

Science and Habitat Restoration Work Group Meeting

December 6, 2018

Meeting Materials:

Meeting Agenda

Meeting Minutes

Geo-Database Read-Ahead

Preliminary List of Geo-Database Fields [spreadsheet]

Organizations Suggested at the December 6, 2018 Science and Habitat Restoration Work Group Meeting for GeoSystems Analysis to Contact

Program Science Workshop: WEST's Primary Takeaways

Science and Habitat Restoration Work Group 2019 Work Plan



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

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

December 6, 2018 12:30 PM – 4:30 PM

Location: WEST Inc., 8500 Menaul Blvd. NE, Ste. B-342

Conference Call Information:

Phone: (712) 451-0011 Passcode: 141544

- | | | |
|---------------|--|----------------------|
| 12:30 – 12:35 | Welcome, Introductions, and Agenda Review <ul style="list-style-type: none">➤ Decision: Approve meeting agenda | <i>Ashley Tanner</i> |
| 12:35 – 12:55 | Review of October 2018 ScW/HR meeting and November Workshop <ul style="list-style-type: none">• Action items update• Review of WEST takeaways from November workshop➤ Action Item: Participants in November workshop should complete survey by December 21, 2018➤ Decision: Approve September and October meeting minutes | <i>Ashley Tanner</i> |
| 12:55 – 2:30 | Update on Habitat Restoration Project Compilation SOW <ul style="list-style-type: none">• Terminology• Feature types• Site naming conventions | <i>Chad McKenna</i> |
| 2:30 – 2:40 | Break | |
| 2:40 – 3:00 | Review of 2019 Science/HR WG Work Plan <ul style="list-style-type: none">• Review timelines and significant deliverables➤ Decision: Approve 2019 work plan for presentation at first 2019 EC meeting | <i>Ashley Tanner</i> |
| 3:00-4:00 | Discuss plan to develop a SOW process in 2019 <ul style="list-style-type: none">• SOW Prioritization<ul style="list-style-type: none">○ Workshop participants used effect analyses, conceptual ecological models, and structured decision making – interest/utility?○ How to operate immediately and in the long term○ What additional information do we need to develop this?• Peer review<ul style="list-style-type: none">○ Workshop participants discussed the value of long-standing panels vs. subject-specific panels○ How to operate immediately and in the long term○ What additional information do we need to develop this? | <i>Discussion</i> |

- 4:00 – 4:20 **SOW Ideas** *Discussion*
- **Action Item:** Continue to send SOW ideas to WEST
 - **Decision:** Approve at least 1 SOW to begin developing into a full SOW
- 4:20-4:30 **Additional items, follow-ups, and next meeting date** *Ashley Tanner*
- Scheduling regular meetings through April 2019
 - Comments on the USU report are due by Friday, December 14th.
- 4:30 **Adjourn**



Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science/Habitat Restoration Work Group (ScW/HR)

December 6, 2018 12:30 PM – 4:30 PM

Location: WEST Inc., 8500 Menaul Blvd. NE, Ste. B-342

Meeting Minutes

Key Decisions:

- ✓ Next meeting: January 9, 2019, 9 AM – 12 PM.
- ✓ Meetings through April 2019 are scheduled for the second Tuesday of the month, 9 AM – 12 PM, with the exception of January..
- ✓ Approval of the September and October 2018 meeting minutes.
- ✓ Approval of the 2019 ScW/HR Work Plan, with revisions.

Action Items:

WHO	WHAT	BY WHEN
WEST	Include yellow-billed cuckoo surveys in the Interim Long-Term Plan	ASAP
WEST	Re-send Program Science Workshop survey	ASAP
WEST	Send updated Panel recommendations list	ASAP
Ashley Tanner & Chad McKenna	Circulate contact list for HR compilation work for feedback	ASAP
All	Provide Chad contact information for individuals to reach out to at identified organizations to help with the HR compilation map	January 15, 2019
Ashley Tanner	Revise ScW/HR 2019 Work Plan to: <ul style="list-style-type: none"> • include disclaimer language before the tasks that there is no prioritization • combine deliverables #4 and #5, and • add a task for participating in the planning and development of a science symposium. 	ASAP
WEST	Look into Program booth for TWS/AFS conference	January 1, 2019
Each signatory agency	Select list of 2-3 prioritized projects to bring to January meeting	January 9, 2019

All	Continue sending SOW ideas to WEST	Ongoing
-----	------------------------------------	---------

I. Welcome, Introductions, and Agenda Review (Ashley Tanner, WEST)

- **Decision: The ScW/HR approved the December 6, 2018 meeting agenda.**

II. Review of October 2018 ScW/HR meeting and November Workshop

Ashley T. reviewed the action items from the October 2018 ScW/HR meeting.

