Middle Rio Grande Endangered Species Collaborative Program
Habitat Restoration Workgroup (HRW) Meeting
17 April 2012, Tuesday
12:30-3:30 pm at U.S. Army Corps of Engineers

Actions

- Robert Padilla will ask Yvette Paroz or Hector Garcia for the data from the project that looked for potential refugial habitat for RGSM to include in the reach mapping.
- Gina Dello Russo will distribute the updated Desirable Conditions for Habitat document.
- Michelle Mann will distribute the Middle Rio Grande Consultation/RIP Establishment Timeline that was distributed at the March 28th EC meeting.
- Jason Casuga will find out if the shapefiles from Reclamation's flycatcher suitability monitoring can be provided to the Habitat Restoration Workgroup (HRW) (*Ongoing 12/13/11*).

Decisions

- The March 20th, 2012 HRW meeting notes were approved with no changes.

Meeting Summary

- Danielle Galloway brought the meeting to order and introductions were made. The agenda was approved with the addition of an update on the flow status and a discussion on access permits for the Bosque.
- It was announced that the City of Albuquerque River Cleanup will occur at the end of May.
- The March 20th, 2012 HRW meeting notes were approved with no changes.
- Meeting attendees performed an action item review. All of the action items were completed with the exception of one ongoing action.
- In the flow status update it was shared that the flow peaked at 2,800 cfs in March. In the 50% exceedance there will be a peak of 1,400 cfs through Albuquerque. Bureau of Reclamation (Reclamation) is still storing at El Vado for P&P.
- Meeting attendees discussed the possibility of having a "blanket" annual permit for Program activities on BOR and Middle Rio Grande Conservancy District (MRGCD) lands. The "blanket" permit could cover all of activities that will be completed during a given year instead of getting a permit for each activity individually. Theoretically, getting a "blanket" permit could be done but it would need to be further discussed with Reclamation and MRGCD to see if arrangements could be made.
- Meeting attendees used the San Acacia Reach (SAR) GIS products to view several areas of interest including the levee setback area, areas on the Bosque Del Apache Wildlife Refuge with concentrated flycatcher nesting, and the Rhodes property. Meeting attendees also worked on developing questions for the contractor to create queries from to help the workgroup pinpoint areas of interest in the reach. Some of the areas of interest that the workgroup would like to identify are: areas where there is a fringe of Salt Cedar or Coyote Willow along the river that is near a Cottonwood gallery; and areas that may provide potential refugial habitat for Rio Grande Silvery Minnow (RGSM).

  - It was believed that BOR had hired a contractor to look for potential refugial habitat for RGSM. Robert Padilla will ask Yvette Paroz or Hector Garcia for the data from the project that looked for potential refugial habitat for RGSM to include in the reach mapping.
  - The HRW will continue to manipulate the SAR GIS products and discuss potential areas of interest at the next HRW meeting.
- In a working session meeting attendees used the Desirable Conditions for Habitat document developed by the Monitoring Plan Team (MPT) to begin discussions on the criteria to evaluate restored habitat. The sections that were discussed were RGSM spawning habitat and summer refugial habitat. Gina Dello Russo will distribute the updated Desirable Conditions for Habitat document. The workgroup will continue discussion on the criteria to evaluate restored habitat at the next HRW meeting.
- In the Program update meeting attendees were informed that the Executive Committee (EC) has decided to grandfather all the current signatories into the Recovery Implementation Program (RIP) and have decided to abide by the current Program By-laws for admitting new members into the RIP. The EC also discussed 3 options for RIP management: Service led, non-federal led, or 3rd party led. The EC will be meeting again on April 20th to further discuss management and other components of the RIP. Michelle Mann will distribute the Middle Rio Grande Consultation/RIP Establishment Timeline that was distributed at the March 28th EC meeting.

