

Science and Adaptive Management Committee Meeting

June 24, 2021

Meeting Materials:

Agenda

Minutes

Draft Habitat Restoration Pre-Workshop Questionnaire [read-ahead, draft]

Revised Criteria for SAMC Rankings [read-ahead, draft]

Summary of PMWG Review of Findings, Assumptions, Recommendations for PMWG Report [read-ahead, spreadsheet, not included]

Review of the MRG Fish Monitoring Program [presentation, not included]

Revised Habitat Restoration Pre-Workshop Questionnaire with SAMC Feedback [follow-up, draft]

Revised Criteria for SAMC Rankings for SAMC Review [follow-up, draft]



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science and Adaptive Management Committee (SAMC) Meeting June 24, 2021 8:00 AM-12:00 PM

Meeting Location: Zoom

<https://west-inc.zoom.us/j/8983593120?pwd=bU54V3NGeG93bXVISIJFcElzcE9wZz09>

Meeting ID: 898-359-3120; Passcode: 1251

Call-In: +1-669-900-6833

Meeting Agenda

Meeting Objectives:

- Receive progress updates on Science & Technical (S&T) Ad Hoc Groups
- Review findings and recommendations from Rio Grande silvery minnow (RGSM) Population Monitoring Work Group (PMWG) Ad Hoc Group's summary report and frame memo to Executive Committee (EC)
- Discuss revised ranking criteria for science strategies
- Discuss revisions to the proposed workshop on 2021 Middle Rio Grande (MRG) Effective Monitoring for Habitat Restoration (HR) and pre-workshop survey

8:00 – 8:10	<p>Welcome, Meeting Objectives, and Agenda Review</p> <ul style="list-style-type: none"> ✓ Decision: Approve June 24, 2021 meeting agenda ✓ Decision: Approve May 27, 2021 meeting minutes <p>Read-ahead:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Draft May 27, 2021 meeting minutes 	Catherine Murphy, Program Support Team (PST)
8:10 – 8:30	<p>S&T Ad Hoc Group progress updates</p> <ul style="list-style-type: none"> • RGSM Population Modeling – C. Yackulic • RGSM Conceptual Ecological Model /Genetics Development – W. Wilson • Avian Conceptual Ecological Model Refinement – A. Erickson • RGSM PMWG Summary Report – R. Valdez 	Catherine Murphy, PST

8:30 – 10:00	<p>RGSM PMWG Summary Report Ad Hoc Group findings and recommendations</p> <ul style="list-style-type: none"> • Discuss any changes to summary report • Review each report finding and recommendation <p>Read-ahead:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Compiled comment matrix (Summary_PMWG Review of Findings, Assumptions, Recommendations--PMWG Report.xlsx) 	<i>Group discussion with Rich Valdez</i>
10:00 – 10:10	Break	
10:10 – 10:40	<p>RGSM PMWG Summary Report Ad Hoc Group findings and recommendations (continued)</p> <ul style="list-style-type: none"> • Discuss report findings and recommendations • Outline recommendations memo to EC • Discuss presentation to EC <ul style="list-style-type: none"> ✓ Decision: SAMC recommendations to EC regarding RGSM PMWG report ➤ Action: PST will draft the memo containing SAMC recommendations to the EC (<i>for SAMC review</i>) ✓ Decision: Format and present SAMC recommendations to EC at July meeting ➤ Action: PST will work with R. Valdez to draft presentation to EC (<i>for SAMC review</i>) 	<i>Group discussion with Rich Valdez</i>
10:40 – 11:10	<p>Ranking Criteria for Science Strategies</p> <ul style="list-style-type: none"> • Review revisions to ranking criteria • Definitions and types of criteria • Discuss weighted scoring and ranking methods <p>Read-ahead:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Revised criteria for SAMC rankings – comparative matrix <ul style="list-style-type: none"> ✓ Decision: Choose ranking/scoring method ➤ Action: PST will incorporate changes and send comparative matrix of science strategies for SAMC members to complete 	<i>Facilitated discussion</i>

