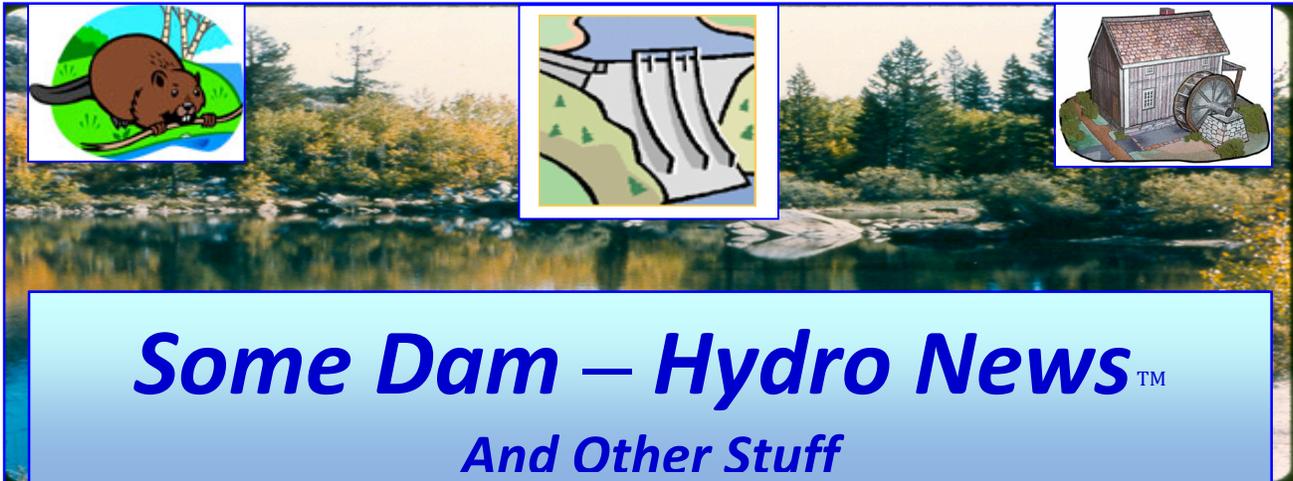


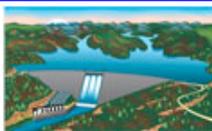
1/11/2019



Quote of Note: *“Great spirits have always encountered violent opposition from mediocre minds.” - Albert Einstein*

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

“Good wine is a necessity of life.” - -Thomas Jefferson
Ron’s wine pick of the week: 2014 Bootleg US Red Blend "Prequel Red Blend"
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson



Dams:

(Somebody got a good grade on everything except dams!)

Nevada infrastructure receives passing grade from civil engineers

By: Sasha Gomez , Jordan Gartner, ktnv.com, Dec 19, 2018

The report card is out for Nevada’s roads and bridges. The American Society of Civil Engineers gave Nevada a "C" grade when it comes to the state’s infrastructure.

LAS VEGAS (KTNV), NV — The report card is out for Nevada’s roads and bridges. **The American Society of Civil Engineers gave Nevada a "C" grade when it comes to the state’s infrastructure.** That’s the same grade Nevada received in 2014. Improvements are in the works for the highways in Las Vegas and the state’s roads overall, but the engineers rated the roadways "fair" as there is a backlog of repairs that are expected to cost the state millions of dollars.

According to the report, roads overall were a "C" while bridges received a "B-" grade. **However, the state received its lowest grade of a "D+" when it came to dam safety. Nevada has more than**

250 regulated dams, according to the report, with 25 percent considered having a high hazard potential. This means if the dams fail the ASCE says it would lead to loss of life and significant damage to homes and roads in the area. According to the report, the main problem is that not enough money was available to help solve the problem as Nevada did not increase its dam safety budget from 2014 to 2018. An increase would allow for more assessment and maintenance activities on the existing dams. A full copy of the report is available here: <https://www.infrastructurereportcard.org/state-item/nevada/>

(Here's how you pay the piper when people think you have deep pockets.)

Georgia Power readies to remove Langdale, Riverview and Crow Hop Dams along Chattahoochee

By: Elizabeth White, Dec 21, 2018, wrbl.com

CHAMBERS CO., Ala. (WRBL) - The Chattahoochee River flowing through parts of East Alabama and West Georgia is facing historical changes as Georgia Power begins the process of decommissioning and removing both Langdale and Riverview Dams, which includes Crow Hop Dam and the Riverview powerhouse by 2023.



This week, December 18th, Courtenay O'Mara with Hydro Licensing and Compliance. Sent out a letter of notification to residents letting them know Georgia Powers plans for the future. The letter explains Georgia Power has filed an application with the Federal Energy Regulation Commission (FERC) to surrender the licenses for the two hydroelectric projects located on the Chattahoochee River - the Langdale Project, located in Georgia east of Valley, Alabama, and the letter states FERC licenses for the Langdale and Riverview Projects will expire on December 31, 2023. In the surrender applications, Georgia Power is proposing to decommission and remove the dams associated with these projects. The letter says removing the dams will benefit aquatic life. "Removal of the project dams will benefit aquatic species by enhancing the area's riverine shoal habitat consistent with Georgia Power's ongoing environmental stewardship efforts and will provide a scenic and unobstructed stretch of river for local communities and visitors, including enhanced river connectivity for natural, recreational paddling experiences," O'Mara states in the letter.

