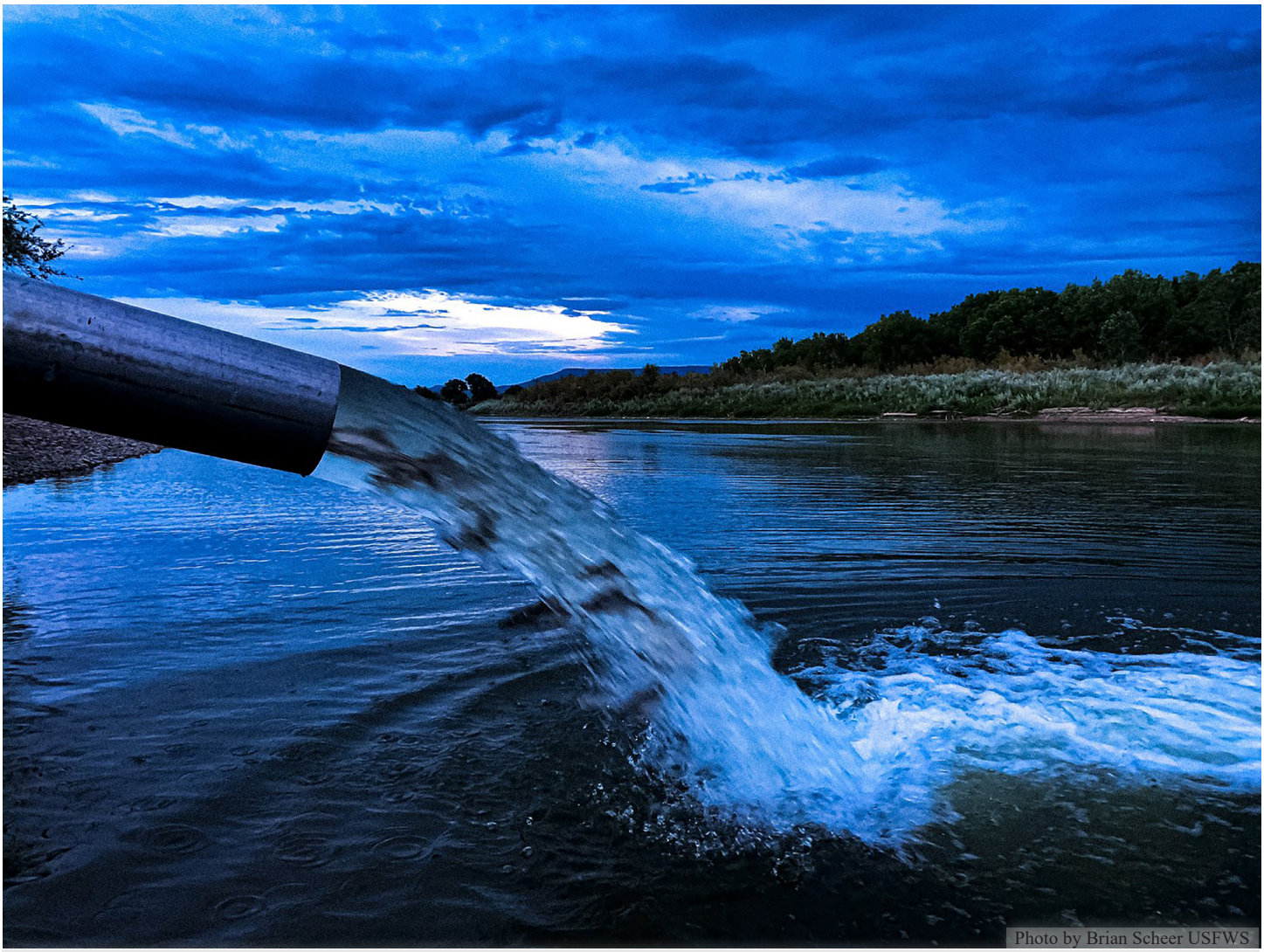
Grand Junction
Fish and Wildlife Conservation Office
Interior Region 7



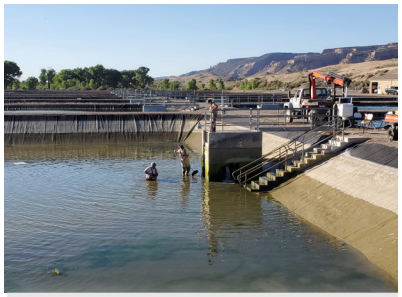
Ouray National Fish Hatchery-Grand Valley Unit stocking endangered Bonytail into the Colorado River at dusk near Palisade, Colorado July 23, 2020

Highlights - July 2020

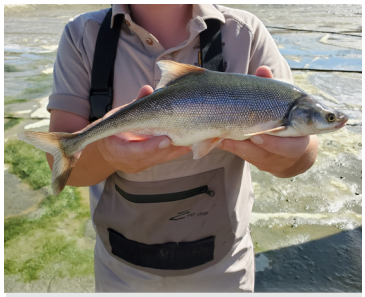
- **Ouray National Fish Hatchery, Grand Valley Unit (Ouray NFH-GVU)**
  - July Activities:
    - Yearly stocking of Bonytail (*Gila elegans*) into the upper Colorado River.
    - Annual Health Condition Profile (HCP) of Bonytail (*Gila elegans*) conducted.
- **Grand Junction Fish and Wildlife Conservation Office (FWCO)**
  - July Activities
    - Debris removal at Price Stubb fish passage.
    - Young-of-Year (YOY) *Gila* monitoring begins on upper Colorado River.
    - Non-native fish removal underway on the upper Colorado River.
- **Other Notable Ongoings**
    - Larval fish sampling concludes on the upper Colorado and Gunnison rivers.
    - Transporting Razorback Sucker to Horsethief Canyon Native Fish Facility until fall.

