

**Middle Rio Grande Endangered Species Collaborative Program**  
**San Acacia Ad Hoc Work Group Meeting**  
July 28<sup>th</sup>, 2011 – 12:30 PM to 3:30 PM  
Socorro – Bureau of Land Management

**MEETING SUMMARY**

**Note:** The roundtable discussion takes the place of the regular San Acacia Reach meeting for July, therefore some regular meeting highlights were tabled for this month.

**Actions**

- There were no actions assigned during the roundtable discussions.

**Decisions**

- There were no decisions made during the roundtable discussions.

**Announcements**

- It was shared that the salt cedar (tamarisk) leaf beetle is now located in the Jemez, approximately 3 miles from the Rio Grande. The beetle, which was introduced as a bio-control for salt cedar, defoliates the salt cedar. The close proximity of the beetle to the Rio Grande has occurred faster than originally expected. Everyone was encouraged to report any beetle activity.
- Several attendees shared that they are active members with the Floodplain Managers Association (FMA). Their website: [www.nmfma.org](http://www.nmfma.org) contains a lot of information. FMA will be hosting a fall workshop in late September in Ruidoso. Please visit the website for additional information or to contact the group.

**Resources**

- Middle Rio Grande Endangered Species Collaborative Program: [www.middleriogrande.com](http://www.middleriogrande.com)
- Save Our Bosque Task Force: <http://sobtf.org/>
- SOBTF Conceptual Restoration Plan for San Acacia to San Marcial can be accessed through: <http://www.emnrd.state.nm.us/FD/districts/Socorro.htm>
- Floodplain Manager Association: [www.nmfma.org](http://www.nmfma.org)
- Bureau of Reclamation (Upper Colorado Region): <http://www.usbr.gov/uc/>
- US Army Corps of Engineers (South Pacific Division): <http://www.spa.usace.army.mil/>
- NM Interstate Stream Commission: [http://www.ose.state.nm.us/isc\\_index.html](http://www.ose.state.nm.us/isc_index.html)
- US Fish and Wildlife Bosque del Apache: <http://www.fws.gov/refuges/profiles/index.cfm?id=22520>

**Meeting Summary**

- Gina Dello Russo opened the meeting and introductions were made. The meeting was well attended and included several landowners and concerned citizens.
- Gina then introduced the San Acacia Reach ad hoc work group (of the Middle Rio Grande Endangered Species Collaborative Program or Program) and introduced the floodplain land use topic.
  - The San Acacia (SA) reach is the furthest downstream reach of the Program and covers approximately 60 river miles. The majority of land within the SA

- reach is privately owned making outreach, communication, and coordination with local stakeholders and landowners very important.
- During the February 2009 SA Reach Workshop, participants identified several priorities for sustainability that were diverse and important to everyone in this area.
  - The SAR ad hoc work group is a short-term group with the purpose of arriving at possible solutions to key issues and then elevating those options to the decision makers before disbanding. The SA reach has levee issues, flooding issues, sediment issues, water delivery issues, encroachment issues, invasive species issues, economic issues, endangered species issues, and fire issues.
  - The SAR work group is developing a series of “white papers” (or briefing papers) to address 6 topics, including floodplain land use. The purpose of today’s meeting was to gather feedback from locals and landowners on their perspectives in order to make the floodplain land use white paper as accurate and substantial as possible.
- Gina then presented a brief background on the endangered species ecology. Under low flow conditions, the river water is contained in the channel. But during high flows (>2,500 cfs), the water exceeds the channel (floods) and moves into the floodplain. These higher flows are beneficial in that they flush out salts and sediments, bring nutrients, establish vegetation suitable habitat for the flycatcher, and create a diverse river channel that is suitable habitat for the minnow.
    - The Southwestern Willow Flycatcher (flycatcher) is one endangered species of consideration in this reach. The flycatcher needs young habitat comprised ideally of willow and cottonwood stands that provide crossing branches at 6 to 9 feet for the nests. The flycatcher requires standing water at the nesting site usually in close proximity to the river.
    - The Rio Grande Silvery Minnow (minnow) is directly impacted by river conditions and has to survive in a range of flows. The minnow needs back water habitat and other low-velocity areas for nursery habitat and refuge from the swift channel. But high flows are needed to trigger spawning.
  - Page Pegram with the Interstate Stream Commission (ISC) then shared a brief discussion on water management, river maintenance, and flood risk management. The ISC’s main focus is on water delivery to meet Rio Grande Compact requirements. The Compact is a treaty that was signed in 1939 between Colorado, New Mexico, and Texas (and approved by Congress) to equitably apportion the waters of the Rio Grande. This means that the state of New Mexico has a legal obligation to provide certain amounts of water to Texas every year. If NM were to default on those obligations, the state could be sued. It has been estimated that such a lawsuit could cost NM over \$2 billion. ISC oversees water deliveries to make sure that does not occur. The Bureau of Reclamation (Reclamation) is the agency that is responsible for river maintenance including maintaining the channel for effective water delivery and maintaining the levees to protect valley improvements such as communities, the Low Flow Conveyance Channel and the MRGCD infrastructure. The Army Corps of Engineers (Corps) is the agency responsible for flood control and flood risk management. Currently the Corps has a project(s) to rehabilitate the levees from “spoil bank” to engineered levees in the San Acacia Reach.
  - Attendees were then asked to provide initial perspective and feedback. Some feedback included:

