

3/25/2016



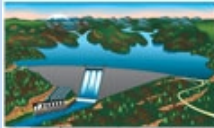
Some Dam – Hydro News™ And Other Stuff



Quote of Note: *“Our constitution protects aliens, drunks and U.S. Senators.” - - Will Roger s*

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“Good wine is a necessity of life.” - -Thomas Jefferson
Ron’s wine pick of the week: 2013 Da Vinci Italian (Tuscany) Red “Chianti”
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson



Dams:

(It was bound to happen because everything was built based on the reservoirs being there. The areas downstream are next.)

Elwha Valley access limited after undammed river wrecks campgrounds, road

By Lynda V. Mapes, Seattle Times environment reporter, March 11, 2016, seattletimes.com

Olympic National Park is grappling with recreation choices as the restored river gives lessons in co-existing with nature. Here’s how to find your way in coming months.

ELWHA VALLEY, Olympic National Park, WA — The Elwha is truly a river gone wild, devouring the main road into the Elwha Valley at Olympic National Park, and demolishing two campgrounds. And that was just in its first winter flood since dam removal. There’s surely more to come, creating a quandary for park officials challenged with providing public access into the river valley the public just paid \$350 million to restore. At least for now, the only access into the park just past the Elwha Campground is by bicycle, horseback or foot. The river, newly freed from two dams, took out Olympic Hot Springs Road during a flood last November. It also ate up both the Elwha and Altair campgrounds while it was at it. Both are now closed indefinitely.

It's an ironic outcome for the world's biggest publicly financed dam-removal project.

Roaring back to life

Dam removal, completed in August 2014, welcomed animals, fish and native plants back to the river and former reservoir lake beds for the first time in a century. The river is roaring back to life.

But for people, access to the Elwha watershed, 83 percent of which is in Olympic National Park, just got harder.

Elwha and Altair were the only campgrounds in the valley with road access, perfect for the disabled, busy families and people who just prefer RV recreation and car camping. It's also a much longer haul now to popular trailheads. The park service on Feb. 20 opened a new interim trail that winds through the woods to take hikers past the washout and into the Elwha Valley. But making the journey on foot adds about seven miles to popular hikes from the Whiskey Bend trailhead, and 8 miles to the Boulder Creek trailhead.

The smart move at least for now is to bicycle to the trailheads, using a wooden bridge just beyond the gate that blocks car traffic from the washout. The park service hopes to build at least a temporary bridge over the washout for car traffic sometime this summer, said Barb Maynes, spokeswoman for the park. There will be no motorized access to the Olympic Hot Springs Road above the washout until it opens for car travel. "We are hoping for the road to be open this summer, in time for most of the visiting season," Maynes said.



For now, cycling might be the best way to reach trailheads in the upper Elwha Valley of Olympic National Park, where the now-undammed river washed out Olympic Hot Springs Road last November. Cyclists may use a temporary bridge over the washout. (Steve Ringman/The Seattle Times)

Campground damage

The campgrounds are another matter. The Elwha Campground today is awash in silt and piles of cobble, and stacked with entire trees brought by the river encroaching back into its flood plain. Picnic tables are piled with logs. Pit toilets are tipped over, or filled with sand up to the toilet seat. Clumps of sword fern are flattened, trees downed, and woody debris and a crushed cedar scent are everywhere.

Altair Campground, up the road, has mostly caved into the river, the asphalt road through the campground cleaving off into the surging water alive with standing waves. Chunks of paving are piled in a heap where once there were picnic tables. Where campers used to sleep, the river sings past. What a sight it is. The Elwha's signature color is back, a slate green, shining teal in the sun, the colors stoked by glacial flour. Just 45 miles long, the Elwha undammed pitches itself down from the Olympics, a mighty mountain river freed to eat as much rock and wood as it wants. Andy Ritchie, project hydrologist with the National Park Service at Olympic National Park, explained that dam removal has allowed the river not only to run free, but to gather wood, sediment and rock from its watershed — tools with which it is reworking its channel. The Elwha is muscling back and forth, battering its banks with entire trees it chews down, and building massive jams of logs. "It's alive," Ritchie said. The log jams split and slow the river's flow, allowing the river's load of sand and gravel to drop out, raising its bed. That pushes the water level up higher, giving the river access to more territory to grab more trees, build more jams, and create an ever-more complex, braided, sinuous river channel. Doing, in other words, just what wild rivers have always done.

A unique place to hike

Karen Daubert, executive director of Washington Trails Association, said the Elwha is a spectacular place to hike, even with the access challenges. Instead of the crowded Interstate 90 corridor with its trails packed every weekend, the Elwha offers a unique experience to watch a

river remake itself, Daubert said. Just back from a trip to the river and a hike, she said she was amazed at what she saw. "There is nothing like the Elwha, anywhere in the world." Beyond getting a temporary bridge in this summer, there's much to sort out for long-term access into the valley, Maynes said, from what to do about the road, to where to put campgrounds out of the river's reach. For now, and probably for quite a while, the only camping available in the Elwha is in the backcountry. Ritchie said he fully expects the river back on the road, and in both campgrounds, roaming its flood plain at will. Here in the park, after all, a river running free was the idea. "It's a very active flood plain, in a changed valley," Maynes said. "Are we going to spend thousands of dollars to clean up and repair it and get it in usable condition when our scientists tell us it's just going to happen again?" So the trick now is to make a new accommodation between a river reborn, and its people. "It's critically important, a top priority to get people back in here," Maynes said. "It's the Elwha. If you think in terms of the taxpayers' investment in this valley and the restoration, you have to get people up here to see it."

If you go

What's open and what's closed in the Elwha River Valley

- Open: Olympic Hot Springs. For those savoring a backwoods soak, the hot springs, accessed from Olympic Hot Springs Road, have been reopened. The National Park Service does not sanction the use of these springs; use at your own risk.
- Open: Interim foot path around washout on Olympic Hot Springs Road.
 - Open: Olympic Hot Springs Road, for foot, bicycle or horseback travel only, via a temporary wooden bridge.
- Closed: Auto access on Olympic Hot Springs Road beyond Elwha Campground.
- Closed: Elwha and Altair campgrounds.

