

Science and Adaptive Management Committee Meeting
April 12, 2022

Meeting Materials:

[Agenda](#)

[Minutes](#)

[Revised Draft S&T Ad Hoc Group Charge - MRG Habitat Restoration Monitoring Guidance \[read-ahead, draft\]](#)

[Revised Draft MRGESCP Peer Review Process \[read-ahead, draft\]](#)

[Revised Draft MRGESCP Long-Term Plan Project Evaluation Criteria \[read-ahead, draft\]](#)

[Revised Draft MRGESCP Peer Review Process \[follow-up, draft\]](#)

[Link to full Meeting Materials List](#)

Science and Adaptive Management Committee Meeting
April 12, 2022

See the following meeting material on the page below:

Agenda



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science and Adaptive Management Committee (SAMC) Meeting Agenda

April 12, 2022; 8:00 AM – 12:00 PM

Location: Zoom

<https://west-inc.zoom.us/j/8983593120?pwd=bU54V3NGeG93bXVISlJFcElzcE9wZz09>

Meeting Objectives:

- Hear an update regarding the March Executive Committee (EC) meeting
- Hear an update on Science and Technical (S&T) Ad Hoc Groups
- Discuss SAMC review of revised MRGESCP Peer Review Process
- Discuss Program Portal Data Management Protocol
- Discuss revised criteria for evaluating projects in the Long-Term Plan (LTP)
- Discuss issues relating to management of vegetated islands in the Middle Rio Grande (MRG)
- Discuss MRGESCP scenario planning for climate change

8:00 – 8:05	Welcome, Introductions and Agenda Review <ul style="list-style-type: none">✓ Decision: Approval of April 2022 Agenda	Catherine Murphy, Program Support Team (PST)
8:05 – 8:15	January Meeting Minutes, New Protocol and Actions Item Review <ul style="list-style-type: none">✓ Decision: Approval of January 4, 2022 SAMC meeting minutes✓ Decision: Approval of new SAMC meeting minutes protocol <p>Read-Ahead:</p> <ul style="list-style-type: none"><input type="checkbox"/> Draft January 4, 2022 SAMC Meeting Minutes	Catherine Murphy, PST
8:15 – 8:25	Update from March 2022 EC Meeting	Debbie Lee, PST
8:25 – 9:15	Update on current and proposed S&T Ad Hoc Groups <ul style="list-style-type: none">• Rio Grande Silvery Minnow (RGSM) Integrated Population Model S&T Ad Hoc (Charles Yackulic lead)• RGSM Conceptual Ecological Model (CEM)/Genetics S&T Ad Hoc (Wade Wilson lead)• Peer Review S&T Ad Hoc for Revised RGSM CEM• RGSM Hypothesis Development S&T Ad Hoc (Andy Dean lead)• Habitat Restoration (HR) Monitoring Guidance S&T Ad Hoc (Ken Richard and Grace Haggerty proposed co-leads)	Catherine Murphy, Sarah Anderson, and Kevin Shelley, PST

- Discuss increasing transparency of the nomination and selection of S&T and Peer Review Ad Hoc Group members
- ✓ **Decision:** How will S&T and Peer Review Ad Hoc members be nominated/selected with greatest transparency?
- **Action Item:** PST will finalize revised draft charge for HR Monitoring Guidance S&T Ad Hoc

Read-Ahead:

- Revised Draft S&T Ad Hoc Charge – MRG HR Monitoring Guidance Ad Hoc

❖ **Discussion Points:** S&T Ad Hoc Groups

9:15 -9:30

Review of Revised MRGESCP Peer Review Process

Debbie Lee, PST

- Summary of revisions to Peer Review Process
- ✓ **Decision:** Accept Peer Review Process and recommend for EC approval
- **Action Item:** PST will draft a memo recommending EC approval of Peer Review Process

Read-Aheads:

- Revised Draft MRGESCP Peer Review Process

❖ **Discussion Points:** Peer Review Process

9:30 – 9:45

Program Portal Data Management Protocol

Debbie Lee, PST

- Summary of Portal data management issues
- Discuss potential formation of hybrid S&T/Admin Ad Hoc Group to develop a data management protocol for MRGESCP Portal
- ✓ **Decision:** Form hybrid S&T/Admin Ad Hoc to develop Portal data management protocol
- **Action Item:** PST will draft the ad hoc charge for SAMC approval (if needed).
- ❖ **Discussion Points:** Portal data management

9:45 – 10:00

Criteria for Long-Term Plan (LTP) project evaluation

Facilitated discussion

- Update on status of draft LTP project evaluation criteria
- Discuss suggested changes to draft criteria
- **Action Item:** PST will revise criteria based on SAMC discussion.

Read-Ahead:

- Revised Draft LTP Project Evaluation Criteria

	❖ Discussion Points: LTP project evaluation criteria	
10:00 – 10:10	BREAK	
10:10 – 11:10	<p>Issues relating to management of vegetated islands and wetlands in the MRG</p> <ul style="list-style-type: none"> • Summary of issues raised during HR Coordination meeting • Upcoming seminar on current Waters of the U.S. (WOTUS) regulations and MRG implications (Chris Parrish) • Discuss next steps, including potential workshop objectives and break-out discussions <p>✓ Decision: Host a workshop to codify MRG issues relating to wetlands and management of vegetated islands and draft recommendations</p> <p>➤ Action Item: PST will draft workshop agenda and break-out topics based on SAMC discussion</p> <p>❖ Discussion Points: MRG management issues with wetlands/vegetated islands</p>	<i>Facilitated discussion</i>
11:10 – 11:40	<p>MRGESCP Scenario Planning for Climate Change</p> <ul style="list-style-type: none"> • Review signatory efforts and requests relating to climate change • Explore potential adaptive management modules under climate scenarios <p>❖ Discussion Points: Scenario planning for climate change</p>	<i>Facilitated discussion</i>
11:40 – 11:45	Guest Announcements	<i>Hira Walker, Yellow-billed Cuckoo Working Group</i>
11:45 – 12:00	<p>Action Items, Next Steps and Announcements</p> <ul style="list-style-type: none"> ➤ Seminar: Chris Parrish (USACE) seminar on WOTUS regulations and MRG – TBD May 5, 2022 ➤ SAMIS Trainings – Schedule with PST ➤ Next Meeting: July 2022 	<i>PST</i>
12:00	Adjourn	

[Link to full Meeting Materials List](#)

Science and Adaptive Management Committee Meeting
April 12, 2022

See the following meeting material on the page below:

Minutes



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science and Adaptive Management Committee (SAMC) Meeting Minutes

April 12, 2022; 8:00 AM–12:00 PM

Location: Zoom Meeting

Decisions

- ✓ Approval of the April 12, 2022 SAMC meeting agenda
- ✓ Approval of January 4, 2022 SAMC meeting minutes
- ✓ Approval of new SAMC meeting minutes protocol
- ✓ Approval of new protocol for Science & Technical (S&T) Ad Hoc Group member nomination/selection
- ✓ Approval of formation of a hybrid S&T/Administrative (Admin) Ad Hoc Group to develop a data management protocol for datasets that would be used to inform Middle Rio Grande Endangered Species Collaborative Program (MRGESCP) recommendations (subject to Executive Committee [EC] approval)
- ✓ Approval of a workshop on issues of wetlands and management of vegetated islands in the Middle Rio Grande (MRG)

Action Items

WHO	ACTION ITEM	BY WHEN
Program Support Team (PST)	Send a Doodle Poll to schedule the July SAMC meeting	4/15/2022
PST	Provide summaries of SAMC meeting topics	4/29/2022
PST	Revise the draft Peer Review Process to incorporate the minor revisions requested by the SAMC	4/14/2022
SAMC	Review the draft Peer Review Process and email the PST your assent or dissent to recommend Executive Committee (EC) approval of the document	4/29/2022
PST	Draft a memo recommending EC approval of the Peer Review Process	5/15/2022
PST	Further revise the draft charge for Habitat Restoration (HR) Monitoring Guidance S&T Ad Hoc	4/26/2022
SAMC	Review the revised draft charge for HR Monitoring Guidance S&T Ad Hoc	5/10/2022
PST	Draft a charge for a hybrid S&T/Admin Ad Hoc Group to develop a MRGESCP data management protocol	5/13/2022
SAMC	Provide comments on the draft Data Management Protocol Ad Hoc Group charge	5/27/2022
PST	Revise Long-Term Plan project evaluation criteria based on SAMC discussion	5/31/2022

PST and volunteers (from the SAMC: Ari Posner, Ryan Gronewold, and Ara Winter)	Refine the issues related to management of vegetated islands, bars, and wetlands, and structure a workshop around the topic.	6/15/2022
PST and volunteers	Frame a proposal outline for a workshop related to wetlands and management of vegetated islands for SAMC review	July SAMC meeting
Megan Friggens, Ryan G., and Catherine Murphy	Discuss strategy for designing climate scenarios for use in MRGESCP planning efforts	July SAMC meeting

Next Meeting: July 2022

Meeting Minutes

Welcome, Meeting Objectives, and Agenda Review

Catherine Murphy, PST Science Coordinator and SAMC Facilitator, opened the meeting and led introductions. Catherine M. reviewed and the SAMC approved the April 12, 2022 SAMC meeting agenda.

- ✓ **Decision:** Approval of the April 12, 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 January 4, 2022 meeting minutes and action items. The SAMC approved a new protocol for SAMC minutes.

- ✓ **Decision:** Approval of January 4, 2022 SAMC meeting minutes
- ✓ **Decision:** Approval of new SAMC meeting minutes protocol
- **Action Item:** The PST will provide summaries of SAMC meeting topics

Update from March 2022 Executive Committee Meeting

Debbie L. gave an update on the March 23, 2022 EC meeting. Summary points are below:

- The 2021 MRGESCP Annual Report was approved.
- The Long-Term Plan for Science & Adaptive Management was approved.
- The revised 2022 Work Plan was approved.

