



Jeremy Voeltz (AZFWCO) displays two native suckers captured in a stream on the San Carlos Apache reservation. On the left is a Desert Sucker and on the right is a Sonoran Sucker.

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AZFWCO Mission: Working with others to conserve, protect, and enhance fish and other aquatic organisms and their habitat in Arizona and the Southwest.

Conserving Aquatic Species

AZFWCO reviewed and provided comments on a “short-term conservation plan for Yaqui Catfish.” National Wildlife Refuge staff authored the plan as the last remaining habitat for the Yaqui Catfish in the United States is on or near the San Bernardino National Wildlife Refuge in southern Arizona. The proposal is to take a subset of threatened Yaqui Catfish from ponds on or near the San Bernardino NWR to a hatchery in Kansas for propagation attempts. Yaqui Catfish were introduced to the ponds in the late 1990s, but there has been extremely limited reproduction from these aging fish and they represent the only individuals of the species remaining in the United States.

Chase Ehlo completed work on a draft study plan on proposed research activities on Razorback Sucker and Bonytail in Cibola High Levee Pond on Cibola NWR. He distributed the document internally for comment, addressed any comments, and sent the document to the Bureau of Reclamation for review in accordance with the intergovernmental agreement.

Chase also began deploying six remote PIT tag scanners in Cibola High Levee Pond. The purpose of the PIT scanners is to track the survival of recently stocked Bonytail and Razorback Sucker in the



Jeremy Voeltz (AZFWCO) and Stephanie Vail-Muse (AZFWCO) examine a bucket of fish collected in a stream on the San Carlos Apache reservation in April. Native fish were captured in five out of the six streams they sampled.

pond. The efforts resulted in 856 contacts of 145 unique fish in which there were 134 Razorback Sucker and 11 Bonytail. All 11 Bonytail were from a stocking in September 2015, and 22 Razorback Sucker were from the most

recent stocking in December 2015.

Chase and Brad Buechel sampled Cibola High Levee Pond for four days and three nights using hoop nets and minnow traps. The efforts resulted in the capture of 57 Bonytail and seven Razorback Sucker. PIT tags were inserted into a portion of the Bonytail so as to be monitored in later deployments. All seven Razorback Sucker were recaptures from the December 2015 stocking and grew an average 8 cm since the stocking.

Randy Van Haverbeke and Kirk Young attended the Humpback Chub Recovery Team meeting. The meeting focused on review of the draft Species Status Assessment (SSA) that the team is charged with writing. The SSA framework describes the Humpback Chub viability (resiliency, redundancy, representation). The SSA will be used in development of a new recovery plan and possibly a future species status assessment. Randy and Kirk followed up with extensive written comments on the draft SSA.

Kirk attended the Grand Canyon Adaptive Management Program Technical Work Group meeting in



Jeremy Voeltz and Jennifer Johnson (AZFWCO) use backpack electrofishing to sample a stream on the San Carlos Apache reservation.

Conserving Aquatic Species (*continued*)



Lisa Winters (Arizona Game and Fish Department), Jim Walters (AZFWCO) and Michael Pillow (AZFWCO) tagging and collecting data on fish captured during the first spring Little Colorado River monitoring trip in April 2016.

Phoenix. He presented an overview of findings related to apparent reproduction and expansion of Humpback Chub in Western Grand Canyon. The presentation was precursor to an experts panel comprised of Kirk, USGS, NPS, and Arizona Game and Fish Department biologists convened to discuss the West Grand Canyon and Humpback Chub.

Michael Pillow, Dennis Stone, and Randy packed for and participated in the first 2016 Little Colorado River Humpback Chub monitoring trip in April. Michael worked with Jim Walters at Coyote Camp where they sampled the middle

section of the lower 13.55km in the Little Colorado River. Dennis and Rick Deshler sampled Boulders reach in the lower section, and Randy sampled around Salt camp and the upper reach of the Little Colorado. The trip was successful and resulted in the capture of many chubs and native suckers. A spring population estimate for Humpback Chub will be generated following the recapture trip scheduled for mid-May.

