

Habitat Restoration Work Group Meeting
January 18, 2011

Meeting Materials:

Meeting Minutes

Rio Grande Silvery Minnow Entrapment Alleviation [presentation]

Middle Rio Grande Endangered Species Collaborative Program
Habitat Restoration Workgroup Meeting
18 January 2011 –12:30pm - 3:30pm
Interstate Stream Commission

Actions

- Tetra Tech will follow up with Gina Dello Russo on the San Acacia A&R Peer Review synopsis to be re-distributed to HR members.
- HR members were asked to read the San Acacia A&R Peer Review synopsis document and highlight areas that should be discussed at future meetings, including suggestions on how the discussions should be framed.
- Gina Dello Russo will review the Snake River system-wide analysis example provided by Colin Lee.
- Anders Lundahl and Gina Dello Russo will put together a review template/list of questions for work group members to contemplate while reviewing the San Acacia A&R Peer Review synopsis.
- Rick Billings and Anders Lundahl will provide another Program deliverable synopsis for the February meetings as the San Acacia A&R Peer Review synopsis will be postponed until the March meeting.
- Rick Billings will follow up with Monika Mann to obtain copies of the September 22nd HR workshop documentation.
- Rick Billings will write up a summary of the HR project prioritization from today's discussions complete with work group responses/recommendations and will distribute the summary to the work group members for feedback.

Recommendations

- After discussing the confusion and concern regarding the HR prioritized projects, the work group agreed to stand by their original project prioritization; however, to help clarify, it was agreed that the language/verbiage in the project scopes could be rewritten if the CC is in agreement.

Meeting Summary

- Rick Billings brought the meeting to order and introductions were made around the table. The December 14th Joint work group meeting notes and action items were not discussed.
- Attendees then briefly discussed the San Acacia A&R Peer review report. Gina Dello Russo and Anders Lundahl drafted a review of the report findings. The intent was make sure the report findings/recommendations were being discussed, used, and incorporated into work group planning and prioritization efforts. With this in mind, Gina and Anders pulled out the key findings and proposed discussion starters for each one. Unfortunately, the read ahead document was not widely read in preparation. Overall, the San Acacia A&R peer review was well done with a very knowledgeable team with diverse backgrounds. Many of the peer review recommendations were focused on the document product itself but even more recommendations and comments were relating to the Program itself.
 - Attendees also discussed the need for a system-wide approach, especially in the light of the Program's new focus on recovery. The system-wide view of habitat will have to include an agreement of spatial scale (ex. by river mile?).
 - Discussion on this synopsis will be held at the March meeting.
- Mark Doles then presented an update on the Entrapment Alleviation project. Of the original 4 sites, only one remains. The entrapment situations are low spots in the floodplain/bosque area that collect water during higher flow but when water recedes the fish are "stranded" with no access back to the river. The

idea was to take these areas and “alleviate” the entrapment by reconnecting the pools. The current expected project design includes cut 2 channels on the up and down stream sides for reconnection and then connecting all the internal pools with a small swale to encourage pool drainage. Also in the site considerations is a low berm (~2 foot) to cut off water at lower flows and direct water into the river preventing water from going further south. Some attendees expressed concern over the proposed low berm on the southern end because the impacts on areas adjacent are unknown; the berm may or may not impact the source of water access to adjacent areas. There are some funds remaining in the current Interagency Agreement (IA) between the Corps and Reclamation; the Corps may also have additional funds that can be applied as well. Reclamation has agreed to complete the construction work using their internal crew so the cost is expected to be greatly reduced (compared to having to hire a contractor). The construction phase is expected from November 2011 through May 2012 but the schedule is dependent on Reclamation’s crew schedule and the species (i.e., breeding/nesting season).

- The work group then discussed the apparent confusion generated at the last CC meeting over the HR prioritized projects. There were strong concerns expressed over the work groups “prioritizing reaches.” HR attendees reviewed the project selection process that was used to identify and prioritize projects for FY11 and it was agreed that the selection of projects was fair and there were no strenuous objections at that meeting. One difference in the project selection this year compared to previous years is that this year the work group articulated specific types of projects versus the past method of just general request for projects in the specific reaches. The work group participants viewed the descriptive project types as beneficial to properly directing the path where future HR work needs to go. This does not mean that the work group is necessarily against doing other project but this method allowed the group to get proposals that were deemed “best” and “appropriate” on the list for potential funding as soon as possible. Projects were prioritized and the suggested appropriateness of those projects happens to occur in different reaches. The misunderstanding seems to be a matter of verbiage and language. Attendees supported their original project selections but if the CC is in agreement, will re-word the scope descriptions to address the “reach prioritization” concern.

Next Meeting: February 15th, 2011 from 12:30pm to 3:30pm at ISC

- Tentative Agenda items include: (1) Program deliverable synopsis from Rick & Anders – details to be determined;
- Future Agenda Items:
 - March – San Acacia A&R Peer Review synopsis discussion;
 - Unknown – System-wide Trend Analysis using current data
 - What can be gleaned from the last 5 years of monitoring data in terms of area (not reach) trends (narrowing here, perched islands there, aggrading here, etc.) in order to arrive at a predictably in terms of areas (moving toward isolated bars, channel incision) for restoration recommendations. All the “tools” will need to be organized in advance – pictures, organizing the GIS information layers, etc.

