

# Mora National Fish Hatchery

*Outdoor Classroom April 2014*





*Students from the Mora, NM school district spent the day on the Mora National Fish hatchery engaged in outdoor games and learning about the environment. While on the hatchery they toured through 9 different stations learning about different topics. The event was a huge success and would not have been possible without the coordination efforts of the Western Mora Soil & Water Conservation District. We sincerely appreciate the support and participation of all our guests to help us make this day possible.*



# Forestry Appreciation

*The students visited with Benjamin Espinoza from the New Mexico State University John T. Harrington Forestry Research Center. Benjie talked with the students about the research being done at the center to grow faster Christmas trees and to grow hardier seeds to survive in drought conditions for reforestation.*



*Photo Credits: USFWS*

# Weed Control

*The students visited with Lydia Ulibarri from the Soil & Water Conservation District. Lydia talked with the students about why weeds are bad, weed identification, and weed eradication methods of mechanical removal, biological control, and using herbicides. In honor of Earth Day Lydia also talked about the 5 R's: Reduce, Reuse, Recycle, Replenish, and Restore.*



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# State Forestry Service

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*Students visited with Ron Vigil, Cody Alcon, Jarrod Duran, and Ray Romero from the New Mexico State Forestry Division. They talked with the students about wildland fire, thinning the forest, prescribed burns, and fire management. The students met Smokey the Bear and learned about the different tools and methods for controlling wildfire.*





# Watersheds

*The students visited with Steve Riker from the Soil & Water Conservation District. Steve talked with the students about watersheds and how upland erosion can change them over time. He also talked about stream restoration work on public and private lands to ensure a healthy watershed exists for everyone and everything.*



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# Calculating Elevation

*The students visited with Amanda Montoya and Randy Velasquez from the Natural Resources Conservation Service. Amanda and Randy talked with the students about elevation and finding slope and gave the students an opportunity to do their own calculation. They learned that proper measurements of elevation and slope are important to the engineers that design pipelines to carry water and other resources to the places it is needed.*

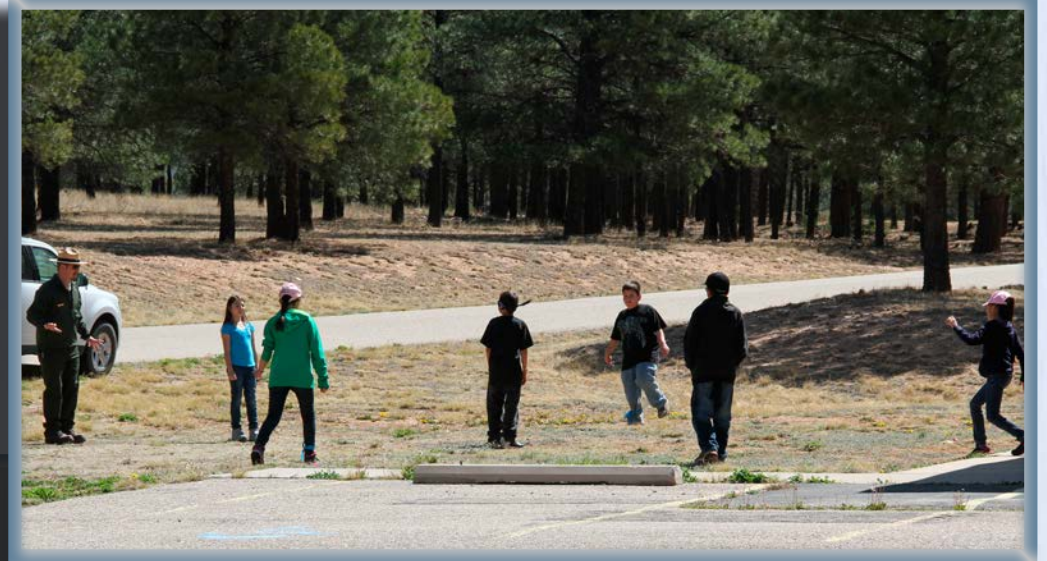


*Photo Credits: USFWS*



# Survival in the Wilderness

*The students visited with Chris Castle from the National Park Service in Fort Union. Chris talked with the students about the adaptations of forest animals that help them survive. The students also played a game called Deer's Ears where one student is designated as a deer and then blindfolded, the other students then sneak up "the deer" who must point to them and eliminate them before they get too close.*



