

**Middle Rio Grande Endangered Species Collaborative Program
Science and Habitat Restoration Joint Meeting
July 19th, 2016 – 10:00am to 11:45am
ISC**

Decision Items:

- The June 21st ScW/HRW meetings notes were approved for finalization with the incorporation of discussed revisions.

Action Items:

- Rick Billings will elevate the recommended FY2017 projects to the CC at their next meeting.
- Danielle Galloway will write a Habitat Assessment Activity Summary (or narrative) for Site Evolution Research – dynamic, changes, how can river processes use to renew sites, restart succession, how a minnow site can evolve into a flycatcher supporting site, etc.
- Mick Porter will distribute the *RGSM Inundated Habitat and Life History Study* Performance Scope to the full workgroups for additional review and input.
- Dana Price and Danielle Galloway will develop a combined and updated ScW/HRW email list.
- Danielle Galloway will forward the List of Questions and Transition Plans (and any associated attachments) to both (joint) workgroup members.
- Attendees were asked to attempt to find the 2005 HRW Transition Plan. (Several agencies might have members who were around at that time.)
- Mike Marcus will extract the Total Habitat and Catalog of Restoration Sites from the Tetra Tech Eco-Hydrology report. He will also track down the 2012 Map Books.
- All members were asked to determine and document additional needs/updates for the Database including reports and documents that are missing/needed.

Ongoing Action Items:

- A small subgroup will meet to discuss spawning/genetics needs, questions, review and update the existing *RGSM Inundated Habitat and Life History Study*. Potential participants include: Mick Porter, Alison Hutson, and Mike Marcus. (*continued from 06/21/16*)

FY2017 Project Summary Recommendations:

- After a brief review of the draft FY2017 Project Summaries, the following changes were suggested:
 - *Habitat Restoration: Total Habitat* be revised to Update and Evaluate Total Habitat and include the Tetra Tech eco-hydrology report and Rio Grande Bosque site(s).
 - *Habitat Restoration: Evaluate Techniques* include compilation of monitoring results from this year (2016) and capture lesson's learned (e.g., temperature differentials related to spawning preference; observations that the minnow were constantly laying eggs from the beginning to the end – regenerating eggs in new batches?; observations that the initial spawning response was missed in the monitoring efforts; etc.).

Meeting Summary:

- Danielle Galloway brought the meeting to order and introductions were made. The agenda was reviewed and the June meetings notes were approved for finalization with the incorporation of the discussed revisions.
- The June Action Items were reviewed – 2 actions remain ongoing.
- A brief Program Update was shared.

- In response to the continued delay of the Draft BO, the EC co-chairs are discussing delaying the August EC meeting until September.
- The CC is scheduled to meet in early August. Tentative agenda items include: (1) discussion and decision on the AMT recommendation and revised structure; and (2) FY2017 Recommended Projects.
- Regarding an update on the PASS contract, a Reclamation representative was not available for comment. However, the most recent information (if accurate) was that there was only 1 bidder on the PASS solicitation. It is unknown if Reclamation will accept the bid and continue through the review process or if they have to reissue the solicitation.
- The RIP Subgroup (of the EC) hasn't met in several months. Everything is pending the release of the Draft BO.
- The FY2017 Project summaries were briefly reviewed and will be elevated to the CC.
- Updates on the Spring Runoff and Monitoring were shared. Attendees shared observations and early "lesson's learned" from the spring spawning and monitoring.
 - In general, very few eggs were observed/collected. In response, the Service collected larvae to rear for broodstock. Of the ~300 minnow sampled by the Corps $\leq 2\%$ were marked; ISC also observed older, unmarked fish.
 - Interestingly, throughout the monitoring, the "same age ranges" were observed the entire time – indicating that eggs were produced constantly from the beginning to the end.
 - Due to the lack of gravid fish discovered during the beginning of the monitoring, it can be assumed that the initial spawning occurred during the ramp up (several days prior to the start of the monitoring).
 - Attendees briefly discussed the "trade offs" between higher spring flows and extending baseflow longer in the summer (to help limit drying).
- During the June meeting, attendees put forward the recommendation that the CC and EC consider forming and implementing the Adaptive Management Team (AMT) now. Rick Billings will elevate the recommendation to the CC.