Middle Rio Grande Endangered Species Collaborative Program

Habitat Restoration Workgroup Meeting

18 January 2011 –12:30pm - 3:30pm

Interstate Stream Commission

Meeting Minutes

Introductions and Changes to Proposed Agenda

- Rick Billings brought the meeting to order and introductions were made around the table. The agenda was approved with no changes.

Approve December 14th, 2010 Meeting Minutes

- The December 14th joint work group meeting notes were not discussed at this meeting. Approval of the notes was tabled for a future meeting.

December 14th, 2010 HR Action Item Review

- The December 14th joint work group action items were not discussed at this meeting. Review of the action items was tabled for a future meeting.

Discussion: Peer Review of the San Acacia Analysis and Recommendations Report

- Gina Dello Russo and Anders Lundahl reviewed the findings and recommendations of the San Acacia (SA) Analysis and Recommendations (A&R) Peer Review Report. The purpose was to provide a synopsis that would facilitate continued work group discussions and to ensure the peer review was used and incorporated into future planning and prioritization efforts. The synopsis pulled out key findings and discussion starters were suggested for each topic.
 - Overall, it was thought that the SA A&R review was well done by a very knowledgeable and diverse panel.
 - The SA A&R Peer Review synopsis was organized by the list of questions provided to the peer review team with responses bulleted underneath; notes and comments were included in bold. The synopsis concludes with general questions/comments that should be included in the follow up discussions.
 - One point of this exercise was to help the work group determine what the “next steps” in the process might be. It was pointed out that the recommendations were for how to improve the document/product itself as well as including other useful comments relating to Program-wide or process recommendations. The programmatic suggestions included recommendations on how to look at projects and activities. It was expressed that recommendations coming from “third-party” experts who are outside of the Program would be prudent to consider.
 - Attendees briefly discussed compiling the Program activity synopses (completed by HR members) as “cheat sheets” or “quick references” for Program use and information. This might be one way to begin encouraging “system-wide” thinking in terms of characteristics/conditions instead of lumping everything by reach (ex. recovery objectives that might need to happen at differing scales). Implementing change starts with informed suggestions generated from discussions.
 - The SA A&R Peer Review could be a starting place to begin promoting the idea of system-wide, systematic views. Suggestions, examples, recommendations from other basins could be expanded to make applicable/appropriate to the Middle Rio Grande (MRG). Projects are built with expectations of certain flows but the variations of flows have impacts; planners, agencies, and policy makers all need to be informed.

- The work group discussed the need to resolve the spatial scale – a “river mile” is about the smallest unit, but there is still a lot of potential habitat within a single river mile. There needs to be agreements on the common denominator for scale (ex. if URGWOM results for a 10-mile units but HR needs details at the river mile scale).
- There was some discussion at the December meeting on approaches for mapping habitat.
- The CC has indicated that “systems-approach” is adaptive management so it won’t be specifically pursued until the adaptive management plan has been developed.
 - There was a geo-database that was built for the SA A&R but is it unknown how many of those GIS files are available. Reclamation’s Denver office has flycatcher mapping data and the Natural Heritage has substantial vegetation maps (but they do not extend down to SA). All these layers could be pieced together for the MRG to begin building habitat maps and overlays.

Action: Tetra Tech will follow up with Gina Dello Russo on the San Acacia A&R Peer Review synopsis to be re-distributed to HR members.

Action: HR members were asked to read the San Acacia A&R Peer Review synopsis document and highlight areas that should be discussed at future meetings, including suggestions on how the discussions should be framed.

Action: Gina Dello Russo will review the Snake River system-wide analysis example provided by Colin Lee.

Action: Anders Lundahl and Gina Dello Russo will put together a review template/list of questions for work group members to contemplate while reviewing the San Acacia A&R Peer Review synopsis.

Action: Rick Billings and Anders Lundahl will provide another Program deliverable synopsis for the February meetings as the San Acacia A&R Peer Review synopsis will be postponed until the March meeting.

Entrapment Alleviation Project Status & Options (Mark Doles)

- Mark Doles, with the Corps, has been assisting with Project Management for the Entrapment Alleviation Project. He provided a project update presentation.
 - About a year ago, the Corps provided a report on the findings, history, recommendations, and conceptual plan for this project. Originally the project was contracted under an Interagency Agreement (IA) between the Corps and Reclamation. There have been discussions about contracting out the future work, but it was decided that the Corps will continue to be involved and Reclamation will use internal crews to complete the work.
 - Entrapment situations arise when high flow waters “flood” and the fish become stranded in low spots (isolated pools) with no way to get back to the river when the water recedes. The purpose of the project is to “alleviate” the entrapment by reconnecting these areas. The 2005 overbanking events are what lead to the development of this project. In 2005, there were large rescue efforts in Isleta and Bosque Farms as the water receded. It was determined that alleviating the entrapment situation would be beneficial for the fish and would be the most cost effective over time (i.e., compared to the cost of having to pay for and perform yearly rescue operations).
 - The project was started in 2006 with Program funding. The Corps was enlisted to carry out the planning. Of the original 4 sites selected, only the Bosque Site remains part of the project; the other sites were eliminated due to changes or feasibility issues.

