



TIBBLE FORK DAM SEDIMENT RELEASE

Frequently Asked Questions

WHAT CAUSED ALL THE MUD TO FLOW DOWNSTREAM?

The North Utah County Water Conservancy District, owner of the Tibble Fork Dam, was, with the assistance of the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), performing a required seismic upgrade of the dam to ensure it did not fail during a large earthquake. The reservoir needed to be drained as part of the upgrade to allow construction on the submerged parts of the dam.

While the reservoir was in the process of being drained on August 22, 2016, a large plug of sediment and debris partially clogged the outlet of the dam. When a District employee attempted to release the plug, a large amount of sediment that had accumulated behind the outlet was also released into the North Fork of the American Fork River. This sediment, which had eroded from the bottom of the reservoir bed during the draining process, was washed downstream, causing the deaths of over 5,000 fish and dumping an estimated 12 million pounds of sediment into the river bed and irrigation ponds at the mouth of the canyon.

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WHY DID IT TAKE DEQ SEVERAL DAYS TO RESPOND TO THE SPILL?

DEQ was not officially notified of the discharge until the morning of August 23, 2016, the day after the large release of sediment from the dam that caused the fish kill in the river. As soon as the Division of Water Quality (DWQ) received this report, employees of drove to American Fork Canyon and began collecting samples and assessing the environmental damage.

The next day, the Director of DWQ personally went to the construction site at the dam and issued an order to the contractor to immediately start taking steps to prevent the remaining sediment in the reservoir from being washed downstream. Division employees returned to the canyon almost daily for the next two weeks until sampling data showed that the worst of the discharge was over.

I'VE HEARD THERE IS LEAD IN AMERICAN FORK CITY'S DRINKING WATER. DID THIS COME FROM THE SEDIMENT RELEASE FROM TIBBLE FORK RESERVOIR?

Several days after the August 2016 release, American Fork City tested its drinking-water wells in American Fork Canyon and found no elevated levels of lead or other heavy metals. A month later, American Fork City tested the water in 30 houses in the city for lead and copper. None of their samples contained amounts that exceeded the EPA's Action Level (AL) for either metal, and the concentrations of lead in the water were actually lower than previous years. While approximately 43 percent of the samples contained trace amounts of lead, the lead in these samples likely came from old plumbing fixtures in the houses -- the most common source of lead in drinking water today.

I WATERED MY GARDEN AND LAWN WITH WATER FROM THE AMERICAN FORK RIVER LAST AUGUST. ARE THERE HIGH LEVELS OF LEAD AND ARSENIC IN MY YARD NOW? HAS ANYONE WHO USED IRRIGATION WATER FROM THE RIVER TESTED THEIR SOIL?

Employees of DWQ, the National Park Service (NPS), the U.S. Forest Service, the Utah County Health Department, and American Fork City collected water samples from the American Fork River and several canals and irrigation reservoirs fed by the river in the days and weeks after the release. None of their samples contained heavy metals in excess of the Utah Water Quality Standards for irrigation water.

In December 2016, American Fork City hired a contractor to sample the soils in three city parks that were irrigated with water from the American Fork River during the release and tested them for arsenic, lead, and other metals. All concentrations of metals detected in the soil in those three parks were at or below the amounts which are considered to be natural background for that area. Cedar Hills recently collected soil and water samples from locations that were irrigated with river water following the spill. Test results from these samples should be available in mid-April. DEQ plans to sample soils later this year.

WE VISITED AMERICAN FORK CANYON IN LATE AUGUST LAST YEAR AFTER THE RELEASE, AND MY CHILDREN AND DOG WADED IN THE RIVER. WERE THEY EXPOSED TO DANGEROUS AMOUNTS OF ARSENIC AND LEAD?

None of the water samples collected by DWQ and NPS after the release contained heavy metals in excess of the screening levels set for recreational use of the river (i.e., wading and playing in the creek for up to 3 hours per day).

Two of the twenty samples of river sediment collected by DWQ and NPS did exceed the recreational screening level for lead, but both of these samples were collected at locations in the canyon that either have no public access or are away from public recreation areas. The amounts of lead in the other 18 samples taken from the river downstream from the dam were all well below the screening level.

HOW DO YOU KNOW HOW MUCH ARSENIC AND LEAD HAVE BEEN RELEASED FROM THE RESERVOIR? WERE ANY SAMPLES TAKEN FROM THE BOTTOM OF THE RESERVOIR BEFORE CONSTRUCTION STARTED?

In the summer of 2010, as part of an assessment of Tibble Fork Reservoir, contractors working for the NRCS took several core samples from the bottom of the reservoir and analyzed them for 20 different metals. Some of these samples contained elevated levels of arsenic and lead. Using their results, DWQ has calculated the average amounts of metals present in the sediments before the release.

After the release on August 22, 2016, engineers for the construction company hired by the District to upgrade the dam were able to accurately estimate the amount of sediment that was released from the bottom of the reservoir. Using this number, DWQ was able to estimate the total amounts of metals released during the incident by multiplying the total amount of sediment released by the average metals concentration present in the sediment before the release.

IF THE LEVELS OF METALS IN THE WATER AND SEDIMENT DID NOT EXCEED DWQ'S SCREENING LEVELS, THEN WHY DID SO MANY FISH DIE?

According to biologists at the Utah Division of Wildlife Resources (DWR), the fish in the river were likely killed by the large amount of sediment that was released on August 22, 2016. The sediment clogged their gills and caused them to suffocate to death. The amounts of metals detected in the water and sediment were not considered high enough to be acutely toxic to the fish.

IS IT SAFE FOR ME TO FISH IN THE AMERICAN FORK RIVER THIS SUMMER?

DWR, in consultation with the Utah Department of Health, will make a determination about the safety of consuming fish from the American Fork River. Biologists from DWR will test fish collected and frozen after the 2016 spill for metals concentrations, if any. Anglers who are concerned about metals in fish from the American Fork River may want to consider catch-and-release until DWR concludes its testing. The District's monitoring plan will include a fish-health monitoring plan that includes testing of fish for metals concentrations and a fish-population recovery plan that looks not only at the number of fish in the river but the condition of the fish and the habitat relationship with the fish.

WHERE DID ALL THE SEDIMENT FROM THE RESERVOIR GO? WHO IS GOING TO CLEAN UP ALL THE SEDIMENT THAT CAME DOWNSTREAM?

Based on estimates provided by the North Utah County Water Conservancy District, as much as one-third of the sediment from the discharge was captured in irrigation ponds at the mouth of American Fork Canyon. Visual inspections of the river confirm that much of the sediment is still in the river bed, and some is believed to have accumulated in the deep portion of the reservoir near the dam.

The District has taken responsibility to clean up the sediment from the river and the irrigation ponds. They have already removed the sediment from the irrigation reservoirs and catch basins at the mouth of American Fork Canyon. Sediment removal will be repeated annually until sampling data show the concentrations of metals in the sediment have returned to background levels.

WHAT ARE THEY GOING TO DO WITH ALL THE SEDIMENT THAT THEY CLEAN OUT OF THE RIVER? IS IT HAZARDOUS?

The sediment has been taken to an approved permitted landfill for disposal. Tests performed on the sediment that accumulated in the bottom of the irrigation ponds at the mouth of American Fork Canyon since August 2016 confirm **the sediment is not a hazardous waste and does not require special handling**. According to scientists at the Utah Division of Waste Management and Radiation Control, this material can be safely disposed of in an approved, permitted sanitary landfill.