July 2020
Ouray National Fish Hatchery, Grand Valley Unit
July Activities: Yearly stocking of endangered Bonytail (Gila elegans) into the upper Colorado River complete

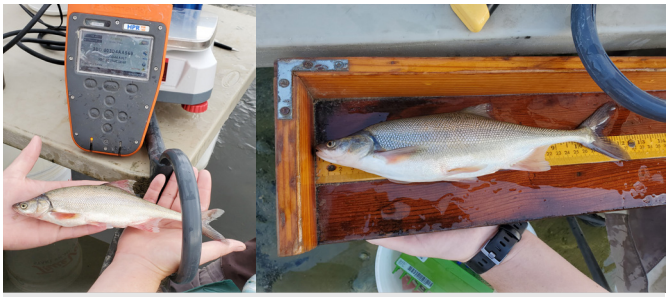
Ouray National Fish Hatchery-Grand Valley Unit (Ouray NFH-GVU) completed it's yearly stockings of endangered Bonytail (*Gila elegans*) into the upper Colorado River for the 2020 field season. 9,819 of these highly endangered fish averaging 251 millimeters (just under 10 inches) were stocked into the upper Colorado River between Rifle and Loma, Colorado in an effort to boost population numbers in the wild which have been severely depleted in past decades. Bonytail is a cyprinid (minnow family) freshwater fish native to the Colorado River. It was once abundant and widespread throughout Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming, and is identified by its pencil thin caudal peduncle which distinguishes it from other similar chub species. Bonytail numbers and range have declined to the point where it has been listed as endangered since 1980. It is now the rarest of the endemic big-river fishes of the Colorado River. Yearly since 2015, Ouray NFH-GVU releases roughly 10,000 of these unique animals back into their wild native habitat on the upper Colorado River in and around the Grand Valley. Photos by USFWS staff.



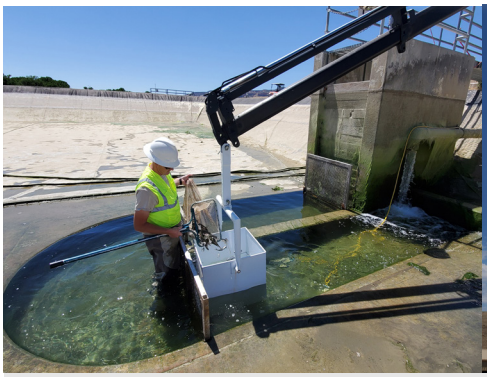
Bonytail are housed at HCNFF in either 1/2 or 1/4-acre grow-out ponds. At harvest time, the pond is drained and the fish are retrieved.

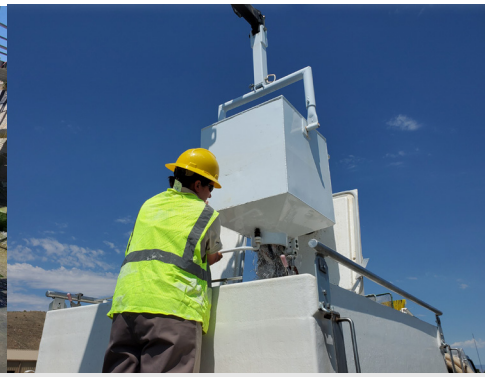


They are roughly a year and a half old and generally 10" - 12" when released into the Colorado River.

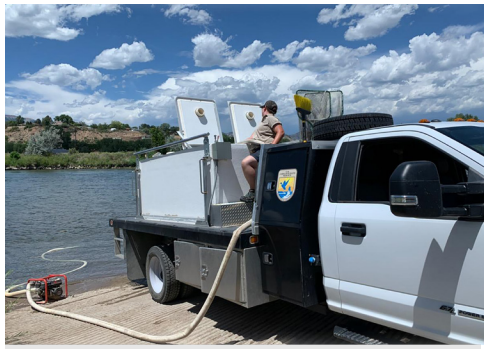


All Bonytail have permanent internal Passive Integrated Transponder (PIT) tags which are scanned before stocking. Corresponding lengths/weights of the fish are recorded so biologists can track the Bonytail movement and growth once in the wild..