Kendall Andrews, a lifelong Valley resident, and AU civil engineer disagrees with removing the dams for several reasons. Andrews owns waterfront property on the Chattahoochee and created a Facebook group for a concerned group of citizens who feel strongly against the actions of Georgia Power. "There is a large angling community in this area, it is likely with the dams gone, boat access to the river will be gone. If you ask anyone that fishes the stretches of river between the dams they will tell you the quality of fishing you find there, is unlike anywhere else. Georgia Power has released many statements that claim fishing will improve, but that is not necessarily the case," Andrews said. Andrews is particularly fearful for the future of the Shoal Bass. Andrews says Georgia Power officials claiming the species will benefit by removal of the dams. However, Andrews noted Georgia Power made the same claims back in 2013 when dams were removed in Columbus, Georgia. Andrews says the removal was devastating to the Shoal Bass, which vanished and officials are now having to re-stock the native fish. Henry Jackson is Executive Director with the Chattahoochee River Conservancy. He supports the dams being removed for safety and environmental reasons. "We've been working with Georgia Power on this project for two years, and we are very excited to see it moving forward. Low head dams are dangerous and create unnatural habitat ripe for invasive aquatic species. This will restore the habitat to a natural state with more natural flow patterns. It will take time, but the river will be safer, fishing will improve, and ecological diversity will be saved," said Jackson.

Georgia Power expects decommissioning activities would begin in Spring 2023, pending Commission approval and expects the Commission to issue public notice 30 days in advance of taking action on the proposal while providing an opportunity for the community to provide input in the FERC process. Andrews believes several questions need to be answered and encourages local residents to prepare and attend a FERC community meeting at some point next year. "I hope that everyone that has the same concerns as myself will attend and voice their opinion. Anyone that wants more information may join the Facebook group, Middle Chattahoochee River Dams (Langdale and Riverview)," said Andrews. Finally, Andrews says removal of the dams means deconstructing and deleting a part of history from the Chattahoochee Valley. "Much of the city's historic structures have been torn down, such as the textile mills and the Riverview gym. These dams are a part of the heritage of the City of Valley, generations have enjoyed the recreation they provide. It's something that sets us apart from other places," Adams said.

Most everyone agrees Langdale and Riverview offer some of the most breathtaking views along the Chattahoochee. Adams believes there is a movement to change the way of life and recreating along these sections of the river. "The idea of doing this to create a "recreational paddling experience" has really upset a lot of people, myself included. If someone wants to whitewater raft, they will go to Columbus. The drawing power that this stretch of river has is the great fishing opportunities it provides that currently exist. A lot of the community feels that outside interests are being placed in front of their own. I personally know many people that drive over an hour just to put in at Shawmut or Langdale boat ramp for the chance to catch one of the many big fish that live there," Andrews said. Georgia Power says more information on the surrender applications for the Langdale and Riverview Projects can be found online at this link: <https://elibrary.ferc.gov/IDMWS/search/fercgensearch.asp>

(Oroville back in the news again.)

FERC PANEL FINDS DEFICIENCIES IN OROVILLE DAM SAFETY REVIEWS

Dam inspectors overlooked technical details during safety evaluations that could have identified structural problems with the Oroville Dam spillway before it broke during heavy rains in February 2017, according to an assessment ordered by the Federal Energy Regulatory Commission. FERC assembled an independent, six-person panel to assess the safety inspections that are required every five years for the roughly 2,500 hydropower facilities that FERC regulates. Full report here:



<https://www.ferc.gov/industries/hydropower/safety.asp?csrt=1390836894443908391>

(Some people don't agree.)

Supersaturation is real trouble for salmon

By John McKern, 12/27/18, union-bulletin.com



A Seattle Times article and an editorial by the U-B lauded the agreement the environmentalists, fishery agencies, and federal dam operators and power marketers to increase spill at the Columbia/Snake River dams to increase juvenile salmon survival. I went to work for the U.S. Army Corps of Engineers in 1971, and the first major fish survival problem my boss passed to me was how to decrease gas supersaturation and increase juvenile salmon survival. Two more lower Snake River dams had just been

completed, and Lower Granite Dam was under construction. The series of seven dams was an extreme threat to the salmon runs according to the National Marine Fisheries researchers, and it was predicted that eight dams would cause the runs to become extinct. All out efforts over the next few decades brought the gas supersaturation problem down. The Corps installed flow

deflectors in the spillways to reduce the amount of air forced into solution, installed more to pass water without infusing air and to increase power generation, and a dissolved gas monitoring system was installed throughout the Columbia Basin. Then environmentalists and some fisheries groups decided that spill was the safest way to get juvenile fish past the dams. It is not. As I explained in the past, excessive spill exposes fish to higher dissolved gas, and fish passing through unmodified spill bays are subjected to rapid pressure decreases as they shoot out from under the spill gates. Earlier, there was a smaller article in the U-B that said Idaho and Oregon had reached a compromise on fish passage at the Hells Canyon dams. They block salmon passage to two-thirds of the historic spring Chinook habitat and 85 percent of the historic fall Chinook habitat in the Snake River Basin. Idaho said the water quality was too poor in mid- and southern Idaho to support salmon. Also, numerous dams constructed before the lower Snake River dams had blocked access to most spawning areas. Build more hatcheries. Another article reported loss of 6.2 million juvenile salmon at a Puget Sound hatchery that were intended for food for the Southern Resident Pod of killer whales. Clearly there is a lot of focus on saving the orcas. The effect of increasing spill must be closely monitored, and it will be because the Corps has state fishery agency biologists at each dam monitoring fish condition. If gas bubble disease increases, spill will be cut back. *John McKern, Walla Walla, WA*

(Dam removal for safety and other reasons.)

