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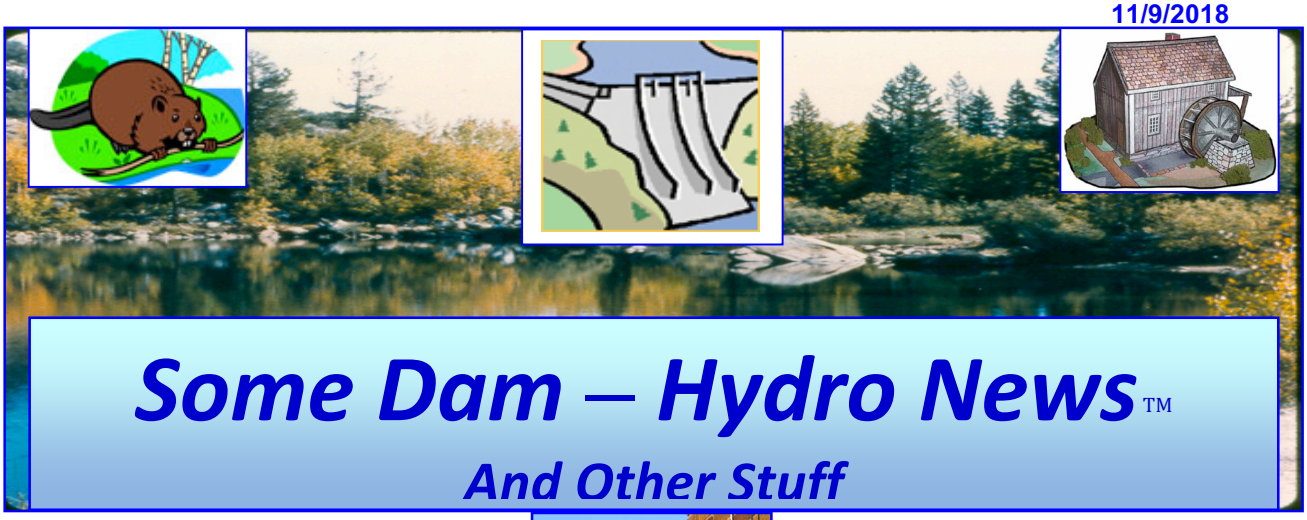


Some Dam – Hydro News™

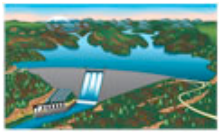
And Other Stuff

i

Quote of Note: *"Nothing is permanent in this wicked world - not even our troubles." - Charlie Chaplin*

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 u***nder 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 Renato Ratti Italian (Piedmont) Red "Barbera d'Asti Battaglione"**
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson



Dams:

(What's exciting for some people isn't for everybody.)

Four Exciting Dam-removal Projects to Watch

From California to Maryland, dams are being removed to help fish, improve safety and boost recreation.

October 18, 2018 - by Tara Lohan, therevelator.org

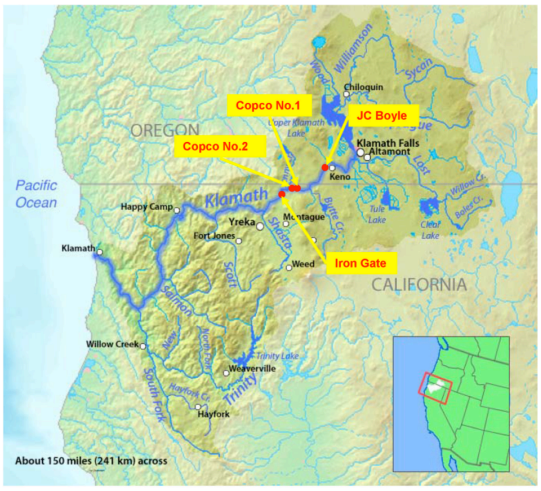
For much of the 20th century humans got really good at dam building. Dams — embraced for their flood protection, water storage and electricity generation — drove industry, built cities and helped turn deserts into farms. The United States alone has now amassed more than 90,000 dams, half of which are 25 feet tall or greater. Decades ago, dams were a sure sign of "progress." But that's changing. Today the American public is more discerning of dams' benefits and more aware of their long-term consequences. In the past 30 years, 1,275 dams have been torn down, according to the nonprofit American Rivers, which works on dam-removal and river-restoration projects.

Why remove dams? Some are simply old and unsafe – the average age of U.S. dams is 56 years. It would cost American taxpayers almost $45 billion to repair our aging, high-hazard dams, according to the American Society of Civil Engineers. In some cases it's simply cheaper to remove them. Other dams have simply outlived their usefulness or been judged to be doing more harm than good. Dams have been shown to fragment habitat, decimate fisheries and alter ecosystems. Depending on the size and scope of the project, dam removal may not be an easy or quick fix. Getting stakeholders onboard, raising the funds and performing the necessary scientific and engineering studies can take years before actual removal efforts can begin. And some projects are controversial and may never get the green light. For decades stakeholders have debated whether to remove four hydroelectric dams on the Lower Snake River in eastern Washington. The dams provide about four percent of the region's electricity, but also block endangered salmon from reaching critical habitat. The fish are a key food source for the Northwest's beleaguered orcas.

