Executive Committee Meeting January 17, 2013

Meeting Materials:

Meeting Agenda Meeting Minutes San Acacia Reach Work Group [presentation]



Middle Rio Grande Endangered Species Collaborative Program EXECUTIVE COMMITTEE MEETING AGENDA Thursday, January 17, 2013 9:00 am – 1:00 pm

LOCATION: Bureau of Reclamation, 555 Broadway Blvd. NE, Albuquerque, NM

1.	INTRODUCTIONS AND REVIEW OF PROPOSED AGENDA*	5 minutes
2.	DECISION – APPROVAL OF DECEMBER 20 EC MEETING SUMMARY*	10 minutes
3.	 UPDATED SCHEDULE* A. BO Activities Final Action Agency Supplements (BOR/USACE) Reinitiation of Formal Consultation (FWS) Water Management Planning (BOR) B. RIP Documents and Activities Minnow Action Team (NMISC/MRCGD) RIP Action Plan (G. Haggerty) Program Document (D. Freeman) 	60 minutes
BREAK		15 minutes
4.	RIP 3 rd PARTY MANAGEMENT UPDATE (S. Farris/R. Graham)	20 minutes
5.	DECISION – APPROVAL FOR BOR TO INITIATE ACQUISITION PROCESS FOR FINANCIAL MANAGEMENT ENTITY COOP AGREEMENT INCLUDING APPROVAL OF FME SCOPE OF WORK*	15 minutes
6.	REPORT OUT ON SAN ACACIA REACH AD HOC WORKGROUP (G. DelloRusso)	45 minutes
7.	TRANSITION IN PROGRAM MANAGEMENT	15 minutes
8.	MEETING SUMMARY	
9.	PUBLIC COMMENT	

- **10. ANNOUNCEMENTS**
- 11. DECISION NEXT SCHEDULED EC MEETING February 21, 2013, 9:00 am 1:00 pm; March 28, 2013 (rescheduled)

*denotes read ahead

Members ABCWUA ISC NMDA Sandia Pueblo UNM

APA Isleta Pueblo NMGF Santa Ana Pueblo USACE

Middle Rio Grande Endangered Species Collaborative Program Executive Committee Meeting Thursday, January 17th, 2013 9:00 am – 1:00 pm

Actions

- Kris Schafer will check with the USACE counsel to determine if the Corps' response letter to the Service dated January 15th, 2013 can be made available to the EC to help inform discussions on resolving the number of BOs (one vs. two) in the reconsultation.
- EC members will review the Draft Financial Management Entity Scope of Work and submit any comments to Rhea Graham and Ann Moore no later than close of business on Friday, January 25th, 2013.
- San Acacia Reach workgroup presentation materials will be printed for distribution and emailed to participants in the 2009 workshop, and posted on the Program website.

Decisions

- The December 20th, 2012 EC meeting summary was approved for finalization with the following changes:
 - On page 2, under Path Forward as Related to Expiration of the 2003 BO, the word "major" will be omitted from the sentence: Reclamation had intended to include the Recovery Implementation Program (RIP) as a the major conservation measure in the Final Draft Biological Assessment (BA) supplement.
 - On page 3, under *Discussion and Resolution of Comments Received to Date*, it will be clarified in the 4th bullet that "…intent has always been for the compliance metrics to be developed *by the EC* as a group but the Service has a regulatory responsibility to oversee the sufficient progress and has to confirm that there is not a jeopardy situation every year *based on the application of those metrics.*"
 - In the first sentence under *RIP* 3rd Party Subcommittee Management Feedback on Draft Cooperative Agreement for Financial Management Entity and SOW on page 5, the word "later" will be corrected to "latter."
- With a quorum present and no objections expressed, the EC decided to review the Draft Financial Management Entity (FME) Scope of Work (SOW) and submit comments to Rhea Graham and Ann Moore by close of business on Friday, January 25th. The FME SOW will be revised accordingly and provided to Reclamation for contracting revisions. The FME SOW, once reviewed by Reclamation, will be posted online by February 14th as a read ahead for approval at the February EC meeting.

Requests/Recommendations

- The RIP Program Document includes a proposed sequencing of timing for annual document and report updates. During the meeting, it was suggested that the RIP Annual Progress Report (generated by the RIP) be submitted by November 1st or 15th of each year (instead of in December). This would provide the Service with nearly two months to complete the Annual Sufficient Progress Determination, tentatively expected by January 15th of each year. The RIP Action Plan would then be updated by March 1st of each year and the Annual Work Plan would be updated by April 30th of each year. It was also suggested that the RIP Program Document consider the contracting and budget-planning constraints to ensure that planning is done one year ahead (i.e., annual work plans for the following fiscal year need to be completed by April/May the year prior). Another suggestion was that the Draft Action Plan and Draft Work Plan(s) be submitted with the RIP Annual Progress Report as a method to highlight the planned projects and initiate the review period in order to meet the March and April timelines proposed.
- There are numerous appendices to the RIP Program Document that need to be completed. Anyone interested should contact a RIP Program Document Focus Group team member to express interest or availability.

Next Meeting: February 21st, 2013 from 9:00 AM to 1:00 PM at Bureau of Reclamation

- Tentative agenda items include: (1) Prognosis for Cochiti Deviation discussion; (2) Detailed review of Revised RIP Action Plan presentation?; (3) Approve revised FME SOW; (4) BA/BO Scheduling Update including update on Resolution of One or Two BOs;
- Tentative February/March 2013 Agenda Item: (1) Presentation of Minnow Action Team Recommendations
- Future Agenda Items: (1) Updated 10(j) population schedule and report out on FWS Regional Office approval to proceed; (2) Updates/continued discussion on the acquisition of past mesohabitat data;
- NOTE: Following the normal scheduling, the March 21st meeting would conflict with the Rio Grande Compact Commission meeting that same day. The March EC meeting was scheduled for March 28th.

Upcoming Dates and Deadlines:

- January 23rd tentative CC meeting (UPDATE: this meeting has been cancelled)
- January 22nd Engineer Advisors meeting (in preparation for the RGCC meeting)
- February 6^{th} CC meeting
- February 14th February EC meeting read aheads due
- February 21st EC meeting, 9:00am to 1:00pm at Reclamation
- February 25th-27th Engineer Advisors Meeting
- February 28th expiration of 2003 BO; formal consultation must be reinitiated prior to the expiration of this BO to ensure continued compliance with Sections 7 and 9 of the ESA
- March 21st Rio Grande Compact Commission meeting
- March 28th EC meeting (delayed one week due to conflicts with the March 21st RGCC meeting)
- end of March 2013 CPUE workshop

Meeting Summary

Introductions and review agenda: Brent Rhees brought the meeting to order. Everyone was welcomed to the first meeting of the New Year. Introductions were made. The revised agenda distributed yesterday was approved with no changes.

Decision – Approval of the December 20th, 2012 EC meeting summary: The December 20th, 2012 EC meeting summary was approved for finalization with the following changes:

- On page 2, under *Path Forward as Related to Expiration of the 2003 BO*, the word "major" will be omitted from the sentence: *Reclamation had intended to include the Recovery Implementation Program (RIP) as a the major conservation measure in the Final Draft Biological Assessment (BA) supplement.*
- On page 3, under *Discussion and Resolution of Comments Received to Date,* it will be clarified in the 4th bullet that "…intent has always been for the compliance metrics to be developed *by the EC* as a group but the Service has a regulatory responsibility to oversee the sufficient progress and has to confirm that there is not a jeopardy situation every year *based on the application of those metrics.*"
 - Attendees were reminded that while the Service, as the regulatory agency, has a significant role in the group that develops the metrics that will be used.
- In the first sentence under *RIP 3rd Party Subcommittee Management Feedback on Draft Cooperative Agreement for Financial Management Entity and SOW* on page 5, the word "later" will be corrected to "latter."

Updated Schedule

• BO Activities

- Final Action Agency Supplements (Reclamation): As has been discussed, Reclamation has been 0 preparing their draft Biological Assessment (BA) with non-federal agency partners (MRGCD, ISC) in terms of conservation measures to have considered. The "final" completed package with a cover letter was submitted to the U.S. Fish and Wildlife Service (Service) vesterday (01/16/13). The BA package included discussions about analyses and conclusions. Also included in the submittal was a request that formal consultation be reinitiated. The BA package will be posted to Reclamation's website and a link will be posted on the Collaborative Program's (Program) website as well. Reclamation intends to work in collaboration with the non-federal agency partners, the U.S. Army Corps of Engineers (Corps or USACE) and the Program to utilize the Recovery Implementation Program (RIP) as the fundamental (primary) conservation measure for the Biological Opinion (BO). The RIP has been identified as the intended conservation measure in this submittal but the Program was left in its current state as a conservation measure to be analyzed because the full and complete set of RIP documents have not been approved yet. The next steps should include completing and finalizing (approving) the RIP documents, discussions with all parties to determine the standing of all the conservation measures, and complete and approve the RIP authorization documents in order to have the RIP program in place to be utilized as the conversation measure. Reclamation hopes to hear from the Service within the next 30 days regarding the initiation of formal consultation.
- *Final Action Agency Supplements (USACE)*: Back in August 2012, the Corps received the Service's comments related to the sufficiency of their BA. A response letter addressing the sufficiency concerns was submitted to the Service on January 15th. However, the Corps' BA itself will not be revised and resubmitted until the number of BOs (one "joint" BO versus two "agency specific" BOs) has been resolved. There is no update on the process to resolve this issue and there is no known timeframe for that resolution.
- *Reinitiation of Formal Consultation:* The Service has received both submittals (Corps' response letter and Reclamation's BA submittal) but there has not been enough time to review the recent documents. The 30-day response "clock" does not start since there is not a complete BA submittal from the Corps.
- *Schedule:* The RIP Document Activity Schedule timelines have been recently revised (please refer to read ahead). The red lines and strike outs are based on the Service's comments.
 - It was pointed out that the Service will need time for internal review of the Draft BO before it is provided to the action agencies. The Service would like to know the EC preference on the Draft BO review schedule. The EC could be involved in the BO review "up front" before the document is considered "almost complete" or if it would be better to engage the EC after the document has been vetted and is nearly complete.
 - Attendees were reminded that language in the 2003 BO stipulates that the 2003 BO (and incidental take coverage) will automatically extend as long as formal consultation is reinitiated before the February 28th expiration date. *Please refer to the discussion in the December 20th, 2012 meeting summary on page 3.*
 - It was shared that the Service cannot currently reinitiate consultation for anyone at this time because a sufficient BA from the Corps has not been submitted. If formal consultation is not initiated, then no one (including Reclamation and the Corps) will have coverage for ESA Section 7 and Section 9.
 - Some members expressed hope that the recent January submittals will generate more focused discussion and lead to quick resolution.
 - As a point of clarification, it was shared that the Service's standpoint is that there is to be a joint BO; the current 2003 BO is joint for both action agencies. The Corps is seeking an agency specific BO.
 - The Corps perspective is that their request for an agency specific BO is justified based on the regulations. The goals of the Service, the two action agencies, and the Program can all be met in more than one way.

The recovery goals can still be met even if there are two BOs – which is the request. The Corps is doing what is in their best interest and it is not in conflict of regulations. The Corps' perspective is that the regulations are "on their side." In response, it was shared that the Service has the exact same perspective for their agency as well.

