

Middle Rio Grande Endangered Species Act Collaborative Program Species Water Management Standing Workgroup (SWM)

07 July 2010 Meeting

10:00 AM to 12:00 PM @ BIA

Actions

Tetra Tech will redistribute the revised “*Use urban waste water outfall and rural irrigation delivery and tail waters for habitat restoration to expand habitat, favor native over exotic plants, and reduce fire potential*” summary to the SWM work group for review. Comments should be sent to Amy Louise (amy.louise@state.nm.us) by COB Monday July 12th.

Tetra Tech will check to see if 2010 NM Watershed Forum information has been emailed to Program members.

Amy Louise will ask Matt Martinez if he will be able extend his term as SWM Co-Chair.

Meeting Summary

- Amy Louise brought the meeting to order and introductions were made.
- The Species Water Management (SWM) work group was shown a presentation “*Groundwater Hydrology and Estimation of Horizontal Groundwater Flux from the Rio Grande at Selected Locations in Albuquerque New Mexico, 2009-10*” given by Dale Rankin from USGS. The presentation showed transect study results from 2009-2010. The Summary and Conclusions from the presentation are as follows:
 - Groundwater gradients and flow direction through the Inner Valley alluvium were evaluated by using continuous water-level and temperature data
 - Groundwater in the riparian zone flows east and west from the river to the drains (in most cases, beyond the drains)
 - Vertical temperature profiles show, in most cases, heat transport is greatly decreased below 30 feet
 - Local scale heterogeneity results in a large range of groundwater flux
 - Groundwater gradients ranged from 0.002 to 0.015 ft/day
 - Hydraulic conductivity from slug tests ranged from 4 to 240 ft/day
 - Hydraulic conductivity from heat-transport calculations ranged from 30 to 80 ft/day
 - Median groundwater fluxes using Darcy’s Law and slug-test results ranged from 0.04 ft/day (Montano west) to 1.08 ft/day (Central east)
 - Temporal changes in flux resulting from river stage were generally less than 20%
 - Local gradients at some transects are defined by regional gradients attributed to pumping
 - Spatial variability in infiltration and the decrease in flux downstream are geologically influenced
- Approval of the May 5th and June 2nd meeting minutes were tabled for the next SWM meeting because of a lack of quorum.
- The SWM work group performed an action item review.
 - Amy Louise will forward DBMS meeting date and location information to Curtis McFadden. Amy will also elevate the DBMS attendance concern to the Coordination Committee (CC).
 - Complete; Curtis is on the DBMS email distribution list.

- Matt Martinez will email the revised “Use urban waste water outfall and rural irrigation delivery and tail waters for habitat restoration to expand habitat, favor native over exotic plants, and reduce fire potential” summary to the SWM workgroup.
 - Complete; Tetra Tech will redistribute the summary to the SWM work group for review. Comments should be sent to Amy Louise (amy.louise@state.nm.us) by COB Monday July 12th.
- Chris Banet will talk to Subhas Shah and Janet Jarratt about the “MRGCD threshold analysis” LTP Future Activity.
 - Ongoing: Chris has contacted Subhas.
- Hilary Brinegar will send information on the 2010 NM Watershed Forum to Jenae Maestas to email to Program members.
 - Tetra Tech will check to see if 2010 NM Watershed Forum information has been emailed to Program members.
- Matt Martinez will update the SWM workgroup on whether he will be able to extend his term as SWM Co-Chair.
 - Amy Louise will ask Matt Martinez if he will be able to extend his term as SWM Co-Chair.
- The SWM work group was given a Program/Agency update.
 - PHVA – PHVA work group will be meeting August 10, 2010.
 - PVA – The PVA work group met last week (June 29th-30th). The models are scheduled to be ready by the end of September final versions of the models may take longer to complete. Dr. Goodman has distributed a lot of his data for review. Dr. Goodman requested Steve Platania and Robert Dudley to provide further data for analysis.
 - DBMS – Kathy Dickinson helped to contribute answers to questions about Program processes. Information from last week’s PMT meeting was sent to Kenny Calhoun. One of the modules being worked on is for tracking Program decisions and action items.
 - MPT – Agencies have completed the spring monitoring. The contract for monitoring has been advertised. Jericho Lewis will be contacting the responders for more information. It is hoped that the contract will be awarded in time for fall monitoring.
 - The Executive Committee (EC) will be meeting July 15, 2010. The next Coordination Committee (CC) meeting will be July 14, 2010.
 - DSS - “Based on MRGCD Board opposition to Decision Support System deployment in the field, the scope of the current (& final) contract year’s work was revised to delete public outreach & DSS implementation activities. This should result in a slight cost savings at the end of the project. Project deliverables are not changed by this modification and will include calibrated data sets, the DSS model, and final report.” (where did quote come from? – EC notes?)
 - The task order for the peer review of San Acacia Fish Passage is being rewritten. The task order objective is to see if the requirement for implementing San Acacia Fish Passage is based on sound science. The SWM work group was told that the panelists should have an understanding of the river system, irrigation infrastructure, and the biology of the fish.
 - Cody Walker has been attending EC meetings and is going to try to continue to attend SWM meetings.