The debate over the Snake River dams is ongoing, but with each new dam removal researchers are learning important lessons to help guide the next project. One of the most important lessons gleaned so far is that rivers bounce back quickly. Recent research has shown that "changes in the river below the dam removal happen faster than were generally expected and the river returned to a normal state more rapidly than expected," says Ian Miller, an oceanography instructor at Peninsula College and a coastal hazards specialist. Miller has worked on studies both before and after the removal of two dams on Washington's Elwha River, which is the largest dam-removal project thus far. But more projects, including a big one, may soon be grabbing headlines. Here are four that we're watching closely that show the diversity of dam-removal projects across the country.

Klamath

The most anticipated upcoming dam-removal project in the United States will be on the Klamath River in California and Oregon. It's the first time four dams will be removed simultaneously, making it an even bigger endeavor than those on the Elwha. "We've never seen a dam-removal and river-restoration project at this scale," says Amy Souers Kober, communications director for American Rivers. The hydroelectric dams — three in California and one in Oregon — range in height from 33 feet to 173 feet. Local tribes may be among the most enthused for the dams' removal. Their communities depend on salmon as an economic and cultural resource, but fish populations began to crash after the first dam on the Klamath River was constructed 100 years ago.



While the removal of the dams won't make the Klamath River entirely dam-free (there will be two more upstream dams remaining), it will open up 400 miles of stream habitat for salmon and other fish. It's also expected to help improve water quality, including reducing threats from toxic algae that have flourished in the warm water of the reservoirs. The project is hailed for the huge coalition for stakeholders that have become collaborators. "This has been decades in the making, with so many people involved, from the tribes, to commercial fishermen, to conservationists and many others," says Kober. "Dam removals are most successful when there are a lot of people at the table and it's a truly collaborative effort." The Federal Energy Regulatory Commission and an independent board of consultants are now reviewing the plan for the Lower Klamath Project, a 2,300-page analysis of the dam removal and restoration effort. And the project is also working on

receiving its last permitting requirements. If all proceeds on track, the site preparation will begin in 2020 and dam removal in 2021.

Patapsco

Bloede Dam removal in process: Maryland Department of Natural Resources Fishing and Boating Services/ YouTube

On September 11, as the Southeast readied itself for approaching Hurricane Florence, a blast of explosives breached the Bloede Dam on the Patapsco River in Maryland. Crews have been working to remove the rest of the structure and restoration efforts are expected to continue into next year. The dam — the first submerged hydroelectric plant in the country — was built in 1907 and is located in a state park and owned by Maryland Department of Natural Resources. For the past decade concerns have mounted over public safety, obstructed fish passage and other aquatic habitat impacts from the dam, prompting a plan to remove it. The removal of the dam is "going to restore alewife and herring and other fish that are really vital to the food web and the Chesapeake Bay," says Kober. Researchers expect to study the results of this ecosystem restoration for years to come.

There's another reason to watch this project: The dam's removal also involves some interesting science and technology. Researchers have employed high-tech drones to help them understand how much of the 2.6 million cubic feet of sediment from behind the dam will make its way downstream and at what speed. With the sensitive ecosystem of the Chesapeake Bay just 8 miles downstream, sediment inflow is a big concern. "Just the idea the we can fly drones over this extended reach with some degree of regularity means that we can see evidence of sediment movement from the pictures alone," explains Matthew Baker, a professor of geography and environmental systems at the University of Maryland, Baltimore County, who is helping to lead this effort. "We can track the movement just by taking low-altitude aerial photos and we can try to model that within a computer and estimate the amount of sediment and the rate of movement." This kind of research lowers the cost of monitoring, says Baker, and can help future dam-removal work, too. "I think it's going to be employed regularly," he says.

Middle Fork Nooksack

About 20 miles east of Bellingham, Wash., a dam removal on the Middle Fork Nooksack River is the "next biggest important restoration project in Puget Sound," says Kober. The diversion dam, built in 1962, was constructed to funnel water to the city of Bellingham to augment its primary water supply source in Lake Whatcom – but at the expense of fish, which cannot pass over or through the dam.

Bald eagles and other birds on the Nooksack River. Photo: Mick Thompson (CC BY-NC 2.0)

Since the early 2000s the city, Washington Department of Fish and Wildlife, Lummi Nation and Nooksack Indian Tribe have worked on a plan to remove the dam in order to restore about 16 miles of spawning and rearing habitat for three fish listed on the Endangered Species Act: spring Chinook salmon, steelhead and bull trout.

The primary purpose of the dam removal "is recovery of threatened species," says April McEwen, a river restoration project manager at American Rivers. "The goal of the project is to provide critical habitat upstream for those salmon species to be able to spawn." It's also hoped that more salmon will reach the ocean and help the same endangered orcas affected by the Snake River dams. The whales depend on the fish for food and are at their lowest population in 34 years. But a critical part of the dam-removal project is continued water supply for the city.

Currently the dam creates a "consistent and reliable municipal water flow," says Stephen Day, project engineer at Bellingham Public Works. The current project design has identified a new diversion about 1,000 feet upstream where water can be withdrawn with similar reliability but without the need for a dam. The design phase of the project is currently being finalized, and McEwen says they hope to have all the permits by March 2019 and the dam removed later the same year. But first, the project still needs to secure some needed state funds. The dam removal is "a really big deal" for the entire Puget Sound ecosystem, says McEwen. "Salmon are keystone species. If their numbers are down, we all suffer, including humans and especially orca whales."

