

Science and Habitat Restoration Work Group Meeting
October 23, 2018

Meeting Materials:

Meeting Agenda

Meeting Minutes

Science and Habitat Restoration Work Group Charge

Draft Scope of Work Descriptions [draft, not included]

Habitat Restoration Site Geo-Database Update



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science/Habitat Restoration Workgroup (ScW/HR) Meeting Agenda

October 23, 2018 9:00 AM – 12:00 PM

Location: U.S. Bureau of Reclamation, 555 Broadway Blvd NE #100

Conference Call Information:

Phone: (712) 451-0011 Passcode: 141544

9:00 – 9:10	Welcome, Introductions, and Agenda Review <ul style="list-style-type: none">➤ Decision: Approve meeting agenda	<i>Ashley Tanner</i>
9:10 – 9:30	Review of September 2018 ScW/HR meeting <ul style="list-style-type: none">• Action items update• SOW updates	<i>Ashley Tanner</i>
9:30 – 9:50	Overview of Science Culture/Guidelines Discussed at the September EC Meeting	<i>Debbie Lee</i>
9:50 – 10:20	Review of 2018 Work Plan and 2019 Work Plan Discussion	<i>Ashley Tanner</i>
10:20 – 10:30	Break	
10:30 – 11:15	SOW ideas <ul style="list-style-type: none">• Prioritizing the existing ideas• Developing new ideas➤ Action Item: Send SOW ideas to WEST, using SOW idea template, by Friday, November 30.	<i>Discussion</i>
11:15 – 11:45	November 14th Workshop Planning <ul style="list-style-type: none">• Proposed agenda topics for workshop• Invited and confirmed participants• Ideas for additional topics• How to best prep for this workshop?➤ Action Item: Send ideas for November Workshop/Panel to WEST by Friday, November 2	<i>Discussion</i>
11:45-12:00	Additional items, follow-ups, and next meeting date <ul style="list-style-type: none">• November Brown Bag has been cancelled• Wednesday, November 14 Program Science Workshop	
12:00	Adjourn	



Middle Rio Grande Endangered Species Collaborative Program

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Science/Habitat Restoration Workgroup (ScW/HR) Meeting Minutes

October 23, 2018 9:00 AM - 12:00 PM

Location: U.S. Bureau of Reclamation (Reclamation), 555 Broadway Blvd NE #100

Meeting Highlights

Decisions:

- ✓ The group agreed on the tasks outlined in the draft 2019 Science/HR Work Group Work Plan.

Action Items:

WHO	NEW ACTION ITEMS	BY WHEN
Lana Mitchell	Send group Doodle Poll for an early December ScW/HR meeting.	ASAP
Ashley Tanner	Send out Habitat Restoration (HR) geographic information system (GIS) layer to group.	ASAP
Lana Mitchell	Resend DBMS October 30, 2018 meeting details to group.	ASAP
Ashley Tanner	Add a categories column to the scope of work (SOW) list.	ASAP
Brian Hobbs	Share general details for Rio Grande silvery minnow (RGSM) passive integrated transponder (PIT) tagging study.	ASAP
Ashley Tanner	Send Program participants the preparatory reading of other adaptive management (AM) programs to prepare for the Program Science Workshop.	ASAP
Ashley Tanner	Send group the Program Science Workshop topics/questions list.	ASAP
Ashley Tanner	Send the group the SOW description template, the SOW ideas list, and the Excel sheet with all the peer review panel recommendations.	10/26/2018
All	Send Ashley Tanner Program Science Workshop topical priorities and additional questions.	11/2/2018
Ashley Tanner	Develop two structured exercises for the December ScW/HR Meeting: one on peer review and the other on project/research prioritization.	11/30/2018
All ScW/HR members	Add SOW ideas to list.	11/30/2018
WEST & ScW/HR members	Draft the Science/HR Work Group 2019 Work Plan.	Ongoing through December 2018

ONGOING ACTION ITEMS

All ScW/HR members	Test GIS map functionality and provide comments to WEST.	Ongoing during DBMS development
Michael Porter, Justin Reale, Joel Lusk, Alison Hutson, Wade Wilson, Eric Gonzales	Form a Genetics SOW small group on domestication.	Fall 2018
WEST & Joel Lusk	Develop SOW decision-making matrix for review by the group (after the Program Science Workshop).	Dec 2018
All	Review 2017 literature compilation completed by WEST to brainstorm potential SOW ideas.	11/30/2018

Next Meetings:

The next Science/HR meeting is to be determined (TBD). A Doodle Poll will be sent for dates in the first two weeks in December 2018.