Michael also finished checking and cleaning the data collected on the September 2015 Humpback Chub Aggregation trip. The data was entered

over the winter and is now ready to be appended to the Grand Canyon Fishes Database. He worked with Glenn Bennett (USGS) at GCMRC to determine the best way to enter the submersible antenna data collected on the aggregation trip.

Jeremy Voeltz, Jennifer Johnson, and Stephanie Vail-Muse traveled to the San Carlos Apache Reservation to survey several streams for the presence of native fish. With assistance from staff from the San Carlos Recreation and Wildlife Department, the crew completed spot check surveys for native fish in six streams. Many of these streams had not been sampled in over 15 years. Native fish were collected in five of the six streams.

Brad Buechel completed trip reports for High Levee Pond and Office Cove mark/recapture surveys, Havasu Round-up, and stocking of High Levee Pond and Office Cove from Achii Hanyo Native Fish Rearing Facility.

Jeremy and Jennifer met with staff from Trout Unlimited, Arizona Game and Fish Department and White Mountain Apache Tribe to continue development of a new Apache Trout monitoring protocol. Trout Unlimited, through a funding agreement with the National Fish and Wildlife Foundation, is reviewing existing data and literature and is assisting with the completion of the monitoring plan.

Randy worked more in Program MARK to estimate survival of Humpback Chub that have been translocated to above Chute Falls, and worked on rewriting a draft Chute Falls manuscript.

Conserving, Restoring, and Enhancing Aquatic Habitats

Brad Buechel continued off-channel habitat water quality surveys on Topock Marsh, Three Fingers, Office Cove, Parker Dam, Emerald Canyon Golf Course ponds, and Three Mile Lake.

Tim Grosch and Arizona Game and Fish Department Landowner Relations Program (AGFD LRP) personnel visited a previous erosion control project that was completed south of Springerville. It is important to have these “kitchen table” talks to continue fostering a relationship with area landowners. The landowners are quite happy with its success so far,

however we will continue to monitor the site and further develop the partnership in the future.

Tim assisted a Blue River landowner with an ongoing NRCS riparian restoration project. The intent of this project is to enhance the surrounding habitat for southwestern willow flycatcher habitat. The two spent the day digging holes and pole planting native cottonwood and willow trees. The new plantings were then flood irrigated and will be monitored over time to determine success.

Tim also met with Al Eiden, Program Manager for the AGFD LRP. The two collaborated on how both agencies could work together as partners to increase viable habitat restoration projects. Several ideas were discussed and Tim will be contacting regional LRP specialists located around the state of Arizona to gather more localized needs for area landowners.

Stephanie Vail-Muse coordinated with agency staff to discuss the new Desert Fish Habitat Partnership (DFHP) Chapter and funds allocation for FY2016 and

Conserving, Restoring, and Enhancing Aquatic Habitats (*continued*)

potential funding opportunities for FY2017. Stephanie Vail-Muse worked with the DFHP Executive Committee to finalize the final three DFHP projects that were chosen for FY16.

Stephanie Vail-Muse drafted and submitted the DFHP Executive Committees review of the 2015 NFHAP Assessment. She also began creating a database for the DFHP that focuses on funded projects the DFHP has worked on over the last 10 years. This database will be used to track and maintain records of all current and future projects as the DFHP continues to work towards its goal of conserving native desert fish by protecting, restoring, and enhancing their habitats in cooperation with state and

tribal fish and wildlife agencies, federal resource agencies, research and private organizations, and engaged individuals.

Tim Grosch attended a BLM Healthy Lands meeting that plans to focus on landscape scale habitat restoration in Navajo and Apache counties. Several organizations are represented including Bureau of Land Management, Arizona Game and Fish Department, Arizona State Forestry, Natural Resources Conservation Service, Natural Resource Conservation Districts, private landowners and New Mexico agency representatives. Partners for Fish and Wildlife Program will keep involved and offer assistance where possible.



Cottonwood and willow pole plantings to enhance Southwestern Willow Flycatcher riparian habitat along the Blue River.

