

Executive Committee Meeting
February 16, 2012

Meeting Materials:

Meeting Agenda

Meeting Minutes

Rio Grande Silvery Minnow Recovery Planning [presentation]



**Middle Rio Grande Endangered Species
 Collaborative Program
 EXECUTIVE COMMITTEE
 MEETING AGENDA
 Thursday, February 16, 2012
 9:00 am – 12:30 pm**

LOCATION: Bureau of Reclamation, 555 Broadway Blvd. NE, Albuquerque, NM

1. **INTRODUCTIONS AND REVIEW OF PROPOSED AGENDA*** 5 minutes
2. **APPROVAL OF JANUARY 19 MEETING SUMMARY & ACTION ITEMS*** 5 minutes
3. **UPDATE ON FY2012 FUNDING FORECAST** (*M. Hamman*) 5 minutes
4. **FEEDBACK FROM MIDDLE RIO GRANDE VALLEY INITIATIVE** 15 minutes
 (*Tanya Trujillo/M. Hamman*)
5. **USFWS PRESENTATION ON RECOVERY PLANNING** (*W. Murphy*) 30 minutes
 - A. Introduction Recovery Planning and Next Steps
 - B. Population Monitoring & Recovery Criteria
 - C. Questions & Answers 30 minutes
- BREAK** 15 minutes
6. **UPDATE FROM EXECUTIVE COMMITTEE RIP FOCUS GROUPS** 45 minutes
 - A. Action Plan Development (*R. Schmidt/J. Bair*)
 - B. Draft Program Document (*H. Brinegar/Y. McKenna*)
7. **REVIEW AND DISCUSS DRAFT PEER REVIEW PROCESS*** 45 minutes
8. **PUBLIC COMMENT**
9. **NEXT SCHEDULED EC MEETING – MARCH 15, 2012 @ RECLAMATION**
 from 9:00 am to 1:00 pm
- WORKING LUNCH** 12:30 pm – 1:00 pm 30 minutes
10. **POPULATION ESTIMATION AND MONITORING PEER REVIEW** 1:00 - 4:30 pm
PANEL INTERACTION WITH TECHNICAL PROGRAM MEMBERS
 - A. Review peer review questions*
 - B. Discuss scope of project
 - C. Opportunities to address concerns

**Denotes read ahead material provided for this topic*

Members

ABCWUA
 ISC
 NMDA
 Sandia Pueblo
 UNM

APA
 Isleta Pueblo
 NMGF
 Santa Ana Pueblo
 USACE

CABQ
 NMAGO
 MRGCD
 Santo Domingo Tribe
 USFWS
 Reclamation

**Middle Rio Grande Endangered Species Collaborative Program
Executive Committee Meeting
Thursday, February 16, 2012
9:00 am – 1:00 pm**

Actions

- Ali Saenz will post the U.S. Fish and Wildlife Service (Service) presentation on Rio Grande Silvery Minnow (RGSM) Recovery Planning to the Program website.

Decisions

- The Executive Committee (EC) approved the January 19th, 2012 meeting summary with no changes.
- The EC agreed to reschedule the March EC meeting to Wednesday, March 28th from 9:00 AM to 3:00 PM.
- With unanimous consensus, the EC agreed that the language pertaining to the Population Monitoring and Population Estimation Peer Review explanation statement will be:
 - After vigorous discussion on the Population Monitoring and Population Estimation Peer Review, the members of the EC reached consensus that the EC had provided inadequate guidance *and information* to the reviewers resulting in a draft report that *was inadequate* and unacceptable to the EC. The EC further agreed that it must establish adequate procedures and guidance for peer review. The Federal and Non-federal Co-chairs recommended and the EC agreed to cancel the planned afternoon Peer Review discussion and that any further work on the draft report be discontinued. The Program Manager will work with Reclamation's Contracting Officer to ensure the EC's decisions and recommendations are appropriately implemented.

Requests/Recommendations

- Agencies interested in participating in the Committee for the Middle Rio Grande (MRG) Conservation Initiative's (the Committee) subcommittees on conservation, recreation, and education should contact Michelle Shaughnessy and Mike Hamman.
- Comments and feedback on the proposed Recovery Implementation Program (RIP) structure and draft RIP Program Document can be sent to Yvette McKenna.