Meeting Summary

Review of September 2018 ScW/HR Meeting

- Ashley Tanner, Western Ecosystems Technology, Inc. (WEST), gave a status update of Action Items from the September 2018 ScW/HR meeting.
 - WEST to send revised SOW one-pagers, Dave Wegner’s presentation, and other materials that were not supplied as read-aheads to the work group. *Complete*
 - Ashley to modify SOW descriptions list to denote the specific Peer Review Panel and send to work group. *In progress*
 - Ashley to update SOW descriptions list to include Peer Review Panels, including the MacDonald et al. and San Acacia peer reviews. *In progress*
 - Update SOW description list with new SOW ideas. *In progress, see SOW Ideas below*

Habitat Restoration Project Compilation SOW Update

- A SOW update began with an introduction by Chad McKenna of GeoSpatial Analysis (GSA) who was contracted by New Mexico Interstate Stream Commission (NMISC) to begin the Habitat Restoration (HR) Project Compilation SOW. In terms of background, Chad M. has been involved in HR planning and site selection design among other things. He has used GIS as a documentation tool to capture the “where, when, and how” during planning, during work on the ground, and monitoring. Over the course of the last couple of years, he has been involved in reach-wide planning work to document different reaches (Velarde, San Acacia, etc.) and more recently, with Kenneth Richards (Reclamation) and Mick Porter, U.S. Army Corps of Engineers (USACE), when they started to compile the early HR site tool that John Peterson (USACE) worked on.
 - In early iterations there were all levels of accuracy and various levels of completion of data migrated in. A lot of planning level data was different than what was ultimately established on the ground. The USACE folks took it to the next level. The plan is to keep that effort going and to solidify the attributes and the verbiage being used.

- Building out the GIS component will be helpful. Since many of the people involved are still doing the work, it is a good time to move forward and document it. NMISC tried to detail a step-wise approach (on the SOW), and acknowledges working closely with the ScW/HR will be important in gathering information and knowing the types of attributes the Program thinks will be helpful. As different Program signatories have done the work, Chad M. will be relying on signatories to help with quality control. The final product will be as successful as agencies are willing to contribute. Chad M. will also be working with Lynette Giesen (USACE), Grace Haggerty (NMISC), and others to identify others who have done HR work and should be contacted.
- Chad M. was asked if there was anything he needed from the work group now. His answer was not yet but would have future data requests. This group was reminded that responding in a timely manner will be really important.
- Grace H. was thanked for providing the SOW and having Chad M. come and speak to the work group.
- There is a meeting focused on data scheduled for November 30th with the Program DBMS developers, U.S. Geological Survey (USGS) that will be helpful in forming a list of data wants and needs that will be important to the group. Everybody's input will be needed for USGS to put this useful component together.
 - Ashley will send out HR GIS layer to group.
 - Lana will resend DBMS October 30, 2018 meeting details to the group.

Overview of Science Culture/Guidelines Discussed at the September EC Meeting

- Debbie Lee, WEST, informed the work group members that at the September EC meeting there had been a long conversation on culture, behavior, and accountability, particularly as it related to good scientific process. WEST was tasked with distilling that conversation into a set of science guidelines; this will not supersede the code of conduct established by the Program previously but will add to it.
 - She noted that the group had mentioned the following elements: interdisciplinary, management-appropriate,; and interagency or interorganizational communication. The EC members had been asked to brainstorm the elements they thought were part of a good science process and requested that WEST capture this in writing so it could be reviewed.
- Debbie L. also wanted to convey to the work group that they received a big applause from the EC in completing their work plan/charge.

Review of 2018 Work Plan and 2019 Work Plan Discussion

- Ashley continued to the topic of the work plan, noting that the EC preferred the use of a "work plan" to the use of "charge." With that, the 2018 Work Plan was projected on screen for a quick review and to serve as background to inform the FY2019 Work Plan. These are the FY2018 Tasks and Management/Science Implications as discussed.
 - 1) The work group will be addressing the peer reviews, but are awaiting Population Monitoring Work Group (PMW) prioritization of the panel recommendations.
 - 2) The GIS Map of Projects is being undertaken by Chad M., GSA under contract with NMISC.
 - 3) Data Inventory and Consolidation is on-going. It was agreed this would be objective - driven effort. This will be a to-do to be continued in 2019. The data inventory will be consolidated with other groups rather than working separately on our own thing and in order to bring results together under the Program DBMS.

