

Southwestern Native Aquatic Resources and Recovery Center

August 2016

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STAFF

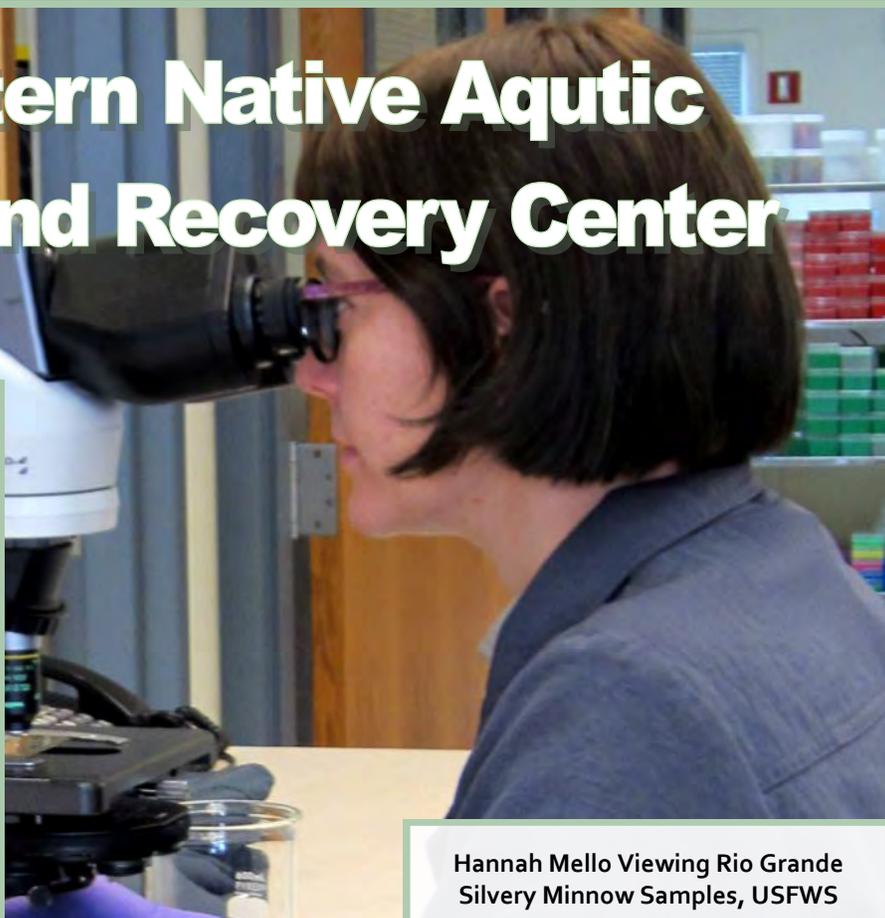
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Fish Biologist FONS.....	Hannah Mello

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Fish Health Biologist.....	Marlene Rodarte
Fish Health Biologist.....	Jason Woodland
Fish Health Biologist.....	David Hampton
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Hannah Mello Viewing Rio Grande Silvery Minnow Samples, USFWS

Conserving Aquatic Species

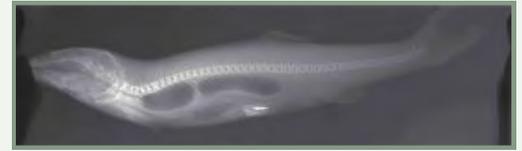
No fish were distributed during the month of August.

Routine fish culture activities continued this month. All stocks are stable and fish culture staff began collecting representatives from each species in preparation for next month's annual aquatic animal health inspection. Fish health will be sampling and processing 16 lots from Southwestern ARRC. Woundfin broodstock ponds were harvested; any remaining young-of-year that were not collected by seining last month were sorted and stocked into growout ponds. The 2016 year class of wild caught Rio Grande silvery minnow (RGSM) received last month were sorted, inventoried and all non-target species removed from the population.

Several lots of Gila trout (*Oncorhynchus gilae*) were collected by Forest Service personnel from the Main Diamond and Black Canyon populations for wild fish health survey work. Fish were transported back to Southwestern ARRC for tissue collection, screening, and testing. Twenty Fountain darters (*Etheostoma fonticola*), ten from the Comal and ten from the San Marcos Rivers were received from the San Marcos Aquatic Resources Center. These fish were screened for quarterly gill parasite enumeration and (*Haplorchis pumilio*) in the head and caudal

Conserving Aquatic Species cont.

locations. In addition, three Colorado Pikeminnow (*Ptychocheilus Lucius*) were provided by the New Mexico Fish and Wildlife Conservation Office (NM FWCO) for a diagnostic inspection. This group of fish is exhibiting widespread spinal deformities. The fish were radiographed to determine the exact location of the deformity and the associated areas were sampled for histopathology.



