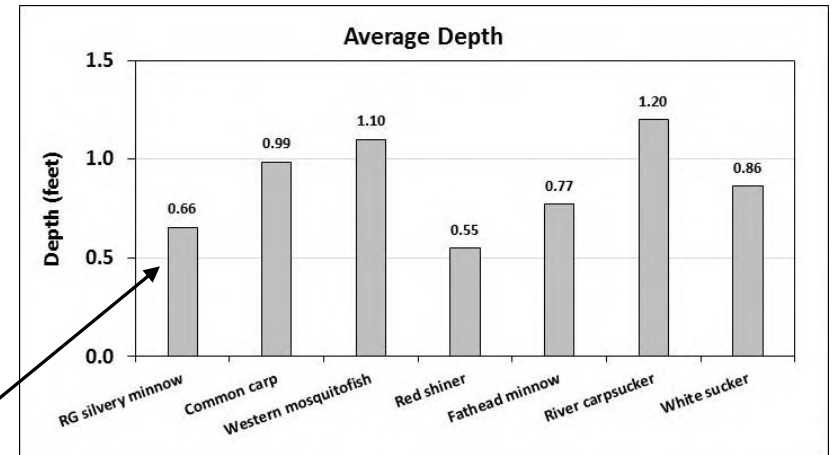
Photos of Inundated Restored Sites



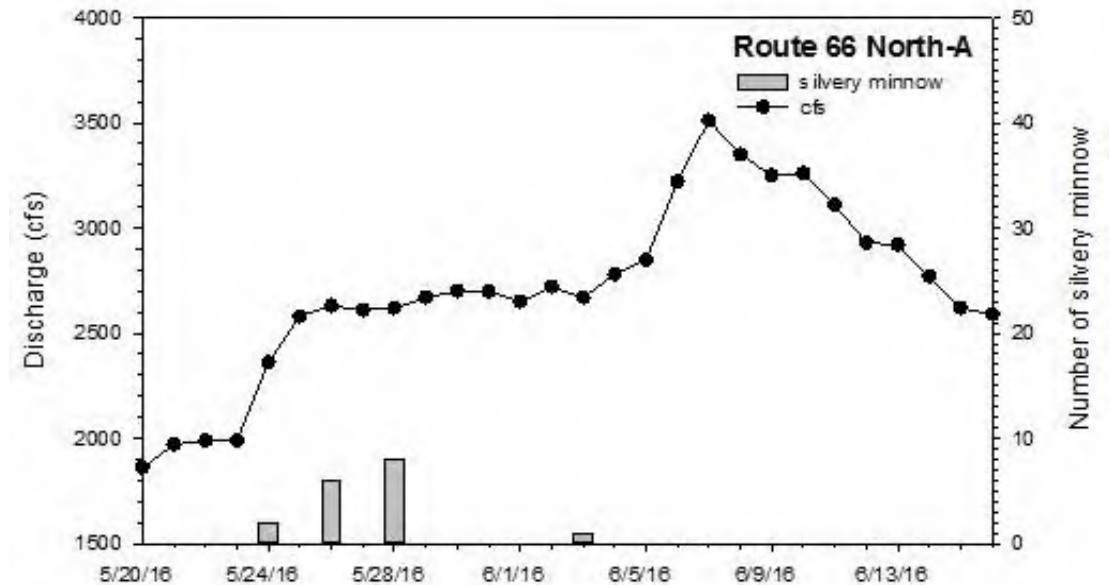