- A participant asked if item 3 is seen as kick starting the FY2019 Work Plan process and asked that care be taken to not duplicate effort regarding storing data.
 - The participant was assured that as far as the HR, Chad and his group will work with the USGS developers to ensure this would not happen. Ultimately, it's this group's responsibility to ensure this. It should be seen as the place where ASIR data and the HR GIS layer map intersect. There will be many caveats to control what and how things go in the DBMS.
 - From Chad M's point of view, he doesn't see his company as holding data but getting it and assembling it in a way that it would allow it to seamlessly be put into the Program DBMS.
 - It should be a seamless process, but developing that will be work, that transition period may take time. The DBMS will need an overhaul will require some iterations to get the kinks worked out.
 - The question was asked, will ASIR data be included? In working with Reclamation it has been said that ASIR data will be included and ASIR has been asked to attend meetings but the difficulty has been schedule conflicts because of the sampling season.
 - 4) DBMS development should continue to be moved forward.
 - 5) Habitat restoration assessment, to go back and evaluate what's been successful, etc. This group had a meeting and realized we didn't have a good place to get this information and it developed into what Chad is doing here today. This in particular, is how we develop SOW that work for us in the long term. So good job once again.
 - 6) The group developed four SOWs. Some are in flux while budgets are being worked on.
- With the FY2018 Work Plan in mind, Ashley T. brought up a list of ideas for a draft 2019 Work Plan with a short description to start the discussion. The refined ideas discussed were immediately drafted into an FY2019 Work Plan. The general discussion is captured below.
 - 1), 2), and 3) came directly from the 2018 Work Plan that warranted bringing forward, if the group agreed.
 - It was emphasized by a member that the Program needs to know what has been done and where the gaps are so these three tasks are important. Not knowing what you have is not the place we want to be in.
 - 4) "Continually Add to and Maintain the SOW Ideas List" should be a priority. The WEST team is currently going through three major reports (Noon, Caplan, Hubert) and also past documents to pull out SOW ideas. These will be tied in with what the work group has been working on but will require the group's input on new ideas, review, and then prioritization and sequencing the SOWs.
 - It was acknowledged that the words "Long-Term Plan" (LTP) need to be on one of these documents or else USACE is required to go before the EC every time to get approval to fund an SOW.
 - There are currently two different project ideas lists in development; one was the SOW ideas list the ScW/HR has developed. The second is a list Debbie has developed using a previous LTP activities list. These efforts will merge into one document which will be called an "Interim Long-Term Plan." This means that USACE can pick up and fund projects without having to go to the EC for a formal request. If EC meetings trim down to meeting just twice per year, funding possibilities also get

- trimmed drastically without an available plan to draw from. Other ideas and recommendations followed.
- SOW ideas need to pull from peer review panel recommendations for the SOW to get any support.
 - Debbie informed the ScW/HR that once the projects list is ready, she will be sending it to work group members to help triage. There are currently about 150 projects that need to be winnowed down. She asked the group for their help in identifying projects which have been completed or are no longer relevant.
 - The work group will need to complete the review because WEST lacks a lot of the historic context. If a project has been done, it would be good to know where to find the associated report and what is happening with the data. And perhaps to see if management actions were taken from it.
 - As a reminder, it's important to look at what's been done but not get caught up in an old long-term plan. The point is to look for hidden ideas.
 - The SOW ideas list template provided seems to supply a really good list. As the SOW list grows, it may be helpful to add categories which can help with prioritization.
- 5) "Develop 2019 and 2020 Full Scopes of Work for EC Consideration" is based on a triennial study plan, where groups write SOWs that are ready for implementation 3 years out. This means a couple of years of hard work to load up on full SOWs. In a years' time (from today), this group should have two full SOWs completed for EC approval.
- Given that, a member added that the ideas list should include biological opinions (BOs) and consultation requirements. It would inform people in making their priorities.
 - That member also reminded the group that when budgets get tight or conditions get rough, we have to not forget commitments made.
 - More substantively, is developing the "Developing the SOW Process." The process must tie into the LTP, agency contracting cycles, and BOs, which is a huge task in itself.
 - To differentiate, WEST is developing an interim LTP the EC can approve. SOWs can be developed from this, and USACE can fund projects while this group works on developing the SOW process. This should bridge the gap while the Adaptive Management (AM) program is developing a strategic plan for what will be the LT plan. This group's approved list of SOWs will be attached to that plan.