Managing Aquatic Invasive Species

Kirk Young and Chase Ehlo participated in a conference call and later a rapid response meeting to address the detection of water hyacinth and water lettuce in the Lower Colorado River. The purpose of the meetings was to appoint a coordinator to lead the response team, develop a monitoring plan, and develop an outreach plan. Ashley Hall, a Service invasive species biologist based in Yuma, will

coordinate the effort and our Parker Office will assist. Both plants are highly aggressive invasives that have the potential to cause a myriad of problems in the Lower River. They were first discovered in Ferguson Lake, a backwater near Imperial National Wildlife Refuge. Several plants have been removed by Arizona Game and Fish and U.S. Fish and Wildlife

personnel and removal efforts and monitoring will continue.

Dennis Stone finished writing a preliminary draft manuscript concerning the effects of suspended sediment concentrations, flood discharges, and dissolved carbon dioxide levels on nonnative fishes in the Little Colorado River, AZ, and then sent it out for review by coauthors and coworkers.

Fulfilling Tribal Trust Responsibilities

Jess Newton represented AZFWCO at the annual Arizona USFWS-Intertribal Coordination Meeting. The meeting was attended by representatives from tribes across Arizona and staff from USFWS programs such as Ecological Service, External Affairs, Law Enforcement, Fish and Aquatic Conservation, and Migratory Birds. Jess presented and led a discussion on collaborative native and recreational fish management projects on tribal lands.

AZFWCO helps coordinate recreational trout stocking programs on Tribal lands across Arizona and New Mexico, for trout raised at Alchesay and Williams Creek National Fish Hatcheries (A-WCNFH). This past winter, Bacterial Kidney Disease was detected at low levels at A-WCNFH. Although this fish pathogen is common across North America, it hadn't been detected to date at A-WCNFH.

Therefore, this month AZFWCO was busy coordinating internally and with tribes on our response, based on policy, science, and best management practices. Jess organized and moderated a conference call for Tribal leaders to speak directly with USFWS Fish Health Unit Leader, Martha Keller (DVM, MS). About 30 participants called in and the technical Q&A session was exhaustive and extremely helpful. In a related meeting, staff from AZFWCO and A-WCNFH met with the White Mountain Apache Tribe's Chairman, Vice Chairman, and Tribal Council to answer questions on this topic. AZFWCO staff continued coordination with staff from the Alchesay-Williams Creek NFH's, White Mountain Apache Tribe, San Carlos Apache Tribe, Hopi Tribe, Navajo Nation, Kaibab Band of Paiute

Indians, Arizona Game and Fish Department, and Fish Health Unit at the Southwestern Native Aquatic Recovery Center to address issues surrounding the recent detection of Bacterial Kidney Disease (BKD) at Alchesay and Williams Creek NFH's.

Jeremy Voeltz and Jess discussed Apache Trout brood stock genetics with staff from the Alchesay-Williams Creek NFH and genetics staff from the Southwestern Native Aquatic Resources and Recovery Center (SNARRC). Both SNARRC and A-WCNFH received funding in FY16 to improve the genetic condition of the Apache Trout broodstock and AZFWCO will provide technical assistance to coordinate with the White Mountain Apache Tribe to evaluate techniques to bring new genetic material into the broodstock from the wild.

Enhancing Recreation Fishing and Public Use of Aquatic Resources

Kirk Young and Jess Newton worked to finalize the Biological Assessment (BA) for stocking Rainbow Trout into the Lower Colorado River. The stocking BA had been idled to allow discussions with the Arizona Game and Fish Department (AZGFD) staff who are working on an overlapping federal action (Wildlife and Sport Fish Restoration) for stocking the Colorado River below Davis Dam. These

trout will be produced at Willow Beach National Fish Hatchery. The draft BA provides for stocking trout in Lake Mohave, below Davis Dam, and across five tribal sites (three SW Arizona tribes). The BA will be transmitted to Ecological Services to be processed together with the Wildlife and Sport Fish Restoration funded AZGFD proposed action. The evaluation will be forwarded

to Arizona Ecological Services Office in early May and will be the basis for the Section 7 Biological Opinion for the program.

Kirk is working with U.S. Army Corp of Engineers (ACE) on extension of the Alamo Lake water quality agreement. The ACE is interested in reviewing their water quality program and reducing costs if possible.