11:10 – 11:50	<p>2021 MRGЕСP Effective Monitoring for Habitat Restoration (HR) Workshop</p> <ul style="list-style-type: none"> • Discuss revised HR considerations for pre-workshop survey • Discuss HR workshop and format <p>Read-ahead:</p> <ul style="list-style-type: none"> <input type="checkbox"/> DRAFT HR pre-workshop questionnaire ✓ Decision: Workshop date and SAMC assignments during workshop ➤ Action: PST will finalize and distribute pre-workshop survey, compile results and plan workshop 	<i>Facilitated discussion</i>
11:50 –12:00	<p>Meeting Summary and Action Items Review</p> <ul style="list-style-type: none"> ➤ Next SAMC meeting: Thursday Aug. 26, 2021, 8am-noon 	<i>PST</i>
12:00	Adjourn	



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science and Adaptive Management Committee (SAMC) Meeting Minutes

June 24, 2021; 8:00 AM–12:00 PM

Location: Zoom Meeting

Decisions:

- ✓ Approval of June 24, 2021 SAMC meeting agenda
- ✓ Approval of May 27, 2021 SAMC meeting minutes

Action Items:

WHO	ACTION ITEM	BY WHEN
Program Support Team (PST)	Update the SAMC meeting calendar invite to every other month	6/28/2021
PST	Reach out to absent SAMC members to discuss meeting topics and next steps	7/9/2021
PST	Revise the SAMC memo to the Executive Committee (EC) regarding the Population Monitoring Work Group (PMWG) summary report based on discussion and send it to the SAMC for review	7/6/2021
SAMC	Review the PMWG summary report memo	7/9/2021
SAMC	Offer any language changes to the executive summary, findings, recommendations and/or key scientific assumptions in the PMWG summary report to clarify them for managers	7/9/2021
Rich Valdez and PST	Finalize the presentation to the EC on the PMWG summary report	7/21/2021
SAMC	Provide additional feedback on the ranking criteria for projects	7/9/2021
PST	Incorporate changes to the ranking criteria	7/16/2021
PST	Revise the habitat restoration (HR) pre-workshop questionnaire based on discussion and send it to the SAMC for review	6/28/2021
SAMC	Provide comments on the HR pre-workshop questionnaire	7/16/2021
PST	Finalize and distribute the HR pre-workshop questionnaire to the Collaborative Program, compile results, and plan the Habitat Restoration Workshop	7/21/2021

Next Meeting: August 26, 2021, 8 AM - noon

Meeting Summary

Welcome, Meeting Objectives, and Agenda Review

Catherine Murphy, PST Science Coordinator and SAMC Facilitator, opened the meeting and led introductions. Catherine M. reviewed the June 24, 2021 meeting agenda and objectives, and May 27, 2021 meeting minutes. Catherine M. announced that SAMC meetings would move from monthly to every other month. The time between meetings will be used to contact SAMC members to discuss SAMC activities. SAMC members were also invited to contact the PST to distribute information between meetings.

- ✓ **Decision:** The SAMC approved the June 24, 2021 SAMC meeting agenda
- ✓ **Decision:** The SAMC approved the May 27, 2021 SAMC meeting minutes
- **Action Item:** The PST will update the SAMC meeting calendar invite to every other month
- **Action Item:** The PST will reach out to absent SAMC members to discuss meeting topics and next steps

S&T Ad Hoc Group Progress Updates

Catherine M. announced progress updates for the Science & Technical (S&T) Ad Hoc Groups. Summary points are below:

- Rio Grande silvery minnow (RGSM) Population Modeling Ad Hoc Group
 - Charles Yackulic (lead), U.S. Geological Survey, has been in contact with group members to get feedback on the model. He will not have results to share until later this year. New Mexico Interstate Stream Commission intends to fund him through next year.
- RGSM Conceptual Ecological Model (CEM)/Genetics Ad Hoc Group and Avian CEM Refinement Ad Hoc Group
 - Both groups have been productive. At its second meeting, the RGSM CEM/Genetics Ad Hoc Group (led by Wade Wilson, U.S. Fish & Wildlife Service [USFWS]), finished adding components to the RGSM CEM and defining them. The group is now reviewing the added components and forming relationships between variables. Its third meeting will be in mid-July. The Avian Ad Hoc Group (led by Amy Erickson, Audubon New Mexico) met once, and another meeting is being scheduled.
- RGSM PMWG Summary Report Ad Hoc Group
 - The PST is compiling all comments on the summary report into one version. Rich Valdez (lead), SWCA Environmental Consultants, will incorporate SAMC comments and produce a final report in mid-July. SAMC members were asked to focus reviews on the executive summary and findings sections, and to ensure the report is scientifically valid and makes sense to a broad audience.

