



Some Dam – Hydro News™ And Other Stuff



Quote of Note: "Government's view of the economy could be summed up in a few short phrases: If it moves, tax it. If it keeps moving, regulate it. And if it stops moving, subsidize it." -Ronald Reagan

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"Good wine is a necessity of life." - -Thomas Jefferson
Ron's wine pick of the week: 2012 Carlos Serres Spanish Red "Crianza"
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson



Dams:

(Flood control works.)

Flood control dam to be upgraded

By Doug McDonough, Plainview Herald, January 19, 2017, myplainview.com

One of four flood control dams along the Lower Running Water Draw, TX watershed and the closest structure to Plainview, TX is in line for almost \$3.3 million in upgrades.

The dam, which is listed as No. 4, is located about 2 1/2 miles west of Plainview along 24th Street. It is on the Slaton Draw which flows into the Running Water Draw, and is immediately north of the Pleasant Hills Addition. Two other dams are on the main channel in Hale County, in extreme northwest Hale County and just west of the Runningwater School site. Another dam is located outside Hart. Three other dams, further upstream starting in Clovis, N.M., make up the Upper Running Water Draw portion of the project. City Manager Jeffrey Snyder reported on a recent public hearing on the project to the city council at its work session on Thursday. It was the



second public hearing held by USDA's Natural Resources Conservation Service (former Soil Conservation Service).

Actual funding for the upgrades could be several years ago, Snyder noted. Total project cost has been set at \$4,008,500, including \$631,600 for NRCS engineering and \$81,000 for project administration. The remaining \$3,295,900 is eligible for a 65/35 percent match, with the NRCS share set at \$2,142,300 and the sponsor share (35 percent) at \$1,153,600. Of that total, the Texas Soil and Water Conservation Board is expected to fund 95 percent, leaving about \$58,000 for the local sponsors – the City of Plainview, Hale County and the Hale Council Soil and Water Conservation District.

Snyder noted that the flood control project along the draw, was first proposed following a 100-year flood event in Plainview in 1960 and a second major flood in 1965. Planning began in 1968 and construction of the No. 4 site was completed in 1976. Built as a significant hazard dam, the No. 4 was reclassified as a high hazard dam in 2008 following a breach analysis. That change in status came after the realization of significant construction within the flood zone below the dam site. The analysis looked at the possible consequences if structure failure:

- Total population at risk (onsite): 446
- Properties at risk: 66 residences, 58 commercial, 12 public
- Roads/crossings that would flood: I-27, Business I-27, US-70, FM 400 (Date Street), numerous city streets, several county roads
- Park areas and golf course along draw would flood.
- 1,932 total acres flooded (1,551 acres of agricultural land and 381 acres of urban area)
- Monetary damages of \$12 million (urban areas \$12 million, road crossings \$2.3 million, ag land \$700,000)

The proposed rehabilitation includes:

- Install 340 foot wide roller compacted concrete auxiliary spillway over embankment
- Existing 30-inch conduit remains in place and will empty into the RCC stilling basin.
- Lower top of dam crest elevation 0.1 feet.
- Re-grade upstream slope of dam to original slope dimensions and flatten downstream slope to 3:1.
- Ensure a minimum additional 100-years sediment capacity is provided.
- Ensure that an adequate Emergency Action Plan is developed.

Snyder reported that all three local sponsors have submitted recent letters showing their continued support of the project. The actual timing of the project, he notes, is dependent on its priority ranking along with funding availability.

(Moving right along.)

Boone Dam repair project stays on schedule

By LURAH SPELL | BRISTOL HERALD COURIER, Jan 19, 2017, 1/19/17, heraldcourier.com

Boone Dam repairs are still on track to be completed between 2020 and 2022, according to Tennessee Valley Authority Public Relations Manager Jim Hopson. Boone Lake levels were lowered to winter pool in October 2014 so the cause of sediment seepage at the earthen embankment of the dam could be investigated. Water levels have remained at that level. In July 2015, TVA officials announced that the lake likely will not be raised until at least 2020 because repairs are slated to take five to seven years to complete at a cost of \$200 million to \$300 million.



The next phase of the repair project, high mobility grouting, is underway. Grouting is the process of injecting grout – a mixture of rock, cement and water – into the dam. In November, TVA officials began testing low mobility grouting that had been completed on the earthen embankment of the dam by fluctuating lake levels. Testing is still underway, Hopson said, but preliminary data shows that the low mobility grout is working. The difference between the two types of grout is consistency. High mobility grout is thinner, which will fill in smaller cracks under the embankment, Hopson said. Lake levels could be fluctuated as soon as this year to test the high mobility grouting. The next step in repairs will depend on the final outcome of grout testing, Hopson said. "We'll obviously take whatever steps are necessary to ensure that the embankment is going to be water tight," he said. "That's the entire reason we're doing this."

(For sure.)

Dams benefit more than farmers

JANUARY 20, 2017, fresnobee.com



In response to Daniel Houts' letter Jan. 14 in which he says that the money for dams should come exclusively from farmers: I would like to point out the record profits he mentions from farm productions are not net profits. The majority of the money earned goes into paying off loans, bills, growing costs and taxes. The building of the dams is for all citizens in the area. We rely on the stored water to get all of us through the dry summer months.

