

Middle Rio Grande Endangered Species Act Collaborative Program Science Work Group Meeting

18 January 2011 Meeting – 9:00 AM-11:30 AM

Interstate Stream Commission

Actions

ScW members interested in attending the adaptive management planning session on February 1st and 2nd should email Stacey Kopitsch by COB January 28.

Those interested in attending the meeting with the Fish Passage peer review panel on January 26th should RSVP to Anndra Vigil as soon as possible as room capacity is limited.

Stacey Kopitsch will send out an email for people to volunteer to work on SOW for the 4 projects that were approved by the CC pending funding.

Jericho Lewis will email descriptions of the phases in the USGS project to the ScW (*Carried over from 11/16/10*).

Decision

The November 16, 2010 ScW meeting minutes were approved with no changes.

Meeting Summary

Introductions and Agenda Approval – Jeanne Dye was unable to attend the meeting so Stacey Kopitsch, PMT liaison, brought the meeting to order and introductions were made around the table. A request was made for five Science Workgroup (ScW) members to participate in an adaptive management planning session on February 1st and 2nd. The planning session will be open to everyone on February 3rd. ScW members interested in participating in the planning session on February 1st and 2nd should email Stacey Kopitsch by COB January 28. It was announced that the Fish Passage peer review report was released; there will be a meeting with the peer review panel from 8:00 AM to 12:00 PM at the Middle Rio Grande Conservancy District (MRGCD) on January 26th. The room capacity is 50 so those interested in attending should RSVP to Anndra Vigil as soon as possible.

Approve 11/16/10 Meeting Minutes – The November 16, 2010 ScW meeting minutes were approved with no changes.

Action Item Review – All action items but one were completed; this action item will be carried over.

12/14/10 ScW/MPT/HRW Joint Meeting Minutes – The minutes from the December joint workgroup meeting will need to be approved by all 3 of the attending workgroups. The PMT liaisons have been coordinating a compilation of all the changes and the minutes should be sent out prior to the next ScW meeting for approval.

PIT Tag Update (Jason Remshardt) – Meeting attendees were given a PIT Tag Update presentation by Jason Remshardt. The presentation briefly described Phase I of the project but largely focused on Phase II which included releasing 4,274 tagged fish at 6 sites in the Rio Grande and testing the PIT tag readers at the Albuquerque/Bernalillo County Water Utility Authority drinking water facility. There were 169 detections of 84 unique fish by the passive scanning station and analysis of fish movement in a 24 hour day might suggest a diurnal pattern to movements (*for specific details please see the attached presentation*). Meeting attendees discussed plans for the project for 2011 and there was general agreement from meeting attendees to repeat what was done last year but with the fish released sooner. The plan is to PIT tag 6,000 fish and have the tagged fish released by the first week of March.

Proposed Changes to Hatchery Spawning Methods (Douglas Tave) – A document regarding proposed alternate spawning protocol to the hatchery spawning methods was distributed by one member of the

workgroup, and included an explanation of the proposed protocol with background information. It was explained that the proposed alternate protocol would divide the brood fish into groups of 5 males and 5 females that are injected with hormone. Each female and each male will be stripped. The eggs are then divided into 5 dishes with eggs in each dish being fertilized by a different male. Each family is grown separately until family size is equalized. This approach will maximize effective breeding number and will enable it to be assessed more accurately. Stripping gametes is done routinely in other facilities and a 5X5 mating scheme will maximize heterozygosity in the fish produced in the hatcheries. A follow-up to this discussion will be on the agenda at the upcoming Captive Propagation and Genetics Work Group in March.

SOW Development – Attendees were notified that Jeanne and Stacey discussed moving ahead with developing SOW for the 4 projects that were approved by the CC pending funding; they thought it would be a good idea to establish smaller groups to develop SOW for those projects. The projects were Evaluating Water Quality, the Fecundity Study, and 2 activities related to life history; Physical Characteristics of Habitat and Spawning and Nursery Habitat. Stacey will send out an email for people to volunteer to work on SOW for these projects.

Program update – The Executive Committee (EC) will be meeting Thursday, January 20th, from 9:00 AM to 3:00 PM; agenda items include a webinar from USGS on Big Bend, an augmentation update from Jason Remshardt, and a Section 7 and APA Training by FWS. The next Coordination Committee (CC) meeting is on January 26th at MRGCD.

Next ScW Meeting February 15 2011 from 9:00 am to 11:30 am at Interstate Stream Commission

Potential agenda items include: Water Quality, fish health, and the USGS estrogenic bio marker study.