(Maybe there's something to learn from the above article!)

Removal of dams will create long-term problems

3/12/2016, by Parker Pollock, Redding



In the March 3 edition of your newspaper, an article covered Congressman Doug LaMalfa's concern that proponents of Klamath Dam removal were holding secret meetings with government officials and that those participating in these meetings were being required by the leaders to sign "non-disclosure agreements." This was confirmed by Bob Gravely, spokesman for PacifiCorp, current owner of the four dams located in California and Oregon. At this point, it appears that a

"dummy" nonprofit corporation with no assets to date will be created by PacifiCorp, Oregon and California to accept title to the four dams and I assume that as the owner, this "dummy" nonprofit corporation also will be responsible for any downstream damage caused by removal of the dams. The three key parties to these negotiations then may be immune from lawsuits. The possible legal fees can be really substantial.

It's unlikely that those who live in the region of the Klamath will ever forget what happened to the Montague Water Conservation District two years ago when the district ran afoul of the attorneys representing the fish in the Shasta River as it emerges from Lake Shastina. The small district for years will be paying off the whopping \$500,000 charged by the attorneys representing the fish. There are people of informed opinion who would like to see the Klamath dams remain. Some are American Indians of the region, while others are farmers, fishermen, scientists, wildland firefighters, environmentalists, educators and more. All the stakeholders are not of one mind on this issue. Whether or not they are included in these negotiations remains to be seen.

If the dams are to be taken down, it would be environmentally prudent to install a fish barrier at the first dam at Iron Gate to keep the now-toxic salmon from invading the upper Klamath River.

Remember, this is a fish from the sewage lagoon we call the Pacific Ocean and even the state of California opined in February 2012 that consumers need to realize that "there are no known ways to prepare these fish that will reduce the methylmercury of the fish," not to mention the half-life of the PCBs. After these toxic fish spawn, they lie dying and then decaying in and out of the water,

thus returning to our inland landscapes the toxic chemicals that our industrial/commercial/agricultural/mining activities sent down the rivers out to the ocean in the first place, creating a huge sewage lagoon. This sounds like sarcasm on my part, but it's really irony. Isn't it? It could just be basic ecology.

(Flood control doing its job.)

Dam: Dream or dilemma?

Flood control strategy pans out for Bear Creek

BY CHRIS WOODKA The Pueblo Chieftain, March 12, 2016, chieftain.com

To see how a dam on Fountain Creek might function, it isn't necessary to look far. For more than 30 years, three flood control dams have protected downtown Denver from flooding. The first was built on Cherry Creek in 1950, but when waters from the 1965 flood inundated Denver, two other dams, Chatfield and Bear Creek were also built by the U.S. Army Corps of Engineers. Of the three, Bear Creek Lake is the most similar to the type that would be built on Fountain Creek. The earthen dam, 1 mile long, was completed in 1982 and usually stores a relatively small amount of water, about 2,000 acre-feet. Most of the remaining area behind and around the dam is a city of Lakewood park, which offers camping, fishing, picnic areas, trails, archery ranges and golf courses. Other recreational lakes and wetlands are behind the dam. But twice in the past three years, the dam has prevented millions of dollars of damage by holding back water in a 236-square-mile drainage area — its primary function. "It reached a record level in 2013 and close to that level in 2015," said Joe Maxwell, operations manager for the Corps. "There were no abnormalities found as we monitored and it performed as it should."



COURTESY PHOTO/LAKEWOOD PARKS A road and a forested picnic area are inundated with water during a flood in September 2013 at Bear Creek Lake Park in Lakewood. Some trees have died from subsequent flooding, but the Bear Creek Dam prevented millions of dollars in damage downstream.

Wall of water

In the September 2013 flood, the largest in Colorado's recorded history, damage to numerous communities, highways and water structures was recorded. But Bear Creek, Chatfield and Cherry Creek kept it from being worse. Bear Creek Lake stored 28,500 acre-feet of the wall of water that descended during the 2013 event, well within its capacity. The lake level reached an elevation of 5,607 feet, higher than ever before and 50 feet above normal. Water releases began even as other areas still registered high water, because of the Corps' protocols for operating all three reservoirs in tandem. It took three to four weeks to empty the floodwater. "The goal is to release the water as soon as possible, but you don't want to release it too fast," Maxwell said. Repairs to trails, roads and structures in the park cost \$372,000 and were newly complete last May, when sustained rains pounded the Front Range. Like other areas, Bear Creek Canyon had weeks of sustained rain, which surprised the Corps by filling Bear Creek Reservoir again. The level of the lake rose 50 feet, and didn't drop to normal until the end of July. Repairs the second time around in 2015 were less extensive, because there was more warning, a different type of flooding and lessons learned from 2013, said Drew Sprafke, Lakewood regional parks supervisor. "It was a different character without the high flow in the creek," he said. "It re-impacted some of the same area, but we had more notice and knew how to respond." The city of Lakewood didn't have to foot the whole bill, but matched county, state and federal funds to make the repairs. But the inundation of water has changed the character of the park, Sprafke said. "We were able to make repairs," he said. "But we lost 300 trees that will have to be clear cut. It's a massive change to the park. The

trees were under water for 11-12 weeks in both events, and invasive weeds came in. It will take at least five to 10 years to recover.”