Next Meeting: August 4, 2010 from 10:00 am to 12:00 pm

**Middle Rio Grande Endangered Species Act Collaborative Program
Species Water Management Standing Workgroup (SWM)**

07 July 2010 Meeting

10:00 AM to 12:00 PM @ BIA

Meeting Minutes

Introductions & Announcements

- The meeting was called to order and introductions were made around the table.

Agenda Approval

- The USGS Transect Study presentation was moved to the beginning of the meeting.

USGS Transect Study presentation

- Dale Rankin gave the presentation “*Groundwater Hydrology and Estimation of horizontal Groundwater Flux from the Rio Grande at Selected Locations in Albuquerque New Mexico, 2009-10*”. Dale is a hydrologist for USGS. Last year Dale and a colleague made a presentation to the Species Water Management (SWM) work group showing the first set of results from the study that covered from 2003 to 2008; this is the second report and it covers from 2009 to 2010. *For specific details please see the USGS presentation available on the Program website. Below are questions and discussion regarding the presentation.*
 - Slide 1: “Groundwater Hydrology and Estimation of horizontal Groundwater Flux from the Rio Grande at Selected Locations in Albuquerque New Mexico, 2009-10”
 - Slide 2: location map
 - This new data set has an expanded monitoring network to include 3 new locations: Alameda, Central, and Pajarito. There are currently 16 transects.
 - Question: Is the data available on the web?
 - There is a website that that is updated every time data is collected (<http://nm.water.usgs.gov/projects/riograndesections/usgs.gov/nm/>).
 - Question: Are you guys able to track who looks into the data on your website?
 - It’s known that people from Interstate Stream Commission (ISC), U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), and University of New Mexico (UNM) monitor the website. This is known from “word of mouth” and by the people who have asked questions about the data.
 - The website is updated about 3 times a year. The latest update is February-March of 2010. Another collection is scheduled for August 2010. It usually takes a month and half to process the data from a collection.
 - Slide 3: Pajarito transect.
 - The red dots indicate the location of piezometer nests. Surface water stage gauges are indicated by yellow squares. It was found at almost every transect location that water moves away from river in an almost perpendicular way.
 - Slide 4: Conceptual model of ground water flow away from the river.

- This shows water moving away from the river; it's suspected that some of the water moving underneath the drains. This shows some localized return along the drains.
- The deepest wells for the study are about 50 feet.
- Question: How were you able to identify the clay layer depicted here?
 - Cores were taken from the 5 original locations using a GeoProbe. Those cores have been examined throughout the studies. The clay depicted here is just a bit generic but it comes from finding clay in the cores.
- Slide 5: Some Definitions
- Slide 6: Two Methods Are Presented To Quantify the Rate of Horizontal Groundwater Flux:
- Slide 7: Darcy's Law
- Slide 8: Graph - west side of Montano.
 - The red line represents continuous temperature data, logged hourly. The blue line represents another well in between the river and the drain. The signal attenuates the further from the river; the curves are dampened to a great degree.
- Slide 9: Amplitude
- Slide 10: Lag Time
 - It takes time for temperatures to transfer from one portion of the aquifer to another.
- Slide 11: Attenuation of the Temperature Signal
 - Amplitude, lag time, and attenuation are the 3 variables used in the heat transport calculations.
- Slide 12: Table
 - The table shows a comparison of median flux in ft/day using Darcy's Law and the Suzuki-Stallman equation.
 - The blue and red numbers highlight agreement and disagreement. There seems to be a significant difference in numbers that are within the range of plausible fluxes for the study.
 - Question: In the case where there is difference, do you know why?
 - The difference can partially be attributed to heterogeneity. Also there are different ways of calculating these numbers. It was pointed out that though they are different they are still within the plausible range referred to in the report.
- Slide 13: Continuous Darcy Flux
 - The red lines are continuous Darcy flux. The blue line is the River Stage. The Gray area represents the range of plausible fluxes found in literature. The fluxes tend to be higher on both sides of the river at Central; unfortunately coring wasn't done there.
- Slide 14: Temperature Profiling
 - To profile, temperatures are taken in the well every 5 feet from the water surface down to the bottom of the well. This information is useful in a number of ways. There are two basic shapes, the fan and the tulip (Central is depicted). The profiling is used to constrain the depth of lateral ground water flow in the Bosque. The extinction point is where the lines meet at bottom.
 - The different lines represent different months.