Update on Current and Proposed S&T Ad Hoc Groups

Catherine M. discussed updates on current and proposed S&T Ad Hoc Groups. Summary points are below:

- Rio Grande Silvery Minnow (RGSM) Integrated Population Model S&T Ad Hoc (Charles Yackulic lead)
 - The report manuscript is in review.
- RGSM Conceptual Ecological Model (CEM)/Genetics S&T Ad Hoc (Wade Wilson lead)
 - The group met in February 2022. The schematic for the CEM is nearing completion and transition slides were developed. A table of relationships among environmental variables and life stages is being populated for the Science and Adaptive Management Information System (SAMIS). One or two more meetings are needed before presenting the CEM.
- Peer Review S&T Ad Hoc for Revised RGSM CEM (no lead proposed)
 - This group will review and critique the revised RGSM CEM. The peer review process is designed to expose weak lines of evidence, document different interpretations and increase the transparency of group administration.
- RGSM Hypothesis Development S&T Ad Hoc (Andy Dean lead)
 - Catherine M. is working with Kevin Shelley, PST, to go through recommendations from the Population Monitoring Work Group summary report. Recommendations will be grouped by topic and reviewed before moving forward. The PST is finishing background work and finalizing tasks before commencing the group.
- HR Monitoring Guidance S&T Ad Hoc (Ken Richard and Grace Haggerty proposed co-leads)

- The SAMC reviewed the group charge and provided critical feedback on the approach. The group weighed the need for HR guidance regarding different species and life stages against an ecosystem approach or a focus on one specific life stage. The SAMC considered the objectives of the charge, as well as the approach and appropriate deliverables. The most recent revision of the charge was sent to the SAMC as a read-ahead.
- Personnel changes may affect potential members of the group. Grace H. and Ken R. were asked to be co-leads of the group.
- The group was created to provide guidance regarding restoration planning and monitoring in the MRG Basin. The most useful product would be a framework to recommend best management practices. The group should provide guidance rather than prescriptive strategies.

The SAMC discussed increasing transparency of the nomination and selection of S&T Ad Hoc Group members. The PST received feedback from MRGESCP members asking for updates on SAMC activities between meetings. MRGESCP members also advocated for balanced representation on S&T Ad Hoc Groups, while keeping the groups small and productive. There is a concern that potential group members with interest in a topic might be excluded. The SAMC wants to ensure S&T Ad Hoc Group members are nominated and selected with the greatest transparency. New groups can be advertised on the Portal and the PST can gather information on areas of interest for individual Program participants via an expertise form. In addition, the peer review process also increases the opportunities for individuals to provide input on ad hoc group deliverables.

- ✓ **Decision:** Approval of new protocol for S&T Ad Hoc Group member nomination/selection
- **Action Item:** The PST will further revise the draft charge for HR Monitoring Guidance S&T Ad Hoc
- **Action Item:** The SAMC will review the revised draft charge for HR Monitoring Guidance S&T Ad Hoc

Review of Revised MRGESCP Peer Review Process

Debbie L. summarized revisions to the Peer Review Process. As a science program, the MRGESCP needs a Peer Review Process that is standardized and transparent with different levels and types of review to meet the needs of the work product. During the discussion, SAMC members suggested the following revisions:

- Expand on the differences between an internal review versus an external review
- Better define an external work product
- Clarify the requirements for a review

The PST will revise the draft Peer Review Process based on SAMC review comments. The SAMC will review the draft process and the PST will draft a memo recommending its approval by the EC.

- **Action Item:** The PST will revise the draft Peer Review Process to incorporate the revisions requested by the SAMC
- **Action Item:** The SAMC will review the draft Peer Review Process and email the PST assent or dissent to recommend EC approval of the document
- **Action Item:** The PST will draft a memo recommending EC approval of the Peer Review Process

Data Management Protocol and Program Portal Data Disclaimer

Debbie L. summarized issues with current data management related to the MRGESCP. In order for data to be utilized for decision support, they must be properly documented and conform to a minimum set of quality standards. The group discussed the utility of forming a hybrid S&T/Admin Ad Hoc Group to develop a data management and Quality Assurance/Quality Control protocol for data that is used by the MRGESCP to make management recommendations, and shared on the Program Portal. The first step involves determining a minimum set of requirements for documentation to comply with the Information Quality Act (IQA; i.e., metadata such as source, collection methods, dates, locations, permissions, etc.) and data quality (i.e., design factors, missing observations, outliers, limitations of inference, etc.). The SAMC approved formation of a hybrid S&T/Admin Ad Hoc Group to develop a MRGESCP data management protocol. The PST will draft a charge for the Data Management Protocol Ad Hoc Group for SAMC review and EC approval.

The IQA is related to peer review, and developing a data management protocol for the MRGESCP may require a future revision of the peer review process. The SAMC discuss a difference in the requirements if the information is considered “influential scientific information” versus just scientific information? As the SAMC focuses on applied questions, all the science the MRGESCP deals with should be applied science, and therefore “influential.”

- ✓ **Decision:** Approval of formation of a hybrid S&T/Admin Ad Hoc Group to develop a data management protocol for datasets that would be used to inform MRGESCP recommendations (subject to EC approval)
- **Action Item:** The PST will draft a charge for a hybrid S&T/Admin Ad Hoc Group to develop a MRGESCP data management protocol
- **Action Item:** The SAMC will provide comments on the draft Data Management Protocol Ad Hoc Group charge

Criteria for Long Term Plan (LTP) project evaluation

Catherine M. gave an update on the latest revision of the draft LTP project evaluation criteria. The criteria are still in development and some signatories have expressed interest in using them as soon as possible. The SAMC discussed changes to the draft criteria, which no longer contain references to “scoring” or “ranking.” Normalization is not needed among the three sets of criteria, as keeping them separate makes more sense. Scoring, if desired, can be discussed at a later date, but first the criteria need to be finalized. The SAMC members generally agree that the criteria are needed and will be useful, but some voiced concerns about using the more precise language. The PST will continue to revise the criteria based on SAMC feedback.

- **Action Item:** The PST will revise LTP project evaluation criteria based on SAMC discussion.

Issues Relating to Management of Vegetated Islands and Wetlands in the MRG

Catherine M. opened discussion on issues relating to vegetated islands and wetlands. During the HR Coordination meeting on March 2, 2022, a variety of management issues associated with vegetated islands and wetlands were raised. The scope is expanding from simply “island-based” management to include issues of wetland management as well. Management of vegetated islands extends to bank-attached bars. Keeping islands intact may not fit with a broader ecosystem approach. The Middle Rio Grande Conservancy District (MRGCD) has heard concerns from land managers about densely vegetated islands under and around bridges. There is concern over changing river hydraulics (e.g., decreased frequency of high flow events capable of mobilizing large amounts of sediment) as vegetated island and

bar growth has increased four-fold in the Los Lunas region over the past 20-30 years. Narrowing of the river channel greatly affects habitat. Islands with dense and mature vegetation are more stable than those without, establishing less flexible habitat features after only 5-10 years. RGSM prefer more dynamic habitat. Reshaping or removing soils from islands could potentially produce new islands and bars downstream, which increases dynamic habitat, but could also create additional problems in downstream reaches. In order to be most effective, recommended management strategies should have a 10-20 year outlook. The following are related questions regarding management of vegetated islands and wetlands that were submitted by SAMC meeting guests:

- How do water and natural resource managers make appropriate and well-supported decisions regarding rivers with changing hydraulics alongside the impacts of climate change?
- How do managers identify high-quality habitat in order to avoid removing it?
- How should sand bars be classified for the purposes of management?
- Is there a way to manage these islands to create high-quality habitat for both the RGSM and yellow-billed cuckoo?

Because of issues related to Section 404 Clean Water Act permitting, Chris Parrish and other members of the U.S. Army Corps of Engineers (USACE) Regulatory Division will be presenting on jurisdictional waters, wetland delineation, and compensatory mitigation at the Collaborative Seminar on May 5, 2022.

In order to encourage better, more comprehensive management approaches in the MRG, the SAMC approved development of a workshop on issues of wetlands and management of vegetated islands. The next step is for the PST and volunteers from the SAMC (Ari Posner, Ryan Gronewold, and Ara Winter) to refine the issues related to management of vegetated islands, bars, and wetlands, and structure a workshop. The PST and volunteers will draft an agenda and break-out topics.

- ✓ **Decision:** Approval of a workshop on issues of wetlands and management of vegetated islands in the MRG
- **Action Item:** The PST and volunteers will refine the issues related to management of vegetated islands, bars, and wetlands, and structure a workshop around the topic.
- **Action Item:** The PST and volunteers will frame a proposal outline for a workshop related to wetlands and management of vegetated islands for SAMC review

MRGESCP Scenario Planning for Climate Change

Catherine M. opened discussion on scenario planning for climate change. Signatory planning efforts that are already underway were discussed, as well as recent requests for guidance relating to issues of climate change. SAMC members identified the need to broaden both the spatial and temporal scales of planning discussions and strategies. This could include consideration of changes in riparian successional processes and effects at the population level, where feasible, in addition to impacts to river hydrology. Changes such as these have the potential to shift our river management paradigm and render lessons learned from the past moot. In order to be adaptive (and proactive), we would need to design a variety of hypothetical future scenarios and develop contingencies for each. One such scenario planning tool was developed several years ago by Jesse Roach (with Sandia Labs, at the time) as a companion model to the URGWOM. This analytical tool was intended to provide the framework for stochastic analysis of hydrologic policy options in the basin, and could be resurrected and possibly updated for use by the MRGESCP.

