



12/19/2014



Some Dam – Hydro News™ And Other Stuff



Quote of Note: “You cannot win if you’re not at the table. You have to be where the action is.”- Ben Stein

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“Good wine is a necessity of life.” - -Thomas Jefferson
Ron’s wine pick of the week: 2013 Byron Pinot Noir "Santa Barbara County"
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson



Dams:

(It’s as old as civilization because sometimes it’s a good idea!)

Dams have cost public far too much already

heraldandnews.com, December 5, 2014

Dams have cost public far too much already. The idea of building dams to store water is as old as civilization itself. Since the beginning of recorded history, man has found it necessary to accumulate water during a wet season to use during a dry season. The statement by letter writer Sally Wells that “Pacific Power customers, who are already paying for dam removal, support it because it caps our payments at \$200 million” is false. I do not support removing dams and do not appreciate using my hard-earned money to do so. Those who think the water situation will be fine once the dams are taken out are dreaming. Some future generation may realize it was a mistake, but rebuilding would be impossible without a change in the environmental and political climate. We’ve spent billions trying to accommodate suckers and salmon. Let it go. Don’t relicense the dams. Don’t use them to generate power and don’t remove them.

Vaudine Cullins, Alturas, OR

(Why not keep the hydro project too?)

Demise of dam fuels a vision in Westbrook

As Sappi Fine Paper works on that project, the city plans other upgrades to make the downtown a recreational hub.

By Leslie Bridgers Staff Writer, pressherald.com | pressherald.com

Alewife festivals draw thousands to the Damariscotta Mills fishway, and rafters from around the region flock to The Forks for the whitewater rapids. In the heart of Gardiner, anglers have to elbow their way into the fishing hole at the mouth of the Cobbosseecontee Stream. Now, imagine them all in one place.

That's what some think downtown Westbrook could look like in the not-so-distant future. By 2017, if all goes according to plan, alewives, shad and herring will swim up

Saccarappa Falls for the first time in more than a century, while paddlers will get unfettered access to the 29-foot vertical drop.

The Bridge Street bridge where cars now pass over the Presumpscot River will become a walkway where restaurants can set up outdoor seating and pedestrians can watch the activity in the water below. "All of these pieces really fit very nicely together and give people from the Greater Westbrook region and southern Maine a reason to come here," said Bill Baker, the city's director of business and community relations.



The linchpin of the plan is the removal of a hydroelectric dam that's long provided power to the Sappi Fine Paper mill – once the pillar of the city. By opening up the falls to boaters, as well as fish, the city hopes to create a recreational hub in the middle of its downtown and make a new name for the former mill town. Sappi initially planned to build a fish ladder over its Saccarappa Falls dam to meet a requirement by the Federal Energy Regulatory Commission, which ordered the company over time to create access for migratory fish through several of its dams on the Presumpscot. The ruling followed a years-long battle between the paper company and environmental groups. As the 2015 deadline for the Saccarappa Dam fishway approached, the city and environmental groups asked the company to consider removing it to create a natural passageway instead. When Sappi crunched the numbers, it turned out shutting down the dam would be in its best interests, too. After agreeing to surrender its federal license to generate power at Saccarappa Falls, Sappi was given a two-year extension to create the passageway.

With input from the city, environmental groups and the public, the paper company is working on a design for the falls that will allow fish to go up, kayakers to come down and Westbrook to become a place people want to visit. Growing public interest in the project was evident last month at a packed meeting at Westbrook High School that Sappi held to give an update on and get input for the design. About 50 people attended from as far away as New Hampshire, identifying themselves as paddlers, fishermen, environmentalists and parents. Caeli Shadis, a Portland resident who used to live near the Damariscotta Mills fishway, said an educational program about migratory fish has drawn busloads of students to that area. She asked Sappi and the city to consider adding a similar component to the Westbrook site. Barry Stemm, project manager for Sappi, said the company plans to have a final design by the summer in order to meet its completion deadline of spring 2017. At same time those plans are in the works, other upgrades to the city's downtown are moving forward. Bids are due Wednesday for a Department of Transportation project to build a new bridge on Bridge Street and turn the existing one into a pedestrian bridge that would overlook the falls. At the same time, the city is looking into extending its Riverwalk, which now runs along the southern bank of the Presumpscot, to the other side of the river.

