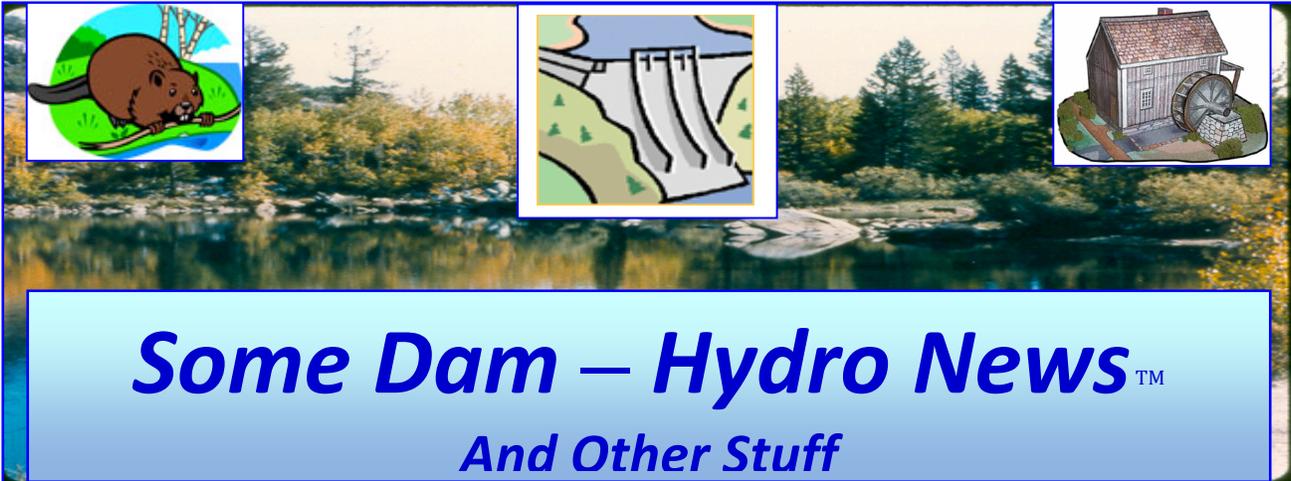


8/3/2018



Some Dam – Hydro News™

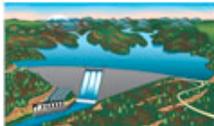
And Other Stuff



Quote of Note: *“Diplomacy is the art of telling people to go to hell in such a way that they ask for directions.” - Winston Churchill*

Some Dam - Hydro News → Newsletter Archive for Current and Back Issues and Search:
(Hold down Ctrl key when clicking on this link) <http://npdp.stanford.edu/>. After clicking on link, scroll down under Partners/Newsletters on left, click one of the links (Current issue or View Back Issues).

“Good wine is a necessity of life.” - -Thomas Jefferson
Ron’s wine pick of the week: 2015 Intrinsic Cabernet Sauvignon "Columbia Valley"
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson



Dams:

(History.)

Gaston: FDR inaugurates the Chickamauga Dam

July 8th, 2018, by Kay Baker Gaston in Opinion Columns, timesfreepress.com

On Labor Day, Sept. 2, 1940, President Franklin Delano Roosevelt arrived in Chattanooga, TN by train and rode in a motorcade to the Chickamauga Dam. Accompanying him were First Lady Eleanor Roosevelt, Gov. Prentice Cooper and Sen. Kenneth D. McKellar, who introduced the president to a crowd of 30,000 people. The 71-year-old McKellar, who was running for a fifth term, introduced the president as the author of the Tennessee Valley Authority. In his speech Roosevelt characterized "this chain of man-made inland seas" as the South's Great Lakes, opening "a new artery of commerce [and] new opportunities for recreation." He said the dam was "a



demonstration of what a democracy at work can do," and asserted "I glory in it as one of the great social and economic achievements of the United States."

(Pounding their chest over dam removal.)

BIG 'ECOLOGICAL IMPACT' TO FOLLOW REMOVAL OF WARREN COUNTY DAM

By TOM JOHNSON | JULY 13, 2018, njspotlight.com

Multimillion-dollar project to clear away Columbia Lake Dam gears up. Will shad and other species come back to restored habitat? A few weeks ago, hundreds of shad were spotted swimming in a small pool at the bottom of a 109-year-old hydropower dam on the Paulins Kill, the third largest tributary of the Delaware River. "Come back next year," yelled Barbara Brummer, New Jersey state director of the Nature Conservancy — an organization engaged in an \$8 million project to remove the dam — as she inspected the site near the Delaware Water Gap yesterday. By then, the project to dismantle the Columbia Lake Dam may be completed, restoring an important habitat not only for shad, but also American eel and blueback herring. "The ecological impact to this river cannot be overstated," she said. There are more than 14,000 dams in the Northeast, but the 330-foot long, 18-foot high dam in Knowlton Township, Warren County was ranked in the top 5 percent of projects of ecological importance for restoring fish habitat, according to the Nature Conservancy. "This one lit up," said Brummer, who has been steering the project through federal, state, and local regulatory mazes for the past four years.



Historical spawning grounds for shad

Beyond restoring historical spawning grounds for shad and other species, the removal of the dam will improve water quality in the Paulins Kill, and the Delaware River, a quarter of a mile away. The Delaware supplies drinking water for 17 million people in four states. And that is not all. Once completed, the removal of the dam will open up a 10-mile stretch of the river through northwestern New Jersey for kayakers and canoeists, said Larry Herrigty, director of DEP's Division of Fish and Wildlife. The project also signifies a larger success story — the improving water quality of the Delaware River, where the shad fishery has had a resurgence, allowing the fish to return to tributaries like the Paulins Kill. "I think they will be up here next year," predicted Dave Bean, chief of the Office of Natural Resource Damages at DEP. Like several others who were at the dam yesterday for the launch of the removal project, he called the project one of the happiest moments of his career. Removing the dam will improve water quality by raising the temperature of the river as well as improving dissolved oxygen levels, important to fish habitat.