Next ScW Meeting: September 20, 2016 from 10:00am to 12:00pm; location TBD

- Attendees agreed to cancel the August meeting. If necessary, discussions can be addressed via email.
- Tentative September Agenda Items include: (1) Program Updates – Summer Drying, PASS; (2) Review and Discussion of Lists of Questions/Hypotheses/what's been done; (3) Any Other FY2017 Contracting Needs – project summaries? Scopes?; (3) Update on Draft BO – discussions?; (4) 2016 Spring Monitoring Reports (ISC, Corps) – if available and appropriate?;

Full Meeting Notes

Introductions and Agenda Approval: Danielle Galloway brought the meeting to order and introductions were made. The agenda was reviewed and approved with no changes.

Approval of Meeting Notes

- The June 21st ScW/HRW meetings notes were approved for finalization with the following changes:
 - Page 2, under *Reasons for Transitioning Now #2*, replace the colon with a semicolon;
 - Page 2, under *Reasons for Transitioning Now #5*, replace the language "...with the unaccountable ("outside") groups..." with the specific group reference: Genetics and Augmentation group;
 - Page 5, under *Population Monitoring Monthly Sampling Analysis*, there needs to be clearer "linkage" between the two data sets included in that discussion. Suggested clarification included:
 - When first introduced in ~2004, there were discussions and agreement to continue the monthly sampling until some relationship(s) with the October Index Sampling were identified/determined. Once relationship(s) were better understood, the monthly sampling could be "rolled back" to some other schedule;

- Page 5, under the *Genetics and Propagation Discussion*, a new heading of Research Options will be created for the last 2 bullet points;
- At the top of Page 6, add an update comment that the expected Draft Biological Opinion has been further delayed until late August;
- Page 8, a separate heading, titled Monitoring Questions, will be created for the “catchability” discussion;
- Attendees discussed a suggested edit to clarify that the existing workgroups would continue to function independently during a transition period to the AMT. During the discussion of this edit, it was pointed out that there are 2 distinct “workgroups”: those that are currently under the oversight and direction of the Program (ScW, HRW, etc.) and groups that are related, but currently independent of Program oversight (MAT, Propagation, etc.). The existing standing workgroups would be immediately “absorbed” and disbanded at the formation of the AMT while the other, outside groups would have a transition time during which they would continue to function independently but report to the AMT for a period. The intent is to include all groups as soon as possible to avoid the potential situation of having specific groups operate separately for years. After discussion, it was determined this edit was no longer needed.

CC Project Recommendations

- Draft project summaries/narratives were provided (as hardcopies) to attendees. The write-ups included: (1) Economic Study; (2) Data Synthesis; and (3) Habitat Restoration (a) Total Habitat; (b) Evaluation of Techniques; and (c) Habitat Monitoring Program for the Sevilleta site.
- Attendees expressed acceptance of the draft narratives to serve as place-holders. Rick Billings will elevate the recommended projects to the CC at their next meeting in order to provide them to Reclamation as soon as possible for funding and place-holders.

