

Grand Canyon flood, mud to boost lifeblood

Glen Canyon Dam plan will help rare fish, redistribute sediment

By Jerd Smith

Originally published 12:30 a.m., March 4, 2008

Updated 11:24 a.m., March 4, 2008

The Colorado River will run wild Wednesday morning, flooding as it did years ago before Glen Canyon Dam was built and Lake Powell filled.

For 60 hours, starting slowly tonight and ramping up to full force Wednesday before winding down on Friday, federal water managers will release some 202,000 acre- feet of water to race down the river through the Grand Canyon.

That's as much water as metro Denver uses in a year.

The big rush will transform the river below the dam, creating massive waves that will redistribute sediment, shove tons of sand around and make this hotly contested stream a better breeding ground for a 3 million-year-old fish species known as the chub.

The fish is as homely as its name implies, scientists say, and so rare that environmentalists, scientists and water managers have spent decades and about \$100 million trying to restore its habitat, according to Nikolai Lash, senior program manager for the Glen Canyon Trust.

The flood also will create better beaches for rafters and campers who flock to the scenic Grand Canyon each year.

The giant science experiment is an attempt to mimic spring flows on the river, a stream that has been tightly managed since the early 1960s, when Lakes Powell and Mead were built to store water and generate electricity for some 25 million people.

Wildlife managers and environmentalists once thought work like this was a pipe dream, too large-scale, too expensive and too politically difficult to execute.

This is just the third time an artificial flood has been used at Glen Canyon in the past 30 years, including the most recent mass release, November 2004.

The practice is becoming more common nationwide, however, as scientists learn more about how to mimic a river's historic flows through dam releases.

"We're doing it around the country and around the world," said Tom Iseman, water program manager for the Nature Conservancy in Colorado.

River advocates see this as a way to help reduce the harm already done to Western rivers by massive dams.

A formal plan was completed last year farther up the Colorado River at the Flaming Gorge Reservoir on the Utah-Wyoming border, according to the Nature Conservancy. A similar plan is being studied at Colorado's Blue Mesa Reservoir on the Gunnison River as well as on the South Platte River below Lake McConaughy in Nebraska.

Although still controversial, artificial floods and alternating stream flows are seen by environmentalists as two of the few tools left to protect rivers in an era when, because of drought and climate change, nature is delivering less water and when people and fish need more.

"There are a lot of legitimate concerns," Iseman said. "People are more willing to have this discussion than they used to be, but they want to make sure we've got the science right."

Water managers have long resisted environmental management plans for dams because they make the giant facilities more difficult to operate and often alter the amount of electricity that can be produced.

Lash, of the Glen Canyon Trust, is among the experts who have been studying flows, habitat and sediment on this stretch of the Colorado River since 1994.

Although happy that another flood has been authorized, the trust wants the Bureau of Reclamation to do more. In December, it sued the bureau, demanding not just that spring flows occur but that steadier flows be used to transfer water between Lakes Powell and Mead.

Those flows are better for the chub but make it harder to produce peak electricity from the dam.

Solving such tough issues is a trial-and- error process, Lash said.

"Where things might be changing, though," he said, "is where people feel a heartfelt connection to things that are struggling to live in places we have compromised."

smithj@RockyMountainNews.com or 303-954-5474

Details on torrent

* **What:** A giant man-made flood will begin slowly this evening, with waters being released from Glen Canyon Dam at Page, Ariz. Flows will hit their peaks about 10 a.m. Wednesday and will continue through Friday before they return to normal.

* **Why:** It's an experiment to help move sediment, improving habitat for endangered fish and reshaping beaches for campers and rafters.

* **How much water:** Roughly 202,000 acre-feet of water will be released from Lake Powell and captured downstream in Lake Mead. That's about as much water as metro Denver consumes in a year.

Gawkers flock to see dam's water release

Glen Canyon test aimed at reviving downstream habitat

By Jerd Smith

Wednesday, March 5, 2008

Hundreds of people drove across the northern Arizona desert this week, intent on reaching Glen Canyon Dam for today's torrential release of water, designed to mimic spring snowmelts from the days when the mighty Colorado River roared unimpeded through the Southwest.

Motels in the tiny town of Page, perched just above the dam, were sold out Tuesday night, as scientists, environmentalists and federal water managers flocked to witness and record the rare event.

"It's a gigantic deal," said Mike Gauldin, a spokesman for the U.S. Geological Survey. "The Grand Canyon is a world-class phenomenon that people all over the world are interested in."

This is just the third time in the dam's history that such a man-induced flood has been conducted.

The grand experiment is not without cost, however. Western states that rely on the electricity generated from the dam, including Colorado, will have to find extra power, roughly 9 percent, elsewhere because less electricity will be generated during the 60-hour release.

Colorado, Utah and Wyoming also will see less of their Colorado River water stored in Lake Powell, where they prefer it be kept. Instead, it will reside in Lake Mead, farther downstream.