Fountain Creek outlook

A dam, or multiple dams, on Fountain Creek would function in much the same way and has been talked about for years as a way to protect Pueblo from flooding. The first idea for a dam on Fountain Creek came as part of an Army Corps of Engineers study in 1970 following the flood of 1965. The dam was never funded, and levees on Fountain Creek were completed through the city of Pueblo instead. A multipurpose dam was brought up again by Pueblo County’s water attorney, Ray Petros, in 2005 as a potential alternative for Southern Delivery System. As sedimentation has diminished the effectiveness of the levees, the dam idea has been revived in recent years. A study last year by Wright Water Engineers for Pueblo County showed that 370,000 tons of sediment are deposited south of Colorado Springs each year as flows into Fountain Creek increase. Much of that winds up in Pueblo, raising the level of Fountain Creek and decreasing the effectiveness of the levees. A payment of \$50 million toward flood control on Fountain Creek was written into Pueblo County’s 1041 permit for SDS, and a dam is central to studies. The Fountain Creek Watershed Flood Control and Greenway District, formed in 2009 as an outgrowth of the Vision Task Force, funded a U.S. Geological Survey study of hypothetical dam sites in 2013. That study showed the most effective way to reduce peak discharge and capture sediment would be a large dam about 10 miles upstream from the confluence of Fountain Creek at the Arkansas River. Another alternative would involve several detention ponds north of Pueblo, which would be nearly as effective in reducing peak flows, but would capture less sediment. A study for the district last year by engineer Duane Helton showed negligible impact on downstream water rights if flood control structures maintained a flow of 10,000 cubic feet per second through Pueblo during all but the largest flood events. The district is now preparing for more detailed feasibility studies that would show where structures could be located and how much they would cost. That’s a long way from the parks and trails that Lakewood residents enjoy near their flood control dam, but the Fountain Creek district is committed to protecting the creek and topping it with increased recreational opportunities only as the areas along the creek are stabilized. The district has spearheaded both flood control and recreation demonstration projects so far.

(The fish passage is almost half the cost.)

County to start Estabrook Dam repairs, fish passage in June

By Don Behm of the Journal Sentinel, March 12, 2016, jsonline.com

Milwaukee County officials set a late June start for repairing the deteriorated Estabrook Park dam on the Milwaukee River and building a fish passage around its north end at a cost of \$3.4 million, as part of a revised schedule given to the state Department of Natural Resources. Work would be completed by the end of the year, under a schedule that depends on DNR approval of all permits and plans by mid-May. The DNR will hold a public hearing March 22 in Glendale to gather public comments on the department's preliminary analysis of the environmental impacts of repairs, fish passage construction and proposed dam operating plans. Repairs are estimated to cost \$2.3 million and the fish passage is priced at \$1.1 million.



Milwaukee County officials set a late June start for repairing the deteriorated Estabrook Park dam on the Milwaukee River and building a fish passage around its north end at a cost of \$3.4 million, in a revised schedule given to the state Department of Natural Resources. The four gates on the right would be removed for construction of a fish passage.

The county parks department intends to submit a fish passage construction permit request to the DNR and U.S. Army Corps of Engineers by the end of March. Dam gates have been fully open since 2008 after state inspections found numerous safety problems and confirmed the need for extensive repairs. On the list: returning full function to flood gates; repairing concrete buttresses between gates; stabilizing north and south ends of the dam where it meets the shoreline; and reconstructing ice barriers upstream of the dam. In the preliminary analysis of impacts of dam repairs and fully closing gates, the DNR informed county officials last week that closed gates would increase risk of flooding of upstream properties. In 2012, a county circuit judge declared the dam a nuisance and required the county to repair the problems or demolish it. The DNR subsequently gave the county a deadline of December 2016 for work to be done. In selecting publicly funded repairs rather than removal of the 1930s-era dam on the border of Glendale and Milwaukee, the County Board in 2014 and 2015 also agreed to spend an estimated \$160,000 a year on operating and maintenance costs. That amount includes pay and benefits for an employee who would monitor river flows and adjust dam gates. Over 20 years, those operating costs would add \$2.2 million to the price of keeping the dam in place, boosting the total to \$5.6 million. The board rejected the proposed one-time cost of \$1.7 million for removing the dam, the option recommended by a county consultant and the preferred choice of County Executive Chris Abele. Abele supports removal as the least expensive option and the best choice for water quality.

Repairing the dam benefits only a small number of property owners adjacent to the shallow artificial pond held back by the dam when its gates are closed, according to Abele. Removing the dam would eliminate the long-term maintenance liability, he said. The Milwaukee Common Council, Shorewood Village Board and the Milwaukee Metropolitan Sewerage District's commission support removal of the aging dam. County Board Chairman Theodore Lipscomb Sr. has justified the repairs for the purpose of restoring the artificial pond for a few hundred residential property owners upstream of the dam. The Milwaukee Riverkeeper environmental group will continue to advocate for removing the dam, said Riverkeeper Cheryl Nenn. The Riverkeeper's 2011 lawsuit resulted in a judge declaring the dam a nuisance. A different judge continues to monitor county action to eliminate the nuisance. Dam removal guarantees better fish passage at a fraction of the cost while also reducing flooding risk, she said. Eliminating the shallow, stagnant impoundment that would be held back by closed gates also would improve water quality for fish, mussels and other aquatic life, she said. Stagnant water heats up quickly and carries less dissolved oxygen. The dam has two structures: a dam with floodgates north of an island in the river and a fixed spillway south of the island. A line of ice barriers protects the gated dam.

Rather than carving out a traditional fish passage through land on one side of the dam, the county is proposing to remove four gates at the north end of the dam. Six remaining gates would be repaired. Removing four gates would create an opening for fish swimming upstream from the harbor and lower river, said Parks Director John Dargle Jr. Those fish would encounter water flowing down a sloped rock ramp made up of a series of steps. About 10% of river flows would be directed down the ramp. This would be sufficient water for northern pike and other weak swimmers to move up the ramp, one step at a time, Dargle said. Rocks and boulders on each step would create small pools for fish to rest before taking another step. Fish returning to the harbor and Lake Michigan could swim down the ramp. A concrete wall would be constructed adjacent to the fish passage to separate the passage ramp from the upstream impoundment. Public hearing and comments The public is invited to comment on the Wisconsin DNR's draft environmental impact analysis of Milwaukee County's proposed repairs and operation of Estabrook Park dam. Public hearing: 5:30 to 9 p.m. March 22 at Glenn Hills Middle School, 2600 W. Mill Road, Glendale. Written comments accepted through April 6. Mail to: Kristina Betzold, Department of Natural Resources, 2300 N. Dr. Martin Luther King Jr. Drive, Milwaukee, WI, 53212. Send email to: DNREstabrook@wi.gov.

