

# SOUTHWESTERN NATIVE AQUATIC RESOURCES AND RECOVERY CENTER

## May 2015 Monthly Activity Report



El Capitan Elementary School outreach event at Lake Van in Dexter, NM.  
USFWS Photo.

### STAFF

Center Director.....Manuel Ulibarri  
Deputy Center Director.....Vacant  
Administrative Officer.....Maria Bullard  
Administrative Technician.....Michelle Bell  
Office Assistant.....Stephanie Callicutt  
Fish Biologist.....William Knight  
Fish Biologist.....Ian Paige  
Fish Biologist .....Vacant  
Fish Biologist.....Tracy Diver  
Bio Science Technician.....Vacant  
Maintenance Mechanic.....David King  
Maintenance Worker.....Ty Terry  
Maintenance Worker.....Andrew Thatcher

### RESEARCH

Research Unit Leader.....Wade Wilson  
Research Fish Biologist.....Renee Martin  
Fish and Wildlife Biologist.....Vacant  
Fish Biologist (Genetics).....Sandra Bohn  
Fish Biologist (Genetics).....Vacant

### FISH HEALTH

Fish Health Leader.....Teresa Lewis  
Fish Health Biologist.....Marlene Rodarte  
Fish Health Biologist.....Jason Woodland  
Fish Health Biologist.....David Hampton  
Microbiologist.....Linda Vannest  
Fish and Wildlife Biologist...Ashlie Peterson

### Partnerships and Accountability

Multiple school age outreach activities were conducted this month. Center staff interacted with 5<sup>th</sup> graders from El Capitan Elementary School, Roswell, NM at Lake Van on May 5 using a number of activities to educate the students about fisheries science and conservation. Staff helped students create DNA helix models from candy, make pipe cleaner fish representing Rio Grande and Colorado River species cultured at the Center, complete a word search to learn all the ESA-listed species housed at the Center, and live fish viewing. There was also an energetic Q&A session. Fish Health provided a comparative anatomy hands-on laboratory for 6<sup>th</sup> graders at Dexter Middle School in Dexter, NM on May 7 and for the same grade level at Sierra Middle School in Roswell, NM on May 12. Rainbow trout and channel catfish were provided by the NM Department of Game and Fish, Santa Rosa State Fish Hatchery for the dissections at both schools.

Tracy Diver and Renee Martin concluded mentoring high school student, Clare Shea from the Goddard High School in Roswell, NM for the spring semester. A final reception was held by the school, and Clare presented a poster and PowerPoint presentation of the experiences she gained while volunteering at the Center. Goddard High School provided the Center with a plaque of appreciation for participating in the student mentoring program.

## Partnerships and Accountability

On May 13, Tracy Diver and Sandra Bohn participated in the Sierra Middle School outreach event and conducted workshops for 6<sup>th</sup> grade science classes. Students enjoyed learning about the importance of genetic variation and the role of fish hatcheries in conservation of fishes. A hands-on activity was used to help students understand how extensive phenotypic variation could be generated using only the four DNA bases. Students were able to create a wide variety of “fish” by choosing strands of “DNA” with different base pair combinations to code for physical traits such as body shape, color, and tail shape. Students were eager to take part in discussions about the benefits of different physical traits in relation to differences in habitat and feeding behaviors of different species of fish.

Students from New Mexico State University, in Las Cruces, NM toured the Center on May 15. The students are participating in a summer field course (Biomes and Rangelands of the Southwest) as part of a Natural Resources Career Track Program. The students were given a tour of the facility and hands-on opportunities. In Fish Culture they tagged bonytail with passive Integrated Transponders (PIT) followed by a lecture from the Research staff on the current research projects being conducted and the importance of preserving genetic diversity and our role as USFWS Researchers at Southwestern ARRC.



Uvalde Rio Grande silvery minnow ponds,  
USFWS Photo

In collaboration with the Texas Fish and Wildlife Conservation Office, Southwestern ARRC initiated a Rio Grande silvery minnow (RGSM) culture pilot project at the Uvalde NFH, TX. The project will evaluate the capacity of Uvalde NFH to contribute to ongoing conservation efforts for the species by developing rearing and culture techniques in support of 10(j) population stockings. Significant progress was made on the project this month with William Knight and Manuel Ulibarri traveling to Uvalde to prep the ponds to receive newly hatched larval fish; providing Uvalde staff with a draft production guide outlining the fish culture starting points for the species and the eventual stocking of newly hatched larvae into the grow ponds during the first week of June. Reuben Mendoza is the onsite contact at Uvalde for this project and is coordinating all daily activities with the project partners.

