

Bozeman Staff

February 2020

Fish Technology Center

George Jordan, Acting Complex Director

Zach Conley, General Biologist

Cal Fraser, Fish Biologist

Dr. Gibson Gaylord, Physiologist (Lead Researcher-Diet and Nutrition)

Jon Gilleen, Maintenance Mechanic

Jason Ilgen, Biological Science Technician

Kevin Kappenman, Research Fish Biologist (Lead Researcher-Fish Passage)

Sharri Lunde, Administrative Assistant

Dr. Wendy Sealey, Physiologist (Lead Researcher-Diet and Nutrition)

Matt Toner, Fish Biologist (MGMT)

Dr. Molly Webb, Fish Biologist (Lead Researcher-Reproductive Physiology)

Bozeman Fish Technology and Health Complex



February Report – FTC Highlights:

Progress continues on the new experimental flume!



A section of the fiberglass flume being lowered into place.

Photo: USFWS/Kevin Kappenman

Jason Ilgen standing next to the 40 hp motor head (the largest of 3 pumps) that will run the flume. When completed, flume flows will be able to range between 250—3,600 gallons per minute and water temperatures regulated between 8 – 24°C.
Photo: USFWS/Kevin Kappenman





Left: Cal Fraser descending into a cave to collect Texas Blind salamanders (a rare amphibian native to San Marcos). A predetermined number of salamanders (right) are collected and added to the refuge population. USFWS



Other FTC Happenings

- Dr.'s Gibson Gaylord and Wendy Sealey, along with Zach Conley, attended the Aquaculture America 2020 Meeting in Honolulu, HI. While there, Gibson and Wendy co-Chaired the Finfish Nutrition Session.
- Kevin Kappenman continued working on a collaborative project with Montana State University to investigate the ecological mechanisms underlying the occurrence of emaciated adult pallid sturgeon.
- Dr. Molly Webb, Jason Ilgen, and Leif Halvorson (former BFTC employee) coauthored a paper that was published as early view:

McGarvey, L.M., L.J. Halvorson, J.E. Ilgen, C.S. Guy, J.G. McLellan, and M.A.H. Webb. 2020. Gametogenesis and assessment of non-lethal tools to assign sex and reproductive condition in Burbot *Lota lota*. 2020. Transactions of the American Fisheries Society. <http://dx.doi.org/10.1002/tafs.10226>.

- The Ennis NFH degassing retrofit is ramping up with the acquisition of PVC pipe, vacuum pumps, and misc. hardware. Construction and modification efforts will ramp up considerably in early summer. Completion of the Ennis degassing project is expected sometime late August to early September.
 - Cal Fraser completed his 30-day detail at the San Marcos Aquatic Resources Center. Among many things, Cal assisted by utilizing his expertise in novel animal care practices, culture system design, biosecurity measures, and general facility maintenance and upkeep.
 - The acting Center Director role transitioned from Lacey Hopper to George Jordan. Many thanks to Lacey for her service as the acting Center Director.
 - Approximately 50Kg of Bluehead Sucker feed was manufactured and shipped to the Utah Fisheries Experiment Station and 1.5 and 2.5 mm feeds were developed for Oregon State University as part of a wild steelhead project.
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February – Bozeman FHC Highlights:

Laboratory Services – Health Inspections:

- Creston NFH's annual health inspection for rainbow, cutthroat and bull trout was completed on 2/5/20. 350 fish were collected for testing
- Hotchkiss NFH's annual health inspection for rainbow and brown trout was completed on 2/19/20. 360 fish were collected for testing. Facility-wide water samples were also collected and filtered for eDNA pathogen detection and monitoring



Rick Cordes collecting and filtering water samples for eDNA analysis. Photo: USFWS/L. Hopper

- Fish Health Project Leaders Lacey Hopper and Ken Phillips (La Crosse FHC, WI) participated in a joint health inspection on pallid sturgeon at Gavins Point NFH on 2/11/20.

Fish Health Center

Lacey Hopper, Project Leader

Molly Bensley, Fish Biologist

Rick Cordes, Fish and Wildlife Biologist

Amberly Huttinger, Fish Biologist

Tammy Weiss, Fish Biologist

Renee Yamamoto (Martin), Fish Biologist

Contact Us

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60 sturgeon from 6 representative families were collected for testing. A joint inspection on pallid sturgeon at Neosho NFH, MO will be scheduled in April. The joint inspections promote standardization of pallid sturgeon health sampling and reporting across the two regions



Pallid sturgeon from Gavins Point NFH. Photo: USFWS/L. Hopper

- Kansas Department of Wildlife, Parks and Tourism- Virology for 151 fish, 5 species at 1 state hatchery
- Montana Fish, Wildlife and Parks- Comprehensive disease testing for 480 fish, 2 species at 3 state hatcheries

Laboratory Services – Diagnostic and Histopathology Cases:

- Received diagnostic cases from 2 facilities for elevated brown trout mortality and an investigative gill filament comparison in rainbow trout
- Supported the AADAP program by providing histological analysis of antibiotic (Florfenicol) treated and untreated Pompano from Florida



Preserved Pompano for histological analysis. Photo: USFWS/T. Weiss

Laboratory Services – Molecular Biology/Genetics:

- Concluded a genetic strain analysis and identification project for Ennis NFH, MT and Erwin NFH, TN. The goal was to create a genetic baseline and monitor genetic diversity within and between strains of rainbow trout broodstock at the two production facilities. A technical report is being finalized.
- Utilized real-time molecular identification and confirmation of isolated bacterial pathogens.
- Provided Missouri River Sturgeon Iridovirus PCR testing for 60 pallid sturgeon

Renee Yamamoto working on genetic sequencing.
Photo: USFWS/T. Weiss



Employee Development, Outreach & Upcoming Activities:

Bozeman FHC-

- The Bozeman FHC will collaborate with Trout Unlimited, Colorado to provide health testing for seven Trout in the Classroom projects in March/April
- Garrison Dam NFH health inspection is scheduled for 3/11/20
- Bozeman FHC staff are beginning coordination with state, federal and tribal partners for summer/fall Wild Fish Health Survey sampling
- Histological and PCR samples will be collected in March from adult pallid sturgeon held for research at the Bozeman FTC. These samples will provide a comparison between fasted fish and those held on a moderate and high feed ration

Employee Safety:

During February, we held our first Bozeman all FAC safety committee meeting. The committee was originally set up to serve Montana FWCO and Bozeman FTC a few years ago. This year the committee charter was expanded to include members from the Bozeman Fish Health Center, Aquatic Animal Drug Approval Partnership, USDA-Agricultural Research Service (ARS), and the Montana Outdoor Science School (MOSS).

Following the committee meeting, station CDSOs and others conducted our annual walkthrough of all Bozeman-based FAC facilities, formally documenting all safety hazards and concerns prior to the March 20 deadline.