Improving water quality

Shad spend much of their life in the ocean and estuaries but need access to freshwater for spawning. With improving water quality, the shad have moved further up the river, but dams, paper mills and other obsolete facilities have hindered access to their spawning habitat. Ironically, other species, like the American eel, follow the reverse course, spawning in the ocean but spending much of their life in rivers and their tributaries. The dam provided electricity — enough to power about 160 homes until a couple of years ago. At one time, when electricity use was much less in demand, it provided power to as far away as Philadelphia, Brummer said. While its benefits as a hydropower plant have declined, the concept of removing the dam posed its challenges. "Taking a hydropower dam is not for the faint of heart," said Brummer. To push the project along, her organization had to buy the hydropower license from the current owner, Great Bear, for \$200,000, which it then retired. The Nature Conservancy raised \$1.4 million for the

project, but a \$5 million infusion from the state's Natural Resource Damage fund supplied the bulk of funding. The fund taps polluters who harm natural resources to pay to restore habitat, water supplies and wetlands.

'Bang for the buck'

In the past, lawmakers and governors have tapped the fund to plug holes in the state budget — as was done again this year by the Murphy administration. It diverted much of the money from a \$225 million pollution settlement with Exxon/Mobil to the general fund. DEP Commissioner Catherine McCabe praised this project, saying the dam removal will provide “one of the most wonderful and profitable bangs for the buck.” Other funds for the project came from a variety of sources, including the U.S. Department of Agriculture, the U.S. Fish and Wildlife Service, the Corporate Wetlands Restoration program and the National Fish and Wildlife Foundation.

(Dam removal always gets the headlines. Not everybody is happy.)

Removal of Monterey Dam begins

By Gazette staff, 7/13/18, gazettextra.com

JANESVILLE, WI - Barring a court order stopping demolition of the Monterey Dam, the lagoon behind the dam could turn into a mud flat within a week. The long-awaited and controversial project to remove the Monterey Dam started Friday morning. City Public Works Director Paul Woodard said crews were breaking up the concrete dam and temporarily leaving some of its pieces in the water. Those pieces will gradually be removed to prevent the water level from dropping too quickly, he said. The city plans to lower the water level by 4 feet, but state permits dictate it can only do 6 inches per day. Within about eight days, the small lagoon on the river's northern bank could be gone. An excavator equipped with a jackhammer drove into the water and began battering the dam late Friday morning.



Onlookers watched as water began to rush through gaps where the machinery chipped away at the spillway that has restrained the river for years below the Center Avenue bridge. The lagoon's southeast corner became visibly shallower. The mud bottom was exposed in some places as the day proceeded. Nick Dietz, who lives near the dam and often fishes at the lagoon with his son, said he was surprised how much the area changed in one day. “We were here yesterday fishing, and none of this was here,” he said. “There was no mud out here. There was regular water.” One resident watching the start of the dam's removal questioned whether the wrecking crew had permits to tear out the dam. City Engineer Tim Whittaker, who is managing the project, told The Gazette “all required permits” are in place for the project. Earlier this week, Whittaker wrote in an email to The Gazette that the city needed to obtain four permits from the state Department of Natural Resources. Those permits cover dam removal, wetland work, a stormwater pond and the shoreline. Janesville also needed a permit from the U.S. Army Corps of Engineers. That permit addressed the entire project rather than different segments, he wrote in the email. Woodard said the city received the U.S. Army Corps permit Thursday, giving Janesville the green light to remove the dam.

After months of study, the Janesville City Council voted in March 2017 to remove the dam. Those who voted in favor of removing the dam said at the time they were concerned about the ongoing costs of maintaining it. Whittaker said people will notice a “modest change” in water elevation near the dam after the start of work Friday. The permit allows dam removal crews to drop water by 6 inches each day during work. A Gazette reporter Friday afternoon observed a water line on a support column under the Center Avenue bridge. The line appeared to be about 6 inches above the river's surface. Whittaker told The Gazette photographer the dam's removal would likely take until December. The city in March reported the low bid for the dam removal project came from

Drax in Madison for \$1.54 million. That was just over \$400,000 more than an earlier consultant's estimate. Drax has subcontracted with Terra, another Madison firm, to handle dam removal, Woodard said. Before noon, about 10 people, most of whom said they were with the Monterey Dam Association, showed up to the scene expressing their anger. Resident Bill McCoy called for the hanging of city council members and the city manager because, he said, what was happening Friday was illegal.

"It's time for us to clean out City Hall. Get rid of all the crap that's in City Hall and forget about this ARISE program," McCoy said. ARISE is a downtown Janesville redevelopment initiative centered on the Rock River. K. Andreah Briarmoon accused the city of ignoring legal requirements for a process she said could cost taxpayers money "for decades." She was worried about the mud, mosquitoes, stench and invasive species that could take over the area. Briarmoon, an association member, said she received a text message at 9:30 a.m. and went to the dam and watched from the Center Avenue bridge. She said she felt, "Sad, devastated, disappointed, angry, frustrated, violated."

"City employees need to read the Constitution," she continued. "The Constitution doesn't give us rights. It is us telling them what they get to do, and they don't get to destroy our stuff." David Lyon, an association member who has lived on the river for eight years, could hear the machinery from his home Friday morning. He didn't think it sounded like it was coming from the old General Motors plant, which is being demolished, so he walked down. "I never would have bought the house if I knew what they were gonna do here," Lyon said. "At night, before I went to bed I'd brush my teeth and look out (the window). Now, for the last year, I haven't even been looking out there because I know it's going to be gone." President of the dam association, Jim Chesmore, said "this is all in the lawyers' hands now," adding the city "jumped the gun." Chesmore said he lives on the river and questioned if he would be reimbursed for the decline in property value he's expecting to follow the dam's removal. He said the association turned in 1,200 signatures to save the dam, but the city "completely ignored it." Richard A. Reinke, also with the association, said contaminants were being released into the river, where he said he has 55 acres of property. "It's really pissing me off," he said. Shawn McCarten, owner it's a Keeper Bait and Tackle near the dam, estimated 100 people were at the shoreline watching the work Friday. He didn't know how many of those people wanted the dam to stay or go. McCarten, a supporter of dam removal, said a handful of people criticized him Friday for his stance. "I'm about the future of fishing. If it creates more fishing atmosphere for the youth and kayaking, canoeing possibilities, it's going to be good for everybody in the long run," he said. "My main concern is it's done swiftly and correctly. That's all I care about."