Where does Mr. Houts think all the food comes from? The store? Farmers use the water in creative ways so that they are able to produce the food for his table. Even farmers pay taxes, so why not let them have a say in their use? As a farmer's daughter, and one who works on the farm, I am acutely aware of how water is used and the necessity of its availability. I would rather have a dam than the high-speed rail. The dam at least will make back its building costs over time. That for everyone in a win-win. MEGAN GALLEANO, MADERA, CA

(Making sure it's safe.)

TVA evaluating structural safety of Beaver Creek Dam

By DAVID MCGEE | BRISTOL HERALD COURIER, Jan 22, 2017, heraldcourier.com

BRISTOL, Va. — Folks trying to take advantage of recent warm temperatures may encounter some obstructions atop the Beaver Creek Dam at Sugar Hollow Park. Contractors retained by the Tennessee Valley Authority continue to core drill at areas atop the 1,588-foot-long earthen dam. On Friday, the pathway from the access road across the top of the dam was muddy and somewhat rutted, and much of it was covered with straw. That work is expected to continue until nearly spring, according to agency spokesman Jimmy Hopson.



"We're doing a geo-physical and physical assessment of the dam to ensure that it will continue to perform safely. This is part of a comprehensive dam safety process that TVA conducts on all 49 of its dams across the Tennessee Valley, as well as dozens of earthen embankments that are in place to hold back the waters that we manage," Hopson said. "The folks in our dam safety organization felt the work at Beaver Creek should be complete in the next two months."

This despite the fact that the dam doesn't restrain any pool of water, although the creek flows through it. "It's still considered part of our dam safety program. It is one of the 49 dams that TVA manages, so we go through the same processes with all of them," Hopson said.

TVA frequently conducts routine inspections of all its dams, but Hopson said this type of inspection typically occurs every five to 10 years. "You go to your doctor for an annual physical to make sure everything is going well," Hopson said. "Then typically, on a less frequent basis, you have more detailed procedures. Every five to 10 years, you may have something more invasive. It's very similar on our dams." The current work checks the geology of the dam and surrounding area.



"We typically don't find things [wrong]. It's amazing when you consider TVA has dams that are more than 100 years old that we inherited in 1933, but these structures were exceedingly well designed," he said. If issues are found, such as the seepage problem at Boone Dam in Northeast Tennessee, problems can be corrected early to avoid any safety concerns, Hopson said. The Beaver Creek Dam is considered a flood detention structure. It is 85 feet high and has a flood-storage capacity of 5,020 acre-feet. It was completed in 1965 to address flood control of the creek, which flows through both Bristols and creates recreational opportunities. The park is managed by the city of Bristol, Virginia. Similar work occurred at Clear Creek Dam, which is part of the city's golf course. "While we attempt to minimize the impact on public access, we do remind visitors not to cross any posted construction barriers for their own safety," Hopson said.

(A dam removal in the works.)

Special Metro Parks series focused on the famed Gorge dam

Beacon Journal staff report, January 22, 2017 - ohio.com

With the push to remove a 105-year-old dam from Gorge Metro Park — a move that would uncover the long-hidden falls under the Cuyahoga River that gave Cuyahoga Falls its name — Summit County Metro Parks has planned a series of special programs about the well-known but obsolete feature. The "Free the Falls" series already includes a number of hikes and talks through May, and more will be scheduled for summer and fall. Experts have said the concrete dam is the biggest impediment to a cleaner and healthier Cuyahoga River.



The 429-foot-wide and 57-foot-tall Gorge Dam was built in 1911 and 1912 to generate power. Hydropower operations ceased in 1958, and the dam pool last provided cooling to a nearby coal-fired plant in 1991. Meanwhile, dams in Kent, Munroe Falls and elsewhere in Cuyahoga Falls have been removed or modified in recent years. The programs will be held at Gorge Metro Park, at 1160 Front St., Cuyahoga Falls, unless otherwise noted: Geology of the Gorge. 10 am. Feb. 18; 1 p.m. April 8; 10 a.m. May 20. Join a naturalist to learn how the different rock layers in the park were formed and about the forces that have shaped those rocks ever since. Crystal Palace Hike. 1 p.m. Feb. 23 and Feb. 26. Colorful icicles form along the Cuyahoga River. Join a naturalist and discover firsthand the beauty of water in winter. The hikes will go on even if there is no snow or ice. Gorge History Hike. 2 p.m., March 16 and May 18. Hike with a naturalist. Bringing Down the Dam. 6 p.m. March 30. Hear the interwoven story of the Gorge Dam, the Cuyahoga River and Gorge Metro Park. Meet at F.A. Seiberling Nature Realm, 1828 Smith Road in Akron. Hike the Gorge. 1 p.m. April 12. Learn about the nature and history of the Gorge Trail and the Cuyahoga River.

The Cuyahoga River:

A Fiery Past. 10 a.m. April 22. A story of pollution and redemption. History of Gorge Metro Park. 6 p.m. April 27. Historians will tell about everything from roller coasters to dance halls. Meet at F.A.

Seiberling Nature Realm, 1828 Smith Road in Akron. A Riverday Walk Through Time. 2 p.m. May 20. An easy hike in the Upper Gorge. See the restored site of a 19th century park that was once Northeast Ohio's most-visited attraction, and see the results of dam removal elsewhere on the Cuyahoga River. Meet at High Bridge Glens Park, 1817 Front St. in Cuyahoga Falls.



