



# Some Dam – Hydro News™ And Other Stuff



**Quote of Note:** *“Politics has less to do with where you live than where your heart is.” - Margaret Cho*

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**“Good wine is a necessity of life.” - Thomas Jefferson**  
**Ron’s wine pick of the week: 2011 Merry Edwards Pinot Noir “Meredith Estate”**  
**“No nation was ever drunk when wine was cheap.” - Thomas Jefferson**



## ***Dams:***

*(When you get old, you need maintenance. I sure do!)*

### **Aging Mon River locks and dams in need of upgrades**

**Crews are working to fix Locks and Dam No. 3 in Elizabeth for the second time in eight years**

By Mike Jones, Staff Writer, Observer-Reporter.Com,  
JUL 18, 2014

Elizabeth, PA – Chunks of fallen concrete scattered inside the “dewatered” chamber of the Monongahela River Locks and Dam No. 3 made for an interesting souvenir for visiting dignitaries, but they also provided a strong warning about the aging infrastructure along America’s interior waterways. The concrete chunks, along with other problems inside the empty chamber near Elizabeth, were evidence of the 107-year-old facility’s age that had long outlived its expected lifespan



when it was constructed at the turn of the 20th century. "Rusted concrete doesn't last forever," Corps of Engineers Chief of Maintenance Don Fogel said while standing on the floor of the silt-covered chamber. The U.S. Army Corps of Engineers offered a tour of the locks and dam Friday morning amid the two-month rehabilitation project to highlight the need for better infrastructure funding for what officials say is the often forgotten waterway system, compared to roads and rails. "Today, we're seeing a new environment where our infrastructure is no longer new and it's in need of maintenance," Col. Bernard Lindstrom said. "Understanding the value of each drop of water that spills over the dam is evidence of the need for these (upgrades)." Lindstrom, commander of the Corps of Engineers District in Pittsburgh, said many don't understand the value of the country's interior waterways and the amount of commerce that is moved on them. Nearly 16 tons of goods and materials passed through Elizabeth locks last year, and that number continues to increase. As officials were talking, a CSX train rumbled by with dozens of cars filled to the brim with coal. It was an example of how officials said many people think of trucks and trains as the backbone of commerce, while neglecting river improvements.

"The river is very efficient, but all of these efficiencies are being challenged by the aging infrastructure," said Martin Hettel, chairman of the Inland Waterway Users board. The Pittsburgh District oversees 23 locks and dams on the three major rivers – 10 percent of the total facilities operated nationwide by the Corps – which help control flooding and allow for continuous transportation throughout the year. The Elizabeth locks and dam are between similar facilities in Charleroi and Braddock. Those two locks are currently getting extensive upgrades that the Corps of Engineers hope will allow them to eventually dismantle the decrepit Elizabeth site and dredge the river to correct the water level, which ultimately would improve the shipping lanes along the Mon. That lower Mon River improvement project was authorized in the early 1990s and supposed to be completed a decade ago, but a dwindling revenue stream in recent years has pushed those plans back to 2028. The Elizabeth locks were supposed to be removed by 2004, but now have undergone two costly maintenance projects – including the current one – just to keep them functioning properly. They likely will remain for another decade, possibly longer. "We had a good start on this project ... but it stalled with the funding," Army Corps project manager Jeanine Hoey said. The \$2.7 billion lower Mon River project gets more expensive over the years as temporary patches continued to be placed on the Elizabeth locks and dam. The federal Water Resources Reform Development Act, signed into law earlier this year, authorizes new projects, but the Corps still needs more appropriations to perform the work. For now, they are selecting which issues need to be repaired immediately, what can be repaired at a lower cost and what projects can wait for another day when funding becomes available. That prompted a lively conversation led by Hettel about whether there should be a greater burden on recreational boaters and industries located along the water, rather than taxing gasoline used by ships that travel the rivers. Lindstrom raised the idea of a public-private partnership to raise more money. "What's the new model?" Lindstrom said. "We don't have the answers, but we have some thoughts." Until there are changes, Corps of Engineers Ohio River Division Program Director David Dale said they will prioritize. He said they are looking at their budgets and decided on rehab projects that would provide maximum value to the public and commerce. "We can't do it all any longer," Dale said. "We're working very hard to assure you that we are prioritizing that work to deliver the maximum value." About 60 percent of the Corps' locks and dams are more than 50 years old, which is their typical lifespan, and that number is expected to spike to 85 percent by 2030, he said.