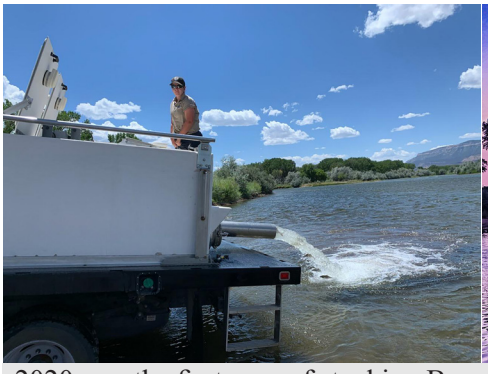




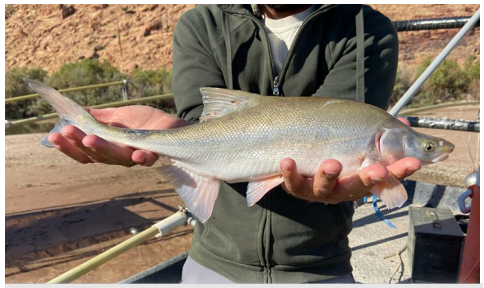
Once all pertinent scientific data is acquired, a boom crane bucket is lowered into the pond kettle and the Bonytail are gently loaded into the fish transport vehicle which is insulated and equipped with oxygen and aeration. Every effort is taken to lower the stress of these animals before and during transport.



At the destination stocking site, river water is pumped into the hauling tanks slowly until the water chemistry is comparable between the river and tanks. Once comparable, the fish are released.



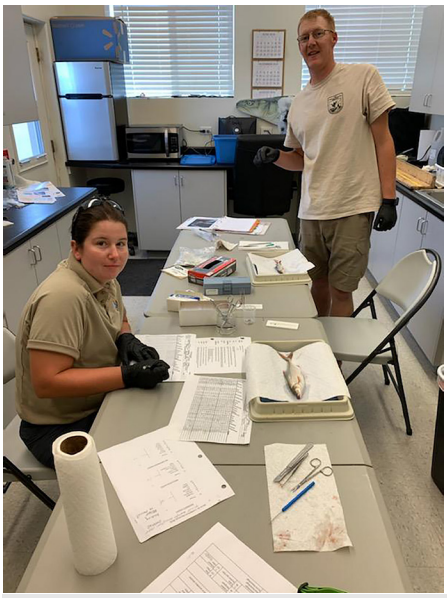
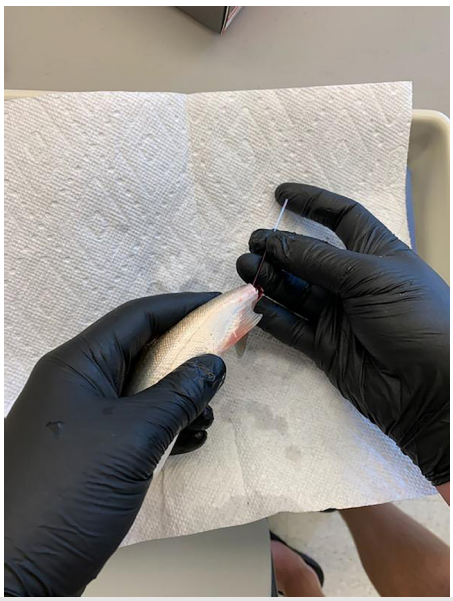
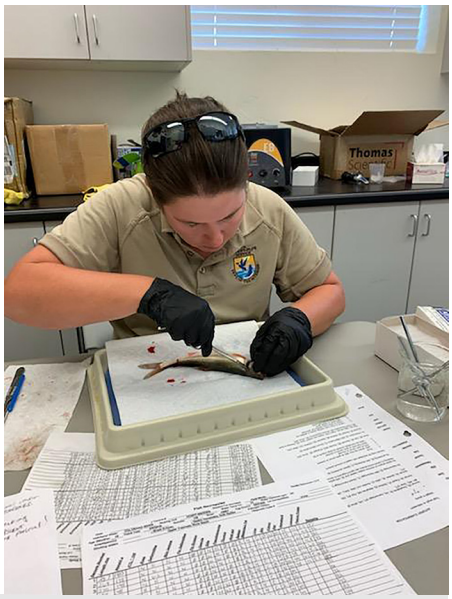
2020 was the first year of stocking Bonytail during daytime and nighttime in an attempt to maximize survival of these highly endangered fish once released into the wild. Left and Right: Daytime and nighttime releases at Riverbend Park, Palisade, Colorado.



