**Science and Adaptive Management Committee (SAMC)**

**Meeting Minutes**

**November 8, 2022; 8:00 AM – 12:00 PM**

**Location:** Zoom Meeting

# Decisions

* Approval of the November 8, 2022 SAMC meeting agenda
* Approval of July 12, 2022 SAMC meeting minutes
* SAMC members noted if they would be staying on the SAMC for another year of membership
* The SAMC will recommend the following areas of expertise for the Executive Committee (EC) to consider when appointing new SAMC members: climate change, aquatic ecology/fisheries biology, restoration ecology, and planning
* Approval of Collaboratory agenda
* Approval of WEST development of draft conceptual ecological models (CEMs) for New Mexico meadow jumping mouse (NMMJM) and Pecos sunflower (PESU) with SAMC guidance
* Approval of moving forward with Climate Scenario Planning effort for 2023 Fall workshop
* Approval of recommending next steps to EC regarding outcomes from Workshop on Management of Vegetated Islands and Bank-Attached Bars
* Approval of the draft charge for the Strategic Plan for Potential Drying in Angostura Reach S&T Ad Hoc Group
* Approval of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP) project evaluation criteria
* Approval of pilot testing Long-Term Plan Project Evaluation Criteria

# Action Items

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| **WHO** | **ACTION ITEM** | **BY WHEN** |
| Program Support Team (PST) | Distribute the link to the U.S. Geological Survey simulated hydrograph tool | 11/10/2022 |
| PST | Send a Doodle poll to schedule the February SAMC meeting | 11/18/2022 |
| PST | Revise the Strategic Plan for Potential Drying in Angostura Reach S&T Ad Hoc Group charge for SAMC review and approval | 11/18/2022 |
| PST | Develop a proposal for a climate change/scenario planning “wargame” exercise for the MRGESCP | December 2022 |
| A. Winter, K. Eichhorst, A. Posner, M. Friggens | Help the PST plan a climate change/scenario planning “wargame” exercise for 2023 | Fall 2023 |
| PST | Finalize membership for the Information and Data Quality Standards Hybrid Ad Hoc Group | December 2022 |
| PST | Send a list of projects to the SAMC to test project evaluation criteria on | December 2022 |
| SAMC members | Apply project evaluation criteria to the list of projects for comparison and discussion at the February SAMC meeting | February SAMC meeting |
| PST | Review notes from the Workshop on Management of Vegetated Islands and Bank-Attached Bars and compile a list of words and terms that need to be defined | February SAMC meeting |
| PST | Draft a charge for an S&T Ad Hoc Group to define terms related to vegetated islands and bars for SAMC review | February SAMC meeting |
| PST | Synthesize the strategies that came out of the Workshop on Management of Vegetated Islands and Bars | February SAMC meeting |

**Next Meeting:** February 2023

**Meeting Minutes**

# Welcome, Meeting Objectives, and Agenda Review

Catherine Murphy, PST Science Coordinator and SAMC Facilitator opened the meeting. Catherine M. reviewed and the SAMC approved the November 8, 2022 SAMC meeting agenda.

* **Decision**: Approval of the November 8, 2022 SAMC meeting agenda

# January Meeting Minutes, New Protocol, and Action Items Review

Catherine M. and Debbie Lee, PST, reviewed and the SAMC approved the July 12, 2022 meeting minutes and action items.

* **Decision**: Approval of July 12, 2022 SAMC meeting minutes

# Update from March 2022 Executive Committee Meeting

Debbie L. gave an update on the 2022 Activities and 2023 Planning. Summary points are below:

* Discussed SAMC membership tenure and suggested new member areas of expertise.
  + SAMC-suggested areas of expertise: Climate change, Rio Grande silvery minnow (RGSM) and aquatic ecology, restoration ecology, planning/regulatory
* Discussed new order of committee meetings and Draft 2023 Work Plan.
  + To facilitate Program planning, SAMC meetings will take place in the month prior to EC meetings. No SAMC members raised concerns.
  + The Draft 2023 Work Plan included tasks to develop CEMs for NMMJM and PESU. Given lack of expertise among regular participants in the Collaborative Program, the SAMC agreed that WEST should take the lead in drafting the NMMJM and PESU CEMs.
    - SAMC members suggested using species status assessments and related recovery permits to inform habitat requirements and life cycles.
  + The Draft 2023 Work Plan included a Climate Scenario Planning Workshop. SAMC members were supportive of such an event.
* Discussed updates to Program Portal functions and updates to data resources.
  + There was a question about river mile zero standard on mapper, and whether the 2012 Reclamation Standard was currently used. The interactive mapper includes the 2012 river mile delineations as a layer, as well as the 2002 delineation.