- A member pointed out that there are multiple BOs in the basin already. All those other BOs will be included in the environmental baseline for this consultation.
- In response to what can be done to reach resolution, the Service, Reclamation, and the Corps have scheduled meetings and will meet as often as necessary to attempt to reach resolution before the deadline.
- Water Management Planning: As has been discussed, Reclamation initiated a Water Management Planning (WMP) process with several workshops last year. As a result, there is a group working on the infrastructure-related items identified in the workshops and a group addressing the policy and authorization issues (ex. reservoir management). The WPM effort has "slowed" down over the holidays, but will "ramp up" once the Program returns to the RIP development. The WMP groups will develop a package of alternatives that can be/will be investigated and implemented. Those alternatives could be put into the Action Plan going forward.
- *RIP Documents and Activities*
 - *Minnow Action Team:* The Minnow Action Team has been meeting almost monthly and in the interims, team members have actions that they continue to work on. In December, the Minnow Action Team met with biologists to determine potential biological responses to actions and discuss what other options (besides manipulating flows) could be done. The group has been discussing options to get a spawn and successful recruitment with minimal flow potential this spring. It has been suggested that as many eggs as possible be collected above Elephant Butte in order to have a brood stock for next year. There might be a more "formalized" report available in February. The team is scheduled to present at the Engineer Advisors meeting to begin the process for a possible Cochiti Deviation this year. Their next meeting is on February 20th.
 - *RIP Action Plan:* The RIP Action Plan was not endorsed at the December 2012 meeting. EC members delayed approval until a draft BO or the species needs white paper could be reviewed. Right now, the Reclamation BA does not include the RIP as a conservation measure. The Action Plan team is moving forward with working on schedules and costs for actions. The team is also discussing addressing Service and Corps comments.
 - Some outstanding issues include:
 - *Potential for additional listed species:* The Service commented that they are considering additional species. However, nothing is definite yet so these will not be included in the Action Plan at this stage.
 - *Commitments:* Not all actions have a commitment. This will have to happen within the consultation process.
 - *Sufficient Progress Metrics:* Patrick Redmond and Deb Freeman have developed a proposal for sufficient progress metrics; however, it has not been reviewed internally within the Action Plan team. Their next meeting is on January 28th. The group will review the proposal and discuss with the Service their impressions of that proposal.
 - It was shared that the team is aware of and has been referring to performance metrics used in other programs. However, other programs have "performance milestones" that are more general.

The proposed metrics for the Middle Rio Grande are much more specific than in other areas.

- *Future Action Plan Development:* There needs to be a clearly defined process for updating the Action Plan every year. The steps to be performed annually to ensure the plan is updated appropriately need to be clearly outlined.
- *Program Document:* The Program Document focus group met after the last EC meeting in December. They continue to address comments from the Corps and the Service. There may be a few outstanding issues that the focus group needs to further address before providing the EC with a revised draft.
 - The Program Document includes a proposed sequencing of timing for annual document and report updates. The focus team would like feedback from the EC regarding the proposed timeline.
 - *December 1st:* Each year, the RIP Annual Progress Report (generated by the RIP) would come out by December 1st. This allows the Service a 45 day response time.
 - *January 15th*: Receipt of the RIP Annual Progress Report by December 1st allows the Service a proposed 45 days to produce the Sufficient Progress Determination by January 15th.
 - *March 1st*: Using the RIP Annual Progress Report and Sufficient Progress Determination, the Action Plan would be updated by March 1st.
 - *April 30th*: The updated Action Plan would then inform a revision of the Annual Work Plan by April 30th.
 - During the meeting, it was suggested that the RIP Annual Progress Report (generated by the RIP) be submitted by *November 1st or 15th* of each year (instead of in December) in order to provide the Service with nearly two months to complete the Annual Sufficient Progress Determination. However, the January 15th due date will be dependent on the amount of time necessary to complete the documentation, level of internal review needed by the Service, and the level of necessary signatures.
 - In response to concerns about the Sufficient Progress Determination, it was reiterated that the Service will be working with the RIP throughout the year to address any issues as they arise. There should be no surprises in the Annual Sufficient Progress Determination.
 - It was also suggested that the RIP Program Document consider the contracting and budget-planning constraints to ensure that planning is done one year ahead (i.e., annual work plans for the following fiscal year need to be completed by April/May the year prior).
 - Another suggestion was that the Draft Action Plan and Draft Work Plan(s) be submitted with the RIP Annual Progress Report as a method to highlight the planned projects and initiate the review period in order to meet the March and April timelines proposed.

Approval for Reclamation to Initiate Acquisition Process for Financial Management Entity (FME) Coop Agreement including Approval of the FME Scope of Work (SOW)

- At the December meeting, the EC requested Jericho Lewis (Reclamation's contracting officer) provide comments on the FME Cooperative Agreement by January 7th. The comments submitted, however, were focused on the draft SOW instead of on the draft FME cooperative agreement. Since the SOW has to accompany the documents that form the solicitation package for the FME, the 3rd Party Management subcommittee has shifted focus to concentrate on the SOW as the document of primary concern at this time in order to obligate the FY13 funds as soon as possible.
- The draft SOW was distributed yesterday. It is a short document and accommodates Jericho's comments. This scope is strictly for the FME the "money handling" agency. They do not have to have any real knowledge of what the Program is doing as it acts solely at the direction of the EC and

eventually the Executive Director as well. If the FME SOW can be approved by the next EC meeting, it should be possible to obligate the money in time.

- There are several items in the SOW to point out:
 - The first item under "work to be performed" on page 2 states that the FME recipient will provide the personnel, space, equipment, and supplies for staff to do their job. There have been previous discussions at the EC regarding commitments from non-federal partners to provide office space and equipment as cost-share contributions. Any agency willing to provide office space and equipment must come forward and commit by next month. This offer must be in writing and signed by appropriate agency persons. Having these provided as in-kind services would certainly lower costs and allow funds to be spent elsewhere.
 - Regarding the language in Item 4 on the bottom of page 2 that "All activities shall occur as approved by Reclamation contracting authorities..." it was clarified that Reclamation does not currently have authorization for a "pot of money." It will remain up to Reclamation to oversee the spending during the capacity building period and into the future. As long as there are no scope changes or modifications or out-of-scope issues, there should be little need for the Grant Officer (GO) to be involved. Hopefully, scopes will be comprehensive enough that once awarded there won't be any need to modify. In order to clarify this point, it was suggested that the sentence be modified to include language "The Reclamation GO shall endeavor to approve all designated activities *beyond this scope* in an expedited manner so as to assure maximum efficiency and responsiveness to the Collaborative Program.
 - This scope is limited to Reclamation's funding at this point; hence, "all activities" are everything that is to be funded through Reclamation. At some point in the future, there will eventually be Corps funding, state funding, etc. At that time there would need to be a cooperative agreement with multiple parties.
 - In response to a question regarding the EC's involvement with and direction to hire the Executive Director, it was clarified that the EC may not be able to hire their first choice. The FME will not proceed in hiring an Executive Director outside of a previously identified "spending bracket." There will be iterations and negotiations but the EC will determine the leeway and be involved in the negotiations.
 - Regarding the concern that the Executive Director "acts at the pleasure of" the EC, it was pointed out that the EC explicitly wanted to be able to terminate the position if necessary and appropriate. The EC will be able to determine the termination process (ex. 75% of the EC to approve the termination).
 - It was clarified that the schedule included in the draft SOW only outlines tasks for the FME in the first year. There are other things that have to happen prior to the securing of an FME. For example, the solicitation needs to be posted followed by an open bid period. There will be proposal review hopefully leading to an offer.

Decision: With a quorum present and no objections expressed, the EC decided to review the Draft Financial Management Entity (FME) Scope of Work (SOW) and submit comments to Rhea Graham and Ann Moore by close of business on Friday, January 25th. The FME SOW will be revised accordingly and provided to Reclamation for contracting revisions. The FME SOW, once reviewed by Reclamation, will be posted online by February 14th as a read ahead for approval at the February EC meeting.

Report Out on San Acacia Reach Ad Hoc Workgroup

- Gina Dello Russo, ecologist at the Bosque del Apache Wildlife Refuge (BdA) and co-chair of the San Acacia Reach (SAR) ad hoc workgroup presented a quick summary of the completed workgroup products. The presentation and copies of the actual white papers were provided as a handout. This document is being submitted to the EC as fulfillment of the SAR workgroup charter and completion of objectives.
 - The SAR is defined as the stretch of river from the San Acacia Diversion Dam to the Elephant Butte Reservoir. In 2009, the SAR workgroup hosted a reach-specific workshop.

This workshop was well attended by agency staff and community members. The attendees identified many issues of importance and the workgroup used that feedback to identify topics to examine further. As a result, the work group developed 5 white papers on those topics. These white papers were written from a technical perspective and do not necessarily reflect agency or individual positions.

- It was noted that certain issues, such as habitat restoration and invasive species control, are addressed by other parts of the Program. While these topics might be construed as missing pieces, they are not; they are covered elsewhere.
- o General Recommendations and Suggestions
 - Convene a diverse group of stakeholders, present workgroup papers and discuss San Acacia Reach Plan development.
 - Develop small working groups, as needed, with specific tasks to evaluate and prioritize recommendations from the papers to move towards long term solutions that address MRGESCP action plan goals.
 - Evaluate recommendations with respect to water and land management policies and laws affecting the San Acacia Reach, and science and priority research needs to inform plan formation and plan action elements.
 - Identify alternatives and develop a course of action for agencies', MRGESCP, and other stakeholders' consideration.
 - Present draft plan in a follow-up workshop for stakeholders.
- Focus Issue: Floodplain Land Use
 - Background and description
 - There is only one levee, located on the west side through SAR.
 - The floodplain is unprotected from development through county ordinances.
 - Landownership is diverse, with the majority being privately owned.
 - High flows provide important habitat benefits.
 - The "floodway" delivers water to downstream users.
 - Issues:
 - Endangered Species Habitat Issues:
 - Future obstructions and the need to protect structures could limit water management that benefits endangered species;
 - Rio Grande silvery minnows could be stranded due to obstructions.
 - Liability Issues:
 - Potential liability to landowners and local and federal agencies if flooding endangers the public or damages property;
 - Possible changes in flow paths of the river due to obstructions which could impact the levee;
 - Construction of structures in the floodplain can increase fire danger at the wildland-urban interface.
 - Ecosystem Processes Issues:
 - High flows help to scour vegetation on river bars and keep the channel open to pass floods and move sediment;
 - Riparian wildlife habitat could be disturbed and/or fragmented by floodplain development.
 - Water Management Issues:
 - There could be increased water loss due to ponding at obstructions;
 - If development in the floodplain further reduces channel capacity, water delivery to Elephant Butte Reservoir to meet Rio Grande Compact obligations would be impacted.
 - Current Status/Efforts Underway:

- Grassroots efforts to protect and enhance floodplain include the Rio Grande Agricultural Land Trust, Save Our Bosque Task Force, Natural Resources Conservation Service, and others.
- There are also agency efforts underway such as the USACE's San Acacia to Bosque del Apache Levee project and Reclamation's River Maintenance Program.
- Recommendations:
 - Complete a scope of work to evaluate potential risks from future development. The workgroup did develop a draft scope of work but it was never completed.
 - Further engage local community.
 - Develop a comprehensive program to provide incentives for protection and enhancement on private lands.
 - Encourage conservation easements.
 - Encourage county permitting and review processes to address floodplain land use.

o <u>Focus Issue: River Erosion and Sedimentation</u>

- Introduction:
 - Effective Sediment Management is a key component for the reach's geomorphic and ecologic function.
 - The San Acacia Reach has both degrading and aggrading sub-reaches causing challenges to safe flood risk management, water delivery, and the creation and sustainability of quality endangered species habitat.
 - The river channel is constantly changing as the river seeks to balance the movement of sediment (sediment supply) with the power available from the flow of water (sediment transport capacity).
 - The imbalance between transport capacity and supply is a key cause of channel and floodplain adjustment in this reach.
- Background:
 - The river is narrowing in this reach.
 - This narrowing, coupled with vegetation encroachment, increases the channel's boundary roughness and the amount of sediment deposition.
 - This depositional process is strongly evident in the perched channel reach between San Antonio and San Marcial.
 - With recent drought and resulting base level lowering at Reservoir pool (125 feet), the river bed has lowered ~4 ft. at the San Marcial railroad bridge.
- Issues:
 - Effective water and sediment delivery and improved sediment management are needed.
 - Riverside facilities need protection from flooding damage or erosion damage.
 - Channel process dynamics including sediment erosion and deposition are critical fluvial processes to the regeneration and development of new endangered species habitat.
 - Incision is progressing below San Acacia diversion downstream, where there is excess transport capacity and in San Marcial area, where slope adjustment is occurring in response to the lowered reservoir pool.