Next Meeting: May 15th, 2012 from 12:30 PM to 3:30 PM at ISC

- Tentative agenda items: 1) Continue manipulation of GIS products; 2) Continue discussion on the criteria to evaluate restored habitat; 3)
- Future Agenda Items: 1) Review RIP Program Document and RIP Action Plan;

Middle Rio Grande Endangered Species Collaborative Program
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17 April 2012, Tuesday
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Meeting Notes

Introductions/Agenda Approval

- Danielle Galloway brought the meeting to order and introductions were made.
- The agenda was approved with the addition of an update on the flow status and a discussion on access permits for the Bosque.

Announcements

- The City of Albuquerque River Cleanup will occur at the end of May 2012.

Approve March 20th, 2012 Habitat Restoration Workgroup (HRW) meeting minutes

Decision: The March 20th, 2012 HRW meeting notes were approved with no changes.

Action Item Review

- **Jason Casuga will find out if the shapefiles from Bureau of Reclamation's (Reclamation) Southwestern Willow Flycatcher (flycatcher) suitability monitoring can be provided to the HRW (*Ongoing 12/13/11*).**
  - The status of this action item is not known and the action will remain as ongoing.
  - It was shared that the flycatcher suitable habitat analysis is being redone. The analysis is redone every 10 years.
- **Jill Wick will forward the USGS Diorahbda (beetle) monitoring proposal to the HRW.**
  - Complete.
  - The proposal is not a proposal per se; it's a budget for the project.
  - The workgroup can informally work with USGS and other agencies to make sure that when staff is in the field they follow some sort of informal protocol to document the beetle.
- **Jill Wick will check with Hira Walker about scheduling beetle identification training for the workgroup during May 2012.**
  - Complete. The beetle identification training that will be provided as part of the flycatcher survey training that will take place in May and will be open to anyone. There will also be a field day for training at the end of May or early June.
- **Ondrea Hummel will contact the Tamarisk Coalition to get information on scheduling beetle monitoring training.**
  - Complete. The only cost associated with the Tamarisk Coalition training is for travel. Ondrea will keep the work group informed on any updates for the Tamarisk Coalition training.
- **Jason Casuga will follow up with the Reclamation Contracting Officer (CO) and the project's COTR to get official notice sent to the contractor to proceed with the River Mile (RM) 83 Feasibility Study.**

  - Complete. The Reclamation CO has sent official notice to the contractor to proceed with the RM 83 Feasibility Study.
- **Jill Wick will distribute the matrix of habitat criteria developed by the MPT to the HRW. Any edits or suggested additions can be sent to Jill**.
  - Complete.

Flow Update

- In the flow status update it was shared that the flow peaked at 2,800 cfs in March. In the 50% exceedance there will be a peak of 1,400 cfs through Albuquerque. Depending on what happens on the Chama River, the peak could be any time from the end of April to the middle of May. Reclamation is almost finished storing at El Vado Reservoir for P&P.
  - The Monitoring Plan Team (MPT) waits for flows of 1,500 cfs before check the sites for fish. Monitoring may not occur this year if flows do not reach 1,500 cfs.

Permits

- Meeting attendees discussed the possibility of having a "blanket" annual permit for Program activities on Reclamation and Middle Rio Grande Conservancy District (MRGCD) lands.
  - Because there are several Program activities and activities performed by Program agencies that require permits or keys it would be easier to have a "blanket" permit that would cover all of the recurring activities instead of having to apply for a permit for each project individually.
    - Because the Pueblos and other land owners have different processes for obtaining permits the "blanket" permit would only cover access to Reclamation and MRGCD lands.
    - It would be difficult to include access to Corrales in the "blanket" permit. Though Corrales does not require a permit, activities must be approved by the Bosque Commission and an access key must be obtained from the Corrales Fire Department.
    - The permitting process will also be different for state lands.
  - It was shared that Bosque Del Apache National Wildlife Refuge (the Refuge) is trying to be more comprehensive in their permitting process. They have been documenting who will be accessing the Refuge and the vehicles that will be used. Researchers who regularly visit the Refuge are given a permit every year. The Refuge is trying to streamline the process so that Reclamation will fill out one permit for all of their activities.
  - It would also be helpful for agencies that access the levees to only have one permit that would cover access to all the levees instead of having to get a different permit for each area.
  - Theoretically, getting a "blanket" permit could be done but it would need to be further discussed with BOR and MRGCD to see if arrangements could be made.
- It was asked if it was known yet if there will be any Bosque closures for fire danger.
  - There was no information available yet but there may be closures in June or July.