Grand

A project that has been in the works for a decade could put the "rapids" back in Grand Rapids. More than a hundred years ago, the construction of five small dams along a two-mile stretch of the Grand River in the Michigan city drowned the natural rapids to facilitate transporting floating logs to furniture factories along the banks.
Those factories long ago closed, and the aging dams are now more of a safety hazard than a benefit for the city.

The idea of removing the dams came as part of a larger effort initiated in 2008 to green the city. "Early on the main focus was recreation, looking at ways to bring back rapids for kayaking," says Matt Chapman, director and project coordinator of the nonprofit Grand Rapids Whitewater, which has been leading the river-restoration effort. "But as the project has evolved and as we've learned and studied the river, we've realized there are so many other benefits to a project like this." "The more we found out about the river, the more we realized how impaired it is biologically," says Wendy Ogilvie, director of environmental programs at the Grand Valley Metropolitan Council. "We hope through the revitalization there will be some recreational opportunities, but a lot is fish passage and a better habitat for native species."

The dams set to be removed may be small — the largest is about 10 feet tall — but the project isn't simple. For one thing, the presence of the Sixth Street dam, the tallest, has blocked the further invasion of parasitic sea lamprey (Petromyzon marinus), which have spread from the Atlantic Ocean throughout the Great Lakes over the past two centuries. The project is working to create a new structure that will prevent the lamprey from migrating further upstream and preying on native fish after dam removal. Project managers discovered that the federally listed endangered snuffbox mussel (Epioblasma triquetra) also makes its home in this stretch of river. The project hopes to carefully remove and relocate the mussels to suitable habitat during the construction process, which is expected to take about five years. The mussels may be returned after construction and restoration. The dam removal is also expected to help state-listed threatened lake sturgeon (Acipenser fulvescens) return to their original spawning grounds upstream and benefit smaller fish like logperch, which have been blocked by the dam and are vital for mussels.

The river-restoration process is also spurring a greater revitalization effort along the riverfront to provide more accessible green public space and economic opportunities. "It's not just restoring the river, but also how the community gets to the river from the neighborhoods," says Chapman. He says they hope to have all the necessary permits in hand to begin working on habitat improvements in the lower part of the river next summer, including finalizing a plan for the mussels' relocation. It will likely be another three or four years before the sea lamprey barrier is complete and the Sixth Street dam will be removed following that. Much work has been done over the years to clean up the river and curb pollution, says Ogilvie. The next step is helping to restore the ecology and recreational opportunities. "The best part about the project is having people value the river and think of it as a resource," she says. "If we could see sturgeon coming back up the river…that would be pretty amazing, too."

(Will they keep them or not?)

In Our View: Help Salmon, but Keep Dams

Sense of urgency should not override need for common-sense approach

The Columbian, October 24, 2018, columbian.com

Efforts to preserve salmon runs throughout the Columbia Basin should include more than wishful thinking. They also need consideration of economic impacts and must pursue evidence-based solutions. Despite these needs, a ruling last week by U.S. Judge Ricardo Martinez of the Western Washington District has emboldened those who believe that removing dams along the Snake River is a panacea for saving salmon throughout the region. Martinez ordered the federal government to protect fish from warm water temperatures in the Columbia and Snake rivers because those temperatures are lethal to salmon and steelhead. Indeed, warm water is an issue that must be addressed, and it is being made more urgent by climate change. But the issue is far more complex than is suggested by the judge's order for the federal Environmental Protection Agency to devise a plan within 60 days.

According to a lawsuit filed by Columbia Riverkeeper and other groups, in 2015 roughly 250,000 adult sockeye salmon were killed by warm water in the rivers. "In recent years," the ruling reads, "water temperatures in the Columbia and Snake rivers has consistently exceeded 68 degrees Fahrenheit, especially during the summertime salmon and steelhead runs, presenting a problem for the continued survival of those native fish populations." Dams on the rivers contribute to those dangerous conditions, creating large, slow-moving reservoirs that result in warm water temperatures. In addition, some industries discharge warm water into the rivers, exacerbating the situation. Concern for salmon has been a long-standing issue in the region, and that has grown more urgent with a dwindling orca population in Puget Sound. Orcas rely on salmon for food, and shrinking salmon populations have hampered the health of pods in the waters off Washington. That has led to a coalition that supports a radical approach to the problem. As The Seattle Times wrote, "Orca advocates have joined forces with dam-removal advocates pushing to breach the Lower Snake River Dams to improve Chinook runs."

Dam removal should not be considered a realistic option. Such actions would hamper irrigation essential to Columbia Basin farms that feed the world and help drive the state's economy; would end the shipping of grain and other products along the rivers, increasing truck traffic that further contributes to climate change; and would reduce the amount of clean, renewable hydroelectricity available to the region. The ruling in U.S. District Court found that the EPA did not enforce and ensure a water temperature maximum, as is required under the Clean Water Act. The federal government must, indeed, be held accountable for meeting guidelines, but the notion of ensuring water temperature is unrealistic. There are no guarantees in dealing with an ever-changing environment, but there are options for mitigating those changes. In the past, cold water has been released from the Dworshak Reservoir in Idaho to cool downstream water. Improved management of reservoirs through draw downs and tapping into cold water in reservoir bottoms also can help cool surface temperatures. Steps are available to assist salmon without breaching dams, and they should be considered quickly. The situation calls for urgency. But at the same time, it is necessary for a common-sense approach that goes beyond rhetoric. Protecting salmon requires more than wishful thinking that breaching dams would be a panacea for native fish runs.