The Monterey Dam Association, a group that opposes the dam's removal, for months has been seeking to halt the city's plans to tear out the dam. The group on Thursday filed a lawsuit in Rock County Court seeking an injunction to block the city from removing the dam. The request asks a judge to halt "any and all action relating to the removal of the Monterey Dam," according to a filing obtained by The Gazette on Friday. The association asks that the dam's removal be blocked until a January hearing the Monterey Dam Association has requested with the state Department of Natural Resources. The group is contesting the DNR's issuance of permits for the removal of the dam because it questions whether the city has properly considered effects of the dam's removal. It also questions whether the city has adequately identified the scope of potential contamination upstream of the dam or to what extent the dam's removal could release contaminated sediment, according to the court filing. Michael Hahn, an attorney at Axley Brynson, the law firm representing the Monterey Dam Association, said the association found the city's choice to begin removing the dam shocking.

"We are surprised and disappointed that the city has chosen to proceed while a contested case hearing is pending with the DNR," Hahn said. "We're shocked they could risk proceeding when the validity of their permit is in question." Hahn said the Monterey Dam Association filed a motion in court on Friday for an "expedited hearing" on its motion to halt the dam's removal. On Friday, it did not appear a Rock County Court hearing had been scheduled. Hahn said his clients hoped a hearing might be held Monday or Tuesday. The city had 20 days from Thursday to respond to the

summons. Hahn said the Monterey Dam Association hopes the city stops demolition, pending a hearing in front of the DNR. Woodard said the city on Friday received a copy of the dam association's request for an injunction after crews had begun work to remove the dam. The request has no authority without a court order. *Gazette reporters Jim Dayton, Neil Johnson and Jonah Beleckis contributed to this story.*

(Duh!)

Common sense: Removing dam lowers river

Jul 18, 2018, gazettextra.com

Opinion:

Definition: Dam. A barrier constructed to hold back water and raise its level. Does the city think we are stupid?

Removing the dam is going to lower the river between that dam and the next one up the river no matter what the level of the water is up river from it.

Common sense tells you that much. DAVID DRAPER Janesville, WI

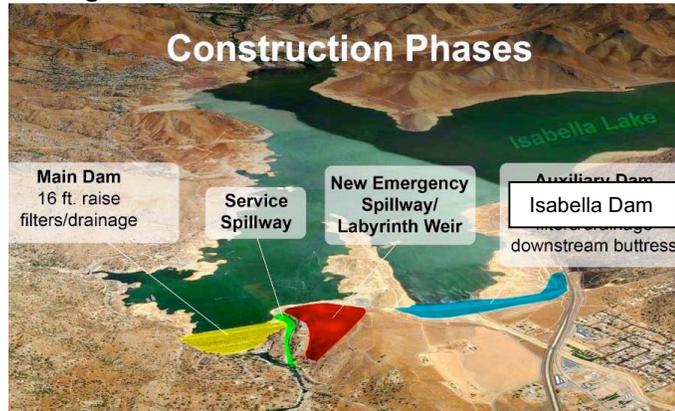
(Lots of money flowing!)

Sacramento Army Corps District Projects Get \$2.1 Billion in Supplemental Appropriation

The Army Corps of Engineers is modernizing Isabella Dam, an earthfill main dam and auxiliary dam completed in 1953.

By Greg Aragon, July 18, 2018, www.enr.com

The U.S. Army Corps of Engineers Sacramento District has received supplemental funding for five District projects, totaling an investment of more than \$2.1 billion in flood risk management efforts. Sacramento District projects funded with supplemental appropriations include flood risk management upgrades on the American and Sacramento rivers in Sacramento, dam remediation at



Isabella Lake, reservoir enlargement at Success Lake, levee improvements on the Marysville Ring Levee, and continued upgrades at Folsom Dam. The announcement was made July 5. In February 2018, Congress appropriated more than \$17 billion for civil works projects through Public Law 115-123 to fund short-term repair projects and long-term disaster recovery projects. R.D. James, assistant secretary of the Army for civil works, said in a news release that the Corps is showing "its commitment to moving dirt and, more importantly, to completing studies and construction."

Three of the biggest projects funded through the Fiscal Year 2018 supplemental appropriations are:

- American River Common Features flood risk reduction: \$1.57 billion
- Isabella Dam Safety Modification Project: \$258.2 million
- Folsom Dam raise project: \$216.5 million

The purpose of the American River Common Features (ARCF) project is to reduce the overall flood risk within the Sacramento metropolitan area, which is one of the most at risk areas for flooding in the United States due to its location at the confluence and within the floodplain of two major rivers. The non-federal sponsors are the California Natural Resources Agency Central Valley Flood Protection Board (CVFPB) and the Sacramento Area Flood Control Agency (SAFCA).

The Isabella Dam Safety Modification Project is located forty miles northeast of Bakersfield, Kern County, Calif., and consists of an earthfill main dam and auxiliary dam across Kern River and Hot

Springs Valley, respectively. The dam was authorized under the Flood Control Act of 1944 and construction was completed in 1953. The Isabella Reservoir provides flood-risk management, irrigation and recreational benefits. With more than 300,000 people living and working below the dams, primarily in the town of Lake Isabella and the city of Bakersfield, the U.S. Army Corps of Engineers began a dam safety modification study in 2006 to address seismic, hydrologic (potential over-topping during an extreme flood event) and seepage issues at the dams. Following the signing of the Record of Decision in December 2012, the Corps entered the pre-construction engineering and design phase of the project, and from 2013 to 2016, focused on design improvements to the existing dams and the relocation of U.S. Forest Service buildings located in the excavation footprint. In September 2017, the Corps awarded a \$204-million contract to Flatiron/Dragados/Sukut Joint Venture of Benicia, Calif., to construct the Phase II dams and spillways modifications. The project is expected to be complete in 2022. **The Folsom Dam Raise Project will reduce flood risk in the Greater Sacramento area.** Project highlights include a 3.5-ft raise of the Folsom Facility dikes, along with modifications to the main dam's Tainter gates; and habitat restoration at two sites along the lower American River.

(Some benefits of dams. Finally, someone talks about benefits, even if it's an advertisement.)