# Update on Hybrid Ad Hoc Group – Information and Data Quality Standards

Debbie L. discussed the Information and Data Quality Standards Hybrid Ad Hoc Group. Summary points are below:

* The EC approved the Ad Hoc Group charge.
* Membership and iterative task development are in progress.
* Group will start in the new year and is aiming to be done by June.

# Update on Science & Technical (S&T) Ad Hoc Group – Strategic Plan for Drying in Angostura Reach

Catherine M. and Kevin Shelley provided an update on the expedited development of this group to address the EC request.

* Discussed compilation of current MRG drying management actions into a summary reference document by PST.
* Reviewed and discussed the draft group charge:
  + Tasks listed and timeline seem ambitious and require some clarification.
  + Difficult to compare year-to-year results based on current reporting on monitoring efforts. Real-time (or near-real-time) tracking of drying also would be helpful.
  + Primary objectives are to 1) summarize/review current management actions and 2) recommend improvements, if appropriate, especially regarding RGSM management.
  + SAMC suggests keeping RGSM priority for this effort, but consider broader conservation needs at the ecosystem level.
  + Discussed modified review schedule and deliverables timeline, given short deadline.

# Update on RGSM-Specific S&T Ad Hoc Groups

Catherine M. facilitated a group discussion about the progress within each of the three RGSM-specific S&T Ad Hoc Groups and how they relate to/inform each other:

* Update on RGSM integrated population model (Yackulic et al. 2022)
  + SAMC suggestion: translate this conceptual model into a quantitative model, if possible.
  + Need to be conscious of conceptual versus empirical inputs, as well as the sensitivity of model inputs.
  + Need to identify potential users of the RGSM models, technical expertise needed to run them, and ease of user experience.
* Update on status of RGSM genetics/CEM refinements
  + Discuss draft modified CEM schematic (in-progress)
  + Implications of transitioning to single-nucleotide-polymorphism(SNP)-based microhaplotypes in RGSM genetic monitoring (Osborne et al. 2022)
  + Updates in SAMIS:
    - Updates to tabular format CEM (in-progress)
    - Prioritizing existing SNP-dependent proposed projects in Project Bank
    - Adaptive management tracking potential
* Update on status of RGSM hypothesis development
  + Upcoming meeting November 28, 2022
  + Targeting two recommendations for hypothesis development: #4 (re: mesohabitat measurement and influence on RGSM distribution) and #7 (re: comparison of multiple RGSM modeling efforts and applicability to management)
* Subset of SAMC members will work on synthesizing outcomes of these RGSM-specific ad hoc groups to recommend next steps and to inform tools for adaptive management.

# Follow-up to Workshop on Management of Vegetated Islands and Bank-attached Bars

Ari Posner led a group discussion on the outcomes from the Workshop on Management of Vegetated Islands and Bank-attached Bars:

* Key takeaways from SAMC discussion:
  + Bars and islands are not replacements for the floodplain
  + Need to maintain floodplain and deal with perceived inevitability of bar/island development
  + Just because bars and islands are generated, doesn’t mean they are desirable
* Identified research, planning and management needs:
  + A more comprehensive and common understanding of the workshop topic
  + Some kind of model to help inform current and future trends and conditions
  + Define technical terms and relationships relating to this topic
  + A summary of the terms and relationships, available data sets (with scale), and data gaps
  + A designated team (or additional workshop) to carry these efforts forward
  + Mapping of bars and islands, possibly characterized by successional stage
  + Develop conceptual model for island/bar phenomenon
  + Define the spatial and temporal rhythms of the successional changes on islands and bars
  + Identify management alternatives with potential impacts
  + Determine the ecosystem functions/conditions of interest and first formulate goals around those (e.g., functional wetlands)
* Breakout Session at Collaboratory will be dedicated to this topic
* Need to designate at least one S&T Ad Hoc for this effort

# MRGESCP Needs Assessment for Restoration Monitoring, Assessment, and Decision Support

Catherine M. facilitated a discussion recapping the motivations for restoration guidance on assessment and monitoring in the MRGESCP and presented additional resources to inform and integrate these efforts:

* Motivations:

1. A request to utilize the monitoring results from adaptively managed restoration sites in the San Acacia Reach to inform standardization was brought to the Program in 2021.
2. August 2021 Habitat Restoration Workshop identified three primary needs regarding habitat restoration in the MRG:

* A need to inform adaptive management – maintenance thresholds
* A need for more versatile restoration response metrics/indicators
* A need for a standardized approach to measure restoration “success”

1. Habitat restoration is one of the “nonflow management actions” used to predict Rio Grande silvery minnow abundance in the integrated population model (Yackulic et al. 2022).
2. October 2022 Workshop on Management of Vegetated Islands and Bank-attached Bars identified planning and research needs that would benefit from an ecosystem approach with characterization of ecosystem services, trade-offs and synergies at various spatial scales.
3. Several speakers at the October 2022 NM Water Conference discussed the importance of ecosystem services to resilience, as well as the important roles of agriculture in the modern MRG ecosystem.

* Questions for SAMC consideration:

1. Do you agree that restoration efforts within the MRG could benefit from organization under a common framework?
2. Should we recommend development of an ecosystem-level conceptual model?
3. Should we recommend the use of ecosystem services to navigate complex management scenarios and to provide greater context for species-specific actions and decisions?
4. Do any of the tools or approaches listed below seem appropriate/adaptable for the MRG?

* Additional resources/approaches that can inform this topic include (*refer to read-ahead for more detail*):
  + Potential approach to standardized monitoring guidance for habitat restoration
    - Sacramento-San Joaquin Delta Conservancy’s “Compendium of Resources, Protocols, and Guidelines for Environmental Monitoring”
    - Consider adapting this compendium with types of monitoring required for the State Wildlife Grants (SWG) Program to be consistent with the NM State Wildlife Action Plan (SWAP)
    - NM SWAP seems to be initiating a standardized monitoring framework already
  + Potential assessment framework for ecological restoration:
    - Society for Ecological Restoration (SER) 5-Star Recovery Wheel
    - 2009 (ERDC) MRG Bosque Ecosystem Restoration Feasibility Study Habitat Assessment Using Habitat Evaluation Procedures (HEP)
  + Potential decision-support approach using ecosystem services:
    - Classification of ecosystem services (ES) interactions that incorporates societal values as drivers of management decisions along with biophysical factors as likely causes of ES trade-offs
      * Felipe-Lucia, M. R., F. A. Comín, and E. M. Bennett. 2014. Interactions among ecosystem services across land uses in a floodplain agroecosystem. Ecology and Society 19(1): 20.
* **Action Item**: SAMC will continue discussion of this topic and consider the resources listed in the context of the Collaborative Program and signatory needs.
* **Action Item**: Determine next steps at February meeting.

# Planning the December 2022 Collaboratory

Debbie L. and Catherine M. presented the draft agenda for the upcoming Collaboratory, and discussed breakout sessions, intended outcomes and implications for adaptive management.

* SAMC requested clarification of purpose and objectives and provided minor revisions to draft
* **Decision**: Approval of revised Collaboratory agenda

# Project Evaluation Criteria for Long Term Plan (LTP)

Catherine M. led a discussion of the revised evaluation criteria:

* Group agreed that criteria are useful and applicable for individual managers’ purposes.
* Group suggested a “pilot run” of criteria on a small set of projects to assess their utility for the Long-Term Plan.
* **Decision:** Approval of revised evaluation criteria
* **Action Item**: Set up a pilot test of evaluation criteria on small set of projects in the Long-Term Plan.

# Action Items, Next Steps, and Announcements

* **Upcoming events:**
* 1st Biennial MRGESCP Collaboratory – December 6-7, (in-person only) UNM Continuing Education Conference Center
* EC Meeting – December 22, 9-noon, (hybrid) Bureau of Reclamation
* **SAMIS Trainings –** Schedule with PST
* **Next Meeting:** February 2023
* **Action Item**: The PST will send a Doodle Poll to schedule the February SAMC meeting

**Meeting Participants**

**SAMC Member Role**

Alan Hatch Executive Committee *Ex Officio* Member

Ara Winter Statistics/Modeling Expert

Ari Posner Geomorphology Expert

David Moore Terrestrial Ecology Expert

Meaghan Conway Ecosystem Function Expert

Megan Friggens Climate Science Expert

**Program Support Team Role**

Catherine Murphy SAMC Facilitator

Angela Medina Support

Debbie Lee Support

Luana Sencio Support

**Guests Organization**

Lynette Giesen U.S. Bureau of Reclamation