Radiograph (x-ray) of Colorado Pikeminnow with a Spinal Deformity, USFWS Photo

On August 16, 2016 fish health also received ten Rio Grande silvery minnow (*Hybognathus amarus*) from the Albuquerque Biopark for diagnostics, due to an increase in mortalities.

Molecular ecology staff completed two fish health molecular confirmation cases and screened swabs taken from salamanders for the fungal pathogens Bd (*Batrachochytrium dendrobatidis*) and Bsal (*Batrachochytrium salamandrivorans*). Samples were collected by San Marcos Aquatic Resources Center staff.

Scientific Capacity

The fish health team took part in initial studies researching the effectiveness of MS-222 and Aqui-S for euthanasia. Initial trials tested two lots of woundfin and one of Lost River suckers. Future trials will include the remaining species on site. The Aqui-S usage will also be part of an INAD study and will be reported back to the Aquatic Animal Drug Approval Partnership Program (AADAP).



Nate Franssen, Scott Durst and Jesse Trujillo Weighing and Measuring Razorback Sucker
USFWS Photo

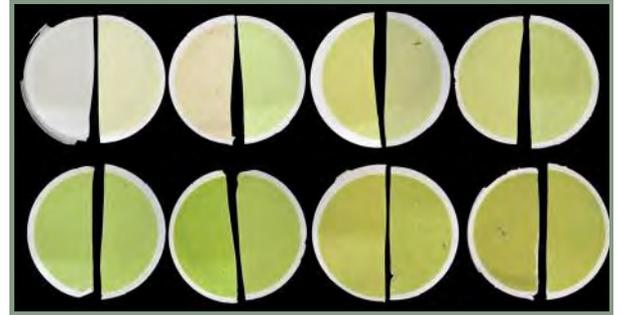
A total of 1,000 >300mm Razorback suckers from the 2014 year class were harvested, sorted and passive integrated transponder (PIT) tagged for a flow training study being conducted in collaboration with Nathan Franssen, PhD, U.S. Fish and Wildlife Service on behalf of the San Juan River Recovery Implementation Program. Length weight data was collected from each fish prior to releasing them into the raceway. One section of the tank contains a flow that can be increased over time while the other section is operated consistent with current methods used at Dexter to hold fish prior to hauling and release to designated locations.

Martha Keller organized the first meeting of the region-wide Scientific Rigor panel. The group is represented by research professionals from the Region 2 Fisheries Program. The panels first action is to assist regional field stations with development and review of study design.

Pahrnagat Roundtail Chub (*Gila robusta jordani*) from Southwestern ARRC and Key Pitman Wildlife Management Area (Nevada) populations were genotyped this month. Research staff completed the QAQC extractions for the project and began genotyping Bonytail (*Gila elegans*) from the second refuge population that is being maintained at Mora NFH and White Sands Pupfish (*Cyprinodon tularosa*) samples provided by New Mexico State University as part of a study that examines current and historic genetic diversity of the species

Scientific Capacity cont.

Hannah Mello and Tracy Diver completed a study plan examining the diet and resource availability for Rio Grande Silvery Minnow (*Hybognathus amarus*) in the Big Bend reach of the Rio Grande. A status update was provided to partners at the Texas FWCO, San Marcos, TX. Hannah and Tracy successfully validated sample methods using water samples and fish collected at Southwestern ARRC, and are currently working to identify non-diatom algae in samples collected in the Big Bend reach. In addition, they are working to process otoliths for ageing and began working on archived samples (gonads, eggs, and larval fish) from a project that examines humpback chub (*Gila cypha*) fecundity. Tracy also drafted a manuscript and provided it to co-authors for review. This manuscript examines how bonytail (*G. elegans*) recruitment is affected by the presence of Colorado pikeminnow (*Ptychocheilus lucius*) and was one of two parts of a Bureau of Reclamation funded study completed in 2015. Hannah processed water samples collected from the Albuquerque Biopark to screen for microcystin, an algal toxin that can cause fish mortality. Samples were aliquoted to 50mL for centrifugation and the remaining water filtered. Extractions were performed on the filters and samples run by quantitative PCR (qPCR).



Albuquerque Bio Park Filtered Samples Screening for Microcystin, USFWS Photo.

Managing Aquatic Invasive Species

Fish health staff attended a webinar conducted by USFWS Region 3 on new tools available to expand lab capabilities for the detection of Ranavirus, Bsal and Bd in amphibian species.

Fulfilling Tribal Trust Responsibilities



Jason Woodland working on Apache Trout, USFWS Photo

On August 9, 2016, fish health staff traveled to the Pinetop, AZ, area to meet with Arizona FWCO personnel and White Mountain Apache Tribe (WMAT) biologists. AZFWCO and WMAT collected 60 Apache trout (*Oncorhynchus apache*) from the East Fork of the White River, 58 Brown trout (*Salmo trutta*) and 2 Apache trout from the north fork of the White River, along with 60 brown trout from the Sun/Moon Creeks for a Wild Fish Health Survey. Tissue samples were collected in the field and transported back to the Southwestern ARRC for bacterial, viral assays and parasite screening.