Based on the conversation, Ashley T. moved items around to put together a draft plan for the group. Summary of the questions and discussion that took place follows.

- The ScW/HR can pull SOW ideas from the BO to help management actions; however, funding piece is still to be determined. The By-laws work group is tasked with developing a process that takes into account SOWs, the BO partners, and the fiscal funding group process.
- It was stated by a participant that the connection between the BO and funding wasn't coming up very strongly and was concerned about the feedback to the program. Another participant noted that this may be part of the prioritization process. A scope might prioritize higher because it speaks to more BOs and/or management actions.

- A participant emphasized targeting the SOWs to answer critical AM and BO questions. In response, The AM work group has begun a tentative plan which integrates the science within the AM process.
- The group agreed on the tasks outlined in the draft 2019 Science/HR Work Group Work Plan as discussed.

SOW Ideas

- Ashley T. recognized that working to sort out process details while the AM process is being figured out is difficult, but the ScW/HR needs to keep working to ensure available funds are utilized and not lost. This means that continuing to write full SOWs becomes really important, particularly with respect to a future Triennial Study plan. The group may need focus on less contentious SOWs in the beginning, then work up to more contentious SOWs.
- Ashley T. projected the SOW ideas list (also provided as a read ahead) so the group could identify one SOW that could be worked on before the holidays. Some new ideas had been added to the ideas list and will need to be labeled with the related panel review. Main discussion points are summarized below:
 - A temperature monitoring station SOW was put forward and resulted in a few questions and needs that were brought up. For instance, there are no long-term monitoring stations in the Isleta and San Acacia reaches as there are in Angostura, so it ended up being heavily biased in the Angostura reach.
 - The economic SOW is a slippery slope. The question was posed, “How does a Program working with endangered species come out looking good?” It’s very difficult with an endangered species that is an ephemeral, short-lived species like the minnow. Finding a quantifying benefit is always difficult, however some suggested looking at the habitat restored for the species may be beneficial. It was suggested that it be put at the bottom of the list until the Program matures.
 - There was talk about investigating domestication however it was not on the list. Some ideas raise questions about the growth rate of minnow in the hatchery versus the wild. There a suggestion to address it after the high through-put marker SOW is complete Some suggested that phenotypic and behavioral differences could be examined while the high through-put markers SOW is being completed.
 - The question was asked: do we need a tracking of who a SOW was originated by so we don’t lose the idea? It was cautioned that ideas are objectively owned by the group, and the group subsequently agreed that Ashley T. should track the origin of the idea, but it didn’t have to be available to the group.
 - To help Julie Dickey with yearly administrative tracking, the ideas list might have a “Funded By” column to assist in the development of the annual report.
 - The objectives need to be clear enough in the description so if a part, or parts, of an idea isn’t included, it could become an option for a separate or new SOW and listed on a new line.
 - It was suggest that two SOWs be worked on before the holidays, one related to HR and one related to RGSM. There was some discussion over idea numbered 18, which would be a multi-year project. However, the group was reminded that USACE could not fund it.
 - Many of the ideas are studies, and a participant wondered if there was an SOW that does something. The group was reminded that USACE cannot do any restoration work.
 - Number 1 was suggested by a participant. Persistence of stocked RGSM would be important to know. Another participant reminded the group that this type of study

would have to be done when population is high because of the take requirements. Thomas Archdeacon of USFWS is looking at release in November versus release in February, however it is a prevalence study as opposed to a persistence study. It doesn't get to this question the same way.

- Brian Hobbs (Reclamation) will share general details for RGSM PIT tagging study.
- Ashley T. will send the group the SOW description template, the SOW ideas, and the Excel sheet with all the peer panel reviews so the group can brainstorm so we can choose a SOW to work on before the holidays.
 - One that is fish related and/or one HR related is suggested and can be a new one that isn't on the list.
 - Keep in mind, the EC would like it if it came from one of the panel recommendations.
 - These ideas have been sent previously, and all have been encouraged to add to the list, so expect some polite nagging to add ideas to the list.