(A fixer upper!)

New Bedford to receive $1M loan for Buttonwood Park Dam

By The Standard-Times, Oct 24, 2018, southcoasttoday.com

BOSTON — The City of New Bedford, MA is receiving a $1 million loan from the state for the Buttonwood Park Dam. The loan was part of more than $10.2 million in grants and loans to assist communities in addressing deteriorating dams and refurbishing critical coastal infrastructure. The awards, funded by the Dam and Seawall Repair or Removal Fund and the governor's annual capital budget, include engineering phase or construction phase support for nine dam repair projects, five dam removals, and eight coastal protection reconstruction projects, according to a news release. The program will award $10,265,932 in grants and loans to 22 projects to help finalize designs, reconstruct critical infrastructure, or remove obsolete or unneeded structures. Since its inception in 2013, the Dam and Seawall Program has awarded over $60 million in grants and loans to attend to this important infrastructure.

The $1 million loan will go toward the dam that was constructed in 1902 for irrigation and flood control purposes. It is classified as a significant hazard potential structure in poor condition. A roadway runs across the crest of the dam and is a convenient crossing of the park. The structure has numerous deficiencies and the proponent seeks to substantially rebuild much of the spillway, install armoring as overtopping protection, rebuild culverts under the roadway, and perform other repairs, according to the release. "These improvement projects, directed towards our seawalls and dams, ensure that our coastal city remains resilient and fortified," said state Rep. Antonio F. D. Cabral, D-New Bedford, in a statement. "The Buttonwood Park dam has been in need of this type of investment for quite some time and this loan will help us mitigate a number of issues at the site."

The city will also receive a grant for $134,460 for repairing coastal structures areas along West Rodney French Boulevard. These structures protect the roadway but also protect the 7-foot diameter sewer trunk line that lies beneath the road. The primary concern is that if the seawall were to fail, the aging sewer line could be exposed to waves and debris, risking failure. The seawall is deteriorating and a full reconstruction is not feasible. Instead, the city will use a combination of groin improvements and beach nourishment to reduce impacts to West Rodney French Boulevard. This award will be utilized to complete the design and permitting of the project and bring it to construction-ready status, according to the release. "Deteriorating dams and seawalls threaten the safety of residents, infrastructure, businesses, water supply, and the environment, and as a result we are committed to working with municipalities across the state to repair or remove these structures," said Energy and Environmental Affairs Secretary Matthew Beaton in a statement.

(Excerpts. The hurricane wreaked havoc. This hurricane was bad news for NC.}

North Carolina Tallies $12.7 Billion Toll from Hurricane Florence

.enr.com

----------."The impact was like the damage of Hurricane Matthew in 2016 and Hurricane Floyd in 1999 put together.".

----------. Approximately 1 million households suffered damages, with a preliminary impact estimate of $3.4 billion. The state's modeling system estimates 430,000 residential structures were damaged by wind and 74,000 were flooded. Agriculture's $2.4 billion in losses includes $117.7 million in damages to farm buildings, equipment and infrastructure.----------,

----------.The state's Dept. of Environmental Quality offers a preliminary estimate of $23.6 million for damage to 19 dams, including breaches at Boiling Spring Lakes and Sutton Lake, near Wilmington. Costs are expected to rise as reports come in.

(Download the guidelines in PDF.)

FEDERAL GUIDELINES FOR DAM SAFETY SELECTING AND ACCOMMODATING INFLOW DESIGN FLOODS FOR DAMS

Download: Federal Guidelines For Dam Safety Selecting And Accommodating Inflow Design Floods For Dams

file:///C:/Users/Ron/Documents/Work%20Files%20Personal/FERC%20Engineering%20Guidelines/Chapt%20II%20Guidelines%20for%20Inflow%20Design%20Floods.pdf

You can find more dam safety guidelines at:
https://www.ferc.gov/industries/hydropower/safety.asp?csrt=13010671341531181798

(Trying to imitate beavers.)

Biologists build beaver dams, too

buckrail.com, 10/25/18

WYOMING – Okay, most of us know or can guess why beavers build beaver dams. But why do biologists build beaver dams? Game and Fish Department Aquatic Habitat supervisor Lara Gertsch explained the benefits of a time-tested stick jam on moving water.

Beaver dams are important for streams. But, because some places aren't good beaver habitat, biologists will build their own beaver dams. These are call beaver dam analogs, or BDAs for short, and they are a tool used by habitat biologists to mimic natural beaver dams. These structures hold water, trap sediment, and stabilize the water flow. A beaver dam, whether analog or real, can help a stream that might only flow at certain times of the year keep water year-round, which is good for habitat, both in the water and on land, and is especially good for trout. Biologists build the beaver dam analogs using wooden fence posts pounded into the stream bed with a mattress of willow or cottonwood limbs woven through the posts and mud. "It's almost like how a beaver would do it," Gertsch said. "If the area is too remote for hauling in fence posts and post pounders, we just build it like a beaver. We use limbs, sod, mud, and logs collected from the site." Like a real beaver dam, analogs are temporary and can get breached if the water flows high and fast. Depending on the stream system and situation, the analogs should be expected to last up to five years or until the pool behind the dam fills with sediment and grows lots of woody plants.