(Great photos and a reminder.)

Photos: The Deadly St. Francis Dam Disaster That Killed More Than 600 People

BY [DEVON MCREYNOLDS](#) IN [NEWS](#) ON MAR 12, 2016, LAIST.COM

http://laist.com/2016/03/12/st_francis_dam_disaster.php#photo-1

(Always free money for dam removal.)

Ohio EPA: Federal government to help pay for dam removal

The Associated Press, March 13, 2016, whio.com

CUYAHOGA FALLS, Ohio — The federal government has agreed to help cover the bulk of the costs associated with removing a 57-foot-high dam along the Cuyahoga River in northeast Ohio, state regulators said last week. Bill Zawiski of the Ohio Environmental Protection Agency announced on Tuesday that about 65 percent of the \$70 million cost to demolish Gorge Dam and remove sediment behind it will come from a federal Great Lakes cleanup fund, the Akron Beacon Journal reported.



The dam — built between 1911 and 1912 — connects Akron to Cuyahoga Falls and once generated electricity for trolley cars. Dams are being removed around the country to restore rivers to their original state and to improve water quality. Removing the dam, which is scheduled to be completed in 2019, would help mark the 50th anniversary of the 1969 Cuyahoga River fire in Cleveland, which Zawiski said helped lead to the passage of the federal Clean Water Act.

Removing Gorge Dam and another dam in Cuyahoga Valley National Park would create 60 miles of a free-flowing and healthier Cuyahoga River, Zawiski said. More than 800,000 cubic yards of sediment must be removed before the dam can come down. Zawiski said he hopes plans will be finalized on sediment removal sometime this year. Most of the money will be spent on sediment removal. Great Lakes cleanup funds will pay for around \$45 million of the project cost with the state and local partners covering the balance of around \$25 million. Elaine Marsh, a spokeswoman for Friends of the Crooked River, a group devoted to the Cuyahoga River, is pleased the project is moving forward. "In the beginning, we weren't sure it would ever happen," she said. "It's almost surreal, but we are serenely happy."

(There's no end to opinions.)

Guest opinion: More arguments on Klamath dams removal

Dear Mr. Knight,

After reading your opinion in the Siskiyou Daily News on the Klamath dams, there are some points that I would like to debate with you.

By Tom and Lee Rickard, Copco Lake residents, Mar. 14, 2016, siskiyoudaily.com

The following letter is in response to Curtis Knight's letter, "The benefits of dam removal," in the March 7 edition of the Siskiyou Daily News.

Dear Mr. Knight,

After reading your opinion in the Siskiyou Daily News on the Klamath dams, there are some points that I would like to debate with you. Your first point expresses your belief that if the dams came out that the river system would be "crystal clear." If you have read or studied any of the data that has been made available about the Klamath River you would know that this river will never be "crystal clear." The shear makeup of the geology of the river system will not allow this to happen. The river is warmer than normal rivers due to its origin and the amount of phosphorus that is prevalent in the soil make up that it travels through. Add this to the amount of waste that enters

the river on its way west and you have a river system that is conducive to creating algae. The river is actually cleaner after it goes through the dams than when it enters them, as the dams act as a filtering system of sorts. There has been no evidence that the "native fish" population will do any better if the dams come out. The upper Klamath is one of the best trout fishing streams now and the salmon population has had some of the highest returns in years over the last two years. All this with the dams in place. If you go back in history and look at the pictures of the Klamath River without the dams in place, you will see that in the summer, the river is not more than a small stream. In the winter it is nothing but a roaring river. Where are these salmon and steelhead going to be caught? The salmon currently available up and down the river from the Klamathon Bridge are of poor quality.

The local jobs that your proposal would create would be temporary at best and would come at the cost of all of the local residents of Siskiyou County. Home values in our area (Copco Lake) have been reduced by 50 percent at least by just the mention of dam removal. The people who now spend their time recreating on Copco Lake and Iron Gate reservoir bring monies to the county and the local population. Without the dams, the rafting industry, which brings many visitors to our area, would cease as well. PacificCorp is like any other business, it would prefer to keep the status quo but due to the continued lawsuits and obstruction of their FERC permit by the North Coast Water Quality Control Board, it has become too costly for them to continue this process. This in part answers your first point about "crystal clear" water. The reason that this issue has been before Congress is that it requires the Department of the Interior to do a due diligence study about the best possible solution for salmon restoration and if dam removal would be the best answer. If you recall, there was a study done on this by Dr. Paul Houser, who was employed by the DOI under then Secretary Salazar. Dr. Houser's findings were that it was his opinion that dam removal would be the worst thing for the salmon. He reported this back to his department and was told not to go public with that opinion or he would be fired. He did anyway and was indeed fired as he was told that his boss Secretary Salazar wanted the dams out. He filed a wrongful termination suit and won.