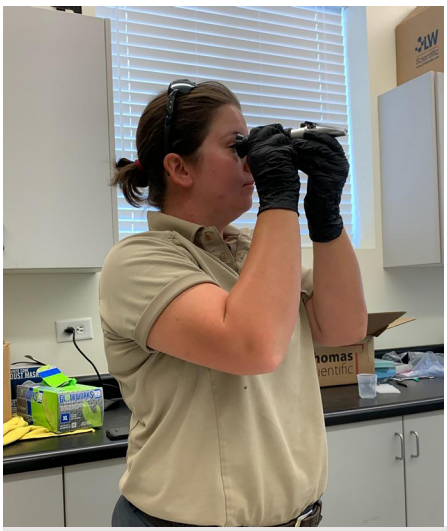
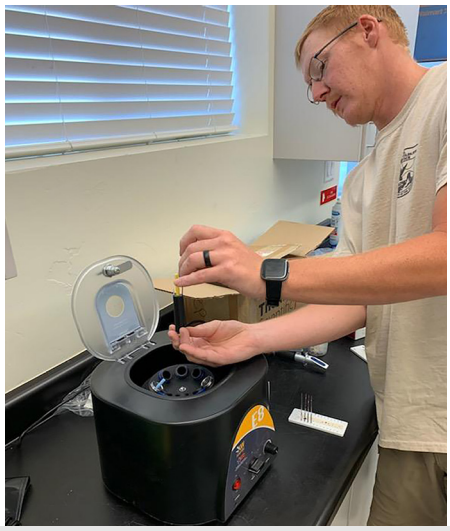
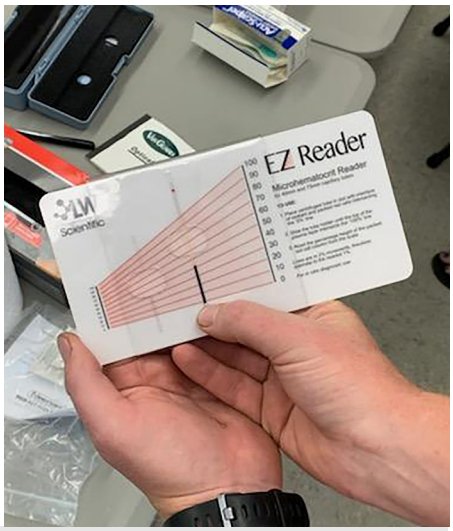
Bonytail were listed as endangered in 1980. They are characterized by their large fins and pencil thin caudal peduncle region (forward of their tail). This omnivorous fish can grow upwards of two feet long, live up to 50 years old and has inhabited the Colorado River for at least 3 million years.

July 2020
Ouray National Fish Hatchery, Grand Valley Unit
July Activities: Annual Health Condition Profile (HCP) of Bonytail conducted at Horsethief Canyon Native Fish Facility (HCNFF)

Before endangered fish are released into the wild, biologists at Horsethief Canyon Native Fish Facility (HCNFF) perform a Health Condition Profile (HCP) on each species of fish held on station to make sure they are of proper, optimum quality once released into the Colorado River. On July 21st, a necropsy-based fish health assessment was performed on a sample of 20 Bonytail. After lengths and weights were recorded, blood was collected for hematocrit, leucocrit and plasma protein analysis and the fish were then visually analyzed (inside and out) for any abnormalities and/or pathological problems. The HCP system has been developed over nearly two decades of research and is intended to be used as a standardized system of observation to assess the relative health and condition of fish cultured from USFWS fish hatcheries. Photos by Brian Scheer USFWS.

Top Left: Haden VanWinkle and Brande Keuer preparing to start necropsies on 20 Bonytail. **Top Middle:** Haden VanWinkle collecting blood through the caudal vasculature of a Bonytail with a microhematocrit tube. **Top Right:** Brande Keuer making an incision to observe the health of the internal organs.

Bottom Left: Brandee Keuer looking through the protein refractometer to determine the protein content of the blood plasma from the Bonytail. **Bottom Middle:** Haden VanWinkle using the centrifuge to spin down blood for hemocrit (packed red blood cell) and leucocruit (white blood cell) percents. **Bottom Right:** Haden VanWinkle holding the processed centrifuge tube in front of the Microhematocrit EZ Reader which calculates the percentage of hematocrit and leucocrit.

July 2020
Grand Junction Fish and Wildlife Conservation Office
July Activities: Yearly debris removal at Price Stubb Diversion Dam Fish Passage

Grand Junction Fish and Wildlife Conservation Office (Grand Junction FWCO) operates and maintains three fish passages around the Grand Valley on the Colorado and Gunnison rivers. The Price-Stubb Diversion Dam is located just upriver of Palisade, Colorado and is owned by the Palisade Irrigation District and Mesa County Irrigation District. The dam was constructed in 1911 to divert irrigation water to farmland throughout western Colorado. The dam was no longer used following completion of the Bureau of Reclamation's Grand Valley Project Diversion Dam and the Government Highline Canal (in 1919). However, migration of native fish in the Colorado River was significantly restricted until 2005 when the Price-Stubb Diversion Dam fish passage was constructed. It provides access to approximately 50 miles of Critical Habitat upstream of the Grand Valley Project Diversion Dam on the Colorado River which had been impeded for nearly a century. Operation of these fish passages are essential for the long term survival of numerous native fish species in the Upper Colorado River basin, but each facility comes with it's own hurdles. On July 28th, field crews suited up and cleaned out the debris wedged against the concrete pillars and repaired a log boom loacted at the upstream end of the ladder at the Price Stubb Diversion Dam fish passage.

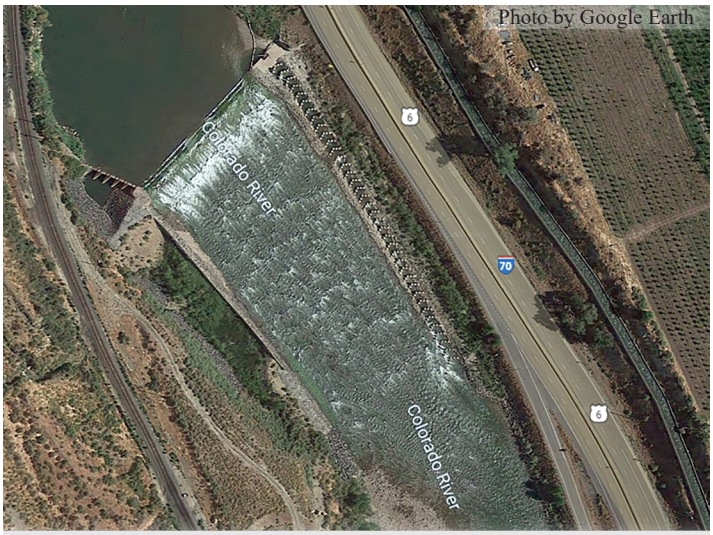


Photo by Google Earth

Price Stubb Diversion fish passage is located alongside I-70 on the Colorado River just upstream of Palisade, Colorado.