- Deposition in the Refuge subreach and delta of Elephant Butte Reservoir where there is limited transport capacity due to slope and width changes.
- Recommendations:
 - Monitor and collect data on sediment transport loads into and through the reach;
 - Analyze and model river sediment transport behavior for current trends and future management scenarios in the reach. Consider endangered species habitat quality and sustainability, effective water delivery, and flood risk management;
 - Develop options for better sediment management in the river and floodplain, apply test practices, and report results;
 - Provide decision makers with comprehensive analysis and alternatives to consider for effective sediment management.

• Focus Issue: Low Flow Conveyance Channel:

- Background:
 - The Low Flow Conveyance Channel (LFCC) was constructed in the 1950s to deliver river flows efficiently from San Acacia Diversion Dam to Elephant Butte Reservoir; it extends about 60 miles.
 - A spoil levee was established immediately to the east of the LFCC using material dredged during its construction.
 - It was operated as a surface water delivery channel for approximately 30 years until Elephant Butte Reservoir filled and flooded the LFCC outfall (1984); it has operated as a passive drain since that time.
 - The LFCC delivers surface water and captures shallow groundwater.
 - There is a new outfall at the upstream end of the Silver Canyon (~River Mile 55).
- Current Status/Efforts Underway:
 - MRGCD can divert water from 3 LFCC locations.
 - BdA has the capacity to divert water from 2 LFCC locations.
 - The LFCC currently supports flycatcher habitat at the historic Reservoir delta area (River Mile 60 downstream to narrows).
 - LFCC serves as 1 of 2 primary sources of water delivered to Elephant Butte Reservoir, the river being the other primary source.
 - The Corps is beginning construction of a levee project to protect, among other area assets, the LFCC.
 - The Bureau of Reclamation/MRGESCP, currently pumps water from the LFCC to the river in drying periods (3 to 4 locations).
- Issues:
 - The LFCC and area levee constrict the active floodplain to the eastern side of the valley;
 - A sediment imbalance through the reach affects water volume in the river and LFCC;
 - The LFCC is an important water delivery source for water users in the San Acacia Reach, including the MRGCD and the Bosque del Apache NWR (supplying summer and the only winter water delivery source to the refuge);
 - The LFCC serves as area drain for shallow groundwater, but as such, and in certain sections, impacts the ability to keep low flows in river channel as

aquatic habitat for the minnow and has been shown to impact groundwater availability to riparian vegetation;

- Options for alignment, construction design, and management of LFCC have not been updated and evaluated.
- Recommendations:
 - Collect/compile currently available information on the LFCC, river, water delivery, ecosystem function and valley drainage;
 - Identify priority data gaps and seek to fill them;
 - Evaluate current LFCC benefits and impacts on: water delivery to agriculture; the BdA Refuge; water delivery to downstream water users; river flows; endangered species; ecosystem function; valley drainage; etc.
 - Evaluate potential future scenarios of water delivery and infrastructure through the San Acacia Reach including the river, LFCC, and MRGCD and Bosque del Apache NWR delivery patterns and works.
 - Consider:
 - Alignment, configuration, and management of LFCC to address, to the greatest degree possible, benefits to all stakeholders.
 - Future scenarios for their effects on endangered species, habitat quality, and water delivery (including efficiency, supply and demand), and sediment/water dynamics.

o Focus Issue: Water Rights and Adjudication

- Background:
 - New Mexico's 1907 Water Code uses the principles of public ownership of water, and the doctrines of prior appropriation and beneficial use to administer water rights.
 - The public owns the waters of the state, but individuals have the right to use water based on the timing of when the water was first put to beneficial use and the amount of water put to use and consumed.
 - Water rights can be sold with the land on which the water has been historically used, or, the consumptive use portion of the right can be severed from the property and sold separately.
 - Adjudication is a lawsuit that determines all claims to the use of water in a stream system.
 - Adjudication would result in the quantification and assignment of relative priorities of all water rights for both surface water and groundwater in the Middle Rio Grande basin.
 - The Middle Rio Grande has not been adjudicated.
- Issues:
 - Agricultural water rights are being transferred out of the San Acacia reach.
 - Loss of water rights could have negative impacts on endangered species.
 - Loss of water rights could have negative impacts on local farming economy.
 - Loss of water rights could have negative impacts on agricultural landscape and culture.
 - Basin is over-allocated and adjudication is needed.
- Current Status/Efforts Underway
 - OSE transfer process with public notice
 - Conservation easements Rio Grande Agricultural Land Trust and NRCS
 - Active Water Resources Management

- Strategic Water Reserve
- Recommendations:
 - Assess the volume of water rights transferred out of San Acacia Division;
 - Assess the effect of those transfers at San Acacia Diversion dam in terms of water supply to users and water available to river;
 - Assess MRGCD potential delivery changes;
 - Assess the Strategic Water Reserve implementation strategies and develop steps to follow through on strategies.
- o Focus Issue: Agricultural Sustainability
 - Background:
 - Agriculture in the Middle Rio Grande Valley affects both the timing and spatial distribution of water.
 - Storage of and delivery of water have attenuated the historic peak flows in spring but have also increased the average summer and low flows
 - Since 2003, 80% of the approximately 100,000 acre feet of water that enters the Middle Rio Grande Conservancy District (MRGCD) Socorro Division originates from Belen Division canals.
 - On average about 40% of this water is consumed by the 13,500 acres of irrigated land cultivated by Socorro Division farmers.
 - Water remaining at the south end of the MRGCD passes on to the Bosque del Apache National Wildlife Refuge.
 - Issues:
 - Development of farmland and selling water rights outside the San Acacia reach may decrease delivery of water to this reach.
 - A perception that high salinity levels in irrigation water are negatively affecting crop outputs.
 - Forbearance strategies are suggested for further study but have serious practical and legal impediments.
 - The availability of sufficient water for farmers throughout the growing season.
 - Growing crops with the highest market return to make agriculture more sustainable and resilient.
 - Current Status/Efforts Underway:
 - Levee reconstruction
 - Farmland water delivery improvements on private lands throughout the reach
 - Conservation easements to keep agricultural lands from development
 - Active farmers market in Socorro and assessment of the local food system
 - Recommendations:
 - Analyze scenarios of water rights transfers that might change the delivery requirements to the Socorro Division of the MRGCD and what it would mean to water users within and south of the MRGCD, Endangered and sensitive species and return flows to the Rio Grande;
 - Evaluate the potential supplemental use of groundwater for irrigating in very dry years;
 - Continue to fund the Private Lands Biologist in Socorro to work with landowners to get assistance with implementation of and payments for wildlife habitat projects;

- Further investigate the potential for surface and/or groundwater forbearance, including: legal issues; additional hydrologic studies; a cost-benefit analysis of a forbearance program and analysis of socioeconomic impacts;
- Continue water quality monitoring done by the MRGCD in the Belen and Socorro Divisions. Investigate and identify all possible causes of high water and soil salinity;
- Encourage local farmers to pursue funding and technical assistance through NRCS and other agencies to implement on-farm water efficiency measures.

• Questions:

- *Question:* Where, if anywhere, is active water resource management (AWRM) actually occurring?
 - **Response:** The SAR workgroup white papers contain a "current status/efforts underway" section that lists known activities for each focus topic. However, it is unknown if or how AWRM might be implemented in the San Acacia Reach at this time. Water and resource "management" does occur through local programs and groups but this is not AWRM as defined by the NM Supreme Court.
 - One attendee shared his opinion that AWRMS are not occurring in the San Acacia Reach at this time. The official process of the State Engineer was too intensive for the Middle Rio Grande (MRG) basin. There are other areas in the state in which AWRM is occurring (ex. Lower Rio Grande, Rio Chama, etc.).
 - Funding is one issue. Another is the fact that the entire MRG would have to be analyzed and considered when identifying senior users and priorities. The "whole system" needs to be included and that is a huge undertaking.
 - Inote: the AWRM initiative was launched in January 2004 in response to continued drought conditions in our state. AWRM refers to the essential tools and elements needed to enable the State Engineer to actively manage the state's limited water resources." Excerpt from http://www.ose.state.nm.us/water_info_awrm.html]
- Conclusion:
 - The EC thanked the SAR workgroup. The recommendations will help the Program plan for the future and inform consideration of the San Acacia Reach in the BAs and WMP planning.
 - Workgroup members pointed out that the 2009 community workshop in Socorro is what generated the list of stakeholder issues. This means that some of the agricultural issues may be out of the purview of the Program. It will be up to the discretion of the Program to determine which recommendations, if any, are appropriate to consider and address.
 - Workgroup members requested that the white papers (presentation material) be printed for distribution and emailed to participants in the 2009 workshop as a way to report back to the Socorro community.

Transition in Program Management

• The Bureau of Reclamation, including the Albuquerque Area Office (AAO), has undertaken a revised/reorganized business plan aimed at making the agency more effective, efficient, and accountable. The AAO is currently in the final stages of this reorganization. In order to implement the business plan more effectively, projects are being divided into two categories: (1) the technical/service group and (2) a program/funding management group. New Mexico will be structured by upper, middle, and lower Rio Grande in terms of funding and management structure. As a result of this reorganization, several new program manager positions have been created. Reclamation was pleased to announce that Yvette McKenna agreed to become an AAO-wide Program Manager. As of today, she is no longer formally the Collaborative Program manager as she transitions into her new role within Reclamation. During the transitional phase of the Collaborative Program, Rhea Graham (and Yvette to some extent) will assist with the transition to a 3rd Party

Management structure. Rhea Graham will then be available to help train the new Executive Director, once the position is filled.

• The EC thanked Yvette for her dedication, hard work, and guidance during her term as Collaborative Program Manager.