RGSM PMWG Summary Report Ad Hoc Group Findings and Recommendations

Catherine M. opened discussion on the RGSM PMWG summary report, the SAMC memo, and presentation to the EC. Summary points are below:

RGSM PMWG Summary Report Discussion:

- Rich V. reported there have been no changes to the RGSM PMWG summary report since the most recent version.

- Task 3 of the PMWG was to refine the U.S. Bureau of Reclamation’s (Reclamation) Fish Monitoring Program (FMP). In 2017, the PMWG made recommendations to modify the FMP based on the Hubert et al. independent science panel, and Reclamation adopted a subset of the recommendations. The PMWG was working to further refine the FMP, but did not complete this task before disbanding. To reflect this, the RGSM PMWG summary report will be revised to state that Task 3 was partially completed.

SAMC Comment:

- Has there been a difference in catch-per-unit-effort (CPUE) since the recommendations were implemented?
 - Changing the number of sites sampled has the biggest effect on CPUE. The FMP increased from 20 to 30 sites sampled. Two estimates are now produced, one for 20 sites and one for 30 sites. These values are usually close, but the difference between them is affected by the number of fish in the system. There is a question of whether more sites may improve the CPUE estimate.
 - Although there is a desire to improve the CPUE estimate, it is a reality that there are fewer places to sample due to the fish being in decline and the system losing water. The FMP is working well without additional changes.
- Rich V. also discussed the Population Estimation Program (PEP):
 - The PEP occurred from 2008-2011, and the summary report was provided in 2012.
 - The objectives of the PEP were to:
 1. Refine and implement methods that provide statistically robust population estimates of RGSM (2005-2011)
 2. Provide a population estimate of RGSM based on fish densities stratified by mesohabitat for 20 sampling units (2008-2011)
 3. Develop site occupancy rates for RGSM populations over time (2005-2011)
 4. Calculate a population estimate of RGSM using population monitoring data, controlling for mesohabitat, and compare this value to that generated in Objective #2 (2008-2011)
 - In the FMP, a seine is dragged through the river to collect fish and CPUE is calculated as number of fish per 100 square meters. In the PEP, an area of habitat is encircled and a depletion estimator is used to calculate the number of RGSM. The value is used to estimate the number of RGSM per mesohabitat type, and the total abundance of RGSM in the river is estimated by adding together abundance in all mesohabitats.
 - The 2012 PEP report stated:
 - A strong correlation between the PEP and FMP estimates is unlikely to persist over time
 - Estimating population size using FMP data is highly questionable and would likely lead to less accurate results.
 - The population estimation and site occupancy studies performed provide objective and statistically defensible estimates of RGSM abundance and distribution, and can help accurately gauge recovery of RGSM.
 - As a way to assess the FMP CPUE, the PEP can be repeated and the resulting abundance estimate compared to CPUE.
 - The FMP data were not meant to address all questions relating to RGSM population size. The PEP data may be the more appropriate set to address many of them.

- The same questions about RGSM population have been asked for years. If the same questions are being asked, the SAMC needs to determine which questions are critical, if the questions can be answered, and which dataset is appropriate to answer each question.
 - The right data may come from the FMP, the PEP, or a unique study. Coming up with a hypothesis for each question and determining which dataset is suited to each, are the next steps for these outstanding RGSM population questions.

SAMC Comment:

- It has been a decade since the PEP was done, and river and climate conditions have changed. It would be a good idea to redo the PEP and get results to the EC.
- Re-surveying the EC:
 - In 2012, the PMWG surveyed the EC on the FMP. The results indicated a disconnect between what the FMP actually does and what the managers expect it to do.
 - The managers considered monitoring species response to management actions to be very important, and rated the FMP poorly in that regard. The FMP was designed to monitor long-term trends, not the species response to an action. The capabilities and limitations of the FMP data need to be communicated to the EC. In addition, future questions about “management actions” should specify the exact actions to which they are referring.
 - The SAMC will resurvey the EC on the FMP and PEP. The questions should be written in layman's terms to ensure everyone is on the same page when answering. For example, “population estimate of RGSM” can be written as “total number of RGSM in the river.”
 - The management relevance of each question should be included.
 - The questions may become very important for decision-making and management in the near future.
- There is a question of whether the RGSM population is made up mostly of hatchery fish. Charles Y. is working to answer that question with the integrated population model.
 - The genetic monitoring program is also addressing this issue by determining the genetic impact of augmented fish on the population.
- Reviews of the PMWG summary report (see comment matrix):
 - Rich V. is not charged with reconciling all comments. The comments will be documented for future reference.
 - Many of the comments on the PWMG summary report can be addressed by redoing the PEP.
 - Grace Haggerty (N.M. Interstate Stream Commission), Joel Lusk (Reclamation), and Thomas Archdeacon (USFWS) provided public comments on the report findings, assumptions, and recommendations.
 - Commenters misunderstood the report assumptions as additional findings. The assumptions included are statements that must be accepted at face value to be able to address the issues in the report. All scientific assessments involve making assumptions, some of which can be independently tested, if questioned.
 - The assumptions may need to be reworded to clarify them for managers.
 - Recommendation comments:
 - Rec 2 – Lots of disagreement. No RGSM were found in 2012 and there was a lot of discussion after. Additional sampling sites were proposed to augment a low