The new approach is familiar to most of us who have seen how this administration works. If they can't get things done the right way (going through Congress) then it will be an executive order that comes through to satisfy the base supporters, even though this could be unconstitutional. The water issues in the Klamath Basin will not be solved by taking out the dams. Water is water and it comes from the tributaries that feed the Klamath River. If there is enough snow and rain during the winter, then the water supply is adequate for the farmers. If the winters are dry like they have been the last few years, then taking out the dams is not going to produce more water. The dams hold back the water and keep it in storage. Without the dams the water would not be controllable and therefore not be used to its fullest potential. These dams also provide a backup water supply for all of our wildfire suppression. We lived through the fire season of 2014 and saw firsthand how CAL FIRE and the other firefighters used our lake for their source of water. Without the lake the fire that was just north of us would have been out of control and who knows how many structures would have been destroyed not to mention the damage to the abundant wildlife and forest products that we all depend on. Another issue that you failed to mention is the amount of silt and debris that would be released if these dams are removed. The studies show that the sediment alone would fill in the salmon spawning beds between Iron Gate and the coast, not to mention the damage to the property owners downstream of the dams. If you have any doubts that this would be a potential nightmare, just look at the agreement that PacificCorp is willing to sign. They will only sign if they are "Held Harmless for any damage caused by dam removal."

Finally, it would probably be helpful if you were to include our county supervisors in any meetings that you and the rest of the group have regarding the removal of these dams. Siskiyou County and its residents will be the ones that are hurt the most if these dams come out and they should have the prime seat at the table during any negotiations. These are the people who have "Skin in the game."

(It's going to take time. Let's hope it stays together until then.)

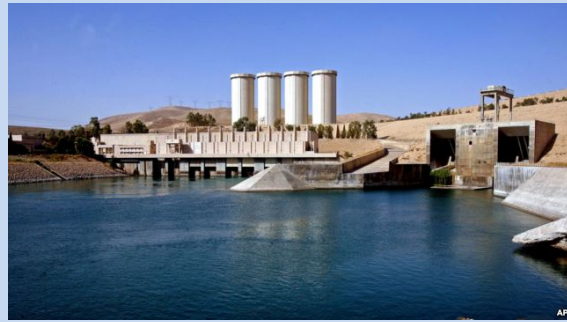
Italian Engineers Need Two Months on Mosul Dam Before Starting Repairs

Reuters, March 14, 2016, voanews.com

BAGHDAD— Italian engineers hired to help prevent a catastrophic collapse of Iraq's largest hydro-electric dam will need at least two months to assess the structure before starting major maintenance work, a Water Resources Ministry spokesman told Reuters.

Mahdi Rasheed Mahdi said it might be six months before work began on the Mosul dam as Italy's Trevi Group needed to bring in specialist equipment to plug gaps caused by erosion.

The dam, near the northern city of Mosul, was built in the 1980s on a friable gypsum layer on the Tigris and needs constant repairs to avoid disaster.



Maintenance work was disrupted for two weeks in August 2014 when the dam was captured by Islamic State militants seeking to carve a caliphate in captured territory in Iraq and Syria. The dam's seizure prompted concerns that irreparable damage to the structure's foundations may have been caused. Collapse would devastate Mosul and other cities along the river, including the Iraqi capital Baghdad, and cause hundreds of thousands of casualties. "They need two to six months and this was a request by the company," Mahdi said by telephone. "The company needs time to import their equipment and this definitely takes time. We have already anticipated this." Mahdi said there was no imminent threat of collapse as some maintenance work was being carried out but more was needed to stabilize the structure. The Trevi contract would not provide a permanent solution, he added. The dam was retaken by Kurdish Peshmerga fighters with the help of U.S.-led coalition air strikes, and Iraq signed a 273 million euro (around \$300 million), 18-month deal with Trevi to reinforce and maintain the 3.6 km-long (2.2 miles) structure. Italy has said it planned to send 450 troops to protect the dam, which is close to territory held by Islamic State fighters.

(Keep your drill rig away from me.)

Army Corps of Engineers expands no-drilling zone near Joe Pool Dam

MARCH 15, 2016, by Max B. Baker, star-telegram.com

The corps also limits injection wells within 5 miles of the dam

The current 3,000-foot exclusion zone, adopted 20 years ago, will expand 1,000 feet

The new guidelines follow an engineering study looking at dam safety

FORT WORTH, TX - The Army Corps of Engineers is expanding the zone where hydraulic fracturing is banned near Joe Pool Lake to protect the structural integrity of its dam. The drilling exclusion zone is growing from 3,000 feet to 4,000 feet from the dam, the corps said Tuesday. The original exclusion area did not meet the dam's minimum tolerable risk guidelines and posed a risk to the structure, the lake and the public, a corps official said. The corps also said it will limit wastewater injection wells within 5 miles of the dam because of the effects of "induced seismicity," or earthquakes triggered by human activities. The corps "welcomes environmentally sound oil and gas exploration and other mineral extraction activities," Col. Calvin C. Hudson, the commander of the Fort Worth corps district, said in a statement. "But we must always ensure that those activities pose no threat to our critical facilities and life safety." The Grand Prairie city manager has called a staff meeting to discuss the corps' findings and recommendations, city spokeswoman Amy Sprinkles said. "The city's primary concern is for the safety of our residents. The city will be evaluating the corps' report to determine what changes in our ordinance might be necessary," Sprinkles said.

The study was initiated after an inquiry by someone living near the dam, corps spokeswoman Rhonda Paige said. A 2011 letter from the corps to the city of Grand Prairie raised concerns about natural gas drilling near the dam by Chesapeake Energy that could “contribute to a catastrophic dam failure.”