(Putting the controversy in dollars.)

How Snake River dam debate could affect your power bill

OCTOBER 25, 2018, BY SIMONE DEL ROSARIO, q13fox.com

NEAR TRI-CITIES, Wash. -- The future of four dams on the lower Snake River in Eastern Washington is still undecided after the latest draft from the governor's orca task force revealed members have yet to reach a consensus. Proposals to breach the dams have dominated public comment and petitions throughout the task force process aimed at coming up with recommendations to save southern resident orcas from extinction. The pressure has left federal agencies scrambling to defend the dams' benefits, including Bonneville Power Administration, or BPA, which markets the power. Most of the Pacific Northwest is powered by water; hydropower meets about 60 percent of the region's needs. About 5 percent of the region's power comes from four dams on the lower Snake River between Tri-Cities and Lewiston, Idaho.

A federal judge has already ordered the federal government to consider removing these dams because of the impact the dams have had on native fish stocks. Two of those stocks are critical to the endangered orca, but BPA claims the dams are a critical part of the energy grid. The Northwest is flush with power. In fact, there's a surplus. "The question is: Do you have the capacity at times when you need it -- the hottest day of the year or the coldest day of the year?" BPA Deputy Administrator Dan James said. Just a handful of dams on the Columbia River provide the majority of hydropower needed in the Pacific Northwest. But the system's capacity -- the ability to handle spikes -- is the primary purpose behind several other dams, including the four on the lower Snake River. Nancy Hirsh, executive director of NW Energy Coalition, is advocating for fish restoration on the Columbia and Snake rivers while promoting renewable energy sources. I asked her if the four lower Snake River dams are critical to the region's energy grid. "They are a part of our energy grid and they are a part of our energy grid that, with proper planning, we can replace," Hirsh said.

Impacts on salmon and orca

The fate of the four lower Snake River dams has been challenged for decades because of its impacts on native fish. Those challenges are getting louder with each southern resident orca death. The endangered killer whales eat mainly chinook salmon from a variety of waters, but according to NOAA Fisheries, two of the orca's top 10 priority stocks come from the Snake River. As the governor's orca task force looks to recover salmon habitat, orca and salmon scientists point to the Snake River's high elevation and cold water streams as ideal conditions for restoration. "You want to be able to put your money in a system where it's going to have the longest-term impacts and the greatest potential in the long run, in the long term, to have healthy sustainable runs of salmon," said Deborah Giles, a leading whale research biologist with the University of Washington. "The Snake River fits those bills."

Off the grid

But what about the power the dams provide? BPA sells power from 31 federal dams to utility companies like Seattle City Light. "Without the flexibility and operating reserves that these [four lower Snake River] dams supply, the region would lose a substantial amount of its ability to deliver reliable energy," James said. If the four dams were to go off the grid, the region's power reliability would be considered inadequate, according to standards set by Northwest Power and Conservation Council. But if they were replaced with a bundle of other clean energy options, a study commissioned by NW Energy Coalition shows that risk goes away. "We see wind and solar and storage and energy efficiency working in partnership to create the same reliability, and even more reliable, than the hydro system itself," Hirsh said.

BPA has claimed that the cheapest, most efficient way to replace the dams' power would be with new natural gas resources. NW Energy Coalition fights that assumption and has presented a clean replacement energy portfolio that would 'either decrease greenhouse gas emissions or cause emissions to rise by less than 1 percent.' The study used BPA's own numbers for its projections. BPA's asset manager Kieran Connolly told me the content of the study is sound.

It comes down to cost

The agency's own estimates on replacing the dams' power range from $274 million to $372 million. It's a cost that would be passed on to ratepayers. "Those numbers sound like they're in the ballpark but when you break that down to what that means for customers, it's $1.25," Hirsh said. Hirsh said the study they commissioned from Energy Strategies is very conservative and the replacement costs could be even cheaper. As it stands, it would be a modest increase each month if it is spread over the entire region. BPA says the cost would be higher than that if the increase is only split between the agency's ratepayers.

Other vocal participants in the power conversation, including former civil engineer Jim Waddell of Dam Sense, claim BPA would not need to replace the power at all because of the increase in private renewable energy investments. The replacement estimates from BPA and NW Energy Coalition could also be offset by taking into account the money BPA would save on dam

operations. In 2017, the agency spent $122 million to generate power from the four dams on the lower Snake River. That does not include the agency's fish and wildlife obligations. Annually, BPA spends between $250 million and $300 million on fish mitigation in the form of hatcheries, habitat and land acquisition across the entire Federal Columbia River Power System. In 2017, $81 million of that was allocated throughout all sub basins of the Snake River. However, breaching the Snake River dams would not save the agency that entire $81 million in mitigation cost because it still has to account for the environmental damage the Columbia River dams cause Snake River fish as they make their way to and from the ocean. Also, the investments have not been enough to satisfy one federal judge, who ordered the agencies take a hard look at the dams and consider breaching one or more to save threatened fish.

An agency in trouble

Connolly said that a replacement increase to the tune of hundreds of millions of dollars would make the agency noncompetitive in the market. The agency is already cash-strapped, crunched with low market prices, expensive capital projects and its fish and wildlife programs. BPA is spending $100 million alone to replace half of the turbines at Ice Harbor Lock and Dam on the Snake River. The new blades will be more fish friendly and efficient for power generation.