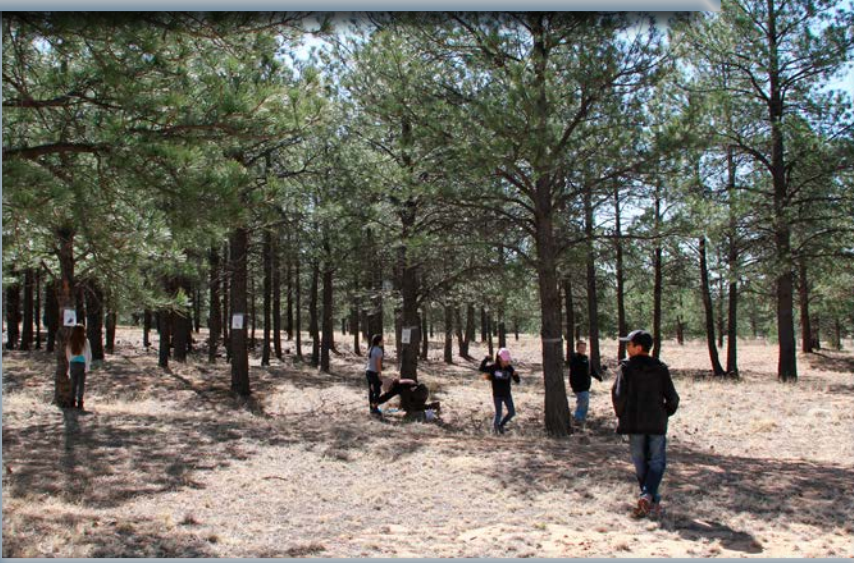
*Photo Credits: USFWS*





# Migratory Birds

*Photo Credits: USFWS*



*The students visited with Debbie Pike from the Las Vegas National Wildlife Refuge. Debbie played a migratory bird game with the students where they became birds that had to migrate through 24 possible stations to get to their destination. As they migrated through the stations they had to avoid electrical lines, cars, cats, and other hazards as well as find food and safe drinking water.*



# Archery

*The students visited with Jeff Conway and Richie Garcia from the Mora National Fish Hatchery. Jeff and Richie covered all the field safety rules of archery before allowing the students to work with the bows and arrows. The students were then shown the basics of the proper stance and loading and releasing arrows at the practice targets.*



*Photo Credits: USFWS*



# Hatching Fish

*The students visited with Grant Langmaid from the Mora National Fish Hatchery. Grant took the students on a tour through the hatchery building to learn about the work done at that hatchery. Students learned about the species at the hatchery, the water recirculation system, and tagging fish for identification. With spawning season in full swing the students were able to see the fish at all stages from egg, to fry, to juveniles, to adult fish.*



*Photo Credits: USFWS*



April 2014



Mora National Fish Hatchery is located in north-central New Mexico on the edge of the Sangre de Cristo mountain range about 1.5 miles north of Mora, New Mexico on state highway 434.

The hatchery is dedicated to the restoration and recovery of the threatened Gila trout, a fish found only in the high desert and mountain watersheds of the Gila, Salt, and Verde drainages in New Mexico and Arizona. Biologists maintain wild brood stocks of the rare Gila trout, keeping them in as much a natural setting as possible.

The hatchery was created in 1994 and was operational by 1998. Water is a scarce commodity in the arid southwest and is increasingly in demand for agriculture, municipal, and recreational uses. This demand has consequently impacted aquatic habitats and their inhabitants. Region 2 pushed for an innovative hatchery to assist in tackling these issues. Typical intensive and extensive fish culture techniques use far more water than was available, so a recirculation hatchery was designed. It relies on water re-use and re-circulation technologies to reduce quantities of influent water required by approximately 95 percent.

The facility has the ability to keep five distinct lineages of Gila trout on station. For each lineage there are separate systems for raising the trout as well as maintaining broodstock. Since the facility began operation it has expanded the lineages of Gila trout it works with and has served as an emergency refugia when the trout have been threatened by wildfire.

Currently the hatchery has Main Diamond, South Diamond, Spruce Creek, Whiskey Creek, and Iron Creek lineages on station. The lineages of Whiskey Creek, Iron Creek, and Spruce Creek are the most endangered with these lineages being nearly extirpated from the wild.