



U.S. Fish & Wildlife Service

Currents

Fiscal Year 2012
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REGION 2 – SOUTHWEST REGION

Fisheries Program Highlights

(April – June 2012)

September 2012

Edited by Jeremy Voeltz, Arizona FWCO



Region 2 Fisheries hosted several fishing derbies or other youth activities throughout the Region

Read the complete stories throughout this issue

18th Annual Fishing Derby at Tishomingo NFH a Huge Success



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A young angler reels in a fish during the annual fishing derby at Tishomingo NFH

Cooler than normal temperatures greeted 282 children between the ages of 6-12 as they registered for the 18th Annual Kids' Fishing Derby at the Tishomingo National Fish Hatchery. An estimated 700 people attended the event where most children caught their limit of five catfish with some stringers weighing in at over 40 pounds. Prizes, compliments of the National Wild Turkey Federation, local vendors, and the John Bruno Memorial Fund, were awarded to 65 thrilled fishermen. The John Bruno Memorial Fund and the Chickasaw Tribal Commerce Department provided fruit, granola bars, cheese, water and juice for the hungry crowd. Each child received a bag with posters, a "Fishing Regulations" book, pencils, books on identifying turtles and fish, and fishing tackle.

Mary Davis, Tishomingo NFH

Gifted Students from Roswell Visit Dexter NFHTC

Research staff from Dexter NFHTC participated in "Superday," a series of workshops offered at Eastern New Mexico University-Roswell for 50 gifted fourth through sixth grade students in the Roswell Independent School District. Students enjoyed learning about the importance of genetic variation and the role of hatcheries in fish conservation. 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.



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Youth learn about fish and their genetics at Dexter NFHTC

Wade Wilson, Dexter NFHTC

Arizona FWCO Assists with Youth Turkey Hunt

In April, the Arizona FWCO assisted the Arizona Game and Fish Department with a junior turkey hunt in eastern Arizona with over 20 junior hunters. Staff from the Arizona FWCO volunteered as one of the guides and helped two young hunters harvest their first turkey. All junior hunters who attended the camp were fortunate enough to hear and/or see wild turkeys and other local wildlife during their outings as they also learned about archery, wildlife conservation, habitat ecology, fire and natural processes, and other topics relating to natural resources. The free event is a joint effort involving Youth Outdoors Unlimited, Inc., National Wild Turkey Federation, Arizona Elk Society, Rocky Mountain Elk Foundation, and other sponsors.



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Dominic Barrett, Arizona FWCO

A junior hunter with his first turkey

Larval Fish Key for Pecos River Fishes in Development



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Preserved samples of fish at different life stages are used to develop a fish key for Pecos River fishes

Staff from Dexter NFHTC are working with the Bureau of Reclamation, the Museum of Southwestern Biology at the University of New Mexico, American Southwest Ichthyological Researchers and the New Mexico FWCO, in developing larval fish keys for ten Pecos River fishes. The facility received five of the ten species this winter, and successfully spawned four this spring. The collection of larval life stages began for speckled chub, Arkansas River shiner, Rio Grande shiner, and Pecos bluntnose shiner. The series consist of 30+ collections of numerous fish at designated timeframes over a three month period. Results from this project will be used to develop an illustrated guide to the minnow and sucker larvae of the Pecos River to aid in effective management of the species.

Manuel Ulibarri, Dexter NFHTC

Hatchery Outdoor Program Hosted by Inks Dam NFH



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Kid's attempt to become "Master Casters" by casting lures into small floating squares

In May, 200 fifth graders from R.J. Elementary School in Burnet, Texas, visited the Inks Dam NFH to participate in the 2012 "Hatchery Outdoor Program." The activities included an introductory presentation at the hatchery, bird watching at the new bird blind, a dynamic geology and biology interpretive hike up the hill on the Overlook Trail, preparing exotic flower prints using solar paper and solar power, discussing hatchery production while showing tens of thousands of catfish eggs and newborn catfish, learning to accurately cast at a pond and become a "Master Caster," and finally, an intimate introduction to a rough green snake caught that day. This event was only made possible with the hard work and dedication of 25 volunteer members from the "Friends of Inks Dam NFH" group that coordinated and lead the various activities associated with the event.