Then there are the amenities that are already in place. Ramps with floating docks were installed on the river in the spring of 2013 and quickly put to use by fishermen. Ron Kriesman, attorney for the Friends of the Presumpscot River, said if the passageway allows fish to successfully repopulate the river, it should become an increasingly popular spot for fishing – the “surest way” to bring economic development to the downtown, he said. Soon after the docks were installed, the city started renting out kayaks and paddleboards, a program taken over by Portland Paddle last spring. Zack Anchors, co-owner of Portland Paddle, said the season was a success and provided a “real nice, peaceful place for people to paddle,” especially families. He imagines that adding whitewater features to the river would be a huge attraction. “There’s not a lot of whitewater kayaking destinations within a short driving distance of Portland,” he said. “I think it would draw a lot of people to Westbrook from all over New England.” Baker said there are more ideas out there about recreational features in the downtown. Snowmobilers want to be able to ride from trails to restaurants and gas stations, something that the new pedestrian bridge might make possible, he said. There’s even been talk about a zipline that would dump into the river. “I think the possibilities are endless,” he said.

(Not much news on building dams!)

A dam on the Pawcatuck River which could pose a threat to homes downstream if it fails could soon be removed

By Tina Detelj, WTNH Reporter Published: December 8, 2014, wtnh.com

As you look at the White Rock Dam on the Pawcatuck River you see that water quickly flowing through the end nearest the Rhode Island side of the river. That’s just one concern for conservationists. “The weak spot is over there,” says Nils Wiberg who is with the engineering firm Fuss & O’Neill which plans to remove the dam. “You can see the water’s rushing through. That’s a low level outlet and so that’s one of the areas that has failed.” The stone masonry wall above it is also falling apart and the heavy rain expected with Tuesday’s storm isn’t going to help.



Wiberg says the damage done by the floods of 2010 left the dam in poor condition. “Every storm that comes through it just gets a little bit worse so it’s only a matter of time,” says Wiberg. He hopes to control the situation by removing the dam before any storm does. “If this dam were to fail there would be a surge of water downstream which could affect those properties,” says Wiberg who adds those properties could be underwater. The removal of the dam is also expected to help restore migratory fisheries in the river which separates Rhode Island and Connecticut. The cost could be half a million to a million dollars with much of it offset by grants from the US Fish and Wildlife and NOAA. “That’s where the funding is coming from,” says Wiberg. “From the Superstorm Sandy grants.” Right now the engineering firm is in the permitting process and we’re told removal of this dam could begin next July.

(EAP’s need rehearsed!)

Officials stress communication at dam emergency plan meeting

By Bill Whelan | Dec 09, 2014, wareham-ma.villagesoup.com

Even though there is no immediate danger to residents who live near dams, public safety officials met Monday to discuss the town’s preparedness for a flooding emergency. “This meeting isn’t to tell you there is an issue, but to tell you that, if there was an issue, we wouldn’t want you to be surprised by that call,” said Lt. John Walcek of the Wareham Police Department, who led the

meeting of the Local Emergency Planning Committee. Director of Municipal Maintenance David Menard said the town monitors two dams in Wareham, the Parker Mills Dam by the Tremont Nail Factory and the Tremont Dam in West Wareham. He said the state monitors the Agawam Mill Pond Dam by the Elks Club and the dam near Exit 1 on Route 25. The Parker Mills Pond Dam was recently classified as a High Hazard Potential Dam by the state Office of Dam Safety at the Department of Conservation and Recreation, which means its failure could result in loss of life and damage to homes and businesses. The dam, which supplies water to the area cranberry industry, is located across from the Tremont Nail Factory. The Elm Street bridge, which was indefinitely closed on June 20, is part of the dam. In its August 2014 report, the Executive Office of Energy and Environmental Affairs said, "The Parker Mills Dam faces a multitude of repairs in order to maintain public safety." The state has awarded the town a \$165,000 grant and a \$835,000, two-percent-interest loan toward the \$1.2 million project to repair the dam.