Action Item Review

- ✓ Mick Porter will send the Statement of Objectives (SOO) for the RGSM Inundated Habitat and Life History Study to Alison Hutson for including language/paragraphs on the possibility of multiple spawning. – *complete*;
 - The project documents were provided and reviewed. The next step will be to provide the documents to the larger group for review and any additional revision. The workgroups will need to emphasize their recommendation to proceed with the Life History Study (i.e., tank study) to the CC and Reclamation.
- ✓ Mike Marcus will send the 2001 List of Questions and the 2005 Subcommittee Transition Plans to individual ScW members to read and review for future discussions. – *complete*;
 - Several emails with attachments were sent.
 - These are important to the complete understanding of the Program’s history and evolution. Some of the questions actually pre-date the Program.
- A small subgroup will meet to discuss spawning/genetics needs, questions, review and update the existing RGSM Inundated Habitat and Life History Study. Potential participants include: Mick Porter, Alison Hutson, and Mike Marcus. – *ongoing/partially complete*;
- ✓ Danielle Galloway will write a Habitat Assessment Activity Summary (or narrative) that includes:
 - 1. Total Habitat – what done, where at;
 - 2. Evaluation of Techniques – ex. channel versus floodplain;
 - 3. Habitat Monitoring Program for the Sevilleta site;
 - 4. Site Evolution Research – dynamic, changes, how can river processes use to renew sites, restart succession, how a minnow site can evolve into a flycatcher supporting site, etc. – *ongoing/partially complete*;
 - Project summaries have been completed for Habitat Restoration 1 through 3; #4 will be completed next.

- ✓ Please contact Rick Billings to express interest (volunteer) or put forward nominations for an interim Adaptive Management Team federal and non-federal co-chair. – *complete*;
 - No one has volunteered or expressed interest, so it is assumed the interim co-chairs will default to Rick Billings and Danielle Galloway.
- ✓ Mick Porter will discuss the suggestion of a non-Corps' ScW (Program) representative to the AM team and determine a possible selection and inclusion process. – *complete*;
 - The Adaptive Management contractors have a Performance Work Statement (and work proposal) they are obligated to fulfill. The Corps' contracting oversees the scope and budget but there is no reason to have additional folks attempting to "steer" their work. However, the contractors have an "open door" policy allowing for communication and input throughout the process. (Please remember this contract is focused on the Adaptive Management Plan and not to be confused with work on the 3rd Party Management or upcoming Program's Adaptive Management Team (AMT).)
 - In a brief example of the contractor's "open door" policy, a strong point was made at the Silvery Minnow Team meeting that any AM Plan needs to recognize the water availability constraints and limitations. While this factor may be implicit within HRW over the last 15 years, it needs to be emphasized, understood, and incorporated into any AM plan. The contractors heard the request and are considering how to best incorporate this identified need into the draft plan.
 - The opportunity to be involved in the AM process is available to any interested entity/agency.
 - The Draft AM Plan will be available later this year, within the next 6-8 months. There might eventually be a need to "slide" the deadline (through a no-cost modification) but the contractor is currently on task and on schedule.
 - It was agreed that it is not necessary at this time for the AM contractor to attend workgroup meetings. A Corps' representative can provide any pertinent updates to the workgroups. Mick Porter offered to review talking points and updates with the contractor prior to the ScW/HRW meetings.
- At the August EC meeting, Rick Billings will elevate the ScW/HRW suggestions to (1) form the AMT; and (2) consideration of stopping or "pausing" the stocking of fish to the river to determine what the "wild" fish population is doing. – *ongoing due to delayed EC meetings*;
 - The August EC meeting is likely to be postponed until September.
 - The idea of "pausing" the stocking of fish in order to determine "wild" population responses was put before the last Genetics and Augmentation meeting but did not garner discussion.
- ✓ Alison Hutson will schedule an ISC meeting room for the July 19th ScW and HRW joint meeting. – *complete*;

Updates on EC/RIP/PASS status

- *Program and Science Support (PASS)*:
 - A Reclamation representative was not available for comment. However, the most recent information (if accurate) was that there was only 1 bidder on the PASS solicitation.
 - It is unknown if Reclamation will be able to accept the bid and continue through the review process or if they have to reissue the solicitation.
- *Executive Committee (EC) and Coordination Committee (CC)*:
 - In response to the continued delay of the Draft BO, the EC co-chairs are discussing delaying the August EC meeting until September.
 - The co-chairs will also be discussing the proposal to reduce EC meetings to quarterly with options for 1 or 2 workshops/multi-day meetings per year.
 - The CC is scheduled to meet in early August. Tentative agenda items include: (1) discussion and decision on the AMT recommendation and revised structure; and (2) FY2017 Recommended Projects.
- *Recovery Implementation Program (RIP)*:
 - The RIP Subgroup (of the EC) hasn't met in several months. Everything is pending the release of the Draft BO.