Hydro:

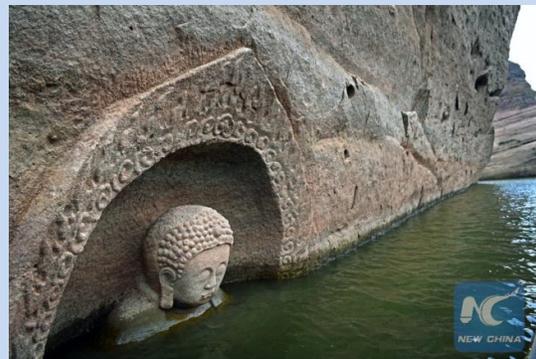
(Amazing what you find sometimes.)

A Reservoir In China Was Drained And Workers Were Greeted By A 600-Year-Old Surprise

JANUARY 20, 2017 — By Sarah Gzemski, viralnova.com

When I was younger, archaeology seemed like the coolest field in the world. I wanted to read hieroglyphics and explore unknown tombs like they did in the movies. Even now that I'm an adult, hidden wonders of the world still fascinate me. That's why I'm blown away by what reservoir workers found in China while going through a routine renovation.

During a hydropower gate renovation in Hongmen Reservoir, a local villager spotted something amazing in the rock wall revealed by the lowered water levels. This is the find of a lifetime. I wonder what else is underwater! SHARE this with your history buff friends who will be amazed by the discovery.



(Some hydro history.)

'Powering Homestake' tells history of Spearfish's hydroelectric plant Booklet published by Spearfish Historic Preservation Commission available to public

bhpioneer.com, January 20, 2017 by Kaija Swisher Black Hills Pioneer

SPEARFISH, SD — The hydroelectric plant along Spearfish Creek near the Spearfish City Campground been producing electricity since 1912, and its story is now compiled in the booklet, "Powering Homestake," published by the Spearfish Historic Preservation Commission and written by Paul Higbee. Greg Dias, chairman of the commission, presented the booklet to the Spearfish City Council Tuesday, describing the printing of the booklet as the completion of a project the commission has been working on for about three years.



"We're really proud of this piece of work," he said, acknowledging the South Dakota State Preservation Office, South Dakota Historical Society, Spearfish Area Historical Society, Deadwood History, Inc., Homestake Adams Research and Cultural Center, Black Hills State University Case Library, and Gary Lillihaug, hydroelectric plant superintendent, for their assistance and resources shared to make the booklet a reality. Dias also acknowledged the Spearfish Historic Preservation Commission members, who, including Dias as chairman, are Rebecca Rodriguez, vice-chairwoman; Patti Dias, secretary; Gloria Clark, Dorothy Honadal,

Lennis Larson, Kaija Swisher, and Paul Thomson. Dias also extended the commission's sincerest appreciation to Higbee for his work on the publication. "He brought a lot to the table," Dias said, describing that Higbee was right on board with the project as soon as he was asked about it. "He did a wonderful job on this."

Higbee took a moment to address the council, as well. "I really wanted to tell this story from Spearfish's perspective," he said, explaining that in addition to the above resources mentioned, archives of the Queen City Mail newspaper, area residents whose family members were involved in the hydroelectric plant project, and Jerry Krambeck, both as the former Spearfish mayor and as a former Homestake employee, were incredibly helpful during the research portion of the project. "The favorite fact of mine that I learned about this was in the spring of 1909, two big construction projects began: Development of the Titanic, and that same season, the development of the Homestake hydro system," Higbee said. "And sure enough, exactly three years later, the same week in April 1912, both the Titanic and the hydro plant fired up. We all know what happened to the Titanic's technology; it's all at the bottom of the Atlantic, but 105 years later, we still have the power plant producing electricity, with some of the very same technology that fired up in 1912. So it was a fun story to explore, and I thank you for the opportunity to do so."

The plant was built to provide power to the Homestake Mine, and when it was constructed, water was diverted at the Maurice intake located in Spearfish Canyon. From there, the water flows into pipes that deliver it approximately 4.5 miles to the plant, where it turns twin turbines, and the water then exits the plant, flows through Spearfish and onto its confluence with the Redwater River north of town. The city of Spearfish bought the plant in 2004 for \$250,000 and received a Federal Energy Regulatory Commission permit in 2011. The permit allows the city to operate the plant, maintaining and providing a stable source of energy, and allows it to enter into purchase agreements with utility companies. In 2005, the revenue from the plant totaled \$258,635, and after renewing a contract with Black Hills Power in 2014, the revenue has more than doubled since then: According to the city's 2015 Annual Department Operations Report, the revenue from the hydroelectric plant was \$889,088 that year.

The Spearfish Historic Preservation Commission provided booklets to members of the council, staff, and community members present at the meeting Tuesday, and Dias added that the booklets would be freely available to the public at city hall, the Spearfish Area Chamber of Commerce, Visit Spearfish, and the hydroelectric plant, as well as electronically on the city's website. "Part of a city is its past, and what you've done here is protect the past and gives us and the future an idea of what has happened with the hydro plant, and I want to thank you and your dedicated members for standing fast on this," Council Vice President Doug Schmit said. "It's fantastic, everything that you've done," Mayor Dana Boke added.

(Getting new stuff. Brrrr, looks cold!)

West Salem's Neshonoc Dam to get an upgrade

By Tobias Mann, lacrossetribune.com, 1/23/17

WEST SALEM, WI — There are changes coming to the Neshonoc hydroelectric dam in West Salem.