"The Parker Mills Dam underlies the road [Elm Street] with its failing bridge culverts and other weakening issues. The bridge is not safe and the Town must repair the bridge, road and dam," wrote the town Finance Committee after visiting the site. Walcek stressed the importance for those in areas that would be affected by dam flooding or failures of compiling a complete emergency contact list of names and phone numbers. He said interns from the Mass Maritime Academy coming in January are already assigned to the project, but that residents can contact the department themselves with their information. EMS Director Dave Evans mentioned that residents can get an app Nixle that the Police Department uses to deliver free e-mail and text alerts whenever there is an emergency. Some residents asked about using the siren on top of Town Hall in the case of an emergency. "I think that the reverse 911 system is the modern day [siren]," Walcek said. "If there was an issue, you're going to find out about it, even if it takes a fire truck driving through your neighborhood with someone saying you need to evacuate," he added.

Wanapum Dam stable after reservoir hits elevation target The Columbia River behind Wanapum Dam hit its targeted 17-foot elevation increase 10 days ahead of schedule, but the shoreline remains closed, Grant County PUD officials said Tuesday.

By Christine Pratt, December 9, 2014, The Wenatchee World (TNS), seattletimes.com

Beverly, WA — The Columbia River behind Wanapum Dam hit its targeted 17-foot elevation increase 10 days ahead of schedule, but the shoreline remains closed, Grant County PUD officials said Tuesday. The utility, with cooperation other Columbia River dam operators, began raising the reservoir behind the dam's fractured spillway Nov. 25 and hit the mid-range elevation target of 562 feet on Dec. 1.



Utility officials estimated that with river flows this time of year, they'd need until Thursday to hit the target.

The reservoir remains stable at a range between 558 feet and 562 feet, utility spokesman Chuck Allen said. It's expected to stay within that range until April or May, when ongoing spillway repairs will allow the pool to be filled to its full capacity of 571.5 feet, Allen said.

PUD crews are cruising the shoreline by boat to check for erosion caused by the pool's drawdown and recent partial refill, as well as for unstable areas and cultural sites that could still be exposed, Allen said. After the evaluation is finished in a week or two, PUD officials could open all or parts of the shoreline, he said. The closed portion of shoreline is from Wanapum Dam upriver to Rock Island Dam. The PUD closed the shoreline in early March, about a week after divers discovered a 65-foot-long crack across one of Wanapum Dam's 12 massive concrete "monoliths" or base sections. Crews have been at work ever since on a \$69 million project to anchor the spillway more securely to bedrock.

(Isn't this the case with all infrastructure? It only takes money!)

Corps: US Falling Behind on Waterway Levees, Dams

Kansas City, Mo. — Dec 10, 2014, by Heather Hollingsworth, Associated Press, abcnews.go.com

The nation is falling behind on maintaining its aging levees, dams, ports and harbors and needs to get creative as it seeks ways to pay for the critical projects, the U.S. Army Corps of Engineers' commander general said Wednesday. Lt. Gen. Thomas Bostick told reporters that finishing all the projects that have been authorized would cost about \$23.5 billion but that that corps' annual budget for the work usually hovers around \$1.5 billion. He said that figure doesn't include addressing a maintenance backlog as projects? Many of them decades old? Exceed their design life. "It is going to take you decades to finish the work and then you are going to have new projects here and there," Bostick said, speaking during the Society of American Military Engineers conference. "The reality is Congress cannot do this alone. The federal government cannot do this. And the message to local towns and communities and business is we cannot rely on the federal government to solve this fiscal challenge." Bostick said the corps is looking at alternative means of financing projects, including through public-private partnerships. The question, he said, is how to "monetize the project in such a way that investors would come in and over a number of years get a return on their investment?"

The corps said that 16 percent of the dams it operates are categorized as extremely or very high risk. Since 2009, delays and interruptions have more than doubled on the nation's inland waterways' locks and dams. There also has been a 50 percent increase in hydropower facility downtime since 2000, the corps said. Bostick highlighted the findings of the American Society of Civil Engineers, which has given America's overall infrastructure a D+ grade, its dams a D, its inland waterways a D-, its levees a D- and its ports a C. The group has called for Congress and the Obama administration to come up with a way to pay for infrastructure maintenance and updates to help manage floods. The ASCE noted in its report that the Association of State Dam Safety Officials estimates that it will require an investment of \$21 billion to repair aging high-hazard dams, while the National Committee on Levee Safety said the cost to repair or rehabilitate levees is estimated at \$100 billion. "I wouldn't be concerned at this point from a safety perspective. But there are projects, individual projects that are at high risk," Bostick said. He noted that extensive flood control work was undertaken after Hurricane Katrina, lessening the effect that Hurricane Isaac had seven years later in 2012. "The nation will invest in times of crisis but the question is: Can you set priorities when there is not a crisis but one is looming so we can make the right decisions?"