November 14, 2018 Program Science Workshop Planning

- The Program Science Workshop will be held on November 14th. In the first hour, the presenters will be introducing themselves, their program, and things they've learned. The next three hours will be open discussion. Ashley discussed some possible topical areas to cover during the open discussion. Once finalized, these topics and related questions would be given to the panelists to prepare. (See Program Science Workshop Topics and Questions.) The discussion continued with the following points:
 - As the list of SOWs becomes bigger, the group will need to think how this group will prioritize. Categorically, not categorically, based on need? What questions do you ask to prioritize?
 - Some groups give the appearance of working well together but they're mandated to. It's important to know how legal authority brings their collaborative together. The group was interested in hearing about the impetus for their formation, what species they represent, and their statuses.
 - Is there a place where they identify the critical uncertainties, and how do they develop them? Make it a question under project/study prioritization.
 - Reminder: the presenters are part of adaptive management (AM) programs, but our focus isn't to form around AM but to have it focus on the science process.
 - The group was interested to hear more about outreach and public interface efforts by other programs. It was suggested to put it under Fostering a Collaborative and Scientific Environment.
 - We should make sure the more important topics/questions come to the top of the list to make sure they're covered. It was suggested that the questions be sent to the panelists, but they will be further prioritized by group.
 - Looking at peer review, it's important to step back and have an external set of eyes.
 - The group should keep in mind that peer review can be expensive, and adds 6 months at minimum to the SOW process. Therefore expectations need to be tailored to those requirements.
 - It depends on how, when, and what you do peer review for.
 - Peer review may be most helpful on projects where there's debate.. If the group is on the same page, then peer review maynot be needed.
 - We've also talked about having a standing science panel that could take a look at documents and give us feedback sooner in the process.
 - It can be an external science committee that changes when their term is up, while others may build a panel as needed around a topic. Calling in a personal favor is free, but there are only so many times you can do this.

- The experts the Program has now, that have done peer review, is a place to start.
 -
 - How has your program structure adapted in response to the challenges you have encountered? What have some of these challenges been? How has that helped you accomplish what you really want to?
 - We may need to have an active follow-up to put to work prioritizing using what we learned; a structured exercise.
 - Ashley will send Program participants the preparatory reading of other AM programs to prepare for the Program Science Workshop.
 - Send group the Science Program Workshop topics/questions list. Send to group and have feedback on priority and review by COB Friday
 - The November 14th workshop will take the place of a November ScW/HR meeting.
 - Ashley will develop two structured exercises for the December ScW/HR Meeting: one on peer review and the other on project/research prioritization.

Present

Name

Organization

Kim Eichhorst	Bosque Ecosystem Monitoring Program
Lynette Giesen	U.S. Army Corps of Engineers
Grace Haggerty	New Mexico Interstate Stream Commission
Brian Hobbs	U.S. Bureau of Reclamation
Debbie Lee	Western Ecosystems Technology, Inc.
Chad McKenna	GeoSystems Analysis
Kate Mendoza	Albuquerque Bernalillo County Water Utility Authority
Lana Mitchell	Western Ecosystems Technology, Inc.
Yasmeen Najmi	Middle Rio Grande Conservancy District
Dana Price	U.S. Army Corps of Engineers
Justin Reale	U.S. Army Corps of Engineers
Ashley Tanner	Western Ecosystems Technology, Inc.
Malia Volke	New Mexico Department of Game and Fish

Science/Habitat Restoration Workgroup Charge

Overall purpose:

Complete the 2018 Science/Habitat Restoration Work Plan as approved in the February 2018 Science and Habitat Restoration Workgroup Meeting.

Tasks and Management/Science Implications:

1.) Finish Prioritizing Peer Reviews Recommendations

In recent years, the Collaborative Program has sponsored three independent science panels/peer review panels:

- RGSM Life History (February 2017)
- RGSM Genetics Project Peer Review (February 2016)
- RGSM Population Monitoring (December 2015)

The Collaborative Program has undertaken some prioritization of the recommendations from the panel reports, but has not completed these efforts, or looked at prioritizing the recommendations from all three panels as a whole.

Continuing the prioritization effort will help inform the development of a long-term science work plan, as well as an interim work plan for the next year.

2.) GIS Map of Projects

In 2017, the ScW/HR had begun developing a GIS map of all projects in the MRG. Due to staffing changes at NMISC, that effort had stalled. Completing the map development will inform ongoing and future projects, and help with coordination efforts for on-the-ground activities.

3.) Data Inventory and Consolidation

Since its inception, the Collaborative Program and its signatories have collected a large amount of data, including (but not limited to) endangered species population numbers, hydrology, water quality, and habitat restoration.