- From the shape of the curve on the left, cold water winter recharge can be discerned. On the right side, warm water summer recharge can be discerned. Inflection points represent lateral groundwater movement. There's not much in the way of vertical gradients.
- Question: This is one well at different months?
 - Yes. This is primarily done in mid depth wells; about 50 have been profiled.
 - The extinction depth is the point where there is no longer variation in temperature. This is saying that water from the river is getting at least that deep; it could be going deeper but it doesn't have a temperature variance.
- Slide 15: Seepage Run - February 2010.
 - This is a cartoon illustration of Seepage Run
 - The testing was done in February to avoid the irrigation season.
 - The small cfs numbers represent the discharge measurement taken at that point; the large cfs numbers represent the change in discharge. A segment was skipped on the west drain because a big pipe was interfering by bringing in water.
 - There was no interference on the east drain so there are continuous discharge measurements.
 - Theoretically calculating the leakage from the river should account for all the water in the drains but only 26% of the water is accounted for. One explanation is the hydraulic conductivity values are bias low. There are limitations to slug tests.
 - The assumption is made that none of the water is from irrigation because the tests are done in February but that could be a possible source of the water.
 - Question: Is there anyway to look at tracers that can be applied to field?
 - That's being looked into.
 - According to our discharge measurements, the drains are picking up water from somewhere other than the river. Perhaps the conductivity value is too low, the median is being used. The depth being looked at could also be an issue; the wells are 50 ft deep.
 - Question: Was there precipitation?
 - There was a little sprinkling but not enough to affect measurements.
 - The east drain does a weird thing where it has 1.6 cfs in the middle then it jumps way up. There has to be some geometry things going on, maybe where the drain is closer to the river. It's a pretty complex system; it would probably take a lot more work to really figure it out.
 - Question: So the east end drain goes under the channel?
 - Yes.
 - Maybe concrete blocks the flow – this is something that could be looked into.
- Slide 16: summary
- Slide 17: Water Levels
- Dale announced that he will be retiring and leaving the USGS after this year. He said it has been a pleasure working with SWM and he has appreciated their support.
- This project will not be ending, the survey team will be continuing the work.

Approval of May 5th and June 2nd Meeting notes (10 min)

- Approval of the May 5th and June 2nd meeting minutes will be tabled for the August SWM meeting due to lack of quorum.

June Action Item Review (10 min)

- Amy Louise will forward DBMS meeting date and location information to Curtis McFadden. Amy will also elevate the DBMS attendance concern to the Coordination Committee (CC).
 - Complete; Curtis is on the DBMS mailing list
- Matt Martinez will email the revised “Use urban waste water outfall and rural irrigation delivery and tail waters for habitat restoration to expand habitat, favor native over exotic plants, and reduce fire potential” summary to the SWM workgroup.
 - Complete.
 - It was thought that this is a reasonable activity. It seems like the first part of project would be studying and finding areas to implement this. The very first paragraph is what is being done at the Isleta interior drain. Dates for project duration need to be added.

Action: Tetra Tech will redistribute the revised summary to the SWM work group for review. Comments should be sent to Amy Louise (amy.louise@state.nm.us) by COB Monday July 12th.