Clearing the way

Contractor to finish, start dam work next year

BY JENNIFER BAILEY, Dec 28, 2018, commercial-news.com

DANVILLE, IL – Illinois Department of Natural Resources officials most recently report work on the Danville Dam removal won't be finished this year, and work on the Ellsworth Park dam will start in late January or February 2019. "Work on the Danville Dam is not finished as the weather has slowed progress on the project. The work to be completed includes the bank stabilization on each side of the Vermilion River. The contractor will continue in the spring, weather permitting," according to an email update from Lindell Loy, construction manager with the IDNR's Office of Water Resources. Loy also reports the Ellsworth Dam removal should start in January or February. The exact date has not been set. Work started in July to remove the Danville Dam behind the Public Safety Building. The removal of the Danville dam was progressing slowly due to the weather, materials and the higher than normal flows in the Vermilion River.



This was an IDNR report from November: "At the location of the dam, the stream bank stabilization and the removal of the dam apron still needs to be completed. The causeway across the river provides the access to the west side of the river for placement of the riprap to stabilize the river bank. The high water is currently posing access issues on the causeway. Once the water level drops, hopefully the project will get back on track and the Dec. 31, 2018, completion date will remain unchanged." Loy in November added "the work under the U.S. 150 bridge is complete as the debris under the U.S. 150 bridge has been removed." According to the IDNR, the scope of the project was to remove the concrete low water dam behind the Danville Public Safety Building along the Vermilion River, remove the concrete piers just upstream of the dam and place riprap for bank stabilization in the area of the dam. Weather permitting, construction was expected to be finished by the end of 2018. Halverson Construction Co. of Springfield is completing the Danville dam removal at a cost of \$1.4 million.

Danville City Council members in January 2014 voted 13-1 to have IDNR remove the Ellsworth Park Dam and 12-2 to remove the Danville Dam behind the PSB. Aldermen took into account city

liability of a known hazard, where drownings have occurred, and costs to remove the safety hazards in agreeing to go forward with the IDNR recommendations on the removals.

The IDNR allocated \$2 million-plus funding for the removal of the two dams. The General Assembly appropriated funds for the Danville dam removals through bond sales that are part of the Jobs Now program. Funds were just released earlier this year for the removals. IDNR representatives have said the dams are being removed because there have been fatalities there and the dams also are in deteriorating condition with undercutting and erosion. Due to the hydraulic conditions of the Danville and Ellsworth Park dams, and that no riverbed protection was placed below the dam upon construction, a submerged hydraulic roller occurs. During time, the turbulent forces generated by a hydraulic roller have eroded a scour hole in the original bed material at the base of the dam. The tailwater submerges the hydraulic jump, creating the submerged hydraulic roller. These rollers typically pull in and hold objects, including people, which often leads to emergency rescues or drownings, according to the IDNR. The most recent drowning at the dams, of several over the years, was canoeist Sandi Barnett in July 2003.

(Hope they regret their decision.)

Editorial: Just say no to dams

Staff, 12/27/18. enterprisepub.com



Residents and officials are once again saying no to dams in Washington County. Two studies, which could lead to large-scale dam construction in Washington County, are currently being conducted by the Papio-Missouri River Natural Resources District (PMRNRD) and the Corps of Engineers and the Lower Platte River Natural Resources District (LPRNRD),

respectively. The PMRNRD and the U.S. Army Corps of Engineers are re-evaluating the Papillion Creek and Tributaries Lakes study, a comprehensive plan to reduce flood risks for the Papillion Creek basin that was authorized by the Flood Control Act of 1968 and consisted of 21 dams for flood control, recreation and water quality. The study includes parts of Washington County.

A process to develop the Lower Platte River Drought Contingency plan includes 11 potential mitigation measures, two of which center on parts of Bell Creek in Washington County. The Washington County Board of Supervisors approved two resolutions and a letter opposing both studies and the construction of dams in Washington County. Residents have also been outspoken, expressing their concerns to PMRNRD Subdistrict 1 Director Ted Japp of Kennard. Historically, residents have fought the building of dams in Washington County for many years, including in 2007 when dams were proposed to help flood control and 2009 when a legislative bill proposed allowing the NRD to issue bonds without a vote of the people. While nothing has been proposed at this point, and officials are trying to reassure residents Washington County dams will not be part of the plans, residents should still let their concerns be known. Washington County is known for its farmland. If dams are proposed, farmland could be lost. The Board of Supervisors and Japp should be commended for their efforts to make the PMRNRD, the Corps of Engineers and the LPRNRD aware of how Washington County feels about dams.

(More on raising Shasta Dam.)

Shasta Dam Raise Blues

By R.V. Scheide, January 1, 2019, anewscafe.com

Until recently, the floodgates appeared wide-open on the U.S. Bureau of Reclamation's effort to raise the height of Shasta Dam by 18 ½ feet. Since Congress allocated \$20 million in pre-construction funding for the project last spring, planning efforts have been moving at a rapid pace.



Core samples have been taken of the 602-ft. tall arched-gravity dam to determine if it can bear the load of the steel and concrete “cap” --including eight new spillways replacing the original three that will be placed on top of it.



Hydro:

(Is there any other power source that lasts this long?)

Merrill Hydro Dam crosses century mark

DECEMBER 26, 2018, merrillfotonews.com

Last year marked 100 years of service for the Merrill Hydroelectric Dam located on the Wisconsin River, just west of the North Center Avenue bridge. Built in 1917, the current dam was the third to be constructed in relatively the same location over the course of 47 years. The original dam, built by city father Andrew Warren in 1846, was partially destroyed as a result of a flood in 1865. The dam was rebuilt, only to be completely destroyed during what has become known as the “Great Flood of 1912” on July 24, of 1912, along with several other dams along the Wisconsin River.