- WEST received one Scope of Work (SOW) idea since early October. In order to develop a complete SOW list, WEST is taking the critical uncertainties from the GeoSystems Analysis (GSA) Adaptive Management Framework report, the recovery plans, and other past Program documents and turning them into SOW descriptions.
 - WEST will continue accepting new SOW ideas throughout the year. Ashley T. noted that the list should be a living document that should be continually added to. It is expected that this document will change as the Program works through the adaptive management (AM) process.
 - **Action Item: Continue sending SOW ideas to WEST**
 - In response to a question, Ashley T. stated that the SOW descriptions list and the Interim Long-Term Plan (I-LTP) projects list will be merged into one document.
 - ScW/HR members can help go through the projects list in the I-LTP and identify what has already been completed, and projects which may no longer be relevant.
 - **Action Item: WEST will add mention to yellow-billed cuckoo surveys in the I-LTP projects list.**
 - Ashley T. and Eric Gonzales had gone through the peer review recommendations Excel spreadsheet and updated it with the recommendations from the Caplan report.
 - **Action Item: WEST will distribute the updated peer review recommendations list to the ScW/HR.**
- ✓ **Decision: ScW/HR approved the September and October 2018 meeting minutes.**

Ashley T. then briefly reviewed the November 14th Program Science Workshop.

- A survey link had been distributed to the workshop attendees to solicit their takeaways.
 - **Action Item: WEST will re-send the survey link to the ScW/HR.**
- Ashley T. listed the primary takeaways that WEST compiled from the Workshop:
 1. The MRGESCP operates under no legal authority mandated by the Federal Advisory Committee Act or Congress, as other programs do.
 2. Work plans, and other significant documents, should be developed with everyone's involvement (all stakeholders).
 3. Structured decision making tools are valuable for navigating complex decisions.
 4. Other programs are careful to react deliberately to new information, with consideration for long-term planning.
 5. Conceptual ecological models and effect analyses are useful to identify decision points and critical uncertainties.

6. Maintain separation between science and the policy makers. One group does not always necessarily agree with the other, however they continue to work together.
 7. All hypotheses are put on equal footing, whereafter it is important to distinguish between need-to-know hypotheses and want-to-know hypotheses.
 8. Science communication needs to happen at all levels, to all participants, with consideration for the audience (time, detail, etc.).
 - One participant noted that all the workshop panelists highlighted the importance of independent science panels.
- There was discussion on what was meant by separation between the science and policy makers.
 - Glen Canyon was used as an example of this, where the scientists and technical experts give presentations to the governance committee, who makes the decisions. Sometimes, the governance committee makes decisions that the scientists do not agree with.
 - One participant noted that in the Program, the ScW/HR is made up of agency employees who cannot be independent of their agencies. Another responded that the ScW/HR members are not the ones responsible for the policy directing the group, and that all programs have agency scientists who serve on technical committees.
 - None of the past independent science panels were charged with reviewing the full Program, but rather just one aspect of it (e.g., RGSM Population Monitoring).
 - The group also discussed the legal authority of the Program.
 - One person stated that the other programs have a mandate to work together. The Program does not have that, and all participants are here voluntarily.
 - One participant noted that participation in the Program was in their agency's Biological Opinion (BO).
 - The USFWS had included participation in the Program as a routine reasonable and prudent measure.
 - One participant said that while the Program itself does not have any legal mandate, individual agencies did have legal authorities tied to the Program. These authorities may need to be clarified.

III. Update on Habitat Restoration (HR) Project Compilation SOW (Chad McKenna, GSA)

Chad M. presented on efforts to compile HR project information into a geodatabase. GSA is currently under contract for the NMISC for this work. This work originated out of the SOW developed by the ScW/HR for FY2019.

- Chad M. asked for ScW/HR assistance in identifying the geographic scope to focus on and additional organizations to reach out to.
 - The group agreed that the priorities should be:
 - Between Elephant Butte Reservoir and Cochiti Dam, as that has been where the majority of HR work has been completed.
 - On projects that were funded on behalf of the Program.
 - Projects that have been completed.
 - The following suggestions were also made by participants:
 - Combine constructed and design features as there is considerable overlap.

- Consider what information is needed rather than developing a list of “want to knows”.
 - Include elevation (river to bank).
 - Use “goal” instead of “target” for the species.
 - Do not specifically go after monitoring data at this time. That will probably need to be a separate effort.
 - For monitoring data, Hawks Aloft and BEMP have data.
 - Include projects with potential or direct relevance to the Program.
 - Prioritize projects with a specific goal of creating habitat for listed species.
 - Hold a workshop for additional input and to fill in project gaps.
 - Participants listed the following information to collect, where available:
 - Goals/objectives of the project
 - Cost information
 - Photo documentation
 - Inundation
 - Property owner
- The following questions were asked:
 - Q: Projects may have multiples parts with multiple features. How will those be broken out in the database?
 - A: We’re thinking about that. One of the current challenges is that the data have been collected with varying degrees of precision and detail. We will document that infomation throughout this process. The goal is to preserve the highest level of detail possible for each project, with the understanding that for some projects, there will be very little detail available.
 - Q: How will reports be included in the geodatabase?
 - A: There will be standardized naming convention for the project sites, and there will be related tables for all the features of the database. Reports will be linked to specific projects in a related table. Chad M. is also planning on working closely with USGS to ensure that this effort will integrate with the development of the new Program Portal.
- Chad M. raised the following questions for the ScW/HR to consider:
 - What are the ultimate goals of the geodatabase?
 - How will people use the geodatabase?
 - What is a good workflow for people to use this geodatabase moving forward?
 - What type of information can be collected during construction?
 - How should information be fed into the geodatabase?
- The group suggested the following organizations for Chad M. to reach out to:
 - Albuquerque Metropolitan Arroyo Flood Control (AMAFCA)
 - All National Wildlife Refuges (including Valle de Oro)
 - Ciudad Conservation Soil and Water District (Ciudad CSWD)
 - N.M. State Forestry Division
 - Partners for Fish and Wildlife
 - Rio Grande Agricultural Land Trust