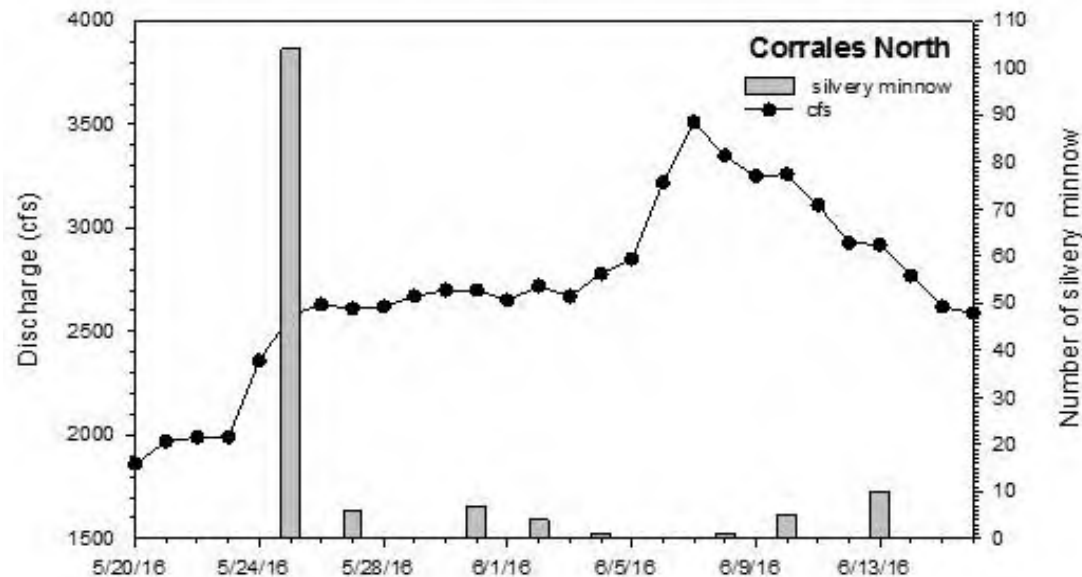
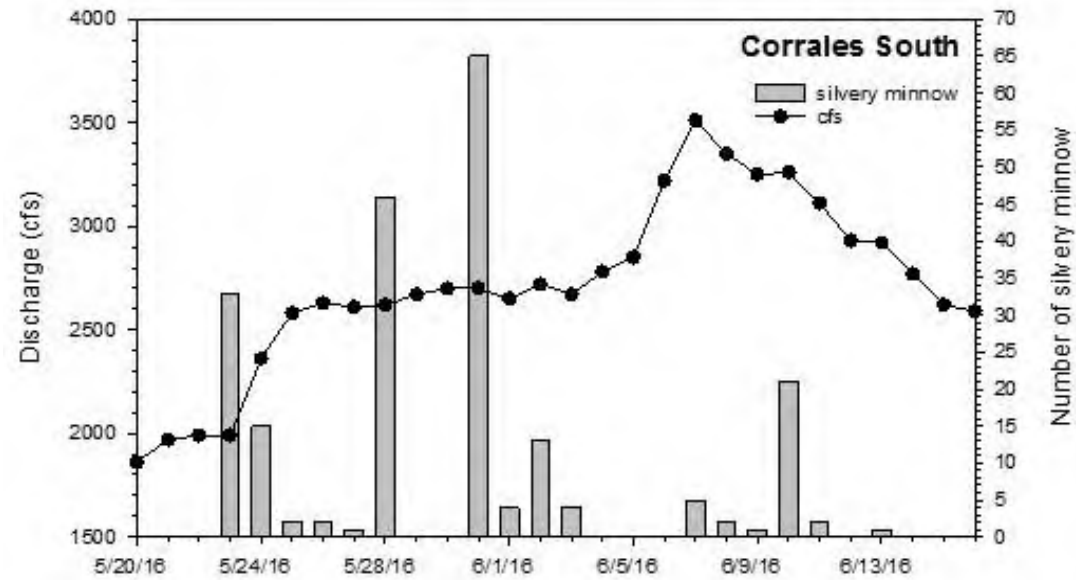
Photos by Mike Marcus