- The Bosque Site floods around 6,000 cfs. The proposed design is to cut 2 channels on the up and down stream sides of the site for optimum drainage; all the internal pools will be connected with a small swale to encourage pool drainage. Also in the site considerations is a low berm (~2 foot) to cut off water at lower flows to prevent water from migrating further south but being directed back into the river instead. Rip Rap would be used for scour protection and in places where the channel(s) had significant slope the banks would be stabilized as well. The design incorporates a passive method of refilling the pools through time. The design specifications include non-native brush clearing since it has been challenging to identify all the low spots; the low spots will be resurveyed once the brush has been cleared. There is expected to be some removal of natives and trees (cottonwoods) as an unfortunate effect from equipment access but everything will be included in the plan. There are also plans to allow water to flood the site at a slightly lower flow than occurs now but the water will be better able to recede back to the river. This project would increase escapement of the adults, larvae, and juvenile but some entrapment could still be expected.
- The proposed designs were verified with Reclamation during the site visit on August 4th, 2010. There are still some design “tweaks” being made to tailoring the work to the Reclamation’s construction crew resources and abilities. Reclamation has agreed to perform the construction work if their crew schedule allows. This will substantially lower the cost of the project. The environmental compliance will be done as needed and necessary.
- Mark presented a tentative project schedule. ESA consultation, if necessary, will begin soon at the end of January or early February. The public review of the Draft EA is expected by the middle of February. The complete design specifications for the brush clearing and surveying are expected by the end of June. The non-native brush clearing and final construction design should be available in the fall (September through November). The actual construction work is expected between November and May but is dependant on Reclamation’s crew availability, the environmental compliance, and the species seasonal needs (i.e., nesting/breeding periods).
 - There are some funds remaining in the current IA between the Corps and Reclamation; the Corps may also have additional funds that can be applied as well. Reclamation has agreed to complete the construction work using their internal crew so the cost is expected to be greatly reduced (compared to having to hire a contractor). The CC/EC will not have to be asked for additional funds at this time.
 - Reclamation is exploring alternatives for the levees in this area but the project will probably 3 or 4 years out. There is no concern at this point that the alleviation project would negatively impact the levee. The water will be drained faster and more efficiently but it will also be brought onto the site at lower flows.
 - Post construction monitoring has been included in this project.
 - There is some concern if the inlet/outlet will stay in its current location since it has recently moved downstream and the thalweg flipped since August.
 - Some low areas (of 6 to 8 inches) will probably remain and there is nothing preventing these from filling; however, with time and sediment they should slowly fill in.
- **Question:** Regarding the proposed cutoff berm on southern end - even though it is low, aren’t there concerns with wet-land delineation issues or 404-permitting? Also, this berm could impact or limit the periodic flooding of sites directly south.
 - **Response:** A permit will be needed since the site is in the floodplain. As for the southern berm, there is a chance that the quantity of water could be impacted but the supply should not be completely cut off.

- With limited information on the floodplain down south, we don't know if the impacts will be harmful or not.
- It was suggested that the post-construction monitoring include information collection on how the design affects the flows as well as the resulting impacts to entrapment. Entrapment is a system-wide issue and hopefully the Program can include the data collected into the larger Program monitoring efforts.

HRW FY11 Prioritized Projects – Update from the 1/12/11 CC meeting

- The work group discussed the strong concerns that the CC expressed over the FY11 HRW prioritized projects. Rick Billings was tasked with reporting back to the CC on the work group's recommendation process.
 - HR attendees reviewed the project selection process that was used to identify and prioritize projects for FY11.
 - The work groups were tasked with identifying and prioritizing future projects should additional FY11 funding become available. This was the main purpose of the September 22nd HR workshop. The work group used project maps (provided by Ondrea Hummel) that listed all known on-going, planned, and recommended projects (recommended from the A&R reports). The work group systematically discussed the projects beginning with those in the Albuquerque Reach and working south down through the San Acacia Reach. This allowed participants to narrow down the list of potential and recommended projects. From this generated list, attendees then voted on project priorities (each attendee had 3 votes). Votes were totaled and there was a clear delineation of the top 3 recommended projects. There were no strong objections expressed at that time.
 - However, apparently the language in the scopes of work for the projects has lead to the misunderstanding that the work group prioritized the reaches. Apparently the Program prioritized the reaches approximately 5 years ago.
 - Ondrea Hummel apparently has a photo of the white board, the original flip chart and notes typed from those from the 9/22 meeting.
 - Attendees discussed how things can and have change over the course of 5 years. In researching the details of the work group's selection process, Rick reviewed a lot of past notes and other documents. There is nothing in the past notes that indicates that the intent was to prioritize reaches. Also, neither the HR work group nor the Program goals indicate that work has to be done in certain reaches in certain order or at certain times. The HR work group has been attempting to move toward "systems-wide" or "Program-wide" thinking. The work group only wanted to move the Program forward by recommending work where work needs to be done.
 - One difference in the project selection this year compared to previous years is that this year the work group articulated specific types of projects versus the past method of just general request for projects in the specific reaches. The work group participants viewed the descriptive project types as beneficial to properly directing the path where future HR work needs to go. This does not mean that the work group is necessarily against doing other project but this method allowed the group to get proposals that were deemed "best" and "appropriate" on the list for potential funding as soon as possible. Projects were prioritized and the suggested appropriateness of those projects happens to occur in different reaches. There is appropriateness to doing certain projects in certain areas. It is a matter of verbiage and language. It would be unfortunate to lose these types of on-the-ground projects. There are