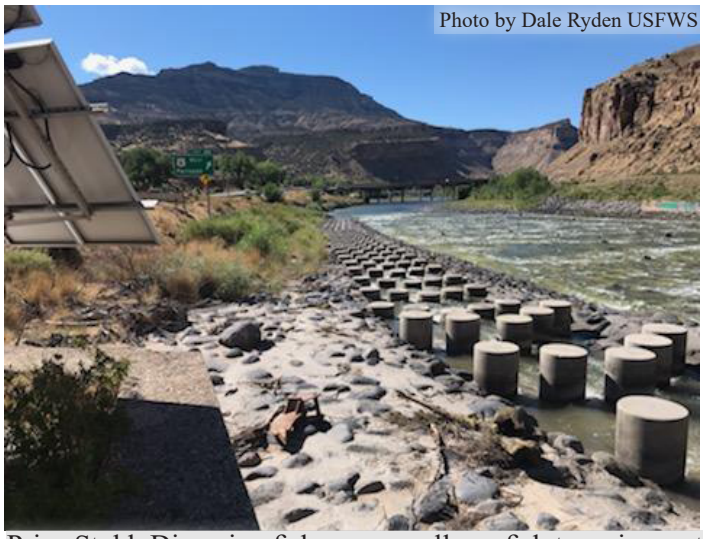


Photo by Dale Ryden USFWS

Price Stubb Diversion fish passage allows fish to swim past the dam by lowering the velocity of the Colorado River through a series of strategically placed concrete pillars (called energy dissipaters) along the river bank.

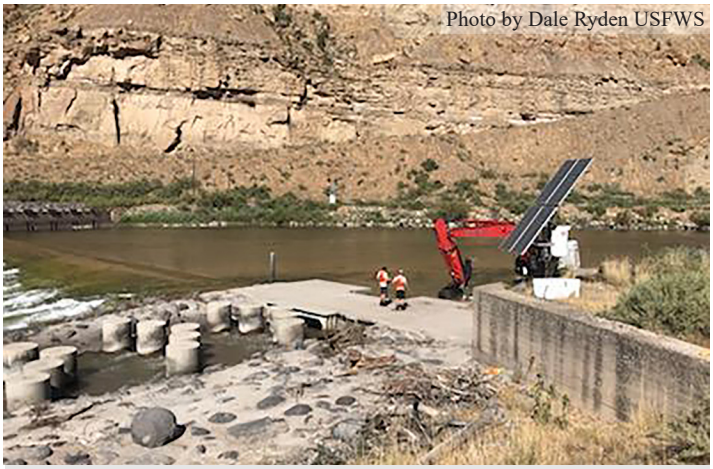


Photo by Dale Ryden USFWS

A trackhoe belonging to Palisade Irrigation Company helped to remove sediment from the upstream end of the ladder and helped to repair a logboom which had become uncoupled during the high-water runoff.