Next Meeting: March 28th, 2012 from 9:00 AM to 3:00 PM at Bureau of Reclamation

- Tentative agenda items include: 1) Status updates and details on the Program and RIP Action Plan Documents;
- Future agenda items: 1) Discussion/decision regarding 10(j) Reintroduction Biologist position;

Meeting Summary

Introductions and Review of Proposed Agenda: The meeting was brought to order and introductions were made. Tanya Trujillo with the Department of the Interior (DOI) from Washington D.C. was introduced as a special guest. The proposed agenda was approved with no changes.

Approval of January 19th, 2012 Meeting Summary and Action Items: The EC approved the finalization of the January 19th, 2012 meeting summary with no changes.

Update on Fiscal Year (FY) 2012 Funding Forecast: The Bureau of Reclamation (Reclamation) reported that the Program is expected to receive about \$2.4M in funding.

- Per EC request, the Coordination Committee (CC) has discussed the 2012 work plan and recommended funding activities estimated at \$2.4M. Funding for the 10(j) Reintroduction Biologist position is currently included in the FY12 work plan of activities with the understanding that the EC is still considering this activity. Discussion on the 10(j) Reintroduction Biologist position will occur at an upcoming EC meeting before the current agreement expires.
- Contingent upon funding, the U.S. Army Corps of Engineers (Corps) has agreed to fund the *Synthesis of Existing RGSM Literature/Data*, *Adaptive Management Development*, and *Ongoing Database Management System (DBMS) Administration* activities in order to supplement Reclamation Program funding. The Corps will also consider funding the *Continue SWFL Population Monitoring* activity. As a reminder, the Corps authority does not include implementation (construction) of habitat restoration projects.
- In a brief hydrology report it was shared that the February forecast was in the high 70% - low 80% for the upper basins with small amounts of moisture adding around 8 – 10 inches. The conditions in the upper basins are either holding steady or steadily improving as March approaches.

Feedback from Committee for the Middle Rio Grande Conservation Initiative:

- It was shared that the Committee has decided to keep their membership as is in order to allow the Program to focus on the Biological Assessments (BAs)/Biological Opinions (BOs) process; the Program is planned to be identified as a key stakeholder in the plan for conservation, recreation and education (the plan). The Program is well represented on the Committee as several EC members and representatives from Program agencies sit on the Committee.
- The Committee has discussed that their project area will be from Cochiti Reservoir to Elephant Butte Reservoir with the initial focus being on the broader floodplain; a draft mission statement has been developed.
- Reclamation and the Service have identified funding to assist the Committee in getting contracted assistance to write the plan. Subcommittees were established to develop broad goals and interests to be used to move forward with the broader plan of conservation. Agencies interested in participating on a subcommittee should let Michelle Shaughnessy and Mike Hamman (Committee Co-Chairs) know so they can pass on contact information to the subcommittee co-chairs.
- Mike Hamman will be coordinating with the Pueblos to see how they would like to engage with the Committee and will be discussing the Committee with the Pueblos at the upcoming Pueblo Coalition meeting.

Service Presentation on Recovery Planning:

- Wally Murphy from the Service gave a presentation on Recovery Planning for the RGSM. The purpose of the presentation and discussion is to inform the EC of the Service recovery planning process and how the RGSM Recovery Plan (the Recovery Plan) compares with national policy as well as to address specific questions concerning the RGSM Recovery Plan. *For specific details please refer to actual presentation materials.*

- Recovery plans are required - however they are meant to provide guidance and are not regulatory documents. None of the agencies involved are required by the Endangered Species Act (ESA) to implement the recovery strategy or actions.
- The Recovery Plan was written by the Service with input from a Recovery Team, public comment, peer review, and the best available science at the time. The Recovery Plan has been revised once – which involved two public comment periods and peer reviews.
- The Recovery Plan includes a strategy with goals, objectives, and criteria and lists the actions that are assumed would achieve those goals. Meeting the criteria would result in a determination by the Service of downlisting or delisting of the species. Though not all the criteria need to be met for downlisting or delisting, there needs to be a clear logic trail explaining in detail why the species was delisted without meeting the criteria.
 - The RGSM recovery goals:
 - Goal 1: Prevent extinction in the MRG
 - Goal 2: Downlist to threatened
 - Goal 3: Delist
 - The recovery criteria for downlisting and delisting the silvery minnow are divided into two categories: demographic targets and alleviation of threats. The criteria were developed based on demographics (numbers, distribution) that represent recovery in the MRG. It was pointed out that the current demographic criteria are addressing both abundance and distribution; it was explained that at the time the recovery criteria was developed it was felt that abundance and distribution best represented recovery in the MRG.
 - Though there is not a set schedule for the Recovery Plan or recovery criteria to be revised there is the potential for the recovery criteria to change as new information on biology, ecology, and recovery needs arises.
- Next steps:
 - The Service's long-term strategy for the Recovery Plan includes evaluating possible flexibility in the recovery criteria and methodology by:
 - Decoupling abundance and distribution and potentially having a sliding scale or range;
 - Re-examining the criterion for $\frac{3}{4}$ of the sites per reach; and
 - Determining the best monitoring method to evaluate meeting the criteria.
 - The path forward is based on convening a science panel, using adaptive management and answering key questions about RGSM.
- *Questions/discussion*
 - *Question:* What is the Service's position with respect to flow requirements?
Response: Flow requirements are not the goal; the goals are to downlist and delist the RGSM by having enough RGSM in the system and confidence that the RGSM status has sufficiently improved.
 - In response to a comment that there may not be enough information on relationship between flow and RGSM it was noted that there has been a lot of research that evaluates the response of RGSM to spring and summer flows but there is not yet consensus on the effects of flow on the RGSM.