It's about dam time: 7 things you didn't know about local rivers and dams

JULY 19, 2018 AT 9:30 AM



SPONSORED — Whether you're out on the boat or relaxing in your air-conditioned living room, Pacific Northwest rivers — and the dams that manage them — have a big impact on your life. In fact, you may not realize just how much these beautiful waterways affect your family, community and lifestyle. **Here are a few examples of how these rivers and dams are a vital part of life in the Pacific Northwest.**

They cleanly power your life

Sure, they help protect and manage Pacific Northwest waters, but the Columbia and Snake River dams do a lot for the air as well. **According to Bonneville Power Administration, a key benefit of federal dams is clean air.** In fact, the four lower Snake River dams alone produce more than 1,000 average megawatts of emission-free energy. That's enough to power more than 800,000 average U.S. homes.

They bring goods to you

Spotting a barge along a Pacific Northwest river isn't a rare occurrence. What you may not know is that those barges are towing a ton — well, much more than a ton! In fact, **a single barge tow is the equivalent of 538 tractor-trailers traveling on the highway.** The cargo moving along the Columbia near the Columbia River Gorge on a single barge could fill 140 rail cars, making the river the most fuel-efficient way to transport goods. **The Pacific Northwest Waterways Association reports that the Columbia Snake River system is responsible for transporting \$24 billion in cargo value each year.**

They protect our fish

If you thought dams were harmful to the region's fish, it's time to take a closer look at what the region's dams actually do. The four lower dams on the Snake River alone include the most advanced and successful fish passage systems in the world,

according to Bonneville Power Administration. Dams may look imposing, but they're pretty helpful for traveling fish friends. "Each hydropower dam on the Snake and Columbia Rivers safely passes more than 95 percent of migrating juvenile salmon," according to The United States Army Corps of Engineers. "If we we're grading their homework, that's straight A's."



"The greatest drop in the Columbia and Snake River salmon populations was caused by unregulated overfishing in the 1880s. Salmon were fished nearly to extinction long before any dam was built on the Columbia and Snake Rivers," Stated Rachel Little, Benton Conservation District

Agriculture

Our rivers are more than a one-trick-pony. With proper management, the Columbia and Snake rivers can provide for salmon, power generation, irrigation water delivery, commercial navigation, economic development and recreation. Washington's economy is strong because of hydropower, keeping our environment clean and carbon free while funding measures so native fish can continue to go on their journey from the rivers to the ocean and back again. Opponents of the Snake and Columbia River dams call for the removal of the dams in order to save salmon and restore their natural habitat while downplaying the fact that the rivers are already managed to protect salmon. Hydropower doesn't pollute the air we breathe and makes it possible for wind and solar energy to be "backed up" when the wind isn't blowing and the sun isn't shining. "Beyond providing enough carbon free energy, enough to power all of Seattle, the Lower Snake River Dams offer our family farm the ability to grow premium Washington wine grapes, helping to making our state a respected wine industry leader in the world. In addition to grapes, we grow organic alfalfa which is supplied to local organic milk producers. We also produce world class organic cherries, found in grocery stores and farmers' markets throughout the Northwest and the world!" added Vicki Gordon – Gordon Estate Winery.

They're a whole lot of fun

You can water ski, fish, kayak or paddleboard. Spend a day on a local river and you'll soon understand why these waters are an integral part of our community. Whether you're enjoying a Sunday afternoon picnic on the banks of the Columbia or casting for steelhead on the Snake, Washington's rivers don't simply enrich the environment — they enrich lives.

They build the community

Ask any of your neighbors; there's nothing better than living in the Pacific Northwest. These communities are built on and enriched by its rivers — and the dams power and empower them. "Our dams, in so many ways, serve as a cornerstone for our state and our communities," said Nickolas Bumpaous, government affairs director at Plumbers & Steamfitters Local 598. "As citizens, our collective investment has provided for an abundance of affordable electricity, attracting business, protecting our agricultural leadership and empowering our growing economy. Good family-wage jobs, youth apprenticeship programs and STEM opportunities are a few of the critical byproducts our communities reap from our investment in these dams."

They're worth a celebration

The Pacific Northwest depends on its rivers. Show your appreciation by spending a Saturday along the banks of the Columbia. The 2018 Riverfest, held at the Lampson Pits in Columbia Park, is a great opportunity to celebrate the region's rivers, take in some educational exhibits, tour a tugboat and learn about rivers and dams — straight from the experts. Fun for the whole family! Riverfest runs from 11 a.m. to 3 p.m. on Saturday, Sept. 8. For more information, visit the Pasco Chamber of Commerce.

USBR movie featuring Shasta Dam

Full story here:

<http://www.redbluffdailynews.com/film-about-shasta-dam-to-be-screened-in-redding-saturday>

More on the story:

<https://www.redbluffdailynews.com/2018/07/19/film-about-shasta-dam-to-be-screened-in-redding-saturday/>

View the film trailer at:

<https://www.youtube.com/watch?v=liVpAnCE7Rc&feature=youtu.be>

(All you need is money!)

Bluestone Dam project receives \$574 million in federal funding

By: David Horak, Jul 20, 2018, wvntv.com

HINTON, WV (WVNS) - Hinton's historic Bluestone Dam has been a scenic sight for anyone passing by, even with it being a temporary construction zone. Stephanie Stiffler, who locally runs hospitality operations for Mountain Plex Properties, said she loves the concrete beauty. "It just blends in with the space," Stiffler said. "It's one of the things that Hinton is known for, is that we have a dam." Not only is it an infrastructural icon for the Summers County seat, it is also a defense barrier against flooding for the entire state.



Aaron Smith, manager for the Bluestone Dam Safety Assurance Project, emphasized its importance. "It actually operates to reduce flood risks in Charleston," Smith said. "Half the water that passes the state capital every day has gone through the gates of Bluestone Dam." The good news is that the decades-old dam has been the beneficiary of some major repairs. The Army Corps of Engineers is overlooking maintenance and will receive \$574.7 million in federal funding. "We're, in no way, constrained by any financial resources," Smith said. With the money, Smith said construction will be on-schedule to pour re-enforced concrete into the ground and install anchors to the bedrock hundreds of feet below the surface. "It is a reinforcement of how important Bluestone Dam is to the continued health and survival of the New and Kanawha Rivers in West Virginia," Smith said. "Its structural integrity," Stiffler said. "It's to ensure that it keeps everybody safe." The final phase of reconfiguring the primary basins where water flows out every day will soon take place. Smith said it will start by the early 2020's, with construction scheduled to last up to eight years.

(In favor of dam removal.)