appropriate places for these types of projects and that was described in the project descriptions – it was not meant to be interpreted as “only” for a specific reach.

- Attendees discussed how to clarify the intent of “project” prioritization not “reach” prioritization. The language of concern is found in the scopes descriptors used in developing the projects.
 - All 3 projects were delineated by “reaches” but in order to get rid of the point of confusion, the language in the scopes could be rephrased or the references to the reach could be omitted entirely. In the case of the habitat work in the Cochiti reach, some of the verbiage might also have to be made more general.
 - Some work group members expressed discomfort pursuing habitat restoration work in Cochiti when the appropriate/official tribal office communications and government to government consultations have not been initiated or completed. It was cautioned that ongoing research to determine the survivability, maintenance required, fish passage (downstream drift), temperatures, predators, etc. should also be done prior to issuing restoration RFPs. The work group might also consider spelling out any assumptions (ex. putting minnows in Cochiti) that might be associated with projects in Cochiti.
 - It was shared that there have been ongoing communications with the Program Manager regarding the need for pueblo consultations. The current response is that the consultation “has been in process.” What that means is not entirely known. Also, the pueblo representatives attending HRW could be working on this issue internally.
 - There is a lot to learn about Cochiti and there needs to be more analysis. It was suggested that the place to start could be with a Cochiti Reach A&R (maybe including Santo Domingo, San Felipe, and Cochiti). The minnow is not found in Cochiti for a reason – that fact cannot just be “written off” and needs to be better understood. The big picture for the Program is that Cochiti could be key for long-term sustainability.
 - The September workshop was very functional and the selection of projects was fair. It was a good decision process. But that may have been impacted by the representation/advocates that happened to attend. It was not about the reaches – the discussion was very open and each reach was looked at consistently and objectively to determine what had been done and what could be done. But if the results are being misconstrued as “too limiting”, then the HRW could clarify (1) the intent to “categorize” the suggested work; or (2) the different approach used this year to attempt to describe project types to focus on. This was a long discussion during the September workshop where attendees talked through different potential strategies. There was the opportunity to speak up at any time during the workshop discussions and voice any concern or dissent but there were no strong objections to the voting process or the final agreements expressed at that time. The work group was not trying to give the impression of reach priority and we are not assuming that fish will be available in Cochiti.
 - The work group did what it was tasked to do – prioritize identified projects. If projects were appropriate for a specific, identified reach then that was captured in the descriptions. That language in the scope can be changed.
 - The projects were selected carefully from a larger list generated from known complete, ongoing, and recommended future projects. The scopes can be fixed with a change in verbiage to correct or omit the reach references (ex. improve floodplain connectivity where it is poor; increase habitat diversity where limited; flycatcher habitat development within 5 miles of existing flycatcher territories; etc.).
 - Concern was voiced that if the language is fixed so that it is no longer “offensive” will the original intent of the project be lost? While that is possibly the case, it is less likely with the flycatcher because of the proximity to established populations that is

specified in the recovery plans as well as other places. But for the floodplain work, it is possible that no one will put in bids for the southern reaches.