- The more constricted the river is on east side (through development on the floodplain), the more potential for the water to be inadvertently pushed toward farms/development on the west side. Also, water managers are subsequently forced to lower the releases of water (in order to protect the development) which could have negative effects on the ecology, species of concern, irrigation, etc.
- Attendees then discussed the importance of federal flood insurance to property owners in the Socorro and surrounding areas. The discussion included the FEMA mapping (a product being developed by Socorro County that will inform the county of flood zones), diverse land ownership on the active floodplain and how important it is to work with these landowners, and the suggestion for an “endangered species” ordinance as one way to help address the encroachment concerns.
  - Some landowners shared that they understand the risk of building on the floodplain and realize the risk.
  - Another opinion is that there is merit to continuing flood insurance even if a mortgage has been paid off. A home is a home regardless of its size – it is where people live and make their life and keep their photos and memories. It is recommended that people maintain their insurance even if no one will make them.
  - The development of stricter, more stringent land-use permitting ordinances is encouraged. A floodplain administration is needed to look at the land use. Base flood elevation is determined on the 100 years flood event. The FIRMs (flood insurance rate maps) designate the location of structures and the flood rating is determined by comparison to the base flood. While there is a matter of risk and hazard to living in floodplain, the government won’t tell you no. The levees are a concern. There is also concern on the jurisdiction of land use – BLM land, state land, deeded/trust land, even territorial land and private land.
  - Communities in NM should consider designating a special ordinance for the endangered species – an ES floodplain ordinance. Ordinances protect lives and property - but add an ES ordinance to protect the species and plants in the area.
- Participants then discussed the need for increased county involvement including awareness, possible permitting, and oversight process(es). The county needs some control over what is happening on the floodplain, ordinances like other counties, a permitting system, other ways to direct development on the floodplain to limit negative impacts.
- Attendees then briefly discussed how floodplain encroachment (development) limits the ability of the Corps to send high flows down the system. The high flows are needed to flush the sediment that builds up. If these high flows are not allowed to occur, problems with the river and sediment build up just become worse. Excess water higher in the system can be managed with the flood control dams; but there is no control over the flooding off the Rio Puerco or Rio Salado, arroyos, or other inputs. The Corps is responsible for flood control and if necessary, they will release water if Albuquerque is in danger.

- Ryan Gronewold with the Corps then talked about the Corps' Floodplain Land Use Evaluation project summary. The project includes mapping out structure locations in the floodway (including roads, berms, ditches, homes, etc.). Then using GIS to overlay the high flow (inundation) of 2005 for comparison of how close the flows got to the structures. Models will be used to look at even higher flows and where the floodplain might be expected and how that overlaps with existing structures and roadways.
- Gina then opened the discussion for brainstorming on alternatives for floodplain land use by sharing an example of conservation easements that have protected 200 acres of land in the SA reach. This voluntary, local program includes establishing permanent easements that limit development on the floodplain. As a follow up assistance to landowners, the SOBTF and others have accomplished initial habitat restoration on these lands. Attendees mentioned the following ideas:
  - Establishment of a permitting and review process that would help the county assessors and others be more aware of and have more control over development in floodplain areas; this could also include educating the construction and real estate industries to help implement the permitting program;
  - A “best” scenario is for local people to be active and together determine what is in the best interest of their community. Proactive communities can lead the discussion with their neighbors and other property owners to spread awareness and encourage healthy options;
  - In other states, communities have bought the property allowing for the original owners to relocate. The land is then used for community areas (such as parks) that would be largely unaffected should it flood. However, this solution requires funding and inclination;
  - Encourage appropriate land use (such as farming) on susceptible property – thus a flood might mean financial loss but not structural loss;
  - Have the Corps 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;
- Gina then shared the “next steps.” Notes from today’s roundtable discussion will be distributed to attendees. Comments to clarify or expand on the notes are welcome from all participants. The SAR work group will use the notes to include the perspectives and suggestions into the Floodplain Land Use white paper which is expected to be completed by the end of the year. The white paper will also be distributed to attendees for review and feedback.