Paige said there is no drilling in the area at this time that the agency is aware of. The study says the closest injection well to the lake’s dam is 9 miles away. The original 3,000-foot drilling exclusion zone was adopted by the corps more than 20 years ago before the Barnett Shale



drilling boom took off in the mid-2000s. Joe Pool Lake is a reservoir in southeast Tarrant and southwest Dallas counties near the cities of Grand Prairie, Cedar Hill and Mansfield. The dam is in Grand Prairie and Dallas, and the lake is the water source for Midlothian, according to the corps’ website. The current study was completed in February 2015, and two authors are Jon Olson and Cliff Frohlich, professors at the University of Texas at Austin. After it was completed, and because of its findings, it underwent a stringent independent and external review, the corps said. Olson declined to comment on the study, citing a confidentiality agreement with the corps. The study’s goal was to evaluate the effect of fracking in the Barnett Shale formation, which lies underneath Joe Pool Lake and its dam. Fracking is a process where drillers inject water, sand and chemicals deep into rock formations to free oil and gas. The study used published data and site-specific information obtained by drilling companies to evaluate possible effects of drilling, injection wells and extraction on rock formations. It acknowledges limitations since the data being provided was limited. While induced seismicity is mentioned as a concern with injection wells, one that has become a major public concern, the study notes there are no documented cases of felt earthquakes in Texas caused by hydraulic fracturing and there have been no quakes associated with fluid extraction. Other experts have disagreed on whether injection wells have induced quakes. The Texas Railroad Commission concluded there was no link between two wastewater injection wells northwest of Fort Worth and a rash of earthquakes in 2013 and 2014. But a study by Southern Methodist University scientists linked the oil and gas process to the flurry of earthquakes that hit the Azle and Reno area.

(Dam right.)

Editorials

A dam will work

Chieftain Editorial, March 17, 2016, chieftain.com

Pueblo, NM - THREE PAST studies have reached the same conclusion: A dam on Fountain Creek is the only way to keep Pueblo and surrounding communities safe from floodwaters when a major weather event sends torrents of stormwater down from Colorado Springs. But what kind of dam? We think one potential answer has existed in the town of Lakewood (roughly 17 miles southwest of Denver) since 1982 — the mile-long Bear Creek Lake dam. But here’s a little history before we get into particulars. The first Fountain Creek dam proposal was part of an Army Corps of Engineers study in 1970 following Pueblo’s devastating 1965 flood. That dam wasn’t funded and levees on Fountain Creek, paid for by the city of Pueblo, were built instead. Those levees are now clogged by the estimated 370,000 tons of sediment deposited south of Colorado Springs each year as that city’s stormwater flows into Fountain Creek increase. That’s because of the numerous impervious surfaces — paved roads, parking lots, sidewalks and structures — Colorado Springs developers have built over decades to accommodate a swelling population. In short, the levees offer no protection against catastrophe.



Hydro:

(Can't get their act together.)

"Repeated Barber Dam Malfunctions Put Hydropower Company In Spotlight"

By SAMANTHA WRIGHT • 3/11/2016, boisestatepublicradio.org



This side-by-side image shows how low the Boise River was on the morning of February 4, 2015. The second photo was taken three hours later, after water began refilling the river bed. A power outage from a dam owned by Ada County was to blame.
Frankie Barnhill / Boise State Public Radio

The morning of February 4, 2015, Boiseans woke up to a river with almost no water in it. After making some calls, KBSX reporter Frankie Barnhill learned the Barber Dam was to blame. An overnight power outage tripped the 100-year-old hydroplant offline, causing the river to back up behind it for hours. Barnhill contacted the company that leases the Barber Dam from Ada County, asking for an explanation of what happened – and what was being done to fix it. Enel Green Power is an international firm with energy holdings in a number of American cities. In enterprising follow-up reports, Barnhill interviewed Ada County officials, Idaho Fish and Game biologists and environmental advocates. The question of how much damage the river's dewatering could have inflicted on the fish and insect population was a big one, as well as how Enel may contribute to a river mitigation project. A public outcry for accountability prompted Ada County to host a special meeting in the spring, which Barnhill covered.

The story continued over the summer as a newly created Ada County environmental advisory board began discussions about a river restoration project, to be paid for equally by both the county and Enel. Environmentalists and biologists were feeling assured by Enel's engagement in the oversight board. Then, in September, a second power outage shut down Barber Dam and dewatered the river substantially. Barnhill received a tip about the outage and interviewed an executive with Enel about this second incident, which put the company back in the spotlight. She brought to light gaps in the system, including the lack of a backup generator at the hydroplant. Barnhill continues to follow this story closely, holding Enel and Ada County officials accountable.

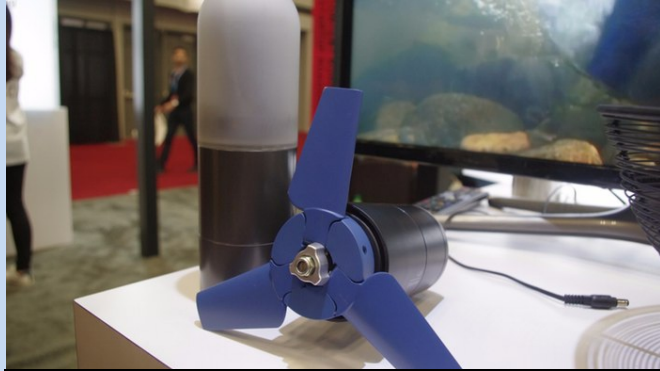
(Looks kinda big for a backpack. Guess it's OK after you break it down.)

Phone-charging hydroelectric plant fits in your backpack

Michael Franco, March 13, 2016, gizmag.com

About two years ago, Seoul-based company Enomad made news when it put mobile phone charging stations along the manmade Cheonggyecheon River that runs through the Korean capital's downtown. The stations used the force of the river to turn turbines and generate electricity. This year at Austin's SXSW festival, the company has demonstrated that it's been able to shrink the concept down to fit easily in anyone's hand – or backpack.

Also called Enomad, the bullet-shaped device is about the size of a thermos. Remove the white translucent cover and you reveal four propellers that flip down and lock into position. Once the device is assembled, you can simply place it into any flowing water source to charge it up. Alternatively, it can be towed behind a kayak or any other water vessel. The idea is to get the propellers spinning to turn an internal turbine that charges up the onboard 5,200 mAh battery.



The Enomad device fully assembled on the left. When the white capsule is removed, it reveals the propellers, at right. (Credit: Michael Franco/Gizmag).