U.S. Bureau of Reclamation technicians began opening the dam's giant valves at 10 p.m. Tuesday, aiming to reach peak flows roughly 12 hours later, when U.S. Secretary of the Interior Dick Kempthorne arrives to preside over the experiment.

Through Friday, the river will flood, carrying four times the amount of water it normally does, rising from flows of 10,000 cubic feet per second to more than 41,000 cf/s, according to Larry Walkoviak, regional director of the reclamation bureau's Upper Colorado Region.

All told, more than 200,000 acre-feet of water, will be released this week, roughly the amount metro Denver uses in a year.

Nearly 100 scientists are here to monitor sediment movement and track dozens of trout that have been fitted with special transponders.

Because the trout aren't endangered, "we can experiment with them a bit," Gauldin said. The river's endangered species, the humpback chub, is so fragile that any experimental work is considered risky.

It is, after all, the habitat of this ancient fish that the scientists are trying to improve with these high flows.

Glen Canyon Dam, like other large federal water projects, traps large amounts of sediment, leaving the river between Lake Powell and Lake Mead, with little left over for the coves and beaches the chub need to flourish.

The experimental flows will help redistribute the sediment.

And that likely will improve the habitat of the kayakers, rafters and campers who visit the Grand Canyon each year, something everyone considers a political plus for the fractious Colorado River.

Even so, a lot of water is being moved many miles downstream. And how much water is stored where and when is a touchy topic among water managers, although the experiment doesn't mean anyone gets less.

It just changes the timing of deliveries on the tightly regulated river.

For the moment, drought worries have waned. This year is shaping up to be the best year in a decade, thanks to deep snowpacks in the Colorado Rockies. Flows into Lake Powell are expected to hit 120 percent of average.

Still water managers are wary.

"It means there is less water in our savings account," says Chris Treese, a spokesman for the Colorado River Water Conservation District in Glenwood Springs. "But as long as I'm shoveling snow every day, I worry less and less."

Torrent roars at Grand Canyon

Outcome of Glen Canyon release won't surface for several weeks

By Jerd Smith

Thursday, March 6, 2008

Martha Hahn is clutching the front of a motorized raft Wednesday afternoon as it strains against surging currents on the Colorado River.

Hahn is chief of science at Grand Canyon National Park, and she's onboard to observe how the river is responding to the mighty torrent of water being turned loose from the Glen Canyon Dam.

The release is an attempt to re-create the roaring springtime flows that shaped the river before the dam was built in the 1960s.

This has only been tried here twice before, in 1996 and 2004. Similar projects, though smaller in scale, are under study at other federal dams, including some facilities in Colorado.

Proponents of the man-induced floods say the rushing torrent will reverse the damaging effects of giant dams on Western rivers, and they argue that it has been too long in coming. Critics believe the system should be allowed to work as intended, primarily to deliver water, electricity and recreation.

Hahn is among those who want to see the heavily managed river operated in a more natural way.

"We feel good that we have this high flow going," she says.

When Hahn boards the raft at 2 p.m. - 14 miles downstream from the dam at Lee's Ferry - the water is rising, up two feet since midmorning. The river is wide here and boiling in spots. There are white caps but no waves.

Coots and cormorants are flying close along the surface, feasting on the fish stirred up by these fast-moving waters.

Steve Martin, superintendent of Grand Canyon National Park, is also along for the excursion, looking to identify the early effects of the release - the speed of the flows, the behavior of the birds, the debris rushing past the raft and the water's steady rise up the sides of the copper-colored sandstone bluffs that form Glen Canyon, which lies upriver from the Grand Canyon.

"We won't know for another two or three weeks whether we were successful or not," Martin says. "But we feel it's time to take regular actions like these to protect the park."

The goal of these high flows is to move sand and sediment that improves habitat for endangered fish and also improves beaches for kayakers and rafters.

Not everyone shares Martin's enthusiasm for the experiment. Some people in Page, now a tourist town of 8,500 people that was created in 1957 when workers arrived to begin building the dam, see their livelihoods being threatened.

"I have mixed emotions about all of this," Mayor William Justice says, noting that Lake Powell will drop about 21/2 feet by Friday. "Water is gold in this region. I hope we don't look back in 10 years and say, 'I wish we would have kept the water here.'"

As afternoon shadows steal over the river, rafters on the beach at Lee's Ferry are preparing to head out on a 20-day trip through the Grand Canyon. They're excited at the challenges the high waters are likely to present. They've been watching the river rise all day.

"We've never done the river at these flows before," said Chris Mattson, 36, of Boise, Idaho. "I've got a first-aid kit. I'm a paramedic. I hope everything's going to be okay."

Martha Hahn, meanwhile, has grown chilled from cold winds on the river. But she is pleased with the way the experiment has played out in its initial phase, here just below the dam. Now much work lies ahead.

"The science of all of this," she said, referring to the deluge headed toward the Grand Canyon, "is moving down the river."

smithj@RockyMountainNews.com or 303-954-5474