Paul Dorman, Inks Dam NFH

Tishomingo NFH Hosts Boy Scout Tours

Boy Scouts who were attending nearby Slippery Falls Boy Scout Ranch visited the Tishomingo NFH to learn about the hatchery and to earn merit badges in Citizenship and the Nation. Over 400 campers from Oklahoma, Texas, Colorado, and Canada visited the hatchery during a six week period in June and July. In addition to earning badges, the campers had the opportunity to see several species that were new to them, namely paddlefish and alligator snapping turtles. It was exciting to see the spark of interest being ignited in them as they watched and learned about the different species of concern. Hopefully, some of the Boy Scouts who have visited the hatchery will be encouraged to pursue careers in the area of fisheries.



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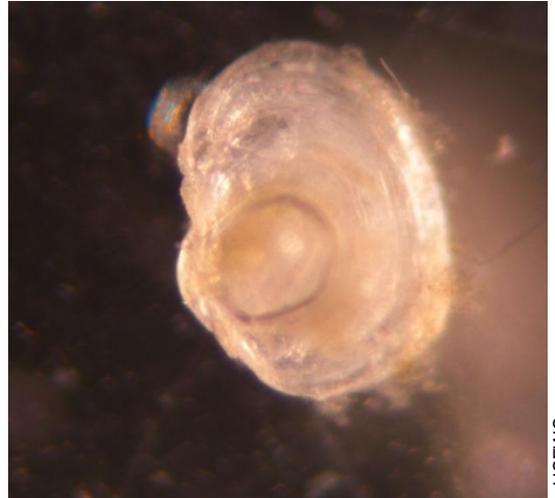
Visiting Boy Scouts pose for a pictures at Tishomingo NFH

***Mary Davis and Ralph Simmons,
Tishomingo NFH***

Freshwater Mussel Research at San Marcos NFHTC

The San Marcos NFHTC has established a freshwater mussel research program to develop artificial propagation technologies for rare or endangered freshwater mussel species endemic to central Texas that are in severe decline due to pollution, dewatering, or other habitat alteration or loss.

Freshwater mussels have a unique life cycle, in which the female mussel releases glochidia, a mussel larvae that attaches itself to the fins or gills of fish. Glochidia must attach to a specific fish species, otherwise its transformation from glochidia to mussel will not occur. Because of this, San Marcos NFHTC is holding various fish species naturally infected with glochidia. As glochidia develop and abandon their host fish they are collected and genetically identified to species to confirm primary and secondary fish hosts. By determining the primary fish hosts, propagation efforts for the mussels can begin.



A newly formed Texas fatmucket mussel is identified by the mussel researchers at San Marcos NFHTC

Patricia Caccavale, San Marcos NFHTC

Student Employees at Dexter NFHTC



Dexter NFHTC's student employees tour the Museum of Southwestern Biology

This summer Dexter NFHTC hosted five Student Temporary Employment Program (STEP) employees and continued the Youth Conservation Corps program with three local high school students. The STEP employees are currently studying at Eastern New Mexico University, Western New Mexico University, and Front Range Community College, CO. They performed fish culture, fish health, administrative, and maintenance duties and assisted with stocking channel catfish during National Fishing and Boating Week. They also completed various environmental education modules each week, including trips to the New Mexico Museum of Southwestern Biology and the Rio Grande silvery minnow facility at the Albuquerque Biopark.

Bill Williams, Dexter NFHTC

Researchers Visit Tishomingo NFH



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Beakers, set up by students from Texas Tech University, are ready to receive Arkansas River Shiner eggs at Tishomingo NFH

Professors and graduate students from Oklahoma State University and Texas Tech University came to the Tishomingo NFH to learn how to spawn Arkansas River shiners. Hatchery staff developed successful spawning techniques several years ago when a severe drought threatened the remaining wild population. The university researchers used hatchery facilities to conduct studies on the buoyancy of Arkansas River shiner eggs at several salinities, temperatures, and turbidity levels to gain a better understanding of spawning success in the wild. Additional studies were conducted by hatchery staff to better refine methods for captive propagation of this threatened species.