These capital investments have pushed the price of generating power at the dams much higher than the agency's forecasted cost through 2030. BPA expects the project will be complete in the next few years and then claims the level of investment on the Snake River will 'drop to a significantly lower level' as it focuses on improvements at other dams on the Columbia River. Still, capital projects are just a portion of what's hurting the bottom line. In a meeting with the region's power council earlier this year, BPA Administrator Elliot Mainzer painted a grim financial picture, where the agency is not priced competitively and has raised rates by 30 percent in the past decade. "I've heard it since the day I took the job that we've got to get ourselves off this unsustainable rate trajectory," Mainzer said. BPA has taken big hits in the secondary revenue market, where it sells surplus energy generated at dams like those on the Snake River. It has burned through about $800 million in cash in the past decade, leaving them with close to zero cash reserves.

The current market price of around $20 per megawatt hour is unsustainable for the company. The agency quotes a levelized forecasted energy price of $37 per megawatt hour through 2030, which would be far more viable, though some energy experts doubt the market will go up that much. BPA is predicting the decarbonization of the region will cause prices to rise. Right now, there are simply too many power options on the grid with new renewable energy and cheap natural gas. Stiff competition is keeping prices low. "With the cheap gas and the low load growth and the oversupply conditions, it's been a bloodbath for folks in the wholesale market," Mainzer said. Mainzer told the council that BPA needs to be willing to critically examine certain assets and determine if they are economically viable. Connolly, as asset manager, tells me the Snake River dams are. He said breaching the dams could be detrimental to BPA's business and possibly the investments it makes in fish programs. Still, the agency will stand behind whatever decision comes from the court-ordered environmental impact study on the dams, due in 2020.

(It’s going happen, and it may have already, the only question is when?)

Aon and Guidewire Launch Cyber Scenario for a U.S. Dam Attack

October 25, 2018, apnews.com

LONDON & FOSTER CITY, Calif.--(BUSINESS WIRE)--Oct 25, 2018--Aon plc (NYSE:AON), a leading global professional services firm providing a broad range of risk, retirement, and health solutions and Guidewire Software (NYSE:GWRE), provider of the industry platform Property and

Casualty (P&C) insurers rely upon, have launched a scenario for a hypothetical attack by hackers on a U.S. hydroelectric dam, which could impact both U.S. businesses and homeowners. There are over 90,000 dams in the U.S., providing irrigation, hydroelectric power, flood control, and recreation. While technology and automation improve dam safety and operation, they also create new risks.

In this scenario developed by Aon and Guidewire's Cyence Risk Analytics team, part of Guidewire's Analytics and Data Services unit, a hacker seeks to create significant disruption in the U.S. by opening the flood gates at a hydroelectric dam. If such a scenario were to occur it would likely cause significant downstream flood damages, resulting in 'silent cyber' losses for insurers. Silent cyber risk is the potential for cyber perils to trigger losses on traditional insurance policies – such as property or casualty – where coverage is unintentional or unpriced.
Aon and Guidewire analyzed the potential impacts of the scenario at three dams, selected to reflect a small, a medium, and a large exposure respectively. The key findings were that a cyberattack could cause:

Major impacts not only to dam operations but also to the resilience of local businesses and communities, with the highest economic loss estimated at $56 billion. Silent cyber exposure to insurers, with total insured losses of up to $10 billion. By comparison, initial estimates of insured losses resulting from wind and storm surge damage from Hurricane Michael have ranged up to $10 billion. A significant protection gap that would impact homeowners and businesses if such an event were to occur, with only 12% insured in one scenario. Jonathan Laux, Head of Cyber Analytics for Aon's Reinsurance Solutions business, commented: "Insurers must consider how changing technologies can cause 'established' perils such as flood to morph into new risks, with resulting changes to frequency and severity. By using scenarios such as this one, insurers have the ability to stress test their portfolios against new and emerging perils created by cyber risk. With that knowledge, insurers can take steps to mitigate risk, through reinsurance as well as working with businesses to increase their resilience." Matt Honea, Director of Cyber at Guidewire, added: "We face a huge challenge today, securing not only all laptops and phones, but all network connected devices. These connected devices are automating human tasks by powering more equipment and processing systems. We bring focus to these dam scenarios to highlight concrete examples of an extreme cyber event."

(Another opinion re the Klamath R. dams.)

Feedback

By Gerry Obrien, Oct 28, 2018, heraldandnews.com

Actually, the blocking of salmon and other fish probably was more connected to the Bureau of Reclamation water project that directs water into the canals for crop irrigation. Also connected to the four dams on the Klamath River: Copco I and Copco II, the dam in Keno and another closer to Klamath Falls. One of the Copco dams produces hydroelectric power which will be lost when it is removed. The other hydroelectric dam is not producing anything significant now. They are slated to be removed very soon. — *Warren S*.

(Another benefit of hydro.)

Dinner with a view: 'Dine on The Dam' set for next year

Oct 27, 2018, by Crysty Vaughan, abccolumbia.com

Columbia, SC (WOLO) – Ready to Dine on The Lake Murray Dam? This week the Greater Lexington Chamber of Commerce announced plans for 'Dining on the Dam.' It is set for April 17, 2019. Organizers say Dining on the Dam will feature dishes that incorporate certified SC grown products and views of beautiful Lake Murray.

(Dam removal always gets the money.)