- **Action Item:** Megan Friggens, Ryan Gronewold, and Catherine Murphy will discuss strategy for designing climate scenarios for use in MRGESCP planning efforts

Action Items, Next Steps, and Announcements

- **Collaborative Seminar:** USACE Regulatory Division seminar on jurisdictional waters, wetland delineation, and compensatory mitigation – May 5, 2022
 - **SAMIS Trainings** – Schedule with the PST
 - **Next Meeting:** July 2022
- **Action Item:** The PST will send a Doodle Poll to schedule the July SAMC meeting

Meeting Participants

SAMC Member

Role

Ara Winter	Statistics/Modeling Expert
Ari Posner	Geomorphology Expert
Meaghan Conway	Ecosystem Function Expert
Megan Friggens	Climate Science Expert
Mo Hobbs	Aquatic Ecology Expert
Ryan Gronewold	Hydrology Expert
Thomas Archdeacon	Aquatic Ecology Expert

Program Support Team

Role

Catherine Murphy	SAMC Facilitator
Debbie Lee	Support
Kevin Shelley	Support
Luana Sencio	Support
Sarah Anderson	Support

Guests

Organization

Anne Marken	Middle Rio Grande Conservancy District
Hira Walker	Yellow-billed Cuckoo Working Group
Kelsey Bicknell	Albuquerque Bernalillo County Water Utility Authority
Matt Wunder	New Mexico Department of Game & Fish
Mick Porter	U.S. Army Corps of Engineers
Rich Valdez	SWCA Environmental Consultants
Yasmeen Najmi	Middle Rio Grande Conservancy District

[Link to full Meeting Materials List](#)

Science and Adaptive Management Committee Meeting April 12, 2022

See the following meeting material on the page below:

Revised Draft S&T Ad Hoc Group Charge - MRG Habitat Restoration Monitoring Guidance [read-ahead, draft]

Middle Rio Grande Endangered Species Collaborative Program (MRGESCP)
Science & Technical (S&T) Ad Hoc Group Charge
MRG Habitat Restoration Monitoring Guidance Ad Hoc

Revised for the Science and Adaptive Management Committee (SAMC) on February 18, 2022.

Parent Committee

Science and Adaptive Management Committee.

Ad Hoc Group Charge

- Review and be familiar with the site-specific monitoring plans, adaptive management thresholds, and protocols used by the U.S. Bureau of Reclamation (Reclamation) and the N.M. Interstate Stream Commission (NMISC) to monitor eight habitat sites created in the San Acacia Reach from 2019-2021 (Caplan and McKenna 2019).
- Review and be familiar with adaptive management and maintenance actions and recommendations (GSA 2020).
- Determine if the metrics and methods used in Caplan and McKenna (2019) appropriately aligned with the project goals, and determine whether they could serve as the basis for a standardized monitoring guidance for Rio Grande silvery minnow (*Hybognathus amarus*; RGSM) nursery habitat within the Middle Rio Grande.
- Determine the efficacy of adopting a standardized monitoring approach regarding RGSM nursery habitat for the Middle Rio Grande. If this approach is effective, determine the goals for a standardized monitoring approach.
- Determine the minimum subset of considerations and monitoring components needed to achieve the goals for this standardized approach and identify the ideal set of components to show project effectiveness. Determine whether the protocols employed by Reclamation and NMSIC meet, exceed, or fall short of the determined minimum.

Membership

A. *Criteria for membership*

- Knowledge of the ecology, dynamics and habitat features of the MRG;
- Knowledge of RGSM biology, life history and habitat needs;
- Familiarity and experience with project design for RGSM habitat restoration, monitoring needs, and data collection methods.

B. *Members (Nominees)*

_____ (Lead),
_____ (Member),
_____ (Member),
_____ (Member),
_____ (Member),
...

Iterative Task Development

Background

In 2018 Reclamation and NMISC partnered to develop standardized monitoring protocols to monitor eight habitat sites created in the San Acacia Reach of the Middle Rio Grande. These protocols were used for the first time in 2019 and were continued in 2020 and 2021. Annual results are provided in monitoring reports that are available on the MRGESCP Portal. After three years of monitoring, Reclamation and NMISC are requesting a review of the protocols as a starting point from which standardized habitat monitoring protocols may be developed for habitat sites throughout the Middle Rio Grande.

Habitat restoration monitoring components and standard operating procedures described in the report titled, “*Monitoring and Adaptive Management Plan for New Mexico Interstate Stream Commission Habitat Restoration Projects in the San Acacia Reach of the Middle Rio Grande*” (Caplan & McKenna 2019) provide a foundation for a review of shared restoration goals, monitoring metrics and methods throughout the MRG. Results and recommendations provided in a subsequent report, “*2020 Annual Monitoring Results and Maintenance Plan for San Acacia Reach Restoration Sites*” (GSA 2020) offer an assessment of the San Acacia Reach restoration projects, which could inform monitoring at other sites with similar restoration goals, as well as a monitoring program on a broader scale.

To that end, the tasks below are designed to compile as much guidance as possible from the habitat and monitoring efforts underway in the San Acacia Reach to build a standardized template for monitoring RGSM habitat throughout the MRG.

The SAMC requests that you review the draft tasks, deliverables and schedule below and provide feedback and questions to begin the iterative process of task development.

Tasks and Deliverables

Task 1. Review habitat restoration and monitoring protocols used by Reclamation and NMISC within the San Acacia Reach of the MRG. Identify project goals, metrics, and methods that could serve as the basis for a standardized template to guide project design, monitoring, and scientific collaboration related to restoring nursery RGSM habitat in the MRG.

Objective of Task 1: Comparing approaches among habitat construction and monitoring efforts with similar goals will help to identify common elements, as well as those metrics and methods that could be standardized among practitioners.

Deliverable: List of habitat goals and primary features of MRG habitat projects, as well as monitoring metrics and methods, when available. Label commonly used metrics and those that could be standardized among efforts.

Task 2. Characterize the goal(s) of a standardized monitoring approach applicable for restoration of nursery RGSM habitat throughout the MRG. Determine the minimum subset of monitoring components required for this standardized approach, as well as additional optional components that would be informative, if time and resources allow.

Objective of Task 2: A minimal baseline monitoring approach that can be shared among restoration efforts with similar goals will: 1) provide discretionary monitoring guidance for new restoration projects; and 2) establish a format for combining data to address habitat questions on a larger scale.

Deliverable: Template for minimal standardized approach for monitoring restoration sites for RGSM habitat within the MRG. Template should target effectiveness or validation monitoring¹ and include, at a minimum, the restoration goal(s), S.M.A.R.T.² objectives, monitoring metric(s), timing and frequency of data collection, brief description of approach, format of output, targets or thresholds, and adaptive management alternatives. Including a “recommended” approach with additional optional metrics, to supplement the minimal approach, is encouraged.

¹ *Effectiveness monitoring* is conducted to directly assess whether restoration project actions produce a **desired physical habitat response**; *Validation monitoring* assesses the correctness of basic assumptions about how management actions will affect **biological outcomes** (for more details, see Caplan and McKenna 2019).

² *Specific, Measurable, Attainable, Relevant, Time-bound*

Timeline and Reporting Scheduling

Task	Subtask	Deliverable	To Be Completed By
Task 1: Review monitoring protocols and identify shared elements	NA	List of reviewed project protocols with shared and candidate elements flagged	TBD
Task 2: Characterize goals and list metrics for minimal baseline monitoring approach for RGSM habitat restoration throughout MRG	NA	Template for minimal standardized approach (and optional "recommended" approach)	TBD
		Presentation to SAMC	TBD

References:

Caplan, T. and C. McKenna. 2019. Monitoring and Adaptive Management Plan for New Mexico Interstate Stream Commission Habitat Restoration Projects in the San Acacia Reach of the Middle Rio Grande. Prepared for the New Mexico Interstate Stream Commission by GeoSystems Analysis, Inc., Albuquerque, NM.

GSA 2020. 2020 Annual Monitoring Results and Maintenance Plan for San Acacia Reach Restoration Sites. Prepared for the New Mexico Interstate Stream Commission, Albuquerque, NM. Prepared by GeoSystems Analysis, Albuquerque, NM. Work Order RG-21-02. February 2021.

[Link to full Meeting Materials List](#)

Science and Adaptive Management Committee Meeting
April 12, 2022

See the following meeting material on the page below:

Revised Draft MRGESCP Peer Review Process [read-ahead, draft]

Middle Rio Grande Endangered Species Collaborative Program Internal and External Peer Review Process

I. Introduction

The Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) is a forum to share, synthesize, and evaluate scientific findings related to the listed species of the Middle Rio Grande; and to use the results of scientific activities to inform recommendations on best management practices. The Collaborative Program's committees and groups are tasked with producing administrative and scientific work products in support of the Collaborative Program's operations and implementation of the Science & Adaptive Management Plan. Administrative work products include documents such as By-Laws, a Long-Term Plan, and annual reports. Scientific work products include documents such as technical reports, literature reviews, study designs, and scopes of work, as well as adaptive management tools like conceptual ecological models and population models. Administrative and scientific work products that are funded and administered by signatories independent of any Collaborative Program committees or work groups are not subject to this peer review process, but signatories are encouraged to adopt these procedures. An organization, whether a signatory or not, may also bring an external work product to the Collaborative Program for peer review.

The Collaborative Program incorporates peer review into its internal processes to ensure robust and defensible work products. Additionally, the Collaborative Program has procedures for seeking external reviews if an issue merits independent appraisal due to its importance for decision support or level of contention.