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Meeting Minutes

Introductions and Agenda Approval

- Jeanne Dye was unable to attend the meeting so Stacey Kopitsch, PMT liaison, brought the meeting to order and introductions were made around the table.
- A request was made for five Science Workgroup (ScW) members to participate in an adaptive management planning session on February 1st and 2nd. The planning session will be open to everyone on February 3rd.

Action: ScW members interested in participating in the planning session on February 1st and 2nd should email Stacey Kopitsch by COB January 28.

- It was announced that the Fish Passage peer review report was released; there will be a meeting with the peer review panel from 8:00 AM to 12:00 PM at the Middle Rio Grande Conservancy District (MRGCD) on January 26th. The room capacity is 50 so those interested in attending should RSVP to Anndra Vigil as soon as possible.

Action: Those interested in attending the meeting with the Fish Passage peer review panel on January 26th should RSVP to Anndra Vigil as soon as possible as room capacity is limited.

Approve 11/16/10 Meeting Minutes

- The November 16, 2010 ScW meeting minutes were approved with no changes.

Action Item Review

- **Stacey Kopitsch will email a request for EMP high intensity monitoring questions to the ScW, MPT, and HRW. Completed**
 - Complete
- **Alison Hutson will write up proposed changes to silvery minnow spawning in hatcheries for discussion at the January 18, 2011 ScW meeting.**
 - Complete; a document for discussion was handed out.
- **Jericho Lewis will email descriptions of the phases in the USGS project to the ScW.**
 - Incomplete; this action item will be carried over to February.
- **Stacey Kopitsch, Jeanne Dye, and Rick Billings will revise the *Evaluate water quality in the MRG in relation to the RGSM Future Activity Summary*. Completed**
 - Complete. The revised summary will be discussed in February.
- **If the Mike Marcus Risk Management Study is allowed to be distributed, Alison Hutson will email the paper to the ScW.**
 - Complete.
- **Stacey Kopitsch will make changes to the 2011 Work Plan and send to the ScW. Completed.**
 - Complete.
- **Stacey Kopitsch will distribute a list of current ScW projects and their respective COTRs. Completed.**

- Complete.

12/14/10 ScW/MPT/HRW Joint Meeting Minutes

- The minutes from the December joint workgroup meeting will need to be approved by all 3 of the attending workgroups. The PMT liaisons have been coordinating a compilation of all the changes and the minutes should be sent out prior to the next ScW meeting for approval.

PIT Tag Update (Jason Remshardt)

- Meeting attendees were given a PIT Tag Update presentation by Jason Remshardt (*for specific details please see the attached presentation*). The presentation briefly described Phase I of the project but largely focused on Phase II, which included releasing 4,274 tagged fish at 6 sites in the Rio Grande and testing the PIT tag readers at the Albuquerque/Bernalillo County Water Utility Authority drinking water facility. There were 169 detections of 84 unique fish by the passive scanning station and analysis of fish movement in a 24 hour day might suggest a diurnal pattern to movements. The plan is to PIT tag another 6,000 fish and have the tagged fish released by the first week of March. Attendees were also shown a summary of the dataset. Examples from the data set showed a fish that seemed to be using the passage as habitat and a fish that could have gone over the dam itself and then went back up through the passage.
- Meeting attendees discussed the project and plans for 2011.
 - Only fish over 2.5 inches are tagged as there is less survival with smaller fish. Fish of this size are showing sexual differentiation.
 - It was shared that the water velocity in the fish passage can be manipulated if this is needed. Anchor logs and habitat can also be added to the passage. It was indicated that it would be good to have boulders added.
 - How far the fish move upstream and downstream and the percent of fish that moves up the river for spawning are key questions that are still outstanding. It would be helpful in answering those questions if fish were stocked in March and several months in the spring. But since there are only 2 arrays permanently stationed the study is not really setup to learn how far the fish are moving upstream.
 - The different locations for fish release were picked to see where the fish would move. It was proposed to repeat what was done last year but to release the fish from one location and earlier in the year to see where the fish move pre-spawn.
 - It would be good to stock at 2 sites downstream, one near and one far. Similar types of fish move upstream for long distances and it would be good to see if Rio Grande Silvery Minnow have a similar life history.
 - There was general agreement from meeting attendees to repeat what was done last year but with the fish released earlier in the year.
 - Though it may not be feasible it would be interesting to put arrays on narrow overbank areas to see if the fish are moving there. The comment was made that there are other studies that can be conducted and use the tag technology if the Program wishes to pursue those.
 - It was asked if swimming speed could be determined.
 - The length of time it takes the fish to navigate the passage can be determined but swimming speed can't really be determined because the fish could be swimming around within the passage.