**Next Meeting: August 25<sup>th</sup>, 2011 at Reclamation (Albuquerque)**

- Tentative agenda items: (1) review of the Floodplain Land Use roundtable discussion; (2) work on the Floodplain Land Use white paper (?); (3) future funding for completing land use analysis; (4) future structure of Program work groups.

## Middle Rio Grande Endangered Species Collaborative Program

### San Acacia Ad Hoc Work Group Meeting

July 28<sup>th</sup>, 2011 – 12:30 PM to 3:30 PM

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### MEETING NOTES

#### Introductions

- Gina Dello Russo, with the U.S. Fish and Wildlife Service (Service) opened the meeting and welcomed everyone. Introductions were made. Gina thanked Chris Hill and the Bureau of Land Management (BLM) for hosting today's meeting. Gina explained that today's roundtable discussion is informal so participants were encouraged to speak freely and ask questions when they arise. The notes and attendance list will be provided to attendees.

#### Introduction of San Acacia Reach Workgroup and topic

- Today's discussion is floodplain land use. For the purposes of today's discussion, "floodplain" is defined as east of the north-south flood control levee within the San Acacia (SA) reach of the Middle Rio Grande (MRG). The meeting is organized by the Middle Rio Grande Endangered Species Collaborative Program (Program), a diverse group tasked to address MRG endangered species issues and recovery options and balance those needs with existing water uses.
- The San Acacia reach is the furthest downstream reach of the Program and covers approximately 60 river miles. There are 4 distinct subreaches: (1) Escondida; (2) San Antonio; (3) Refuge; and (4) San Marcial. Each subreach is unique. Within the SA reach the majority of land is privately owned making communications with landowners very important.
- In February of 2009, the Program hosted a 2-day workshop focused on discussing issues within this reach of the river. Participants worked toward developing a shared vision for this stretch of river. The workshop attendees developed priorities for sustainability including (in no particular order and not limited to): effective water delivery; healthy community with agriculture; meeting compact obligations; adequate water quality and supply; keeping water rights with the land; healthy, functioning wet river; and sustaining local culture. These identified priorities were diverse and very important to everyone in this area. (*Note: the SA workshop final report is on the Program's webpage at [www.middleriogrande.com](http://www.middleriogrande.com)*)
- The San Acacia Reach (SAR) ad hoc work group is a short-term group with the purpose of accomplishing set goals and then disbanding. The group would like to ultimately arrive at possible recommendations or solutions that can be elevated to the decision makers. Goals and objectives of the SAR work group include:
  - Identifying resource management issues;
  - Developing recommendations to implement SA reach resource management issues; and
  - Increasing public outreach and involvement.
- The SA reach has levee issues, flooding issues, sediment issues, water delivery issues, encroachment issues, invasive species issues, economic issues, endangered species issues, and fire issues.
  - It is a challenging place to work towards sustainable solutions but it also has the largest segment of diverse, functioning riparian ecosystem within the MRG. It contains a large agricultural community and growing human population center.

- The workshop participants expressed interest in continuing the process towards long-term solutions and today's roundtable discussion is part of that follow up.
- The SAR work group is developing a series of white papers that examine several key themes:
  - The Low Flow Conveyance Channel (LFCC)/levee system;
  - Agricultural sustainability;
  - Sediment transport;
  - Habitat restoration;
  - Water rights and adjudication; and
  - Floodplain land use.
- Floodplain land use is an issue of importance because there is infrastructure located on the entire floodplain (including several small communities). The infrastructure on the entire floodplain consists of an irrigation diversion dam at the upstream end, a spoil 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 is almost 13,000 acres of land that has some form of management or infrastructure (federal, state, or private). While there are only 5 homes on the active floodplain now, the future building pressure in the area is unknown. It is expected that encroachment will continue and expand. There is no zoning in Socorro County. Socorro County is in the process of updating the FEMA floodplain maps. There have never been flood maps for the county before so the process is slow.
- Limiting high flow movement (i.e., too many constraints impacting the water's ability to move easily downstream) could negatively impact federal, state, and local land, habitat quality, as well as water management programs. Historically, there have been many high river flows through the reach (1920 - 22,500 cfs; 1941 - 24,600 cfs; and 1942 - 18,400 cfs) and future high flows should be expected.
- The work group will take today's discussions and incorporate the highlights into the Floodplain White Paper that is being drafted.