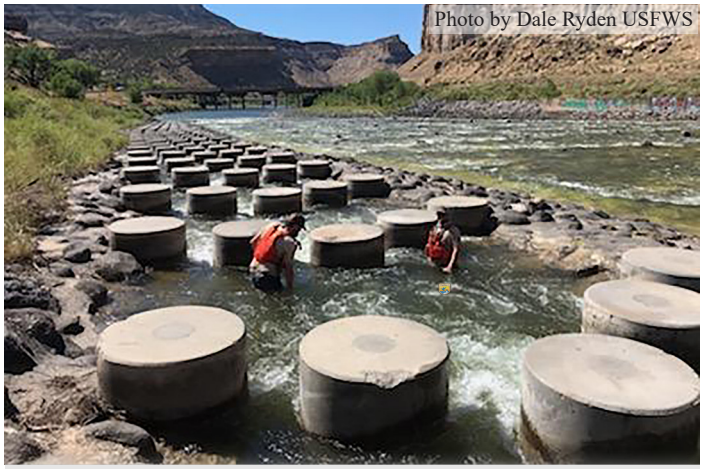


Photo by Dale Ryden USFWS

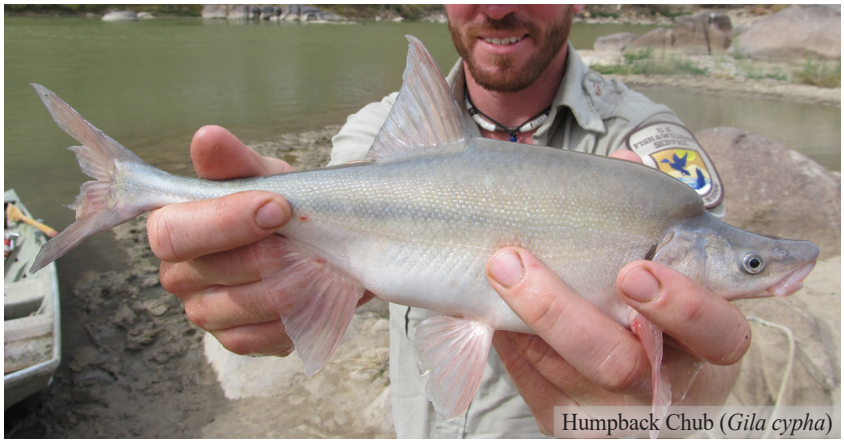
Every year Grand Junction FWCO biologists remove debris within the fish ladder in order to maximize the function of this important passage for migrating fish. Tree branches and sediment accumulate, but you never know what might be retrieved. This year Darek Elverud, Ben Schleicher and Dale Ryden suited up in PFD's and floated through the structure, pulling debris out as they went.

July 2020

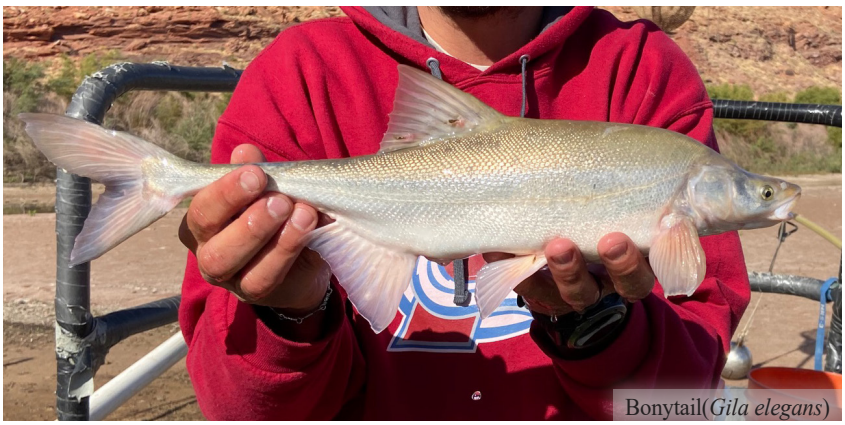
Grand Junction Fish and Wildlife Conservation Office

July Activities: Young of Year (YOY) Gila sampling commences on the upper Colorado River

Grand Junction Fish and Wildlife Conservation Office (Grand Junction FWCO) biologists kicked off the Young-of-Year (YOY) *Gila* genus sampling to assess natural recruitment of wild populations in the upper Colorado River. There are three native chub species endemic to the upper Colorado River basin: Humpback Chub, Bonytail and Roundtail, all of which have inhabited the watershed for three to five million years. The study commenced July 27 on the Colorado River, sampling between Mee Canyon, Colorado and Westwater Ranger Station, Utah, which includes Black Rocks, important Critical Habitat for the elusive Humpback Chub. Grand Junction FWCO biologists will conduct four sampling passes primarily utilizing seines, finishing sampling in late August. This study was last conducted in 2016 and 2017 which had strong year classes of all native *Gila* species within the sampled area on the Colorado River for those years. The preliminary data for 2020 looks promising for hopefully another strong, productive year class. Photos by USFWS staff.



Humpback Chub (*Gila cypha*)



Bonytail(*Gila elegans*)

Roundtail Chub (*Gila robusta*)

Top left: Humpback Chub (*Gila cypha*) are characterized by the oversized hump behind its head. It inhabits deep canyon areas of the Colorado River and can grow to roughly 20 inches, living upwards of 30 years. Humpback Chub have been listed as endangered since 1967.

Middle: Bonytail (*Gila elegans*) are characterized by the pencil thin caudal peduncle region forward of their tail. Found only within the Colorado River watershed, they prefer backwaters and flowing pools, although they have been reported in swiftly moving water. They can grow to roughly 24 inches and live upwards of 50 years. Bonytail have been listed as endangered since 1980.

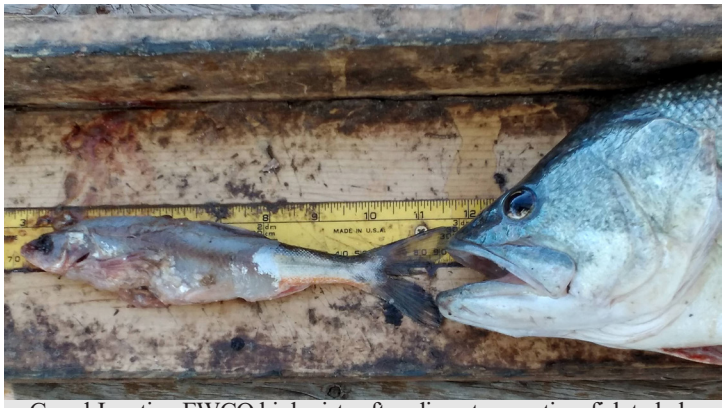
Bottom Left: Roundtail (*Gila robusta)* are a streamlined chub similar to trout in appearance, and characterized by a robust body and tail. They occupy various habitat within the Colorado River system, often occupying open areas of the deepest pools and eddies. They can grow to roughly 20 inches and live approximately seven years. Roundtail are not listed as endangered but are protected under Colorado state law.