There is a need to inventory what data are available where, and if possible, to consolidate datasets. This will inform science and adaptive management activities in the Program, and minimize duplicate monitoring efforts. Data inventory and consolidation will be a targeted effort, concentrating on specific species/datasets of interest in order to better meet the needs of the end data users.

4.) DBMS Development

In 2018, the Collaborative Program will be developing a new DBMS through an Army Corps contract with USGS. This new DBMS needs to be responsive to the needs of the Program, including its scientists and technical experts. The ScW/HR as a group can work with USGS to develop a list of requirements for the database and data management portion of the DBMS. Overall, a DBMS will help the program organize, store, share, and ultimately better utilize data collected and reports written by multiple stakeholders within the MRGESCP.

These services may inspire scientific studies, provide data for scientific research, and allow managers to interact with resources needed to inform decisions.

5.) Habitat Restoration Assessment

The ScW/HR raised the need to go back and evaluate past habitat restoration projects, whether they met projected objectives (why/why not?), and to document any additional benefits from a project. There is an existing SOW from 2007 which the group can update to address this project.

An assessment of past habitat restoration activities will allow the program to learn from past efforts, plan for future activities, and develop studies to fill knowledge gaps.

Note: Project #2, GIS Map of Projects, needs to be completed first.

6.) Develop Scopes of Work for EC Consideration

The funding agencies have requested SOWs from the Collaborative Program for inclusion in FY2019 and beyond. Deadlines for the initial list of SOWs (including a short description and cost estimate) are due by the end of April in order to meet Reclamation's deadline. The ScW/HR will use the results of the peer review prioritization effort, old work plans, and individual participant ideas to help identify projects to put forward.

Deliverables:

1.) A final list of all the peer review recommendations with the group's priority ranking, some detail on how rankings were given, and any recommendations for how to move forward with that recommendation.

2.) A complete and current GIS map containing all habitat restoration projects that can be mapped. This layer will ideally be updateable and able to transfer directly onto the DBMS. This layer will be created by the GIS specialists at USACE and the final product housed at WEST until the DBMS is ready to host it.

3.) Data consolidation and inventory will be conducted for targeted objectives. Data consolidation/inventory may be included as one of the first objectives or deliverables for SOWs that requires data from many sources. These final datasets will then move forward onto the DBMS.

4.) The Science/HR workgroup will support the USGS' efforts to develop the DBMS by attending meetings with them, responding to surveys, and providing specific feedback to improve the design/function of the site.

5.) The group will develop a SOW to assess past habitat restoration projects with specific emphasis on the results of monitoring associated with each project.

6.) Develop SOW descriptions to submit to Reclamation and USACE in mid-April. Write and finalize these SOWs for review by the Science/HR workgroup and EC. Submit final SOWs to funding agencies in September.

Timeline to complete work:

- | | |
|---|----------------|
| 1.) Finish prioritization | July 2018 |
| Develop recommendations to address top priorities | September 2018 |
| 2.) Send GIS files to WEST (Ashley Tanner) or John Peterson (USACE) | May 2018 |
| 3.) Send GIS files to WEST (Ashley Tanner) or John Peterson (USACE) | May 2018 |
| Identify habitat past restoration projects suitable for analysis | July 2018 |
| 4.) Respond to first survey | May 2018 |
| Participate in meetings | Through 2018 |
| 5.) Develop first draft of HR SOW | June 31, 2018 |
| 6.) Develop SOW descriptions and submit to Reclamation | April 15, 2018 |
| Form groups to write SOW | May 2018 |
| Have SOWs ready for EC review | August 2018 |
| Submit final SOW to funding agencies | September 2018 |

Member roster:

First Name	Last Name	Affiliation
Thomas	Archdeacon	U.S. Fish & Wildlife Service Ecological Services
Jonathan	Aubuchon	U.S. Bureau of Reclamation - Albuquerque Area Office
Jennifer	Bachus	U.S. Bureau of Reclamation
Brian	Bader	SWCA Environmental Consultants
Rick	Billings	Albuquerque Bernalillo County Water Utility Authority
Holly	Casman	City of Albuquerque, ABQ BioPark
Kevin	Cobble	U. S. Fish & Wildlife Service
Ann	Demint	U.S. Bureau of Reclamation- Albuquerque Area Office
Julie	Dickey	WEST, Inc.
Kim	Eichorst	Bosque Ecosystem Monitoring Program (BEMP)
Danielle	Galloway	U.S. Army Corps of Engineers
Lynette	Giesen	U.S. Army Corps of Engineers
Eric	Gonzales	U.S. Bureau of Reclamation
Grace	Haggerty	NM Interstate Stream Commission
Debra	Hill	U.S. Fish and Wild Life Service Ecological Services
Brian	Hobbs	U.S. Bureau of Reclamation
Mo (Monika)	Hobbs	Albuquerque Bernalillo County Water Utility Authority
Ondrea	Hummel	Tetra Tech
Alison	Hutson	NM Interstate Stream Commission
Kathy	Lang	City of Albuquerque
Debbie	Lee	WEST, Inc.