## Aquatic Species and Conservation Management

### Fish Distribution for May 2015

Species	Number	Size	Agency	Site
bonytail	5,000	fry	STG	Aquatic Research & Conservation Center, Cornville, AZ, Arizona Game and Fish Dept.
bonytail	16,000	fry	USFWS	Upper Colorado River Endangered Fish Recovery Program, Ouray NFH-Grand Valley Unit, Grand Junction, CO.
bonytail	6,000	fry	BOR	US Bureau of Reclamation, Lower Colorado River Multi-Species Conservation Program, Boulder City, NV Lower Colorado River Multi Species Conservation Program.
bonytail	3,000	fry	USFWS	Willow Beach NFH, Willow Beach, AZ.
humpback chub	300	~131mm	NPS	Havas Creek, Grand Canyon, AZ.
razorback sucker	100,000	fry	BOR	Hogback Diversion Weir, San Juan River, Farmington, NM.
Rio Grande silvery minnow	31,806	eggs	STG	Los Lunas Rio Grande Silvery Minnow Refugium, Los Lunas, NM.

## Aquatic Species and Conservation Management



Humpback Chub *Gila cypha*,  
USFWS Photo

Translocation of humpback chub into Havasu Creek, Grand Canyon, AZ occurred this month. The fish were reared at Dexter for one year, PIT tagged, length/weight data recorded and hauled by truck to the South Rim of the Grand Canyon where they were helicoptered by National Park Service staff to the stocking location. A total of 30,000 bonytail and 100,000 razorback sucker larvae were distributed to multiple partners this month. Five day old razorback sucker larvae were oxytetracycline marked by American Southwest Ichthyological Researchers (ASIR) staff to determine the utility of the newly built Hogback Diversion weir on the San Juan River.

Spawning activities were initiated for bonytail, Chihuahua chub, RGSM, and woundifn. Following incubation and hatch of the eggs, larval fish were stocked into grow out ponds as phyto and zooplankton populations reach optimum numbers.. Approximately 31,806 fertilized RGSM eggs were provided to the Los Lunas Rio Grande Silvery Minnow Refugium for grow out at their facility.

Larval humpback chub collected from the Little Colorado River, Grand Canyon were received on May 29. Upon arrival the fish were placed in quarantine and prophylactic treatments to control internal and external parasites and bacterial pathogens administered. The fish will be grown to an average of 125mm in total length and provided for translocation into Havasu Creek next year. The main purposes of this conservation effort is to fulfill a commitment of a

U.S. Fish and Wildlife Service Biological Opinion and to assess the feasibility of establishing additional spawning aggregation of the species in a Grand Canyon tributaries.

The annual health inspection was conducted at two facilities this month; the Holdenville State Fish Hatchery in Holdenville, OK on May 27 and Uvalde National Fish Hatchery, Uvalde, TX on May 5. At Holdenville, six lots of fish representing their channel catfish, bluegill, and largemouth bass broodstock and production lots were sampled. Hatchery inspections for the Oklahoma Department of Wildlife Conservation are covered under a Memorandum of Agreement with the agency. At Uvalde five lots representing the fountain darter, Devil's River minnow, Comanche Springs pupfish, and channel catfish on station were sampled. Wild caught fountain darters from the Comal and San Marcos Rivers were also submitted by staff from the San Marcos Aquatic Resources Center for virology and parasite enumeration as part of ongoing monitoring efforts for the species. Larval bonytail from the Southwestern ARRC were submitted for testing representing the newly produced 2015 year class.

Wild fish health surveys were conducted in a number of Arizona locations this month in collaboration with the Arizona Game and Fish Department (AZGFD) Gila Basin Native Fishes Program. Fish Health staff traveled to Phoenix May 19 to meet with the new AZGFD Fish Pathologist, Joe Marcino, and collect samples from desert pupfish caught at multiple sites at Robbins Butte and McDowell Mountain Regional Park. Gila topminnow and desert pupfish from The Nature Conservancy – Lower San Pedro River Preserve were shipped to the Fish Health Unit on May 27 for additional wild fish health survey testing.



Joe Marcino and Marlene Rodarte,  
USFWS Photo



## Leadership in Science and Technology



Meredith Campbell, William Knight and Ian Paige, collecting humpback chub from study pond. USFWS Photo.

Meredith Campbell, New Mexico State University graduate student advised by Dr. Colleen Caldwell, Unit Leader for the New Mexico Cooperative Fish and Wildlife Research Unit, Department of Wildlife and Conservation Ecology, returned to the Center to commence her summer thesis research to validate a non-lethal screening method to test for Asian tapeworm in susceptible species, including humpback chub and other endangered cyprinids.