### **Endangered Species Ecology**

- As mentioned, the SA reach is approximately 60 miles of river with 4 unique subreaches.
- Under "typical" conditions the river water at low flows is contained in the channel but during high flows the water floods and moves into the floodplain. High flows are important as they flush out salts, bring nutrients, establish vegetation which can be suitable habitat for the flycatcher, and create a diverse river channel that is suitable habitat for the minnow.
- In the Refuge subreach, flooding initiates at approximately 2,500 cfs (note: because of sediment deposition over the last few years, it actually floods a little lower). Over 5,067 acres inundate when flows exceed 5,000 cfs (2004 data). Groundwater levels are variable but very important to the riparian vegetation and overall ecology.
- One endangered species of concern is the Southwestern Willow Flycatcher (SWFL or flycatcher) which has always been found in this reach. The flycatcher needs habitat with younger vegetation stands (5-20 years) with dense stems and branches crossing at 6-9 feet for nesting. The sites need to be near or over low velocity or standing water as well as close proximity to the river. A habitat patch size of 5 to 40 acres is assumed to be a good size; there are usually larger cottonwoods mixed in. Other species (i.e., the yellow-billed cuckoo) that are candidate species for endangered species listing have differing requirements for

suitable habitat. But in all cases, the river is the driving force for a variable and healthy habitat for the birds.

- A sediment plug formed on the Refuge in 2008 and the water was spreading out everywhere. That event resulted in flycatchers establishing a number of nests in the area where the plug occurred. In response to a question on what caused the sediment plug, it was shared that there are a number of possible reasons for the plug. There was an incredible monsoon in 2006, with subsequent low water years probably unable to move that sediment easily downstream. The plug started in a river bend location and there was the increased sediment coming through. In a restricted floodplain, the river cannot shift and move to balance sediment deposition throughout a wider floodplain. When overbank flows occur, the water can get out but the sediment stays (deposits) in the channel. Sediment plugs form in higher spring runoff years.
- In a brief review of Rio Grande Silvery Minnow (RGSM or minnow) habitat needs, it was shared that the minnow has to survive the range of flows (from low to high to none) within the river making diversity of in-channel features critical. The minnow needs back water habitat and other low-velocity areas for nursery habitat and for refuge from the swift channel. But high flows are needed to trigger spawning.
- The SA river corridor currently has a floodplain unimpeded by a levee on the east side. This is unique to the MRG and means that historic river processes are still at work (i.e., flooding) and the sediment supply:
  - Promotes and sustains different age classes of native plants for wildlife and human use, and can help to limit non natives;
  - Scours off vegetation on river bars keeping the river channel open to pass floods and move sediment; and
  - Recharges the groundwater used as water supplies.
- An open floodplain provides: endangered and other wildlife species habitat; a water delivery channel to downstream users; flood control to keep pressure off levees and allow larger flows to pass downstream; reduced fire danger (limits homes in the path of wildfires and floods); and open space/recreation for our community.

### **Water management, river maintenance, flood risk management**

- Page Pegram, a hydrologist with the Interstate Stream Commission (ISC), then shared a brief discussion on water management, river maintenance, and flood risk management.
- The ISC's main focus is on water delivery – not for irrigation but to meet Rio Grande Compact requirements. The Compact is a treaty that was signed in 1939 between the states of Colorado, New Mexico, and Texas (and approved by Congress) to equitably apportion the waters of the Rio Grande. This means that the State of New Mexico has a legal obligation to provide certain amounts of water to Texas every year. If NM were to default on those obligations, the state could be sued. It has been estimated that such a lawsuit could cost NM over \$2 billion. ISC oversees water deliveries to make sure that does not occur.
  - The river bed in the SA reach is perched higher than the surrounding floodplain. This is a concern because surface water is higher than groundwater – river water is thus lost to groundwater and is not conveyed to Elephant Butte. There is also a lot of non-native vegetation (ex. salt cedar) that uses a lot of water through evapotranspiration. The combination of these means that much of the water that

- passes through the gage at the San Acacia diversion dam is lost within the San Acacia Reach and does not actually make it to Elephant Butte.
- The Bureau of Reclamation (Reclamation) is the agency that is responsible for the river maintenance including maintaining the channel for effective water delivery and maintaining the levees to protect infrastructure.
    - For example, Reclamation addressed the sediment plug. And as part of river maintenance, Reclamation worked with ISC on temporary channel in the Elephant Butte delta. Elephant Butte Reservoir is much lower now, and as it continues to lower the top of the reservoir pool recedes (over 20 miles) leaving a delta of floodplain where the river didn't have a defined channel to get to the reservoir. Starting in the early 2000s, both agencies have worked together to dig and maintain a temporary channel that directs the water into the reservoir.
  - The Army Corps of Engineers (Corps) is the agency responsible for flood control and flood risk management. Currently the Corps has a project(s) to rehabilitate the levees from "spoil bank" to engineered levees.