DNR water funding includes grants to remove 2 lowhead dams

By The Associated Press, 1-/29/18, heraldcourier.com

CORYDON, Ind. (AP) — State officials have awarded $1.2 million for improvements along Indiana's lakes and rivers, including funding to remove two lowhead dams. The funding for 27 lake and river enhancement projects announced Monday by Indiana's Department of Natural Resources will mostly go toward helping stabilize shorelines and riverbanks.

But it includes about $100,000 each for removing a lowhead dam along the Elkhart River in northern Indiana's Elkhart County and another lowhead dam in southern Indiana's Harrison County, near Corydon. The DNR says removing dams that serve no current purpose improves stream habitat, boosts biological diversity and improves river safety for boaters, paddlers, anglers and swimmers. Low-head dams can be deadly when the waters are high because people can get trapped in the hydraulic action of the water at the dam's base.

(It looks like it came from a garbage dump. It's that time of year when everybody is campaigning.

Weymouth gets $782K to improve reservoir dam

By Ed Baker, wickedlocal.com, Oct 29, 2018

A dam at Great Pond Reservoir has physical deficiencies and its spillway is not large enough to accommodate water flow during intense rainfalls, but upgrades will be done to both structures under a $782,700 state grant awarded to the town. State Sen. Patrick O'Connor, R- Weymouth, stated the grant would allow the town to make improvements to the dam to ensure nearby residents will remain safe from flooding. "The effects of climate change have made extreme weather events more frequent and these upgrades are needed to better prepare for the future," O'Connor stated. "I'm proud to have worked with the Baker-Polito Administration to secure these vital funds to better prepare our communities." The grant awarded to Weymouth is among $10.2 million in funds being distributed through the state Dam and Seawall Repair or Removal Program by Gov. Charlie Baker's administration to communities with deteriorating dams and infrastructure. Lawmakers created the program in 2013 to assist communities and groups across the state with remedying deteriorating dams and refurbishing critical coastal infrastructure, according to a summary provided by O'Connor. Baker said the program provides vital support for communities to be prepared for natural hazards like coastal and inland flooding. "Our administration was proud to recently pass a $2.4 billion bipartisan environmental bond bill that included over $500 million to help communities improve their resiliency to climate change and protect the environment," he stated.

State Rep. James Murphy, D-Weymouth, stated the funding being made available to Weymouth proves the legislature is firmly committed to allocating state funding to improve the town's infrastructure. "I look forward to continuing to work alongside the Executive Office of Energy Affairs and the town of Weymouth as we see this project come to fruition," Murphy stated. Weymouth received a $150,000 grant in November 2016 for engineering studies and a repair design for the Great Pond Dam. The recent grant awarded to the town will allow the department of public works or a contractor to construct an auxiliary spillway to reduce the risk of water overflowing over the dam from the reservoir during intense storms, and replace a culvert to reduce the risk of flooding on Randolph Street. The funding also will allow the town to make the Great Pond Dam more resilient and its daily operation more efficient, according to Mayor Robert Hedlund.\ "Weymouth is appreciative of the Baker-Polito administration and Executive Office of Energy and Environmental Affairs for their continued support of the Great Pond Dam project,"

Hedlund stated. “These improvements will allow the dam to provide continual serve for Weymouth’s water supply as well as vital protection to the homes and roadways at risk of downstream flooding.”

Hydro:

(Some people think it was a shady deal.)

PPL sued for $733 million in Montana state court

By: Justin Backover, Oct 30, 2018, wfmz.com

PPL was sued Monday for nearly $1 billion in Montana state court. PPL is being sued by a company they created that says their actions have been misleading and fraudulent. It all began in 1999, when PPL bought Montana Power Company, which was renamed PPL Montana.

In 2014, PPL Montana sold 12 hydroelectric dams to the tune of $733 million and those profits were paid out to PPL stockholders. Then, in 2015, PPL spun off a division of the company, the power generation side of it, into a newly-formed company. That company, now called Talen Montana, filed two suits in Montana State Court against PPL, one alleging fraudulent conveyance, which is legal speak for avoiding debt by transferring it to another person or company.

Talen Montana says by transferring those proceeds, PPL left it unable to effectively operate its coal plant, which includes things like a pension fund and environmental remediation. 69 News reached out to PPL Monday afternoon for comment.

The company released a statement Tuesday morning:

> PPL believes that the referenced 2014 distribution of proceeds was made in compliance with all applicable laws and that PPL Montana was solvent upon the 2014 distribution. Additionally, in the agreements entered into with respect to the spinoff, affiliates of Talen Energy and Riverstone definitively agreed that PPL was entitled to retain the proceeds from the November 2014 sale of PPL Montana's hydroelectric generating facilities. PPL believes that it has good and meritorious defenses to these claims and fully plans to vigorously defend against these actions.

(It’s about time somebody noticed.)

Permit Delays Dam Up Hydro Projects, Relicensing Costs Millions

By Rebecca Kern, October 30, 2018, bna.com

Opinion:

Alvin Thoma’s youngest son was born the year his employer, Pacific Gas & Electric Co., began the process of renewing the license for its Upper North Fork Feather River hydropower facility in northern California. His son is 19 years

old now. The facility, however, is still undergoing relicensing. “For me, that’s a mental image of just how long it takes to go through this process,” Thoma, a director of power generation at PG&E, which runs one of the largest hydro systems in the country, told Bloomberg Environment.