CPUE. In 2017, 10 additional sites were included, which helps address this issue. This recommendation can be dropped entirely.

- Rec 3 – The question has existed for some time. The core of the FMP will not change, as it is a long-term dataset. Gear type is set for the FMP. Supplemental questions may be answered using different gear types.
- Rec 4 – Should be reworded so “resolve” is not used. Joel L. commented that the abundance information is not required by any action agency. Agencies use the FMP CPUE data in place of a population estimate (provided by the PEP), with the assumption that the values are correlated (*see Key Scientific Assumption #1*). The 2012 PEP report stated the lack of a robust comparison between the values (i.e., few sample years). The PEP needs to be repeated to compare population estimates between the FMP and PEP and determine whether the original correlation has persisted through time.

SAMC Comment:

- The mixture model (referred to in Rec 7) may need to be broken down more clearly for managers. The estimate would be more defensible with improved understanding.
 - Rec 8 – The intent was to design experiments for monitoring response to management actions, as the FMP data cannot be used for that purpose. Given the amount of pushback, this rec may need to be taken off.
 - Rec 11 – This is being addressed with the Adaptive Management Relational Database (AMRDB) and may not need to be included on the list.

SAMC Memo to the EC Discussion:

- The SAMC is the filter between the science and the EC. The SAMC synthesizes and communicates recommendations based on an understanding of science and MRGESCP needs.
- The SAMC takes results from S&T Ad Hoc Groups and provides consensus recommendations for next steps to the EC.
 - If no consensus is reached, multiple opinions are documented and the EC makes the final decision.
- Catherine M. presented a template for the SAMC memo on the RGSM PMWG summary report. The memo supplements the report and proposes next steps for the report’s findings and recommendations, in consideration of adaptive management. The memo covers background information, a summary of MRGESCP reviews of the FMP, and SAMC-recommended next steps.
- Several reviews of various aspects of the FMP have been carried out by and through the MRGESCP in the past. These include the Science Work Group reviews, the 2012 PEP report, and independent science panels.
 - The reviews varied in scope and purpose, but they converged around the same types of questions about how the FMP data is used.

SAMC Comment:

- List the reanalysis of the Hydrobiological Objective in the 2016 Middle Rio Grande Biological Opinion as another important review of the FMP (Budy and Walsworth 2019).
 - There is disagreement regarding the application of FMP data to address MRGESCP needs. The MRGESCP needs to be more specific about its needs, and the scientists need to better

communicate which are the appropriate methodologies and data to address each of those needs.

- The memo should be solution-focused, should acknowledge the limitations of the FMP data, and should define next steps.
- As the same essential questions tend to be asked often in the MRGESCP, Catherine M. suggests refining the questions with plain language, coming up with hypotheses that address each one, and determining the appropriate data to answer each of them.
 - The list of essential questions should be regularly reviewed and estimates routinely updated as part of a quality control strategy for the FMP and PEP.
 - This process would be performed by S&T Ad Hoc Groups.
 - An example of an essential question is “How well does the FMP CPUE index track the PEP total abundance estimator?”

SAMC Comment:

- There is uncertainty about the number and size of RGSM in the Albuquerque Reach. The river in this reach is deeper and catchability is lower. The current sampling methods may reflect a lower number of fish than are present. The implications of this number are huge for how the river is managed. The clear question should be, “Are there more fish in the Albuquerque Reach than indicated by the FMP?” not “Is seining appropriate?”
- During the previous EC survey on the FMP, managers were asked about their needs but scientists were not asked whether those needs could be sufficiently met by the FMP. We need to guide the expectations of the managers.
 - The new survey could have the scientists respond to the needs of the managers.
 - Surveys could be periodically performed to ensure that the MRGESCP is responsive to the important management questions.