Meeting Summary

- Yvette McKenna briefly recapped today's meeting.
 - There is a revised draft schedule for the BO and RIP documents. The target dates and timelines will be modified in response to the recent submittals to the Service.
 - The RIP document focus groups will continue on current paths. The EC will be notified of their upcoming meetings.
 - Comments on the FME SOW are due to Rhea Graham and Ann Moore no later than COB on Friday, January 25th. The EC was in agreement that the Reclamation requisition process will be implemented this year toward securing the FME.
 - The San Acacia Reach ad hoc work group presented their final work products and they recommend formal close out of the work group.

Public Comment

• There was no public comment.

Announcements

- Secretary Salazar (Secretary of the Interior) will be resigning his post at the end of March 2013. He has been a knowledgeable advocate of the regional issues. Several names have been mentioned as possible replacements but nothing definite is known yet.
- Ryan Ward was welcomed as the new representative for the NM Department of Agriculture. Hilary Brinegar was recognized and thanked for her contributions and participation on the EC. Her efforts and dedication, particularly on the RIP documents were acknowledged.

Next Meeting: February 21st, 2013 from 9:00 AM to 1:00 PM at Bureau of Reclamation

- Tentative agenda items include: (1) Prognosis for Cochiti Deviation discussion; (2) Detailed review of Revised RIP Action Plan presentation?; (3) Approve revised FME SOW; (4) BA/BO Scheduling Update including update on Resolution of One or Two BOs;
- Tentative February/March 2013 Agenda Item: (1) Presentation of Minnow Action Team Recommendations
- Future Agenda Items: (1) Updated 10(j) population schedule and report out on FWS Regional Office approval to proceed; (2) Updates/continued discussion on the acquisition of past mesohabitat data;
- NOTE: Following the normal scheduling, the March 21st meeting would conflict with the Rio Grande Compact Commission meeting that same day. The March EC meeting was scheduled for March 28th.

Executive Committee Meeting Attendees January 17th, 2013

Representative	Organization	Seat
Brent Rhees	U.S. Bureau of Reclamation	Federal co-chair
Grace Haggerty (A)	Interstate Stream Commission	ISC
Michelle Shaughnessy (P)	U.S. Fish and Wildlife Service	Service
Subhas Shah (P)	Middle Rio Grande Conservancy District	MRGCD
Ann Moore (A)	NM Attorney General's Office	NMAGO
Mike Hamman (P)	U.S. Bureau of Reclamation	BOR
Mark Sanchez (P)	Albuquerque/Bernalillo County	ABCWUA

Attendees:

Kris Schafer (A) Matthew Wunder (P) Frank Chaves (P) Matt Schmader (P) Janet Jarratt (P) Alan Hatch (P) Ryan Ward (P) Eveli Abeyta (P) Others Yvette McKenna (PM) Ali Saenz Jim Wilber Leann Towne Rhea Graham Jennifer Faler Page Pegram Deb Freeman Susan Bittick Danielle Galloway Michelle Mann William DeRagon Ryan Gronewald John D'Antonio Jennifer Bachus Janet Bair Wally Murphy Gina Dello Russo Rebecca Hooper Kathy Lang Cassandra D'Antonio Brooke Wyman David Gensler Yasmeen Najmi Patrick Redmond Kyle Harwood **Rick Carpenter** Jessica Tracy Sarah Cobb Alex Eubanks Hilary Brinegar Mark Lawler **Robyn Harrison** Marta Wood

Water Utility Authority U.S. Army Corps of Engineers NM Department of Game and Fish Pueblo of Sandia City of Albuquerque Assessment Payers Association of the MRGCD Pueblo of Santa Ana NM Department of Agriculture Santo Domingo Tribe Bureau of Reclamation NM Interstate Stream Commission for NM Interstate Stream Commission U.S. Army Corps of Engineers U.S. Fish and Wildlife Service City of Albuquerque City of Albuquerque Sites SW MRGCD MRGCD MRGCD for MRGCD City of Santa Fe/BBD City of Santa Fe/BBD Pueblo of Sandia Senator Udall's Office Senator Heinrich's Office Marron and Associates **UNM** Geography Festival of the Cranes (SAR workgroup) Tetra Tech (Note Taker)

USACE NMDGF Sandia COA APA

Santa Ana NMDA Santo Domingo

San Acacia Reach Workgroup



Middle Rio Grande Endangered Species Collaborative Program

Final Products January 2013





San Acacia Reach Workgroup

Presentation of Final Products to the Executive Committee of the Middle Rio Grande Endangered Species Collaborative Program January, 2013



Through public outreach and discussion, the SAR Workgroup identified topics that we would examine further to:

- Determine opportunities to address multiple stakeholder's interest through further evaluation and action
- And find if they are issues the MRGESCP should address to some degree.
- Topics included in the following white papers are:
 - Floodplain Land Use,
 - River Erosion and Sedimentation,
 - Low Flow Conveyance Channel Options,
 - · Water Rights and Adjudication, and
 - Agricultural Sustainability.

Introduction

General Recommendations

- Convene a diverse group of stakeholders, present workgroup papers and discuss San Acacia Reach Plan development.
- Develop small working groups, as needed, with specific tasks to evaluate and prioritize recommendations from the papers to move towards long term solutions that address MRGESCP action plan goals.
- Evaluate recommendations with respect to water and land management policies and laws affecting the San Acacia Reach, and science and priority research needs to inform plan formation and plan action elements.
- Identify alternatives and develop a course of action for agencies', MRGESCP, and other stakeholders' consideration.
- Present draft plan in a follow-up workshop for stakeholders.



Issues:

- Endangered Species Habitat
 - Future obstructions & the need to protect structures could limit water management that benefits endangered species;
 - Rio Grande silvery minnows could be stranded due to obstructions.
- Liability
 - Potential liability to landowners & local & federal agencies if flooding endangers the public or damages property;
- Possible changes in flow paths of the river due to obstructions which could impact the levee;
- Construction of structures in the floodplain can increase fire danger at the wildland-urban interface.

Floodplain Land Use

Additional Issues:

- Ecosystem Processes
 - High flows help to scour vegetation on river bars and keep the channel open to pass floods and move sediment;
 - Riparian wildlife habitat could be disturbed and/or fragmented by floodplain development.
- Water Management
 - There could be increased water loss due to ponding at obstructions;
 - If development in the floodplain further reduces channel capacity, water delivery to Elephant Butte Reservoir to meet Rio Grande Compact obligations would be impacted.

Floodplain Land Use



Save Our Bosque Task Force Natural Resources Conservation Service Others · Agency efforts COE San Acacia to Bosque del Apache Levee BOR River Maintenance Program

· Grassroots efforts to protect and enhance floodplain

Current Status/Efforts Underway:

Rio Grande Agricultural Land Trust



Recommendations:

- Complete scope of work to evaluate potential risks from future development
- Further engage local community
- Develop a comprehensive program to provide incentives for protection and enhancement on private lands; encourage conservation easements
- Encourage county permitting and review processes to address floodplain land use

Floodplain Land Use

Introduction:

- · Effective Sediment Management is a key component for the reach's geomorphic and ecologic function.
- Reach has both degrading and aggrading sub-reaches causing challenges to safe flood risk management, water delivery, and the creation and sustainability of quality endangered species habitat.
- Channel is constantly changing as the river seeks to balance the movement . of sediment (sediment supply) with the power available from the flow of water (sediment transport capacity).
- Imbalance between transport capacity and supply is a key cause of channel and floodplain adjustment in reach.

River Erosion and Sedimentation





Primary Issues:

- Effective water and sediment delivery and improved sediment management.
- Protection of riverside facilities from flooding damage or erosion damage.
- Channel process dynamics including sediment erosion and deposition are critical fluvial processes to the regeneration and development of new endangered species habitat.
 - Incision is progressing below San Acacia diversion downstream, where there is excess transport capacity and in San Marcial area, where slope adjustment is occurring in response to the lowered reservoir pool.
 - Deposition in the Refuge subreach and delta of Elephant Butte Reservoir where there is limited transport capacity due to slope and width changes.

River Erosion and Sedimentation

Recommendations:

- Monitor & collect data on sediment transport loads into & through the reach;
- Analyze and model river sediment transport behavior for current trends & future management scenarios in the reach. Consider endangered species habitat quality & sustainability, effective water delivery, & flood risk management;
- Develop options for better sediment management in the river & floodplain, apply test practices, & report results;
- Provide decision makers with comprehensive analysis & alternatives to consider for effective sediment management.

River Erosion and Sedimentation

Background

- The Low Flow Conveyance Channel (LFCC) was constructed in the 1950s to deliver river flows efficiently from San Acacia Diversion Dam to Elephant Butte Reservoir; it extends about 60 miles.
- A spoil levee was established immediately to the east of the LFCC using material dredged during its construction.
- It was operated as a surface water delivery channel for approximately 30 years until Elephant Butte Reservoir filled and flooded the LFCC outfall (1984); it has operated as a passive drain since that time.
- The LFCC delivers surface water & captures shallow groundwater.
- There is a new outfall at the upstream end of the Silver Canyon (~River Mile 55).

Low Flow Conveyance Channel

Wetland management Bosque del Apache NWR

Current Status/Efforts Underway:

- MRGCD can divert water from 3 LFCC locations.
- Bosque del Apache NWR has the capacity to divert water from 2 LFCC locations.
- The LFCC currently supports flycatcher habitat at the historic Reservoir delta area (River Mile 60 downstream to narrows).
- LFCC serves as 1 of 2 primary sources of water delivered to Elephant Butte Reservoir, the river being the other primary source.
- The COE is beginning construction of a levee project to protect, among other area assets, the LFCC.
- The Bureau of Reclamation/MRGESCP, currently pumps water from the LFCC to the river in drying periods (3 to 4 locations)

Low Flow Conveyance Channel

Issues:

- The LFCC & area levee constrict the active floodplain to the eastern side of the valley;
- A sediment imbalance through the reach affects water volume in the river & LFCC;
- The LFCC is an important water delivery source for water users in the San Acacia Reach, including the MRGCD & the Bosque del Apache NWR (supplying summer & the only winter water delivery source to the refuge);
- The LFCC serves as area drain for shallow groundwater, but as such, & in certain sections, impacts the ability to keep low flows in river channel as aquatic habitat for the minnow and has been shown to impact groundwater availability to riparian vegetation;
- Options for alignment, construction design, & management of LFCC have not been updated and evaluated.

Low Flow Conveyance Channel

Recommendations:

- Collect/compile currently available information on the LFCC, river, water delivery, ecosystem function & valley drainage;
- · Identify priority data gaps & seek to fill them;
- Evaluate current LFCC benefits & impacts on:
 - Water delivery to agriculture, the Refuge
 - · Water delivery to downstream water users
 - River flows
 - Endangered species
 - Ecosystem function
 - Valley drainage

Low Flow Conveyance Channel

Additional recommendations:

- Evaluate potential future scenarios of water delivery & infrastructure through the San Acacia Reach including the river, LFCC, & MRGCD & Bosque del Apache NWR delivery patterns & works.
 - · Consider:
 - Alignment, configuration, & management of LFCC to address, to the greatest degree possible, benefits to all stakeholders.
 - Future scenarios for their effects on endangered species, habitat quality, & water delivery (including efficiency, supply & demand), & sediment/water dynamics.