- *Question:* What is the path forward? *Response:* The Service has suggestions for steps forward but there is not yet a plan or concept for how to answer the key questions.
- *Question:* The Service will still have to evaluate criteria for sufficient progress on some basis. What is the metric underneath the criteria? Is it a standard for population viability? *Response:* A lot of the criteria will depend on the Long Term Plan (LTP). The LTP will need to coordinate with the Recovery Plan and RGSM performance can be determined as the LTP is implemented. It was recognized that as the LTP is implemented there will be fluctuations in demography but demography needs to be on an overall positive trajectory.
- *Question:* The viability of the species has to do with habitat? *Response:* Yes, that's why the Recovery Plan looks at threats to the species based on the habitat and RGSM demography.
- *Question:* The Population Viability Assessment (PVA) models will be presenting their results this summer. If the models predict different ranges would this be something the Service considers if a range is set for Recovery Criteria? *Response:* The Service is suggesting that there is flexibility in the criteria themselves and a range may be more appropriate.
- *Comment:* Concern was expressed with the Recovery Plan needing 3 self-sustaining populations and the difficulties the Program and its agencies will be taking on in attempting to meet that criterion. *Response:* The concept of having 3 populations is a common requirement for sustainability over time in conservation biology literature and a minimum of 3 populations is common across recovery planning for a wide variety of species.
 - This will be an issue of scope. How big of an area does the Program want to address? The example was given that in the San Juan River the listed entity is throughout Colorado and the programs on the San Juan River chose to break up recovery and address it in pieces. When the Service looks at whether the species is recovered they consider all the recovery programs. The Program can choose to address only 1 population and then another entity or program can deal with the other two populations. The question is whether the Program wants to deal with the entire recovery or if they want to deal in a specific area.
 - Attendees discussed that for the RGSM recovery is multijurisdictional as Texas and Colorado also have a share of the issue. The Program can develop a good plan for the MRG but may never achieve recovery.
 - It was pointed out that though other states and agencies may not be involved financially. Texas and Mexico have just started becoming involved, particularly in Big Bend where 90% of flows come from Mexico.
- *Question:* How does reviewing the recovery criteria integrate with the current work on the BO? *Response:* The BO will evaluate whether actions are causing jeopardy or not - the BO and the Recovery Plan are two separate questions. The BO is more specific than the Recovery Plan and will evaluate whether the proposed action is jeopardizing the current existence of the species, using the best available science. The Recovery Plan involves planning for recovery over the longer-term.

Question: Are the recovery criteria intended to be easily achieved? *Response:* We anticipate that the recovery criteria are achievable over a period of years, with implementation of recovery actions through the RIP.

- *Question:* Is the recovery plan meant to answer the key questions? *Response:* The Recovery Plan provides those recovery actions to be taken. The key questions are based on uncertainties from a research perspective. If those questions are answered then the Program should be able to achieve recovery. The recovery actions go into a RIP, and through an adaptive management strategy as those key questions are answered, the recovery actions that are needed may change over time. RIP actions should be consistent with the actions identified in the Recovery Plans.
 - It was requested that the Recovery Plan presentation be posted to the Program website. Ali Saenz will post the Service presentation on the RGSM Recovery Planning to the Program website.
- *Question:* What is the timeframe on the 5-year status review for the RGSM and will the Recovery Plan be reviewed when the 5-year status review is initiated? *Response:* The next 5-year status review of the RGSM will not be ready until the end of next year but it may have recommendations which prompt an official process for changes to the Recovery Plan. The 5-year status review is a review that the Service initiates internally and is not tied to the Recovery Plan; it is tied to the status of the species. The 5-year review asks if the species is still endangered and if there are recommendations for a path forward to recovery.
- *Question:* So the Recovery Plan is not regulatory? *Response:* Correct, it is a plan to guide the recovery process. As we implement each year of the RIP, we may find the long-term view for recovery needs adjustment. The Service may consider more of a sliding-scale for abundance and distribution. The first step is identifying “sufficient progress” and then looking at key science questions. The Service cannot weigh in yet on questions of what those criteria will have or not have, without the details. The Service needs some way to measure positive progress and the Program will need to work through that.