On May 2, the Research Unit's Microsatellite Record titled "Isolation and characterization of twenty novel microsatellite loci in White Sands pupfish, *Cyprinodon tularosa*, with cross-species amplification for seven other pupfish" was accepted for publication in the journal *Conservation Genetics Resources*.

The Molecular Ecology Laboratory (MEL) received a total of 140 Devils River Minnow (*Dionda diabolica*) tissue samples from San Marcos Aquatic Resource Center, San Marcos, TX. Fifty fin clips were from the 2014 year class refuge population and the additional 90 were collected in the wild from Pinto Creek in 2012 and 2014. DNA from all samples has been extracted and genotyping has commenced.

The life stage developmental series for two Pecos River species; Texas Shiner (*Notropis Amabilis*) and Manatill roundnose minnow (*Dionda argentosa*) were initiated this month. The Texas shiner spawned immediately and the various life stages will be collected over the next few months. The series consist of 30+ collections of 6 to 10 fish at designated timeframes over a three month period. The project is a collaborative effort with the Bureau of Reclamation, Museum of Southwestern Biology - University of New Mexico, American Southwest Ichthyological Researchers and USFWS New Mexico Fish & Wildlife Conservation Office. Results from this project will be used to develop an illustrated guide to the cypriniform (minnows and suckers) fish larvae of the Pecos River, New Mexico, to aide in effective management of the species.



Adult Texas shiner, USFWS Photo.

## Workforce Management

Ashlie Peterson vacated a Fish and Wildlife Biologist position (TERM GS-7) with the Fish Health Unit to accept a Fish Biologist position (TERM GS-9) in Fish Culture. The staff offer congratulations on her promotion. Staff attended farewell celebrations for Stephanie Callicutt and Renee Martin this month. Renee transferred to the Bozeman Fish Health Center and we wish her well in the next phase of her USFWS career. Stephanie relocated to Oklahoma City with her family and we wish her good fortune as well.

Student Conservation Association (SCA)/ Career Discovery Internship Program (CDIP) intern Aura Muniz from the University of Puerto Rico at Mayaguez arrived at Southwestern ARRC on May 26. She will be at the Center for 10 weeks shadowing and assisting with activities in all parts of the program. Welcome Aura.

Maria Bullard scheduled and conducted interviews for the Office Assistant (OA) position.

Linda Vannest met with Human Resources Specialist Nicole Martinez at the Regional Office on May 19 to begin planning her retirement which will occur later this fiscal year. In addition, Michelle Bell attended the second half of the NARA Records Training in



Aura Muniz, USFWS Photo.

## Workforce Management

Broomfield, Colorado and Jason Woodland attended the “Interagency Consultation for Endangered Species” training at the National Conservation Training Center .

Sandra Bohn shadowed Renee Martin and Tracy Diver to learn MEL laboratory procedures, including maintenance of the ABI3130xl Genetic Analyzer and archiving of tissue and DNA samples.

The staff participated in a number of meetings and conference calls this month, including the monthly Fisheries and Aquatic Conservation call, USFWS National Wild Fish Health Survey and the Fish Health Center Quality Improvement Program (QA/QC) call, monthly User Acceptance Team conference call, GRCA Fisheries and humpback chub translocation conference call, monthly RGSM Captive Propagation Facilities conference call and Advanced Topics in Conservation Genetics Webinar series.

## Additional Activities

Keith Kohn conducted the annual maintenance of our ABI3130xl Genetic Analyzer. MEL Researchers conducted a spectral calibration on the Genetic Analyzer. Tracy Diver and Renee Martin continued with routine database, freezer, chemical, software, and equipment inventory and maintenance for the Research Unit. Tracy also assisted Fish Culture with the cleaning and sterilization of the Isolation/ Quarantine Room.

Greenfield Electric of Dexter, NM replaced the electrical line phase monitor on well #5 and it is now up and running. Pond maintenance included; weed control around the B and C-series earthen ponds, disking and

packing earthen ponds, repairing damaged liners and cleaning lined ponds in preparation to receive fish. The run course for the local “Milk Man Triathlon” was mowed and bird netting removed from ponds this spring was cleaned, disinfected and stored for use this fall. General maintenance of Southwestern ARRC grounds and facilities included mowing and weed eating around all buildings structures and equipment. A total of 180 lbs. of cardboard and 60 lbs. of plastic were recycled this month.

The area received 3.0” of rain and the Center had 34 visitors for the month of May.

### Upcoming Activities

June 2	Tishomingo NFH annual health inspection.
June 9	Durant SFH (OK) annual health inspection.
June 16	San Marcos ARC annual health inspection.
June 16	RGSM Health Update seminar for the MRG ESA CP Science.
June 17	Mescalero TFH summer intern outreach activities at the Southwestern ARRC.