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### **Farm bill provides \$262M for dam rehabilitation**

feedstuffs.com, Jul 18, 2014

From the 1940s through the 1970s, local communities using Natural Resources Conservation Service (NRCS) assistance constructed more than 11,800 dams in 47 states. As designated in the recent farm bill, USDA announced \$262 million to provide rehabilitation assistance for 150 dams in 26 states. Funds will be used for planning, design or construction. Also, 500 dam sites will be assessed for safety through NRCS' Watershed Rehabilitation Program.

Natural Resources Conservation Service (NRCS) Chief Jason Weller and Representative Frank Lucas, chairman of the House Committee on Agriculture, were in Oklahoma July 18 to recognize the importance of this announcement to agriculture and communities nationwide. "This investment will protect people and property from floods, help keep our water clean, and ensure that critical structures continue to provide benefits for future generations," Weller said. "Families, businesses and our agriculture economy depend on responsible management of dams and watersheds, and we are continuing to provide that support to these communities." A number of the projects to be funded are in Oklahoma, and Weller noted that the state had the first full watershed plan and structure completed by USDA on private lands in the 1940s. The 2014 Farm Bill, signed into law by President Obama earlier this year, increased the typical annual investment in watershed rehabilitation by almost 21 fold, recognizing the critical role of these structures in flood management, water supply, and agricultural productivity. Earlier this week the President discussed the importance of infrastructure to job creation and commerce, noting, "Funding infrastructure projects helps our families, it fuels our economy, and it better positions America for the future." For a complete list of the projects, please visit the FY 2014 Watershed Rehabilitation Projects Funding Table page

The projects were identified based on recent rehabilitation investments and the potential risks to life and property if a dam failure occurred. Overall, an estimated 250 thousand people will benefit as a result of improved flood protection made possible by these rehabilitated dams. For example, Watershed Dam No. 62 in the Upper Black Bear Creek Watershed of Noble County, Okla., will be included in a USDA-funded rehabilitation partnership project. Currently awaiting rehabilitation design, the dam provides protection against flooding to about 550 Oklahomans who live and work downstream. Additionally, the dam protects seven county roads, one state highway, two U.S. highways and an interstate highway that, together, support about 16,200 vehicles daily. Among other critical infrastructure, the dam also protects power lines and railroad tracks. The rehabilitation project is expected to provide about \$7.5 million in benefits including flood damage reduction, water supply and recreational benefits. "These funds will go a long way towards improving the safety and continued benefits provided by these watershed structures," Weller said. "We will work closely with the local project sponsors to ensure that these dams continue to protect and provide water for communities and agriculture."

(Let's hope they build a dam this time - that holds water.)

### Hope Mills residents eager for repaired dam, refilled lake

7/18/14, wral.com

Hope Mills, N.C. — After going without a lake for nine of the past 11 years, residents of Hope Mills are looking forward to the day when water once again backs up behind the Hope Mills Dam. "We used to go out our front door and jump in a boat and ski," Sunday McHenry, who has lived on Hope Mills Lake for 40 years, said Friday. McHenry was there when the earthen dam that held back the lake waters collapsed in a storm in 2003. She was there when a new dam was built in 2008. And she watched in disbelief two years later when the lake drained because of a sinkhole under the dam.



Town officials this week agreed to a \$9.4 million settlement from the engineering and construction firms that designed and built the \$14 million dam to end litigation over the structure's failure. Mike Mitchell, a former town commissioner, said Hope Mills officials are moving fast to repair the dam, and he said it's going to be done right this time. "The new engineer of record will go through

everything and decide if any modifications should be made to the plan," Mitchell said, adding that the state Division of Energy, Mineral and Land Resources, which oversees dam safety and inspections, has already signed off on the repair plans. McHenry said she always felt something was wrong with the dam before the 2010 failure. "When they built this, our house shook," she said. "The windows shook – vibrated – and all over the town, you could feel the windows, and it vibrated." She said she is looking forward to launching her swan paddle boat with her grandchildren when the lake fills back up, which should be by early 2016, and hopes the firms repairing the dam get everything right. "It all sounds good. I hope it goes up to the right water level this time because last time it didn't," she said. "A lot of people built their piers, and we got all ready for it, then the water just didn't match with our piers the way it was supposed to."