Update from EC RIP Focus Groups:

- *Action Plan Development-* Janet Bair, Rolf Schmidt-Peterson, and Grace Haggerty gave an overview presentation of the draft Action Plan concept, document organization, and issues that the focus group has identified.
 - Meeting attendees were updated that the Action Plan focus group has been discussing how the Action Plan should coordinate with the Program Document and LTP. The Action Plan is still a work in progress and there are several placeholders where the focus group still needs to flesh out details. The draft Action Plan is planned to be ready for EC review in March. The focus group will likely also submit a list of “make or break” issues for the EC to consider when making the decision to become a RIP. It was proposed that the RIP document development timeline be pushed back so that the RIP documents are presented to the EC in March and then the EC will make a decision on becoming a RIP at their April meeting.
 - A major concept of the Action Plan is that decisions will be well informed by science. The focus group came up with an idea to have a multidisciplinary team or “A Team” that is focused on developing plans for any particular year. This

- would help the Program to respond more quickly to changes and correlate research and activities to the type of water year. A tentative schedule that outlines how the “A Team” would operate to be more responsive and integrative in the decision making process was presented.
- The group has not yet determined how the Action Plan will relate to the Recovery Plan. The group would like to list actions that can be taken when there is a “good” water year and actions that can be taken when there is “bad” water year. The group wants to be careful about what actions are included in the Action Plan to ensure that all the actions are achievable. The draft Action Plan will also include discussion on the methods for completing actions and will have adaptive management components to allow for more intensive interactions between the scientists and managers.
 - *Question:* How does the new timeline for the Action Plan fit with the timeline for development of the BAs/BOs? *Response:* The new timeline for the Action Plan document should fit with BA/BO development. Reclamation plans for the RIP to become the primary conservation measure under the proposed action in the Reclamation BA. The draft RIP Action Plan that is presented in March will be included in the BA as a placeholder and, because it’s likely there will still be open items in the documents, the BA can be amended with any details by July.
 - There will be placeholders in the document for information on the Pecos Sunflower and New Mexico Meadow Jumping Mouse but the group is still considering whether to include activities for those species.
 - *Comment:* The agencies will need certainty that they can be successful before they can commit to becoming a RIP. The Program also needs to know what the interim criteria and the metrics for measuring sufficient progress will be in order to be certain that they will be successful in meeting them. If the EC will be making a decision in April on becoming a RIP they will need to know the interim criteria and the measures for sufficient progress by the March EC meeting.
 - One idea for an interim way of measuring sufficient progress is for progress to be measured by the planned actions being completed as opposed to meeting a metric.
 - *Draft Program Document –*
 - Hilary Brinegar and Yvette McKenna gave an update on the status of the draft Program Document. The focus group has been working on addressing the comments that were received after last month’s presentation. The focus group has also met with the Action Plan focus group to discuss the RIP structural needs. The Program Document includes a broad description of the responsibilities of the different groups in the proposed structure but does not include the details on roles or decision making. The focus group has also been discussing options for keeping the existing EC membership. EC decisions on components such as membership will inform aspects of the structure; for example, if it’s decided that EC membership will be broad then there may be less need for a RIP Advisory Group.
 - Comments and feedback on the proposed RIP structure and draft RIP Program Document can be sent to Yvette McKenna.
 - In order to accommodate for the new development schedule for the RIP documents the EC agreed to reschedule the March EC meeting to Wednesday, March 28th from 9:00 AM to 3:00 PM.

- The focus groups were thanked for the work they have put into developing the RIP Action Plan and RIP Program Document. EC members were encouraged to review the documents and provide feedback to the focus groups.