Kerry Graves, Tishomingo NFH

4-H Club Visits Willow Beach NFH

In June, after touring Lake Mead and the Hoover Dam, 24 members of a 4-H club visited Willow Beach NFH. The club toured the inside hatchery raceways where juvenile endangered razorbacks suckers are raised until being moved to larger outside systems. The group learned about the hatchery's various sources of water and how ultra violet sterilization is used to treat the water before entering the raceways. Outside, the group toured the larger raceways and asked questions about the larger razorback suckers and rainbow trout. Students fed the rainbow trout and learned about the different types of fish food. The students finished the tour by asking questions about careers with the U.S. Fish and Wildlife Service and what classes they can take in college to prepare them for a career in the outdoors.



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Members of a 4-H Club learn about fish culture at Willow Beach NFH

Jake Rice, Willow Beach NFH

Uvalde NFH Hosts a Boy Scout Fishing Tournament

Uvalde NFH held a Boy Scout Fishing Tournament in June. Forty Boy Scouts registered for the event, and by the end of the derby 136 fish had been caught and their lengths recorded for the competition. For some of the kids, it was their first time catching fish. After two hours of fishing, the scouts enjoyed a lunch of hotdogs, drinks, chips, and cookies during the awards ceremony. Staff from the Uvalde NFH and Texas Parks and Wildlife Department were extremely pleased with the successful outcome and stated that all the participants and guests had a great time.

Karin Eldridge, Uvalde NFH



A Boy Scout poses for a smile between casts at the Uvalde NFH Boy Scout Fishing Tournament

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Stress Response in Razorback Sucker Tested at Dexter NFHTC



Blood is collected from razorback suckers to monitor levels of stress during handling

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Preparing hatchery fish for transport and stocking requires multiple handling events, each of which can increase stress. Staff at Dexter NFHTC measured the stress response and recovery times in adult razorback sucker at each point of handling 1) as the fish were harvested from outdoor ponds at Dexter, 2) PIT-tagged, 3) loaded into transport tanks, 4) hauled to the Achii Hanyo Tribal Native Fish Rearing Facility in Arizona, and 5) unloaded. The fish were held at Achii Hanyo for three weeks to monitor their recovery. At each handling event and subsequent recovery periods, blood was collected and analyzed for multiple parameters. The results will assist hatchery personnel in evaluating handling protocols to minimize the stress experienced by endangered fish species reared in hatcheries and to ensure the fish are given sufficient recovery times between handling events. Managing stress is a major component of successfully rearing healthy endangered fish species and reducing their susceptibility to disease and predators upon stocking.

Catherine Sykes, Dexter NFHTC

Alligator Snapping Turtle Study at Tishomingo NFH

Denise Thompson, Missouri State University



Alligator Snapping Turtle nesting at night, illuminated by a red spotlight. Note yellow plastic tag epoxied on carapace of turtle used for individual identification.

A graduate student from Missouri State University spent her nights in May and June at Tishomingo NFH watching ponds through a spotting scope waiting for alligator snapping turtles to emerge from the water and begin nesting. She was able to identify individual turtles by tags which were attached to the carapace during the previous fall. In addition to obtaining detailed information about the excavating, egg laying, and nest covering behavior exhibited by many females in the hatchery's population, she discovered that the majority of the turtles spent time searching and excavating trial nests for several nights before successfully nesting. Additionally, she observed several interactions between individuals who emerged at the same time. Research into turtle ecology, that will aid in management of the species, will continue in 2013.

Brian Fillmore, Tishomingo NFH

Dexter NFHTC Adds Housing for Volunteers and Researchers

This summer Dexter NFHTC replaced an old surplus mobile home with a newer model acquired on surplus through GSA. The three bedroom, one bath, fully furnished home is ADA accessible. Dexter staff leveled and blocked the trailer, hooked up the utilities and installed new skirting. A redwood deck was built by Dexter's YCC participants completing and complementing the new temporary quarters which will be used for visiting volunteers, researchers, and staff; saving the government money on travel accommodations.