SAMC Comments:

- How are the S&T Ad Hoc Groups different from the former PMWG?
 - Tasks will be divided among individual groups instead of all assigned to one group.
- Is the SAMC asking for permission from the EC to carry out next steps?
 - The PMWG was originally tasked by the EC, so results should be presented directly to them. The EC is being asked to approve the SAMC-recommended next steps.
- **Action Item:** The PST will revise the SAMC memo to the EC regarding the PMWG summary report based on discussion and send it to the SAMC for review
- **Action Item:** The SAMC will review the memo about the PMWG summary report
- **Action Item:** The SAMC will offer any language changes to the executive summary, findings, recommendations and/or key scientific assumptions in the PMWG summary report to clarify them for managers
- **Action Item:** Rich V. and the PST will finalize the presentation to the EC on the PMWG summary report

Ranking Criteria for Science Strategies

Catherine M. opened discussion on criteria for ranking Science Strategies (see criteria). Summary points are below:

- The SAMC will help objectively rank the proposed studies and activities in the Project Bank.
 - The Project Bank is the hub of the AMRDB and each project links to different elements, such as Science Strategies, independent science panel recommendations, and uncertainties.
 - The AMRDB can be used to generate a Linkage Score, a completely objective value that tallies up the number of linkages a project has. The SAMC can produce a SMART (Specific, Measurable, Attainable, Relevant, Time-bound) Score that reflects how well a project is scoped (i.e., if it is feasible, has a reasonable timeline, has well-defined metrics, has a clear hypothesis).
 - An additional risk and resiliency score is in discussion. The score would reflect whether a project is informing risk management and/or planning for future scenarios, such as impacts from climate change.
 - Catherine M. mapped out some types of projects (e.g., well-scoped, has dependent projects, ongoing) for a straw man demonstration of the scores. For example, a study with a very broad scope may have a low SMART Score but a high Linkage Score because it connects to many AMRDB elements.
 - Combined, the two scores help level the playing field for projects.
 - Linkage and SMART Score criteria could be weighted, if desired.
 - The SAMC is asked to provide any feedback on weighting scores.
 - The score criteria (and weights) can be evaluated and changed each year, if necessary, as an adaptive measure.
 - The scores will be used to generate the Long-Term Plan.
- **Action Item:** The SAMC will provide additional feedback on the ranking criteria for projects
- **Action Item:** The PST will incorporate changes to the ranking criteria

2021 MRGESCP Effective Monitoring for Habitat Restoration (HR) Workshop

Debbie Lee, Program Manager with the Program Support Team, opened discussion on the HR Workshop (see HR Workshop questionnaire). Summary points are below:

- The PST revised the HR Workshop questionnaire template based on SAMC discussion and tailored it down to key items, including restoration goals, metrics of success, length of project, and purpose of monitoring.
- The template will be used to plan the HR Workshop.
- The PST will present a plan for the HR Workshop to the EC in July. Both the EC and SAMC will back the event.
- The workshop will be planned for late August/September.
- The PST posted a Collaborative Poll on the Program Portal related to HR and there have been several responses. Results will be posted in the June newsletter.
- The SAMC was asked to provide feedback on the questionnaire template.
- The PST will be making infographics with the questionnaire responses, including tables for multiple-choice questions and word clouds for long answers.
- The purpose of the questionnaire and infographics is to spark conversation, and to get an idea of the range of approaches to HR.

SAMC Comment:

- Questionnaire respondents may have a difficult time filling it out if they have multiple projects and types of projects.
 - The PST will work on restructuring the template to address this issue.

- **Action Item:** The PST will revise the pre-workshop questionnaire based on discussion and send it to the SAMC for review
- **Action Item:** The SAMC will provide comments on the pre-workshop questionnaire
- **Action Item:** The PST will finalize and distribute the pre-workshop questionnaire to the Collaborative Program, compile results, and plan the Habitat Restoration Workshop

Closing Remarks

Catherine M. opened discussion on the role of the SAMC and any expectations members may have.