Low Flow Conveyance Channel

Background

- New Mexico's 1907 Water Code uses the principles of public ownership of water, and the doctrines of prior appropriation and beneficial use to administer water rights.
- The public owns the waters of the state, but individuals have the right to use water based on the timing of when the water was first put to beneficial use and the amount of water put to use and consumed.
- Water rights can be sold with the land on which the water has been historically used, or, the consumptive use portion of the right can be severed from the property and sold separately.
- Adjudication is a lawsuit that determines all claims to the use of water in a stream system.
- Adjudication would result in the quantification and assignment of relative priorities of all water rights for both surface water and groundwater in the Middle Rio Grande basin.
- The Middle Rio Grande has not been adjudicated.
- Water Rights and Adjudication

Issues:

- Agricultural water rights are being transferred out of the San Acacia reach.
- Loss of water rights could have negative impacts on endangered species.
- Loss of water rights could have negative impacts on local farming economy.
- Loss of water rights could have negative impacts on agricultural landscape and culture.
- Basin is over-allocated and adjudication is needed.

Water Rights and Adjudication

Current Status/Efforts Underway:

- OSE transfer process with public notice
- Conservation easements Rio Grande Agricultural Land Trust & NRCS
- Active Water Resources Management (in the state, not in the MRG yet)
- Strategic Water Reserve



Water Rights and Adjudication

Recommendations:

- Assess the volume of water rights transferred out of San Acacia Division;
- Assess the effect of those transfers at San Acacia Diversion dam in terms of water supply to users and water available to river;
- Assess MRGCD potential delivery changes;
- Assess the Strategic Water Reserve implementation strategies and develop steps to follow through on strategies.

Water Rights and Adjudication

Background

- Agriculture in the Middle Rio Grande Valley affects both the timing and spatial distribution of water.
- Storage of and delivery of water have attenuated the historic peak flows in Spring but have also increased the average summer and low flows
- Since 2003, 80% of the approximately 100,000 acre feet of water that enters the Middle Rio Grande Conservancy District (MRGCD) Socorro Division originates from Belen Division canals.
- On average about 40% of this water is consumed by the 13,500 acres of irrigated land cultivated by Socorro Division farmers.
- Water remaining at the south end of the MRGCD passes on to the Bosque del Apache National Wildlife Refuge.



Issues:

- Development of farmland and selling water rights outside the San Acacia reach may decrease delivery of water to this reach.
- A perception that high salinity levels in irrigation water are negatively affecting crop outputs.
- Forbearance strategies are suggested for further study but have serious practical and legal impediments.
- The availability of sufficient water for farmers throughout the growing season.
- Growing crops with the highest market return to make agriculture more sustainable and resilient.

Agricultural Sustainability





Recommendations:

- Analyze scenarios of water rights transfers that might change the delivery requirements to the Socorro Division of the MRGCD & what it would mean to water users within & south of the MRGCD, Endangered and sensitive species & return flows to the Rio Grande;
- Evaluate the potential supplemental use of groundwater for irrigating in very dry years;
- Continue to fund the Private Lands Biologist in Socorro to work with landowners to get assistance with implementation of & payments for wildlife habitat projects.

Agricultural Sustainability

Additional Recommendations:

- Further investigate the potential for surface and/or groundwater forbearance, including: legal issues; additional hydrologic studies; a cost-benefit analysis of a forbearance program & analysis of socioeconomic impacts;
- Continue water quality monitoring done by the MRGCD in the Belen & Socorro Divisions. Investigate & identify all possible causes of high water & soil salinity;
- Encourage local farmers to pursue funding & technical assistance through NRCS & other agencies to implement on-farm water efficiency measures.

Agricultural Sustainability





San Acacia Reach Workgroup

Middle Rio Grande Endangered Species Collaborative Program

Introduction to Compiled White Papers

January 2013

The Executive Committee of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP) formed the San Acacia Reach Adhoc Workgroup (SAR) in 2009 following a stakeholder workshop. At this workshop, attendees shared their concerns for aspects of the Rio Grande floodplain and the surrounding communities. The SAR evaluated this input and came up with a list of common themes important to the reach that the group would address to the extent possible. These themes were:

- The natural habitat: maintaining access to the river for wildlife and humans, sustaining the river habitat, preserving the river corridor in an undeveloped state, sustaining existing river/riparian processes, and limiting invasive vegetation encroachment on the river.
- The economic viability for farming and the culture of the area: sustain water for habitat, sustaining water for agriculture, sustaining water for ecosystems, keeping water tights attached to the land, and maintaining the culture of farming and the rural feel.
- An open and functioning channel and floodplain: maintaining the levee, ensuring valley drainage, minimizing floodplain encroachment and development in the valley, and allowing for overbank flooding.
- Maintaining a balance between compact requirements, water supply and agricultural and habitat needs: preparing for climate change and balancing public safety, habitat and flood control.
- Sustaining a dialogue between agencies and private landowners: integrating across subreaches, providing educational opportunities and representing all stakeholders needs and values.

From this list, SAR identified five topics that were highest priority and outside the purview of other MRGESCP workgroups. These were

- Floodplain Land Use,
- River Erosion and Sedimentation,
- Low Flow Conveyance Channel Options,
- Water Rights and Adjudication, and
- Agricultural Sustainability.

SAR developed papers on each of these topics to assist stakeholders, including the MRGESCP, in pursuing long term solutions inherent in the themes described above. Each paper includes background, primary issues and current efforts and work group recommendations.

The habitat quality and restoration potential of the reach, and ancillary topics like invasive species management, although very important during workshop discussions and to the MRGESCP, are not

included in the papers as standalone subjects. It is assumed that the Habitat Restoration Workgroup and subsequent efforts focusing on this reach will address the potential for long term sustainability of endangered species habitat quality here. These products highlight infrastructure and land and water management that are impacting or could affect habitat quality.

The San Acacia Reach extends from the San Acacia Diversion Dam downstream to Elephant Butte Reservoir. The reach is located below two uncontrolled tributaries – the Rio Salado and the Rio Puerco. The reach has been and remains important for endangered species. At the time of its listing, the Rio Grande silvery minnow population was highest in this reach. For many reasons, the reach continues to provide high quality aquatic habitat when water is available. The reach has a sediment supply that provides a sandy, topographically diverse substrate to the river channel for much of the reach. There is lateral connectivity in some sections of this reach so inundated, vegetated sand bars and floodplain provide low velocity habitat during high flows. In addition to providing high quality aquatic habitat for the minnow, natural regeneration of native trees and shrubs provide for the highest concentration of southwestern willow flycatchers in the MRG. The reach is important to the local communities' citizens for the historic agricultural economic base, the past and current ecotourism values, and future demographic/economic changes that are presumed to provide opportunities to its citizens and visiting public. Water is very important to the agricultural, tourism, and other economic interests in the San Acacia Reach. Water management and allocation could impact future accomplishment of community and MRGESCP program goals.

The reach is significant due to its location on the Rio Grande river system, just upstream of a large water storage reservoir where New Mexico water is delivered to Texas under the Rio Grande Compact. Although it is important to conserve water and require effective water delivery throughout the entire river system to meet Compact requirements, the San Acacia reach has been the focus of efforts to improve water delivery efficiency in the past. It is presumed that improvements to water use efficiency from all sectors within the reach will be important in the future as well.

The San Acacia Reach Adhoc Workgroup submits this document in fulfillment of its tasks. All documents are written from the technical perspective of the workgroup members and do not necessarily reflect the position or opinions of their agencies as a whole. The San Acacia Reach Adhoc Workgroup suggests utilizing information provided in these papers to develop the San Acacia Reach Plan (referenced in draft Middle Rio Grande Endangered Species Collaborative Program, Recovery Implementation Action Plan). Additional recommendations include:

- Convening a diverse group of stakeholders to present workgroup papers and discuss San Acacia Reach Plan development.
- Developing small working groups, as needed, with specific tasks to evaluate and prioritize recommendations from the papers to move towards long term solutions that address MRGESCP action plan goals. Evaluate recommendations with respect to water and land management policies and laws affecting the San Acacia Reach, and science and priority research needs to inform plan formation and plan action elements.
- Identifying alternatives and developing a course of action for agencies', MRGESCP, and other stakeholders' consideration.

• Presenting draft plan in a follow-up workshop for stakeholders.

The workgroup would like to thank interested stakeholders from the Socorro area and MRGESCP and technical associates for their assistance in white paper compilation. Thanks to the MRGESCP Executive Committee for the opportunity to evaluate these important topics.

San Acacia Reach Work Group Middle Rio Grande Endangered Species Collaborative Program San Acacia Reach Floodplain Land Development January 2013

Introduction

The San Acacia Reach Workgroup (SAR) has begun technical evaluation of a series of priority issues in this reach to meet the goals of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). If and when the MRGESCP determines a need to develop strategies to address these and other issues, SAR workgroup members and these summary papers will be available to move that process forward.

Topic

Through public outreach and workgroup discussions, SAR has identified active floodplain development in the San Acacia Reach of the Middle Rio Grande, NM as an issue of importance to stakeholders. Land development includes construction of houses and other buildings, as well as roads.

Background

The active floodplain of the Rio Grande in this reach is currently unprotected from development or other land use practices that could negatively impact federal, state, and local land and water management programs, and no formal program is in place to offer landowners incentives to limit development on the active floodplain. The active floodplain lands of the Rio Grande within the San Acacia Reach (San Acacia Diversion Dam to Elephant Butte Reservoir pool) are owned and managed by multiple parties. The infrastructure on the entire floodplain consists of a irrigation diversion dam at the upstream end, an unengineered flood control levee on the west side of the river (no levee on the east), two vehicle bridges, one railroad crossing, a large conveyance channel/drain to the west of the levee, numerous farms and a complex irrigation delivery system, and several small communities. There are approximately 12,942 acres of active floodplain in the SAR with the majority being private and federal lands. Currently, housing development on the active floodplain within the reach is limited to 5 homes (U.S. Army Corps of Engineers unpublished information) however; future building pressure in the area is unknown but expected. There is no local zoning that restricts land uses within floodplains in Socorro County. The county is in the process of updating Federal Emergency Management Agency (FEMA) floodplain maps and regulations. High river flows through the reach have included large spring runoff events and summer floods from two large unregulated tributaries just upstream of San Acacia. Periodic spring runoff events move onto the floodplain and establish and support the diverse riparian ecosystem including low velocity aquatic habitat for RGSM and SWWF terrestrial habitat.

Primary Issues

There are several issues concerning development on the active floodplain that can have an impact on water management and endangered species:

- Endangered Species Habitat:
 - Future obstructions and the need to protect structures could limit water management that generates overbank flows for the benefit of ES
 - Rio Grande silvery minnows could be stranded due to obstructions.

- Liability:
 - There is a potential liability to landowners and local and federal agencies if flooding endangers the public or damages property.
 - There may be possible changes in flow paths of the river due to obstructions, such as structures and roads which could impact the levee.
 - Construction of homes or structures in the floodplain increases fire danger at the wildland-urban interface (puts homes in the path of wildfires).
- Ecosystem Processes:
 - High flows help to scour vegetation on river bars and keep the channel open to pass floods and move sediment.
 - $\circ\,$ Riparian wildlife habitat could be disturbed and fragmented by floodplain development.
- Water Management:
 - There could be increased water loss due to ponding at obstructions.
 - If development in the floodplain further reduces channel capacity, water delivery to Elephant Butte Reservoir to meet Rio Grande Compact obligations would be impacted.