The Collaborative Program delineates four categories of peer review:

- Internal peer review:
 - Internal Administrative Review
 - Internal Scientific Review
- External peer review:
 - External Expert Review
 - Independent Science Panel

Each category can involve one or more type of review: content, statistical, editorial, contextual, legal and/or programmatic (Table 1). Specifying the type of review that is being requested expedites the process by focusing an individual reviewer's time and attention on appropriate aspects of the work product. The type(s) of review requested will be noted at the time of review.

Table 1. Definitions of Review Types

REVIEW TYPE	DEFINITION
Content Review	Checking a document for completeness and accuracy of the content and cited literature
Statistical Review	Evaluating research and sampling designs and application of statistical methods
Editorial Review	Evaluating a document's style, grammar, formatting, and references

Contextual Review	Evaluating a document’s relevance to the Collaborative Program’s mission, goals and/or management needs
Legal Review	Evaluating a document’s relationship to policy, statute, and case law
Programmatic Review	Evaluating the entirety of a program or initiative with respect to efficacy and relevance of results or targets

In carrying out an internal or external peer review, a clear charge will be given to the reviewers. The charge will identify:

- The item to be reviewed
- The type(s) of review expected
- Review criteria
- Timeline for the review, including relevant deadlines
- The expected deliverable from reviewers

Review criteria are specific guidance to reviewers to direct their review. The charge will indicate if the reviewers should evaluate the work product with regards to specified conditions, which may include:

- Compliance with Collaborative Program requirements
- Responsiveness to an initial charge
- Intellectual and scientific merit
- Broader Collaborative Program impacts
- Implications for management
- Connections to other projects

Internal Peer Review

Internal peer review is carried out within the Collaborative Program and administered by the Program Support Team at the direction of the Executive Committee (EC) or Science and Adaptive Management Committee (SAMC). The two internal categories of peer review utilized by the Collaborative Program, internal administrative review and internal scientific review, are summarized below (Table 2).

Table 2. Categories of Internal Peer Review Used by the Collaborative Program

	BEING REVIEWED	CONSIDERATIONS
Internal Administrative Review	<ul style="list-style-type: none"> • Governance documents (e.g., By-Laws, Science & Adaptive Management Plan) • MRGESCP-authored documents (e.g., Annual Report) 	<ul style="list-style-type: none"> • Reviewed by all signatories • Contributes to MRGESCP operations • One set of comments from each signatory
Internal Scientific Review	<ul style="list-style-type: none"> • S&T Ad Hoc Group work products (e.g., technical reports, scopes of work) • Science and AM tools (e.g., conceptual ecological models) • Signatory or external requests for review by the MRGESCP (e.g., study designs, monitoring plans) 	<ul style="list-style-type: none"> • Reviewers with relevant expertise • Performed or delegated by the SAMC • May include external reviewers if supplementary expertise is needed • Individual comment forms

Internal Administrative Review

Internal administrative documents that are authored by the Collaborative Program and/or are essential to Collaborative Program governance and operations are reviewed by all the signatories. Examples include the By-Laws, annual reports, and the Science & Adaptive Management Plan. An internal administrative review is conducted by the Program Support Team (PST), which compiles individual signatory reviews, incorporates changes and, as appropriate, catalogs edits and responses to comments when finalizing a document for EC approval.

Internal Scientific Review

Internal technical reviews are delegated by the Science and Adaptive Management Committee (SAMC) to one or more reviewers with appropriate qualifications and relevant subject matter expertise. This type of review is applied to Science & Technical (S&T) Ad Hoc Group deliverables, technical reports, study designs, models, and other work products relating to the science program. A request for a review by the Collaborative Program by an organization (either a signatory or external to the MRGESCP) may also be considered for internal scientific review.

Typically, reviewers are selected from Collaborative Program participants, but if a need for supplementary expertise is identified, the SAMC can request external individuals to participate in the review. Internal scientific reviews are collected via individual comment forms, on which reviewers can provide scientific justifications for their comments, when needed. All comments received are compiled and delivered to the originating authors and the SAMC. Changes and responses to comments are cataloged for future reference. If comments cannot be reconciled based on the strength or validity of findings, the SAMC will consider documenting the question as a scientific uncertainty in the Science and Adaptive Management System (SAMIS).

External Peer Review

External peer review is performed by individuals from outside the Collaborative Program. The review is administered by a third-party contractor to avoid bias. The two external categories of peer review utilized by the Collaborative Program, external expert review and independent science panel, are summarized in Table 3.

Table 3. Categories of External Peer Review used by the Collaborative Program

	BEING REVIEWED	CONSIDERATIONS
External Expert Review	<ul style="list-style-type: none">• A singular work product (e.g., Science & Adaptive Management Plan, population models)• The topic has a medium-to-high level of contention• The work product may be administrative or scientific	<ul style="list-style-type: none">• SAMC recommends & EC approves• Expert reviewers• Administered remotely• Does not require interaction between reviewers and MRGESCP experts• Individual comment forms or a report
Independent Science Panel	<ul style="list-style-type: none">• Broad, complex and consequential topics• The topic has a high level of contention	<ul style="list-style-type: none">• Programmatic review• SAMC recommends & EC approves• Expert reviewers• Multi-day, in-person or virtually

- Requires interactions between review panel and MRGESCP experts
 - Panel report
-

External Expert Review

In the event that a work product has a large amount of influence on research direction, quality of management recommendations, or Collaborative Program operations, and involves a high degree of scientific uncertainty, the SAMC may recommend it for an external expert review (see Attachment A). Individuals from outside the Collaborative Program are nominated to perform the review, and support is provided remotely via conference calls or web conference. Reviewer comments may be documented with individual comment forms or a consensus report. The work product under review should be complete enough to provide all necessary information to the reviewers without further need to interface with the MRGESCP.

The administration of an external expert review would be contracted by a signatory organization to a third-party, adding time and cost burdens. Therefore, the SAMC must justify a recommendation to the EC to hold an External Expert Review. If approved, the EC directs the Fiscal Planning Committee (FPC) to coordinate with the signatories to decide which signatory will fund the external expert review. The SAMC may include in its recommendation the format of the deliverable required for the review, such as a consensus panel report or individual comment forms.

The third-party contractor administering the external expert review may be the PST. As part of the administration of an External Expert Review, the contractor develops a Peer Review Plan (see Attachment B) which provides upfront guidance to the reviewers, and establishes expectations regarding type of review, level of effort, deliverable, and deadlines. The contracting signatory shall provide an opportunity for the SAMC to review and provide comment on the Peer Review Plan.

Independent Science Panel

The Collaborative Program has sponsored several Independent Science Panels. These tend to be costly and time-intensive for both the reviewers and Collaborative Program participants. Independent Science Panels are multi-day, in-person meetings with technical presentations from Collaborative Program scientists to the panel members, who should spend time prior to the meeting reviewing relevant scientific literature and other background materials. Given the resource-intensive nature of Independent Science Panels, these are reserved for broad, complex issues that are consequential to scientific understanding and trajectory of research, and have influence on management decisions.

In the event that the SAMC recommends the use of an Independent Science Panel, appropriate justifications regarding scope, impact and uncertainty of the review topic are provided to the EC. An Independent Science Panel requires EC approval and a signatory contracting a third-party to administer of the panel. The third-party administering the Independent Science Panel may be the PST. The contractor should develop as part of the administration of an Independent Science Panel a Peer Review Plan (see Attachment B). The contracting signatory shall provide an opportunity for the SAMC to review and provide comment on the Peer Review Plan.

Following the formal meeting and panelist deliberations, the Independent Science Panel drafts a panel report, which is provided to the Collaborative Program for review. Signatories provide one consolidated

set of comments for their organizations. Comments received are compiled by the contractor and addressed, as appropriate, by the Panel. The findings and recommendations from the Independent Science Panel are presented to the Collaborative Program in a public seminar, and archived in the SAMIS.

Table 4. Comparison of the different categories of review used by the Collaborative Program.

	INTERNAL ADMINISTRATIVE REVIEW	INTERNAL SCIENTIFIC REVIEW	EXTERNAL EXPERT REVIEW	INDEPENDENT SCIENCE PANEL
Cost	\$	\$	\$\$-\$\$\$	\$\$\$\$
Time commitment	Low	Low	Medium	High
Clear charge to reviewers	X	X	X	X
Expert reviewers		X	X	X
External reviewers		If needed	X	X
SAMC recommends & EC approves			X	X
Paid reviewers			X	X
Contracting needs			X	X
Panel report			If needed	X
Multi-day meeting				X
Interaction between reviewers and work product authors/ technical experts				X

The detailed process for carrying out an internal or external scientific peer review is found in Section II.