Scott Purlee of Eagle Creek Renewable Energy said that in the coming weeks, the dam will receive various computerized upgrades to automate the plant, which will allow remote control of the nearly 80-year-old dam. This is the first major upgrade to the facility since 2013, when the seals on the dam's gates and the original oak timbers were replaced with rubber and steel. The improvements are part of a larger plan by Purlee to renovate and restore the dam. Lake District Chair Jim Leicht said he was excited to see the new owners investing in the facility. He said the Neshonoc Dam had been



neglected in last few years. Purlee, manager for the company's southern district, said under North American Hydroelectric, which was obtained by Eagle Creek about four years ago, the Neshonoc plant was not made a priority. The company, based out of Morristown, N.J., purchases and operates hydroelectric dams throughout the company. Purlee said the company owns and operates more than 60 hydroelectric dams. It wasn't until last year that the dam came under Eagle Creek and Purlee's management as part of a restructuring within the company.

"I don't think it got the attention it deserved," Purlee said of the Neshonoc plant. The Neshonoc Dam was considered a low-hazard plant. Because of that, Purlee said, more attention was given to the high-hazard Hatfield plant located on the Black River. He said this was one of the changes made when Cedar Creek took over management of the Neshonoc plant. Purlee said of the five plants he oversees in Wisconsin and Illinois, all are considered low-hazard plants, of which Neshonoc is the highest priority. He said during the next few weeks, the Neshonoc plant will have a computer system installed to automate the raising and lowering of the gates. Before that, a dam operator was required to look at the lake conditions each morning and adjust the gates accordingly. Backup operator and Village Administrator Teresa Schnitzler said the upgrades will be a great improvement over having to go out to manually adjust the gates. She said the upgrade will also allow operators see whether the power is on at the plant. **"There was no way to know if the power is off at the plant," she said.** The new system is expected to be installed in the next few weeks, and a new roof is planned for this spring. "My intent is to beautify it," Purlee said. "If you saw the inside you would see a very different place than six months ago."

In addition to maintaining and repairing the aging facility, he said, he hopes to preserve as much of the historical equipment as possible. "Some of my other plants are like living museums," Purlee said. **Leicht said his biggest concern, the dam's damaged flashboards, has yet to be fully addressed.** The flashboards artificially hold the lake level higher and allow the plant to produce more electricity. He said some time ago the flashboards became damaged but to his knowledge were never repaired. Leicht said if the flashboards were to fail, the lake level could fall 30-plus inches adversely affecting the lake district, fishery and the La Crosse River. Purlee said he wasn't aware of an issue with the flashboards before it was mentioned by Leicht but is now investigating. Repairing the flashboards would require temporarily lowering lake level for some time while they were being replaced. **Purlee said he would need to coordinate with the lake district, fishery and other entities downriver before pursuing any repair if necessary.**

(More hydro, less emissions.)

Dam Expansion Increases Reservoir Capacity, Decreases CO2 Output Hydroelectric storage capacity increased for Southeast Alaska due to expansion of Swan Lake Reservoir.

BY JENNIFER RUPP, JANUARY 23, 2017 - NATIONAL EDITION, constructionequipmentguide.com

In May 2016, the Southeast Alaska Power Agency (SEAPA) embarked on an expansion of the Swan Lake Reservoir — a hydroelectric plant located on Revillagigedo Island at the head of Carroll Inlet, about 22 mi. (35.4 km) northeast of Ketchikan.

The plant was originally conceived in 1980 by the city of Ketchikan. Near the end of project construction, the state of Alaska, under the department of the Alaska Energy Authority, assumed ownership and began commercial operation in June 1984.

Ownership transferred from the state to the Four Dam Pool Power Agency (FDPPA) in 2002, and



The Swan Lake Reservoir Expansion Project consists of a concrete arch dam located approximately .75 mi. (1.2 km) downstream from the mouth of the original Swan Lake outlet.

SEAPA assumed ownership when the FDPPA was restructured in 2009. SEAPA is a not-for-profit Joint Action Agency of the State of Alaska that supplies wholesale power to the municipal utilities of Petersburg, Wrangell and Ketchikan over 175 mi. (281.6 km) of transmission system. The Swan Lake Reservoir Expansion Project consists of a concrete arch dam — 174 ft. (53 km) high and 430 ft. (131 km) long at its crest — located approximately .75 mi. (1.2 km) downstream from the mouth of the original Swan Lake outlet. The current maximum reservoir storage capacity is 86,000 acre-ft., spilling an average of 35,000 acre-ft. of water annually. The project will increase capacity by 25 percent. Additionally, a new 33-ft. (10 m) pier is being built to support the 23-ft. (7 m) wheel, along with extensions on the north and south piers. The reservoir consists of a power tunnel that is 2,200 ft. (670.5 m) long and 11 ft. (3.3 m) in diameter, leading from the intake structure down to the powerhouse. There are two Francis style hydro turbines with a total rated capacity of 22,000 kW.

The project output in 2011 was 91,584 MWhrs. Development of the SEAPA Swan Lake Expansion Project is critical to southern Southeast Alaska's continued economic sustainability as it will provide the region with increased regional hydroelectric storage capacity. The proposed cost estimate of \$13.3 million for the project was partially funded when the Agency received a direct legislative appropriation of \$3.9 million from the state of Alaska. Following that appropriation the Agency was able to sell bonds for additional financing. The combination of low bond rates, debt restructuring and a partial state grant will all contribute to the completion of the project without a rate increase to the Agency's Member Communities. The project was anticipated to be complete prior to the end of calendar year 2016.