The current facility has enjoyed a stable and uneventful lifespan since construction concluded in September of 1917. According to Wisconsin Public Service WPS Senior Communications Specialist Matt Cullen, the company took ownership of the dam upon expanding to the Merrill area in 1922. The original dam was constructed with two electric turbines and the company added a third in 1984. To date, the Merrill dam is the oldest of all WPS operated dams in central Wisconsin with a peak production of 2.3 MW. The Wausau dam was completed in 1921, followed by the Jersey Dam north of Tomahawk in 1923, the Alexander Dam in 1925 and the completion of both the Tomahawk and Grandfather Falls facilities in 1938. WPS also operates hydro dams in Oneida County (Hat Rapids, 1923) and Vilas County (Otter Rapids, 1927). The Grandfather Falls Dam maintains the highest production output of all WPS hydroelectric facilities, peaking at 17.2 MW.

The Merrill Dam is the second oldest of all WPS-operated hydro dams in its 22 county service area, behind the High Falls Dam located in Marinette County (1910). While in its early years, the Merrill dam may have only served consumers locally, thanks to modern technology and the evolution of the Electrical Grid network “power grid,” electricity generated locally serves the entire WPS customer base, topping out at nearly 800,000 customers. “Electricity is transferred from generation facilities such as the Merrill hydro dam, across the transmission system to substations,” Cullen explains. “Substations then reduce voltage and transfer the electricity to a distribution system, which then deliver electricity to customers in a specific area, such as a community or neighborhood.”

(Preemption rules.)

State Courts Lack Jurisdiction Over CEQA Challenge To Matters Within FERC’s Jurisdiction In Hydroelectric Dam Relicensure Process For Oroville Dam Facilities

By Arthur F. Coon, Miller Starr Regalia, lexology.com, USA December 26 2018

The Federal Energy Regulatory Commission (“FERC”) issues licenses needed to construct and operate hydroelectric dams pursuant to the Federal Power Act (“FPA”; 16 U.S.C. § 791a, et seq.). Under long-standing law, and with the limited exception of state-issued water quality certifications, the FPA “occupies the field” of licensing a hydroelectric dam, and bars environmental review of the federal licensing procedure in state courts; this preemption is necessary because recognizing a “dual final authority” for such projects would be “unworkable.” (*First Iowa Hydro-Electric Cooperative v. Federal Power Com.* (1946) 328 U.S. 152.) States have limited authority under the Clean Water Act (33 U.S.C. § 1341) to impose stricter water quality conditions than are federally required on a FERC license, through the section 401 water quality certification process, but must act on a project applicant’s certification request within one year or certification is deemed waived. (33 U.S.C. § 401(a)(1); *Alcoa Power Generating Inc. v. FERC* (D.C. Cir. 2011) 643 F.3d 963, 972.) Further, any disputes concerning the Federal licensing process or the adequacy of “required studies” for that process (including “environmental studies” serving as the predicate for the state’s water quality certification conditions) are subject to FERC’s review. (18 C.F.R. part 4, 34(i)(b)(vii) (2003).)



The Third District Court of Appeal applied this law in a published opinion, filed December 20, 2018, which dismissed consolidated appeals in CEQA actions brought by plaintiffs Butte and Plumas Counties, with directions to the trial court to vacate its judgment and dismiss the actions for lack of subject matter jurisdiction. *County of Butte v. Department of Water Resources; County of Plumas, et al. v. Department of Water Resources (State Water Contractors, Inc., et al, Real Parties in Interest)* (2018) ___ Cal.App.5th ___. The CEQA actions challenged the adequacy of a Draft EIR (“DEIR”) submitted to FERC in connection with the Department of Water Resources’ (“DWR”) application to extend its federal license to operate the massive Oroville Dam and its facilities, which were built in the 1960’s as part of the State Water Project (“SWP”), and sought to stay the license procedure. The actions contended the DEIR failed to analyze the impacts of climate change on the dam’s operations for its many purposes (e.g., irrigation, flood control, water supply, fish and wildlife protection, and recreation), and plaintiffs asserted that state courts had jurisdiction over these claims pursuant to CEQA.

The Third District disagreed, holding “plaintiffs cannot challenge the environmental sufficiency of the [environmental review studies for the licensure project] in the state courts because jurisdiction to review the matter lies with FERC and plaintiffs did not seek federal review as required by 18 Code of Federal regulations part 4.34(i)(6)(vii) (2003)” and thus “failed to exhaust their federal administrative remedies.” The court also clarified that the state project subject to environmental review under CEQA was not the existing Oroville Dam and its facilities and their continued operation, but new actions to be taken to provide additional mitigation for habitat loss caused by those facilities’ construction. Those new proposed actions would increase habitat along the lower reaches of the Feather River, open a valve to access colder water at the bottom of Lake Oroville to meet hatchery temperature requirements, and regulate water flow from the dam; only the implementation of these new conditions as ultimately set forth in the SWRCB’s water quality certification “Certificate,” some of which were to be completed years after FERC’s license is issued, would be subject to CEQA review in the state courts. The purposes of the CEQA document in the federal record of proceedings before FERC were essentially to satisfy the state’s obligation to provide environmental information to FERC on potential effects of the new license terms and conditions, and to provide an analysis supporting required NEPA review and the SWRCB’s changes in the water quality certification, i.e., analyzing potential effects of their implementation. While the case has many factual and legal details I won’t go into here, its primary teaching is this: CEQA litigation in state courts cannot be used prior to issuance of a FERC license and the subsequent implementation of its terms and conditions to challenge the environmental studies and thus to delay hydroelectric dam relicensing by FERC.