Review and Discuss the Draft Peer Review Process:

- The EC discussed the Population Estimation and Population Monitoring peer review process. It was acknowledged that each of the peer reviews the Program has done has been handled differently in process. Some attendees suggested meeting with the peer review panel.
- A brief history of the Population Monitoring Population Estimation peer review effort was provided by the Program Manager. This included that the questions posed to the panel were developed in May 2010 by the Science Work Group and vetted through the Coordination Committee for approval prior to starting the peer review process.
- Reclamation offered to the EC a complete re-do of the October 2011 kick-off meeting that occurred with the panelists, in response to stated procedural concerns that this effort was not inclusive enough. For example some of the technical workgroups in the Program were not included in this kick-off meeting.
- There was a suggestion that this peer review should go back to the design phase and revise the questions asked. It was restated that the CC had approved those questions in advance of the peer review.
- The MRGCD provided copies of the District's preliminary comments on the draft peer review report for all members of the EC and attendees at the meeting."
- Some EC members commented that it appears the panel was not asked to look at the original data and should have. Others responded that they believed the panelists were asked those questions. The scope of work was then reviewed and discussed.
- After vigorous discussion on the Population Monitoring and Population Estimation Peer Review, the members of the EC reached consensus that the EC had provided inadequate guidance *and information* to the reviewers resulting in a draft report that *was inadequate* and unacceptable to the EC. The EC further agreed that it must establish adequate procedures and guidance for peer review. The Federal and Non-federal Co-chairs recommended and the EC agreed to cancel the planned afternoon Peer Review discussion and that any further work on the draft report be discontinued. The Program Manager will work with Reclamation's Contracting Officer to ensure the EC's decisions and recommendations are appropriately implemented.
- The EC decided to have a closed session instead, during the afternoon and focus more on the peer-review process.

Next Meeting: March 28th, 2012 from 9:00 AM to 3:00 PM at Bureau of Reclamation

**Executive Committee Meeting Attendees
February 16th, 2012, 9:00 am to 1:00 pm**

Attendees:

<i>Representative</i>	<i>Organization</i>	<i>Seat</i>
Brent Rhees	U.S. Bureau of Reclamation	Federal co-chair
Estévan López (P)	NM Interstate Stream Commission	ISC, Non-
federal co-chair		
Michelle Shaughnessy (P)	U.S. Fish and Wildlife Service	Service
Steve Farris (P)	NM Attorney General's Office	NMAGO
Subhas Shah (P)	Middle Rio Grande Conservancy District	MRGCD
Matt Schmader (P)	City of Albuquerque	COA
LTC Jason Williams (P)	U.S. Army Corps of Engineers	USACE
Mike Hamman (P)	U.S. Bureau of Reclamation	BOR
Janet Jarrattt (P)	Assessment Payers of the MRGCD	APA of the MRGCD
Frank Chaves (P)	Pueblo of Sandia	Pueblo of Sandia
Hilary Brinegar (P)	NM Department of Agriculture	NMDA
John Stomp (P)	Albuquerque/Bernalillo County Water Utility Authority	ABCWUA
Matt Wunder (P)	NM Department of Game and Fish	NMDGF
Cody Walker (P)	Pueblo of Isleta	Pueblo of Isleta

Others

Tanya Trujillo	Department of Interior
Yvette McKenna – PM	U.S. Bureau of Reclamation
Jennifer Faler	U.S. Bureau of Reclamation
Jim Wilber	U.S. Bureau of Reclamation
Ali Saenz	U.S. Bureau of Reclamation
Josh Mann	U.S. Bureau of Reclamation
Yvette Paroz	U.S. Bureau of Reclamation
Ann Moore (A)	NM Attorney General's Office
Christopher Shaw	NM Interstate Stream Commission
Grace Haggerty	NM Interstate Stream Commission
Deb Freeman	NM Interstate Stream Commission
Rolf Schmidt-Peterson (A)	NM Interstate Stream Commission
Elizabeth Zeiler	NM Interstate Stream Commission
Rich Valdez	NM Interstate Stream Commission/SWCA
Peter Wilkinson	NM Interstate Stream Commission
Kris Schafer (A)	U.S. Army Corps of Engineers
Susan Bittick	U.S. Army Corps of Engineers
Michael Porter	U.S. Army Corps of Engineers
Michelle Mann	U.S. Army Corps of Engineers
Janet Bair (A)	U.S. Fish and Wildlife Service
Jennifer Bachus	U.S. Fish and Wildlife Service
Wally Murphy	U.S. Fish and Wildlife Service
Vanessa Martinez	U.S. Fish and Wildlife Service
Jason Remshardt	U.S. Fish and Wildlife Service
Patrick Redmond	LRPA/MRGCD
Brooke Wyman (A)	MRGCD
David Gensler (A)	MRGCD