- Rio Grande Water Fund
 - Save Our Bosque Task Force
 - Socorro County
 - Tamarisk Coalition
 - The Nature Conservancy
 - U.S. Geological Survey
 - Valencia County
 - Los Lunas Plant Materials Center
 - Rocky Mountain Research Station
- **Action Item: ScW/HR members will send Chad M. contact information for people at the above organizations to reach out to.**

IV. Review of 2019 ScW/HR Work Plan

Ashley T. reminded the group that at the October meeting, the ScW/HR had approved the 2019 work plan tasks, and had tasked her with adding in more detail. She reviewed the work plan with the ScW/HR.

- The numbered task list implies a prioritization where there is none.
- **Action Item: Revise the work plan to:**
 - **Include a disclaimer that the task order is not a prioritization.**
 - **Combine deliverables 4 and 5.**
 - **Add a task to engage in the planning and development of a science symposium.**
- ✓ **Decision: Approval of the 2019 ScW/HR Work Plan with revisions**
- The work plan will be presented to the EC at their January meeting.

V. Plan to Develop a SOW Process in 2019

In the conversation about the work plan, the group also discussed the SOW development process and the plan for 2019.

- A few participants noted that the timeline for submission of SOWs needs to factor in the needs of non-federal entities. For the ABCWUA, presentation of SOWs in March and approval in May is more appropriate.
- Ashley T. reminded the group that FY20 SOW descriptions have to be submitted in March to the EC for approval to pass along to BOR as placeholders. One-pagers must be submitted to the EC prior to September, when full SOWs must be developed by September. Last year, of the four descriptions submitted in the spring, only one SOW had remained the same by the fall. The hope is that with a better process, that will not happen in the future.
- The group acknowledged that it is tricky to develop a process for SOW development, including prioritization, while they are also developing SOWs. It is necessary that for 2019, there was a need for a different, short-term strategy.
- The group discussed how to prioritize SOWs to move forward:
 - The EC had approved an Interim Long-Term Plan, which included SOW descriptions that were developed by ScW/HR and projects from the last draft of the Long-Term Plan developed in 2011. For those SOWs the group identifies as needing peer review, that can be factored into the timeline.

- Several participants suggested using the peer review panel recommendations as a starting point for prioritization, until a more formal process can be developed.
 - The GSA Adaptive Management Framework report identified critical uncertainties for the listed species.
- Two participants suggested using the recovery plans and goals to help prioritization.
- It is important to delineate between the “want to know” and “need to know” questions.
 - One “need to know” is how to manage water in an effective way.
- There needs to be criteria for prioritization.
 - This can take into consideration individual agency authorities.
- Some of the outstanding questions that still have to be answered include:
 - What happens to SOWs after they leave the ScW/HR?
 - How should projects be prioritized?
 - What is the direction for the group? That may be answered with the Adaptive Management Plan.
- One participant suggested that if an agency was interested in taking on a SOW idea, that agency leads the small group working on developing that SOW and it is their responsibility to solicit input. That way, there is assurance that the funding agency gets the level of detail they need and want.
- One federal participant noted that in addition to the SOW, federal agencies have to develop an independent government assessment, a budget for each of the tasks. The ScW/HR cannot help with that.
- Several participants requested better tracking of SOWs and contracts, including the duration of the contract. This would help identify specific points where the Program can be engaged after the SOW leaves ScW/HR.
- The group discussed that for 2019, they would use the panel recommendations as the basis for prioritization. For the long-term, there needs to be more discussion on what the process will look like, and how it will tie into the larger adaptive management plan.
 - One participant suggested there be a joint meeting of the ScW/HR and the Adaptive Management Work Group at some point.
 - Ashley T. will work closely with Dave Wegner to ensure that what is being discussed at the ScW/HR will tie into the Adaptive Management Plan.
 - Ashley T. recommended that the group have a longer vision rather than falling back on the peer review panel recommendations for priority setting.
- One participant noted that there was value in having multiple organizations come together to develop SOWs. The SOWs that moved forward in 2018 were good ones that would probably not have come out of any one agency.
- One participant observed that there are ongoing efforts that will identify more critical uncertainties, such as the Utah State University review of the Hydro-biological Objective, and the modeling work Charles Yackulic is doing in the Population Monitoring Work Group. With the science symposium, there will be more. The group needs to identify what are the most pressing uncertainties and how to feed those into the Long Term Plan.
- **Action Item: Each agency brings back 2-3 projects from the Interim Long-Term Plan list they would like to move forward to the January meeting.**