(Another headline on the same subject as above.)

State Courts Lack Jurisdiction Over CEQA Challenge To Matters Within FERC's Jurisdiction In Hydroelectric Dam Relicensure Process For Oroville Dam Facilities

By Arthur F. Coon on December 26, 2018, ceqadevelopments.com

(That's what I say.)

Tristate Must Recognize Renewables

By Natalie Krasikov, 12/28/18, riograndesun.com



At the most recent Northern Rio Arriba Electric Cooperative, New Mexico annual meeting, I had a public discussion with the Tristo Mike McInnes about Tristate's energy generation mix. **The largest source of hydroelectric power, a 400 megawatt facility in northern Arizona, is omitted on Tristate's web site.** The total hydroelectric generation is 685 MW comprising the majority of Tristate's renewable energy.

I expressed my concern about hydroelectric generation given the 15 months of exceptional drought in the four corners area containing the watersheds of the San Juan, Rio Chama and Rio Grande. McInnes assured me the hydroelectric dams are built for several years of drought. Not reassuring enough. McInnes stated that Tristate generates and manages about 4,000 megawatts of power. By adding the power provided by various facilities listed on Tristate's renewables web page, Solar power generation of 85 megawatts would be about 2 percent of the total, while wind power generation of 367 megawatts represents about 9 percent.

When I asked whether Tristate relies on coal fired plants for 55 percent of its current power generation, McInnes responded that the percentage is somewhat less without providing a number. The early 2000s was the last time the national average reliance on coal for electricity generation was 50 percent or greater. It has been steadily dropping since. In 2017, it was 33 percent, 30 percent in 2018 and is projected to be 28 percent in 2019. Market forces (e.g., natural gas costs less and older coal fired plants are aging out) drive the reduction of reliance on coal for power generation. Tristate, please, listen up. NORA, like Jemez Mountains Electric Cooperative, doesn't reach the 5 percent renewables energy that Tristate allows the co-ops under the 40- to 50-year contracts. **There doesn't seem to be any contract clause allowing the co-ops to renegotiate this renewable percentage, but surely, we need to pressure Tristate to install more wind and solar generation.** *Natalie Krasikov, Los Ojos*

(Here's how to fix it.)

Army Bob: Hydroelectric best solution to energy needs

By David Young, 12/27/18, townbroadcast.com

Opinion:

Over a dozen years ago, the environmental cause celebre was women driving Sport Utility Vehicles (SUVs) destroying the world; they guzzled gas and polluted at a copious rate. The high value target of the environmental

purists was the Chevrolet Suburban, an SUV still produced today, being driven by "Soccer Moms." A leader of the environmental movement in San Francisco held a press conference **railing about the horrors of the Chevrolet Suburban.** After the conference he departed and drove off in his Suburban! When confronted about the hypocrisy, he maintained that he needed one because he lived in the Hollywood hills — so it was fine for him, just not for "Soccer Moms" in the suburbs.

The Unabomber, Mr. Theodore Kaczynski, an Ivy League graduate BA Harvard; MA, PhD, University of Michigan, and a former professor at the University of California, Berkeley was a dedicated **environmentalist who sent** mail bombs to various people he felt were sinning against

the environment. Killing three and wounding 23, his career as an eco-terrorist spanned 17 years. Say what you wish concerning Professor Kaczynski, but he practiced what he preached; he lived in a ten- by twelve-foot cabin deep in the woods with no electricity or running water, he owned no car, traveled by bicycle or bus, heated with wood and left a very small carbon footprint. Hollywood celebrities flying 8,000 miles in a private jet to receive an award for the work they have done to cut carbon emissions should be an action criticized, not celebrated. The earth/climate scientists who drive a half mile to a convenience store to purchase a single item think nothing of condemning the rest of us for destroying mother earth with our carbon footprint. If the world cuts carbon emissions in half, a very unlikely thing, by the year 2050, carbon emissions will still increase due to the growing population.

The folks being born in Asia, India and Africa want the good life we enjoy, and that takes fuel, but mostly electricity. Most nations in the world can generate massive amounts of electricity with hydroelectric, but the very people who condemn carbon emissions will chain themselves to a rock being moved to make way for a dam. A well-built hydroelectric dam can operate for centuries with very little carbon emissions. Irrigation dams built in Egypt in 2950-2750 B.C. are still working today. The clean energy generated with renewable fuel (water, we have 326 million trillion gallons) is not damaged or used up; when water evaporates at the molecular level it rises to become clouds and comes down once again as rain, the ultimate recycling. During a debate with a colleague on renewable energy, he maintained wind power was bad because it killed birds and destroyed the view. Nuclear energy was out of the question, and solar was bad because the manufacturing process of solar collectors polluted the planet and the panels needed to be rebuilt or replaced after 10 years. Hydro killed fish/birds and destroyed the "natural environment;" fossil fuel was the worst. Asked what we could do, he fell back on the old staple that we should find alternative sources of energy that do not pollute. Actually finding them is not the environmental warriors' concern; it is easier to be the "nattering nabobs of negativity" than do anything concrete. Hydroelectric power works, producing 12 percent of our current electrical power needs and 70% of the world's renewable electricity. The Sierra Club Incorporated and other environmental corporations need to get on board with hydroelectric power. More important, environmentalists need to wake up and be pragmatic; will they? No, there is too much money to be made in the anti-everything movement.