(Free money! What's that?)

### Fed dollars for dam fix in Northeast North Dakota

kfgo.com, July 19, 2014

Cavalier, N.D. (KFGO-AM) - A northeastern North Dakota county is getting federal dollars to improve a dam that threatened to fail and forced a town to evacuate last year. \$294,000 is going to the Pembina County Water Resource District to do some rehab work on Renwick Dam on the Tongue River near Cavalier. In May 2013, flooding put pressure on Renwick and other dams and Cavalier was evacuated on a precaution. Nine other dams throughout the state will receive \$20,000 each for safety assessment.



(Included because it uses photos rarely seen.)

### At Hoover Dam, there's a statistic everywhere

By Donald H. Harrison, 20 July 2014, sdjewishworld.com

Boulder City, Nevada – Whereas the watchword of this publication is "There's a Jewish Story Everywhere," at the Hoover Dam, apparently, the motto is slightly different: "There's a Statistic Everywhere." Or so one might believe watching an introductory video and taking a math-laden tour of the hydroelectric facility that was completed in 1935 and was boasted of then as the greatest engineering project since the Pyramids in Egypt. The dam, which straddles the Nevada-Arizona border, is located a short ride east of the Interstate 15 on Nevada State Route 146. Oh the Kabbalists who love gematria would have a field day at the Hoover Dam, which is 726 feet tall and has caused the Colorado River to back up behind it, creating the 156,000 acre Lake Mead, which it is reported is wet enough to cover the entire state of Pennsylvania with a foot high of water. To build the dam, the Colorado River had to be diverted from its course that follows an earthquake fault line where shakes of 5.2 have been recorded, but never anything close to a magnitude of 8.6, which the Hoover Dam was built to withstand.



Hoover Dam straddles the Nevada-Arizona line. Here grandson Shor, in Nevada, high-fives his grandfather, the writer, who is in Arizona mover a period of 19 months, engineers cut four 4,000

foot long, 56-foot diameter diversion tunnels through the canyon walls on either side of the river. They also built two temporary coffer dams to force the water into the tunnels on courses that emptied down river. The upper coffer dam was 100 feet tall, the lower coffer dam was 65 feet tall, and once the water was diverted, crews still had to dig through 135 meters of silt, mud and gravel to reach bedrock. Think of a pipe 56 feet in diameter. Try to imagine how wide a truck would have to be to carry it down the highway, or how wide a train would need to be to get it down the track. You don't have to be a statistician or an engineer to know that such pipe sections are just too big to be transported, so the engineers had to build a factory in the desert to manufacture these and other components of the dam. Once the spot was drained, the real work got started. Every 78 seconds, 16 tons of concrete was poured into wooden forms that became the building blocks of the dam. Small one inch pipes were inserted into these forms to carry water for cooling purposes. Had this method not been devised, according to the statisticians it might have taken the 3 million cubic yards of concrete poured at the site more than 100 years to cool!

Paintings show four uses of the dam, from left, flood control, electrical power, bringing life-saving water to the desert, and recreation. An average of 3,500 workers per day, working three 8-hour shifts, seven days a week, 363 days a year (there were two days off) were paid \$4 per day (a good wage back in the days of the Great Depression). In five years, which was two years ahead of schedule, they laid down 5 million barrels of structural cement, 18 million pounds of structural steel, 21 million pounds of gates and valves, and 840 miles of pipe. Those statisticians say if you took all the concrete poured for the dam and adjoining structures, you'd have enough



to build a four-foot-wide sidewalk all the way around the world at the equator. Located seven feet below the rim of the dam are two spillways, one on the Nevada side and one on the Arizona side. They have been employed only twice. The first time was in 1941 for testing purposes; the second time was for 62 days in 1983 when there was unusually heavy snowfall in the Colorado Rockies. The daily volume of water coursing down the spillways was said to be equivalent to the daily flow of Niagara Falls. Water also is taken from Lake Mead into four 395-foot tall intake towers (two on the Nevada side, two on the Arizona side) and transported into 30-foot diameter pipes, at a rate of 296,000 gallons per second. According to the tour guide, that's enough water to fill up an Olympic size swimming pool in about 5.6 seconds. From there, the water increases its velocity as it is forced into smaller and smaller penstock pipes. Thirteen-foot diameter pipes rotate magnetized spinners, turning the turbines that power the electricity-producing generators. From there the water continues its journey back to the Colorado River. On the tour, one can look down to a subterranean structure to see the tops of some of those 70 foot high generators, 40 feet of which are buried under the floor. There are 17 such generators in all, each producing up to 130 megawatts of power, enough for each to electrify a city of 65,000 homes. Size of Hoover Dam generators can be contrasted with the sizes of members of a work party in foreground. Power towers are cantilevered to avoid electrical lines brushing against the canyon walls and shorting out. Flood control, rather than electricity generation, is the main purpose of the