VI. Announcements

- The 2018 Joint Annual Meeting of the Arizona and New Mexico Chapters of The Wildlife Society and the American Fisheries Society will be February 7-9 in Albuquerque. More information can be found at <http://wildlife.org/nm-chapter/annual-meeting/>.
 - Ashley T. encouraged people to attend. The registration fee is \$150. She is in contact with the conference organizers about getting the Program a table at the conference, and would welcome volunteers to help table.
 - There was an article in the Albuquerque Journal about The Nature Conservancy's Rio Grande Watershed work.
 - "Face to face with Laura McCarthy: Heading off wildfires"
(<https://www.abqjournal.com/1252842/facetoface-with-laura-mccarthy-heading-off-wildfires.html>)
 - U.S. Department of Agriculture Animal and Plant Health Inspection Service (APHIS) is looking to fund projects and partner with agencies/organizations with authority. They are focused on non-native and invasive species. They are interested in talking with the Program, and WEST will work with them on scheduling a workshop after the New Year.
- **Decision: The next meeting will be January 9th.**
- **Decision: Regularly scheduled meetings to be the second Tuesday of every month from 9 AM - 12 PM.**
- This will allow for a brown bag to follow after the ScW/HR meetings.

Meeting Participants

Katherine Cordova

Bosque Ecosystem Monitoring Program

Kim Eichorst

Bosque Ecosystem Monitoring Program

Lynette Giesen

U.S. Army Corps of Engineers

Grace Haggerty

N.M. Interstate Stream Commission

Mo Hobbs

Albuquerque-Bernalillo County Water Utility
Authority

Brian Hobbs

U.S. Bureau of Reclamation

Ondrea Hummel

Tetra Tech

Alison Hutson

N.M. Interstate Stream Commission

Kathy Lang

Biopark

Debbie Lee

WEST, Inc.

Joel Lusk

U.S. Fish & Wildlife Service

Chad McKenna

GeoSystems Analysis

Kate Mendoza

Albuquerque-Bernalillo County Water Utility
Authority

Yasmeen Najmi

Middle Rio Grande Conservancy District

Michael Porter

U.S. Army Corps of Engineers

Dana Price

U.S. Army Corps of Engineers

Justin Reale

U.S. Army Corps of Engineers

Vicky Ryan

U.S. Fish & Wildlife Service

Nathan Schroeder

Pueblo of Santa Ana

Ashley Tanner

WEST, Inc.

Malia Volke

N.M. Department of Game and Fish

Primary Purpose of the Discussion

GeoSystems Analysis is currently under contract with the NM Interstate Stream Commission to update, refine, and expand the existing habitat restoration site geo-database and create a new version that represents all (as feasible) 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. The purpose of this discussion is:

- Discuss the goals for the geo-database utility including: specific questions you might like the tool to answer, specific information yielded during queries, and potential GIS displays
- Review a comprehensive set of key attributes (see Excel file circulated with this document) and discuss improvement ideas
- Discuss purpose and potential alternative site naming conventions

In Preparation, we request:

- The list below includes entities that we plan to contact to gather information from. Do you have any suggested additions or modifications to this list? If so, who?
 - ABQWUA, Audubon, Bosque del Apache NWR, CABQOSD, Cochiti Pueblo, MRGCD, NMGF, NMISC, NMSLO, Other Non-Profits??, Private landowners??, Pueblo of Isleta, Pueblo of Sandia, Rio Rancho, San Felipe Pueblo, Santa Ana Pueblo, Santo Domingo Pueblo, Sevilleta NWR, Socorro SWCD, TNC, UNM, USACE, USBR, USFWS, Village of Corrales
- Please review the Excel spreadsheet (HR Site Fields and Domains.xlsx) and be prepared to discuss ideas for additional database fields and specific terminology we might use to populate the database fields (i.e. modifications/additions to the list of field “domains” on the spreadsheet). Note that we plan to gather additional feedback during in-person meetings, email, etc. in the future, so no pressure to finalize your ideas in preparation for the discussion next week.
- Who from your respective agency/entity should we contact to review and gather additional information from? Please provide us with this information at the meeting or via the contact info below.

For additional info, suggestions, questions, etc. please contact:

Chad McKenna

chad@gsanalysis.com

(505) 274-0126

Project Name	Original Site Name	CP Site Name	CP Feature Name	River Mile	Reach	Target ES Spp	Project Completion Year	As Built	As Built Accuracy	Revegetated
--------------	--------------------	--------------	-----------------	------------	-------	---------------	-------------------------	----------	-------------------	-------------

Name of the primary project name used during construction and planning, e.g. MRG Phase I, or Albuquerque Overbank Project	Name of the primary site name used during construction and planning, e.g. Site "1G", "PDN 14i", etc.	Unique site name primarily used by CP to serve as a "primary key" to relate to other information in the DBMS	Unique feature name primarily used by CP	USBR 2012 Rivermile	River Reach	Target Threatened/Endangered Species During Planning and Design	Years that construction was completed	Do project as built exist?	What is the accuracy of the as built data?	Was the site revegetated (Yes, No, Not Applicable, Unknown)?
---	--	--	--	---------------------	-------------	---	---------------------------------------	----------------------------	--	--

Unique for the project name Unknown	Unique to the original project Unknown	Unique to CP	Unique to CP	Unique RM	Cochiti Albuquerque	RGSM WIFL	Year(s)		0 Survey grade 1 Professional grade GPS	0 1
					Isleta San Acacia	YBCU MJM			-98 Other GPS -99 Digitized	-98 -99
					Angostura? San Marcial?	PS None Unknown			Unknown	