- In response to a question on the Draft BO process, it was clarified that the Service will provide the Draft BO to Reclamation. Reclamation will then determine how and when to release the draft to other agencies/entities. However, it is assumed there will be some form of comment and review process before the Draft BO is finalized.
 - In the spirit of openness and transparency, agencies expect to have opportunity for review and discussion of the Draft BO as Reclamation has already stated they will be providing the draft document to their Biological Assessment (BA) partners and the Program.

Update on Workgroup Priority Projects for Next Year

- At the June meeting, ScW and HRW members discussed potential FY2017 projects. The resulting draft narratives/synopses were passed around for attendee review.
 - *Habitat Restoration*
 - (1) Total habitat – what’s been done, what is the total acreage, etc.
 - A recent Tetra Tech report (i.e., the eco-hydrology report) cataloged the restoration sites and was up-to-date 2-years ago. It could be a good report to refer to for information, determination of missing “pieces” and lead into the evaluation of techniques.
 - It was suggested this task (portion) of the Habitat Restoration work for FY2017 be changed to “update and evaluate” total habitat. It should include the Rio Grande Bosque Site(s) and Los Lunas site(s).
 - (2) Evaluate Techniques – channel versus floodplain;
 - It was suggested this narrative include compiling results from this year’s recent monitoring, including lesson’s learned.
 - Attendees then discussed some of the preliminary lesson’s learned:
 - (a) *Temperature Preference*: based on the lack of success finding eggs on floodplain, it may be that the minnow are using temperature to determine where to spawn.
 - Previous restoration work used berms to create slackwater habitats that would have the slower velocity and greater temperature differences compared to the main channel. At the Corrales site, the bar had good water exchange and slow velocity but the water temperature wasn’t that much different from the river.
 - A temperature differential (maybe 2°C) might be a trigger on preference.
 - This year, the higher volume of water meant much larger areas that had to be sampled at almost all the sites. In other words, the sites were so big that the likelihood of finding eggs was greatly diminished.
 - Eggs were not found in the grids this year; but some eggs were found at the water’s edge. There were no sampling locations that contained high quantities of eggs.
 - Hopefully, processing the data can help improve the consist finding of eggs – including the possibility targeting warmer, shallower areas.
 - For future monitoring, an infrared thermometer could be used to determine warmer locations and test whether or not temperature differences are a good indicator of where eggs might be.
 - (b) *Timing of Spawn*: based on the numbers of larval fish sampled, it is assumed that the initial spawn occurred during the ramp-up period and before monitoring took place.
 - The flows were increased for several days before monitoring was initiated. Observationally, there were very few gravid fish

observed on the first day the Corps monitored. This supports the theory that spawning had already occurred.

- The characteristics of the spring flow determine the different monitoring possibilities:
 - If flow is low, more eggs can be collected because there is likely only one pulse that triggers a large spawn; and with low flows, eggs are more easily collected.
 - If flow is higher, it is harder to find/monitor and more larval/adult fish can be expected.
- (c) *Continual Spawning*:
 - The same age ranges were observed the entire time of monitoring – indicating the minnow were laying eggs constantly from the beginning to the end.
- The 2016 monitoring reports are currently being developed by the respective agencies (Corps and ISC). Draft reports may be available by September.
- (3) Habitat Monitoring Program for the Sevilleta site
 - It is unknown if ISC developed a monitoring plan for the Sevilleta; but it could have been contracted to SWCA or GSA.
 - Attendees briefly discussed how this site is interesting, not just due to the scale/size, but it is also a part of the Socorro uplift and thus more incised.
- (4) *Note: #4 has not been developed at this time.*

