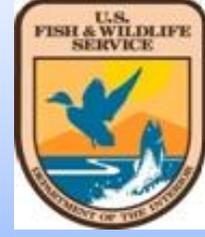




Uvalde National Fish Hatchery

Monthly Activity Report

January 2014



Uvalde National Fish Hatchery Staff

Project Leader – Grant Webber

Administrative Technician – Sandra Castaneda

Engineering Equipment Operator – Cirilo Alonzo

Maintenance Worker – Rene Guerra

Fish Biologist – Rick Echols

Animal Caretaker – Vacant

Volunteers: Thomas Jetzen & Patricia Schenk



Partnerships and Accountability

As identified in approved Recovery Plans, refugia efforts continue for the Texas Wild-rice, Fountain Darter, Comanche Springs Pupfish, and San Marcos salamander. All species continue to be performing well. The station continues to maintain communications with the San Marcos Aquatic Resource Center and Edwards Aquifer Recovery Implementation Program for existing and upcoming refugia

activities of threatened and endangered species native to the Edwards Aquifer system.

Workforce Management

Sandra completed training for utilization reporting for fleet, heavy equipment, and miscellaneous small equipment.

Volunteers Thomas Jetzer and Patricia Schenk continued with their normal maintenance activities of endangered Texas wild-rice, as well as collection of vegetative material for the

amphipod separator. They have now completed two salamander holding systems and are busily working on the final two.

Neil Tobias completed his unpaid internship with the Uvalde NFH in mid-January, and returned to Ursinus College to complete his final semester in pursuit of his degree in biology. Neil's performance was superb, and we will miss his assistance.

Aquatic Species Activities

It has been determined through experience that the Comanche Springs pupfish benefit from pond rotation on a schedule of no more than three years. Experience has shown that macrophyte coverage in hatchery ponds tends to decrease after the second year and can be heavily impacted by the third year, as crayfish numbers can potentially increase. Crayfish trim pond vegetation, and can denude the pond of vegetative matter. This vegetative matter provides much needed habitat for the pupfish and invertebrate production. Crayfish are also known to be significant predators of larval fish. Draining ponds and transferring fish to a new pond tends to interrupt the life cycle of crayfish which keeps their population low. This also provides an opportunity for hatchery staff to get a more accurate number of fish in the pond.

Winter harvests of ponds tend to be more successful since the vegetative matter in the pond is typically at its lowest due to low water temperatures. This month had a few days that had ambient temperature conditions suitable for the harvest of a one of the two ponds scheduled for harvest this winter.

Approximately 34,000 pupfish were harvested from a 1-acre pond and transferred to another 1-acre pond. The receiving pond was prepped and fertilized several weeks prior to receiving the fish. A second 1-acre pond will be harvested this winter when weather conditions are suitable.

We are in the process of determining a quantitative method for accurately estimating pupfish numbers in ponds. Last fall, we used unbaited minnow traps to capture and move 3,345 Comanche Springs pupfish to a new pond. This was an extremely successful (and less stressful) method of passively capturing fish. We will attempt to predict pond populations by setting minnow traps just prior to harvest. A ratio of fish trapped to actual fish harvested will allow us to predict standing populations in the future.

We are about half way to our production goal of producing 700 fountain darters by spring of this year. These fish will be delivered to the San Marcos Aquatic Resource Center (SMARC) when they are three to four months of age. The fish will be used for life history studies.

Adjustments were made to water quality controls in the new salamander set-ups. Water quality readings are being taken daily to fine tune the total dissolved gas levels. Efforts have resulted in levels coming down to tolerable levels for the San Marcos salamander. High dissolved gas levels are lethal to the San Marcos salamander. Construction was completed on two of our eight Devil's River minnow recirculating tank systems. We are now ready for a test run with live fish.

Michelle Crawford and her major professor Dr. Thom Hardy met with Grant Webber to discuss tank set-up and time line for the Texas wild rice research that will take place at Uvalde NFH later this year.