WHY I FAVOR REMOVING THOSE 2 DAMS ON THE MISSISSIPPI RIVER

July 22, 2018, twincities.com



I'm writing in support of the removal of the Mississippi lock and dams in Minneapolis. This issue intrigues me as a Minnesotan, an engineer and as a river enthusiast. Over the past week I've researched the issue, looking at a variety of sources including the Army Corps of Engineers' own data, as well as a study into gorge restoration by the University of Minnesota in 2012. Here are some things I believe need to be clarified: **First**, the project proposal is talking about the removal

of only two dams: The Lower St Anthony and Ford Dam. The project will not compromise St Anthony Falls as a barrier against invasive species, as the Upper Dam is staying in place. **Second**, the dam removal will change the section of river between St Anthony Falls and the Ford Dam. Pool 2, which stretches from the Ford Dam to Hastings will remain calm and navigable to pleasure craft, shipping, and rowers. **However**, the removal of the dams would create a 6-mile "rapids" below St Anthony Falls, but that word also needs clarification. The dams together constitute a 60-foot drop in water level. Their removal would then create a 6-mile stretch of river dropping ... 10 feet per mile. **This gradient would make the river a "Class II rapids" by international standards**, which is characterized as a "straightforward rapids with wide, clear channels." This, considered with the river's width, would put the river in a similar state to the section of the St. Croix above Stillwater: brisk downstream current with rapids navigable by most kayakers and canoers.

The removal of the dams would also have a huge positive effect on the environment, specifically water quality. The 2012 U of M report concluded that the removal of the Ford Dam would recreate

spawning grounds and habitat for many native mussels and fish species. The reintroduction of these species would have very positive effect on both this section of river, and downstream, increasing water quality and native fish populations. Between our numerous lakes and Pool 2 of the Mississippi, the Twin Cities has a plethora of flat-water recreational resources. What the Metro area lacks is a healthy quick-moving river and the habitat it provides. **This project is not without challenges, including displacement of Rowing Clubs, and sediment buildup behind the dams.** However, these are challenges I believe are worth accepting and working to overcome. The benefits to the environment, our cities, and region are too great to let pass by. I would encourage everyone to participate in this continuing discussion about the future of our Great Mississippi. *Andrew Schad, Roseville, MN*

(We need more dams.)

The Great Era of California Dam Building May Be Over. Here's What's Next LISTEN

kqed.org, Jul. 23, 2018

For a century, California has harnessed its water with concrete, building dams and reservoirs on an epic scale. Now, as the state prepares to hand out \$2.7 billion for new water storage projects, it looks as though that era of dam-building might be ending. **During the height of the California's 5-year drought, state voters approved new funding for water storage as part of Proposition 1.** This week, the California Water Commission will allocate those funds to the eight projects that have qualified after a lengthy analysis. Some projects are classic dams, but several won't get the windfall they'd been hoping for. Instead, next-generation projects are in the running, like using the state's vast network of natural underground aquifers for water storage. **That's sparked a fierce debate over how California can get more water.**



Era of Dam-Building

After the Clutch Plague, California's first major dam rose on a river of federal money. At the time, Shasta Dam on the Sacramento River was the second tallest in the country. **The dam-building era stretched into the 1970s,** as California's major water projects were built. Canals and aqueducts stretched across the state. One promotional film dubbed it "one of the greatest engineering and construction achievements of the modern age," providing "water to protect the health of generations to come." "That's all we're trying to do today," says Mario Santoyo, executive director of the San Joaquin Valley Water Infrastructure Authority. **"We're trying to build these things not for us in particular, but for our children."**



Hydro:

(Here's a guy out on a limb.)

Claims hogwash that dams vitally important to N.W. power supply

Letter to the Editor

July 17, 2018, idahocountyfreepress.com



Bonneville Power Administration screws ratepayers with rising electricity prices due in part to years of mismanagement. The federal agency also screws Idaho's salmon and steelhead by supporting a failed fish management system. The Corps of Engineers screws taxpayers by subsidizing private corporations that ship wheat by barge rather than rail, costing the public more than \$20,000 per barge

load. Finally, politicians like Cathy McMorris-Rodgers lie to the public when they claim Snake River salmon are doing just fine while actual Snake River fish numbers are hitting record lows. Her claims that the lower Snake River dams are vitally important to the Pacific Northwest's power supply is equally hogwash. BPA has not needed one kilowatt of LSR dam power to meet its customer demands for the past 10 years.

BPA administrator Elliott Mainzer could become a hero by walking away from those dams. BPA would save around \$100 million annually by not selling LSR dam surplus energy for prices far below the cost of production. BPA would likely save another \$50 million annually in reduced fish mitigation expenses. **While BPA is a federal agency, it is required by law to be self-supporting. Revenues must cover costs.** The agency has raised rates nearly 30 percent during the past eight years while it exhausted its \$900 million reserve account. If BPA does make major changes within the next few years, it won't be only the Snake River salmon and steelhead that go extinct. *Alan Schonefeld, Kooskia, Idaho*

(Gotta fix'er up.)

More repairs slated for Watertown hydroelectric plant

By CRAIG FOX, JULY 18, 2018, watertowndailytimes.com

WATERTOWN, NY — **The city will have to spend another \$400,000 to get the city's hydroelectric plant on Marble Street back in operation, this time for some emergency repairs on one of its three turbines.** City Engineer Justin L. Wood said

Tuesday the major repairs to Turbine One will cost an estimated \$400,000 and take two to three months to complete. Considered general emergency repairs, the problem was discovered while work crews were completing some scheduled maintenance that shut down the 90-year-old hydroelectric plant along the Black River this summer. Workers discovered a short in the turbine's electrical system that's causing voltage problems in the turbine's rotor, with eight out of 60 coils experiencing the problem. The turbine cannot operate until those repairs are complete, Mr. Wood said. **"It's a major deal that can't wait," Mr. Wood said.**



The hope was to get the plant up and running by the end of August. The other two turbines are also undergoing maintenance and could be ready to go by then. The Turbine One project includes disassembling the upper turbine and removing the rotor and setting it on the floor. All 60 coils will be removed and rebuilt, Water Superintendent Vicky L. Murphy wrote in a memo to City Council members. City officials decided it was best to repair all 60 coils rather than just the eight, figuring they will have to be replaced at some point anyway, she said. The City Council approved a bonding package for the project on Monday. **With projected costs ranging from \$374,220 to \$433,400, the city is considering three contractors to complete the repairs and have scheduled a special meeting on Thursday to select a firm.** "Staff considers this to be an unforeseen condition affecting public property that requires immediate action which cannot await competitive bidding," Ms. Murphy said.

