



Uvalde National Fish Hatchery

Monthly Activity Report

April 2014



Staff

Project Leader • Grant Webber

Engineering Equipment Operator • Cirilo Alonzo

Maintenance Worker • Rene Guerra

Fish Biologist • Rick Echols

Administrative Technician • Sandra Castañeda

Volunteer • Ian Westmeyer

including channel catfish and fountain darter production.



Volunteer Ian Westmeyer collecting Comanche springs pupfish in traps

Partnerships and Accountability

As identified in approved Recovery Plans, refugia efforts continue for the Texas Wild-rice, Fountain Darter, Comanche Springs Pupfish, and Devil's River minnow. 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

Tom Brandt met with each employee and gave Grant his mid-year evaluation. Grant subsequently gave mid-year evaluations to all Uvalde NFH employees.

Ian Westmeyer continued to volunteer with us. For the month, he logged 54 hours. We are making a concerted effort to get him more involved in more technical fish culture activities,

Grant completed the required Defensive Driving II online course (DOI Learn). Feedback from the course indicates that the material covered was good and appropriate, but one should plan to set aside up to 6 hours to complete it.

Aquatic Species Activities

The channel catfish program continues to be scaled back. Spawning cans were placed in our brood catfish pond mid-month. One large clutch of eggs (30,000) was collected by the end of the month. Eggs are being incubated in hatching jars this year. Hatching troughs were removed in order to make room for new San Marcos Salamander tanks. The hatching jar system is more portable, uses less harmful chemicals, and is easier to manage saprolegnia (egg fungus).

It is our intention to keep only a few fish from multiple spawns to insure future broodstock genetic diversity. Additionally, fish retained on station will be used in future fishing derbies.



Hatching jar portable set-up



Black worm holding tanks

Our species and numbers of individuals requiring black worms have been increasing over the last year so we were quickly outgrowing our capacity to hold black worms in containers in the refrigerator.

Therefore, two small existing holding tanks were set up to house the worms. This set-up will allow us to maintain several pounds of worms at a time. We should also see a significant cost savings since we will receive a volume discount on future worm purchases. The system will also allow us to feed the worms, which will fortify them with nutrients and provide a more varied diet to our darters and salamanders.

The station continues to spawn fountain darters for a USGS facility in West Virginia. The USGS lab requested the individuals for various life history studies that they are conducting. Fry were removed from the nursery tank, enumerated, and placed in separate tanks according to size. We currently have 622 of the 700 commitment. The balance will come from the newly hatched fish that are currently in

nursery tank after they become large enough to enumerate and move.

Texas wild rice plants continued to be evaluated after the long cool winter. Staff reported many of the plants into larger pots due to their increased sizes. Texas wild rice tillers were also removed from parent plants to start new plants. In addition, many plants that spent the winter in our small raceways grew considerably and were relocated into larger, deeper raceways to make room for new plants.

Michelle Crawford's light intensity PhD project continued to move forward in April. A prototype tank was set up with a recirculating pump, artificial light, and a wooden framed structure wrapped in black plastic to keep out ambient light. Ms. Crawford and her major professor Dr. Thom Hardy were here to measure light intensity and water flows in the recirculating rice tanks before giving the set-up their approval. In addition, Ms. Crawford brought 20 of her students to the hatchery for a tour. Her class seemed to have very diverse interests, and we were able to identify a few individuals who might be interested in volunteering with the hatchery in the future.

Grant completed the annual report requirement for the Texas Parks & Wildlife Department Scientific Research Permit.

Additional Facility Activities

All pumps and chillers associated with fountain darters and San Marcos Salamanders were serviced this month. Servicing constitutes removing the cultured species, draining the tank, and scraping the walls and bottom of the tank. The tank is then filled with diluted muriatic acid and recirculated using the pump. Allowing the system to run overnight ensures that any hard water deposits are dissolved so that the pump and chiller can run at optimum efficiency. We have found that this procedure is necessary every four to six months to prevent

friction in the pump and pump failure. Systems are labeled with their last service date.

Additionally, it recently became obvious with spring ambient temperatures climbing into the 90s, that the ¾ HP (11 amp) Hayward pumps on our salamander systems were too large and powerful, and produced too much heat, which was being transferred to the recirculating water, thereby making the chiller unit work harder. The pumps were replaced with existing Iwaki 1/12 HP (1.9 amps) magnetic drive pumps. We have found that these pumps are powerful enough to sufficiently reduce total gas saturation below sensitivity levels for the San Marcos salamander. Over time we expect to see tremendous savings in electricity by using smaller pumps and lessening our reliance on the chillers to remove heat produced by the pumps.

Facility Maintenance

A new overflow water retention pond is in the process of being created in the grassy area in front of the main building. Levee material is being taken from an existing retention pond, thereby, increasing the capacity of that pond as well. The new retention area will only be used to accept flow-overs from other retention ponds. No direct discharges will be diverted from the tankhouse into this area so it should remain dry for most of the year.



New levees for retention pond

The water discharges from the tankhouse will be rotated in a manner that will ensure sufficient drying time between usages, which

will provide an additional safeguard against potential fish escapement from the tankhouse, thereby increasing biosecurity.

Maintenance staff replaced the coolant sensor on the John Deere tractor after the problem had been diagnosed by a local vendor. Maintenance staff performed the work in order to save money.

Recycling Efforts

Staff recycled 30 pounds of cardboard, 15 pounds of paper, 3 pounds of glass, 15 pounds of plastic, and 60 pounds of small batteries this month.

Facility Visitors

The hatchery was visited by 62 individuals for hatchery tours, bird watching, and photography activities this month.

Weather

Temperatures for April ranged from a low of 38°F to a high of 98°F. Overall, high and low temperatures were slightly above normal with the reported average high for the month at 84°F versus the long term average of 83°F, and the reported average low for the month at 59°F versus the long term average of 57°F. Measurable rainfall occurred on 5 days in April with precipitation totaling 1.48 inches. According to The Weather Channel, the monthly precipitation average for Uvalde in January is 2.03 inches. The Edwards Aquifer (Uvalde pool; measured in Uvalde) is at 832.5', which is down 3.3' over last year at the same time.

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