Use of Constructed Sites by RGSM (NMISC and SWCA)

- 7 fish species found as larvae.
- Of 2,430 larvae, 1,758 (72%) were RGSM.
- 1,638 larval captured with dip nets:
 - shallow water ($x = 0.66$ ft),
 - low velocity ($x = 0.14$ ft/s),
 - 98% in vegetation.
 - 73% near water's edge.

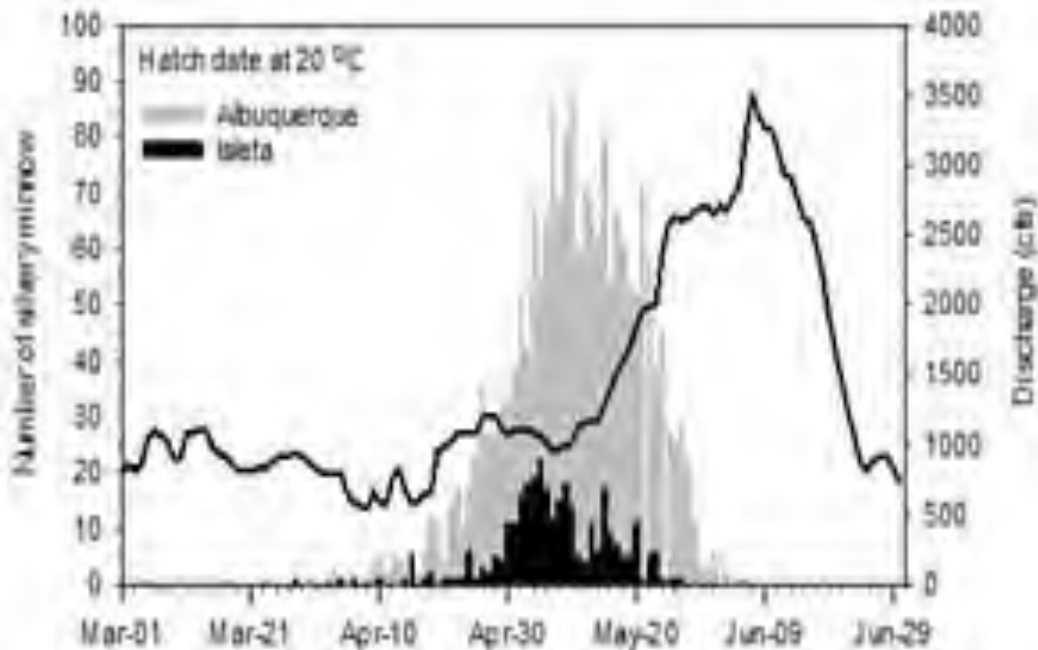


RGSM in Sites—2016 (M. Porter, USACOE)

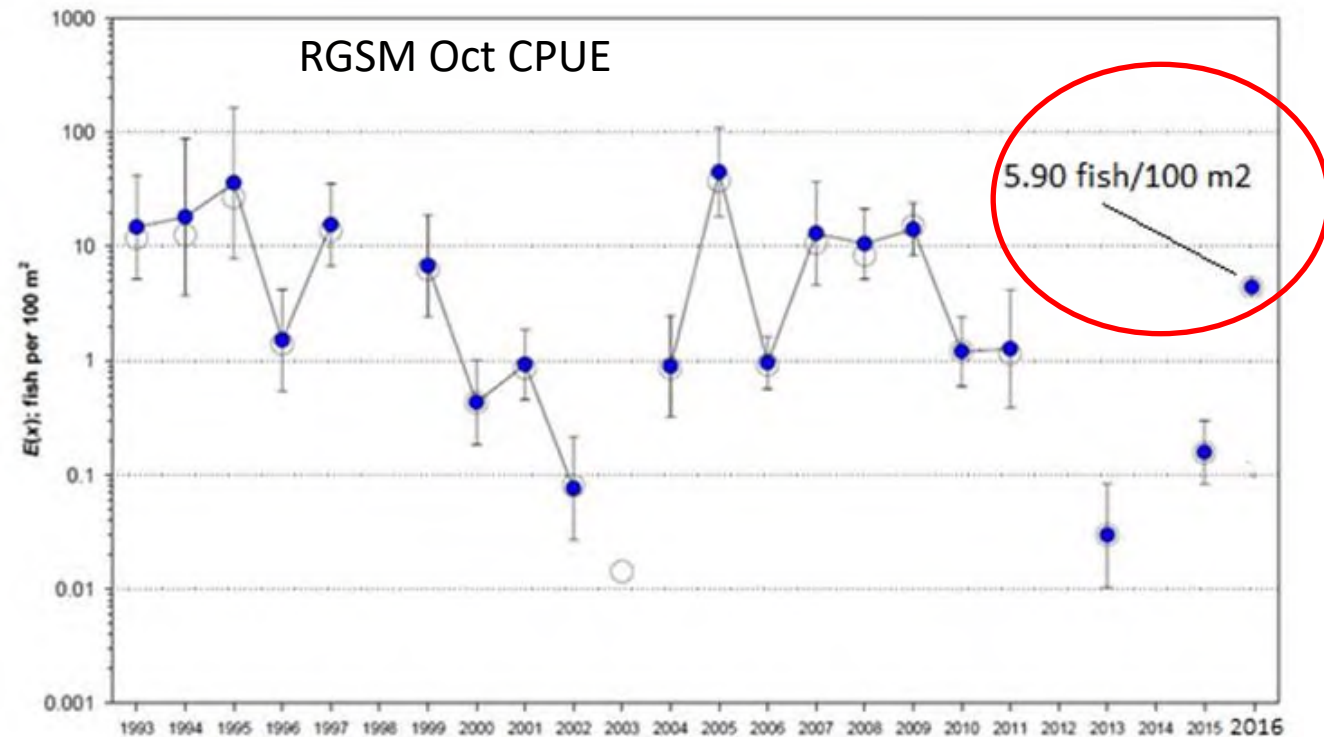


Estimated Hatching Dates--2016

- Hatching began as flow was increasing.
- Large numbers of larvae were found in restored sites.