Summary points are below:

- There is uncertainty regarding what will happen to SAMC products. Adaptive management is a cycle, and SAMC work may stall out along the way. There is not a sense of value of SAMC work without seeing the cycle play out.
 - Alan Hatch, EC *ex officio* member, believes the contributions of the SAMC are valuable to the EC.
- There is worry about SAMC engagement with less frequent meetings.
 - With less frequent meetings, the PST will have more time to prepare between meetings, facilitate S&T Ad Hoc Group meetings, and contact SAMC members between meetings.

Meeting Participants

Alan Hatch	EC <i>Ex Officio</i> Member
Ara Winter	Statistics/Modeling Expert
Catherine Murphy	Program Support Team, SAMC Facilitator
Debbie Lee	Program Support Team
Megan Friggens	Climate Science Expert
Melissa Welsch	Program Support Team
Michelle Tuineau	Program Support Team
Rich Valdez	SWCA Environmental Consultants
Ryan Gronewold	Hydrology Expert

**Middle Rio Grande Endangered Species Collaborative Program
Habitat Restoration Pre-Workshop Questionnaire**

1. When your agency does habitat restoration, what are your restoration goals? (*check all that apply*)

- Create habitat for one or more listed species
 - Improve water/habitat quality
 - Improve overall ecosystem health
 - Provide/Improve recreational/green space
 - Other:
-

2. What are your metrics of restoration success for each of your goals? (*check all that apply*)

- | | |
|--|--|
| <input type="checkbox"/> Target species presence | <input type="checkbox"/> Water depth |
| <input type="checkbox"/> Target species density | <input type="checkbox"/> Floodplain inundation |
| <input type="checkbox"/> Species richness | <input type="checkbox"/> Soil moisture level |
| <input type="checkbox"/> Establishment of native species | <input type="checkbox"/> Habitat score |
| <input type="checkbox"/> Percent canopy cover | <input type="checkbox"/> Other _____ |

3. Generally, how long do you expect to maintain a restoration project? (*check one*)

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> No maintenance | <input type="checkbox"/> 5-10 years |
| <input type="checkbox"/> <1 year | <input type="checkbox"/> 10-20 years |
| <input type="checkbox"/> 1-5 years | <input type="checkbox"/> Indefinitely |

4. Please characterize how you collect data for habitat restoration projects:

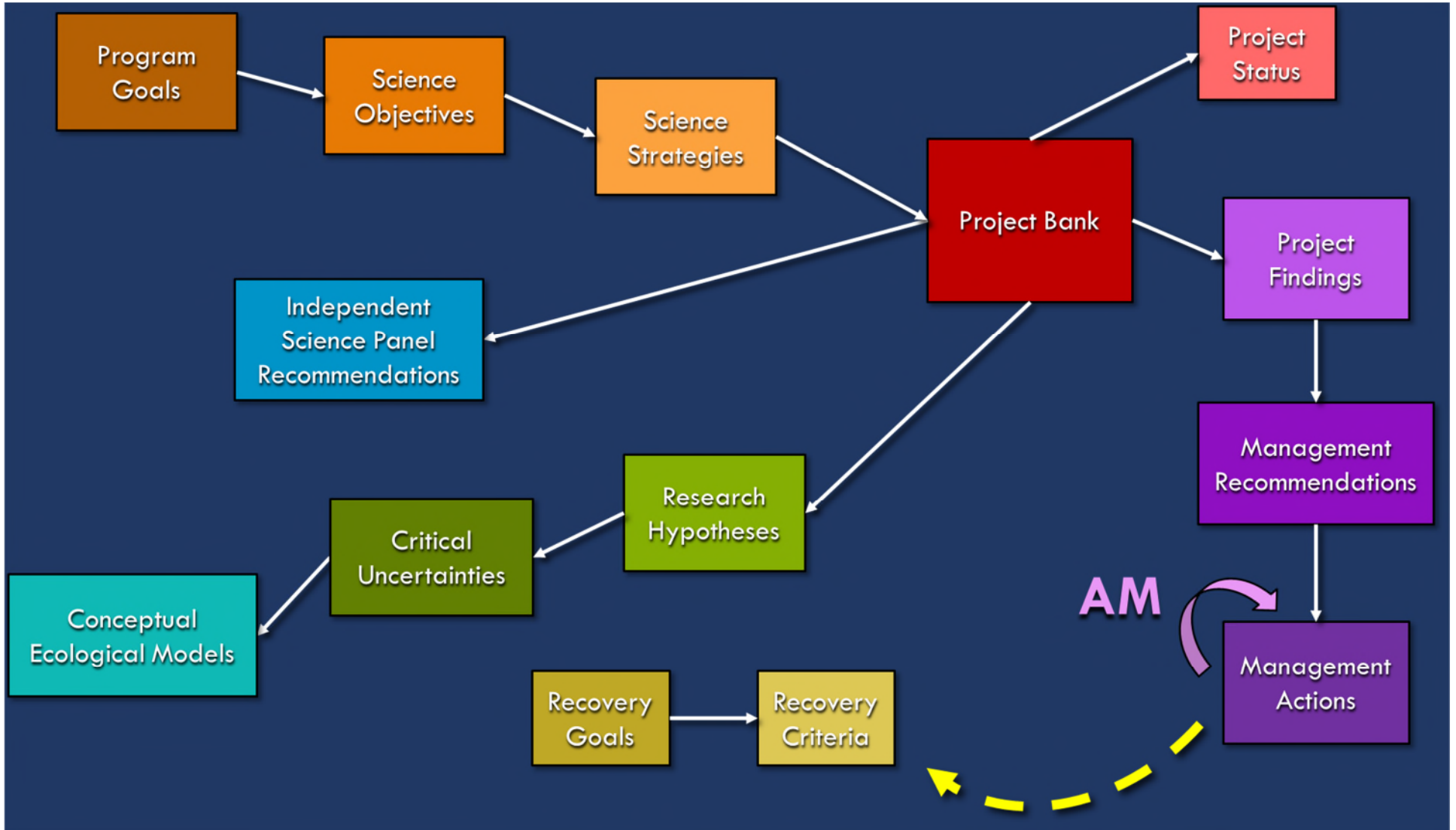
- a. What variables do you measure pre-construction?
- b. What variables do you measure post-construction?
- c. How many measurements/samples are taken and from where?
- d. How frequently are measurements/samples taken and for how long?