		Discuss approach, will depend on utility	Will likely be an additional 2 to 3 characters added to the CP Site Name	Upstream, Downstream, Center?	Which Reach Definitions to Use?		List actual years not number of years			
--	--	--	--	-------------------------------	---------------------------------	--	---------------------------------------	--	--	--

Preliminary List of Geo-Database Fields

Type(s) of Revegetation	Exotic Species Treatment	Exotic Species Treatment Method	Followup Exotic Species Maintenance	Year of Exotic Species Retreatment	Excavated	Excavation Feature	Direct River Connection	Target Discharge
-------------------------	--------------------------	---------------------------------	-------------------------------------	------------------------------------	-----------	--------------------	-------------------------	------------------

Field Description

List of the type(s) of plant material installed	Did fuels reduction treatments/exotic plant species treatment occur (Yes, No, Not Applicable, Unknown)?	What was the primary exotic species treatment method?	Has followup exotic species maintenance been completed (Yes, No, Not Applicable, Unknown)?	List Year(s) that exotic retreatment was completed	Was the site excavated during construction to improve river/floodplain connectivity (Yes, No, Not Applicable, Unknown)?	Type of excavation feature	Does the excavation feature have a direct surface water connection to the Rio Grande at flows below 6,000 cfs?	Minimum discharge designed to initiate inundation (cfs)
---	---	---	--	--	---	----------------------------	--	---

Preliminary list of field "domains", or potential values that can be stored in this field

Cottonwood	0	Herbicide	0	Year(s)	0	Backwater	0	Unique discharge
Tree willow	1	Mechanical treatment Mechanical treatment plus	1	Unknown	1	Bankline manipulation	1	
Coyote willow	-98	herbicide	-98		-98	Channel	-98	
Other native trees	-99	Hand treatment Hand treatment plus	-99		-99	Island destabilization	-99	
Other native shrubs		herbicide				Pond		
Grass/forb seeding		None				Swale		
Wetland herbs		Unknown				Wastewater wetland		
None						Wet meadow		
Unknown						None		
						Other		
						Unknown		

Other Misc Notes

Might be expanded into multiple fields, depending on desired utility

Will depend on utility

Re-Sedimentation Maintenance	Year of Re-Sedimentation Maintenance	Private Entities	Agency/Organization	Monitoring Completed	Number of Years of Monitoring Data	Monitoring Type	Monitoring Data Available	Monitoring Reports Available	Reports
------------------------------	--------------------------------------	------------------	---------------------	----------------------	------------------------------------	-----------------	---------------------------	------------------------------	---------

Has followup sediment maintenance been completed (Yes, No, Not Applicable, Unknown)?

List Year(s) that sediment cleanout was completed

Primary Private Entities contributing to funding, construction, and/or planning

Primary Organization(s)/Agency(ies) contributing to funding, construction, and/or planning

Has monitoring been conducted (Yes, No, Not Applicable, Unknown)?

Number of Years of Monitoring Data

Type of Monitoring Data that Has Been Collected

Is monitoring data available (Yes, No, Not Applicable, Unknown)?

Are there monitoring reports available (Yes, No, Not Applicable, Unknown)?

0 Year(s)
1 Unknown

Landowner
Other Private Organizations

ABCWUA
Audubon

0 Unique number
1

RGSM
SWFL

0
1

0
1

-98
-99

Other Non-Profits
None

CABQ
Cochiti Pueblo

-98
-99

Vegetation
Wetland

-98
-99

-98
-99

Unknown

MRGCD
NMISC
NMSLO
NMT
Other Non-Profit
Private
Pueblo of Isleta
Pueblo of Sandia
Rio Rancho
San Felipe Pueblo
Santa Ana Pueblo
Santo Domingo Pueblo
SOBTF
Socorro SWCD
TNC
UNM
USACE
USB
USFWS
Village of Corrales

Gemorphology
Inundation
Sedimentation

Should this include Stakeholders/Partners?
Should Pueblos be in a Separate Field?

Preliminary List of Geo-Database Fields

Project Name	Original Site Name	CP Site Name	CP Feature Name	River Mile	Reach	Target ES Spp	Planned Construction Year	Revegetation Planned	Exotic Species Treatment Planned	Excavation Planned	Excavation Feature Planned	Target Discharge
--------------	--------------------	--------------	-----------------	------------	-------	---------------	---------------------------	----------------------	----------------------------------	--------------------	----------------------------	------------------

Field Description

		Unique site name primarily used by CP to serve as a "primary key" to relate to other information in the DBMS	Unique feature name primarily used by CP	USBR 2012 river mile	River reach	Target Threatened/Endangered Species during planning and design	Years that construction was completed	Was the site revegetated (Yes, No, Not Applicable, Unknown)?	Did fuels reduction treatments/exotic plant species treatment occur (Yes, No, Not Applicable, Unknown)?	Was the site excavated during construction to improve river/floodplain connectivity (Yes, No, Not Applicable, Unknown)?	Type of Excavation Feature	Minimum discharge designed to initiate inundation (cfs)
--	--	--	--	----------------------	-------------	---	---------------------------------------	--	---	---	----------------------------	---