Manipulating the San Acacia Reach (SAR) GIS products to start reach review and evaluation

- Ondrea Hummel demonstrated how to use the GIS layers to view information on vegetation, the historic imagery, and cross sections.
    - It was shared that in the wetland review of wildlife management areas the Service has been looking at historic forms of the river to see if there are historic features that can be utilized as a part of habitat restoration.
    - Over time the historic imagery could also be used to monitor how vegetation and channel features change over time.
    - It was asked if the first Hink and Omar surveys have been digitized.
        - The first Hink and Omar surveys have not been digitized but they have been compiled into a database.
- Meeting attendees viewed the levee setback area.
    - It was shared that the levee setback area has 13 ft banks in some areas.
    - It was noted that there are swales where the old low flow was.
- Meeting attendees also worked on developing questions for the contractor to create queries from to help the workgroup pinpoint areas of interest in the reach.
- Meeting attendees viewed the Rhodes property.
    - It was shared that the landowner is interested in creating a high-flow side channel that would bring water into the northern end of the ranch to supply lower velocity flows to an area where willows have been planted recently. This area is outside of the 600 ft zone. The landowner has submitted a proposal to the Bonneville Trust. The Bonneville Trust is interested in using this as a pilot project in the Middle Rio Grande (MRG) to see if water rights will be donated to a habitat restoration project in exchange for an environmental tax credit. This type of exchange works in Washington and Oregon but there is more available water in those areas.
        - It was asked if this is legal under New Mexico state law as there is the potential for a lot of opportunities if there is interest in this type of exchange.
            - The exchange is legal in New Mexico and the Refuge is a good example of where it occurs.
            - Because the floodplain is wide and the restoration project will not be restricted to the 300 ft zone, the Refuge will be one of the first entities to go through a thorough analysis of net depletions and existing and future consumptive use. Interstate Stream Commission (ISC) will evaluate and calculate the net depletion.
            - It was briefly discussed that removing or changing the type of vegetation can change the consumptive use.
                - ISC does not account for vegetation removal or establishment in their net depletion analysis.
- Gina shared that she had asked Darryl Ahlers to describe what an area for a potential small scale flycatcher project would look like. Darryl had indicated that it would be good to look for an area with Salt Cedar along the river that is near a Cottonwood gallery. Some of the Salt Cedar can then be removed and replaced with Coyote Willow.
    - It was asked how big the restored patch would need to be.

  - The patches that flycatchers currently use on the Refuge are not very big. Some of the patches are 1/4 of an acre.
  - In consideration of the process for 404 and Section 7 permitting and a depletions analysis the patch size should be a minimum of 5 – 10 acres
- Meeting attendees viewed areas on the Refuge with concentrated flycatcher nests.
  - It was explained that some of the nests were established the year following the sediment plug when there was good lateral connectivity between the channel and the floodplain at about 1,200 – 1,800 cfs.
  - It was shared that during the water operations conference call it was mentioned that Reclamation will be running the north boundary pumps this summer to try to keep flycatcher territory wet. It wasn't known if these were the territories that were being targeted.
    - In low water years the willow are stressed when the ground water drops to the level of the low flow. The Refuge would be concerned with a plan to continuously run the north boundary pumps all summer because of their requirements to get water off of the low flow. The Refuge is also trying to keep certain ditches wet for a mouse species.
      - It was not believed that the pumps would be run continuously throughout the summer.
    - It was explained that flycatchers have nest fidelity and will try to come back to the nests they used last season but factors like limited resources can impact their fidelity during June and July when nesting is critical. It's not likely that all the nests would be abandoned in one year if the water was low but if the vegetation continues to show stress the nests might be abandoned.
  - It was noted that the flycatchers are in areas where it looks like there is a fringe of Coyote Willow along the bank with a Cottonwood over story.
    - It was commented that it would be interesting to look at the connection between the flycatcher and the Coyote Willow and Cottonwood.
  - It was shared that the Refuge is interested in projects that would open up vegetated bars in conjunction with flycatcher restoration projects. The Refuge is losing some of the crane roosting areas on the river and the cranes have been damaging farms.
  - It was one opinion that it would be good to look into the areas with lone flycatcher males for habitat restoration projects as a lone male seems to be the driver nesting.
- Attendees viewed an area where MRGCD removed about 10 acres of Salt Cedar by the San Acacia Diversion Dam.
  - It was briefly discussed that one method to treat resprouts without using chemicals is to lightly disk the area.
    - One issue with this method is that it can be difficult to get heavy equipment to the area.
- Attendees discussed the type of features the contractor should look for to find potential backwater or refugia areas.
  - The recent history of the river channel would be one component.