CW	Lujan	
Joel	Lusk	U.S. Fish & Wildlife Service Ecological Services
Shannon	Mann	Pueblo of Sandia
Mike	Marcus	Assessment Payers Association of the MRGCD
Maceo	Martinet	U.S. Fish & Wildlife Service
Matt	Martinez	Middle Rio Grande Conservancy District
Yvette	McKenna	U.S. Bureau of Reclamation
Kate	Mendoza	Albuquerque Bernalillo County Water Utility Authority
Yasmeen	Najmi	Middle Rio Grande Conservancy District
Robert	Padilla	U.S. Bureau of Reclamation
Kirk	Patten	NM Department of Game and Fish
Page	Pegram	NM Interstate Stream Commission
Matthew	Peterson	City of Albuquerque
Mick		
(Michael)	Porter	U.S. Army Corps of Engineers
Dana	Price	U.S. Army Corps of Engineers
Justin	Reale	U.S. Army Corps of Engineers CESP-DE
Ken	Richards	U.S. Bureau of Reclamation
Ashlee	Rudolph	U.S. Bureau of Reclamation
Vicky	Ryan	U.S. Fish & Wildlife Service Ecological Services
Stephen	Ryan	U.S. Army Corps of Engineers
Jeff	Sanchez	U.S. Fish & Wildlife Service
Nathan	Schroeder	Pueblo of Santa Ana; Department of Natural Resources
Summer	Schulz	U.S. Army Corps of Engineers
Michael		
(Scial)	Scialdone	Pueblo of Sandia
Clint	Smith	U.S. Fish & Wildlife Service
Ashley	Tanner	WEST, Inc.
Douglas	Tave	Los Lunas Silvery Minnow Refugium
Malia	Volke	NM Department of Game and Fish
		Pueblo of Isleta - Natural Resources Department, Water
Cody	Walker	Resources Div.
Kim	Ward	City of Albuquerque
Dave	Wegner	WEST, Inc.
		U.S. Fish & Wildlife Service - Southwestern Native Aquatic
Wade	Wilson	Resources and Recovery Center
Ara	Winter	Bosque Ecosystem Monitoring Program (BEMP)
Leann	Woodruff	U.S. Bureau of Reclamation - Albuquerque Area Office
Brooke	Wyman	Pueblo of Sandia

Task 6. Habitat Restoration Site Geo-Database Update

Approach: Habitat restoration is one of the critical needs for ESA-listed species in the MRG and a number of projects have been conducted by signatory members of the MRGESCP, with more than 10,000 acres constructed and other projects planned in all four of the MRG reaches (Cochiti, Angostura/Albuquerque, Isleta, and San Acacia). Projects include restoring native riparian vegetation communities, reconnection of the floodplain and channel, increasing channel diversity, and providing refugial habitats. A survey of the information on habitat restoration projects in the MRG shows there are a number of data gaps in the MRGESCP's current database and efforts are needed to consolidate, organize, and communicate the MRG habitat restoration efforts to date. As future restoration projects are planned and implemented this part of the MRGESCP database will be an invaluable tool for ongoing efforts. The database that contains post-construction monitoring, maintenance, and adaptive management associated with these habitat restoration projects will provide valuable information for planning and implementing habitat restoration projects in the future. The initial compilation of existing projects will be accomplished with the NMISC's support because the NMISC requires a rapid and accurate accounting of the habitat restoration projects it has sponsored and also has a vested interest in reviewing the status of habitat restoration projects for purposes of working with the BO partners and MRGESCP signatories to implement 2016 BO conservation measures.