II. Scientific Peer Review

Decision-Support Process for Scientific Peer Review

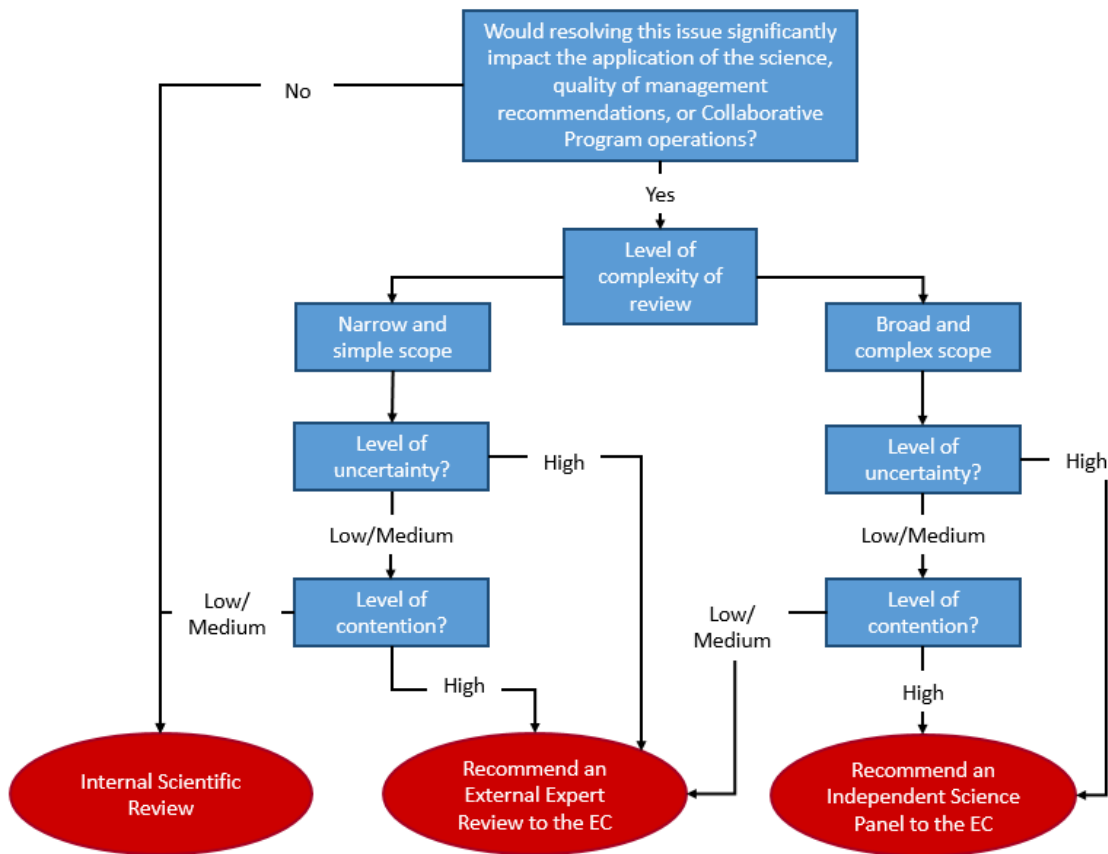
The process of peer review involves different types and levels of assessment, based on the item under review. Considerations for selection of the appropriate type and level of peer review include the scope of the topic, the level of contention involved, the expertise that is available, and availability of time and funding. All applicable reviews should be completely transparent, unless a reviewer or the Collaborative Program specifically requests and justifies anonymity. For a review of an external work product, the originating organization may request an anonymous review process.

Internal scientific review is built into the Science and Adaptive Management Plan and is routinely undertaken for all technical work products produced by the Collaborative Program. External peer review requires contracting a third-party to administer the review, a greater time commitment on the part of

the reviewers, greater costs, and, in the case of an independent science panel, a significant time investment on the part of Collaborative Program subject matter experts.

The SAMC determines the appropriate level of peer review for a particular work product or topic, as well as the type(s) of review (Table 1) that are needed: content, statistical, editorial, contextual, or programmatic. The flow chart shown in Figure 1 provides guidance for selecting the appropriate level and type of review. This decision flow chart is based on four aspects of the work product or topic in question: the topic’s significance, complexity, uncertainty, and level of contention.

Figure 1. Decision flow chart for the appropriate category of scientific peer review



Internal Scientific Review Process

Each of the Collaborative Program’s technical work products receives some level of internal scientific review. Work products may include, but are not limited to: technical reports and papers; conceptual, statistical and mechanistic models; and literature reviews and syntheses. Most work products are produced internally by S&T Ad Hoc Groups, although the Collaborative Program may get an external request to provide a scientific review of a manuscript, report, study design, monitoring plan, or other item. All internal scientific reviews are under the purview of the SAMC and supported by the PST.

The following steps comprise the Collaborative Program’s internal scientific review process:

[Link to full Meeting Materials List](#)

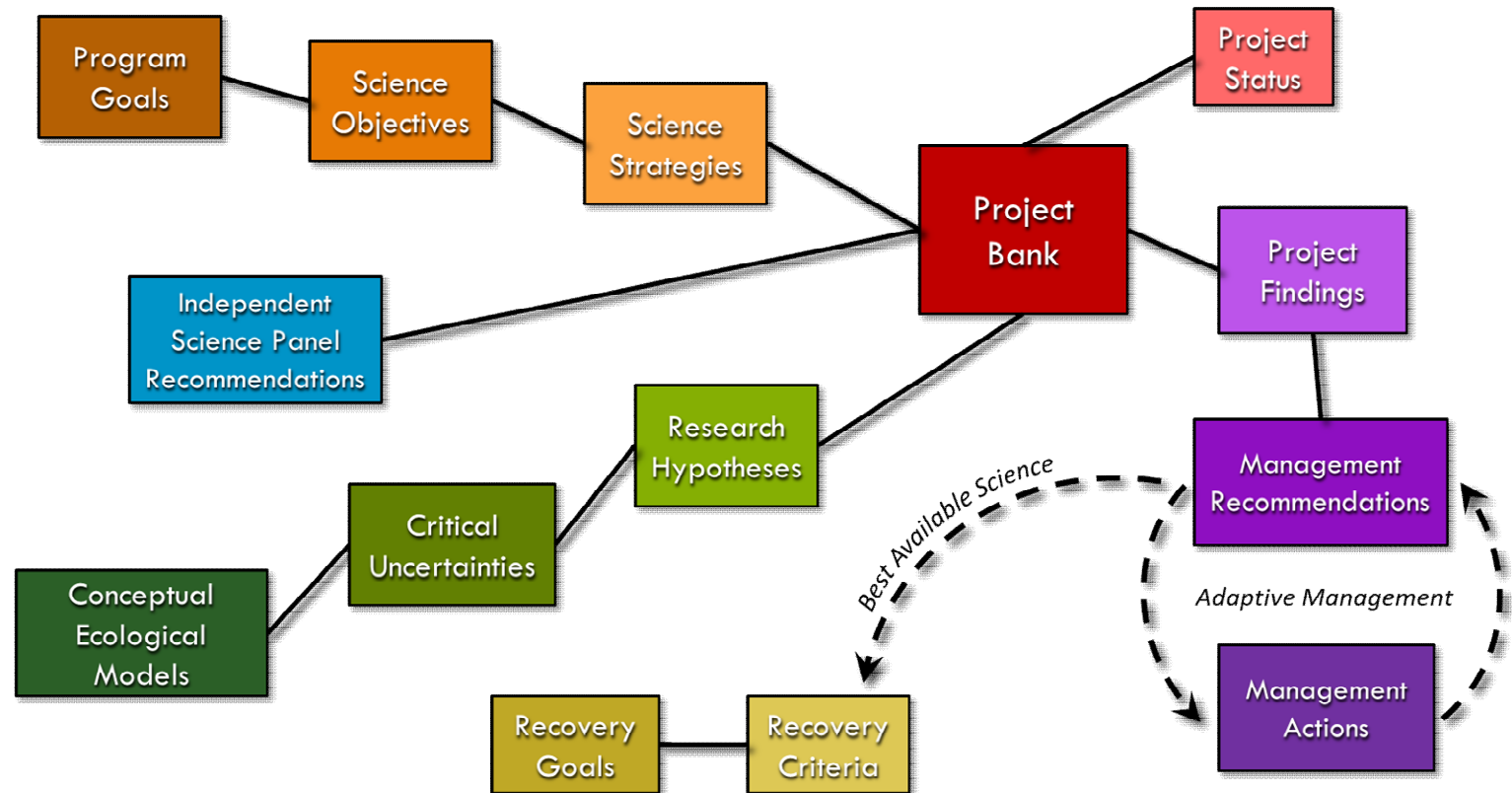
Science and Adaptive Management Committee Meeting
April 12, 2022

See the following meeting material on the page below:

Revised Draft MRGESCP Long-Term Plan Project Evaluation Criteria [read-ahead, draft]

EVALUATION CRITERIA	Type	Assessment				
SAMIS Linkage Count						
Addresses an MRGESCP Science Strategy	count					
Addresses an Independent Science Panel Recommendation	count					
Reduces an uncertainty identified from a Conceptual Ecological Model	count					
Data or findings will inform subsequent projects (Parent relationship)	count					
Reduces an uncertainty identified in a previous project (Child relationship)	count					
Linkage Total						
S.M.A.R.T. Score		Strongly disagree	Disagree	Neutral or NA	Agree	Strongly agree
Specific – Hypothesis or objective is clearly stated	score					
Measureable – Targets and methods are well-defined and appropriate	score					
Attainable – Project is feasible with achievable outcomes	score					
Relevant – Project is within the purview of the MRGESCP	score					
Time-bound – Timeline is defined and reasonable	score					
S.M.A.R.T. Total						
Adaptive Management Score		Strongly disagree	Disagree	Neutral or NA	Agree	Strongly agree
Project informs/increases resilience to changing conditions (e.g., climate, anthropogenic impacts, species population status)	score					
Project will result in a significant innovation (e.g., technology, methodology)	score					
Project directly informs/addresses a management or planning need in the MRG	score					
Resilience Total						

Science & Adaptive Management Information System



Project Status Definitions:

1. **Outlined:** Proposed project idea has been outlined, but lacks details needed for a scope of work.
2. **Scoped:** Scope of work has been developed, which includes research question/objective, study design, budget, timeline, etc.
3. **Submitted:** Project scope of work has been submitted to a potential funding agency.
4. **Approved:** Funding agency has agreed to fund the project, but work has not commenced.
5. **In-progress:** Project work is underway.
6. **Completed:** Project work is complete and deliverables are in-progress.
7. **Finalized:** Project deliverable(s) and final report have been released and findings shared with the Collaborative Program.