### Initial perspectives from all participants

- After the brief review of species needs, agency perspectives and authorizations, and Program perspectives, attendees were asked for any initial perspectives, questions, or feedback.
  - *Comment:* There is concern about how more development (and resulting constrictions) in the floodplain on the east side may push the river in unintended directions. There are spoil levees on the west side but the more constricted the east side becomes the more water could be inadvertently pushed toward the levees, endangering farms/development on west side of the valley. This also could force water managers to lower the releases of water which could have negative impacts to the ecology, species of concern, irrigation, water delivery etc. Or if there is too much water, the resulting flooding could then put homes at risk.
  - *Question:* Could floodplain managers or other landowners address how big of an issue it is to obtaining national floodplain insurance? Maybe it is a non-issue for Socorro?
    - *Response:* As a landowner, I have not built a mansion there. I understand the risk of building on the floodplain and realize the chance I am taking. If the water comes up, then so be it. I, personally, am not worried about it.
    - *Response:* Even if a mortgage is paid off, there is still value to continue your flood insurance. It is the bankers who enforce the floodplain management as they control the rates. If a home is paid for and the owners decide to discontinue flood insurance and then a flood does come (or any other natural disaster) they will not be eligible for any resources or federal assistance. A home is a home regardless of its size – it is where people live and make their life and keep their photos and memories. It is recommended that people maintain their insurance even if no one will make them.
    - *Response:* There are approximately 16,000 flood insurance policies in the state. The premium base is about \$4.2 million a year. It is basically a self-sustaining system (as opposed to borrowing money from the Treasury) if you compare the recovery on losses. It is a land-use based system based on ordinances that communities develop and adopt with FEMA. The



development of stricter, more stringent land-use permitting ordinances is encouraged. A floodplain administration is needed to look at the land use. Base flood elevation is determined on the 100 years flood event. The FIRMs (flood insurance rate maps) designate the location of structures and the flood rating is determined by comparison to the base flood. While there is a matter of risk and hazard to living in floodplain, the government won't tell you no. However, you cannot obstruct the water from flowing through the channel and downstream. The levees are a concern. There is also concern on the jurisdiction of land use – BLM land, state land, deeded/trust land, even territorial land and private land. Communities in NM should consider designating a special ordinance for the endangered species – an ES floodplain ordinance. Ordinances protect lives and property - but add an ES ordinance to protect the species and plants in the area. Alaska has developed ES ordinances. In limited reaches, such as SA, this might be an appropriate course of action.

- *Response:* For decades, Socorro County just “sat back and watched.” But after all the rain in 2006, the county got an ordinance passed and began participating in programs. Since there are no maps and no “special flood hazard areas” are declared then everyone gets classified in Zone C (which has the best rates). Those participants will be grandfathered in with those better rates when the maps do become available. Any federal mortgages will have to get coverage at that time anyway, so it would be beneficial for folks to get insurance now to lock in the good rate.
- *Response:* The flood coverage includes all forms of flooding – river, arroyos, etc.
- *Comment:* Excess water higher in the system can be managed with the flood control dams; but there is no control over the flooding off the Rio Puerco or Rio Salado, arroyos, or other inputs. The Corps manages the flood control and the releases of water. They would probably be reluctant to release water that might affect any property but the Corps is responsible for flood control and if necessary, they will release water if Albuquerque is in danger.
  - *Response:* That plays into the sediment problem in the county. Because the county hasn't participated in the flood insurance programs before and there are no strong county ordinances for development the county has not known what was going on out there. The county has not had any control. Subsequent, the Corps can't release enough water to flush the sediment out. The development on the floodplain (including the San Marcial Railroad Bridge) is the reason that larger flows could not be released and the silt and sediment is allowed to build up.
  - *Response:* The county needs some control over what is happening on the floodplain, ordinances like other counties, a permitting system, other ways to direct development on the floodplain to limit negative impacts.
  - *Response:* From an ecological standpoint, it is very important to flush the system. The build up of sediments contributes to the formations of plugs and then the river redirects itself in uncontrolled areas and approaches the levees.
    - *Response:* The levees in this reach are a real problem. There are 3 types of levees: certified, certifiable, and spoil banks. The levees here

are spoil banks. Although they are providing some level of protection, no one has really ever assessed the value of the spoil bank levees. They work to a certain extent, but they haven't been evaluated from an engineering perspective. The levee task force is currently looking into that.