The dataset when completed will strive to represent all the HR sites constructed by the federal and state agencies, municipalities, tribes, non-profits, and others since endangered species focused restoration efforts began in about 2000 but numerous habitat restoration projects are currently missing, and a comprehensive set of key attributes has not been constructed yet. The Program, through the U.S. Army Corps of Engineers (USACE) has also tasked United States Geological Survey (USGS) with building a new and improved Database Management System (DBMS) that houses many of the key reports and datasets related to endangered species management in the Basin. The DBMS also includes a web-based Geographic Information System (GIS) utility and it is crucial that there is consistency between the habitat restoration site geo-database and the DBMS in order to optimize that tool. Under this task, GSA efforts may include:

1. Attend a project kick-off meeting with the MRGESCP (including 2016 BO partners) to discuss project goals, familiarize GSA with the USGS DBMS effort, and promote consistency between the USGS DBMS project and the geo-database being developed under this work order.
2. Participate in regular teleconferences with USGS and the Program and coordinate with USGS (as needed) to promote compatibility and consistency between the DBMS and the geo-database. We anticipate that bi-weekly to monthly communication initially.
3. Assemble and review reports, data, design/as-builts, shapefiles, and additional relevant information for habitat restoration projects, as available. Reports are expected to include Section 404 compliance reports, environmental compliance documents, monitoring reports, and biological assessments. When these documents are referenced for information contained in the geo-database, electronic file names will follow the Program's naming convention.
4. Finalize a list of attributes for inclusion as attribute fields in the geo-database with

NMISC and MRGESCP input.

5. Expand data elements in the current geo-database based on feedback gathered during the above item. Additional attribute fields are expected to include: Project Name, Project Status (complete, in-construction, designed, etc.), Project Completion Year, Monitoring conducted (binary plus indicator for uncertainty), Number of years monitoring data collected, Monitoring Data Available (binary plus indicator for uncertainty), Monitoring Type (RGSM, SWFL, Vegetation, Wetland, Geomorphology, etc.), Treatment (binary plus indicator for uncertainty), Treatment Type Columns (appropriate and consistent verbiage will be discussed), Project Location (as a polygon perimeter), River Mile, River Reach, Acres, Target Species, Agency/Organization that Oversaw Project, Updated Point of Contact for Project (agency/organization), GIS data source (if available), Title of Report(s) Resulting from Project (as available, using Program naming convention), Title of Data Resulting from Project (using Program naming convention).
6. Gather information currently housed on the Program's DBMS website (<https://webapps.usgs.gov/MRGESCP/>) but our preliminary review of that source suggests the DBMS website is missing many of the relevant reports, data, and other key information.
7. Contact agencies and other entities, including MRGESCP-engaged consulting groups, to assemble additional projects constructed or under consideration that are not currently a part of the database.
8. Edit the GIS polygons to expand the sites included in the current geo-database, revise feature shape so it conforms to the best available information, and clean feature topology in the existing geo-database.
9. Populate data attributes (from information gained during steps above), as available.
10. Meet with MRGESCP participants to provide an update and review the geo-database during an (approximate) half day working session. An electronic copy of the geo-database will also be provided to Program participants during this meeting to allow for a more thorough review by participants and other staff within their agencies, as desired.
11. Update and revise the geo-database based on information gathered via the item immediately above. It is anticipated that the geo-database will include a feature class for constructed sites, as well as, a feature class for sites currently under consideration.
12. Draft a concise technical memo (likely 5-10 pages) that contains the following information: a project abstract, brief introduction to the project, database creation methods, resulting geo-database description, a brief discussion that includes recommended next steps, challenges, etc., tables and figures (if any).
13. Provide electronic copies of datasets and reports (as available) compiled during this effort to the NMISC or, as directed by the Work Order Manager, to appropriate agencies/entities. The GIS data will be provided to NMISC in ESRI shapefile format and/or ESRI geo-database format and include populated metadata. For this tool to be comprehensive, agencies, tribes, and other firms will need to provide footprints, background information, reports, and permission (when applicable) in a timely manner.

Assumptions: NMISC dataset will receive the highest priority for populating the database. The thoroughness and completeness of the resulting product will largely be driven by the

responsiveness of other entities as well as agency/consultant/tribal willingness and ability to share existing reports and data.

Deliverables

Task 6. Habitat Restoration Site Geo-Database Update

- Meeting Participation (as needed through contract, anticipated to begin within 30 days of NTP)
- Draft Geo-Database Update (April 2018)
- Draft Technical Memo (April 2018)
- Final Geo-Database Update (June 2018)
- Final Technical Memo (April 2018)
- Deliver Supporting Documents and Datasets (June 2018)