New volunteers quarters at Dexter NFHTC

Bill Williams, Dexter NFHTC

Warmwater Native Fish Saved from the Whitewater-Baldy Fire

During the month of May, lightning strikes started what would become the Whitewater-Baldy Complex wildfire (the largest in New Mexico's history) in the Gila Wilderness of southwest New Mexico. Wildfires can create extremely hazardous conditions, not only for wildlife and habitat, but for aquatic species as well. In response to the potential population loss caused by the fire, members of the U.S. Fish and Wildlife Service, U.S. Forest Service, and New Mexico Department of Game and Fish combined efforts to salvage native fish species from the affected area. Throughout the month of June numerous trips were conducted to recover more than 350 endangered Gila chub, nearly 200 threatened loach minnow, and more than 250 threatened spikedace. The fish were transported to the Dexter NFHTC in southeast New Mexico and placed in quarantine. Dexter staff will continue to maintain these populations until conditions in the Gila Wilderness are suitable for reintroduction.



Crews collect loach minnow and spikedace from the Gila River in New Mexico prior to ash flows from the Whitewater-Baldy Complex fire

Ian Paige, Dexter NFHTC

Willow Beach NFH Hosts SCEP Employee



Willow Beach NFH's SCEP employee on the Colorado River just below Hoover Dam

Willow Beach NFH hosted a Student Career Experience Program (SCEP) employee from May through August. He is pursuing a Bachelor's degree in Fish, Wildlife and Conservation ecology with an emphasis in aquatic ecology and management at New Mexico State University. His duties included feeding rainbow trout and razorback suckers, treating trout raceways with formalin to control diseases, ammonia and nitrite testing, logging temperature data, taking and examining epithelial and gill samples, and stocking fish.

Jake Rice, Willow Beach NFH

Paddlefish Genetic Study Conducted at Tishomingo NFH



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Staff from San Francisco State University collect genetic material from paddlefish at Tishomingo NFH

San Francisco State University geneticist Dr. Karen Crow-Sanchez and two of her graduate students visited the hatchery for several weeks to collect paddlefish fry during specific stages of development in order to identify the genes responsible for the development of several external prominent body features such as the rostrum, barbels, and fins. While on station they also assisted with hatchery fish culture duties such as monitoring water quality, feeding fish, and cleaning rearing tanks.

Kerry Graves, Tishomingo NFH

Strengthening Partnerships at Dexter NFHTC

The Fish Health lab at Dexter NFHTC provides annual fish health testing to all Rio Grande Silvery Minnow captive propagation facilities (including the Albuquerque BioPark-Rearing and Breeding Facility) participating in the Middle Rio Grande ESA Collaborative Program as part of an ongoing recovery efforts for the species. To reinforce fish health training, BioPark staff members gained at the recent "Introduction to Fish Health" course offered at the LaCrosse Fish Health Center, they worked with Dexter staff in the laboratory and assisted with sample collection of tissues from the fish they reared at the BioPark. They learned more about what happens in the Virology Lab, biochemical identification of bacteria isolated from fish, and biosecurity measures being implemented in all phases of the Dexter Fish Health program.

Teresa Lewis, Dexter NFHTC



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Staff from Dexter NFHTC train staff from the Albuquerque BioPark to complete fish health assessments

Tishomingo NFH Focuses on Busy Tour Season

Tishomingo NFH conducts about fifty scheduled hatchery tours per year with April through July traditionally representing the busiest time of the year for tours. Besides welcoming many unscheduled visits during this period, the hatchery conducted academic tours for the East Central University Ichthyology class, East Central University Ecology class (twice), Langston University Fisheries Management class, University of Oklahoma Biological Station's Herpetology class, Madill High School's Agriculture class, and grade school classes from Asher and Madill, Oklahoma. The Chickasaw Tribe's "Day of the Child" event incorporated a visit to the hatchery with about 50 children age 3-to-5. The Bethel Senior Citizens group chartered a bus from Oklahoma City, Oklahoma to stop in for their scheduled tour, proving that you're never too young or old to visit the Tishomingo NFH.



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Hundreds of students visited Tishomingo NFH each summer

Ralph Simmons, Tishomingo NFH

Future Farmers of America Visit Dexter NFHTC



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Hagerman High School's Future Farmers of America class visited Dexter NFHTC

Hagerman High School's Future Farmers of America (FFA) class returned this year to tour the Dexter NFHTC for what is becoming an annual trip for the class and for students interested in a future environmental career. While touring the Fish Health Unit, the students visited the necropsy, bacteriology, parasitology, and virology laboratories. They were able to view modern state of the art equipment and technology used by the lab and examined preserved specimens of tapeworms, photos of various fish parasites, and time lapse photos of a virus breaking on a tissue culture.