Preliminary list of field "domains", or potential values that can be stored in

Unique for the project name	Unique to the original project	Unique to CP	Unique to CP	Unique RM	Cochiti	RGSM	Year(s)	0	0	0 Backwater	Unique discharge
Unknown	Unknown				Albuquerque	WIFL		1	1	1 Bankline manipulation	
					Isleta	YBCU		-98	-98	-98 Channel	
					San Acacia	MJM		-99	-99	-99 Island destabilization	
					Angostura?	PS				Pond	
					San Marcial?	None				Swale	
						Unknown				Wastewater wetland	
										Wet meadow	
										None	
										Other	
										Unknown	

Other Misc Notes

		Will likely be an additional 2 to 3 characters added to the CP Site Name	Upstream, Downstream, Center?	Which Reach Definitions to Use?		List actual years not number of years				Will depend on utility
--	--	--	-------------------------------	---------------------------------	--	---------------------------------------	--	--	--	------------------------

Design Complete	Design Detail	Proposed Construction Entity	Projected Construction Cost	Private Entities	Agency/Organization	Reports
-----------------	---------------	------------------------------	-----------------------------	------------------	---------------------	---------

Has construction design been completed (Yes, No, Not Applicable, Unknown)?	What is the highest level of design work completed?	Will an agency (if so list) or private construction company build the project?	What is the expected cost?	Primary Private Entities contributing to funding, construction, and/or planning	Primary Organization(s)/Agency(ies) contributing to funding, construction, and/or planning
--	---	--	----------------------------	---	--

n this field

0 Conceptual Preliminary engineering	USBR	Dollar amount	Landowner	ABCWUA
1 plans Construction ready	CABQ	Unknown	Other private organization	Audubon
-98 engineering plans	MRGCD	Not applicable	Other non-profit	CABQ
-99 Other	Pueblo Private contractor Other		None Unknown	Cochiti Pueblo MRGCD NMISC NMSLO NMT Other Non-Profit Private Pueblo of Isleta Pueblo of Sandia Rio Rancho San Felipe Pueblo Santa Ana Pueblo Santo Domingo Pueblo SOBTF Socorro SWCD TNC UNM USACE USBR USFWS Village of Corrales

Should this include Stakeholders/Partners?
Should Pueblos be in a Separate Field?
Will be expanded

Organizations Suggested at the December 6, 2018 ScW/HR meeting for GeoSystems Analysis to Contact

- All NWR (Valle do Oro)
- AMAFCA
- BEMP (monitoring)
- Ciudad
- Hawks Aloft (monitoring)
- NM State Forestry
- Partners for Fish & Wildlife
- Rio Grande Agricultural Land Trust
- Rio Grande Water Fund
- Save Our Bosque Task Force
- Socorro County
- Tamarisk Coalition
- The Nature Conservancy
- US Geological Survey

Program Science Workshop
November 14th, 2018

WEST's Primary Takeaways:

1. The MRGESCP operates under no legal authority mandated by the Federal Advisory Committee Act or Congress, as other programs do.
2. Work plans, and other significant documents, should be developed with everyone's involvement (all stakeholders).
3. Structured decision making tools are valuable for navigating complex decisions.
4. Other programs are careful to react deliberately to new information, with consideration for long-term planning.
5. Conceptual ecological models and effect analyses are useful to identify decision points and critical uncertainties.
6. Maintain separation between science and the policy makers. One group does not always necessarily agree with the other, however they continue to work together.
7. All hypotheses are put on equal footing, whereafter it is important to distinguish between need-to-know hypotheses and want-to-know hypotheses.
8. Science communication needs to happen at all levels, to all participants, with consideration for the audience (time, detail, etc.).

Science and Habitat Restoration Work Group 2019 Work Plan

PURPOSE:

Complete the Science and Habitat Restoration Work Group's (ScW/HR) 2019 Work Plan as approved at the October 23, 2018 Work group meeting.

TASKS AND MANAGEMENT/SCIENCE IMPLICATIONS:

(Disclaimer: These tasks are not in any particular prioritized order.)

1) Continuously Add to and Maintain the Scope of Work (SOW) Ideas List with Consideration for the Peer Review Recommendations and Inclusion in the Long-Term Plan

In March 2018, the ScW/HR developed ideas for SOWs, including a template for describing these ideas and a table to track them. This SOW ideas list allowed the ScW/HR to more readily discuss SOWs in 2018. In 2019, the ScW/HR will add to and maintain the SOW ideas list continually throughout the year. As the list grows, the ScW/HR will continue to prioritize and develop full SOWs.

2) Develop Fiscal Year (FY) 2020 and FY 2021 Full Scopes of Work for Executive Committee (EC) Consideration

One of the primary objectives in 2019 for the ScW/HR is to develop full SOWs for both FY20 and FY21. By November 2019, the goal of the ScW/HR is to have, at minimum, one SOW completely written for FY 2021. In order to transition to a triennial study planning process, it is necessary for the ScW/HR to write SOWs for more than just the current year.