### **Corps of Engineers Floodplain Land Use Evaluation project summary**

- Ryan Gronewold, with the Corps, shared some background information and progress updates on the Corps' Floodplain Land Use Evaluation project.
- Reiterating what others have said, floodplain encroachment can potentially affect the Rio Grande by changing overbank flowpaths, altering high flow releases out of Cochiti, reducing flood attenuation, and limiting positive habitat within the floodplain.
- The intent of the Collaborative Program's project "Floodplain Encroachment: Analysis of encroachment problem areas in the San Acacia Reach" is to quantify the effects of floodplain encroachment in the San Acacia reach. This is being done through the use of aerial photography, topographic mapping, the 2005 high flow mapping, and hydraulic modeling for higher flows and velocity mapping.
  - The project includes mapping out current structure locations in the floodway (including roads, berms, ditches, homes, etc.). Then GIS will be used to overlay the high flow (inundation) of 2005 for comparison of how close the flows came to the structures. Models will be used to look at even higher flows and where the floodplain might be expected and how that overlaps with existing structures and roadways. Many entities believe that floodplain encroachment and development could affect riparian health, water delivery downstream, flood risk and water management, etc. Anecdotally there could be an issue but it has never been a study to determine where the flooding occurs now and the effects (or quantification of the effects) of what might happen in the future. This project provides a way to have more substantial information in order to make smart decisions.
- The remaining work includes projecting into the future different scenarios of number of possible structures or roads and where they might be built/located, trying to evaluate the effects of those, and adding up the cumulative effects.
  - The purpose is to look at the impacts of existing and future floodplain encroachment on flood risk and water management, ecosystem health, and endangered species habitat.
- It was shared that the Program did not fund the SAR work group's remaining work on this project this year. Unfortunately, the last 3 tasks (projection and planning) still need to be completed by a contractor or someone with a planning or real estate background in order for the workgroup and community to evaluate the risks.
- In response to a question, it was shared that the Corps' will be using FLO2D for the hydraulic modeling and their "mapping" is not expected to be of flood insurance quality. On a parallel track, the SA levee project had much more rigorous analysis and used HECRAS but was not intended for insurance purposes. The information for the levee project will be used for economic analysis and design of levee height.
  - *Question:* Where do the Corps and FEMA maps differ?
    - *Response:* FEMA has different requirements. The differences will in part be due to the accuracy of elevation and standards of the aerial photography.

There is the possibility that the Corps maps could be used for insurance purposes but that is not in the current contract.

- *Comment:* FEMA is currently trying to produce flood maps which include inundation mapping up to the 100 year flood (at least) and maybe even to the 250 or 500 year events. URS is the contractor hired to study the entire reach. Some of the work has been completed but due to the PAL agreement and congressional issues on the methodology the draft maps haven't been released for review.
  - *Response:* A flood insurance rate study and profile analysis includes up to the 500 year event even if that is not shown on the maps. Interactive, real-time graphics of a 100 year flood can be accessed on their website.
  - It was shared that the Corps is really looking more at lower flows and maybe 100 year floods.
- *Question:* Was the change in inundation with the removal of jetty jacks taken into account?
  - *Response:* The Corps did consider jetty jack lines to be floodplain encroachment and removal would open that floodplain up in those areas. However, no jetty jack removal is known in this reach. The Corps doesn't just remove the jacks to just do it. There is a policy in which Corps would allow others to remove certain jacks (unsure if those were the parallel or perpendicular ones) depending on erosion concerns.

#### **Discussion on alternatives for land use on the floodplain**

- Attendees were then asked to provide feedback and discussion on possible strategies to limit development in those floodplain areas that could cause problems in the future.
  - An example of the Conceptual Restoration Plan and conservation easements was shared. In 1999, the Save Our Bosque Task Force (SOBTF) and others (Corps, Socorro Agricultural Land Trust (now the Rio Grande Agricultural Land Trust (RGALT), NM State Forestry, BDA) met with private landowners in Bosquecito. The landowners approved the development of a conceptual restoration plan for the valley provided they were not committed to anything. The conceptual restoration plan looked at flood potential within the reach (using FLO2D), vegetation classes in the reach, scenarios of vegetation removal, etc. The general design for restoration within the reach was really keyed to the flooding potential. The plan indicated areas that could flood at low discharge and would also be ideal for removing salt cedar and replacing it with willow and cottonwood. However, there were other areas that wouldn't flood often even if the salt cedar was removed. Some cottonwoods might get established in these areas. Then there were the areas that would most likely become grassland if the salt cedar were removed because they hardly flood anymore. The plan considered the biological diversity potential, change in fire danger, invasive species control, water saving potential, and flood control or flood routing perspective, etc. in this plan.
    - RGALT actively continues to preserve lands on the floodplain.
    - The first round of landowners was very patient. There isn't a "pot of money" available, so the process begins with finding interested landowners and then finding the funding.