        - Geomorphology will dictate where the efforts should be focused and whether they would be effective
    - Embayments from arroyos coming in or outfalls from facilities are areas that tend to stay wet.
    - It was believed that Reclamation had hired a contractor to look for potential refugial habitat for RGSM. It may be possible to include this information with the reach mapping, but it's not known if Reclamation owns the data or if it is proprietary to the contractor.

Action: Robert Padilla will ask Yvette Paroz or Hector Garcia for the data from the project that looked for potential refugial habitat for RGSM to include in the reach mapping.

    - It may make sense to look at geomorphology in terms of past channels; recent LIDAR may show areas where the channel is closer to being reconnected at lower flows.
        - It would be good to look at the historic geomorphologies to compare elevations to find areas that will stay wet and might be potential refugial habitat.
- The HRW will continue to manipulate the SAR GIS products and discuss potential areas of interest at the next HRW meeting.

Discuss criteria to evaluate restored habitat

- In a working session meeting attendees used the Desirable Conditions for Habitat document developed by the MPT to begin discussions on criteria for evaluating habitat. The sections that were discussed were RGSM spawning habitat and summer refugial habitat.
    - RGSM – Spawning Habitat
        - Floodplain hydrology
            - Meeting attendees discussed that the RGSM eggs and larval RGSM need to have a velocity that is close to 0 so that they are not washed downstream; however, there should be some flow to keep water temperatures low and to keep the channel open for the fish to get back to the river once they reach the juvenile stage.
            - It was one opinion that back water and embayments are not a part of the floodplain hydrology because of their elevation. If you think of a main channel versus the floodplain a back water or embayment is connected to the channel and would be lower than the channel.
            - In the channel, fish at all life stages have been seen close to vegetation; in these areas the velocity would be 0 or below a detectable amount.
            - There could be a difference between flooded floodplain or flooded islands and bars. Is the Los Lunas bar considered a floodplain?
                - It wasn't known if the bar would be considered an island as it was connected to the rest of the floodplain but because of flood concerns a berm was created. The bar was physically lowered and at certain flows floods completely.

- It was suggested that the workgroup clarify what is meant by the floodplain.
- When there are flows that spur spawning, the floodplains will inundate and as the waters go down there will be backwaters. The water receding will be the fish's cue to move back.
- There are also sheer zones, an interface between the active channel and eddies with secondary current. There is a slower velocity at the sheer zone and there are also zones of separation.