"The warm winter put the project about two weeks behind with heavy rainfall causing spilling the first week of the project," explained Ed Schofield, SEAPA power systems specialist. "Crews installed a five megawatt load bank to pull water down in order to get the project started, and continued to use the load bank into July." Prime contractor Pacific Pile & Marine L.C. of Seattle, Wash., is handling the structural iron and concrete work. Hotwire of Anchorage was contracted for electrical, Bering Industrial of Edmonds, Wash., for hydraulic systems of the fixed wheel gate. "The biggest challenge has been managing the lake level to keep the crane [which is floating on a barge] in the correct position. The lake needs to be between 310 ft. and 320 ft. for the crane to properly place construction materials," noted Schofield. The lake level was low this summer and continued to be lower than average this fall. CEG

(Unfortunately, nothing in life is simple, especially when it comes to water in CA.)

Donald Ulrich: Water solution is obvious – build more and bigger dams

JANUARY 23, 2017, modbee.com



A solution to the State Water Resources Control Board's demands: Recent rains have produced enough water to satisfy the demands of environmentalists, fishermen and farmers for a couple of years. However, because of flood concerns we have to let most of the water out of our reservoirs. The solution is obvious. We need more dams – upstream dams, downstream dams, higher existing dams. Engineers can tell us what is best. Let's get started.

DONALD ULRICH, DENAIR

(Favorite old mill, Mabry Mill at the end of Blue Ridge Parkway.)



(More hydro is better.)

January 24, 2017 10:22PM

Nashua's acquisition of second hydropower plant nears

By KIMBERLY HOUGHTON, Union Leader Correspondent, unionleader.com

NASHUA NH — The city is expected to close on its acquisition of the Mine Falls Park Hydroelectric Facility in about three months — a purchase that has been nearly 30 years in the making. Once the purchase of the hydropower plant is complete, Nashua will own both of the city's dams and hydroelectric facilities on the Nashua River.



"We don't have a set closing date yet. We are getting really close to signing a purchase and sale agreement," said Madeleine Mineau, the city's waterways manager who was hired in 2015, in part, to pursue the purchase of Nashua's second hydroelectric dam. She is optimistic that the closing on the acquisition of the Mine Falls Park Hydroelectric Facility, which Nashua currently leases from Eagle Creek Renewable Energy LLC of New Jersey, will be finalized in the next three months. In December of 2015, the board of aldermen voted to purchase the dam for \$4.2 million, however the official cost of the facility is still being negotiated, Mineau said on Tuesday. "We just had an on-site inspection last week and we are working out some of the maintenance issues," she said. "We are also working out the details of the final purchase price.

The city's other hydroelectric project at Jackson Mills is operated by Essex Power Services, Inc., which handles the maintenance, operations and administration of that city-owned facility. Once the purchase of the Mine Falls Park facility is complete, Mineau said Essex Power Services, Inc., would also oversee operations at the new plant as well. "We did decide that we wouldn't hire city staff to do that. This would be the most cost-effective way to operate the site," she said of contracting with Essex Power Services. State regulations currently limit what the city can do with the power at the facility. Ideally, Nashua would like to use the power for its own city facilities, but it is too large for net-metering, explained Mineau, adding there is proposed legislation that could potentially change the limitations. Nashua previously requested to intervene in pending litigation between the New Hampshire Public Utilities Commission and the Electric Distribution Utilities regarding the development of new alternative net metering tariffs for consumer generators.

Nashua's budget for electricity is about \$3.8 million, and the city consumes approximately 46,300 Megawatts of power annually. For the past year, Mineau has been working on regulatory hurdles and ongoing maintenance issues with the Mine Falls Park Hydroelectric facility. "We are getting really close to having this city-owned, but there still can be a delay," she stressed. A study was previously conducted by H.L. Turner Group, a firm hired to assess the facility and its condition. At the time, there was an estimated \$2,065,000 in repairs necessary at the plant, however the estimated net revenue in nine years is projected to range from \$2.2 million to \$3.7 million depending on what aldermen decide to do with the facility. According to Mineau, some of those repairs have already been completed, including the restoration of a fish lift. This week, the aldermanic budget review committee recommended converting the city's existing expendable trust fund for operating the Jackson Mills Dam into a hydropower reserve fund that would finance emergency needs for both facilities — not just Jackson Mills. "This is a new thing for the city to own hydroelectric projects. In a way, we are all learning," Mineau told the panel, adding more production at the facilities will result in more revenue for the city's general fund. "There are elements that are unpredictable," agreed Alderman Ken Siegel, Ward 9, explaining that trust funds are important to cover unforeseen expenses.

(Everybody wants a piece of the pie. What about hydro, it pays the bill.)

Dams, fish and kayakers must share our rivers

By Matt Weiser, January 24, 2017, sfchronicle.com

On the western flank of the Sierra Nevada, the American River tumbles out of the Desolation Wilderness, transforming snowmelt into whitewater as it churns through granite clefts. **The river is one of California's most popular playgrounds for rafting and kayaking, activities bound by necessity to the operation of 11 hydroelectric dams that also share the river.**

Thanks to a renewed federal license issued for those dams in 2014, the Sacramento Municipal Utility District must now release water on a schedule that ensures more than 40 additional days of whitewater boating in dry years, and more than 140 days in wet years. The additional flow also improves habitat for foothill yellow-legged frogs, an imperiled species, native rainbow trout and other wildlife.