3) Develop a SOW Process to Include the Following:

- **Determine how SOWs will be prioritized**
- **Determine how peer review will be utilized (i.e. who/what/when/where/how)**
- **Timeline for development (including transition years) toward triennial planning**
- **Incorporate peer review recommendations**
- **Identify management decisions associated with all SOWs**

In 2018, the ScW/HR identified areas in the SOW development process that required further discussion and direction. The bulleted list above will be discussed by the ScW/HR in 2019 with the objective of refining the SOW development process. As parts of this process are developed, they will be documented and further modified as needed.

4) Incorporate Peer Review Recommendations

In recent years, the Middle Rio Grande Endangered Species Collaborative Program (Program) has sponsored four independent science/peer review panels:

- Middle Rio Grande Adaptive Management (AM) Framework: Identifying Critical Uncertainties (May 2018)
- Rio Grande Silvery Minnow (RGSM) Life History (February 2017)
- RGSM Genetics Project Peer Review (February 2016)
- RGSM Population Monitoring (December 2015)

The Genetics Ad Hoc Group and the Population Monitoring work group are continuing to prioritize the genetics, RGSM Population Monitoring, and RGSM Life History peer review panel recommendations. The ScW/HR will continue to use these prioritizations when developing SOWs, prioritizing ideas for SOWs, modifying the Long-Term Plan, and supporting the AM Program.

5) **Continue Data Inventory and Consolidation Efforts**

Since its inception, the Program's 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 these data, and to consolidate datasets where possible. This will inform the Program's science and AM activities, and minimize duplicate efforts. Data inventory and consolidation will be a targeted and objective-driven effort, concentrating on specific datasets of interest to better meet the needs of the end data users. The ScW/HR will work with the U.S. Geological Survey (USGS) and those working to develop the Program Portal (formerly the Program's database management system [DBMS]) to ensure that all data consolidation efforts result in a dataset that can be uploaded onto the Program Portal.

6) **Continue Participation in Program Portal Development**

In 2018 and 2019, the USGS will be developing a Program Portal to replace the Program's DBMS. This Program Portal will need to be responsive to the needs of the Program, including its scientists and technical experts. The ScW/HR will provide input to the USGS as needed. Overall, a Program Portal will help the Program organize, store, share, and ultimately better utilize data collected and reports written by its multiple stakeholders. These services may inspire scientific studies, provide data for scientific research, and allow managers to interact with resources needed to inform decisions.

7) **Participate in the Planning and Development of a Science Symposium**

The MRGESCP Executive Committee has decided to hold a Science Symposium in 2019. The ScW/HR will participate in the planning and development of the symposium as needed.

DELIVERABLES:

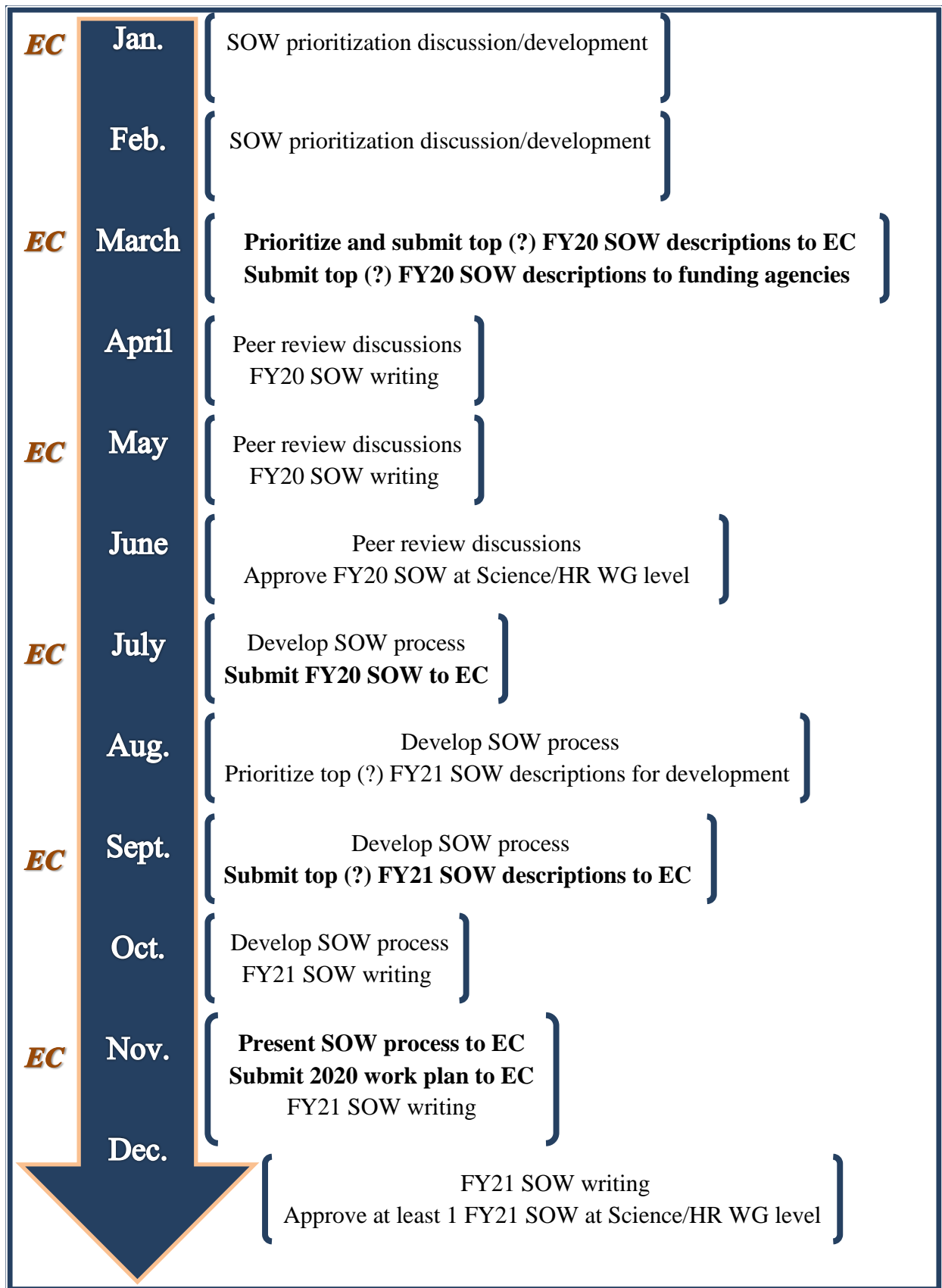
1. A prioritized SOW ideas list to develop full SOWs through at least FY21. This list will follow agreed-upon formatting and be prioritized using agreed-upon criteria.
2. Develop SOW descriptions for submittal to the EC, then after approval, submittal to funding agencies in late March 2019 and 2020.
3. Write and finalize these SOWs for review by the ScW/HR and the EC. Submit final SOWs to funding agencies in September 2019 for FY20.
4. Develop and document a process for developing SOWs, including the following details:
 - How SOWs will be prioritized
 - How peer review will be utilized
 - How the existing peer review panel recommendations will be accounted for
 - Management implications for each SOW
 - A timeline for SOW development