Dave Hampton, Dexter NFHTC

Annual Fishing Derby at Uvalde NFH



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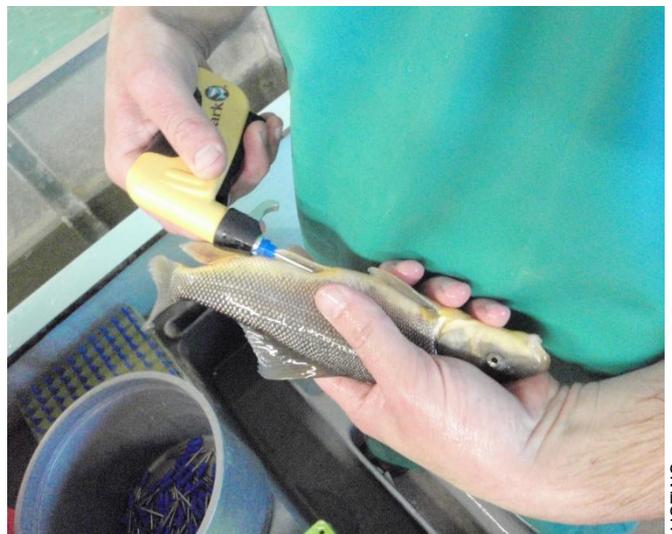
A young angler shows off her catch at Uvalde NFH's annual fishing derby

The Uvalde NFH's Annual Fishing Derby took place in early June during the Nation's National Fishing and Boating Week. Families and children ages 5-13 began lining up for the derby about an hour before the facility opened. Almost every child caught their limit of fish and the children were very excited and happy as they were throwing lines, getting bites, and reeling in their catch. In addition to the fishing, a raffle drawing was held and 16 lucky children won prizes.

Grant Weber, Uvalde NFH

New Fish Tagging Equipment Tested at Dexter NFHTC

Staff at Dexter NFHTC used two types of tag implanters to PIT tag 6,000 razorback suckers to compare tagging rates (fish/hour), percent of tag retention, and percent survival using the older method (loose tags and a syringe and plunger) versus the newer method (preloaded syringes and a rapid implant gun). Results indicated that the new method increased the tagging rate (500/hour vs. 312/hour) and retention (99.4% vs. 98.5%), but exhibited higher mortality (1.5% vs. 0.16%). It was noted that when using the pre-loaded syringes, the spring loaded rapid implant gun injects the tag faster and harder into the fish compared to the hand loading and this may account for the higher percentage of mortality. The information collected from this work was provided to the San Juan River Recovery Implementation Program for use in refining field tagging methods aimed at increasing both tag retention and survival.



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A razorback sucker is tagged using a rapid implant gun

William Knight, Dexter NFHTC

Gila Trout Rescued from Streams Affected by Fire

The New Mexico FWCO led an effort to salvage populations of threatened Gila trout affected by the Whitewater-Baldy Complex Fire, the largest wildfire in New Mexico's history. Crews from the New Mexico FWCO and U.S. Forest Service captured Gila trout in Langstroth Creek, Whiskey Creek, and Spruce Creek. The fish were transported out of the Gila Wilderness area via helicopter and trucked to their various destinations. Fish from Whiskey Creek were taken to the naturalized rearing system at New Mexico FWCO. Fish from Spruce Creek were split up and stocked into Ash Creek in Arizona and the rest of the fish were taken to Mora NFHTC. Fish from Langstroth were stocked into McKenna Creek, and the remainder taken to Mora NFHTC. Fish at Mora NFHTC and New Mexico FWCO will be used to establish brood stocks of the Spruce Creek and Whiskey Creek lineages. This enormous undertaking was a coordinated effort with the New Mexico and Arizona FWCOs, Mora NFHTC, Arizona and New Mexico Game and Fish Departments and the U.S. Forest Service in both Arizona and New Mexico.