State of Habitat Restoration Workshop and System-Wide Trend Analysis Discussions

- Attendees discussed the benefits of hosting a State of Habitat Restoration workshop (what work has been done, what work is ongoing, what work is still needed, what are the conditions, share perspectives, etc.). Apparently Reclamation has decided a similar workshop would be valuable but it is unknown if Reclamation's workshop would supplant the HRW workshop or if it would be a joint venture. One justification for a workshop is that without a shared understanding of the system, HRW members have to rely on whoever is able to attend the meeting on that day. When agencies are unable to send a representative to the meeting(s), that agencies needs or focuses are not advocated. This results in continued "piece-meal" projects; only one issue is typically addressed in one way for each project. Instead, using the "big picture" idea of what want the river should look like could lead to having some floodplain, some drying, and some multi-stand vegetation for every location.
 - A workshop could also incorporate information (ex. lessons learned, research) from other basins to refresh our approaches.
 - Concerns were expressed about the lack of on-the-ground results that should be expected with a Program budget up to \$12 or \$14 million dollars. It is recognized that the budget continues to shrink and will impact work in the future.
 - The on-the-ground restoration work is extremely important and we are always learning and developing new techniques
 - Disappointment was expressed in the lack of ability to "take a break" from the current work group process timelines in order to better develop a shared understanding of the "system" wide needs/characteristics/conditions in order to effectively/efficiently move forward. There needs to be agreement on the habitat needs – but this again raises the scale issues that need to be considered.
 - This "system-wide" approach might be very important to the new Program direction of recovery instead of just avoiding jeopardy issues – exploring other areas where the species don't currently exist versus always working where they can be found now.
 - It was expressed that with such a diverse group of representation with diverse/differing backgrounds and areas of interest/expertise, a workshop might be one way to facilitated agreement. There needs to be more "cross-learning" about both species so all representatives have a clearer shared understanding. It will be long-term learning exercise to have everyone better informed on the system-wide issues/needs/conditions/processes.
 - There are processes (such as aggradation/degradation) that are constantly shifting habitat and habitat availability over time. Are we "throwing spit balls at bulldozer?" Are we even doing enough?
 - Attendees discussed how to move ahead with system-wide analysis using current data. The monitoring data from the last 5 years could indicate what the river is doing for itself (narrowing, perched islands, etc.) for *areas* - not reach - trends. This information could then be used to come up with a predictably for those areas (moving toward isolated bars, channel incision, etc.) for restoration recommendations (ex. don't invest time/money/effort at this spot but 2 miles upstream could be beneficial). It will take time to get all the tools organized (ex. pictures; organize the GIS layers; organize all the information layers) but this would ultimately be worthwhile and educational. Trend analysis is a very valuable tool.

- No Program funds are expected to be available so the work group will have to determine how this work can be addressed internally. Gina Dello Russo volunteered take the lead and help get the system-wide look (specifically regarding inundation) started.

Conclusions

- Attendees were reminded and encouraged to speak up during the work group meetings – especially if there is a minority opinion or disagreement. Please express concerns or issues here at the work group level before it gets to the CC. Please feel free to dissent and disagree. We want the notes to better reflect the total discussions.
- In order to ensure the meeting notes better reflect total discussions and are appropriately detailed, members were also encouraged to committee to the note review process.

Action: Rick Billings will follow up with Monika Mann to obtain copies of the September 22nd HR workshop documentation.

Action: Rick Billings will write up a summary of the HR project prioritization from today's discussions complete with work group responses/recommendations and will distribute the summary to the work group members for feedback.

Next Meeting: February 15th, 2011 from 12:30pm to 3:30pm at ISC

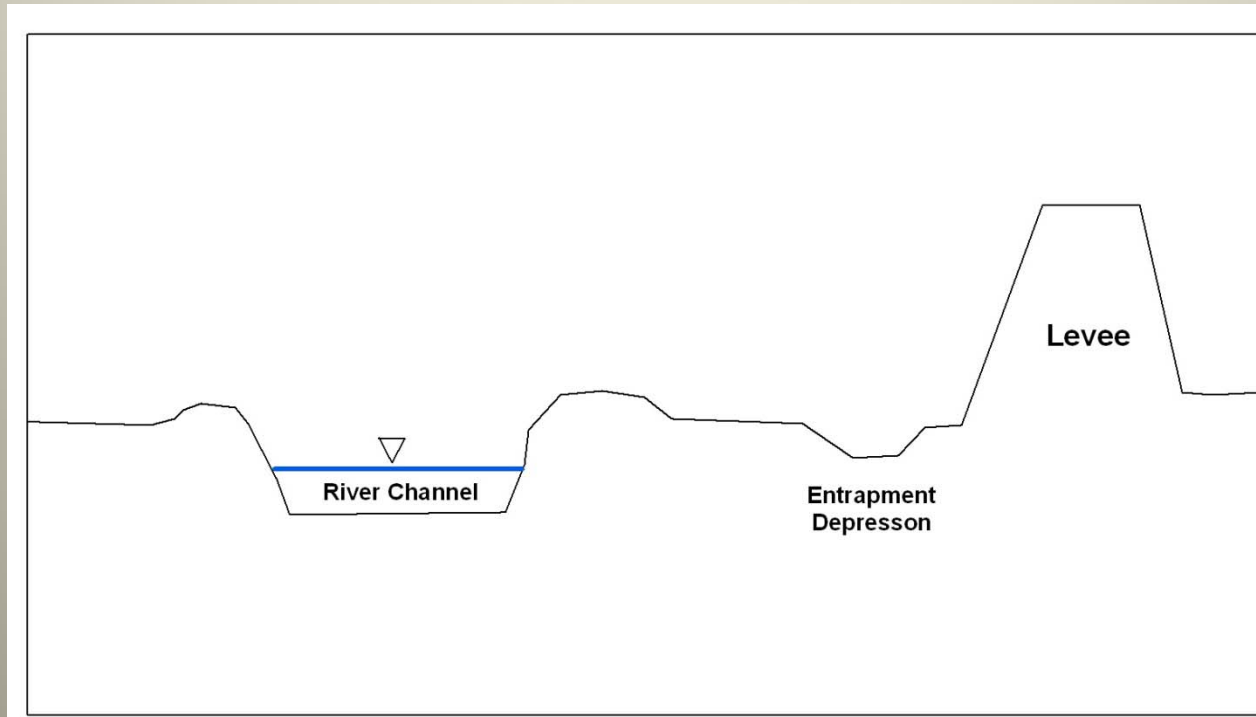
Habitat Restoration Work Group Meeting 18 January 2011 Meeting Attendees