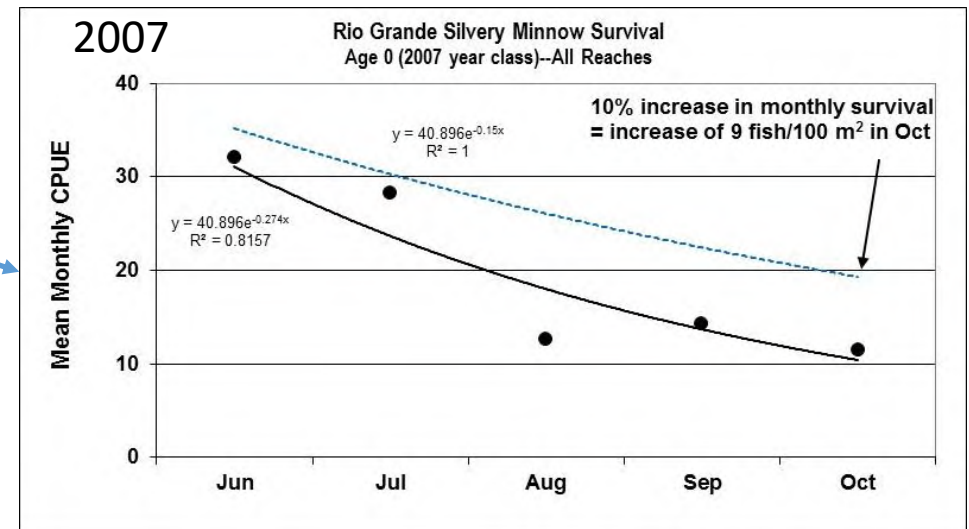
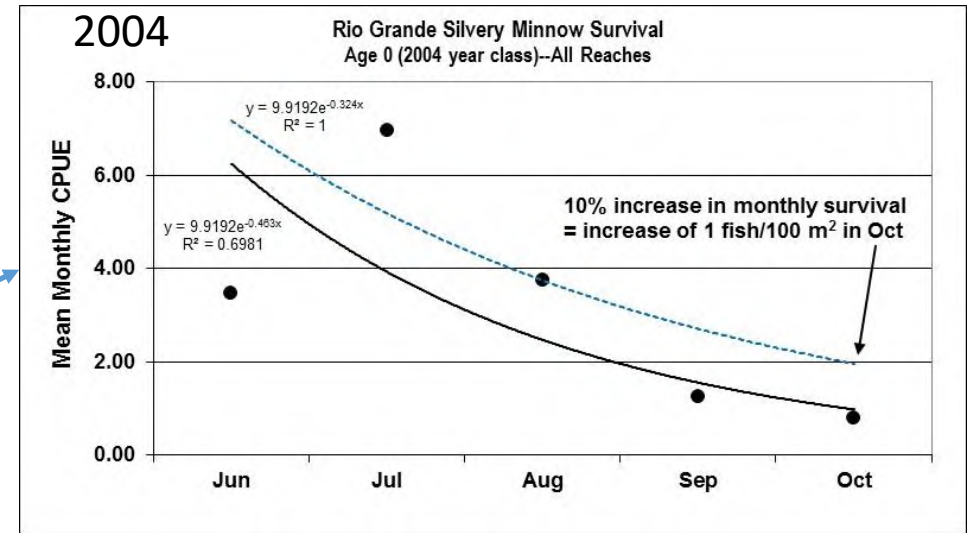
- Oct 2016 CPUE was 5.90 fish/100 m², which is highest since 2009.



Survival of Rio Grande Silvery Minnow

10% increase in larval survival doubles
Oct. CPUE

- At low density, from ~1 to 2 fish/100 m²
- At high density, from ~10 to 20 fish/100 m²



Preliminary Findings:

- Apparent positive response by RGSM to 2016 Spring Flow (CPUE 5.9 vs 0.2 in 2015).
- Key variable is believed to be high flow duration (20+ days at 1,500-2,500 cfs).
- In 2016, most spawning occurred mid-April to early June.
- Larvae were in restored sites by entrainment or in-situ spawning.
- Larvae used shallow, low-velocity, vegetated areas in restored sites.

Considerations



- Spring flows should continue to be evaluated for RGSM response.
- Spring flow should be viewed as a condition-dependent experiment, under AM, to evaluate 2016 BO.