Patricia Dominquez	Senator Bingaman's Office
Rick Carpenter	BDD/City of Santa Fe
Mathew Zidovsky	Representative Heinrich's Office
Brian Gleadle (A)	NM Department of Game and Fish
Rick Billings (A)	ABCWUA
Daniel Goodman	MSU
Christine Sanchez	Tetra Tech

Rio Grande Silvery Minnow Recovery Planning



U.S. Fish and Wildlife Service
Southwest Region
February 16, 2012

Purpose of Today's Presentation

- To be responsive to the Executive Committee
- To respond to questions and provide information on:
 - Explain the purpose of the Recovery Plans
 - varying interpretations of the recovery criteria
- To assist and support the Collaborative Program in efforts to become a Recovery Implementation Program (RIP)



Outline

- Recovery Planning
- Recovery Criteria
- Anticipated Q&A
- Next Steps
 - Population monitoring
 - Adaptive Management
 - Recovery Implementation Program (RIP)



Recovery Plans are Required

- Section 4(f)(1) of the ESA (as amended) requires recovery plans
- RGSM listed in 1994
- RGSM Recovery Planning Timeline:
 - Original Recovery Plan completed – 1999
 - Draft Revised Plan – 2003 through 2007
 - Draft Revised Recovery Criteria – 2009
 - 1st Revision of Recovery Plan was Finalized – 2010



Recovery Plans are Guidance

"A plan is just that: a plan"

- Recovery plans
 - are guidance documents
 - are not regulatory documents
 - use best available science
- No agency or entity is required by ESA to implement the recovery strategy or specific actions



Who Writes Recovery Plans?

- The RGSM Plan was written by the Service
 - with input from a Recovery Team and
 - through public comment, peer review, and using the best available scientific information
- Recovery Teams are not required
- The Service publishes recovery plans
 - Sometimes plans are prepared with the assistance of other parties



What is Required?

- Recovery Plans must include:
 - species biology, life history, and threats information
 - strategy to achieve recovery
 - recovery actions needed
 - goals and criteria to measure achievement of recovery
- RGSM Recovery Plan (2010) follows required sections, content, and procedures

Why do we have Recovery Criteria?

- Required by ESA section 4(f)(1)(B)(ii)
- Recovery Criteria are:
 - Used to measure achievement of recovery goals
 - Often developed in the face of considerable uncertainty
- Criteria must be – to the maximum extent practicable:
 - objective and measurable
 - when met, would result in a determination by the Service of downlisting or delisting



RGSM Recovery Criteria

- RGSM Recovery Criteria address Recovery Goals:
 - Goal 1: Prevent extinction in the MRG
 - Goal 2: Downlist to Threatened
 - Goal 3: Delist
- Recovery criteria include the MRG population, but also two additional populations.
 - Downlist to Threatened = Stable MRG and two other self-sustaining populations
 - Delisting = Three populations are all self-sustaining



RGSM Recovery Criteria

- RGSM recovery criteria for downlisting and delisting are divided into two categories:
 - demographic targets
 - alleviation of threats (5-factor listing analysis)



RGSM Recovery Criteria

■ Goal 1 – Prevent Extinction in the MRG

Demographic Criteria

- Presence at $\frac{3}{4}$ of all sites, per reach, sampled during October
- Presence of young-of-year at $\frac{3}{4}$ of all sites, per reach, sampled during October
- Captive population of 50,000 to 100,000 fish



RGSM Recovery Criteria

■ Goal 2 – Downlist to Threatened

Demographic Criteria

- For at least 5 consecutive years, an October CPUE of > 5 fish/100 m² from all monitoring sites within each reach
- For at least 5 consecutive years, presence of young-of-year at $\frac{3}{4}$ of the monitoring sites, per reach
- Two additional self sustaining populations outside the MRG

Threats-based Criteria

- Habitat sufficient to support 3 such populations, by achieving necessary survival, recruitment, and population growth rates through:
 - Base flow and recruitment flows
 - Sufficient quantity and quality of habitat
 - Improvements to water quality



RGSM Recovery Criteria

■ Goal 3 – Delisting

Demographic Criteria

- Three self sustaining populations in the historical range

Threats-based Criteria

- Habitat sufficient to support 3 such populations, by achieving necessary survival, recruitment, and population growth rates through:
 - Base flows and recruitment flows
 - Sufficient quantity and quality of habitat
 - Improvements to water quality



RGSM Recovery Criteria

How were Recovery Criteria developed?