NAME	POSITION	AFFILIATION	PHONE NUMBER	EMAIL ADDRESS
Colin Lee	HR Member	KeWa (Santo Domingo) Tribe	465-0055	clee@sutilities.com
Sarah Beck	HR Member	Corps	342-3333	sarah.e.beck@usace.army.mil
Rick Billings	HR Chair	ABCWUA	796-2527	rbillings@abcwua.org
Anders Lundahl	HR Member	ISC	383-4047	anders.lundahl@state.nm.us
Susan Bittick	CC Vice Chair	Corps	342-3397	susan.m.bittick@usace.army.mil
Gina Dello Russo	HR Member	FWS	835-1828	gina_dellorusso@fws.gov
Mick Porter	ScW Member	Corps	342-3264	michael.d.porter@usace.army.mil
David Lente	HR Member	Isleta	385-1853	poi51010@isletapueblo.com
Cody Walker	HR Member	Isleta	869-9623	poi36004@isletapueblo.com
Mark Doles	DBMS Member	Corps	342-3364	mark.w.doles@usace.army.mil
Terina Perez	PMT	Reclamation	462-3614	tlperez@usbr.gov
Marta Wood	Admin support	Tetra Tech, EMI	259-6098	marta.wood@tetrattech.com

Rio Grande Silvery Minnow Entrapment Alleviation



Altered river geomorphology has created overbank depressions

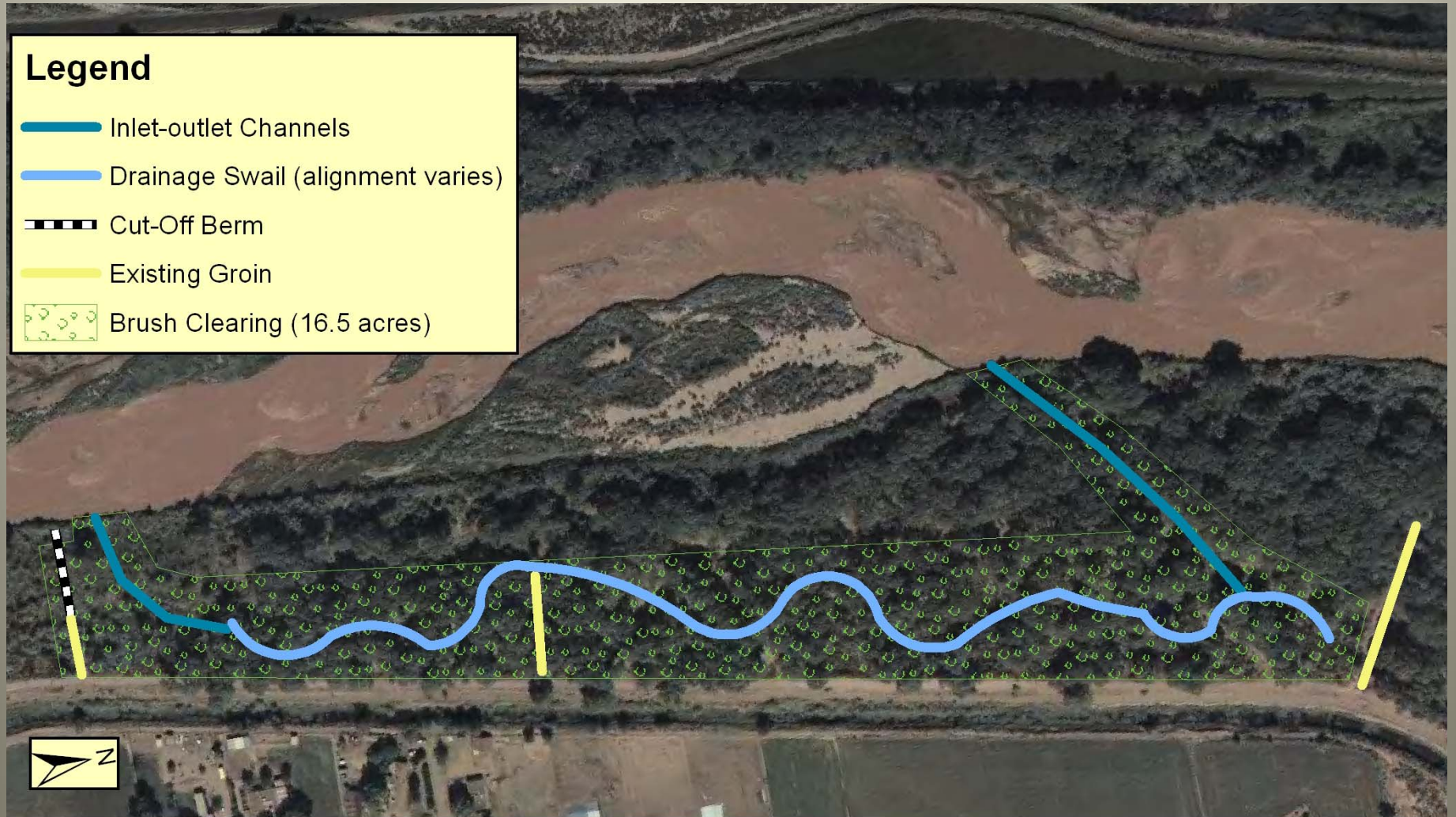


- Overbank flooding fills depressions
- Receding waters (and minnows) cut off from river
- Improved floodplain connectivity restores function and alleviates minnow entrapment.