(Movies can be far-fetched. Frightening thought!)

Could San Andreas destroy Hoover Dam?

By Gary Robbins, Dec. 10, 2014, utsandiego.com

I know, I know, it's just a movie. But I yelled, 'Hey, wait a minute' when I saw the Hoover Dam being destroyed by seismic shaking in the new trailer for the disaster movie "San Andreas," which opens next May. The collapse of the dam doesn't seem plausible. I called San Diego State seismologist Tom Rockwell to check. "You should talk with a structural engineer, but my gut feeling is that the dam is too far away to be destroyed by a quake on the San Andreas," said Rockwell, who has done a lot of research on the fault. "Shaking gets weaker the further you get

from an earthquake. And the dam is 195 miles (east) of the San Andreas. The ground acceleration would be very low by the point."

The Hoover Dam is a 726-foot tall concrete arch-gravity dam that's located on the border of Arizona and Nevada. It impounds water from Lake Mead, some of which is released for use in San Diego. The dam is considered to be an engineering masterpiece. That doesn't mean it is indestructible. But shaking from a distant quake isn't a major threat. At least, not the kind of shaking that you'd expect. Scientists say the largest earthquake on the San Andreas would be in the 8.0 to 8.1 magnitude range. That could topple high-rise buildings in Los Angeles (which does happen in 'San Andreas'). The fictional shaking in the movie could be far larger. The trailer doesn't reveal that much.



The 726-foot tall Hoover Dam was dedicated in 1935 and is considered a marvel of engineering. It is located on the border of Arizona and Nevada. Sony



Hydro:

(Don't understand Bitcoins!)

Bitcoin ASIC Hosting Expands to 1MW of Hydroelectric Capacity in Washington State With 2.5 Megawatt Expansion Underway

By Scott Fargo, December 7, 2014, cryptocoinsnews.com

Bitcoin mining has become a game of trying to get the most powerful miners in the largest quantities running on the least expensive power as possible. There are some other considerations as well, but these are the most significant. This change has made it difficult for most people to mine at home. That leaves the options of cloud mining or buying your miners and having them hosted. Bitcoin ASIC Hosting has previously been mentioned when CCN had covered the news of a deal with Dell to offer hosting in Dell data centers. In a follow-up with Allen Oh of Bitcoin ASIC Hosting, we were able to find out how things have progressed with their business. Now that they have announced their expansion to 1 MW with another 2.5 MW expansion underway, growth has been great for them and Bitcoin. Allen, as always, was able to give some insight and plenty of information on their business.



Data center cold aisle

(Lots of opinion, no action.)

Klamath Basin proposal is bad for taxpayers: Guest opinion

By Guest Columnist, December 06, 2014, oregonlive.com
By Jim McCarthy

The Klamath River Basin and its communities need a sustainable plan to address longstanding conflicts over water. Unfortunately, the controversial and expensive Klamath agreements – currently before Congress – will not resolve these conflicts. These co-joined agreements include hundreds of millions of dollars of taxpayer-funded giveaways to Klamath River dam owner PacifiCorp and irrigators in the federal Klamath Project. The itemized budgets contained in the water sharing agreements alone – totaling nearly \$1 billion – belie the recent public claims of newly reduced costs for taxpayers. These cost reduction claims rely on accounting gimmicks but leave state and federal taxpayers firmly on the hook for a water plan that leaves salmon runs and fishing communities at significant risk.



Since a landmark court order in 2006, Oregon has seen the benefits of science-based Klamath River flow management with rebounding salmon stocks and revitalized commercial and recreational fishing industries. Why, then, do these agreements ignore the best available science on flow needs for salmon? During the recent drought years of 2010 and 2014, the deals would have greatly increased water diversions to the Klamath Project area and dropped Klamath River flows below the levels seen leading up to the disastrous 2002 fish kill. Ignoring science and history, these agreements do not even guarantee flows at 2002 fish kill levels. Under the proposed legislation, preventing repeated Klamath fish kills during drought would require expensive short-term water-leasing and unsustainable groundwater pumping. Funding for this activity would come on top of the deal's already massive price tag. The legislation also provides unfair advantages to Klamath irrigators at taxpayer expense. Despite what Klamath irrigators say, they now pay energy prices for pumping water similar to what their farming neighbors pay in nearby valleys. By law, similar customers of any regulated electrical utility must pay similar rates. However, until recently, Klamath irrigators enjoyed heavily subsidized power rates provided by billing other PacifiCorp customers an additional \$10 million per year. That sweetheart deal expired, and reviving it would violate current law. Unfortunately, the Klamath agreements seek to reverse this progress by introducing new subsidies, which will undermine water use efficiency gains made under existing power prices.

