

From: Tony Robinson
Sent: Wednesday, October 10, 2007 3:31 PM
To: 'Mary_Richardson@fws.gov'
Cc: 'brogers@tnc.org'
Subject: RE: Muleshoe Reintroduction Follow-up

Attachments: Redfield Swamp Crew.jpg; Upper pool 07-10-4 005.jpg; Cherry Spring Stocking 07-10-4 004.jpg; Cherry Spring Stocking 07-10-4 003.jpg; Cherry Spring Stocking 07-10-4 002.jpg; Lower Pool 07-10-4 001.jpg; Redfield Tempering.jpg; Redfield cdc.jpg; Redfield Chopper.jpg

Mary,

Wes recorded some water quality data for me on a small notepad at Secret Spring, which I did not get from him. Wes (via Bob) can you send the information to both Mary and I?

Secret Spring:

Fish (500 top minnow and 500 pupfish) arrived at approximately 8:40 am (40 minutes later than scheduled). Water was transferred from the barrel to six 5-gallon buckets, filling each with 4 gallons of water. Fish were divided into the six 5-gallon buckets and loaded onto a trailer, which was pulled by a Polaris quad. Buckets were transported downstream to where a trail headed uphill towards Secret Spring; from that point on they were carried by hand. If I remember correctly, water temperature in Secret Springs was 21 degrees C (or 21.5), and temperature in the buckets was 4 degrees warmer (24 degrees C). Approximately $\frac{3}{4}$ gallon of water was exchanged every 15 minutes---three exchanges of water were done. At 45 minutes after the beginning of tempering, water temperature was 22.5 C, and fish were released (over a period of about 5-10 minutes). Fish were netted out of buckets, and placed into 1 gallon buckets with pond water, and then were gently released into the pond. A temperature logger was installed; it was affixed to a root of the largest tree in the approximate middle of the shoreline that the trail went along. Five fish died; four desert pupfish and one Gila topminnow, all of which were preserved in propanol, and now reside in Tony's office.

Hot Springs Canyon:

At 1:30 pm water temperature in the stream was 21 degrees C.

The first load of fish (spikedace) arrived on time at 2 pm. Water was transferred from the barrel to five buckets, filling each with 4 gallons of water. Fish were divided into the five 5-gallon buckets and transported downstream approximately 500 m. Water temperature in the buckets at 2:25 pm (beginning of the first tempering) was 23 degrees C. One gallon of water was exchanged every 10 minutes (shortened the time from 15, because the next flight was due in at 3 pm)--3 exchanges of water were done. Fish were released at 3 pm at two sites (sandy-gravel bottom runs; NAD27===0569326 3579829, and 0569485 3579744). Each fish was inspected, to confirm species, prior to being released (one loach minnow was in the batch); I did not count fish. There were no mortalities. All fish swam upstream, and behaved normally. A temperature logger was set in the bedrock plunge pool at the upstream end of the second location; affixed to a root of the sycamore tree in the middle of the stream.

The second load of fish (loach minnow) arrived at 3 pm. Water was transferred from the barrel to five buckets, filling

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each with 4 gallons of water. Fish were divided into the five 5-gallon buckets and transported downstream approximately 400 m. Water temperature in the buckets at 3:42 pm (beginning of the first tempering) was 23.5 degrees C. One gallon of water was exchanged every 15 minutes--4 exchanges of water were done. Fish were released at 4:37 pm into one long rocky riffle (spread throughout the riffle; NAD27==0569380 3579767). Each fish was inspected, to confirm species, prior to being released (one spikedeace was in the batch); I did not count fish. There were no mortalities. All fish swam upstream and behaved normally—hid under rocks almost immediately.

Lynda Lambert sent you some photos of Secret Spring and Hot Springs Canyon repatriations earlier.

Anthony Robinson

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'Nothing in biology makes sense except in the light of evolution.' Theodosius Dobzhansky

-----Original Message-----

From: Mary_Richardson@fws.gov [mailto:Mary_Richardson@fws.gov]

Sent: Wednesday, October 10, 2007 2:15 PM

To: Heidi_Blasius@blm.gov

Cc: Bill_Grossi@blm.gov; brogers@tnc.org; Codey D. Carter; Duane Aubuchon; Don Mitchell;

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Tony Robinson

Subject: Re: Muleshoe Reintroduction Follow-up

Everyone:

I have been out on annual leave, but wanted to add my congratulations to

all of you for being part of this project. It went off so well, thanks to

all of your effort.

We do have a few follow-up details. As Heidi did below, can everyone please send me their data - - from the distribution side at the Muleshoe, I need to find out how many mortalities you recorded, if any, and also any water quality data you collected at the reintroduction sites. I will compile all that information into one document and distribute it to everyone. Any additional information you think might be helpful is welcome (e.g., fish were distributed in X ponds/riffles/runs over XX yards of stream).

Also, if you are willing and want to send over any digital photographs taken, I would be happy to compile all of those and make a CD copy for everyone. I know several of us have voiced the thought that we wish we could have been in two places at once last Thursday, so this will allow us to let everyone see as much of the project as possible. I will make sure to include proper photo credits with each photo.

Finally, we were originally hoping to do Muleshoe monitoring of pupfish and topminnow the week of November 12; however, the 12th is a holiday, and the DFC meeting starts on the 14th. For the week of November 5, AGFD staff in Phoenix are moving in to their new office space. Suzie indicated she was only available the week of the 12th. The week of the 19th is Thanksgiving. I don't think we can postpone much past that, both weather and winter holidaywise, so I am proposing that one crew get together and monitor the week of the 5th, and another finish off the week of the 12th. One crew is going to handle Secret Springs and Cherry Springs, the other Swamp Springs. It should hopefully be one day of work for each crew. Here is what I propose:

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Mary, Heidi, and Bob - Week of the 5th.

Suzie, Ross, Codey and/or Tony - Week of the 12th.

Please coordinate among your own group and pick dates that work, and get back to me. We'll figure out who is going where at that point. As always, if anyone else would like to join in, please just let me know.

Thanks again everyone!

Mary

602/242-0210

602/242-2513 (fax)

Heidi_Blasius@blm

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To

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cc

Subject

Muleshoe Reintroduction!!!!

Hello All,

I just wanted to let those of you who worked on the other crews or who were unable to participate know that the East Aravaipa Crew successfully and with no difficulty was able to collect and send 400+ loach minnow and 400+ spikédace to the Muleshoe. We could not have asked for things to go any better than they did.

The actual number of fish sent to each site follows:

205 loach minnow to Redfield Canyon

210 spikédace to Redfield Canyon

205 loach minnow to Hot Springs

210 spikédace to Hot Springs Canyon

I also visited Secret Springs yesterday with Jeff Conn and we were able to observe both desert pupfish and Gila topminnow. A large group of Gila topminnow were near the spring and photographed.

I hope we will all be able to get together (maybe) at the one-month

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monitoring and celebrate this great success.

A step towards recovery for these four species and some really wonderful memories.

Thanks, Heidi