Updates on Spring Runoff and Monitoring

- A brief report out on the spring runoff and monitoring efforts was shared.
 - The Corps found 350 adult minnows using fyke nets, of which $\leq 2\%$ were marked.
 - ISC only found 1 minnow in the minnow traps – although this could be due to the limited time the traps were up (due to permitting restrictions). ISC also reported finding mostly older, unmarked fish. It was observed that the majority of the larval fish had a blue streak and it is questioned if this is an indicating feature for minnow larvae.
 - The BioPark collected so few eggs that the Service ended up collecting larvae for rearing of broodstock.
- Thoughts and ideas for consideration in future monitoring efforts included:
 - Replacing fyke nets with “corrals” could avoid crowding issues and cover more (different) areas. And it might be possible to keep corrals out longer. Any changes would require good, constructive discussion with the Service.
 - Temperatures are the current “best-guess” on how to actively “hunt” eggs. Grids could be set up in response to targeted locations based on temperature differential.
 - Egg salvage works best at really low flows as long as there is enough of a spike – the fish respond, but have nowhere to go. Inundated floodplain provides the best conditions for recruitment but makes finding the eggs challenging and very uncertain.
- Thoughts and ideas for future management of spawning and recruitment:
 - Attendees praised the inter-agency spring flow and monitoring efforts. This entire endeavor is Adaptive Management in action. And the information can be used to inform next year’s actions and management. It was pointed out that there may have been better coordination this year, but the agencies have been supporting these efforts for years.
 - Development of the Cochiti Deviation After Action Report has revealed an interesting potential correlation: recruitment seems tied to flow of 9 to 11 days but the October Index has a higher correlation with May to July total volume. If this is indeed a real indicator, summer volume is a higher predictor (of fall population) than spring pulses. Water in July is important for larval survival and results in less summer drying.

- *Question:* If spawning happened in the up-trending hydrograph, what could this mean for attempting flows as high as this in future years? It is recognized that higher flows provide for inundation, but ultimately how can we most efficiently manage water to get the spawning and recruitment that we need? What is the balance? If the volume of water into July is as or more important [than the spring peak flows] to the October population, can we save water with smaller spring events for later in the year?
 - *Responses:* There are no definitive answers at this point. There *may* be a stronger association of summer flow with the October Index – but it is unknown if that means we should focus on summer flow for population stability.
 - In response to questions regarding the need for more water, it was pointed out that over 300 wild fish were collected in fyky nets this year. These fish were produced in the *previous years*. Remember, 2014 had minimal flows but still had recruitment. It is possible that the flows of 2014 and 2015 are closer to target for determining a “baseline” or “threshold” of how much inundation is truly needed.
 - [In a brief recap, specifics from 2014 were recalled. In terms of volume, Albuquerque peaked around 1,500 cfs to 2,000 cfs for about 7 to 9 days. The Rio Grande Nature Center barely inundated. This could be considered as close as possible to a successful minimum.]
 - Generally, there needs to be a spring peak flow that lasts 7 to 9 days to trigger spawning and provide some inundation for hatching and survival. It was also pointed out that holding an elevated flow might be more beneficial as increases could result in “washing out” the eggs and small larvae.
 - Considering recent hydrology, 2014 could be considered a “minimum” situation. Sustaining a small elevated flow for 9 to 11 days does create the spawning and larval habitat of sufficient duration for the fish to get back into the river and be successful. Anything beyond this is a bonus (recruiting willows, etc.).
 - Either way, there is a “trade off” that has to be considered when making management decisions. There can be a decent spring spike and ramp down or attempt to disperse water longer into summer (i.e., longer baseflow is maintained, less drying).
 - As far as saving water for the summer, more analysis is required to inform management actions. In terms of the ramp down, 2016 was actually very gentle at 3 inches (or 250 cfs) per day. This is much gentler than what occurs naturally. It might be possible to “double” that rate and still not have an adverse effect on the fish. But it wouldn’t really save that much in the long run either (maybe 500 to 1,000 ac-ft). But this hasn’t really been analyzed.
- In response to question if all fish were “spent”, it was responded that based on the constant age ranges that were observed the entire time of monitoring it is assumed the minnow were “regenerating” eggs in new batches. But these questions need to be explored in the lab and could require changes in the sampling/monitoring protocols to actually determine.
- *Question:* Where did Service collect larval fish from?
 - *Response:* Unknown; it is assumed most were collected from San Acacia.
- *Question:* If there is a good monsoon this year, in late summer, would there be folks in the river looking at and documenting minnow responses?
 - *Response:* No; there is no funding or process in place to do so. The workgroup was hoping to explore the potential minnow responses to monsoon through the tank study first.
 - The draft *RGSM Inundated Habitat and Life History Study* Performance Scope will be distributed to the full workgroups for additional review and input.