LTP includes categories 1-5.

[Link to full Meeting Materials List](#)

Science and Adaptive Management Committee Meeting
April 12, 2022

See the following meeting material on the page below:

Revised Draft MRGESCP Peer Review Process [follow-up, draft]

Middle Rio Grande Endangered Species Collaborative Program Internal and External Peer Review Process

I. Introduction

The Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program) is a forum to share, synthesize, and evaluate scientific findings related to the listed species of the Middle Rio Grande; and to use the results of scientific activities to inform recommendations on best management practices. The Collaborative Program's committees and groups are tasked with producing administrative and scientific work products in support of the Collaborative Program's operations and implementation of the Science & Adaptive Management Plan. Administrative work products include documents such as By-Laws, a Long-Term Plan, and annual reports. Scientific work products include documents such as technical reports, literature reviews, study designs, and scopes of work, as well as adaptive management tools like conceptual ecological models and population models.

External work products, which are administrative and scientific work products funded and administered by an organization independent of any Collaborative Program committees or work groups, are not subject to this peer review process, but signatories are encouraged to adopt these procedures. Any organization, whether a signatory or not, may bring an external work product to the Collaborative Program for peer review.

The Collaborative Program incorporates peer review into its internal processes to ensure robust and defensible work products. Additionally, the Collaborative Program has procedures for seeking external reviews if an issue merits independent appraisal due to its importance for decision support or level of contention.

The Collaborative Program delineates four categories of peer review:

- Internal peer review:
 - Internal Administrative Review
 - Internal Scientific Review
- External peer review:
 - External Expert Review
 - Independent Science Panel

Each category can involve one or more type of review: content, statistical, editorial, contextual, legal and/or programmatic (Table 1). Specifying the type of review that is being requested expedites the process by focusing an individual reviewer's time and attention on appropriate aspects of the work product. The type(s) of review requested will be noted at the time of review.

Table 1. Definitions of Review Types

REVIEW TYPE	DEFINITION
Content Review	Checking a document for completeness and accuracy of the content and cited literature
Statistical Review	Evaluating research and sampling designs and application of statistical methods

Editorial Review	Evaluating a document’s style, grammar, formatting, and references
Contextual Review	Evaluating a document’s relevance to the Collaborative Program’s mission, goals and/or management needs
Legal Review	Evaluating a document’s relationship to policy, statute, and case law
Programmatic Review	Evaluating the entirety of a program or initiative with respect to efficacy and relevance of results or targets

In carrying out an internal or external peer review, a clear charge will be given to the reviewers. The charge will identify:

- The item to be reviewed
- The type(s) of review expected
- Review criteria
- Timeline for the review, including relevant deadlines
- The expected deliverable from reviewers

Review criteria are specific guidance to reviewers to direct their review. The charge will indicate if the reviewers should evaluate the work product with regards to specified conditions, which may include:

- Compliance with Collaborative Program requirements
- Responsiveness to an initial charge
- Intellectual and scientific merit
- Broader Collaborative Program impacts
- Implications for management
- Connections to other projects

Internal Peer Review

Internal peer review is carried out within the Collaborative Program and administered by the Program Support Team at the direction of the Executive Committee (EC) or Science and Adaptive Management Committee (SAMC). The two internal categories of peer review utilized by the Collaborative Program, internal administrative review and internal scientific review, are summarized below (Table 2).

Table 2. Categories of Internal Peer Review Used by the Collaborative Program

	BEING REVIEWED	CONSIDERATIONS
Internal Administrative Review	<ul style="list-style-type: none"> • Governance documents (e.g., By-Laws, Science & Adaptive Management Plan) • MRGESCP-authored documents (e.g., Annual Report) 	<ul style="list-style-type: none"> • Reviewed by all signatories • Contributes to MRGESCP operations • One set of comments from each signatory
Internal Scientific Review	<ul style="list-style-type: none"> • S&T Ad Hoc Group work products (e.g., technical reports, scopes of work) • Science and AM tools (e.g., conceptual ecological models) • Signatory or external requests for review by the MRGESCP (e.g., study designs, monitoring plans) 	<ul style="list-style-type: none"> • Reviewers with relevant expertise • Performed or delegated by the SAMC • May include external reviewers if supplementary expertise is needed • Individual comment forms

Internal Administrative Review

Internal administrative documents that are authored by the Collaborative Program and/or are essential to Collaborative Program governance and operations are reviewed by all the signatories. Examples include the By-Laws, annual reports, and the Science & Adaptive Management Plan. An internal administrative review is conducted by the Program Support Team (PST), which compiles individual signatory reviews, incorporates changes and, as appropriate, catalogs edits and responses to comments when finalizing a document for EC approval.

Internal Scientific Review

Internal technical reviews are delegated by the Science and Adaptive Management Committee (SAMC) to one or more reviewers with appropriate qualifications and relevant subject matter expertise. This type of review is applied to Science & Technical (S&T) Ad Hoc Group deliverables, technical reports, study designs, models, and other work products relating to the science program. A request for a review by the Collaborative Program by an organization (either a signatory or external to the MRGESCP) may also be considered for internal scientific review.

Typically, reviewers are selected from Collaborative Program participants, but if a need for supplementary expertise is identified, the SAMC can request external individuals to participate in the review. Internal scientific reviews are collected via individual comment forms, on which reviewers can provide scientific justifications for their comments, when needed. All comments received are compiled and delivered to the originating authors and the SAMC. Changes and responses to comments are cataloged for future reference. If comments cannot be reconciled based on the strength or validity of findings, the SAMC will consider documenting the question as a scientific uncertainty in the Science and Adaptive Management System (SAMIS).

External Peer Review

External peer review is performed by individuals from outside the Collaborative Program. The review is administered by a third-party contractor to avoid bias. The two external categories of peer review utilized by the Collaborative Program, external expert review and independent science panel, are summarized in Table 3.

Table 3. Categories of External Peer Review used by the Collaborative Program

	BEING REVIEWED	CONSIDERATIONS
External Expert Review	<ul style="list-style-type: none">• A singular work product (e.g., Science & Adaptive Management Plan, population models)• The topic has a medium-to-high level of contention• The work product may be administrative or scientific	<ul style="list-style-type: none">• SAMC recommends & EC approves• Expert reviewers• Administered remotely• Does not require interaction between reviewers and MRGESCP experts• Individual comment forms or a report
Independent Science Panel	<ul style="list-style-type: none">• Broad, complex and consequential topics• The topic has a high level of contention	<ul style="list-style-type: none">• Programmatic review• SAMC recommends & EC approves• Expert reviewers• Multi-day, in-person or virtually

- Requires interactions between review panel and MRGESCP experts
 - Panel report
-

External Expert Review

In the event that a work product has a large amount of influence on research direction, quality of management recommendations, or Collaborative Program operations, and involves a high degree of scientific uncertainty, the SAMC may recommend it for an external expert review (see Attachment A). Individuals from outside the Collaborative Program are nominated to perform the review, and support is provided remotely via conference calls or web conference. Reviewer comments may be documented with individual comment forms or a consensus report. The work product under review should be complete enough to provide all necessary information to the reviewers without further need to interface with the MRGESCP.

The administration of an external expert review would be contracted by a signatory organization to a third-party, adding time and cost burdens. Therefore, the SAMC must justify a recommendation to the EC to hold an External Expert Review. If approved, the EC directs the Fiscal Planning Committee (FPC) to coordinate with the signatories to decide which signatory will fund the external expert review. The SAMC may include in its recommendation the format of the deliverable required for the review, such as a consensus panel report or individual comment forms.

The third-party contractor administering the external expert review may be the PST. As part of the administration of an External Expert Review, the contractor develops a Peer Review Plan (see Attachment B) which provides upfront guidance to the reviewers, and establishes expectations regarding type of review, level of effort, deliverable, and deadlines. The contracting signatory shall provide an opportunity for the SAMC to review and provide comment on the Peer Review Plan.

Independent Science Panel

The Collaborative Program has sponsored several Independent Science Panels. These tend to be costly and time-intensive for both the reviewers and Collaborative Program participants. Independent Science Panels are multi-day, in-person meetings with technical presentations from Collaborative Program scientists to the panel members, who should spend time prior to the meeting reviewing relevant scientific literature and other background materials. Given the resource-intensive nature of Independent Science Panels, these are reserved for broad, complex issues that are consequential to scientific understanding and trajectory of research, and have influence on management decisions.

In the event that the SAMC recommends the use of an Independent Science Panel, appropriate justifications regarding scope, impact and uncertainty of the review topic are provided to the EC. An Independent Science Panel requires EC approval and a signatory contracting a third-party to administer of the panel. The third-party administering the Independent Science Panel may be the PST. The contractor should develop as part of the administration of an Independent Science Panel a Peer Review Plan (see Attachment B). The contracting signatory shall provide an opportunity for the SAMC to review and provide comment on the Peer Review Plan.

Following the formal meeting and panelist deliberations, the Independent Science Panel drafts a panel report, which is provided to the Collaborative Program for review. Signatories provide one consolidated

set of comments for their organizations. Comments received are compiled by the contractor and addressed, as appropriate, by the Panel. The findings and recommendations from the Independent Science Panel are presented to the Collaborative Program in a public seminar, and archived in the SAMIS.

Table 4. Comparison of the different categories of review used by the Collaborative Program.