5. What are your monitoring goals? (*check all that apply*)

- Satisfy Endangered Species Act requirement or recommendation
 - Confirm the establishment of desired habitat features
 - Collect data necessary to properly evaluate habitat restoration success at the site-level
 - Document recovery progress after acute disturbance (such as wildfire)
 - Document recovery progress after chronic disturbance (such as invasive species, climate change)
 - Inform/improve restoration best practices by defining what works and what does not
 - Provide region-wide insights beyond the temporal and spatial scale of individual projects
 - Other:
-

CRITERIA	Type ¹	Weight	ITEM 1 Well-scoped	ITEM 2 Vague	ITEM 3 Has dependents	ITEM 4 Ongoing
Addresses a Science Objective and Strategy	L	1.0	1	0	2	1
Addresses an Independent Science Panel Recommendation	L	1.0	0	1	1	0
Reduces a Critical Uncertainty	L	1.0	1	0	1	0
Addresses a Management Concern	L	1.0	2	1	2	1
Outcomes inform other projects (conditional, hierarchical, etc.)	L	1.0	1	0	4	1
Linkage Tally	L		5	2	10	4
Specific – Hypothesis or objective is clearly articulated	S	0.3	5	0	5	5
Measureable – Targets and methods are robust and appropriate	S	0.3	5	2	5	5
Attainable – Activity is feasible and outcomes are achievable	S	0.2	5	3	4	5
Relevant – Activity is within the purview of the MRGESCP	S	0.1	5	4	4	5
Time-bound – Timeline is defined and reasonable	S	0.1	4	1	5	5
S.M.A.R.T. Score²	S		4.9	1.7	4.7	5.0
Informs risk management, mitigation or avoidance	R	0.6	2	0	1	1
Informs planning for future scenarios or conditions	R	0.4	4	0	2	1
Risk and Resiliency Score²	R		2.8	0	1.4	1.0
TOTAL						

¹Linkage, S.M.A.R.T., Risk and Resiliency²0 - Insufficient Information, 1 - Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, 5 - Strongly Agree



Middle Rio Grande Endangered Species Collaborative Program
Habitat Restoration Pre-Workshop Questionnaire

Please answer the following questions with respect to your agency's most recent habitat restoration project (completed, ongoing or planned):

1. What are/were the restoration goals for your habitat restoration project? (check all that apply)
 - Create habitat for one or more listed species
 - Improve water/habitat quality
 - Improve overall ecosystem health
 - Provide/Improve recreational/green space
 - Other:

2. What are the metrics of success for each of your restoration goals? (check all that apply)
 - Target species presence
 - Target species density
 - Species richness
 - Establishment of native species
 - Percent canopy cover
 - Water depth
 - Floodplain inundation
 - Soil moisture level
 - Habitat score
 - Other _____

3. How long do you expect the restoration project to be maintained? (check one)
 - No maintenance
 - <1 year
 - 1-5 years
 - 5-10 years
 - 10-20 years
 - Indefinitely

4. Please characterize how data are/were collected for your habitat restoration project:
 - a. What variables are measured pre-construction?
 - b. What variables are measured post-construction?
 - c. How many measurements/samples are taken and from where?
 - d. How frequently are measurements/samples taken and for how long?