- After 9 years 200 acres have been preserved under permanent conservation easements and the first steps at habitat restoration (non native plant control and reestablished with native plants) has occurred. It will continue to be a slow process unless a stable funding source can be established.
- The landowners are not compensated per se – the benefits include restored habitat and cattle protection fencing. They also get assistance when possible with the follow up weed and salt cedar control. The owner then becomes the steward of the restored area. Everyone has been very impressed with the owner's energy and stamina in terms of continued salt cedar removal. The Socorro Soil and Water Conservation District also continues to work with landowners to help keep invasive species out. These are partnerships that, once built, continue to thrive on the mutual respect between all involved.
- This is one strategy for keeping development out of the floodplain (especially areas prone to 25-50 year floods).
- These landowners did have the opportunity to specify a "building envelope" where it would be permissible to locate some structures (ex. barns). In all cases the building envelope would be located out of the main floodplain. In some cases, the owners didn't want a building envelope.
- *Question:* Is there any tax break or other incentive?
  - *Response:* There is a state tax credit. In 2007, the tax credit was made transferable. That is one benefit of the process taking so long – after 2007 owners were able to get cash back. The state tax credit is good for ½ of value of easement up to \$250,000. In some cases, it was sold for up to 90 cents to the dollar.
- More alternatives are needed – securing 200 acres in 9 years is just not sufficient to address the concerns.
- *Question:* Since most of the land is private, is there any concern about the west side at all?
  - *Response:* There are a few private landowners on the west (within the levees) but most of that land belongs to the Middle Rio Grande Conservancy District (MRGCD or District). The levees on the west side are not engineered and while they may not function optimally they are providing some protection to those living to the west of the levee. The farms and houses on the west do have that non engineered protection - the river is contained within the levees. This is not the case on the east side.
  - *Comment:* One issue has to do with the limitations on the flows that the Corps can release in the river to flush the system. There needs to be an awareness of the development level and location of buildings and structures. Part of the solution could be for the county to have a permitting and review process by managers. As it stands now the county has no way to know what is being done. Some control of land use could be accomplished through the county commission and the development of a permitting situation. Unfortunately, Socorro County building permits are issued by the state of NM. Also, there is no zoning ordinance.
- *Question:* Is there a determination that is made whether a building proposal would cause flood risk or harm? How does FEMA address that and is the onus on owner?
  - *Response:* There are flood development forms that could be issued by some administration. The floodplain manager could look at the maps to determine the location – if in special flood hazard area then the issue has to be addressed. This

- goes back to the Construction Industry Division and the state licensing department. But it is not a current county mandate to check with the floodplain administrator. The construction industry has been receptive – so maybe the county could send a letter and request that no building permits be issued without review of a floodplain manager.
- It also happens that the Construction Industry Division is also the acting director for mobile homes and it is homes that are the biggest deterrent for higher flows.
- *Comment:* There was a recent situation where land on the east side (and thus prone to flooding as well as a high groundwater table) was for sale and desired by a company to store large rusty old tanks. Luckily, the landowner decided not to sell to them. Is there any state agency or checks and balances?
    - *Response:* The New Mexico Environment Department (NMED) houses the Surface Water Quality Board. But the state and county don't necessarily have awareness of what is going on.
    - There needs to be a process that involves review and signatures from different departments.
  - *Comment:* Other counties have planning and zoning.
  - *Comment:* There will always be enforcement issue. The check and balance (for anyone trying to avoid a process) would be to have all the housing dealers and construction industry on board to not issue permits or do inspections unless documentation is signed by local authorities.
    - *Question:* Would the Corps be liable in a situation where an owner did not follow the process and build in a high risk area anyway?
      - *Response:* No, the Corps would not be liable for releasing flood flows. But realistically they wouldn't do it – their mission is to prevent flooding and they would not knowingly flood a home.
  - *Comment:* One other piece is educating the realtors. Realtors could help to make sure property in potential flood hazard areas are reviewed as part of the disclosure process.
  - *Comment:* Regardless of covenants, codes, and restrictions there is a legal compact to deliver water to Texas or face a \$2 billion consequence for defaulting. Building restrictions in the floodplain should be a top priority in light of this potential consequence. Floodplain ordinances against building are needed.
    - *Response:* It must be cautioned again any action that could be considered a "taking" and or devaluing of property (i.e. condemning).
    - The best scenario is for local people to be proactive and in partnership determine what is in the best interest for community. It is better for communities to lead the discussion instead of anything forced on property owners.
    - An example was shared of communities that bought the property from owners (thus allowing them to relocate) and then created community areas (parks) that would be largely unaffected should it flood. This solution requires money and community inclination to do so.
      - When it the long-standing, generational property in this area is considered it is not likely that landowners will be open to selling. The bigger concern is providing education about healthy options they can do with their property.