Bottom Right: An unidentified chub (*Gila genus*) captured on the Colorado River below Mee Canyon, Utah

Unidentified Gila genus captured July,2020 on Colorado River near Mee Canyon, Colorado

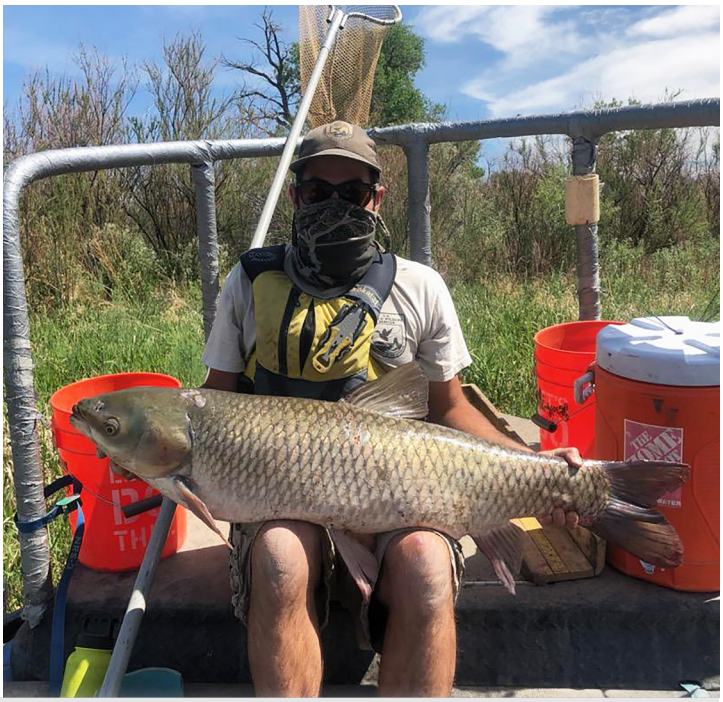
July 2020
Grand Junction Fish and Wildlife Conservation Office
July Activities: Nonnative fish removal underway on the upper Colorado River

Biologists estimate between 65-100 species of nonnative fish currently inhabit the Colorado River basin (many were stocked by government agencies as sportfish) and a mere 13 native fish species. These nonnative invaders represent enormous hurdles for native fish residing in the upper Colorado River including predation, competition for food and habitat, nonnative X native fish hybridization, vectors for disease and more. Depending upon river flows, Grand Junction FWCO biologists are planning to perform up to eight nonnative fish removal passes from just upstream of Grand Junction, Colorado, to the Potash boat launch, Utah, finishing the project for 2020 in October. Photos by USFWS staff.



Grand Junction FWCO biologists often dissect nonnative fish to help better understand what they are actively preying upon. This Largemouth Bass (*Micropterus salmoides*) was digesting a native Roundtail Chub (*Gila robusta*). Captured in July 2020 on the Colorado River near Fruita, Colorado.

Walleye (*Sander vitreus*) are long and thin, primarily gold and olive in color. They are very aggressive and have long razor sharp teeth. In recent years, populations have taken hold in the Colorado River near Lake Powell, Utah and have been captured as far upriver as Rifle, Colorado



A giant nonnative Grass Carp (*Ctenopharyngodon idella*). captured in the Colorado River near Fruita, Colorado, They were introduced to the United States in the 1960s, and have since been reported in 45 states. They have a ravenous appetite for plants and can quickly reduce or eliminate large quantities of aquatic vegetation from water bodies, which can lead to the alteration and/or loss of habitat for native fish species.

Left: Smallmouth Bass (*Micropterus dolomieu*) and **Right:** Striped Bass (*Morone saxatilis*) captured in Grand Junction, Colorado. In recent years nonnative Gizzard Shad (a favorite food item of Striped Bass) populations have exploded in Lake Powell which have improved the condition of Striped Bass, making them more robust and likely helping to extend their geographic range. Two Striped Bass were captured in the Grand Valley the last week of July 2020.

July 2020
Ouray National Fish Hatchery, Grand Valley Unit and Grand Junction Fish and Wildlife Conservation Office
July Activities: Other notable ongoings:

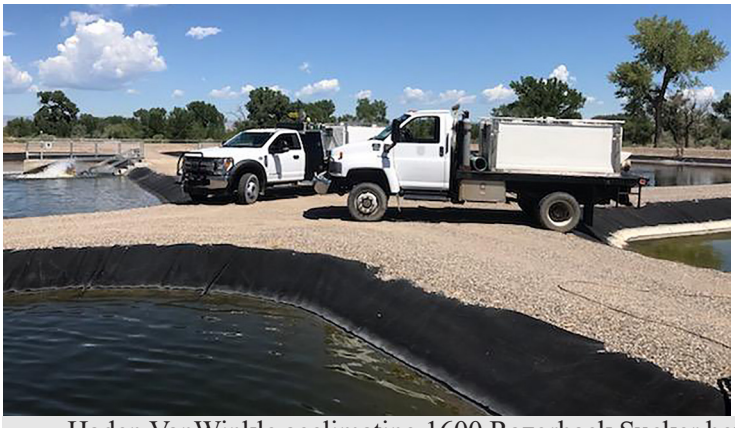
Larval sampling concludes on the upper Colorado and Gunnison rivers