Project History

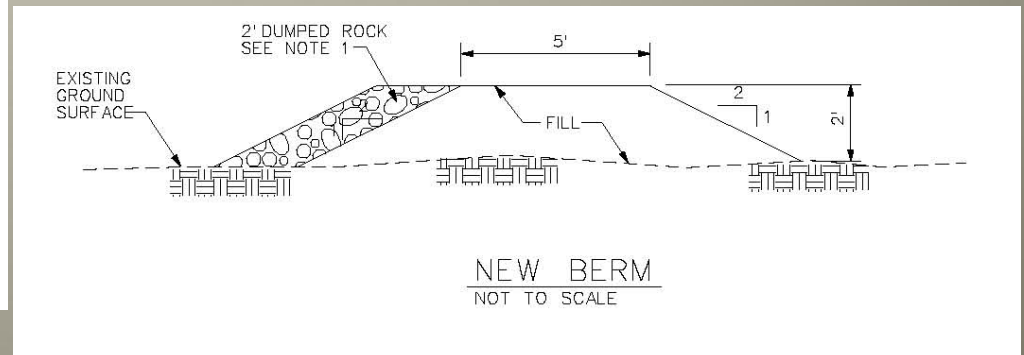
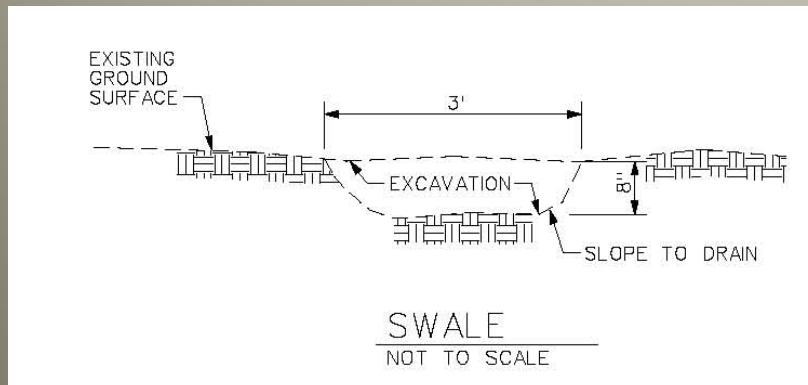
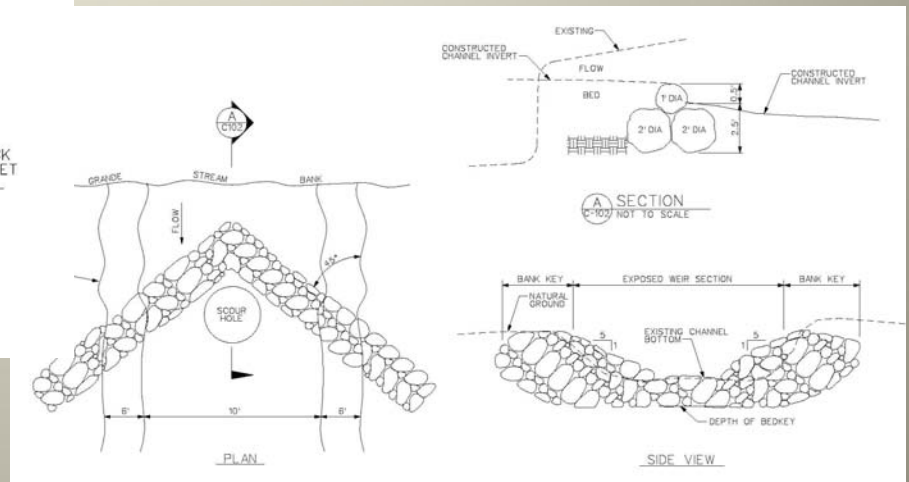
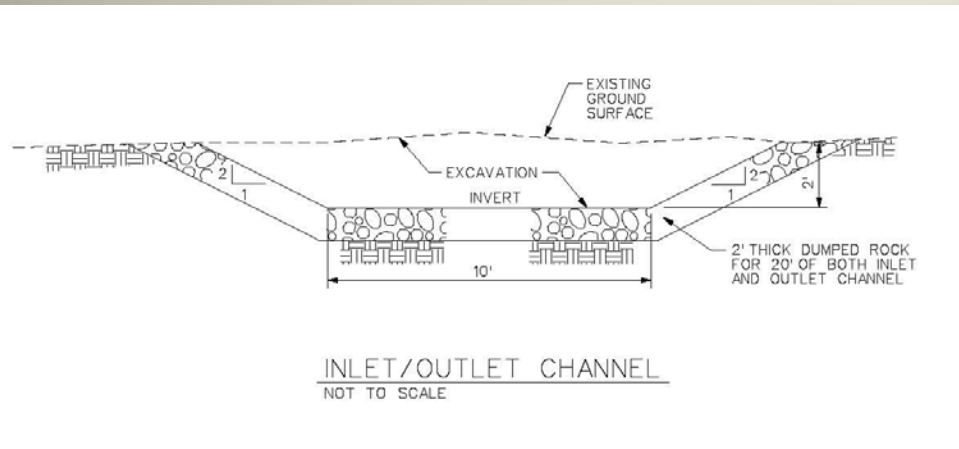
- Collaborative Program initiated project in 2006
- Program enlisted the Corps to carry out project under interagency agreement.
- 4 sites originally selected for alleviation
 - **Site 1. Bosque Farms, Immediately downstream of the Isleta Pueblo:** Overbank flow in the project area starts at around 6000 cfs, originally getting out of channel from a location upstream of the project area. The depression and elevated river bank prevent water from returning to the river.
 - **Site 2. South boundary of Bosque Del Apache National Wildlife Refuge:** The project area adjacent to the south boundary pump channel would probably benefit from an escape channel, the initial topographic survey identified deep depressions adjacent to the levee. Flooding events during the summer 2008 partially connected the depressions with the pump channel. The change in site conditions effectively eliminated the topography that resulted in fish entrapment. The HR Workgroup deemed it appropriate to eliminate the site in summer 2008.
 - **Site 3. Ft. Craig** The head-cut from Elephant Butte reservoir make overbanking of the proposed project area highly unlikely. The HR Workgroup removed from the project in February 2007.
 - **Site 4. Los Lunas / Belen (River Mile 152)** The Los Lunas / Belen restoration Site was found to have a low cost benefit ratio. Further, the proposed escapement channel excavation would have a high probability of compromising the levee integrity. The HR Workgroup also removed this site in February 2007.