	INTERNAL ADMINISTRATIVE REVIEW	INTERNAL SCIENTIFIC REVIEW	EXTERNAL EXPERT REVIEW	INDEPENDENT SCIENCE PANEL
Cost	\$	\$	\$\$-\$\$\$	\$\$\$\$
Time commitment	Low	Low	Medium	High
Clear charge to reviewers	X	X	X	X
Expert reviewers		X	X	X
External reviewers		If needed	X	X
SAMC recommends & EC approves			X	X
Paid reviewers			X	X
Contracting needs			X	X
Panel report			If needed	X
Multi-day meeting				X
Interaction between reviewers and work product authors/ technical experts				X

The detailed process for carrying out an internal or external scientific peer review is found in Section II.

II. Scientific Peer Review

Decision-Support Process for Scientific Peer Review

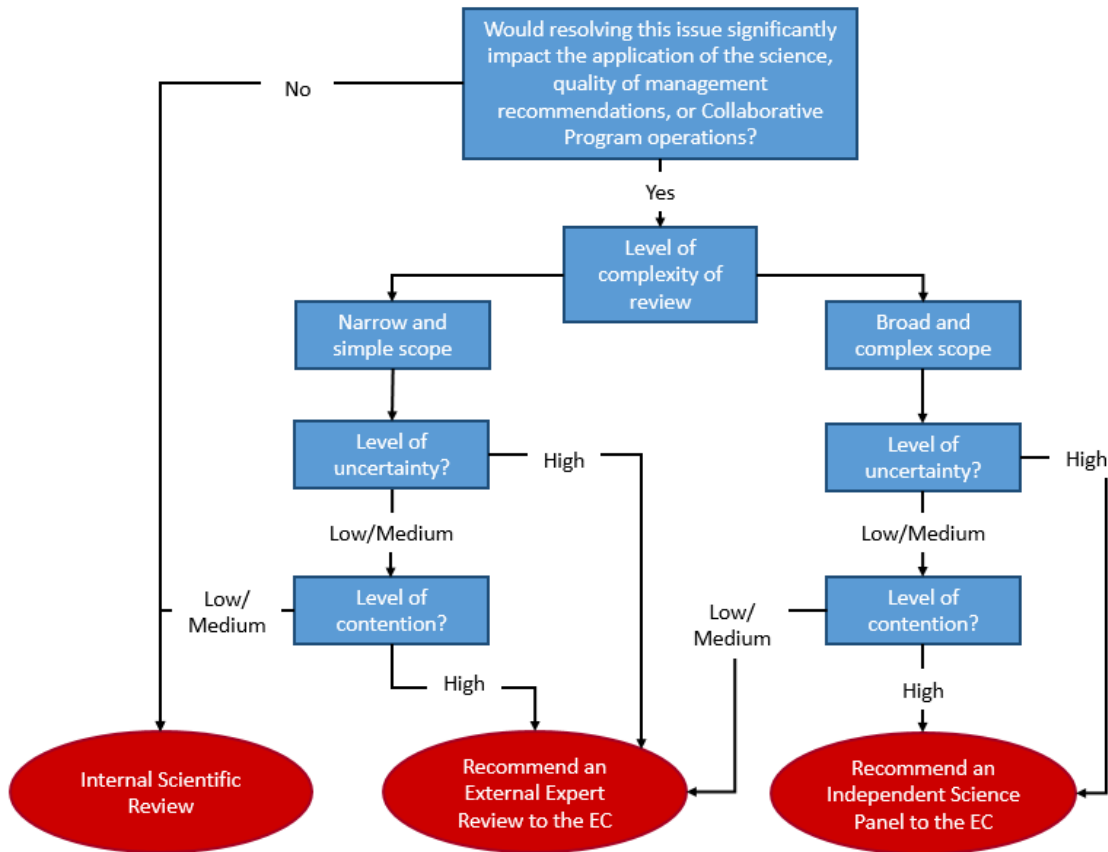
The process of peer review involves different types and levels of assessment, based on the item under review. Considerations for selection of the appropriate type and level of peer review include the scope of the topic, the level of contention involved, the expertise that is available, and availability of time and funding. All applicable reviews should be completely transparent, unless a reviewer or the Collaborative Program specifically requests and justifies anonymity. For a review of an external work product, the originating organization may request an anonymous review process.

Internal scientific review is built into the Science and Adaptive Management Plan and is routinely undertaken for all technical work products produced by the Collaborative Program. External peer review requires contracting a third-party to administer the review, a greater time commitment on the part of

the reviewers, greater costs, and, in the case of an independent science panel, a significant time investment on the part of Collaborative Program subject matter experts.

The SAMC determines the appropriate level of peer review for a particular work product or topic, as well as the type(s) of review (Table 1) that are needed: content, statistical, editorial, contextual, or programmatic. The flow chart shown in Figure 1 provides guidance for selecting the appropriate level and type of review. This decision flow chart is based on four aspects of the work product or topic in question: the topic’s significance, complexity, uncertainty, and level of contention.

Figure 1. Decision flow chart for the appropriate category of scientific peer review



Internal Scientific Review Process

Each of the Collaborative Program’s technical work products receives some level of internal scientific review. Work products may include, but are not limited to: technical reports and papers; conceptual, statistical and mechanistic models; and literature reviews and syntheses. Most work products are produced internally by S&T Ad Hoc Groups, although the Collaborative Program may get an external request to provide a scientific review of a manuscript, report, study design, monitoring plan, or other item. All internal scientific reviews are under the purview of the SAMC and supported by the PST.

The following steps comprise the Collaborative Program’s internal scientific review process:

1. When the SAMC forms an S&T Ad Hoc Group, it indicates if there is a need for a review of the deliverable(s) in the group's charge, including a list of proposed reviewers and the type of review. Not all S&T Ad Hoc Group deliverables will require a review, but if the topic is influential for scientific understanding due to level of uncertainty or incompatible findings, then the additional review is warranted.

The S&T Ad Hoc Group lead may also submit a request for review of the group's deliverable to the SAMC.

2. After the S&T Ad Hoc Group delivers a draft product, the PST validates all cited references prior to internal scientific review and/or SAMC review. This entails checking that all references have been cited correctly and are accessible. If a reference cannot be validated, the PST will communicate with the S&T Ad Hoc Group lead to either correct or remove the citation.
3. If the SAMC indicates the need for a deliverable review in the S&T Ad Hoc Group's charge, potential reviewers are contacted. Once the reviewers are confirmed, they are given a clearly-stated charge (e.g. type(s) of review to perform, review criteria, and due date), the work product to be reviewed, and individual comment forms to record their comments and provide additional references. If an editorial review is requested by the SAMC, editorial changes can be tracked directly in the document, for convenience.
4. The PST compiles the individual comments received and provides them to the S&T Ad Hoc Group lead, who then incorporates changes and addresses each of the reviewers' comments. If the work product under review is a request from an external organization, the compiled comments are conveyed to the originating authors, and no further steps are required.
5. The revised work product is delivered to the SAMC along with the archive of comments received with responses and changes made. The SAMC reviews the work product and determines whether the findings, conclusions, and recommendations are well-supported or require further investigation or analysis.
6. Supported findings, conclusions, and recommendations from the work product are entered into the SAMIS. Topics identified as needing further investigation or analysis during the internal scientific review or subsequent SAMC review are noted in the SAMIS as scientific uncertainties, where applicable.
7. As appropriate, the SAMC may include recommendations for future scientific work in the next update to Long-Term Plan, to be approved by the EC. Recommendations for best management practices may also be generated during review of these work products and inform the larger context of the science program.

External Review Process

When a scientific topic or question is broad and complex, with a high degree of scientific uncertainty and influence on management recommendations, the SAMC may consider resolving it through an external review. Given that external reviews (i.e. External Expert Reviews and Independent Science Panels) require more resources than internal reviews, the SAMC must justify the need when

recommending an external review to the EC. If the EC agrees and approves such a review, it then directs the FPC to coordinate resources. The signatory that contracts the external review coordinates with the SAMC regarding the charge for the reviewers to accommodate any contracting requirements.

The following steps compose the Collaborative Program's external scientific review process:

1. The SAMC considers a work product or topic for external review based on its scope, complexity, uncertainty and influence on policy, and/or in the event of a deficiency of required expertise within the Collaborative Program.
2. The SAMC completes the proposal to the EC to recommend holding an external review, including: the category of review (External Expert Review or Independent Science Panel), a draft charge for the review panel, the required expertise and desired qualifications for the reviewers, and the specified deliverable and timeline. (See: Attachment A)
3. The EC reviews the SAMC proposal and decides on the external review at its next meeting. If approved, the EC then sends the proposal to the FPC to coordinate resources.
4. The contracting signatory tasks a third-party contractor with the administration of the external review, including the following:
 - a. Developing a peer review plan (See: Attachment B).
 - b. Identifying and vetting of potential reviewers, in coordination with the SAMC
 - c. Subcontracting of reviewers, including collecting conflict of interest disclosures and agreements pursuant to the code of conduct (Section III)
 - d. Providing the appropriate literature and supplemental information to the review panel
 - e. Facilitating the review:
 - i. For an External Expert Review, the review is conducted remotely. The contractor compiles and organizes individual comments, and hosts conference calls or web conference meetings, as needed, with the External Expert Review panel.
 - ii. For an Independent Science Panel, the third-party contractor plans a multi-day meeting, including:
 1. Securing meeting space and handling meeting logistics
 2. Identifying appropriate Collaborative Program technical experts to present to the review panel, and coordinating the content, scope and order of the presentations
 3. Developing a meeting agenda
 4. Running the multi-day Independent Science Panel meeting
 5. Note-taking at the meeting and summarizing discussions
 6. Any necessary follow up
5. The reviewers for either type of review documents their findings.
 - a. External Expert Review: The review panel may submit individual reviewer comment forms, which the third-party contractor compiles and presents with a cover memo to the SAMC for evaluation and recommendations to the EC (skip to step 9). An External Expert Review may, at the request of the contracting signatory, instead provide a consensus panel report (continue to step 6).