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Gila trout were evacuated from Spruce Creek due to wildfire

Dustin Myers, New Mexico FWCO



Southwest Region Fisheries Division

National Fish Hatcheries

The National Fish Hatcheries (NFH), at Willow Beach, Alchesay-Williams Creek, Uvalde, Tishomingo, and Inks Dam develop and maintain brood stocks of important fish species, both sport fishes and critically imperiled non-game fishes. The hatcheries are the source of fish and eggs distributed to partners with similar aquatic conservation missions, such as native fish restoration or fulfilling federal mitigation responsibilities. Hatcheries are often called upon to provide a place of refuge for imperiled aquatic organisms, such as aquatic plants and amphibians.

Fish and Wildlife Conservation Offices

The Fish and Wildlife Conservation Offices (FWCO) in Arizona, New Mexico, Oklahoma, and Texas evaluate wild native fish stocks and their habitats, and work with partners and other Service programs to restore habitats and fish populations.

These offices provide technical fish and wildlife management assistance to tribes and other partners with a primary focus on native aquatic species.

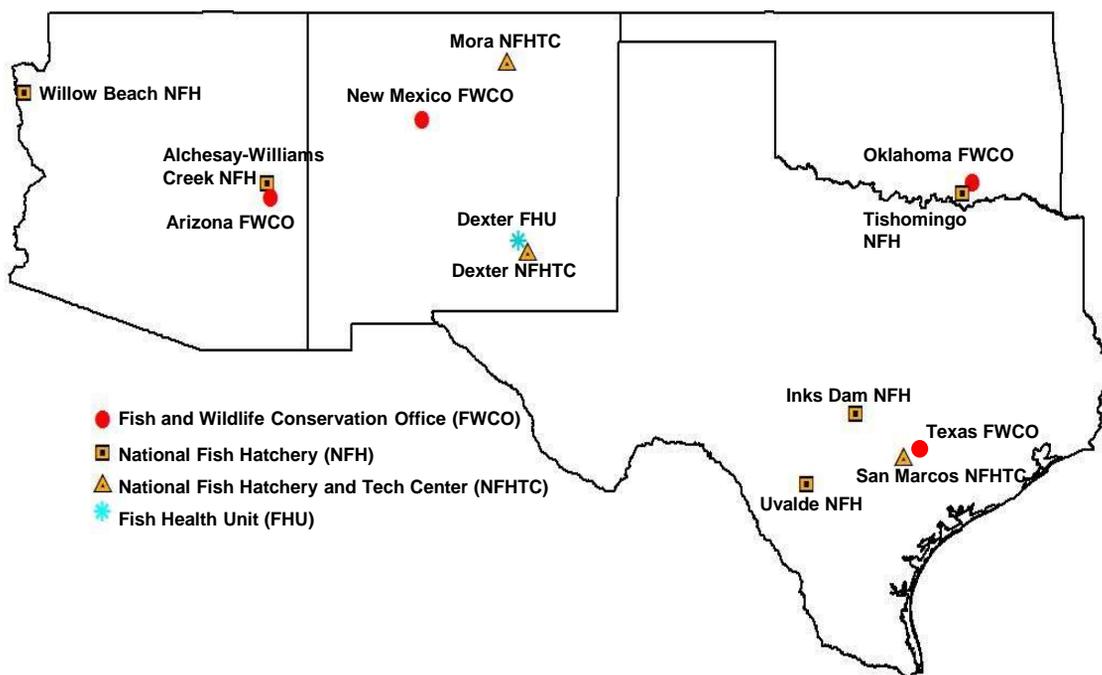
Fish Technology Centers

The Fish Technology Centers (NFHTC) at Dexter, Mora, and San Marcos develop leading-edge technology for use by tribal, state, and federal fish hatcheries and fishery biologists to make fish culture more productive, cost-effective, and scientifically sound.

Technology improves hatchery efficiency, helps assure the genetic integrity of fishes, at the same time minimizing the effects of hatchery fish on wild fish stocks.

Fish Health Unit at Dexter

The Fish Health Unit (FHU) at Dexter assesses the well-being of fish that live in the wild or are raised at hatcheries. Fish health biologists are highly trained in various scientific disciplines, like immunology, epidemiology, toxicology and genetics. They apply that knowledge in fish health assessments that might lead to early detection of potentially devastating diseases, prescribing preemptive measures.



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