The hydro plant's three turbines — known as Faith, Hope and Charity — are not running right now, while a series of maintenance projects are completed. Grease and grime will be removed from the coils inside the turbines, while chambers in the turbines will be resurfaced. That work will cost about \$500,000. The city completes these kind of repairs when the water is low, Mr. Wood said. July and August are typically the driest time of the year, so it made sense to do the maintenance now. **As the result of the work, the hydro plant has generated just \$40,000 in revenues this summer.** But things got worse last week. A 1,000-foot-long canal had to be drained to find out why a gate to the plant was not opening. The bottom of the gate was damaged during the winter and must be repaired, Mr. Wood said.

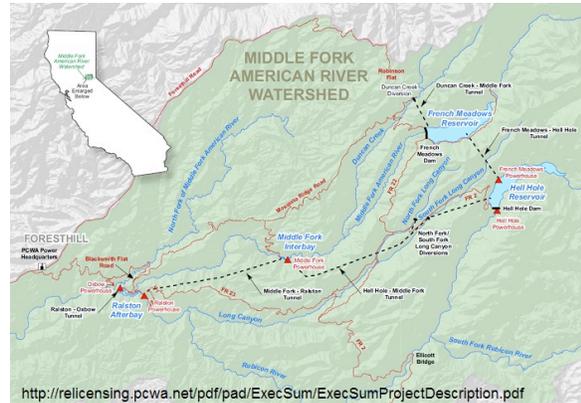
Two other projects are scheduled for next summer. The spillway's wall will be resurfaced and some more repairs with the electrical system will be completed. **The plant supplies electricity to more than 20 city buildings and properties.** After using the energy from the hydroelectric plant for city buildings, the city sells its excess power to National Grid for nearly 22 cents per kilowatt-hour. **The city is in the middle of a franchise agreement to sell electricity to National Grid that began in 1991 and expires in 2029, when the company will pay the city 34.7 cents per kWh.**

(Guess average is not good enough for some people.)

2018 Middle Fork Project Hydropower Generation in Line with Expectations

AUBURN, CA (MPG) | PCWA News Release, 7/20/18, placersentinel.com

AUBURN, CA (MPG) - At the July 19 meeting of the Placer County Water Agency (PCWA) Board of Directors, the Board received a mid-year update on Middle Fork Project (MFP) hydropower generation in 2018. **The forecast for year-end generation is just over 1,000,000 megawatt hours (MWhrs), which is in line with projections from October 2017.** Revenue forecasts from hydropower generation are also in line with earlier projections, reflecting an average hydrologic year in 2018 and current prices in the energy market. Compared to 2017, which was not only the wettest year on record, but also experienced summer energy prices nearly double the average, energy prices for hydropower generation this summer have remained fairly uniform and just above average.



In related news, the PCWA Board received the Draft 2019 Power Division Budget, which totals \$37.5 million including \$25 million in operating expenses and \$12.5 million in capital projects. Within the appropriation for capital projects, the majority of the money will go toward reliability upgrades to MFP powerhouses. The Power Division Budget will be incorporated into the Middle Fork Project Finance Authority Budget later this year. The next regular meeting of the PCWA Board of Directors will be held on Thursday, August 2, 2:00 PM at the PCWA Business Center, 144 Ferguson Road, in Auburn. PCWA board meetings are open to the public.

(Do they know what they're getting into?)

Sanford Lake homeowners want to take control of dam

By John Kennett, mdn.net, July 20, 2018

Four hydroelectric dams along the Tittabawasee River owned by Boyce Hydro Power have been a serious concern for owners of lakefront property on Sanford, Secord, Smallwood and Wixom lakes.

Now the issue has risen to another level as the Federal Energy Regulatory Commission (FERC) has initiated a process to **revoke Boyce Hydro Power's license to operate the Edenville Dam.** "What we're trying to do is be proactive, to get ahead of the game," said David Kepler, Sanford Lake Preservation Association president.



"The snare we are trying to avoid is for FERC to take that license away and have no control." **The consequences of that action would leave the dam without state requirement or governmental structure to maintain lake levels.** "The federal government has

lake levels established there, the state does not," Kepler said. "When the federal license is removed this goes to the oversight of DNR and DEQ, and there is no lake level established."

However, the National Resources Environmental Protection Act allows for a lake level to be established, the formation of an assessment district and the development of an authority to manage the dams. At Tuesday's Midland County Board meeting, commissioners took the first step toward that authority and unanimously approved a resolution to formulate the Four Lakes Task Force. "This significantly helps with FERC. It tells them that the county wants a lake level and has assigned a task force to structure it," Kepler said. "I think it is very important for the county to say, 'We recognize that we have to change the business model here. We want to have public engagement as to how this dam is going to be operated.'" Edenville Dam supplies half the revenue of electrical generation from the four dams while Sanford Dam generates about a quarter. "The general revenue for those dams, at the low point is \$1.8 million and at the high point, maybe \$2.2 million. The operating costs are about \$1 million per year," Kepler said. The SLPA has appraised that the Sanford Dam generates about \$4 million of economic value for Midland County and provides a tax value to Midland County of \$1.7 million.

"It benefits the county to make sure those property's values stay there," Kepler said. However, to maintain lake levels, an investment of between \$4 million and \$15 million would be required, which would require an assessment for lakefront property owners. That dollar amount would depend on whether, or not, the electrical generation would continue. "Our goal would be to continue to have electrical generation so that there isn't an assessment, but that would require that the electricity pay for the funding," Kepler said. "We would certainly look at grants and other sources of funding." An investment of that magnitude would help solve most of the other repair problems for the dams. "The repairs have not occurred over time and the federal government has lost patience over that," He said now is the time for the task force to act. "Long-term, the license of these dams expires in 2028 and it takes about five to seven years to submit a renewal. So, if we don't have a plan in the next year or two, that will be a challenge," Kepler said.

(They love their hydro.)