- b. Independent Science Panel: The panelists must produce a panel report, which includes findings, recommendations, areas of disagreement amongst the panelists, and all appropriate references (continue to step 6).
6. The SAMC conducts an initial content review of the draft panel report, focusing on responsiveness to the original charge and noting areas where additional clarity may be needed.
7. Collaborative Program experts are given the opportunity to review and provide comments on the draft panel report. The third-party contractor is responsible for distributing the draft report and comment forms, collating and compiling received comments, and providing the compiled Collaborative Program comments to the panelists.
8. In coordination with the panelists, the third-party contractor documents the received comments and how they were addressed in revisions to the panel report.
9. The External Expert Reviewers or the Independent Science Panel panelists finalize their respective work product and the third-party contractor delivers the final version to the SAMC.
10. The third-party contractor and/or reviewers/panelists deliver a presentation of findings and recommendations to the Collaborative Program. The presentations are open to an audience of all interested Collaborative Program participants.
11. The SAMC synthesizes the External Expert Review or Independent Science Panel findings, submits a cover memo that recommends next steps in support of the science and adaptive management program with the finalized deliverable to the EC.
12. The PST records all findings and recommendations in the SAMIS. Important topics that demonstrate incompatible or inconsistent findings, with appropriate evidence, are classified as potential critical uncertainties in the SAMIS. Results of external reviews are communicated to the full Collaborative Program by the contracting signatory and contractor with support by the PST via meeting announcements, the newsletter, the Program Portal, and the Science Symposium or Collaboratory¹. Based on the review, the results may also be included in the annual report. The results and recommendations from an external review will also be used to inform the list of recommended activities in the next update to the Long-Term Plan.

III. Scientific Peer Review Code of Conduct

Peer review is integral to the scientific process and improves the quality of the scientific work products being produced by the Collaborative Program. To ensure the integrity of the peer review process, reviewers and those administering reviews must adhere to the following code of conduct, in addition to the Collaborative Program's own Scientific Code of Ethics and Scientific Principles.

¹ The Collaboratory is a biennial workshop where a synthesis of the past two year's scientific findings are presented in the context of the Collaborative Program's scientific objectives, strategies, and identified uncertainties. Collaboratory participants then discuss planned management actions and identify potential priority questions for the Collaborative Program to address over the next two years.

Reviewers

By consenting to participate in a peer review of a work product, reviewers agree to:

- Disclose any conflicts of interest prior to their agreement to participate in the review.
- Review the work product according to the charge assigned.
- Provide scientific justification for their comments with citations.
- Provide reviews in a professional and constructive manner.
- Have their comments made available to the work product authors, the SAMC, the PST, and to have them documented in SAMIS.

Contracting Signatory

External Expert Reviews and Independent Science Panels are contracted to a third-party to administer. In order to ensure an unbiased and independent review, the signatory that manages the contract agrees to:

- Incorporate the charge developed by the SAMC and approved by the EC into the performance work statement, to the extent possible given contracting requirements.
- Allow the third-party contractor to perform its work of administering the external review without attempting to influence the process, the selection of reviewers, or the findings and recommendations from the reviewers.
- Direct the third-party contractor to follow the peer review process outlined above in Section II, including coordinating with the SAMC on the panel charge, identification and vetting of potential reviewers, and incorporating a SAMC content review of any panel report in the work plan.
- Provide any comments on the panel report as part of the Collaborative Program's opportunity to review (step 7 above).
- Any review by the contracting signatory outside of the Collaborative Program's opportunity to review should focus on contract requirements and not on the content of the panel findings.
- Deliver the reviewer comments or final panel report to the SAMC without further revisions.

Third-Party Contractor

A third-party is contracted by a signatory to administer an External Expert Review or an Independent Science Panel. This entity is vital to ensuring the independence of the review process. To that end, a third-party contractor must:

- Disclose any conflicts of interest prior to being selected as the third-party contractor.
- Protect the integrity of the external peer review process.
- Administer the review in a transparent manner consistent with the steps outlined in Section II.
- Ensure the reviewers have equal access to all relevant information and data in order to carry out the review.
- Remain neutral and unbiased in its treatment of all signatories and technical experts.
- Facilitate reviewers in their work without influencing the outcome of the review.
- For an Independent Science Panel, ensure the panelists hear from presenters representing the full range of scientific opinion.
- Include a Collaborative Program review and comment period for the draft panel report, and ensure the documentation of comments received and how they were addressed.
- Ensure communication of the reviewers' comments, findings, and recommendations to the SAMC.
- For a panel report, ensure presentation of the report's findings to the Collaborative Program.

Management Agencies

The results of a peer review may relate to one or more natural resource management agencies' activities. If a Collaborative Program signatory's activities relate to the outcome of a peer review, the signatory shall:

- Consider the peer review recommendations when implementing relevant activities.
- Communicate to the EC whether a peer review recommendation was implemented.
- If a peer review recommendation was not or cannot be implemented at this time, communicate this to the EC with the justification.

Attachments:

- A. Template for a memo from the SAMC to the EC
- B. Template for a peer review plan
- C. Template for a review comment matrix
- D. Individual signatory requirements for peer review and quality assurance

MEMORANDUM

Date: *[DATE]*

To: Executive Committee

From: Science & Adaptive Management Committee

Re: Recommendation of *[TOPIC]* For External Peer Review

On *DATE*, the Science & Adaptive Management Committee (SAMC) recommends to the Executive Committee (EC) an *[External Expert Review/Independent Science Panel (pick one)]* on *[TOPIC]*. The SAMC members, using their best professional judgment, believe that *TOPIC* has sufficient importance, impact, and relevance to warrant a review, and with a high enough level of uncertainty and/or contention to necessitate the review be administered external to the Collaborative Program. This memo summarizes the SAMC's justification for this opinion, and its recommendations for components of an external peer review.

Importance to Science, Management, and the Collaborative Program

Based on the relationships identified in the Science and Adaptive Management System (SAMIS) and the relevant literature, the SAMC believes that a review of *[TOPIC]* will help address the following questions and uncertainties:

- *[LIST]*

These are directly relevant to future scientific activities and management recommendations in *[details here]*

Additionally, addressing these questions will help the Collaborative Program move forward in its activities related to the Program goals and objectives. Specifically:

- *[LIST: i.e., relationship with approved objectives, relationship to management questions, need to address this question in order to initiate future studies, etc.]*

Potential next steps from an external peer review of *[TOPIC]* include:

- *[LIST: i.e., New Ad Hoc Groups, updates to CEMS, management recommendations, new projects]*

Level of Uncertainty

The SAMC determines the uncertainty related to *[TOPIC]* to be *[high/medium/low (pick one)]* based on:

- *[LIST: i.e., discussions with Collaborative Program technical experts, published literature, unpublished gray literature, gaps in understanding in the CEMs]*

Level of Contention

The SAMC determines the uncertainty related to *[TOPIC]* to be *[high/medium/low (pick one)]* contention based on:

- *[LIST: i.e., discussions with Collaborative Program technical experts, relevance to management decisions, relevance to policy]*

Based on the above, the SAMC recommends the EC authorize *[TOPIC]* to undergo an *[external expert review/independent science panel (pick one)]*.

Recommended Review Considerations

If an external review is approved, the SAMC further recommends the following for reviewers and their charge.

External reviewers should include the following areas of expertise:

- [LIST]

In their charge, the reviewers should be asked to undertake a [TYPE OF REVIEW]. Specifically, the reviewers should review [TOPIC] with respect to:

- [LIST OF REVIEW CRITERIA]

In sum, it is the SAMC's professional scientific opinion that the Collaborative Program's interests will be significantly furthered with an [external expert review/independent science panel (pick one)] of [TOPIC]. We welcome any questions from the EC for further information that will help the EC in their deliberations.

**Review Plan for *[Independent Science Panel/External Expert Review]* of
*[TOPIC]***

Date of Plan:

Contracting Signatory:

Contractor Administering Review:

Contracting Roles:

 Contracting Officer (Representative):

 Contractor Point of Contact:

Subject of Review:

Anticipated Number of Reviewers:

Charge to Reviewers:

Final deliverable: *(Panel report or individual reviewer comments)*

Type of Review:

Review Criteria:

Timeline of Review:

TASK	BY WHEN

**[TOPIC] Review
Reviewer Comment Form**

Reviewer Name:

Reviewer Organization:

Date of Review:

Comments:

Page	Section	Concern	Justification for Concern <i>(Attach any cited literature with your review)</i>	Recommended Action	Comment Response <i>(For Reviewers Use Only)</i>

Middle Rio Grande Endangered Species Collaborative Program
Individual Signatory Requirements for Peer Review and Quality Assurance

Collaborative Program Federal partners must follow the Information Quality Act (Pub. L. 106-554) as amended, and supplemented by agency-specific policies, directives, rules, and regulations (collectively “IQA”) toward “Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated”; and any CP action or decision that has a federal nexus or influences the operation of authorized Federal facilities or project(s) is subject to IQA requirement.

For Reclamation any Collaborative Program action or decision that relate to the Middle Rio Grande, Rio Grande, or San Juan-Chama Projects trigger implementation of its Policy [CMP-P14: Peer Review of Scientific Information and Assessments](#) that includes requirements toward the application and protocol of peer review of influential scientific information and its dissemination.

Collaborative Program committees and groups will identify potential action or decisions that invoke various IQA requirements; and working with their federal partners, plan how to include IQA requirements within this peer review process.

[PLACEHOLDER FOR OTHER SIGNATORIES TO INCLUDE LANGUAGE ON INDIVIDUAL REQUIREMENTS]