The \$18.4 billion we spend on energy subsidies each year could build a non-polluting hydroelectric dam each year. Cheap efficient hydroelectric power could make fossil fuels a footnote in American history within three decades. Sadly, short term pain for long term gain is just not a thing that most eco-corporations, their corporate management, and their members will accept. One dam in China, the Three Georges Dam, produces 10% of the nation's electric needs, power for 138,000,000 people. Is hydroelectric perfect? No, but it is the best long-term solution for the world's increasing electric needs. Unless we use nuclear, but that's never going to happen.

(So, what's new?)

Proposed pump storage hydro project attracts opposition

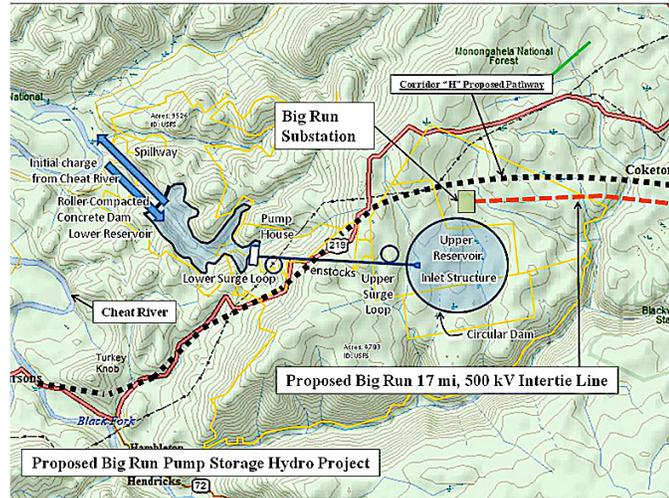
By Kate Mishkin, Staff writer, 12/29/18, wvgazette.com

A proposed hydroelectric generating facility in Tucker County would drive away tourists and threaten endangered wildlife, says a citizen group that opposes the project. Among other things, the \$1.2 billion pumped storage hydroelectric plant, called the Big Run Pump Storage Hydro Project, would harm the Monongahela National Forest, Friends of Blackwater wrote last week. "The Proposal would be a blow to the critical and vulnerable local outdoor recreation, scenic, and heritage recreation economy," Friends of Blackwater wrote to the Federal Energy Regulatory Commission, one of the entities that will have to sign off on the project. The Big Run Pump Storage Hydro Project would be located on land owned by Western Pocahontas Properties and the Monongahela National Forest and involve building a closed-loop pump-storage hydroelectric generating facility with two new reservoirs, according to plans submitted to

the FERC. According to current plans, the upper reservoir would be built on Big Run, and the lower would be on Mill Run, a tributary to the Cheat River.

“The upper reservoir is being proposed on a rare and sensitive wetland area of the state, the Big Run Bog National Natural Landmark,” Jacob Harrell, hydropower coordination biologist for the West Virginia Division of Natural Resources, wrote in comments filed with the FERC. “This area is a large wetland complex of great importance that would be irrevocably destroyed should the upper reservoir be allowed to be constructed on it.”

FreedomWorks, LLC, the Harpers Ferry company planning the project, first applied in August for a preliminary permit to study the feasibility of the project. FERC accepted the preliminary application on Oct. 29 and opened a 60-day window for comments and motions to intervene. The project is in the public interest, the company said in its application, because it would create a way to store extra energy, particularly from intermittent renewable sources when demand is low, “while creating energy jobs in an economically depressed area which has lost energy related jobs in the transition away from coal.” Plus, it’s a reliable, environmentally protective way to make the most of West Virginia’s natural resources, FreedomWorks, LLC wrote.



That’s not true, the West Virginia Highlands Conservancy wrote to the FERC, urging the commission to deny the preliminary permit. The shift to renewable energy is crucial, the group wrote, but this project would mean constructing “industrial-scale infrastructure in natural areas.” Pump-storage hydropower still uses electricity from renewables, natural gas, coal or fuels to power the pumps, meaning it’s not truly renewable, the West Virginia Rivers Coalition wrote in comments to the FERC submitted Thursday. The U.S. Department of the Interior echoed that in comments to the FERC, noting potentially adverse effects on the fisheries, migratory birds and the bald eagle, among other species. In its comments, the U.S. Forest Service noted the project could negatively affect the Big Run Bog National Natural Landmark in the Monongahela National Forest.

Tim Williamson, CEO of FreedomWorks, LLC, said Thursday he didn’t plan to touch the Big Run Bog and would change the project’s name. In response to the FERC comments, he submitted an updated draft study plan. The current estimated cost for project feasibility studies, the plan says, is \$1,170,000. FERC likely won’t make a decision about the permit for many more weeks due to the partial government shutdown, Williamson said. Still, he said he believed the project was viable. “I don’t know. I’m still of the opinion that it could be. I don’t see anything so far that’s pulled it out of the realm of possibility,” he said. The status of the project might be contingent on whether it’s right on top of previously mined property. Several environmental groups expressed concern in their comments that the project could cause acid mine drainage problems. “That’s really the key to this whole thing. If there’s an underground mine underneath there, there’s no chance in hell this thing’s being built,” Williamson said. “Because if it is, it’s game over. It doesn’t matter if there’s flying squirrels in the area or not.”

(It will end if they tear the dams down.)

THE STORY THAT JUST WON’T END:

Dam continues to generate attention
No spark of energy, but plenty of buzz

The Hydroelectric Dam in Fort Dodge, Iowa hasn't generated a spark of electricity since the early 1970s, but it's still managed to get a lot of attention since then. The latest development occurred last month at a time when city officials thought they were on track to remove the Hydroelectric Dam and the so-called Little Dam farther downstream. The City Council was set to award a contract for the removal of both dams on Dec. 10. But at about 4:30 p.m. that day a representative of the U.S. Army Corps of Engineers called a consulting engineer for the city and said the permit for the removal of the dams would not be issued because the State Historic Preservation Office had concerns about the project. Since then, city officials have met with the Army Corps of Engineers and the historic preservation office to try to reach a resolution.