Key Stakeholders (in no specific order)

Socorro City and County

Federal Agencies (Corps of Engineers, Bureau of Reclamation, Federal Emergency Management Agency, Fish and Wildlife Service, Bureau of Land Management, Natural Resources Conservation Service)

State Agencies (New Mexico Department of Game and Fish, Interstate Stream Commission, New Mexico Tech, New Mexico State Land Office, Middle Rio Grande Conservancy District, New Mexico Department of Agriculture, New Mexico State Forestry, Socorro Soil and Water Conservation District)

Private Landowners and area citizens MRGESCP

Environmental Groups

Current Status/Efforts Underway

In 1999, the Save Our Bosque Task Force (SOBTF), Corps of Engineers (USACE), and Socorro Agricultural Land Trust met with private landowners in Bosquecito, New Mexico. The landowners approved the development of a conceptual restoration plan for the valley provided they were not committed to any specific action. The conceptual restoration plan looked at flood potential within the reach, vegetation classes in the reach, scenarios of vegetation removal, and the general design for restoration within the reach was keyed to the flooding potential. The plan considered biological diversity, fire danger, invasive species, water use, as well as flood control or flood routing. The plan by Tetra Tech, Inc. was completed in 2004.

The Socorro Agricultural Land Trust (now the Rio Grande Agricultural Land Trust - RGALT) continues to look for opportunities to preserve lands as open space on the active floodplain. At this time, private landowners, the Task Force and RGALT have partnered on conservation easements (CEs) and wildlife habitat improvements on 6 parcels (200 acres total donated easement) to date and other private lands in the reach are under consideration for CEs. With a CE, the owner can specify a "building envelope" where it would be permissible to locate some structures (barns,

stables); located out of the main floodplain. The landowner becomes the steward of their floodplain acreage, with the SOBTF providing assistance to remove salt cedar and restore native habitats. There is a state tax credit associated with conservation easements, and in 2007, the tax credit was made transferable. Additionally, under the Wetland Reserve Program (Natural Resources Conservation Service, NRCS) the Rhodes Ranch (approximately 520 acres) will be under permanent conservation easement with habitat restoration continuing at the site.

In order to address the flood risk in the San Acacia Reach, USACE projects construction of the San Acacia to Bosque del Apache Unit, Flood Risk Management project to begin in 2013. This project has been authorized, analysis and designs have been developed, and funding for construction for Phase I has been appropriated. The recommended alternative of the planning document involves constructing an engineered levee in the approximate footprint of the existing spoil bank levee from the San Acacia Diversion Dam in the north to the historic Tiffany Junction area downstream of the Bosque del Apache National Wildlife Refuge. Once constructed, this project will reduce the flood risk to areas west of the levee. However, this project will not reduce flood risk to properties east of the Rio Grande.

SAR conducted a roundtable discussion meeting of interested parties to discuss this topic in 2011. The meeting was attended by many agency representatives as well as private citizens. The ideas expressed at the meeting are included in this White Paper and are also available in MRGESCP notes from the meeting.

The SAR workgroup developed a scope of work to evaluate potential floodplain encroachment impacts to MRGESCP priorities. The USACE completed preliminary tasks under this scope of work that were within their authorities. These tasks involved analyzing the aerial extent of varius flows routed through the San Acacia reach of the Rio Grande. In order to determine the aerial extent, a 2-dimensional hydraulic model was used in conjunction with aerial photography and flood mapping from the 2005 spring runoff. Additionally using aerial photography and topographic mapping, the USACE made a digitized inventory of anthropogenic features within the floodway including structures, roadways, ditches and berms. The remaining tasks include taking the floodplain routing information and determining the level of development that would affect water management and endangered species. It was envisioned that different development scenarios at defined locations would be modeled to determine percent change in impacts. If completed, the scope of work would provide valuable information on the threats and potential impacts of floodplain encroachment on a number of floodplain processes.

Recommendations

- Complete the scope of work to evaluate potential floodplain development and impacts as proposed by SAR (2010 and 2011).
- Present workgroup information on floodplain land use and information from the roundtable discussion held in 2011 to the Socorro County Manager, County Commission and emergency managers.
- Add a socioeconomic analysis to the *Floodplain Encroachment Project* SOW. Because the Refuge makes a large contribution to tourism in Socorro County and could be affected by development in the floodplain, it would be beneficial to assess how floodplain land use could potentially impact local and regional economies.
- Encourage formation of an outreach group made up of community members in order to increase public education on the impacts of floodplain development and options for conservation. The SAR work group may be able to assist by assessing community interest and aiding outreach efforts.

- Request support from the agencies that have the authority to assist landowners (NRCS, FWS, USACE) with private lands programs. For example, under the authority provided by Section 1135, USACE can plan, design and build modifications to restore ecosystems in areas impacted by their projects.
- Keep local governments and emergency managers informed on the Federal and State floodplain management projects in the reach, with a focus on the endangered species/restoration and flood risk aspects.
- Encourage the establishment of a permitting and review process that would build awareness and control for the county assessors and others over development in floodplain areas; this could also include educating the construction and real estate industries to help implement the permitting program.
- Encourage Federal Agencies to explore and/or establish a "flood easement" for susceptible lands where the land could be cultivated but structures (i.e., barns) are prohibited so allow for flooding in years of excess water; this approach could also provide some incentive for landowners because of the compensation.
- Encourage voluntary conservation easements. Make landowners aware of the flood and fire danger and the risks associated with building in the floodplain.

San Acacia Reach Workgroup Middle Rio Grande Endangered Species Collaborative Program *River Erosion and Sedimentation* January 2013

Introduction

The San Acacia Reach Workgroup (SAR) has begun technical evaluation of a series of priority issues in this reach to meet the goals of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). Effective sediment management is a key component for the reach's geomorphic and ecologic function. The San Acacia reach has both degrading and aggrading sub reaches that cause challenges to safe flood risk management, water delivery, and the creation and sustainability of quality endangered species habitat.

Торіс

River erosion (i.e. bank erosion and bed degradation) and sedimentation are occurring in this reach, both in the main channel and floodplain. The San Acacia reach has sub reaches where incision(i.e. river bed lowering) is a continuing process from upstream to downstream due to excess sediment transport capacity. While the lower sub reach and delta of Elephant Butte reservoir are generally depositional, with limited transport capacity due to either downstream slope or boundary roughness effects. The channel morphology in this reach is constantly changing as the river seeks to balance the movement of sediment (sediment supply) with the power available from the flow of water (sediment transport capacity). It is the imbalance between sediment transport capacity and sediment supply that is a key cause of most channel and flood plain adjustments in the reach. It is also important to note the reach average main channel width (non-vegetated area) has reduced from a value of 1810 ft wide in 1918 to about 320 ft wide in 2006. This narrowing coupled with vegetation encroachment into the active channel area strongly increases the channel's boundary roughness and the amount of sediment deposition. This depositional process is most strongly demonstrated in the perched (i.e. river is higher than surrounding floodplain) channel reach between San Antonio and San Marcial.

Background

The reach of the Rio Grande from San Acacia Diversion Dam downstream to the Narrows of Elephant Butte Reservoir, a distance of about 70 miles, has changed significantly through recorded history from the early 1900's to the present, dramatically affecting channel pattern, sinuosity, and hydraulic geometry. At the San Marcial Gage from 1903 to 1942 annual river flows averaged about 1,200,000 acre-ft per year, from 1943 to 1978 annual flows averaged about 590,000 acre-ft, from 1979 to about 1997 flows averaged about 1,100,000 acre-feet per year, and from 1998 to 2008 flows averaged about 570,000 acre-ft per year. Essentially 44% of the record is about 570,000 acre-feet per year. Annual flood peaks have reduced during the period of record from a range of about 20,000 to 30,000 cfs to less than 10,000 cfs.

The amount of sediment being transported per unit flow has been reduced significantly as well during this period. The average suspended sediment concentrations of the Rio Grande at San Acacia and San Marcial during the period of 1955-1975 were 10,022 mg/l and 12,652 mg/l respectively. During the period of 1976-1990, San Acacia was 3,010 mg/l with San Marcial being

3,138 mg/l. More recently (1991-2005), San Acacia was 2,675 mg/l with San Marcial at 4,786 mg/l. These values represent what is transported in suspension and do not include additional material transported as bed load or in the unmeasured area near the river bed.

In addition, the relationship between sediment transport at the San Acacia and San Marcial gages has changed. From about 1965 to 1980, more sediment was supplied to the reach, as measured at the San Acacia gage, than was transported by the San Marcial gage indicating sediment accumulation through the reach. Beginning in about 1980 and continuing until about 1990 the rate at each gage was about the same. Sediment began to be mined from the reach from about 1990 to about 2000.

Many significant changes occurred during the period from the 1980's to 2008. Because of high water years beginning in 1979, Elephant Butte Reservoir filled to capacity in 1985. This led to delta sediments being deposited in the channel for a distance of about 40 miles upstream of the full reservoir pool location. Aggradation at the USGS San Marcial Gage amounted to about 15 ft. during this period. The river channel and riparian zone in many reaches is perched above the valley floor. From 2005 to present, this same area has become incised due to the change in reservoir level and the resulting slope adjustment.

The bottom elevation of the Low Flow Conveyance Channel near the San Marcial gage is currently more than 10 feet lower in elevation than the river bed. The river bed between San Antonio and San Marcial is perched above the floodplain between the levee and east mesa as well as the entire valley floor. In the years between 2002 and 2008, in the northern portion of the Bosque Del Apache National Wildlife Refuge approximately 4 feet of aggradation has occurred in this reach, resulting in a 2008 sediment plug. A sediment plug involves complete filling of the main channel with sediment deposits causing flows to go overbank and along/against the adjacent spoil levee. Recorded sediment plugs at Tiffany Junction and Bosque del Apache occurred in the years of 1991, 1995, 2005, and 2008. Sediment accumulation in the reservoir delta has caused the bed of the river to rise about 40 ft. at the narrows between 1915 and 2007, and 25 ft. at the San Marcial gage between 1915 and 2002. About 10 miles downstream of the San Marcial Gage (RM 60) the river bed had risen about 35 ft. between 1915 and 2002. Between 2002 and 2007, the river bed lowered about 4 ft. and about 10.5 ft. at the San Marcial Gage and RM 60 respectively. This is due primarily to the recent drought period and resulting base level lowering at Elephant Butte Reservoir pool of about 125 feet. Conversely, owing to the reduced upstream sediment supply and sediment mining in the reach beginning in about 1965, the bed elevation downstream of San Acacia Diversion Dam has lowered about 11 ft. between 1962 and 2007.

During the same period, the reach from San Acacia Diversion Dam downstream for about 12-13 miles has experienced bed lowering (degradation). Maximum degradation or bed lowering has been about 12 feet. The resulting channel incision and lateral migration are occurring with some river migration occurring towards the levee. Due to incision and lateral migration an inset floodplain is forming between San Acacia and the confluence of Brown arroyo.