This is just one example of a hydroelectric project now heeding contemporary environmental principles, thanks to reforms imposed by the Federal Energy Regulatory Commission during the Obama administration. There are dozens of other examples across the West in which old hydro-power projects have been updated for the 21st century. Unfortunately, this progress could soon come to a standstill. **In the coming weeks, President Trump is likely to appoint a new conservative majority to the five-member FERC. We haven't heard much about these appointments, but they are arguably as momentous as Supreme Court appointments.** That's because FERC hydro-power licenses have 50-year terms, meaning their effects are essentially permanent for local communities, aquatic habitat and wildlife. It is vital that new licenses reflect modern conditions because, as climate change unfolds, people and wildlife alike need more access to the cold, clean water captured by dams from high elevations. The stakes are huge: There are 23 California hydroelectric licenses pending at the FERC, and 18 more expected to come forward during Trump's term. They include projects on the Yuba, Feather, Bear, Merced, Pit and McCloud rivers — all with important recreational and ecological concerns. Some, built in the 1960s without fish ladders, are only now coming up for their first license renewal.

While some hydroelectric dam owners also sell water, electricity is their main revenue source. Yet modernizing dams doesn't require a big hit to revenue. On the American River, for instance, SMUD power generation declined only 7 to 8 percent due to the required flow increases for recreation and wildlife. And it will make some of this back in more flexible summer generating practices. **There are two vacancies on the five-member FERC commission, and a third expires in June.** Rumors suggest Chairman Norman Bay will resign, even though his term runs until 2018. So Trump could seat four new commissioners within six months. The FERC chairman has a large role in setting the agency's agenda. Bay, appointed by President Barack Obama, has sought to more closely regulate utilities and prevent energy market manipulation. He also has focused on encouraging green energy by pushing for smart-grid systems and improved transmission networks to accommodate wind and solar power. Trump is said to be considering FERC Commissioner Cheryl LaFleur as the next chair. LaFleur has close industry ties and is a former executive at National Grid USA, a utility serving several northeastern states.

A 1986 law, the Electric Consumers Protection Act, requires FERC to give "equal consideration" to enhancing recreation, habitat and wildlife populations in its regulatory efforts. As a result, new hydro-power licenses have included many requirements to make dams more environmentally friendly. But to a certain extent, such requirements are a matter of choice for the commission. The law requires FERC to solicit and address recommendations from resources agencies such as the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Those agencies are not required to respond and, if they do, their priorities may shift under the new administration. In any case, the commission is not required to heed all recommendations, and may choose less effective

measures. For example, rather than ordering a dam owner to install fish ladders, it could require a so-called “trap and haul” system, in which fish are moved around a dam in tanker trucks. This is known to be riskier to fish and less effective, especially when they need to move back downstream. “I expect, literally, that the federal agencies are going to take a four-year break from doing anything other than rubber-stamping what the dam licensees want,” said Ronald Stork, senior policy adviser at Friends of the River, who has monitored federal water policy since the Reagan administration.

State laws could keep hydro-power reform moving forward. These include California’s Porter-Cologne Act, which regulates water quality; and the state’s system of water rights, which allows amendments whenever a concern emerges. But the hydro-power industry is working to undermine states. In 2015, the House passed a bill, HR8, with amendments negotiated in secret to prevent states from exercising certain powers in hydropower licensing. The Obama administration threatened to veto it. The bill was supported by Pacific Gas and Electric Co., which has seven California hydropower licenses pending at FERC. “The prescribed licensing processes in place are overly complex, unnecessarily protracted, insufficiently coordinated and needlessly expensive,” Debbie Powell, senior director of PG&E power generation operations, said in April during House testimony on the legislation. Another attempt at the legislation will likely see smooth passage in Republican-controlled Washington. Voters need to remind members of Congress and the Trump administration that dams mean more to the economy than electricity. Hydro-power also has a duty to provide clean water, healthy fisheries and vibrant recreation. FERC and other federal agencies have those obligations as well. *Matt Weiser is a freelance writer and contributing editor at WaterDeeply.org. He can be reached via Twitter at @matt_weiser.*

(This is one for all hydro owners.)

Judge recommends sending Montana dam dispute to state court

By - Associated Press - January 24, 2017, washingtontimes.com

HELENA, Mont. (AP) - A magistrate judge is recommending that a dispute over who owns the riverbeds beneath eight hydroelectric dams and a storage reservoir in Montana stay in state court. If U.S. District Judge Dana Christensen approves the recommendations, the 14-year-old case will return to a court that previously ruled in favor of the state over PPL Montana, now Talen Montana. The state claims it owns the riverbeds beneath the dams on the Missouri, Madison and Clark Fork rivers. Ownership would entitle the state to payments for use of the land. The state owns the riverbeds on waterways that were navigable in 1889. The U.S. Supreme Court in 2012 overturned a Montana Supreme Court ruling that those waterways are navigable. The state re-filed its claim last year. NorthWestern Energy, which now owns the dams, sought to move the case to federal court.



Water:

(Finally.)

Gibraltar Dam full for the first time in years

When it spills, the water goes to Cachuma

By: John Palminteri, Jan 24, 2017, keyt.com

SANTA BARBARA, Calif. - Gibraltar Dam in the hills behind Santa Barbara has filled to capacity following several recent storms.