Company representatives told Gizmag that the battery takes about two hours to charge in a normally flowing stream. Once charged, you can disassemble the rotor section from the base, where USB charging ports are revealed. The, 5,200 mAh battery should be able to charge an iPhone 6 roughly twice. If you don't want to use the Enomad to charge a device, you can also screw the translucent cover back on and push a button to have it function as a lantern. Enomad says it was originally inspired to turn to water to generate power as a way to assist underprivileged communities where power is scarce. The Enomad will be launched via Kickstarter in early July. The expected retail price is US\$180, so if you're an avid camper – or if you've always wanted to boast that you have a hydroelectric plant in your backpack – stay on the lookout for the campaign.

(Guess government caused the delay, so the time gets stretched.)

House Passes Foxx Legislation to Extend Construction Deadline for Wilkesboro Hydropower Project

hcnpr.com, March 15, 2016

The House of Representatives today passed legislation by Rep. Virginia Foxx, R-N.C., that authorizes the Federal Energy Regulatory Commission to extend the time period during which the Wilkesboro Hydroelectric Company is required to begin construction of its hydropower project at W. Kerr Scott Dam. "Congress needs to make sure onerous regulatory burdens don't stand in the way of accessing or advancing all forms of American energy," said Foxx. "Wilkesboro Hydroelectric Company has worked to ensure its project meets the requirements outlined by the federal



government and this legislation is consistent with previous congressional action to spur hydropower development at Corps facilities." On July 17, 2012, the agency granted the company an original license for the project on the Yadkin River in Wilkes County. However, Section 13 of the Federal Power Act requires Wilkesboro Hydroelectric Company to begin construction within four years of license issuance.

The project has required extensive coordination with the U.S. Army Corps of Engineers, and there were delays in the review process for the design plans. As a result, Wilkesboro Hydroelectric Company will not be able to start construction of the amended design within the statutory deadline. Foxx's legislation extends the time period during which the company is required to commence the construction of the project for up to three consecutive two-year periods from the date of the expiration of the extension originally issued by the Federal Energy Regulatory Commission. H.R. 3447 passed the House by a vote of 406-3. Identical legislation has been introduced in the Senate.

U.S. Rep. Virginia Foxx represents North Carolina's 5th Congressional District and is the elected Republican Conference Secretary. Dr. Foxx is the chair of the House Education and the Workforce Subcommittee on Higher Education and serves as Vice Chair of the House Rules Committee.

(Lower the cost when it rains.)

Storm bonus: SMUD to lift hydroelectric rate surcharge

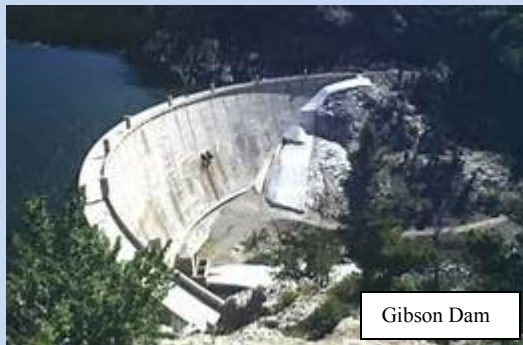
March 15, 2016 The Sacramento Bee, sacbee.com

The Sacramento Municipal Utility District said Monday that it will drop its hydroelectric rate surcharge on customer bills effective next month, a byproduct of strong storms filling reservoirs in the utility's hydroelectric generation system in the Sierra Nevada.

(How come you need legislation to get things done?)

Legislation aims to convert Sun and Beaverhead river dams to hydropower

TOM KUGLIN Independent Record, 3/16/2016, helenair.com



The Montana congressional delegation's efforts to revive a pair of hydroelectric projects in western Montana easily passed the U.S. House of Representatives Monday and Tuesday. U.S. Rep. Ryan Zinke, R-Mont., sponsored house bills extending expired deadlines for converting Gibson Dam on the Sun River west of Augusta, and Clark Canyon Dam on the Beaverhead River near Dillon, into hydroelectric dams. The projects had previously been licensed by the Federal Energy Regulatory Commission, but neither project commenced before deadlines expired. U.S. Sens.

Steve Daines, R-Mont., and Jon Tester, D-Mont., are cosponsors of companion U.S. Senate legislation.

Zinke pointed to red tape and delays in approval from the U.S. Fish and Wildlife Service as the reasons why both projects did not meet the deadlines. The Clark Canyon bill passed unanimously while the Gibson bill passed 409-2. "It is ridiculous that it takes an act of Congress -- multiple acts of Congress -- to build eco-friendly infrastructure projects that would deliver affordable and reliable electricity to residents in Montana and Idaho. These bureaucratic delays are unacceptable," Zinke said in a statement. "While unelected bureaucrats sit in their offices in comfortable government jobs, residents near the Sun River and Beaverhead River are stuck in limbo, not knowing if good-paying jobs will come through, or if they will see some relief in energy prices." First licensed in 2014, the Gibson Hydro Project would use water already released into the Sun River to power turbines in a proposed 15-megawatt facility. The project is proposed by Greenfields Irrigation District of Fairfield, and Tollhouse Energy of Bellingham, Washington. The project has seen some recent permitting delays, mostly related to conservation easements and regulatory agencies, said Greenfields District Manager Erling Juel. It has also taken more time than anticipated to upgrade existing electrical utility easements to a transmission designation. A lack of progress with regulators made the legislation necessary, he said. "This project has been on a long and torturous path but we are confident we are seeing some light at

the end of the penstock,” Juel said. “This is an incredibly important project for Greenfields Irrigation District as well as northcentral Montana. Being hydropower, the magnitude of this green energy cannot be understated.” First licensed in 2009 and already extended twice, the Clark Canyon Dam Project is a proposed 4.7-megawatt facility that could power 1,200 homes. “The House passage of this legislation is critical to the success of the Clark Canyon hydro project,” Alina Osorio, president of Clark Canyon Hydro, LLC, said in a statement. “We wouldn’t have been able to achieve it without Congressman Zinke’s leadership. We are extremely grateful for all that he has done to support the development of clean, low-cost hydropower in Montana.”