Hamilton's water power attracting companies — much like it did for Henry Ford 100 years ago

By Mike Rutledge, Staff Writer, July 21, 2018, journal-news.com

HAMILTON, Ohio — Automaker Henry Ford arrived in Hamilton one century ago this month, thanks to some forward-thinking businessmen seven decades earlier, and the ability of the Great Miami River to produce electricity. The industrialist's Ford & Son Co. bought the hydroelectric plant, which had opened in the mid-1840s, during July 1918, according to a column by the late Hamilton historian and former Journal-News editor Jim Blount. Today, Hamilton officials hope that tiny hydroelectric plant and its two much larger city-owned counterparts on the Ohio River will continue to attract companies, including those from Europe, where there is more of a premium for hydroelectric and other renewable-electricity sources. One unnamed company that Hamilton officials hope to announce this summer probably would not be coming to the city if not for its hydroelectric energy, City Manager Joshua Smith recently said. Before Henry Ford arrived, the hydroelectric plant had powered more than a dozen businesses, including large paper mills.



Ford didn't come to Hamilton to build cars. Instead, Ford and his son, Edsel Ford, arrived in town, purchased the hydroelectric plant for about \$200,000, and built a \$2 million factory to manufacture Fordson tractors that would sell for about \$700 apiece. Production started May 13, 1920, at the nearby Ford Tractor Building, where eventually 600 men were building 400 tractor

transmissions per day, according to “Beyond the Model T: The Other Ventures of Henry Ford,” written by Ford R. Bryan. The facility is the reason the northern-Hamilton neighborhood was named Fordson Heights. Within two years, the plant was building Model T automobile wheels. By late 1928, the plant instead was building all-steel Model A wheels, according to the Ford R. Bryan book. Ford sold the factory to Bendix Aviation Corp. in June, 1951. After Bendix left the city in 1963, the city of Hamilton bought the hydroelectric plant. It later added two far larger ones on the Ohio River — during the early 1980s, the Greenup hydroelectric plant near Vanceburg, Ky.; and this decade, the hydroelectric generator at the Meldahl locks and dam.

The hydroelectric plant is located along a canal that receives water from the Great Miami and then returns water there. On Friday, it was producing 1.1 megawatts of power, with a constant whir that could be heard outside the facility that on the inside resembled a large basement, but with big cabinets of heavy-duty electrical equipment. Water, falling about three stories’ height, was spinning blades attached to a turbine at about 162 rotations per minute. The facility’s generators were upgraded during the 1990s from earlier technology. When it’s operating at its 2 megawatt capacity, it generates enough energy to power 400 homes. By comparison, the gigantic Meldahl facility produces a 105 megawatts of power, while Greenup’s capacity is 70.2 megawatts. The small hydro plant captures the imagination of city employees like Electric Power Systems Superintendent Dennis Farthing, and others familiar with its history. “It’s a wonderful thing to be able to keep something running, surviving, and being useful to us for all these years,” Farthing said. “I think it’s a tribute to the forefathers and the thought they put into how things were put together.” Farthing said he was inspired by “the inventive spirit of someone to take something, and make something out of nothing — it’s like you start at zero, and you walk away, and you’ve made a plant that makes electricity. That’s fascinating.”

The future may be a lot like the past, where that original hydroelectric plant caused manufacturers to build factories near it, city officials believe. Smith recently told Dan Hurley on WVXU-FM’s Cincinnati Edition that green power can grab companies’ attention. Smith said he and others were meeting with a German automotive company in Atlanta. “We were going through the reasons why they should be in Hamilton. I felt they weren’t even paying attention up until the point we got to our hydros, and the fact that we could certify that 100 percent of the power that they consumed would be green. And that certainly caught their attention,” he said. That reaction varies by companies, city leaders have noted. Economic Development Director Jody Gunderson noted that European firms tend to be more conscious of environmental concerns, perhaps because their energy was more expensive for decades than here in the United States, and other factors. “We’re going to have a job announcement probably come out in the next 60 days, publicly, and but for having the green energy, I don’t think they would have chosen Hamilton,” Smith told Hurley.

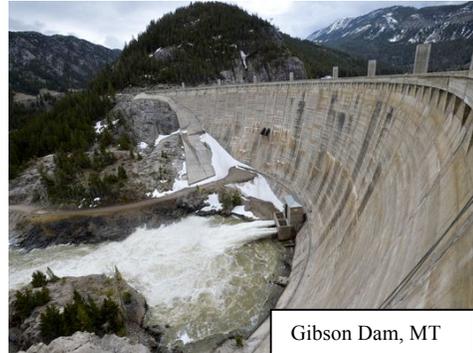
The Journal-News previously has reported that iMFLUX Inc., Procter & Gamble’s plastics-innovation subsidiary, took up the city on its ability to “formally certify to iMFLUX that all of the electric energy consumed by iMFLUX in their operations shall be 100 percent Green Energy.” For companies like iMFLUX and ThyssenKrupp Bilstein of America Inc., which makes high-tech shock absorbers for vehicles, “this is a big deal to them,” Smith told Hurley. The fact Hamilton also owns its own natural gas utility as well as electric, water and sewers, also allows it to lower companies’ utility rates as an incentive. Because of its electric operations, the city allows companies to connect not only to its electric production and distribution system, but also to Duke Energy, which serves those beyond city boundaries, so electricity continues to flow when one producer has a blackout. There may be even more hydroelectric power on the way for Hamilton. Another Hamilton company has been investigating putting yet other hydroelectric generators, capable of creating 5 megawatts, where the low-level dam south of Hamilton’s downtown now is located. The replacement low-level dam and generators, which require licensing from two federal agencies, would be less dangerous for boaters, advocates believe.

(A new life for 5 projects.)

TRUMP SIGNS BILLS TO BUILD VITAL RURAL HYDROELECTRIC DAMS

07/24/2018, by Tim Pearce | Energy Reporter, dailycaller.com

President Donald Trump signed bills Monday extending the amount of time before construction must start on five hydroelectric dams across five states. The bills cover dams located in Delaware, Maryland, North Carolina, Virginia and West Virginia. Each piece of legislation gives the Federal Energy Regulation Commission (FERC) the authority to extend the deadline for construction to begin up to six years and reinstate each project's construction license if it expires. Hydropower is considered clean energy and does not produce any carbon emissions.