5. What are your monitoring goals? (check all that apply)
 - Satisfy Endangered Species Act requirement or recommendation
 - Confirm the establishment of desired habitat features
 - Collect data necessary to properly evaluate habitat restoration success at the site-level
 - Document recovery progress after acute disturbance (such as wildfire)
 - Document recovery progress after chronic disturbance (such as invasive species, climate change)
 - Inform/improve restoration best practices by defining what works and what does not
 - Provide region-wide insights beyond the temporal and spatial scale of individual projects
 - Other:

MRGESCP Science & Adaptive Management Committee

Dear SAMC members,

Please see the below proposed ranking criteria and scoring method for projects to be included in the MRGESCP Long-Term Plan update. We discussed potential methods during the May and June SAMC meetings, but because of the light attendance, I wanted to give you all time to digest this and provide feedback. We will discuss the criteria and the need to score/rank projects and strategies during our individual check-in calls with each of you.

The criteria below are based on your feedback from the May meeting and include three parts: a Linkage Score, a S.M.A.R.T. Score, and a Risk and Resiliency Score (tentative).

- The Linkage Score is a count of the linkages a project has to important features (in the AM Relational Database – schematic provided below), such as Science Strategies, Independent Science Panel recommendations, Critical Uncertainties, Management Actions and other projects (e.g., projects that are contingent on the findings from this project). The Linkage Score is supposed to indicate how well a project addresses needs within the Collaborative Program.
- The S.M.A.R.T. Score is a weighted score given by the SAMC based on how well the project scope meets the five S.M.A.R.T. criteria. Weights in the table below are only suggestions and can be eliminated if all criteria are considered equally important. The 1-5 score is also only a suggestion, so please provide an alternative, if you have something better.
- The Risk and Resiliency Score is an attempt to incorporate a forward-looking element into the ranking method. Projects that address climate change or risk management, or projects that build resiliency would score points here. If you don't think that is something we should include, please suggest changes accordingly.

Please be ready to discuss any questions and suggestions you have on the ranking criteria, three types of scores and the scoring method during our check-in call with you. You may also provide written comments to me (cmurphy@west-inc.com) on or before July 9, 2021. We'll revise and send out for group review on July 16, 2021.

Many thanks for your help,

Catherine

Work cell (612) 900-4459

CRITERIA	Type ¹	Weight	ITEM 1 Well-scoped	ITEM 2 Vague	ITEM 3 Has dependents	ITEM 4 Ongoing
Addresses a Science Objective and Strategy	L	1.0	1	0	2	1
Addresses an Independent Science Panel Recommendation	L	1.0	0	1	1	0
Reduces a Critical Uncertainty	L	1.0	1	0	1	0
Addresses a Management Concern	L	1.0	2	1	2	1
Outcomes inform other projects (conditional, hierarchical, etc.)	L	1.0	1	0	4	1
Linkage Tally	L		5	2	10	4
Specific – Hypothesis or objective is clearly articulated	S	0.3	5	0	5	5
Measureable – Targets and methods are robust and appropriate	S	0.3	5	2	5	5
Attainable – Activity is feasible and outcomes are achievable	S	0.2	5	3	4	5
Relevant – Activity is within the purview of the MRGESCP	S	0.1	5	4	4	5
Time-bound – Timeline is defined and reasonable	S	0.1	4	1	5	5
S.M.A.R.T. Score²	S		4.9	1.7	4.7	5.0
Informs risk management, mitigation or avoidance	R	0.6	2	0	1	1
Informs planning for future scenarios or conditions	R	0.4	4	0	2	1
Risk and Resiliency Score²	R		2.8	0	1.4	1.0
TOTAL						

¹Linkage, S.M.A.R.T., Risk and Resiliency

²0 - Insufficient Information, 1 - Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, 5 - Strongly Agree