Project Planning and Design



Channel Design

- Designs verified with Reclamation during site visit 4 Aug 2010.



Next Steps

- Reclamation has agreed to perform the construction work if their schedule allows. (This will substantially lower the cost of the project)
- Environmental compliance = Consultation if necessary and NEPA.
- Design specifications for non-native brush clearing, survey and final design for construction.
- Construction (5 phases)

Schedule

- Feb 2011 - Begin ESA consultation if necessary.
- Mid February 2011 - public review of draft Environmental Assessment.
- End of June 2011 – Complete design specifications for brush clearing and survey.
- Aug 2011* - Access road (levee road) maintenance – *Pending completion of Environmental compliance and BOR work schedule.
- Sep-Nov 2011 - Non-native brush clearing -> Survey-> Final design for construction.
- Nov-May 2011-12 - Construction

Rio Grande Silvery Minnow Entrapment Alleviation Bosque Farms Site Implementation Schedule																		
Version: 3 Jan 2011																		
Milestone Date	FY 2011												FY2012					
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Revise Design				■														
Verify Brush Clearing				■														
Revise BA				■	■													
Transmit BA (MS) 28-Jan-11				■	■													
ESA consultation					■	■	■	■	■	■	■	■						
Review Draft BO											■							
USFWS Prepare Final BO											■	■						
Receive BO (MS) 29-Jul-11													■					
Review Schedule based on USFWS 15-Mar-11						■												
Revise EA				■	■													
Draft EA NOA (MS) 11-Feb-11				■	■													
Draft EA for Public Comment					■	■	■											
Respond to EA Public Comment							■											
Sign FONSI (MS)													■					
Survey & Clearing Plan/Spec										■								
Coordinate Clearing											■	■	■					
Perform Road Work													■	■				
Perform Clearing													■	■	■			
Perform Survey													■	■	■			
Finalize design/specs															■	■		
Construct															■	■	■	■

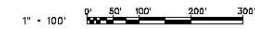
Construction Period (low flow outside of nesting season) ■■■■
Milestone activity due during week specified ■



LEGEND

- ALIGNMENT OF INLET/OUTLET CHANNEL
- ALIGNMENT OF SWALE
- ALIGNMENT OF BERM
- EXISTING TREE
- EXISTING VEGETATION
- TEMPORARY BENCHMARK

SITE PLAN
SCALE: 1" = 100'



NO.	DATE	REVISION

IN CHARGE: []
 PROJECT NO.: []
 DRAWING NO.: []
 SHEET NO.: []
 DATE: []

DESIGNED BY: []
 DRAWN BY: []
 CHECKED BY: []
 DATE: []

U.S. ARMY ENGINEER DISTRICT
 CORPS OF ENGINEERS
 ALBUQUERQUE, NEW MEXICO

DIST. SYMBOL: []
 DATE: []

IRIGES COLLABORATIVE PROGRAM BOSQUE FARMAS, INI
 RIO GRANDE SAVERY MEADOW
 ENTRANCE ALLEVIATION
SITE PLAN

SHEET NO.
C-101
 1 OF 2
 SEQUENCE NO.
 1