Gibson Dam, MT

Environmentalists often oppose such projects because of the dams' effects on river ecosystems. The Hydropower Reform Coalition, an association of 150 different groups, wants significant reforms on hydropower to limit the impact on rivers.

Hydropower is a significant source of renewable energy in the U.S. While only 13 percent of energy in the U.S. in 2015 was produced through renewable sources, 46 percent of that was produced through hydroelectric dams, according to the Institute for Energy Research. U.S. hydroelectric facilities are some of the oldest energy generators in the country. The average age of a dam in the U.S. is around 64 years old. The 50 oldest generators in the U.S. are hydroelectric dams built before 1908, according to the U.S. Energy Information Administration (EIA). Hydropower accounts for roughly 6 to 7 percent of all electricity generated in the U.S. every year, the EIA reports.

(Now they want to make Hoover Dam a pumped storage project.)

The \$3 Billion Plan to Turn Hoover Dam Into a Giant Battery

By Ivan Penn., July 24, 2018, nytimes.com

Hoover Dam helped transform the American West, harnessing the force of the Colorado River — along with millions of cubic feet of concrete and tens of millions of pounds of steel — to power millions of homes and businesses. It was one of the great engineering feats of the 20th century.

Now it is the focus of a distinctly 21st-century challenge: turning the dam into a vast reservoir of excess electricity, fed by the solar farms and wind turbines that represent the power sources of the future. The Los Angeles Department of Water and Power, an original operator of the dam when it was erected in the 1930s, wants to equip it with a \$3 billion pipeline and a pump station powered by solar and wind energy.



The pump station, downstream, would help regulate the water flow through the dam's generators, sending water back to the top to help manage electricity at times of peak demand. The net result would be a kind of energy storage — performing much the same function as the giant lithium-ion batteries being developed to absorb and release power.

The process begins when the dam converts water into energy. Here's how:

The Hoover Dam project may help answer a looming question for the energy industry: how to come up with affordable and efficient power storage, which is seen as the key to transforming the industry and helping curb carbon emissions. Because the sun does not always shine, and winds can be inconsistent, power companies look for ways to bank the electricity generated from those sources for use when their output slacks off. Otherwise, they have to fire up fossil-fuel plants to meet periods of high demand. And when solar and wind farms produce more electricity than

consumers need, California utilities have had to find ways to get rid of it — **including giving it away to other states** — or risk overloading the electric grid and causing blackouts.

"I think we have to look at this as a once-in-a-century moment," said Mayor Eric M. Garcetti of Los Angeles. "So far, it looks really possible. It looks sustainable, and it looks clean." The target for completion is 2028, and some say the effort could inspire similar innovations at other dams. Enhancing energy storage could also affect plans for billions of dollars in wind projects being proposed by the billionaires Warren E. Buffett and Philip F. Anschutz. But the proposal will have to contend with political hurdles, including environmental concerns and the interests of those who use the river for drinking, recreation and services. In Bullhead City, Ariz., and Laughlin, Nev. — sister cities on opposite sides of the Colorado, about 90 miles south of the dam — water levels along certain stretches depend on when dams open and close, and some residents see a change in its flow as a disruption, if not a threat. "Any idea like this has to pass much more than engineering feasibility," Peter Gleick, a co-founder of the Pacific Institute, a think tank in Oakland, Calif., and a member of the National Academy of Sciences, internationally known for his work on climate issues. **"It has to be environmentally, politically and economically vetted, and that's likely to prove to be the real problem."**



Other Stuff:

(Don't go there.)

(Lotta stress. They forgot to mention murders.)

America's 10 Most Stressful Cities

Detroit is a tough town. Fremont, CA, not so much

By Neal Colgrass, Newser Staff, Jul 21, 2018, newser.com

(NEWSER) – Stress, death, and taxes—all inevitable, right? Maybe so, but a WalletHub analysis of 180 US cities finds they inflict stress in unequal measure. Analyzing 37 metrics like suicide rates, debt load, divorce, and average work hours per week, researchers boiled them down to four stress areas: **work, finance, family, and health & safety. Here are the top 10 with their two highest rankings among the above areas:**

1. Detroit, MI (1st in "Health & Safety" and 3rd in "Financial")
2. Newark, NJ (1st in "Work" and "Family")
3. Cleveland, OH (2nd in "Financial" and 6th in "Family")
4. Birmingham, AL (4th in "Health" and 5th in "Financial")
5. Toledo, OH (5th in "Health & Safety" and 7th in "Financial")
6. Baltimore, MD (8th in "Financial" and 10th in "Family")
7. Wilmington, DE (7th in "Work" and 28th in "Health & Safety")
8. Milwaukee, WI (12th in "Family" and 14th in "Financial")
9. Gulfport, MS (3rd in "Health & Safety" and 18th in "Financial")
10. St. Louis, MO (17th in "Healthy & Safety" and 19th in "Financial")

Which are least stressful? From the bottom: Fremont, CA; Bismarck, ND; Sioux Falls, SD; Overland Park, KS; South Burlington, VT; Scottsdale, AZ; Irvine, CA; San Jose, CA; Madison, WI; Lincoln, NE; and Fargo, ND. In other stress news, **Forbes reports on a study that identifies eight stress-reducing factors including outdoor activity, charitable acts, spiritual practices, and a day of rest.**



(Call home.)

10 Best Big US Cities to Call Home

The West Coast looks good

By Jenn Gidman, Newser Staff, Jul 23, 2018, newser.com

(NEWSER) – Thinking of setting down roots and only a major metropolis will do?

WalletHub took a close look at the 62 biggest cities in the US (those with at least 300,000 people) to see which ones offer the most attractive options, pitting the pros against the cons of urban living. The site looked at five major categories—quality of life, safety,

education and health, the local economy, and affordability in each city, including housing prices, property taxes, and median annual household income—and placed Seattle at the top of its ranking. Last on the list: Detroit. Here, the top 10:



1. Seattle (No. 1 in "Economy," "Education and Health" categories)

2. Virginia Beach, Va.

3. Austin, Texas

4. San Francisco

5. San Diego

6. Honolulu

7. Portland, Ore.

8. San Jose, Calif.

9. Colorado Springs, Colo.

10. New York (No. 1 in "Quality of Life," "Safety" categories)

Check out how other cities rank here: <https://wallethub.com/edu/best-worst-large-cities-to-live-in/14358/>



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