Water:

(This a big deal.)

U.S. and Canada look to update Columbia River Treaty

Glenn Farley, KING 5 News, March 11, 2016, king5.com

SEATTLE – At more than 1,200 miles long, the Columbia River is part of two countries -- the U.S. and Canada. This week, Sen Maria Cantwell (D-Wash.) urged the Canadians to sit down and modernize the treaty governing the river that is a half century old. The Columbia River Treaty was ratified in 1964. Back then the focus was on hydroelectric power, flood control, and irrigation. Following decades of struggle over rebuilding salmon stocks, 2015’s record drought, and concerns about climate change, the 50 year old agreement has fallen out of date.



Cantwell used Canadian Prime Minister Justin Trudeau’s state visit to help get negotiations started. “There was a luncheon at the State Department to look at that issue,” said Cantwell. She cited discussions with Canadian Foreign Minister Stephane Dion as an indication that Canada is committed to moving the talks forward. The U.S. side appointed a chief negotiator, Brian Doherty, in 2015. Cantwell’s office says Canada has yet to begin assembling a negotiating team. “I think anytime you’re in negotiations with another country, it’s complicated,” said Cantwell. The Columbia is home to 14 hydroelectric dams between both countries. Cantwell sees an opportunity to come up with more clean energy and smart grid technologies, including additional ways to store electricity. There is a 10-year window to negotiate a new deal.

(Less in =less volume.)

The Great Vanishing Act of Utah’s Great Salt Lake

Scientists estimate the lake has lost half its volume in the past 150 years

By Elizabeth Armstrong Moore, Newser Staff, Mar 12, 2016, newser.com

Francisco Kjolseth/The Salt Lake Tribune via AP)(NEWSEr) – Utah’s most defining feature, the Great Salt Lake, may not be long for this world. Scientists report in a Utah State University white paper that 150 years of human diversions from the rivers running into the lake have reduced water levels by 11 feet, “exposing much of the lake bed” and amounting to a roughly 50% loss of

volume in that time, reports Utah Public Radio. In what the Houston Chronicle calls a "damning" paper, the researchers go on to point their fingers at state Senate Bill 80, which was heard on the same day the paper was published, calling for additional water diversions to help develop Bear River as the state's population continues to rise. "We hope this starts a conversation," a spokesperson for the Utah Division of Water Resources tells Utah Public Radio. "We hope that skier or that person who cares about the economy or the wildlife on the lake will not only look into what's happening with the lake, but look into how they can be part of the solution instead of part of the problem." His team estimates that the Bear River project alone would result in another 8.5-inch drop in elevation and the exposure of another 30 square miles of lake bed. Researchers note that California's Owens River, destroyed by diversions in the 1920s, remains one of the country's largest sources of particulate matter, causing asthma and other health problems across the region; likewise with shrinking salt lakes in Iran and Uzbekistan. (Speaking of air pollution, scientists see a link with suicides.)



(The big holes.)

Things to know about California's giant twin tunnels project

By SCOTT SMITH and ELLEN KNICKMEYER Associated Press Writers | March 17, 2016, sandiegouniontribune.com

CLARKSBURG, Calif. (AP) — California is proposing its most ambitious water project in a half-century. At \$15.7 billion, it would run two giant tunnels, each four stories high, for 35 miles under the Sacramento-San Joaquin River Delta in Northern California, sending water to cities and farms to the south. In size and cost, the feat would rival or dwarf the tunnel under the English Channel and Boston's Big Dig. Some things to know about the delta tunnels:



WHY IT'S PROPOSED

The way water is taken today from the delta has altered natural flows, making it run backward in parts and pulling migrating native fish off course. Once-bountiful stocks of Delta smelt, Chinook salmon and other native species have plummeted. At least 35 native fish, plants and animal species there are now listed under federal and state endangered-species acts. Environmental regulations limit how much water can be pumped from the delta.

BACKERS

Gov. Jerry Brown is promoting the project that would be paid for by cities and farmers mainly in dry parts of California, including Los Angeles, the country's second-most populous city, and the most productive agricultural region, the San Joaquin Valley. These farmers and water managers who face drought and climate change hope the tunnels will bring them a more reliable water supply.

OPPONENTS

Residents and farmers who have tilled the delta soil for generations fear the tunnels would let the state take too much water from the delta, changing life forever in the bucolic landscape of pear orchards and Gold Rush-era Victorian homes. Construction could run through 2029, with trucks moving more than 30 million cubic yards of earth.

OBSTACLES

In a decisive year for the project, the state must win approval from federal and state wildlife agencies. Given environmental and water-rights laws limiting how much water can be taken from the delta, agencies expected to foot the bill are asking if they will receive enough water to make the steep price worthwhile.

(Too much of a good thing is bad too.)

See: Dramatic flood imagery from Louisiana/Texas border

By David Gladow, NOLA.com | The Times-Picayune, March 15, 2016

http://www.nola.com/weather/index.ssf/2016/03/see_dramatic_flood_imagery_fro.html



Other Stuff:

(No surprise.)

The 10 Worst US Cities for Traffic

LA takes the top spot, followed by Washington

By Arden Dier, Newser Staff, Mar 16, 2016, newser.com

Sorry, Angelenos. (Bruce Chambers/Orange County Register via AP, File)(NEWSER) – There's a good reason to feel better about your commute—unless you live in one of these 10 US cities. Car services company INRIX is out with a list of the worst US cities for traffic, based on how many hours the average commuter spent in the car in 2015, per US News. In Los Angeles, commuters wasted two whole workweeks in traffic. The full list:

1. Los Angeles: 81
2. Washington: 75
3. San Francisco: 75
4. Houston: 74
5. New York City: 73
6. Seattle: 66
7. Boston: 64
8. Chicago: 60
9. Atlanta: 59
10. Honolulu: 49

(Many of the country's worst traffic bottlenecks are also in LA.)



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