- Attendees agreed that it is important to have a variety of velocities.
  - Velocity is a factor of discharge and a habitat should be functional at a range of discharges.
- Winter habitat
  - So far restoration has been focused on creating spring habitat for recruitment with a limited number of activities focusing on refugial habitat. Some of the habitat that was created did not inundate last year and is not likely to inundate this year either.
  - Not much is known about the winter habitat for the RGSM. Habitat restoration efforts may need to focus on creating something in the channel that would be beneficial; however it is likely that it will be washed away by the next flow season.
  - It may be possible to create a berm in the channel to split flows and as flows increase or decrease refugial habitat may be created. Small fish tend to like areas with cover. Not only is a lot of energy required to remain in the open; but there is also little food in the main channel and the fish are open to predators.
    - To some extent bends in the river create varying habitats with cover.
    - It was reported that large concentrations of RGSM were found in the Cottonwood snags in February.
  - There is a question of whether there is really a deficiency of winter habitat and whether there is enough information to make that determination.
  - It should also be considered that RGMS in different lifecycle stages may need different conditions; juveniles may need different wintering habitat than mature fish.
- It was commented that there are not many projects that are similar to the Cottonwood snags project. There are some Russian Olives in the river but there are not many big Cottonwoods.
  - It was remembered that at one time there was a survey of the woody debris in the MRG.
  - ISC was putting woody debris into the river and then tracking its movement.
  - MRGCD has anchored woody debris that is monitored as part of the monitoring plan.
    - The anchored debris is stable. There was some concern with where the debris was placed in relation to the thalweg.

It might be better to place them closer to the active flows so that there is less sedimentation. The debris has created dynamic habitat and there is vegetation growing out of the mud and dirt that gets trapped on the trees.

- It was suggested that the workgroup also discuss how much of a type of habitat (for example, nesting habitat) is enough and how that will be measured. It would also be good if the criteria could feed into an analysis of how the system as a whole is doing.

- Geomorphology
  - Scour pools, root wads, and woody debris can be drivers of local morphology. These are features that could possibly be used to help redirect flows or create a certain type of habitat.
  - Attendees brainstormed other features that would be geomorphic conditions in terms of evaluating habitat
    - cross-sections
    - width-depth ratio
    - channel velocity,
    - aggrading versus degrading sections of the river and how they will function over time
    - sinuosity
    - sediment availability – is it trending to aggrading or degrading sediment loads?
    - sediment characteristics at the bottom of the channel
    - channel width
    - an armored channel versus a mobile channel
  - Attendees discussed whether having active versus stable islands and bars would a make a difference.
    - It was one opinion that it would matter if it's a potential site for restoration.
  - Geomorphic trends that would maximize survival of cohorts during summer
    - Connectivity to arroyos or wasteways
    - Connectivity to the main channel
  - Are we trying to affect the thalweg in terms of movement across the channel? By looking upstream you can see what the trends are to see if the thalweg will stay or if it's in an area where it may move around. Should we be trying to affect the thalweg?
    - It was one opinion that though current restoration projects do not attempt to affect the thalweg that future restoration should attempt to affect it.
    - Currently neither the proposers nor the workgroup looks at the trends in the reach over the last 60 – 80 years to determine whether the thalweg should be affected.
    - The "old" Rio Grande had multiple thalwegs and now that there is a single channel the thalweg alternates its location.

        - Having a smaller channel width should make it easier to influence the thalweg.
        - The thalweg moves around a lot so it may be difficult to try to keep it in one place all the time.
    - It was asked whether the cost/benefit of moving the thalweg would be better than just looking to see where the thalweg has been and is likely to be.
        - It might be beneficial to plan ahead if there is a chance that the thalweg will be influenced and cause the river to leave the project area.
- Overwintering Habitat
    - Meeting attendees agreed to change this bullet to "Post-spawning habitat" as the bullets included in this section include features that would help cohorts stay alive to spawn the next year.
    - Attendees discussed the optimum conditions that are needed to support recruitment:
        - Food
            - Most feeding areas are in the shallow areas and in the bank lines. There needs to be a velocity that would support vegetation in those areas.
        - Water
            - There is also the issue of water condition.
        - A complex of habitats over a range of flows
        - Connectivity
            - A lot of salvage occurs when fish go into a deep pool and are unable to escape predation; pools also cause stress levels to increase.
        - Woody debris, rocks, or undercut banks
            - Woody debris has probably been the most common type of cover historically.
    - It was suggested that the bullet regarding predators in refugial habitat be removed as restoration efforts should focus on creating habitat suitable to support an ecosystem and not just the RGSM.
    - Attendees discussed the bullet "Does increased habitat diversity reduce predation"
        - It was one opinion that the predation situation for the RGSM is not very understood.
        - If refugia is centralized then RGSM will be trapped with predatory fish. Centralized refugia would also make all the fish vulnerable to predation from birds.
        - Refugial habitat should be evenly distributed. It would also be beneficial to have debris in the larger pools to provide cover for hiding.
    - It was pointed out that the effects of a project on canoeing or other recreation are another element that should be considered when planning a project.