The dam was built in 1918. It was shut down in 1971. The city tried to sell the dam in 1981, but didn't get any buyers. In 1982, a company that did business under the names Page Hydro Power Systems, Iowa Hydropower Development Co. and FORIA Hydro Corp. introduced a plan to restart it. Variations of that proposal were discussed until 1995. In 2003, a new plan to restart the dam was introduced by Fort Dodge Hydroelectric Development Corp. In 2005, the city's voters approved a \$7 million bond issue to pay for restoring the dam. The bonds were never issued and in 2006, a study showed the company's plans weren't feasible.

(Always wondered where we would be today if we used D. C. power)

Coming to downtown Buffalo: A testament to inventor Nikola Tesla

By Maki Becker | December 31, 2018 | buffalonews.com

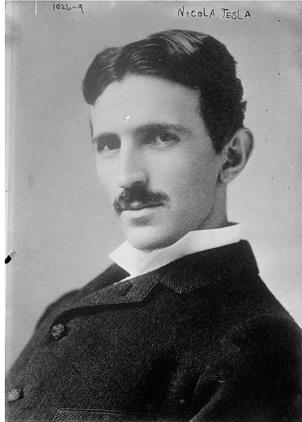
When Francis Lestingi gave a lecture about inventor Nikola Tesla two years ago at the Nardin Academy, he ended his talk by pointing out that there's isn't a single tribute to Tesla in the city, despite his many connections to Buffalo's history. "The City of Buffalo doesn't have a street, an avenue, an alley, anything named after Tesla," said Lestingi, an emeritus professor of the history of science at SUNY Buffalo State. "It doesn't have a building, a school, a mall or even a plaque."



The principal suggested aloud that perhaps the students could figure out some way to get a street or school named after Tesla, whose name adorns a solar products factory in South Buffalo that employs 800 people. The thought stayed with Lestingi. So when his friend Martin McGee, a documentary filmmaker who is a fellow fan of Tesla and Buffalo history, brought up the idea of erecting a statue to the Serbian-American scientist, Lestingi decided he would make it happen. He made a donation of \$100,000 in Apple stocks to fund a 7-foot tall bronze statue of Tesla that will be on display at the corner of M&T Plaza in downtown Buffalo.

The sculpture is being made by Larry Griffis III, a son of Larry Griffis Jr. of the Griffis Sculpture Park in East Otto. Other contributors to the statue include Trautman Associates and Fergus Electric Construction. Old Dutchman Wrought Iron is providing a time capsule that will be installed at the foot of the statue.

Nikola Tesla "is the one we saw electrified our civilization," Lestingi said. In 1897, Tesla stunned the world when he figured out how to use alternating current to transmit hydroelectric power from the cataracts of Niagara Falls to the City of Buffalo. "He was able, with his invention of the induction motor and the consequent generator, to produce electricity using alternating electricity which can be delivered hundreds and thousands of miles," Lestingi said. His more famous competitor, Thomas Edison, invented direct current, Lestingi said, which can travel only one mile. Despite his contributions to science and technology, Tesla died penniless in a New York City hotel.



The Tesla statue is scheduled to be officially unveiled July 10, which would mark the inventor's 163rd birthday. Leading up to unveiling, the Buffalo Niagara Nikola Tesla Council, to which Lestingi and McGee both belong, are organizing a series of community events. Among them are two lectures Lestingi will give: one at 6 p.m. Feb. 27 in the Buffalo History Museum and one at 7 p.m. June 5 in the Buffalo Museum of Science. Retired North Tonawanda science teacher Paul Swisher is in the process of recruiting teachers to participate in a regionwide "educational celebration of the life of Nikola Tesla" on April 12. Any educators interested in participating are encouraged to come to Lestingi's Feb. 27 talk. On the night of April 12, the council is putting on a "Nikola Night Homage at the Hotel Henry," a ticketed gala at the Buffalo hotel which will include a stations dinner prepared by the chefs of the Hotel Henry's 100 Acres, live music including

David Kane playing the theremin and other electronic instruments, performances by the Amherst Victorian Dancers, the Serbian Children Singers of Saint Stephen's Church and a Tesla impersonator. Tickets are \$75 per person and \$125 per couple.

(A little history.)

On this day in Alabama history: Lay Dam was completed near Clanton

By Alabama NewsCenter Staff, December 31, 2018, alabamane.wscenter.com

Just over a year after construction began, Lay Dam was completed near Clanton.

The project, the first hydroelectric plant to be built by Alabama Power, was launched in 1910 by William Patrick Lay, a native of Gadsden. When the project ran into financing difficulties, Lay turned to developer James Mitchell, who helped secure investment from London to form the holding company Alabama Traction, Power & Light Company, a precursor of Alabama Power. Eventually, Lay gave up ownership in the company to Mitchell. Constructed by workers who lived in a company village on site, the plant went into service in April 1914. Having been extensively renovated in 1967, the plant continues to serve customers today. Lay Lake includes 289 miles of shoreline that provides recreational opportunities such as boating, fishing, swimming and picnic space for the public.



Water:

(Sometimes you don't get enough, other times there's too much. They don't say how much flood protection the dams provide.)

Flood watch continues as Lake Wylie, others, rise. More storms, rain could be coming.