- This means encouraging farming or other land use that if flooded would mean a financial loss but not a property loss (i.e., house).
- Unless it is an affluent community, there would need to be more support and resources from the state and federal government.
- *Comment:* Once the Corps' levee project is completed, the City of Socorro's special flood hazard areas will go away.
    - *Response:* The levee project runs from the San Acacia Diversion Dam (SADD) to San Marcial and is on schedule to start construction in 2012.
  - *Comment:* In the Mississippi River Valley, people have willingly agreed to a "flood easement" on their land. In this situation the land can be cultivated but no structures are built and the landowners are compensated when flooded. Maybe the Corps should explore something similar here?
    - *Response:* Back in 1999, Socorro County attempted a zoning program that failed to pass the county commissioners. It is more effective to try to develop compensation programs for volunteers than it is to talk about zoning and property devaluing.
    - During the process of establishing the conservation easements, a lot of the owners understood the flood and fire danger and they knew the risks associated with building there. It wasn't a hard sell – they realized that any buildings would need to be outside of the flooding/fire zone. Many people have asked why the Corps doesn't build a levee on east side and the answer is that there is no economic incentive to spending \$1 million per mile to build. There is just not the industry or infrastructure to protect.
  - *Comment:* It is cheaper to do a conservation easement than purchase the land. The conservation easements were donated but the restoration was funded. From a tax payer perspective, if money is spent on improving lands then it needs to be protected (instead of possibly increasing the land's valuable for development). Restoration work needs to happen on conserved lands that are protected from future development.
    - *Response:* The initial investment for easements or restoration could be made with federal or state funding but the stewardship is what makes it a success. Without the landowners help (and support for them) there is no way to say the investment was protected.

### Next Steps

- The SAR work group will consider today's discussion and will include the feedback (including perspectives) into the Floodplain Land Use white paper.
- All attendees will get a copy of the draft white paper in order to provide comments and to make sure it covers the pertinent discussions and important issues. The expected completion for the white paper is by the end of calendar year.
- Aside from the white paper, the work group will make technical recommendations on long-term solutions to the decision makers. These recommendations will include justifications on why recommendations were chosen (versus other options). Socorro County will obviously be a major player in whatever solutions are pursued.
  - *Comment:* Without the flood plain maps, the flood areas (including arroyos, tributaries, etc.) are not known. The overall issue is bigger issue than what the Program is tackling. The SAR work group recommendations would be able to address a part of that larger issue, and bring it to the attention of a wider audience.

- *Comment:* Not much can be done without the maps as there is no data.
  - *Response:* There is a preliminary paper map of the city only not for the county. The cities borders goes to the river (and depending on river migration are sometime located in the middle of river since the boundary doesn't change). Even without the maps, the issue of potential negative impacts can be raised and options discussed, evaluated.

### **Closing remarks, requests for further work, etc.**

- Attendees excitedly shared that there was water in the river today and the Rio Salado was running well yesterday.
- Several attendees shared that they are active members with the Floodplain Managers Association (FMA). Their website: [www.nmfma.org](http://www.nmfma.org) contains a lot of information. FMA will be hosting a fall workshop in late September in Ruidoso. Please visit the website for additional information or to contact the group. FMA members work with a lot of the FEMA staff.
  - The nearest FEMA office is in Denton, Texas (Region 6); surprisingly, Arizona is in Region 9.
- It was shared that the salt cedar (tamarisk) leaf beetle is now located in the Jemez, approximately 3 miles from the Rio Grande. The beetle, which was introduced as a bio-control for salt cedar, defoliates the salt cedar. The close proximity of the beetle to the Rio Grande has occurred faster than originally expected. Everyone was encouraged to report any beetle activity. The beetle will keep going and monitoring is important to track location and effects (increased fire danger or change in habitat quality, etc.).
  - The Town of St. Johns Arizona did its own introduction and it is suspected that their strain was first to come into NM. The FWS Region 2 limited introduction the beetle within a buffer of flycatcher habitat, but the Region to the west permitted it and Utah and Colorado actively bred the insects for introduction for salt cedar control. There is some doubt whether the species in the Jemez River will come this far south. In order to get bio-control in the southern climes, a different sub-species was introduced in Texas and it is busily making its way here. NMSU is tracking the "invasion."
  - The beetle makes habitat restoration more important and imperative. The defoliation of the tamarisk doesn't translate into better habitat for anything else. It makes finding a secure funding source for habitat restoration all the more important.

### **Next Meeting: August 25<sup>th</sup>, 2011 at Reclamation (Albuquerque)**

- Tentative agenda items: (1) review of the Floodplain Land Use roundtable discussion; (2) work on the Floodplain Land Use white paper (?); (3) future funding for completing land use analysis; (4) future structure of Program work groups.

**San Acacia Reach Ad Hoc Work group  
28 July 2011 Meeting Attendees**

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## Attendance Sheet Abbreviations:

- o ISC – NM Interstate Stream Commission
- o FWS – US Fish and Wildlife Service
- o BLM (SFO) – Bureau of Land Management (Socorro Field Office)
- o NMSLO – NM State Land Office
- o RGALT – Rio Grande Agricultural Land Trust
- o SOBTF – Save Our Bosque Task Force
- o COE – US Army Corps of Engineers
- o NMDHSEM – NM Department of Homeland Security and Emergency Management
- o USDA-NRCS – US Department of Agriculture – Natural Resources Conservation Service