- Best available science
- Measurable and objective
- Modified from 1999 Recovery Plan
- Recovery Team (2003-07) / Peer review (2007, 2009)
- Demographics (numbers, distribution) that represent recovery in the MRG



RGSM Recovery Criteria-Discussion

- CPUE of > 5 fish/100 m²
 - is not the maximum achievable, but an intermediate value
 - Based on genetics research – 10 fish/100 m² as maximum
 - Preserves natural genetic variation
 - Level of success that represents Recovery (distribution and abundance)
 - Max = Oct 2005
 - 38 fish / 100 m² (all sites)
 - 214 fish / 100 m² (1 site)

Will the Recovery Plan or Criteria ever change in the future?

- Potentially.
 - Recovery is an iterative and long-term process (e.g., 25–30 years)
 - There is no set schedule for plan modifications
- New information over time will be incorporated into future plan revisions, including:
 - species biology
 - ecology
 - recovery needs (reducing or eliminating threats)



If the “preventing extinction” criteria have not been met all the time, does this mean the silvery minnow has gone extinct?

- No. These criteria define a benchmark for sufficient certainty that we are preventing extinction of the species.
- These criteria do not necessarily define the conditions below which extinction occurs.



If the recovery criteria have not been met, does that mean there has been no progress in recovering the minnow?

- No, this indicates the minnow has not yet been recovered.
- Best estimate for recovery is 30 years.
- A review of recovery actions implemented would be a better gauge of progress made so far.
- Future progress toward recovery can be measured by developing interim criteria to gauge progress toward those ultimate recovery endpoints.
 - E.g., RIP “sufficient progress” criteria or metrics



Is the MRG RIP going to be held accountable for achieving the recovery criteria?

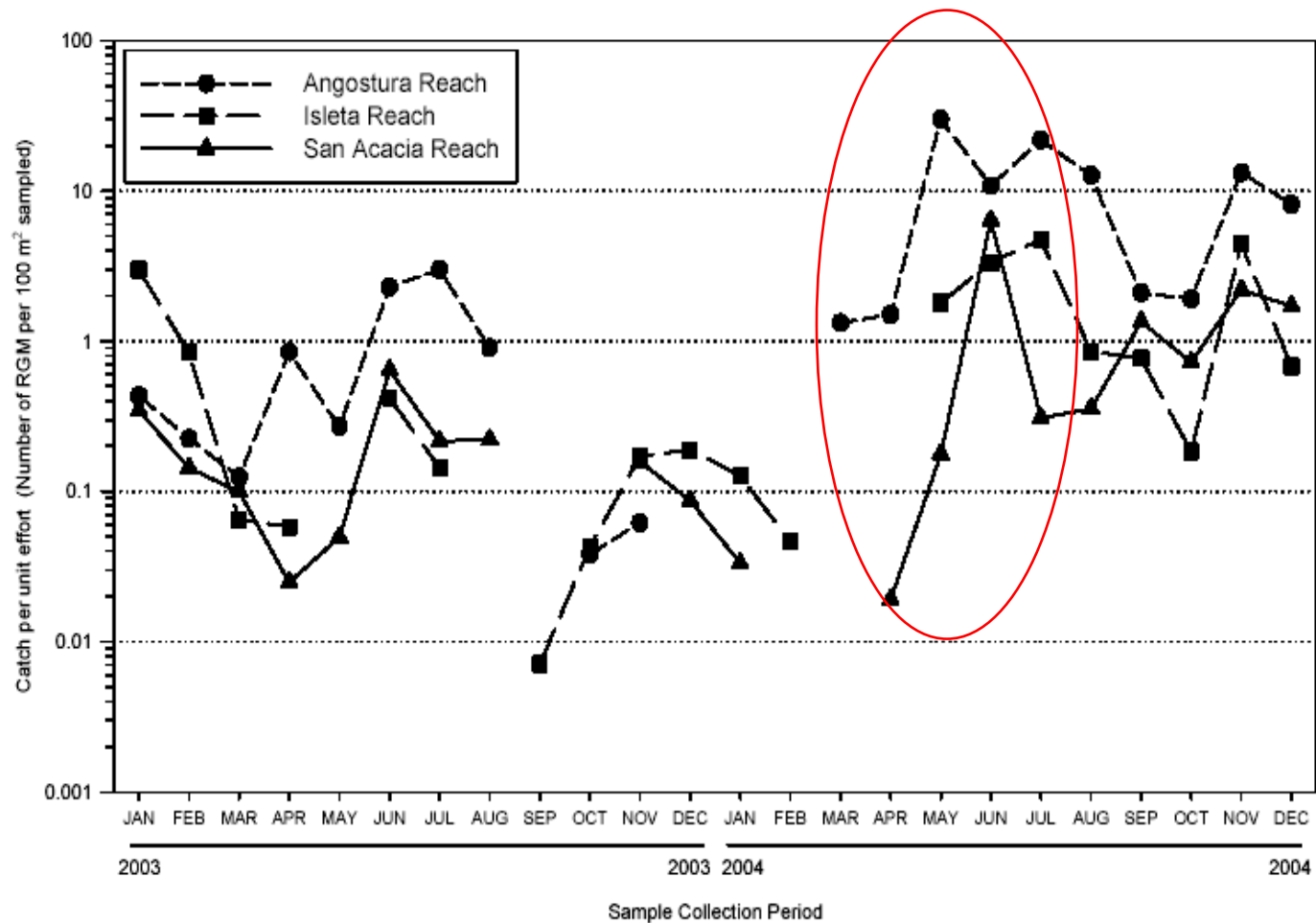
- Interim criteria (not yet developed) will be used to gauge *progress toward recovery* rather than actually achieving recovery on an annual basis.
- The RGSM recovery criteria will still inform determinations by the Service as to when downlisting and delisting are warranted. These criteria can be revised as we:
 - Learn more about the species
 - Implement recovery actions and make further progress toward recovery



