



## Monthly Accomplishments

April 2013

### Fisheries Activities

Staff completed a nonnative fish marking trip and endangered species monitoring trip on the San Juan River from Shiprock, New Mexico to Mexican Hat, Utah. Channel catfish and common carp were tagged with individually numbered anchor tags in an effort to generate population estimates and exploitation rates. The data will be used to guide future management decisions for these two invasive fishes. Recapture information will be collected during regular nonnative fish removal trips scheduled throughout 2013.

Staff completed the first of four nonnative fish removal and endangered species monitoring trips on the San Juan River from Shiprock, New Mexico to Mexican Hat, Utah. Participating agencies included USFWS Grand Junction (Region 6), Utah Division of Wildlife Resources, Navajo Fish and Wildlife, and Bureau of Reclamation. Nonnative fish removal is one management tool used by the San Juan River Basin Recovery Implementation Program (SJRIP) for the recovery of the endangered Colorado pikeminnow and razorback sucker.

Staff assisted New Mexico Department of Game and Fish (NMDGF) with annual Pecos

pupfish monitoring at multiple sites including Bitter Lake National Wildlife Refuge, Bottomless Lakes State Park, and Bureau of Land Management's wetland.

In cooperation with Pueblo of Isleta and Pueblo of Sandia, staff completed monthly monitoring for the Rio Grande silvery minnow (RGSM) within the Middle Rio Grande, Pueblo of Isleta, and Pueblo of Sandia. Monitoring efforts are to determine presence/absence of visible implant elastomer tagged fish in relation to augmentation and research efforts. .

In cooperation with the NMDGF, staff completed Pecos River fish community monitoring at twelve sites near Roswell, New Mexico. Data from these monitoring efforts are used to define the status of the fish community, with emphasis on Pecos bluntnose shiner, in response to low/no flow during the winter months.

With the assistance of the U. S. Forest Service (USFS) and NMDGF, staff completed a Gila chub monitoring and nonnative fish removal trip on Turkey Creek from the Wilderness boundary to Miller Springs.

With the assistance of the USFS and NMDGF, staff completed a nonnative fish removal trip on Little Creek from the mouth of

Little Creek up to the barrier. Thirty brown trout and one rainbow trout were removed. Three additional nonnative fish removal trips are planned for 2013 in preparation for the re-introduction of loach minnow.

Staff completed post-fire fish monitoring following protocols established by the Gila Trout Recovery Team. Monitoring was completed on White Creek, Langstroth Creek, Cub Creek, Whiskey Creek, West Fork by Turkey Feather, and West Fork below White Creek of the Gila National Forest. Only two Gila trout were collected (near White Creek by the West Fork Confluence) during the sampling effort. Staff also completed barriers assessments at the West Fork Falls, Lower West Fork, below Little Creek, Willow Creek, and at Turkey Creek.

### Meeting and Trainings

Staff attended the Zuni Mountains Collaborative Forest Landscape Restoration Program (CFLRP). The Zuni Mountains CFLRP Rio Puerco project site includes one known population of the Zuni bluehead sucker that is currently a candidate for listing under the Endangered Species Act. However, the NEPA for the project area is not currently set to begin until 2015.

Staff hosted the RGSM Propagation and Genetics Workgroup Bi-annual Meeting. Topics of discussion included

station updates, fish health results, genetics update, wild egg collection for 2012, and production needs for 2013.

## Education and Outreach

Angela Palacios James presented *How Many Fish* to nine classes (~200 students) from Bosque, Valle Vista Elementary, Monte Vista Elementary, and Emerson Elementary Schools. The presentations provided an overview of how and why fish surveys are completed and how the data are used. The classes completed an activity estimating the population of Pinto fish (pinto and red beans) using a mark-recapture method. All nine classes are active participants of the *Native Fish in the Classroom* project.

STUDENT HANDOUT: MARK-RECAPTURE

Names: Juan

Transfer your answers written down in your step-by-step instructions to the table below. Use the following equation to calculate your population estimate (N). After completing your calculations, count the actual total number of beans in your bag. Record your final count **Box 5:**

Equation:  $N = (M \times n) \div m$

Where: N= Population estimate  
M = Number of individuals captured in first sample (and marked)  
n = Total number of individuals captured in second sample  
m = Number of individuals captured in second sample and marked.

Box Value	Group Year
-	Guessed Population Size
Box 1	Number of individuals captured in first sample and marked (M)
Box 2	Total number of individuals captured in second sample (n)
Box 3	Number of individuals captured in second sample and marked (m)
Box 4	Estimated Population Size (N)
Box 5	Actual Population Size (Counted value)

Show your work:

Handwritten calculations:  

$$\begin{array}{r} 4 \\ \times 160 \\ \hline 6400 \\ 10000 \\ \hline 10400 \end{array}$$

$$\begin{array}{r} 342 \\ \times 112280 \\ \hline 34200 \\ 342000 \\ 684000 \\ \hline 3819960 \end{array}$$

$$\begin{array}{r} 3819960 \\ - 10000 \\ \hline 3809960 \\ - 2280 \\ \hline 3807680 \end{array}$$

$$\begin{array}{r} 3807680 \\ \div 228 \\ \hline 16700 \end{array}$$

1. For the simple mark-recapture, how did your initial guess of the population size compare to the actual population number and the calculated population estimate (N)?

Staff participated in the Sandia Earth Day Fair hosted by the Pueblo of Sandia. Sandia staff reported 209 people attended the fair. The NMFWCO booth consisted of two portable aquariums with Rio Grande fish (i.e. RGSM, red shiner, and flathead chub), interactive

activities, and handouts (pamphlets and coloring books). The interactive activities included "Name the River", fishing pole practice casting, and a River Ecosystem felt board. Adults and children who participated in the activities were presented with a fish squirt, kids dip net, or sport bags with the USFWS logo.

Angela Palacios James presented *The Anatomy of a Cutthroat* to two classes (~45 students) from Valle Vista and Monte Vista Elementary Schools. The NMFWCO provided Rio Grande cutthroat specimens, worksheets, and reference guides to provide for a hands-on experience as the 5th grade students explored internal and external trout anatomy. These same classes participate with the Native Fish in the Classroom (NFIC) project that aims to generate enthusiasm for natural resources and foster a sense of stewardship for native fish and their habitats.



U.S. Department of the Interior  
U.S. Fish & Wildlife Service  
Southwest Region  
Fisheries and Aquatic Resource Conservation



New Mexico Fish and Wildlife Conservation Office  
3800 Commons Avenue NE  
Albuquerque, New Mexico 87109  
Phone 505/342-9900  
<http://www.fws.gov/southwest/fisheries/nmfwco/index.html>

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## Current staff members

Jim Brooks .....	Project Leader
Jason Davis .....	Assistant Project Leader
Angela Carrillo.....	Administrative Officer
Stephen Davenport .....	Supervisory Fish Biologist
Chris Kitcheyan .....	Supervisory Fish Biologist
Weston Furr .....	Fish Biologist
Thomas Archdeacon.....	Fish Biologist
Dustin Myers.....	Fish Biologist
Angela Palacios James.....	Fish Biologist
Bobby Duran .....	Fish Biologist
Andy Dean.....	Fish Biologist
Christine Stewart.....	Fish Biologist
Ernest Tellier Sr. ....	Biological Science Technician
Tristan Austring .....	STEP Student