Each SOW idea and full SOW developed will detail the relationship between the SOW and the peer review panel recommendations, and will state a management implication (or relationship to a management action).

5. Data consolidation and inventory will be conducted for targeted objectives. Data consolidation and 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 Program Portal.
6. The ScW/HR will support the USGS' efforts to develop the Program Portal by attending related meetings, responding to surveys, and testing and providing specific feedback to improve the design and function of the site.

TIMELINE TO COMPLETE WORK:

The timeline below depicts the schedule the ScW/HR will follow in 2019. Months with EC meetings are marked by an orange "EC." Significant deliverables are bolded.



MEMBER ROSTER:

First Name	Last Name	Affiliation
Thomas	Archdeacon	U.S. Fish & Wildlife Service, Ecological Services
Jonathan	AuBuchon	U.S. Army Corps of Engineers
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
Julie	Dickey	Western Ecosystems Technology, Inc.
Kim	Eichhorst	Bosque Ecosystem Monitoring Program
Kim	Fike	Bosque Ecosystem Monitoring Program
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
Mo	Hobbs	Albuquerque Bernalillo County Water Utility Authority
Brian	Hobbs	U.S. Bureau of Reclamation
Ondrea	Hummel	Tetra Tech
Alison	Hutson	NM Interstate Stream Commission
Kathy	Lang	City of Albuquerque, ABQ BioPark
Debbie	Lee	Western Ecosystems Technology, Inc.
Joel	Lusk	U.S. Fish & Wildlife Service, Ecological Services
Shannon	Mann	Pueblo of Sandia
Mike	Marcus	Assessment Payers Association of the 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, Open Space Division

Mick	Porter	U.S. Army Corps of Engineers
Dana	Price	U.S. Army Corps of Engineers
Justin	Reale	U.S. Army Corps of Engineers
Ken	Richards	U.S. Bureau of Reclamation
Ashlee	Rudolph	U.S. Bureau of Reclamation
Stephen	Ryan	U.S. Army Corps of Engineers
Vicky	Ryan	U.S. Fish & Wildlife Service, Ecological Services
Jeff	Sanchez	U.S. Fish & Wildlife Service, Bosque Del Apache National Wildlife Refuge
Nathan	Schroeder	Pueblo of Santa Ana, Department of Natural Resources
Summer	Schulz	U.S. Army Corps of Engineers
Michael	Scialdone	Pueblo of Sandia
Lauren	Sherson	U.S. Geological Survey
Clint	Smith	U.S. Fish & Wildlife Service, Ecological Services
Ashley	Tanner	Western Ecosystems Technology, Inc.
Douglas	Tave	Los Lunas Silvery Minnow Refugium
Malia	Volke	NM Department of Game and Fish
Cody	Walker	Pueblo of Isleta, Natural Resources Department, Water Resources Div.
Lori	Walton	U.S. Bureau of Reclamation
Kim	Ward	City of Albuquerque
Dave	Wegner	Western Ecosystems Technology, Inc.
Wade	Wilson	U.S. Fish & Wildlife Service, Southwestern Native Aquatic Resources and Recovery Center
Ara	Winter	Bosque Ecosystem Monitoring Program
Leann	Woodruff	U.S. Bureau of Reclamation
Brooke	Wyman	Pueblo of Sandia