Additional Facility Activities

Efforts to replace much needed equipment yielded results this month. Thanks to the Balcones National Wildlife Refuge and Bosque Del Apache National Wildlife Refuge, the station now has a 2004 Ford F-450 and a John Deere 610 C backhoe/loader. The truck will be used to transport fish, pull gooseneck trailers, and is

being equipped with an aluminum flatbed that the station has stored since its removal from a previously auctioned truck. The flatbed is almost a perfect fit and will take minimal efforts to install. We wish to give a huge thanks to the staff at both Refuge facilities and to Ed Bass, Regional Office, for donating this much needed equipment to the Uvalde NFH. Thank you!

The maintenance staff immediately went to work on the F-450 truck by retrofitting and installing an existing flat bed. This set-up will be perfect for pulling our fish distribution trailer, heavy equipment, and for other numerous specialized pulling needs.



In an effort to increase zooplankton diets for the threatened and endangered species on station, the station contracted a small business in San Antonio to fabricate some fine mesh baskets, which will be used for zooplankton

collection and larval fish isolation. The zooplankton will be used to feed larval and sub-adult aquatic species, including fountain darters, San Marcos Salamander, and future Devils River minnow. The baskets will also be used as holding pens for larval fish. They will keep them concentrated for feeding and isolated from larger fry and sub adults.

Facility Maintenance

Recent cold winter nights have brought new issues to light. The volunteer pad has had some issues with their water supply hose freezing at night. The existing water supply line was approximately 20 feet away from their RV so they had to use a long water hose that was above ground and exposed to the weather. The recent cold weather was freezing the garden hose and cutting off their water supply. To remedy the problem, the maintenance staff connected into the existing buried waterline and moved the water supply riser closer to the RV pad. The new water supply has demonstrated that the efforts were a success since the waterline is no longer freezing during cold nights. Our volunteers are happy campers again.

With the completion of a new PVC drainline to the eastern wildlife pond, the hatchery now has three ponds totaling approximately 6 surface acres that can be used to collect and retain discharge water from the station's tank house. This new drainline now allows us to provide water to the eastern wildlife pond without spending money on a diesel fueled pump, which was previously the only way we could put water into the pond. We now have the flexibility to direct or discharge waters into three different ponds, without the use of expensive pumps. Having three effluent ponds provide more habitat to avian and wildlife fauna, and additional water retention areas for groundwater recharge. It also allows us to rotate discharges between ponds, which allows for sufficient drying out time between uses. In

addition to providing water retention and wildlife habitat, these ponds also provide an extra precautionary measure to prevent fish escapement from the hatchery. This month marks the first time that we have been able to rotate discharges to the eastern wildlife pond.

This month, the water drainage to the station's secondary slough was cut off from the station's primary slough, which will allow for it to dry out. It has been several years since the secondary slough was cleaned out. Over the years the secondary slough has built up several feet of detritus and debris and needs to be cleaned out. The slough will take several months to fully dry before efforts can be made to remove the debris. While the slough is drying, a valve will be installed in the slough at the eastern boundary where the discharges go off property. This valve will provide control over discharge flows for future slough maintenance activities.

Recycling Efforts

Staff recycled 25 pounds of cardboard, 20 pounds of paper, 15 pounds of glass, and 18 pounds of plastic this month.

Facility Visitors

The hatchery was visited by 25 individuals this for bird watching and photography activities this month.

Weather

December's air temperatures ranged from a low of 19°F to a high of 81°F. Overall, high and low temperatures were below normal, with a record low occurring on January 7th (19°F). Measurable rainfall occurred on 5 days in January with precipitation totaling 0.19 inches. According to The Weather Channel, the monthly precipitation average for Uvalde in January is 1.02 inches. Even though last year's precipitation total was at the 100 year average (23.97"), drought conditions persist. The Edwards Aquifer (Uvalde pool; measured in Uvalde) is at 836.5', which is down 5.7' over last year.