Primary Issues

Problems associated with the river's effective transport of sediment are not foreseen to decrease in this reach for the long term. This reach is significant given its importance for water delivery, agricultural land use, presence of endangered species and their habitats, and given it is downstream of two major uncontrolled tributaries (Rio Puerco and Salado). The salient issues and needs related to sediment transport are:

- Effective water and sediment delivery and improved sediment management,
- Protection of riverside facilities from flooding damage or erosion damages caused by lateral bank movement erosion and sediment deposition,
- Incision is progressing from the upstream reach boundary below San Acacia Diversion downstream, where there is excess sediment transport capacity and in the San Marcial area, where slope adjustment is occurring in response to the declining reservoir pool elevations..
- Deposition is occurring in the Refuge sub reach and delta of Elephant Butte Reservoir, where there is limited transport capacity due to either downstream slope or boundary roughness effects (e.g. vegetation encroachment on the channel and its effects on sediment deposition).
- Channel process dynamics including sediment erosion and deposition are critical fluvial processes to the regeneration and development of new endangered species habitat areas.

Stakeholders of interest (in no specific order)

U.S. Army Corps of Engineers U.S. Fish and Wildlife Service, Ecological Services and Refuges (Bosque del Apache NWR and Sevilleta NWR) Middle Rio Grande Conservancy District and local area farmers Area residents and landowners including Armendaris Ranch and New Mexico Institute of Mining and Technology Environmental Groups New Mexico Interstate Stream Commission and Rio Grande Compact Engineer Advisors for Colorado, Texas, and New Mexico Rio Grande Project Water Users and Republic of Mexico MRGESCP

Current Status/Efforts Underway

Relocation of existing infrastructure at key locations along the levee has allowed for continued river bank migration and increased the size of the inset floodplain and the amount of future potential floodplain habitat. A feasibility study is underway to look at river relocation in an area prone to sediment plugs (River Mile 83). References include past studies and analyses on river erosion and sedimentation.

Recommendations

- Monitor and collect data on sediment transport loads into and through the reach associated with sediment discharge measurements and measured channel aggradation and degradation rangelines. Include sediment inputs to the system from large tributaries upstream and within the reach.
- Analyze and model river sediment transport behavior for current trends and future management scenarios in the reach. This analysis should consider endangered species habitat quality and sustainability, effective water delivery, and flood risk management.
- Develop options for better sediment management in the river and floodplain, apply management practices to test efficacy of options, and report results as part of the adaptive management process.

• Provide decision makers with comprehensive analysis and alternatives to consider for effective sediment management.

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San Acacia Reach Work Group Middle Rio Grande Endangered Species Collaborative Program Low Flow Conveyance Channel – Benefits, Impacts and Options for Management January 2013

Introduction

The San Acacia Reach Workgroup (SAR) has begun technical evaluation of a series of priority issues in this reach to meet the goals of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). If and when the MRGESCP determines a need to develop strategies to address these and other issues, SAR workgroup members and these summary papers will be available to move that process forward.

Topic

Through public outreach, workgroup discussions and by referencing scientific investigations, SAR has determined that the Low Flow Conveyance Channel (LFCC) is an issue of importance in the San Acacia Reach. The LFCC currently serves as the primary drain for the agricultural lands of the Socorro valley, is used by the MRGCD to provide water to Socorro irrigators, to support wildlife habitat and farming practices at Bosque del Apache NWR, and to deliver water to Elephant Butte Reservoir. The LFCC influences water delivery and aquatic habitat availability, riparian vegetation health and sustainability, and groundwater dynamics in the reach. The LFCC affects approximately 60 miles of river to varying degrees and serves a multitude of stakeholders. The surface water/groundwater dynamics between the LFCC and river to the east, and the LFCC and the agricultural and Refuge wetlands to the west have been analyzed to some extent; however, this information has not been compiled or analyzed in a systematic and comprehensive study. A comprehensive study would include a summary of the overall valley water budget (in terms of where water is lost or gained), what benefits that water provides, and a focused analysis of the current function of the LFCC. Options that consider such things as alternate configuration, removal, and/or altered management of the LFCC should utilize existing information and new tools. This information will assist stakeholders and the MRGESCP in meeting its current and future goals for improvements in the reach.

Background

The Low Flow Conveyance Channel (LFCC) was constructed in the 1950s to deliver river flows efficiently from San Acacia Diversion Dam to Elephant Butte Reservoir. The LFCC lies near or adjacent to the river through the entire Socorro valley, a distance of about 60 miles of river. It was constructed at a time when the river channel had lost conveyance capacity due to sedimentation at the delta of the full reservoir pool (1941-1942) which affected the river for approximately 20 miles upstream of the full pool level. Vegetation encroachment on these expansive mud flats was composed of both native and a new invasive species to the area, Tamarisk or salt cedar. Prolonged watershed drought conditions in the mid-1940-50s meant a drop in elevation in Elephant Butte Reservoir. During this period, New Mexico's Rio Grande Compact deliveries were impaired (resulting in an accrued debt of close to 500,000AF of water); available supplies to downstream water users were low; and drainage in the Socorro valley was limited. During LFCC construction, a spoil levee was established immediately to the east of the LFCC using material dredged during its construction to protect the LFCC and lands to the west from flooding. A new river channel was constructed in some places under a new alignment on the east side of the valley. The terminus of

the historic LFCC was at the "Narrows," at about River Mile 46. The LFCC operated as a surface water diversion delivery channel for approximately 30 years until Elephant Butte Reservoir filled and flooded the LFCC outfall (1984). It has operated as a passive drain since that time. The LFCC delivers water to the MRGCD and Bosque del Apache NWR and helps to drain shallow groundwater from historic floodplain farms. Flows from the LFCC at River Mile 60 downstream to its historic outfall also supports quality habitat for southwestern willow flycatchers (SWWF) and other wildlife in the San Marcial area. There is a new outfall at the upstream end of the Silver Canyon near River Mile 55. Since 2001, LFCC water has been pumped to the river during low water periods (3 to 4 locations) to assist with the ramp down to river drying and salvage efforts for the Rio Grande The river sediment balance, sediment entering and leaving the reach, has been silvery minnow. altered over the last 100 years by wet and dry climate cycles, water and sediment supply changes, floodplain available for sediment storage, and vegetation establishment. Now, sub reaches that have different sediment characteristics are in disequilibrium, from degrading to aggrading sections. The largest extent of degradation is just below San Acacia Diversion Dam and the San Marcial area; the largest extent of aggradation is on Bosque del Apache NWR.

Primary Stakeholder Issues

- The LFCC and area levee constrict the active floodplain to the eastern side of the valley,
- A sediment imbalance through the reach affects water volume in the river and LFCC,
- The LFCC is an important water delivery source for water users in the San Acacia Reach, including the MRGCD and the only winter water delivery source for the Bosque del Apache NWR,
- The LFCC serves as area drain for shallow groundwater, but as such, and in certain sections, impacts the ability to keep low flows in river channel as aquatic habitat for Rio Grande silvery minnow. The elevation difference between the river channel and LFCC has been shown to impact groundwater availability to riparian vegetation,
- Options for alignment, construction design, and management of LFCC have not been updated and evaluated.

Stakeholders of interest (in no specific order)

Middle Rio Grande Conservancy District and area farmers New Mexico Interstate Stream Commission and Rio Grande Compact Commission U.S. Bureau of Reclamation (Middle Rio Grande Project & Rio Grande Project) U.S. International Boundary Water Commission, Elephant Butte Irrigation District, & EL Paso County Water Improvement District No.1 U.S. Fish and Wildlife Service, Ecological Services and Refuges (Bosque del Apache NWR) U.S. Corps of Engineers MRGESCP Environmental Groups

Current Status/Efforts Underway

MRGCD has the capacity to divert water from three locations off the LFCC for MRGCD farmers. Bosque del Apache NWR has the capacity to divert water from two LFCC locations for farming and native wildlife habitat water supply and delivery. The LFCC currently supports SWWF habitat at the historic Elephant Butte Reservoir delta area. It serves as one of two primary sources of water delivered to Elephant Butte Reservoir, the river being the other primary source. The U.S. Army Corps of Engineers is beginning construction of a levee project to protect, among other area assets, the LFCC. The Bureau of Reclamation, through the MRGESCP, currently pumps water from the LFCC to the river during spring and early summer river drying periods.

Recommendations

- Collect and compile currently available information on the LFCC, river, and water delivery, ecosystem function and valley drainage,
- Identify data gaps and seek to fill them,
- Evaluate current LFCC benefits and impacts on water delivery to agriculture and downstream water users, river flows, endangered species, ecosystem function, and valley drainage,
- Evaluate potential future scenarios of water delivery and infrastructure through the San Acacia Reach including the river, LFCC, and MRGCD and Bosque del Apache NWR delivery patterns and works. Consider alignment, configuration, and management of LFCC to address to the greatest degree possible benefits to all stakeholders. Evaluate these future scenarios for their effects on endangered species, habitat quality, and water delivery (including efficiency, supply and demand), and sediment/water dynamics.

Relevant Literature for Topic: Studies, plans, environmental compliance documents, and biological assessments have been completed or are currently being drafted to better understand and potentially alter the river and existing infrastructure in the San Acacia Reach. These include:

Compliance Documents

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San Acacia Reach Work Group Middle Rio Grande Endangered Species Collaborative Program Water Rights and Adjudication January 2013

Introduction

The San Acacia Reach Workgroup (SAR) has begun technical evaluation of a series of priority issues in this reach to meet the goals of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). Due to a lack of resources to continue its work, the workgroup has developed a series of summary papers to inform future evaluation of these issues. If and when the MRGESCP determines a need to develop strategies to address these and other issues, SAR workgroup members and these summary papers will be available to move that process forward.

Topic

Through public outreach and workgroup discussions SAR has identified water rights and adjudication as issues of importance to stakeholders in the San Acacia Reach that should be investigated to determine if they are issues the MRGESCP could evaluate and consider.

Background

New Mexico's 1907 Water Code uses the principles of public ownership of water, and the doctrines of prior appropriation and beneficial use to administer water rights. The public owns the waters of the state, but individuals have the right to use water based on the timing of when the water was first put to beneficial use and the amount of water put to use and consumed. Water rights can be sold with the land on which the water has been historically used, or, the consumptive use portion of the right can be severed from the property and sold separately.

Adjudication is a lawsuit that determines all claims to the use of water in a stream system. The process of adjudication in New Mexico generally is complex and lengthy (sometimes a number of decades) due to the large number of claimants involved. Adjudication would result in the quantification and assignment of relative priorities of all water rights for both surface water and groundwater in the Middle Rio Grande basin. The Middle Rio Grande has not been adjudicated.

Primary Stakeholder Issues

- One of the main issues of concern voiced by stakeholders is that increasing amounts of senior water rights are being retired from agricultural lands in the San Acacia reach, and the consumptive use amount transferred to municipal uses farther north in the Middle Rio Grande. Residents of the area are concerned that the urban centers in Valencia, Bernalillo, Sandoval, and Santa Fe counties are counting on transfers of agricultural water rights, largely from Socorro County, to feed their growth.
- The concern voiced by the stakeholders and some SAR members is that, in addition to local economic effects, loss of agricultural surface water rights in the San Acacia Reach might affect endangered species on and around agricultural lands.