Delays like this are common, particularly in California, which conducts its own environmental review in addition to those required under the federal National Environmental Policy Act for hydropower relicensing. Those delays are deterring investment in new hydropower projects and even making some companies decide against renewing their licenses at all, industry groups said. And federal help isn’t coming quickly. House and Senate bills aiming to speed up hydropower licensing and relicensing are unlikely to become law before the end of this Congress, meaning they’d have to start anew next year.

Environment:

(A plea for more wild and scenic rivers.)

Guest column: October is the 50th anniversary of the Wild and Scenic Rivers Act

BY ERIK FERNANDEZ, Oct. 26, 2018, bendbulletin.com

Opinion:

Oregon is home to a number of iconic rivers, from the Deschutes and Metolius rivers in Central Oregon to gems like the North Umpqua and the Rogue. These rivers provide clean drinking water, fish and wildlife habitat and amazing recreational opportunities. As we celebrate the 50th birthday of one of our most important river conservation tools, the Wild and Scenic Rivers Act, it’s a good time to ask if we ought to be celebrating or worrying about our rivers. In 1968, Congress passed the Wild and Scenic Rivers Act largely in response to the dam-building spree that had been sweeping the nation. The bill protects a narrow corridor along certain rivers from aggressive logging and other developments, and perhaps most importantly, prevents the building of new dams. Dams disrupt, or prevent, the ability of salmon to swim upstream to reproduce. In effect, the act ended up being an essential tool to protect world-class rafting, fishing and hiking opportunities on several of Oregon’s most beautiful rivers.

Oregon has designated 1,900 miles of Wild and Scenic Rivers, which sounds like a lot, until you think about how many rivers we have in the state. Overall, less than 2 percent of Oregon’s rivers are safeguarded as Wild and Scenic. The Deschutes River is the closest Wild and Scenic River to Bend. Stretches of the river just upstream and downstream from town are protected, while the segment that runs through city limits (and all the irrigation infrastructure) is not protected. Generally speaking, Wild and Scenic Rivers are in a more natural condition and are less developed, albeit not necessarily pristine. The rivers that are not protected by the act face a number of threats — including those that threaten the health of watersheds and the people who depend on them.

Oregon’s logging rules around streams are weaker than those of every one of our neighboring states. We allow logging in the riparian zone (the forested/vegetated buffer along the river’s edge), which reduces shade and results in warmer temperatures. It also leads to erosion. Poorly designed logging roads near streams often “bleed” sediment into the water every time it rains. All of this is bad news for clean drinking water and salmon. Further complicating the future of Oregon’s rivers is climate change, which will result in less snowpack and longer droughts. Increased demand and development in places like Central Oregon will further exacerbate the demand on water.

In a rare bit of good news out of Congress, we can thank Oregon Sens. Wyden and Merkley for their efforts to protect more Wild and Scenic Rivers. After nearly a decade of work, they recently succeeded in advancing the Oregon Wildlands Act out of committee in the Senate (it's awaiting a final vote). The bill would protect several wilderness areas and designate over 250 miles of new Wild and Scenic Rivers, including the Molalla River and tributaries to the Rogue and Nestucca rivers. Looking to the future, Oregon's rivers will need our congressional delegation to step up and do more to protect rivers in Central Oregon, as well. Rivers like the North Fork Crooked in the Ochoco Mountains need increased conservation to safeguard water quality and recreational opportunities. I encourage all of us, and especially our congressional delegation, to recommit to better protecting our Wild and Scenic Rivers for the next 50 years. Let's ensure that we, and future generations, can drink clean water, live in a world full of salmon and other wildlife and enjoy exceptional recreational opportunities in free-flowing rivers.

Other Stuff:

(Not one U.S. car in the top 10.)

Here Are the 10 Most Reliable Car Brands

Not a single one of which is a US company

By Evann Gastaldo, Newser Staff, Oct 25, 2018, newser.com, consumerreports.org

(NEWSER) – In the market for a new car? Consumer Reports is out with a list of the most reliable brands—and none of the top 10 are American. Ford is the first US company to show up on the list, at No. 18, and the second most reliable US brand, Buick, saw the biggest decline of the entire list: It fell 11 spots this year, to No. 19. If you must buy American, know that Taurus is the most reliable model for Ford while Mustang is the least; Encore is the most reliable model for Buick while Enclave is the least. Or see the next page for the top 10 brands least likely to give you trouble:

1. Lexus, with GX as the most reliable and IS as the least. Lexus is the No. 1 Asian automaker for reliability.
2. Toyota, with Prius C as the most reliable and Tacoma as the least.
3. Mazda, with MX-5 Miata as the most reliable and CX-3 as the least.
4. Subaru, with Crosstrek as the most reliable and WRX as the least.
5. Kia, with Sedona as the most reliable and Cadenza as the least.
6. Infiniti, with Q60 as the most reliable and Q50 as the least.
7. Audi, with Q5 as the most reliable and A3 as the least. Audi is the No. 1 European automaker for reliability.
8. BMW, with i3 as the most reliable and X1 as the least.
9. Mini, with Countryman as the most reliable and Cooper as the least.
10. Porsche, with 911 as the most reliable and Cayenne as the least.

Click for the complete list: https://www.consumerreports.org/car-reliability-owner-satisfaction/who-makes-the-most-reliable-cars/

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