The water will spill with more inflow. That will go directly into the Santa Ynez River which recharges Cachuma Lake. The lake level is at its lowest level since the reservoir was built in the late 1950's but recently it has started to rise. The level is about 89 percent below capacity and the Gibraltar Dam over flow will certainly bring that supply back up.

Water officials are hoping for more significant storms while the hills are saturated. Gibraltar's total is encouraging but the dam has a significant amount of silt from runoff over the years and the recent debris from the Rey fire of 2016.

The county hydrology meters showed Gibraltar hitting the capacity mark in the overnight hours. The Santa Barbara City Council will get an update on water supplies, conservation goals, the desalination plant timeline and Gibraltar at today's meeting starting at 2 p.m. Water officials are expected to urge the public to be careful with their water use and not interpret the recent rain as an end to the drought that's gripped the area for more than five years. Governor Jerry Brown this week declared a state of emergency in Santa Barbara, Ventura and San Luis Obispo Counties due to weather related issues.



Environment:

(Still think it's caused by uncontrolled population growth.)

Scientists Blame People for 3rd 'Hottest Year' in a Row

Human impact 'no longer subtle' on global warming that made 2016 hottest year ever

By Jenn Gidman, Newser Staff, Jan 18, 2017, newser.com

(NEWSER) – Everyone kind of knew this was coming, but many are still sweating at the news. Data for 2016 has been released, and it's official that last year was the hottest year on record, following 2014 and 2015 in holding this status, the Guardian reports. NASA and NOAA released their year-end stats along with the UK's Met Office, and 2016 narrowly edged out 2015 as the year with the highest globally averaged temperature since such measurements began in 1880. The average temperature across the planet's land masses and oceans came in at 58.69

degrees Fahrenheit, which was what USA Today calls a "whopping 1.69 degrees above average"—and the paper notes that while an almost-2-degree difference sounds small, records in climate science are often surpassed in tenths or hundredths of degrees. "Nature is sending a distress call," a World Wildlife Fund spokesman says.



Sixteen of the past 17 hottest years have been since the turn of this century, and Penn State climate scientist Michael Mann stresses that humans are indeed to blame, telling the Guardian "the effect of human activity on our climate is no longer subtle." Mann says "about 75% of the warmth" last year was people-driven, per the New York Times, and that its impacts—including droughts, wildfires, floods, and other extreme-weather phenomena—are obvious. Some scientists are also turning a wary eye to the incoming Trump administration in the wake of this news, with the policy director of the Grantham Research Institute on Climate Change and the Environment noting that climate change-denying politicians "will be willfully turning a blind eye to rising risks" for everyone.

(Something fishy about this!)

Need an Extra \$1M? Just Solve This Fishy Dilemma

The Great Lakes simply needs you to solve its invasive Asian carp problem, NBD

By Jenn Gidman, Newser Staff, Jan 20, 2017, newser.com

(NEWSER) – Everyone with a constant flow of "new and innovative solutions" churning around in their noggins might want to touch base with Michigan.

The state is offering a \$1 million purse to anyone who can come up with a way to keep interloping Asian carp out of the Great Lakes, Michael Eckert reports for the Port Huron Times Herald.

The pesky fish, which the Michigan Department of Natural Resources describes as having the ability to cause "economic, ecological, and human health harm," may be placing a \$7 billion fishing industry at stake, as well as \$38 billion from tourism and water recreation, per the DNR's "Invasive Carp Challenge" page. Eckert has a couple of proposals of his own, though based on the column's tone, it doesn't appear he expects either one to be scooped up.



One option, he says: Fill the Chicago Sanitary and Ship Canal that connects the Mississippi River Basin to the Great Lakes—and which basically serves as a conduit for the carp to infiltrate—with sand (an option others have suggested as well). But Eckert notes that those opposed to the plan cite the increased transportation costs for some local businesses that would result. His second plan, and probably more of a long shot: Convince Lansing to give up its annual revenue to pay anglers to take the carp out. "It worked for wolves," he says. Meanwhile, the Lansing State Journal discusses a documentary by two filmmakers who grew up in the region on all of the different invasive species in the Great Lakes. (The Army has said getting rid of the carp could take 25 years.)



Other Stuff:

(This writer gets it right. Don't toot your horn too loud.)

How renewable energy advocates are hurting the climate cause

Overly optimistic reports of renewables' success are not only misleading but also counterproductive, says science and environment writer Paul McDivitt.

By Paul McDivitt, 24 January 2017, eco-business.com

In the wake of the 2016 presidential election, the proliferation of misinformation on social media is finally getting the attention it deserves. Or so I thought.

Scrolling through my Facebook news feed recently, I stumbled upon an article shared by Climate Central, a nonprofit news organization focused on climate science.

"The World's Renewable Energy Capacity Now Beats Out Coal," read the headline from Co. Exist. I clicked.

"The tipping point marks a major milestone in the transition to cleaner power sources," the subhead declared from atop an aerial photo of a wind farm. And so went most of the coverage of a new report on renewable energy markets by the International Energy Agency, a well-respected source of global energy statistics. Outlets big and small, reputable and lesser-known, specialized and general, adopted similar headlines, subheads and ledes, accompanied by photos of wind turbines and solar panels.