- *Question:* Has anyone heard of Marks Stones’ DeFlo model? It apparently has the ability to determine temperature based on flow. It takes vegetation into account to determine temperature gradients and may be a useful tool in determining potential locations to sample/monitor (i.e., warmer areas, temperature expectations at certain flow, etc.).
 - As temperature data gets collected, it can be used to help refine the model, too.

Discussion on Convergence of Groups/Adaptive Management Team (AMT)

- During the June meeting, attendees put forward the recommendation that the CC and EC consider forming and implementing the Adaptive Management Team (AMT) now. Rick Billings will elevate the recommendation to the CC.

Next ScW Meeting: September 20, 2016 from 10:00am to 12:00pm; location TBD

- Attendees agreed to cancel the August meeting. If necessary, discussions can be addressed via email.
- Tentative September Agenda Items include: (1) Program Updates – Summer Drying, PASS; (2) Review and Discussion of Lists of Questions/Hypotheses/what’s been done; (3) Any Other FY2017 Contracting Needs – project summaries? Scopes?; (3) Update on Draft BO – discussions?; (4) 2016 Spring Monitoring Reports (ISC, Corps) – if available and appropriate?;

**Science and Habitat Restoration Joint Workgroup Meeting
July 19th, 2016 Meeting Attendees**

	NAME	AFFILIATION	PHONE NUMBER	EMAIL ADDRESS	Primary, Alternate, Other
1	Dana Price	USACE	505-342-3378	dana.m.price@usace.army.mil	P – ScW Co-Chair
2	Brooke Wyman	MRGCD	505-247-0234	brooke@mrgcd.com	P – ScW Co-Chair
3	Danielle Galloway	USACE	505-342-3661	danielle.a.galloway@usace.army.mil	P – HRW Co-Chair
4	Rick Billings	ABCWUA	505-259-0535	rbillings@abcwua.org	P – HRW Co-Chair
5	Michael Porter	USACE	505-342-3264	michael.d.porter@usace.arm.mil	A - HRW
6	Eric Gonzales	Reclamation	505-426-3557	egonzales@usbr.gov	O
7	Mike Marcus	For APA	505-379-6891	mdmenv@gmail.com	P - ScW
8	Michael “Shell” Scialdone	Pueblo of Sandia	505-771-5046	mscialdone@sandiapueblo.nsn.us	P - HRW
9	Ken Richard	ISC	505-918-9824	kenneth.richard@state.nm.us	A - HRW
10	Malia Volke	NMDGF	505-476-8160	malia.volke@state.nm.us	P - ScW
11	Marta Wood	Alliant Env.	505-259-6098	mwood@alliantenv.com	O – note taker