Workforce Management, Training, and Scientific Capacity

Chase Ehlo began constructing a database in Microsoft Access to assimilate all Cibola High Levee Pond fish sampling data in order to better understand the dynamics of native Bonytail and Razorback Sucker in the backwater.

Stephanie Vail-Muse continued improving the DFHP website and continued adding clickable links. This change acts to increase ease of usability for all site visitors so that they can link to the various organizations that partner with the DFHP.

Stephanie and WNTI coordinator Therese Thompson collaborated on the Multi-State Grant for FY2017. Identified goals for these funds include funding to complete the Rio Grande Basin assessment (40k) with the potential to direct some of these funds for another basin assessment project. The second identified goal is to complete a thorough revisit/review of the DFHP strategic and implementation plans, strategic priorities, successes/challenges over the past ten years and to set the plan for the next ten years. Since both WNTI and DFHP are now ten years old, it feels like a strategic imperative to get these plans updated. Also, it will help us compete better under the FWS allocation system.

Kirk Young and Randy Van Haverbeke met with USGS to discuss and plan general and helicopter logistics for the 2016 field season. Helicopter protocols, including training, were reviewed and updated. Seth Felder of USGS will begin taking over helicopter logistics for the project.

Stephanie also visited Region 2 headquarters where she met Stewart Jacks (Assistant Regional Director), Karin Eldridge and the NM FWCO. During her



Speckled Dace (*Rhinichthys osculus*) captured in April 2016 in the Little Colorado River (top) and on the San Carlos Apache Reservation (bottom). These photos illustrate morphological differences between fish of the same species from different river systems.

visit she learned about some on-the-ground work the NM FWCO is doing as well as three future projects that they would like the DFHP to be a part of.

Tim Grosch attended the Apache County Natural Resource Conservation District meeting in Springerville, AZ. The meeting covers financials, ongoing projects, future projects and general information for conservation measures occurring within the county.

Tim also participated in a Region 2 PFW conference call. During the call the group discussed a way to standardize monitoring efforts across the region, monarch initiatives, strategic planning

and several other topics pertaining to the program.

Jeremy Voeltz listened to the American Society of Ichthyologists and Herpetologists and American Fisheries Society Committee on Names of Fishes webinar where they heard presentations on the taxonomy of the Gila robusta complex (*G. robusta* {Rountail Chub}, *G. nigra* {Headwater Chub}, and *G. intermedia* {Gila Chub}) hosted by the Arizona Game and Fish Department. The species' complex taxonomic issues are in need of further evaluation and resolution as the Service is undergoing a listing decision process for

Workforce Management, Training, and Scientific Capacity (*continued*)

G. robusta and *G. nigra*. A decision from AFS is expected sometime this summer.

Jeremy Voeltz, Jennifer Johnson, and Jess Newton attended the 7th Annual Native and Wild Trout workshop, hosted by the Arizona Game and Fish Department and the Arizona Council of Trout Unlimited.

Jeremy participated in several conference calls with the USFWS Roundtail Chub and Headwater Chub technical team working on the final listing decision for Headwater Chub and Distinct Population Segment of Roundtail Chub.

Jeremy also attended the annual meeting of the Arizona Native Fishes Conservation Team. Highlights from the meeting were continued discussions on improvements of streamlining introductions of aquatic species on federal lands, eDNA collaboration opportunities with the USFS eDNA lab, and improved processes for environmental compliance

completion for proposed rotenone projects on USFS lands.

Michael Pillow, Jennifer Johnson, and Mitch Thorson worked with Vic Scott to verify and document the asset inventory on site at the AZFWCO offices. Jennifer also updated AZFWCO's safety plan and completed annual safety assessments for the Southwest Arizona Refuge Complex (Kofa, Imperial and Cibola National Wildlife Refuges).

Jeremy made selections and offers for the Apache Trout seasonal crew. We'll be hiring two seasonal GS-5 positions, and five GS-2/3/4 Pathways intern positions. Employees will start in late May or early June.