The problem is twofold. First, capacity is a highly selective way to measure electricity, especially in the context of emissions and climate change. Capacity is defined as the maximum electric

output a generator can produce under specific conditions at a moment in time — for example, how much a solar farm can generate during a sunny summer day or a wind farm when it's really windy. But, of course, the sun doesn't always shine or the wind always blow. "Installed capacity is not really a useful metric for a lot of purposes," Mark Jacobson, an engineering professor at Stanford University who studies renewable energy, told me. "When you're asking, 'how much is this supplying, how much is wind supplying versus coal?' you want to look at the actual energy delivered." That's commonly called generation, and is defined as the amount of electricity produced on average over a period of time, such as a year. Sure enough, if you look at generation numbers, coal still beat out renewables in 2015 by a significant margin, 39 per cent to not quite 24 per cent.

Second, and perhaps more importantly, most readers, and apparently many journalists, equate "renewables" with wind and solar. But the IEA's renewables category also includes hydropower and biomass. According to the IEA, 71 per cent of global renewable electricity generation in 2015 came from hydropower, 15 per cent from wind, 8 per cent from bioenergy and 4 per cent from solar. In other words, it's not wind and solar that have overtaken coal, it's a basket of renewables heavily dominated by hydropower. While growth in wind and solar installations have certainly helped push renewables' share up, hydropower also has been growing in recent years. When you include all sources, hydropower currently generates around 16 per cent of the world's electricity; wind, almost 4 per cent; biopower, 2 per cent; and solar, just above 1 per cent.

(Always thought it was Buffalo, NY.)

10 Windiest Cities in US

Nashville, not Chicago, tops the list

By Arden Dier, Newser Staff, Jan 18, 2017, newser.com

(NEWSER) – Chicago might need a new nickname. Research firm CoreLogic has released a list of the windiest cities in the US based on wind-related events and maximum wind speed recorded in 279 metro areas in 2016 (including during Hurricane Matthew). The Windy City doesn't top the list. In fact, it's not even on it, reports USA Today.

The list:

1. Nashville, Tenn.
2. Reno, Nev.
3. Jackson, Miss.
4. Cincinnati, Ohio
5. Columbia, SC
6. Louisville, Ky.
7. Little Rock, Ark.
8. Winston-Salem, NC
9. Clarksville, Tenn.
10. Charleston, SC

Chicago also failed to top the NOAA's windiest cities ranking for 2016, based on average wind speed. (See CoreLogic's 2015 list here: <http://www.newser.com/story/215233/this-is-the-windiest-city-in-the-us.html>)

(Ain't this something.)

Wyoming GOP Introduces Bill That Penalizes and Outlaws Wind and Solar Energy

By Julia Travers, January 24, 2017, environews.tv

(EnviroNews Wyoming) — Cheyenne, Wyoming — In the second week of 2017, nine Republicans submitted Senate Bill 71 to the Republican-dominated Wyoming legislature — a bill that would outlaw and penalize the large-scale production of wind and solar energy in the Cowboy State. If the bill becomes law, small-scale clean energy projects like



rooftop solar and backyard wind turbines would be allowed but any utilities providing clean energy would be fined \$10 per megawatt hour. The bill would require utilities to use “eligible resources,” specified as coal, natural gas, hydroelectric, net metering sources (including the smaller clean energy projects mentioned above), oil and nuclear. Utilities would have to use these sources for 95 percent of their sales in 2018 and all of their sales in 2019. Utilities that already provide clean energy in-state, such as Rocky Mountain Power and Black Hills Energy, would not be permitted to offset the financial penalties by increasing customer rates.

Wyoming is the least populous U.S. state but is the second largest energy producer. Wyoming is the largest coal producer in the country and energy-related mining is its largest industry. The U.S. Energy Information Administration (EIA) reports in 2015, “almost 88 percent of net electricity generation in Wyoming came from coal and nearly 11 percent came from renewable energy resources, primarily wind.” A 1,000-turbine wind farm is currently being constructed in Wyoming which, under the proposed provision, would only be allowed to sell the power produced to out-of-state markets without suffering the penalty. Wyoming already imposes the only tax on wind-energy in the U.S. In contrast, many states are incentivizing renewable energy as these sources become increasingly affordable. While Wyoming is naturally windy, the established fees and even the threat of increases may deter wind developers; as Robert Godby, Director of the University of Wyoming’s Center for Energy Economics and Public Policy said, “the fact that [this bill] has been run up the flagpole might have some negative consequences.”

Inside Climate News reports the bill’s sponsors (Senators Larry Hicks and Ogden Driskill and Representatives Mark Baker, Jim Blackburn, Scott Clem, Roy Edwards, Tyler Lindholm, Mike Madden and David Miller) largely represent top coal-producing areas in the state. Clem and Hicks are climate change-deniers. Miller, of Fremont County, told Inside Climate News that while he feels the bill probably has less than a 50 percent chance of passing, he supports it because he wants his constituents to benefit from coal’s low cost. Miller’s stance does not take into account the growing affordability of green energy or the diverse negative externalities of coal, including medical and funeral costs relating to cancer, cardio-pulmonary problems and other disease. Nor does it factor in subsidies for things like repaving roads destroyed by coal trucks every few years. A 2011 Harvard study estimated coal’s costs to the U.S. at between \$330 and \$500 billion dollars annually. The study states along with coal’s contribution to global warming, “health and environmental hazards stem from exploration, extraction, processing, transport and combustion, and the large waste stream of air and water pollutants generated.” These significant externalities are not included in the “cheap” per-kilowatt costs often touted by coal proponents.



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