        - It would be interesting to pin point potential refugial areas (wasteways, thalweg) where debris can be placed.
    - Summer refugial habitat
        - Attendees discussed the criteria for summer refugial habitat
            - Continuity
            - Periodic inflows
            - A minimum depth
            - A water temperature that the habitat will not exceed
            - It was asked if refugial habitat that functions as a holding zone during river drying events should be in the active channel.
                - It was one opinion that refugial habitat that functions as a holding zone should in the active channel as the fish would need to be able to find the habitat.
            - Would it be possible to have an area that would provide entry for fish when the flow is low and that could be augmented with water to maintain the minimum depth and minimum water quality? Then when the flows increase the fish can access the river again through the inflow.
                - This may have been the purpose of the Atrisco project.
                - Water rights would likely be needed for this type of habitat.
                - One of the objectives of the pumping station in the SAR is to augment the main channel with other water for a certain period of time. There are varying opinions on how well that works.
                - A backwater can be placed in an area where there is the potential for natural clay that would help hold water. If a refugial area is in the active channel there is the potential for a sand channel that would act as a sponge.
                    - A benefit to having refugial habitat in the channel is that there is a better chance for the refugial habitat to connect to the river with increasing flows; however, if there is the potential for the river to disconnect again you may not want the river to connect to the refugial habitat right away.
            - There is some evidence that fish cue into the descending limb of the hydrograph and move out of the ephemeral habitats. There would need to be some cue for them to pick up on to move into the deeper areas.
            - Quality habitat should have seasonal functionality. Restoration should also consider the life cycle of the RGSM in terms of site longevity.

Action: Gina Dello Russo will distribute the updated Desirable Conditions for Habitat document. to meeting attendees.

- The HRW will continue discussion on the criteria to evaluate restored habitat at the next meeting.

Program Update

- The Executive Committee (EC) last met on April 13th. At the meeting the EC decided to grandfather all the current signatories into the RIP and that the existing Program By-laws for admitting new members will be carried over to the RIP.
    - The EC also discussed the potential RIP structure and its management. The EC has discussed 3 options for management: Service led, non-federal led, or 3rd party led. These management options will be further discussed at the next EC meeting.
        - Though the structure of the RIP has not been decided on it's believed that the RIP will look different than the Program does now. The main changes will be the addition of a science coordinator and a review panel; and the technical teams will not likely be long standing but will form to work on specific projects.
    - The EC is working on the RIP Program Document and RIP Action Plan.
    - It was asked if the EC is still considering including an advisory panel as part of the RIP structure.
        - The RIP will not have an advisory panel when it is initially implemented but there is the potential for that group or a similar group to be formed in the future if needed.
    - The PMT liaison shared that the Program Manager will be distributing some guidance documents to the technical workgroups that outline some tasks that the workgroup can work on during this period of transition. The tasks would include reviewing the RIP documents. The Program Manager will be including the HRW's efforts to develop metrics as an example of tasks the work groups can be working on.
    - The EC will be meeting again on April 20th to further discuss management and other components of the RIP.

Action: Michelle Mann will distribute the Middle Rio Grande Consultation/RIP Establishment Timeline that was distributed at the March 28th EC meeting.

Next Meeting: May 15th, 2012 from 12:30 PM to 3:30 PM at ISC

- Tentative agenda items: 1) Continue manipulation of GIS products; 2) Continue discussion on the criteria to evaluate restored habitat; 3)
- Future Agenda Items: 1) Review RIP Program Document and RIP Action Plan;

Habitat Restoration Work Group Meeting
April 17th, 2012 Meeting Attendees

NAME	POSITION	AFFILIATION	PHONE NUMBER	EMAIL ADDRESS	P/A/O
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