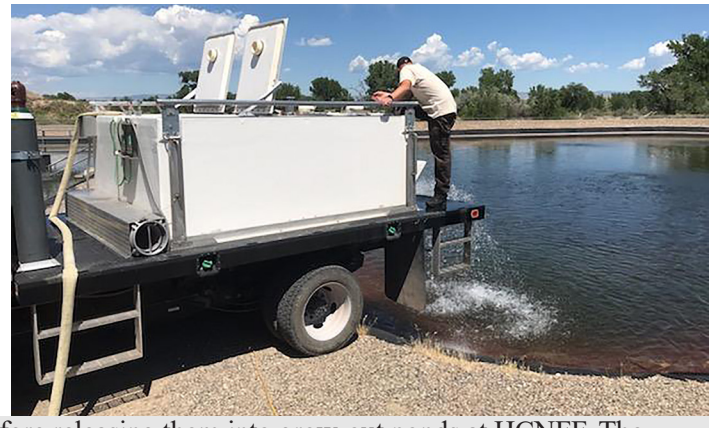
Grand Junction Fish and Wildlife Conservation Office (Grand Junction FWCO) biologists concluded their 2020 larval fish sampling on the upper Colorado and Gunnison rivers. Grand Junction FWCO crews conducted six passes of larval fish sampling on the Gunnison River between Delta and Grand Junction, Colorado and on the Colorado River between Grand Junction, Colorado and the Colorado/Utah state line as part of comprehensive fish community monitoring tied to flow releases from the Aspinall Unit dams. Larval fish are sampled in hopes of finding young endangered fish in targeted riverine habitats. The project's main goal is to assess if Aspinall Unit flow releases are benefiting native fishes in the Gunnison River.

Razorback Sucker larvae. Photo by Haden VanWinkle USFWS

Transporting Razorback Sucker to HCNFF until fall

July 29, Ouray National Hatchery-Grand Valley Unit transported the remaining 2020 year class Razorback Sucker (*Xyrachen texanus*) being housed at 24 Road Hatchery in Grand Junction, Colorado to Horsethief Canyon Native Fish Facility (HCNFF) where they will reside until fall.. These endangered fish are currently eight to ten inches and will be stocked into the Colorado, Gunnison, San Juan and Animas rivers in and around western Colorado and the Four Corners area this fall at which point they will be 12"- 14" long and roughly one and a half years old. Photos by Brian Scheer USFWS





Haden VanWinkle acclimating 1600 Razorback Sucker before releasing them into grow-out ponds at HCNFF. The temperature and PH of the water in the ponds and the truck must be comparable before releasing the fish into the ponds. These fish will live at HCNFF throughout the warm summer/early fall months, after which they will be deployed into the Colorado, Gunnison, Animas and San Juan rivers in an effort to boost populations in the wild.

Bonytail (Gila elegans)- Photo by Mike Gross USFWS

Grand Junction Fish and Wildlife Conservation Office Staff

Project Leader - Dale Ryden
Administrative Officer - Vacant 39 months

Grand Junction FWCO Staff:

Fish Biologist - Darek Elverud
Fish Biologist - Travis Francis
Fish Biologist - Ben Schleicher
Permanent Biological Science Technician - Vacant 12 months
Biological Science Technician - Connor Church
Biological Science Technician -Benjamin DeRidder
Biological Science Technician - Andrew Disch
Biological Science Technician - William Hilzer
Biological Science Technician - Justin Howard
Biological Science Technician - Lucas Laurita
Biological Science Technician - Tyler Sexton
Biological Science Technician - Tyler Trump
Biological Science Technician - Nathan Vargas
Biological Science Technician - Tyler Walton

Ouray National Fish Hatchery - Grand Valley Unit Staff:

Fish Biologist - Brian Scheer
Fish Biologist - Vacant 11 months
Biological Science Technician & Educational Outreach - Mike Gross
Biological Science Technician - Brandee Keuer
Biological Science Technician - Haden VanWinkle

Two electrofishing jetboats on shore at Canyonlands, Utah- Photo by Erik Kopperud USFWS

Grand Junction Fish and Wildlife Conservation Office About Us

The Grand Junction Fish and Wildlife Conservation Office in Grand Junction, Colorado (Formerly known as Colorado River Fishery Project, aka CRFP) consists of both a field office (FWCO) and an endangered fish hatchery, known as the Ouray National Fish Hatchery-Grand Valley Unit.

The CRFP field office was established in 1979 to perform research and management actions aimed at helping recover four endangered fish species of the upper Colorado River basin: Razorback Sucker, Colorado Pikeminnow, Humpback Chub, and Bonytail.

Ouray NFH-GVU was established in 1992 as CRFP's endangered fish propagation center and currently produces over 20,000 endangered Bonytail and Razorback Sucker annually.

The Grand Junction Fish and Wildlife Conservation Office works in the Colorado, Gunnison, San Juan and Yampa rivers in Colorado, Utah and New Mexico, as well as in Lake Powell in Utah.

Ouray National Fish Hatchery
Grand Valley Unit
Current fish on station:
Razorback Sucker 11,400 (200mm-250mm)
Razorback Sucker 17,000 (50mm-100mm)
Bonytail 15,000 (50mm-100mm)

Colorado River at Grand Junction, Colorado - Photo by Tara Hicks, Palisade, CO