Workforce Management & Training

Wade Wilson was selected and accepted the Deputy Center Director position, his official start date is October 2, 2016. Tracy Diver was selected for and accepted the permanent fish biologist (genetics) position in the Research Unit with an effective date of August 7, 2016.

Training for the month of August:

- All Southwestern ARRC staff attended the 8 hour Defensive Driving/Driver Safety Course on August 11, 2016. The training was presented by William Marion of White Knuckles Institute, LLC from Carlsbad, NM. Staff updated their Authorization for Operation of Motor Vehicles and/or Equipment form and provided a copy of their valid NM Driver's License.
- Ian Paige attended Collateral Duty Safety Officer training from August 2-5 at the Regional Office in Albuquerque, NM.
- Jesse Trujillo began a welding class at Eastern New Mexico University Roswell.
- Sandra Bohn attended the First Annual Environmental DNA (eDNA) Training and Technical Exchange Workshop in Lakewood, CO, where she learned about the newest techniques in eDNA collection and analysis and was able to talk to other researchers from across the country.
- Martha Keller attended a webinar concerning the new veterinary feed directive implementation for next year.
- Jason Woodland attended the Habitat Conservation Training course at NCTC.
- Ashlie Peterson attended the Leadership and Management Skills course in Albuquerque, NM.
- Maria Bullard completed Coach for Success online training.
- Administrative staff participated in the fleet management, fleet work order, and quicktime webinar trainings.
- MEL staff received technical training for the new ABI3500xl Genetic Analyzer from Cindy Waldron, a ThermoFisher Field Applications Scientist.

Engaging and Educating the Public and Our Partners

Center staff participated in the Region 2 Fisheries & Aquatic Conservation (FAC) Monthly Conference call; the Rio Grande silvery minnow (RGSM) captive propagation facilities monthly conference call; a Grand River Conservation Authority (GRCA) fisheries call; the lower Colorado River Native Fishes Work Group mid-year meeting and a Colorado pikeminnow conference call with partners from the Upper Colorado River Endangered Fish Recovery program concerning wild fish collections to supplement the captive stock at Southwestern ARRC. Wade Wilson visited the Aquatic Research and Conservation Center (Cornville, AZ) to discuss collaborative research projects including Spikedace (*Meda fulgida*) and Loach Minnow (*Rhinichthys cobitis*) and Manuel Ulibarri participated in the LCR-MSCP Planet Ranch Workshop meeting.

Tracy Diver archived Apache trout (*Oncorhynchus apache*) fin clips collected in the wild and provided to Southwestern ARRC by Arizona FWCO for future genotyping efforts, she also participated in a call with XpertSea staff to set up Southwestern ARRC's new XperCount.

Additional Activities

The 2016 Station Accomplishment reporting and Annual Real Property inventory were completed this month.

Tracy Diver and Sandra Bohn reorganized sections of the Molecular Ecology Laboratory (MEL) freezer to free up space for future samples. Hannah Mello continued digitally archiving journal articles and supplementary information from the Research Unit library.

The facilities phone system was replaced this month by LEACO, the local telecommunications provider. The antiquated system could not accommodate the growing program and increased needs of the Center.

Casey Booth worked with the NM Department of Transportation to have our highway signs changed to Southwestern Native Aquatic Resources and Recovery Center. Michelle Bell continued working on records management. New fire proof cabinets were purchased and a filing plan established. Michelle is in the process of setting up disposition dates and creating new folders.

The sprinkler valve to the drip system in front the administrative building was replaced and the drip irrigation in the fish health building was repaired. Gear boxes were replaced on 24D and 12D vales. Staff continued general upkeep of facilities and grounds including mowing and weed control around ponds, buildings and fields. Weeds were burnt around earthen ponds and trees trimmed back away from road ways. The street sweeper was run along the entrance road to sweep off all loose gravel from the road. Kubota UTVs were serviced this month and a new metal head-ache rack was built and installed on one of them. Greenfield Electric from Dexter, NM worked on the water tower pump controls, loose wires were repaired and the system was cleaned.

Monsoons returned to the local area. The Center received 5.1" of rain and 22 visitors in the month of August.



Highway Signs with New Name,
USFWS Photos

Upcoming Activities

September 10- "Dragonfly Festival" at Bitter Lake NWR

September 20 - Annual inspection at Southwestern ARRC

September 27 - Annual inspection at Albuquerque Biopark

September 27-30 - Rio Grande silvery minnow harvest