- It was said that the way the dam gates are used creates areas of high velocity within the channel. These areas of high velocity might be preventing some fish from getting across the channel to the passage.
- The diurnal data might provide operating criteria and help plan management strategies.
 - Putting arrays in the Refugium and Sanctuary could be used to refine daily movement.
 - There is always the question of applying lab studies back to the river, but a well done study could probably get a good approximation.
- It would be good to see if there is a correlation with temperature data and fish movement.
 - Temperature data is not being collected at the passage itself but there is a gage near Alameda that is thought to be collecting temperature data.
- Jason would like to equal out the number of fish released at each site. Currently as the fish are tagged they are separated into tanks. However equalizing the releases would be difficult because the fish would need to be handled again so they can be scanned to know which location they will be released at.
- If the fish will be released in March, the U.S. Army Corps of Engineers can help scan fish but they will need to either purchase or borrow a scanner. Jason indicated scanners are available for use.

Proposed Changes to Hatchery Spawning Methods

- A document regarding proposed alternate spawning protocol to the hatchery spawning methods was distributed by one member of the workgroup, and included an explanation of the proposed protocol with background information.
- It was explained that under current hatchery spawning methods up to 10 males and 10 females are put together in mating groups. Under this method there's no evidence that the fish pair and it's not known if they are monogamous. Additionally, the only way to estimate an effective breeding number is to find the number of spent females and assume that the same number of males spawned. With this method it's not known how big each family is and the variance of family size can affect the effective breeding number.
 - Since wild eggs are used there's a need to worry about loss of rare alleles. The system is very dynamic and alleles that are good one year might not be good the next.
- The proposed alternate protocol would divide the brood fish into groups of 5 males and 5 females that are injected with hormone. Each female and each male will be stripped. The eggs are then divided into 5 dishes with eggs in each dish being fertilized by a different male. Each family is grown separately until family size is equalized. This approach will maximize effective breeding number and will enable it to be assessed more accurately. Stripping gametes is done routinely in other facilities and a 5X5 mating scheme will maximize heterozygosity in the fish produced in the hatcheries.
 - If the 5x5 mating scheme is not possible it can be lowered to a minimum of 2x2. A 1x1 mating scheme is not recommended because if one of the fish is infertile than the genetics from both of the paired individuals are lost.
 - There are also different techniques for storing male milt, some of which were developed by Alison Hutson.

- It was asked if the proposed protocol was used if there would be a way to compare these lots to other lots that went out to the river to see if the heterozygosity levels had changed.
 - It was thought that the genetics monitoring could probably track family lots.
 - The genetics monitoring has only been looking at a couple of satellites and it's not known how "across the board" that is.
 - In the past the genetics of lots produced by a 1x1 mating scheme and lots produced by groups of 20 were compared to see which was better. In that comparison groups were found to be better.
- It had been mentioned at a different meeting that the Propagation Plan might need to be updated.
 - It was suggested all documents should be reviewed and updated regularly. The Propagation Plan is 2 years old and could be updated.

SOW Development

- Attendees were notified that Jeanne and Stacey discussed moving ahead with developing SOW for the 4 projects that were approved by the Coordination Committee (CC) pending funding; they thought it would be a good idea to establish smaller groups to develop SOWs for those projects.
 - The projects were Evaluating Water Quality, the Fecundity Study, and 2 activities related to life history; Physical Characteristics of Habitat and Spawning and Nursery Habitat.

Action: Stacey will send out an email for people to volunteer to work on SOW for these projects.

- Attendees were updated that after the joint workgroup meeting in December, several of the attendees met again to work on the SOW and questions that came out of the meeting. The draft SOW was sent out to the group of people who wrote it and will be discussed at today's Monitoring Plan Team (MPT) meeting.

Program update

- **EC update**
 - The Executive Committee (EC) will be meeting Thursday, January 20th, from 9:00 AM to 3:00 PM; agenda items include a webinar from USGS on Big Bend, an augmentation update from Jason Remshardt, and a Section 7 and APA Training by FWS.
- **CC update**
 - The next CC meeting is on January 26th at MRGCD.

Next ScW Meeting will be February 15, 2011 from 9:00 am to 11:30 am at Interstate Stream Commission

- Potential agenda items include: (1) Water quality summary, (2) USGS estrogenic biomarker study, and (3) fish health

**Science Work Group
18 January 2011 Meeting Attendees**

NAME	AFFILIATION	PHONE NUMBER	EMAIL ADDRESS
Jason Remshardt	FWS	917-6070	Jason_remshardt@fws.gov
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