BY JOHN MARKS, DECEMBER 28, 2018, newsobserver.com

LAKE WYLIE, SC - Lake Wylie is up a foot in two days, lakes upstream and downstream are spilling and it isn't clear yet just how high waters will rise from heavy rain in this basin. On Friday morning, Duke Energy issued a new round of notifications warning residents and recreational users along Catawba River lakes to use caution. **Duke manages the 11-reservoir system and uses it for power generation.** The latest notifications state a major lake downstream of Wylie could spill its shores by up to three feet.



The Friday morning message for Lake Wylie reads:

“The Catawba River Basin is experiencing increased runoff from the significant rainfall received in the upper region of the basin. The Duke Energy hydro operations team is aggressively moving water through the river system and spillway gates are still open at Wylie, Fishing Creek and Cedar Creek hydro stations. Lake Wateree is spilling but is not expected to exceed 103 ft. Lake level predictions will be hard to determine until the rain has ended and stream flows are no longer rising. We will provide updates as conditions change. As always, we encourage residents living along lakes, streams and other lower lying and flood-prone areas to pay special attention to changing weather conditions and take any necessary precautions.”

The message comes three days after a similar warning from Duke. On Christmas, Duke warned of heavy rain forecast and water running from dams to make way for it. **By Wednesday, four of the 11 reservoirs topped out above full pond, or their flood stage.** After nearly hitting flood stage, Lake Wylie water is flowing ahead of storm forecast. December 26, 2018 1:03 PM Lake Wylie sat just below its target level on Wednesday, but by Friday morning was about a foot higher. Wylie has more than two feet before it reaches its full pond. Wylie is one of the more protected lakes from flooding, centrally located on the chain and near the massive Lake Norman which, like Wylie, is big enough to help even out the entire system by holding or releasing water. **Still, even Wylie faces flooding danger. As recently as Dec. 22 Wylie sat within half a foot of full pond. In the past week, lakes James, Rhodhiss, Lookout Shoals, Wateree and Mountain Island Lake all exceeded their full pond levels, while Norman came within an inch of it.** The National Weather Service issued a flood watch for York and host of other counties through Saturday morning. It notes potential heavy rain Friday night. Moisture from the Gulf of Mexico streaming across the western Carolinas and northeast Georgia comes ahead of a cold front moving eastward. “Soils remain nearly saturated from recent snowmelt and rainfall, and many area streams and reservoirs are already running at high levels, posing an increased risk of flooding,” reads the flood watch notice. “Heavy rain and a few embedded thunderstorms will arrive with the cold front this afternoon and the associated higher rainfall rates could quickly worsen ongoing flooding. While rainfall on Lake Wylie affects its lake level and flood risk, so too does rain upstream in the Catawba basin. Many of those North Carolina counties join York in the flood watch, having already received significant rain in recent days. By Friday afternoon, four of the 11 reservoirs registered levels above full pond with two more within a foot of theirs



Environment:

(This one is for the birds.)

Protecting Bald Eagles and preventing legal troubles during bird watching/photography

By Josh Cozart, December 30th 2018, khqa.com

Quincy, Illinois — An increase in bald eagles across the Tri-States signifies the end of their migration south from Canada. As the bald eagles start to nest along the Mississippi River, there could be legal implications if you get too close. Our nation's symbolic bird flocks to the river to hunt during the winter, more specifically, the lock and dams. The lock and dams help break up ice that may form and traps fish for the eagles to hunt. When the river freezes, when the lakes freeze, they all get pushed down the Mississippi River and sometimes go down all the way to St. Louis," local birder Brad Jacobs explained. "At least they were doing that 20 years ago. However, with this popular hunting ground comes a possible threat to the birds. Photographers travel across the Tri-States to these lock and dams to catch the perfect shot.



Getting too close or disturbing the birds could leave you with a hefty legal fine of \$5,000 and more or even prison time starting at a year. Bald eagle nesting occurs in the Midwest from late January through late July, according to the U.S. Fish and Wildlife Service. Human interaction should be next to none with these birds. Bald Eagles are protected under the Bald and Golden Eagle Protection Act dating back to 1940. It protects the birds from disturbing, trapping, and killing among many others. So while trying to get the perfect shot of our nation's symbol this winter, it's a good idea to stay at least 330 feet from their nesting areas and to keep loud machinery off, according to the U.S. Fish & Wildlife Service.



Other Stuff:

(Some nonsense.)

Merriam-Webster Picks Its Word of the Year

'Justice'

By Newser Editors, Newser Staff, Dec 17, 2018, newser.com

(NEWSER) – The word of the year, at least in the eyes of Merriam-Webster? "Justice." The dictionary's editor at large tells the AP that M-W isn't "editorializing"—the pick is made largely on a spike in people looking it up throughout the year on the dictionary's website. Lookups rose 74% over last year, and the word regularly rose to the top of most-searched lists, says Peter Sokolowski. "The concept of justice was at the center of many of our national debates in the past year: racial justice, social justice, criminal justice, economic justice," the company said when



explaining its choice. President Trump, for example, tweeted the word often in regard to the Robert Mueller investigation. Sokolowski says that lookups are often driven by people seeking to focus their thoughts or in search of motivation, rather than those who can't spell a word. Other words with big spikes:

- maverick
- respect
- excelsior
- pissant
- pansexual
- laurel
- feckless
- epiphany
- lodestar
- nationalism

dictionaries.com chose a different winner: <http://www.newser.com/story/267755/dictionarycom-chooses-its-word-of-the-year.html> (Misinformation)

As did Oxford Dictionaries: <http://www.newser.com/story/267310/oxford-reveals-word-of-the-year.html> (toxic)



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