WaterWatch supports removing the obsolete Klamath River dams. The cheapest and most direct path to this goal requires restarting the Federal Energy Regulatory Commission process for these facilities. The Klamath agreements have blocked this process for years, notwithstanding multiple analyses showing that removal and building equivalent generation capacity elsewhere would cost PacifiCorp customers less than retrofitting and operating these outdated dams to meet modern standards. Klamath dam removal supporters should look to PacifiCorp's Condit Dam removal — done without costly federal legislation — as a model. It's clear that the current legislation is not a sustainable path forward for Klamath communities. Any long-term solution on water will require science-based flow assurances for fish, measurable salmon and steelhead restoration standards, some meaningful downsizing of the Klamath Project, and the voluntary retirement of other water rights in the basin. It's time to recognize that a durable solution in the Klamath must include these elements. *Jim McCarthy is the communication director of WaterWatch of Oregon. He represented WaterWatch as a member of the Klamath Basin Task Force and has testified before Congress regarding Klamath Basin water issues.*

(Probably did the economics wrong. Hydro projects are out there that are 100 years old. Sort of biased, huh!)

New report questions viability of Susitna dam project

By Dermot Cole, December 8, 2014, adn.com

As the administration of new Alaska Gov. Bill Walker begins to scrub the numbers in the state budget, an analysis released Monday suggests big holes in the economic assumptions justifying the proposed 735-foot-high Susitna-Watana Hydroelectric Project. But the agency leading the charge on the project stood by its price estimate as the "most probable cost." "The Susitna hydro project does not survive any plausible market test," writes longtime Alaska economist Gregg Erickson in a report commissioned by the Alaska chapter of Trout Unlimited, opponents of the Susitna plan. The state could draw upon its easily accessible cash savings of more than \$15 billion to build the project, but draining state reserves at a time of multibillion-dollar annual deficits would make the future that much more risky, Erickson said. The ultimate cost of the proposed dam could be far higher than the advertised price of \$5.19 billion, the report says, and the dam would compete for a portion of the same energy market as a proposed \$7 billion to \$8 billion smaller-diameter gas pipeline. That project's future is also uncertain as the Walker administration begins to re-evaluate priorities for the state with oil prices dropping and projected budget deficits growing. When Gov. Sean Parnell left office last week, he offered a proposed budget that included \$20 million to advance studies of the Susitna project. He also included money for a range of other big projects, including the Ambler Road and the Knik Arm Crossing. Money for advancing gas line studies has already been appropriated by the Legislature. A week ago, the Walker administration began developing its own budget, and one of the many decisions the new governor will face in 2015 is whether to continue with the Susitna dam studies. Erickson says the state has likely underestimated the cost of building and operating the dam. It is also downplaying the likelihood that cost overruns would make the project uneconomic and it has not identified how much revenue would have to be paid to Cook Inlet Native corporations for building the project on their lands, he said. Erickson questions many of the financial assumptions used by the state agency in its public presentations, saying that the project relies on an "exceedingly optimistic" 5 percent interest rate. Without a state commitment to pay off the debt if the project doesn't pencil out, the agency would most likely have to borrow money at a higher rate, he said.

Regarding construction costs, the state gas pipeline company says the in-state gas pipeline has a margin of error of plus or minus 30 percent. Something similar should apply to the cost estimates on Susitna, Erickson said, as the project is not at a point where a specific cost can be reliably stated. The project would require about \$880 million to upgrade transmission lines to move energy from the dam on the Susitna River to Fairbanks and Anchorage, but that cost is not part of the \$5.19 billion estimate, nor is the cost of building and operating the dam on Native lands, Erickson writes. The Alaska Energy Authority defended its planning work and said that while the cost estimate it has published should be viewed as being accurate to "plus or minus 20 percent to 30 percent," it uses the single \$5.19 billion figure to show the "most probable cost." The agency denied that 5 percent is exceedingly optimistic as a cost of borrowing money and said that "a blend of potential low-interest financing from the Rural Utility Service and 6 percent for AEA bonds with a state moral obligation" will be enough to reach that target. Regarding the \$880 million in intertie upgrades needed to deliver Susitna power to Anchorage and Fairbanks, AEA agreed that the cost is not reflected in the project plan, but "the transmission upgrades and operations is a larger issue that is important to the Railbelt independent of this project."