- Local stakeholders participating in SAR also indicated they seek to preserve the rural and agricultural landscape and culture. They indicated concerns that water rights transfers will reduce the amount of irrigated land in the valley and, consequently, negatively affect the local economy, increase the land in the valley that is infested with weeds, reduce the volume of water in irrigation canals, and, possibly, increase the amount of water consumed in the middle Rio Grande if the lands from which water rights have been transferred continue to be irrigated.
- Stakeholders also voiced concerns that the entire basin is over allocated and that adjudication is needed. They indicated that because the water rights in the Middle Rio Grande have not been adjudicated, it is unknown exactly how many vested water rights actually exist, and what their priority is. Stakeholders are further concerned that the State Engineer continues to allow the transfer of portions of the senior water rights and assign priority dates and consumptive use volumes to those rights as they are transferred. The primary concern appears to be that a future adjudication might reverse some of the State Engineer decisions.
- Stakeholders also would like water to be available in the San Acacia reach for the benefit of endangered species and environmental purposes.

Key Stakeholders (short list, not all encompassing at this point)

Area farmers Middle Rio Grande Conservancy District Bosque del Apache National Wildlife Refuge/USFWS Water and watershed planning groups, South Central Council of Governments City and County of Socorro MRGESCP Environmental Groups

Current Status/Efforts Underway

By State Law, the OSE employs a public process to transfer the consumptive use portion of water rights in the MRG from a willing seller to a willing buyer from one place of use to another for the same or other purposes. Land and water rights are valuable personal property and landowners have a right to sell their property if that is what they desire.

The OSE evaluates impairment of existing rights, if the proposed transfer is contrary to conservation of water, and if it is detrimental to public welfare of the state. Any person or agency with standing can protest a transfer application on the basis that the transfer will be detrimental to the protestant's water rights or be contrary to the conservation of water within the state or detrimental to the public welfare of the state.

Organizations such as Rio Grande Agricultural Land Trust also offer landowners assistance with methods to preserve farmland through conservation easements, while still realizing the financial benefit of their property.

In the absence of adjudication, the State Engineer developed general rules and regulations for administering water rights known as Active Water Resource Management (AWRM). AWRM is being developed in other watersheds but is not currently implemented in the MRG. AWRM would seek to establish basin- or district-specific rules for priority administration under drought

conditions using the best available information. However, the general rules were litigated and the issue is currently in front of the State Supreme Court on appeal.

The state legislature also established the Strategic Water Reserve in 2005 (§ 72-14-3.3 NMSA 1978). This statute allows the New Mexico Interstate Stream Commission to purchase, lease or accept by donation water rights either to assist the state and water users in complying with interstate stream compacts, or to assist the state and water users in water management efforts for the benefit of threatened or endangered, aquatic or riparian obligate species.

SAR has not conducted any evaluation of the water rights and adjudication issues voiced by stakeholders. Additionally, not all SAR workgroup members agree that the issues raised are primary issues for the MRGESCP. However, the SAR workgroup members agree that information should be collected to evaluate if the voiced concerns important to the stakeholders have a factual basis.

Recommendations

A necessary first step in evaluating if the voiced concerns have a factual basis is to determine how and if transfers of water rights have affected MRGCD operations at the San Acacia diversion dam. Doing so would include separating out the effects of transfers of the consumptive use portion of transferred water rights from increases in MRGCD operational efficiency over the past ten years. Such an evaluation, if it has been done, has not been documented to the knowledge of the SAR workgroup.

SAR also recommends that the MRGESCP work with MRGCD and the Office of the State Engineer to assess:

- The number and volume of senior water rights that have been transferred north out of the San Acacia Reach
- The theoretical effect the transfer of that volume of consumptive use rights would have on river flow at and below the San Acacia diversion dam.
- Whether MRGCD has changed or will change its actual water delivery to the Socorro Division, and whether transfers of water rights result in a decrease in the delivery requirement to the Socorro Division, and what those delivery decreases would mean to remaining farmers, the Bosque del Apache National Wildlife Refuge, and return flows to the Rio Grande.
- Strategic Water Reserve implementation strategies in San Acacia reach.

San Acacia Reach Work Group Middle Rio Grande Endangered Species Collaborative Program *Agricultural Sustainability* January 2013

Introduction

The San Acacia Reach Workgroup (SAR) has begun technical evaluation of a series of priority issues in this reach to meet the goals of the Middle Rio Grande Endangered Species Collaborative Program (MRGESCP).

Topic

Through public outreach and workgroup discussion SAR identified sustaining a viable agricultural economy and rural culture as high priorities for Socorro County residents, and as topics that should be investigated to determine if they are issues the MRGESCP could evaluate and consider.

Background

The primary use of Rio Grande water in this stretch of the river is for crop irrigation. Agriculture has played an important role in the economic foundation of the San Acacia Reach. The valley has produced cotton, corn, vegetables, melons, chile and alfalfa on irrigable land for centuries. Today farms produce primarily alfalfa, corn, pasture and chile with a smaller but increasing acreage of fruits and vegetables. Farmers rely mostly on flood irrigation, though there has been a small movement toward drip irrigation. New Mexico has the highest average age of farmers and ranchers of any state at nearly 60 years old. When there are no heirs who want the family farm, selling the land to a housing developer is attractive. Recent housing developments in the Lemitar area have resulted in larger farms being broken up into smaller acreages. Most of these have had single dwellings built on them with the rest of the land remaining in agricultural production through land leases (primarily alfalfa). Agriculture in the Middle Rio Grande Valley affects both the time and spatial distribution of water. Storage of and delivery of water have attenuated the historic peak flows in Spring but have also increased the average summer and low flows, and stored agricultural water has made it possible to maintain flows throughout much of the Middle Rio Grande beyond the end of Spring runoff. However in the San Acacia Reach, after June 15th, the river often dries. Since 2003, 80% of the approximately 100,000 acre feet of water that enters the Middle Rio Grande Conservancy District (MRGCD) Socorro Division originate from Belen Division canals. On average about 40% of this water is consumed by the 13,500 acres of irrigated land cultivated by Socorro Division farmers. Some of this water supports the bosque and valley ecosystem. Water remaining at the south end of the MRGCD passes on to the Bosque del Apache National Wildlife Refuge, where it supports more bosque and valley ecosystem functions including flycatcher territories in the San Marcial area, and may be pumped from the Low Flow Conveyance Channel into the Rio Grande to wet the river in critical areas for endangered species. Some water passes on to Elephant Butte reservoir, contributing to New Mexico's Rio Grande Compact deliveries (David Gensler, MRGCD).

Numerous efficiency improvements implemented by the MRGCD and others over the past decade, including use of facilities to convey water to different divisions, have resulted in an overall 40% reduction in diversions from the river, particularly in critical habitat areas such as the San Acacia reach.

Water delivered and managed by the Middle Rio Grande Conservancy District (MRGCD) is critical to the function and health of the river, riparian zone and associated wildlife, including endangered species such as the Rio Grande silvery minnow and Southwestern willow flycatcher. Agricultural lands and water facilities in the San Acacia Reach also provide important stopover habitat for migratory species such as the flycatcher. One study conducted in the Middle Rio Grande found that 35% of the observed landbird migrants were in agricultural fields (Finch and Yong, 1998 and 2000).

Primary Issues

- Selling water rights and/or subdividing farms for housing has a higher return than farming and some stakeholders are concerned that if an increasing number of water rights in the San Acacia reach are sold elsewhere, less water may be delivered to irrigators in the San Acacia reach.
- There is a perception that high salinity levels in irrigation water delivered to the San Acacia reach are negatively affecting crop outputs.
- Some stakeholders have identified water forbearance as an option to provide water for endangered species and ecosystem needs. Initial investigation of this option identified serious practical impediments to implementation, including the legality of such a program in a non-adjudicated system and the large scale of forbearance that would likely be required to provide quantities of water sufficient to address intermittency of river flows in the San Acacia reach.
- Farmers are concerned about the availability of sufficient water throughout the growing season. During times of drought, irrigation water delivery may end at any time, leaving crops without water and money spent on labor, seeds and equipment without the benefit of financial return on those investments. San Acacia Reach farmers are at the end of the Middle Rio Grande water delivery system, therefore water supply can be tight with less flexibility.
- Growing crops with the highest market return as a way of making agriculture more sustainable and resilient. The marketable value of a specific crop can vary from season to season and may be dependent on events outside of New Mexico.

Stakeholders of Interest (short list, not all encompassing at this point)

Farmers/Producers Ranchers Consumers Developers Public and private organizations that support agriculture and land conservation and planning Land and water management agencies

Current Status/Efforts Underway

Levee strengthening and reconstruction are being implemented in the San Acacia Reach that will improve protection for agricultural lands. Farmland water delivery improvements have been undertaken on private lands throughout the reach. Some farmers have also established conservation easements on their properties to keep agricultural lands out of development. There is an active farmers market in Socorro and members are working with groups such as New Mexico Farm to Table to assess and improve the local food system.

Recommendations

- Analyze scenarios of water rights transfers that might change the delivery requirements to the Socorro Division of the MRGCD and what delivery decreases would mean to remaining farmers, Bosque del Apache NWR, flycatchers in the San Marcial area, and return flows to the Rio Grande (see White Paper on this subject).
- Evaluate the potential for supplemental use of groundwater for irrigation of agricultural lands in very dry years. This would be considered within current water rights law and evaluated on the potential impact to the groundwater aquifer.
- Develop/promote programs to support new farmers and ranchers and grow higher value crops.

- Conduct a food system assessment for Socorro County that, at minimum, identifies barriers and gaps in access to healthy foods, consumer preferences, delivery systems and the potential for locally produced food to meet the needs of consumers.
- Encourage San Acacia reach farmers and others to consider farm for wildlife programs to benefit species and farm operations.
- Continue to fund the Private Lands Biologist in Socorro to work with landowners to get assistance with implementation of, and payments for, wildlife habitat projects.
- Encourage local farmers to pursue funding and technical assistance through the Natural Resources Conservation Service (NRCS) and other agencies to implement on-farm water efficiency measures such as ditch lining, proper sizing of water delivery infrastructure, laser leveling, drip systems (where appropriate) and proper maintenance.
- Employ a land use planner and coordinate land use and water planning in Socorro County.
- Include benefits to local agriculture, ecosystem and endangered species management in an analysis of the Low Flow Conveyance Channel (see White Paper on the subject). Evaluate surface and groundwater interaction in the Valley related to agricultural lands, drains and canals and the shallow groundwater aquifer.
- Further investigate the potential for surface and/or groundwater forbearance, including: legal issues; the willingness of irrigators in the San Acacia Reach to forbear water use; a cost-benefit analysis of a forbearance program and socioeconomic impacts, particularly to local agriculture.
- Increase local programs, incentives and enforcement to help residents and businesses conserve water.
- Encourage the MRGCD to develop additional or clarify policies and procedures for water allocation during shortages, and communication prior to and during irrigation season on the status of irrigation water supplies.
- Encourage additional water quality testing programs to continue monitoring done by MRGCD in the Belen and Socorro Divisions. Work with soil and irrigation experts to investigate and identify other possible causes of high water and soil salinity.
- Increase public education and outreach on land and water conservation options.

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