Do the criteria include the San Acacia Reach? Yes!

- Designated RGSM Critical Habitat
 - Essential to the conservation of the species
 - Includes the best and most potential quality fish habitat for RGSM
- San Acacia Reach represents almost 40% of the current range
 - RGSM extirpated from up to 94% of its historic range
- Highest diversity of riparian plant communities
- Highest potential for river processes to work
- Necessity of this reach for RGSM recovery and genetic diversity
- Response of RGSM in this reach in good years, can help offset multi-year droughts





Next Steps...

The Service's long-term strategy for the RGSM Recovery Plan includes evaluating possible flexibility in recovery criteria by:

- Decoupling abundance targets and distribution, potentially on a sliding scale
- Re-examining the criterion for $\frac{3}{4}$ of sites per reach



Next Steps...

The Service's long-term strategy for the RGSM Recovery Plan includes evaluating possible flexibility in Methodology:

- Determining the best monitoring method to evaluate meeting the criteria. For example:
 - Reviewing information from recent peer review as it relates to recovery criteria
 - Convening scientific panel to determine best methodology
 - Evaluating the need for additional monitoring sites in each reach
- As RIP is implemented, the goal is to get to where criteria are easily reached



Next Steps...

- Adaptive Management
 - Structured process to conduct science on Key Questions, and
 - Feedback loop to facilitate continual learning
 - RIP has a role in informing changes over time



Next Steps...Key Question

Examples of key questions relating to Recovery Planning include:

- What are the demographic benefits of management actions, including:
 - Augmentation, salvage
 - Supplementing Cochiti reach
 - Fish passage
 - Reducing downstream egg drift (and how)
 - Greater frequency of adequate recruitment flows
 - Keeping river wet – where and when
 - Pumping
 - Reducing catastrophic drying events
 - Reducing catastrophic water quality events
- How flows correlate with RGSM demography



Next Steps...

Examples of key questions include:

- How does egg and larval displacement affect RGSM extinction probability?
- Does habitat restoration:
 - Reduce downstream displacement?
 - Improve RGSM survivorship (<45 days, <1 year)?
- Where should habitat restoration be conducted to have the greatest demographic benefit?



Next Steps...

Examples of key questions include:

- Where and under what conditions do RGSM spawn and what are the subsequent relationships, if any, with recruitment?
- Research into RGSM life history requirements and habitat needs
- What is RGSM fecundity by age class?
- How do RGSM respond (longitudinal movement) in connection with drying, diversion dams, age class, seasonality?



SUMMARY

- We have described the Recovery Planning process
- We have shown how the Recovery Planning process relates to the RGSM Recovery Plan
- We have described the essential elements of the RGSM Recovery Plan, including recovery criteria
- We have outlined a path forward based on answering Key Questions and Adaptive Management

Discussion/Questions?