- Chris Banet will talk to Subhas Shah and Janet Jarratt about the “MRGCD threshold analysis” LTP Future Activity.
 - Ongoing; Chris has contacted Subhas but has not yet heard back.
- Hilary Brinegar will send information on the 2010 NM Water Shed Forum to Jenae Maestas to email to Program members.
 - Unknown; Hilary had to leave the conference call early because of a conflicting meeting.

Action: Tetra Tech will check to see if 2010 NM Water Shed Forum information has been emailed to Program members.

- Matt Martinez will update the SWM workgroup on whether he will be able to extend his term as SWM Co-Chair.
 - Unknown.

Action: Amy Louise will ask Matt Martinez if he will be able extend his term as SWM Co-Chair.

Program Coordination

- **PHVA/Hydrology Updates –**
 - The Population Habitat Viability Assessment/Hydrology (PHVA) workgroup is not meeting until August 10, 2010.
- **PVA Updates –**
 - The Population Viability Analysis (PVA) work group met last week (June 29th-30th). Dr. Goodman has distributed a lot of his data for people to look at. At the May PVA meeting schedules for the models were discussed and the models were supposed to be ready by the end of September 2010, but final versions of the models may take longer to complete. Dr. Goodman requested that Steve Platania and Robert Dudley provide further data for analysis.
- **DBMS Updates –**

- Kathy Dickinson helped to contribute answers to questions about Program processes. Information from last week's PMT meeting was sent to Kenny Calhoun. One of the modules being worked on is for tracking Program decisions and action items.
- **MPT Updates -**
 - Agencies have completed the spring monitoring. The contract for monitoring has been advertised. It was thought Jericho Lewis will be contacting the responders for more information. It is hoped that the contract will be awarded in time for fall monitoring.
- The Executive Committee (EC) will be meeting July 15, 2010. The next Coordination Committee (CC) meeting will be July 14, 2010.

Agency Updates

- DSS – Kathy Dickinson read a DSS update from Valda Terauds who was not present at the meeting: “Based on MRGCD Board opposition to Decision Support System deployment in the field, the scope of the current (& final) contract year's work was revised to delete public outreach & DSS implementation activities. This should result in a slight cost savings at the end of the project. Project deliverables are not changed by this modification and will include calibrated data sets, the DSS model, and final report.”
 - There was a special meeting last fall where the public was told about the DSS; many irrigators did not want to have the DSS implemented.
 - It was asked how many years the DSS project was supposed to last. It was thought that this was the last year of a 5 year agreement.
- San Acacia Fish Passage –
 - The EC has decided the task order objective for the San Acacia Fish Passage (Fish Passage) peer review is to see if the requirement for implementing Fish Passage is based on sound science; the task order is in the process of being rewritten. The tentative schedule of the task order includes an initial site visit in mid to late August. There was concern from the EC meeting that the panelists should include representatives from all disciplines and that there be an understanding of the river system and irrigation infrastructure, as well as the biology of the fish.
- John Sorrell no longer works for the Pueblo of Isleta. Cody Walker has been attending EC meetings and is going to try to continue to attend SWM meetings.

Next Meeting: August 4, 2010 from 10:00 am to 12 noon at BIA

Species Water Management Work Group 07 July 2010 Meeting Attendees					
Name	POSITION	AFFILIATION	PHONE NUMBER	EMAIL ADDRESS	PRIMARY, ALTERNATE, OTHER
Amy Louise	PMT	ISC	383-4057	amy.louise@state.nm.us	O
Hilary Brinegar via phone	SWM Member	NMDA	(575) 646-2642	hbrinegar@nmda.nmsu.edu	P

Kathy Dickinson	SWM Member	Reclamation	462-3555	kdickinson@usbr.gov	A
Bill White		BIA	563-3421		O
Cody B. Walker	SWM Member	Pueblo of Isleta	869-9623	poi36004@isletapueblo.com	
Dale Rankin		USGS	830-7965	drrankin@usgs.gov	
Kimberly Bandy-Baldwin		USGS	830-7945	kbaldwin@usgs.gov	
Rodger F. Ferreira		USGS	830-7902		
Jeff Worthington		USGS	830-7973	worthntn@usgs.gov	
Nathan Myers		USGS	830-7942	nmyers@usgs.gov	
Christine Sanchez	Admin Support	Tetra Tech	881-3188	christine.sanchez@tetrattech.com	O