Brad & others satisfied the required EEO and Diversity training requirements via Department of Interior online courses. Brad also completed both a 1st aid/CPR course and the National Safety Council Defensive Driving Course.

Jennifer attended Natural Channel Design's level 1 workshop "Geomorphic Processes of Natural Channels in the Arid Southwest." The introductory workshop covered recognition of important stream features, field measurement, and analysis of basic stream dimensions. The workshop also focused on how to use the Rosgen Stream Classification system and Natural Channel Design's southwestern regional curves.

Tim Grosch attended Partners for Fish and Wildlife Habitat Restoration Course at the National Conservation Training Center located in Shepherdstown, West Virginia. The week long course was an introduction to the Partners Program from its infancy to present day. The course covered process, policy and technical assistance to help guide Tim in his current position.

Public Education and Engagement

The Natural Resources Defense Council (NRDC) published an online article featuring AZFWCO Humpback Chub recovery efforts in the Little Colorado River. AZFWCO employee, Michael Pillow, provided an in-depth interview for the article as well as hosting the author on one of our field trips in the Grand Canyon.

Stephanie Vail-Muse completed the DFHP Newsletter. It will be posted online at the DFHP website in May so check it out at desertfhp.org.

Stephanie began collaborating with the Manhattan City Zoo's Conservation team on implementing a desert fish species educational display that emphasizes the importance of desert fish species, their habitat, and the efforts of the DFHP to help conserve these resources.

Stephanie and the DFHP Education/Outreach committee began coordinating with WNTI on a new Education/Outreach project that focuses on Utah's Bluehead and Bonneville fish species. This new campaign will provide many effective ways to maximize awareness about the mission and goals of the DFHP and WNTI to the general public.



Jennifer Johnson gave a talk titled: "Connecting children with Nature: Trout in the Classroom" at the 7th annual Native and Wild Trout Conference in Phoenix, AZ.

Jennifer gave a talk "Connecting Children with Nature: Trout in the Classroom" at the 7th annual Native and Wild Trout Conference. Jennifer was part of a panel of speakers who discussed Trout in the Classroom projects across the state of Arizona.

Tim Grosch attended and mentored at the 2016 Youth Turkey Camp in the White Mountains of Arizona. The event involves a wide array of partners including Youth Outdoors Unlimited, National Wild Turkey Federation, Arizona Game and Fish Department, U.S. Fish and Wildlife Service and many others. The event is intended to introduce

Public Education and Engagement (*continued*)

youth from all backgrounds to experience the great outdoors not only through turkey hunting but through a series of presentations given by local Game Wardens, Biologists and outdoor enthusiasts. Subjects such as turkey and Mexican gray wolf biology are presented, 3-D archery shooting, fishing opportunities and several other activities

are offered. Children of all ages are welcome.

Stephanie Vail-Muse continued to highlight native desert fish for #DesertFishFriday on DFHP's Facebook page. Check it out at: <http://www.facebook.com/pages/Desert-Fish-Habitat-Partnership/193053497376208?ref=hl>

Did you know AZFWCO has a facebook page? We post information on our staff, upcoming projects, educational events, and volunteer opportunities across the state. We currently have 803 "likes" from over 20 countries. Check us out at www.facebook.com/AZFWCO.

Upcoming Events

- ♦ **May 17-27:** Little Colorado River Humpback Chub Monitoring Trip II
- ♦ **September 20-30:** Little Colorado River Humpback Chub Monitoring Trip III
- ♦ **October 18-28:** Little Colorado River Humpback Chub Monitoring Trip IV
- ♦ **August 27-September 13:** Mainstem Grand Canyon Humpback Chub Monitoring, hoop nets
- ♦ **September 23-October 7:** Mainstem Grand Canyon Juvenile Humpback Chub monitoring, seine

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Left: Jim Walters and Kristy Manuell (AGFD) collect data on fish captured during the April 2016 Humpback Chub monitoring trip in the Little Colorado River (LCR), AZ. Above: Lisa Winters (AGFD) displays a 500mm Flannelmouth Sucker captured in the Little Colorado River in April. AZFWCO biologists will conduct their second spring LCR monitoring trip in mid-May.