Proponents of the dam say it would provide low-cost power for 100 years, meeting about half the demand of the Railbelt. The Alaska Gasline Development Corp. says it views the proposed gas pipeline from the North Slope to Southcentral as "complementary to the hydroelectric projects and not an exclusive alternative." But Erickson writes that the gas pipeline company assumed its gas would have half of the Railbelt demand for electricity, while the Susitna planners say they would capture the other half. "To finance the Susitna project with borrowed money, as AEA's feasibility calculations assume, it will be necessary for Railbelt utilities to agree to purchase Susitna's entire output," he wrote. "So far there is no indication that the utilities have the financial strength to make a take-or-pay commitment. And should they make such a promise, it strains credulity to suggest the same utilities could then commit to fulfill half their energy requirements with bullet-line gas," he said. As far as the dam and the gas pipeline each accounting for half of Railbelt power needs, the

agency said that is correct, but they are not in competition. The AGDC project "assumes serving half of the electric demand, however its project economics are not dependent on serving any portion of the electric demand as all unused natural gas can be exported as LNG, increasing revenues to the state of Alaska."

(A State with their head on straight.)

Editorial: NW Energy encouraged to work with innovative hydro plan

bozemandailychronicle.com, December 9, 2014, Editorial Board

Wind and solar energy offer great hope for weaning us off of fossil fuels in coming years. But both of these forms of clean energy have a significant problem. The wind doesn't always blow and the sun doesn't always shine. The peaks and valleys in wind and solar energy production make it very difficult to depend on them as primary sources of energy. But a project planned in Meagher County may provide a solution. This innovative plan would use – and reuse – water and gravity to generate hydropower. Two large reservoirs, one higher than the other, will transfer water back and forth, generating power as the water goes down during periods of low wind and sunlight. And then the water is pumped back up to the upper reservoir using power generated through the wind and sun during peak production times for those sources.

The project will yield an estimated 400 megawatts, more than either of two Colstrip coal-fired power plants. There's a catch, though, planners for the so-called pumped-storage project have yet to find a utility to buy the power. Utilities have been resistant to sign on to alternative energy projects for the very reason that power production can be so uneven and unpredictable. But this project could change all that. Developers of the Gordon Butte Pumped Storage Hydro Project have garnered the enthusiastic support of Montana Gov. Steve Bullock. The Environmental Protection Agency is proposing a rule that would require states to reduce their carbon emissions by 30 percent by the year 2030. With its immense coal reserves and heavy reliance on the coal-fired power plants, Montana is one of the worst states for carbon emissions. But the good news is that Montana also has an abundance of wind and sunshine. The success of the pumped-storage hydro project could make all that wind and sunshine much more marketable than they are now. Officials at NorthWestern Energy, the state's largest utility, are urged to work with the developers of his plan. And Bullock is urged to use his powers of persuasion to convince them to do so.

(Don't you get nervous when a politician says anything?)

Iowa lawmaker wants to expand state's hydro power

By Robert Walton | December 10, 2014, utilitydive.com

An Iowa lawmaker wants to access untapped potential at dams, studying the addition of more hydroelectric power to go along with the state's substantial wind resources, Midwest Energy News reports.

- Rep. Dan Kelley (D) has indicated interest in introducing a bill in 2015 which would fund a study on Iowa's hydroelectric potential, which he says could eventually produce as much energy as the state's wind resources.
- There are about 80,000 non-powered dams in the United States which provide some type of service, according to a 2012 Department of Energy study. Iowa ranks tenth among states with untapped hydro resources and could add 427 MW.

Dive Insight:

Iowa already gets more than a quarter of its power from wind, but Kelley believes the state could ultimately be getting almost as much from its hydroelectric resources. DOE says non-powered dams (NPD) have the potential to produce 12,000 MW of power, expanding the United States' conventional hydro resources by 15%. Because the dams are already in place DOE says the expansion could be done at less cost and environmental impact. A majority of the potential is concentrated in just 100 dams which could contribute approximately 8 GW of power, and the top 10 facilities could add up to 3 GW. "Importantly, many of the monetary costs and environmental impacts of dam construction have already been incurred at NPDs, so adding power to the existing dam structure can often be achieved at lower cost, with less risk, and in a shorter timeframe than

development requiring new dam construction," DOE said. "The abundance, cost, and environmental favorability of NPDs, combined with the reliability and predictability of hydropower, make these dams a highly attractive source for expanding the nation's renewable energy supply"



Water:

(Not a unanimous opinion. Now you know as little as they know!)

Causes of Calif. drought natural, not man-made: NOAA

usatoday.com, 12/8/14

Natural weather patterns, not man-made global warming, are causing the historic drought parching California, says a study out Monday from federal scientists.

"It's important to note that California's drought, while extreme, is not an uncommon occurrence for the state," said Richard Seager, the report's lead author and professor with Columbia University's Lamont Doherty Earth Observatory. The report was sponsored by the National Oceanic and Atmospheric Administration. The report did not appear in a peer-reviewed journal but was reviewed by other NOAA scientists. "In fact, multiyear droughts appear regularly in the state's climate record, and it's a safe bet that a similar event will happen again," he said.



The persistent weather pattern over the past several years has featured a warm, dry ridge of high pressure over the eastern north Pacific Ocean and western North America. Such high-pressure ridges prevent clouds from forming and precipitation from falling.

The study notes that this ridge — which has resulted in decreased rain and snowfall since 2011 — is almost opposite to what computer models predict would result from human-caused climate change.

The NOAA report says midwinter precipitation is projected to increase because of human-caused climate change over most of the state. Seager said a low-pressure system, not a high-pressure system, would probably form off the California coast because of climate change. Low pressure creates clouds and precipitation. Some outside climate scientists criticized the report, saying it didn't take into effect how record warmth worsened the drought. "The authors of the new report would really have us believe that is merely a coincidence and has nothing to do with the impact of human-caused climate change?" Penn State meteorologist Michael Mann wrote Monday in The Huffington Post. "Frankly, I don't find that even remotely plausible." Mann said the NOAA report focuses primarily on the lack of precipitation, not the unusually high temperatures measured in the oceans as well as across California. "This study completely fails to consider what climate change

is doing to water in California," wrote Kevin Trenberth, head of climate analysis at the National Center for Atmospheric Research. He said the work "completely misses" how hotter air increases drying by evaporating more of it from the ground. This year, California is having its warmest year in 120 years of weather records, the National Climatic Data Center reported Monday. Peer-reviewed studies are divided on whether the drought can be blamed on climate change.



Environment:

(Do a study to find out what other people dumped in your reservoir. Is this blackmail?)

Exelon to fund \$3.5 million study on Conowingo Dam's effects on Susquehanna and Chesapeake Bay

By Ad Crable | Staff Writer, December 9, 2014, lancasteronline.com

Exelon to fund \$3.5 million study on Conowingo Dam's effects on Susquehanna and Chesapeake. A week after the state of Maryland announced it intended to deny a key permit Exelon needs to extend its license for the Conowingo hydroelectric dam, Exelon has agreed to fund up to \$3.5 million for a study of how the dam affects the water quality of the Susquehanna River and the Chesapeake Bay. The Maryland Department of the Environment last month said it planned to deny a water-quality permit renewal to the Conowingo Dam.



That announcement came a week after a report found that the Safe Harbor and Holtwood dams in Lancaster County, as well as Conowingo Dam, were no longer trapping polluting farm and urban stormwater runoff. Exelon, owner of the Conowingo Dam on the Susquehanna River in Cecil County, Maryland, has been seeking relicensing renewal from the Federal Energy Regulatory Commission. The dam also needs a water-quality permit from Maryland to operate. The Maryland Department of the Environment said at the time that Exelon hasn't fully supported its contention that the dam's reduced ability to trap sediment is not harming the Chesapeake Bay, about 10 miles downriver. The agency plans a hearing on Jan. 7 before making a decision. During the recent election, Republican Gov.-elect Larry Hogan largely blamed the dam for bay pollution. He belittled state and federal efforts to reduce pollution by controlling runoff, according to the Associated Press.



Other Stuff:



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