Hoover Dam, which was named after former President Herbert Hoover in 1947. Originally the structure was named the Boulder Dam, but it was decided to recognize the former U.S. President because back in his days as Secretary of Commerce he helped to negotiate a compact among seven states utilizing Colorado River water that enabled the dam to be built and the river waters to be apportioned. So that's an example of a "statistical story everywhere" – at least in the vicinity of the Hoover Dam – but where is the Jewish story in all this? The architect of the dam was Gordon Bernie Kaufmann, whose father was of Jewish origin and whose mother's maiden name was Isaacs. In that Kaufmann is buried under the sign of a cross at Golden State National Cemetery, we can't claim Kaufmann as a Jew, but clearly his family was no stranger to the religion. Kaufmann designed both residential and commercial projects, including the Doheny mansion in Los Angeles, the Los Angeles Times building, the Santa Anita Race Track, and the Athenaeum at Caltech. One of the reasons Kaufmann's story resonated with me was because my own paternal grandfather was a far lesser known architect, whose practice was mainly confined to New York and Connecticut. He grew up with the name Meyer J. Harowitz, but after he started practice, he changed his name to M. Joseph Harrison, a year before my father was born. Why? Because at that time in the United States, architects with Jewish sounding names often were passed over for commissions regardless of their qualifications. By changing his name, he was able to compete for some nice projects in those two states. My father was born in 1910 as Martin B. Harrison, and, as a result, my surname also is Harrison. One of grandpa's sisters, wishing to avoid discrimination, converted to Catholicism, and avoided her Jewish family thereafter. I have no way of knowing, but I couldn't help but wonder if anyone in the Kaufmann/ Isaacs family had similar experiences. And given that the name "Kaufmann" obviously did not prevent him from getting architectural commissions, I wonder if my own family's name change more than a century ago was really necessary.

(The other Johnstown flood.)

## **I KNOW A STORY: At anniversary of 1977 Johnstown Flood, memories flood back**

Associated Press, lancasteronline.com, By Terri Cammerata Special to the Sunday News

"KYW news radio 1060. Good morning! Today is Wednesday, the 20th of July. Temperature on Independence Mall ..."  
I hit the snooze button. Last night was a restless one. Blame it on the heat, the noisy air conditioner or my anxiety about our 6-year son being away from us for the first time. Jeff had gone to Johnstown with my parents Sunday. We planned to travel there Saturday — or so we thought. The radio clicks on again, and I drag myself out of bed



to get ready for my last graduate class at Millersville State College. I am about to turn off the radio when I hear: "Breaking news from Johnstown! Overnight, heavy rains flooded the city and surrounding areas. There are fatalities. Stay tuned to KYW." Bolting downstairs and out the front door, I scream over the drone of the lawn mower. "Don, KYW said Johnstown flooded last night! People are dead!" I phone my parents and aunts and get an AT&T recording: "The number you have dialed is not in service at this time." No discussion needed: We're driving to Johnstown ASAP! With our neighbors' help, we load cases of water and nonperishable food in the trunk and head for the turnpike.

I imagined Jeff might be homesick, yes, but never this. The Army Corps of Engineers declared Johnstown "The Flood Free City" after the channelization of the rivers following the 1936 flood. My thoughts run wild. What if Jeff and my parents were on the highway, and the raging water enveloped their car? What if they were asleep and didn't know? What if ... ? What if ... ? By the time we exit the turnpike, I feel emotionally drained. My inner voice says, "Calm down. You'll be at your parents' house in 50 minutes."

Maneuvering the sharp curves, we drive over the crest of Babcock Ridge and start our descent. I stare in disbelief at the scene ahead. Firsthand and up close, I witness the monster power of rushing water. It has undercut the four-lane highway, ripped away massive sections of concrete, twisted train tracks, flipped railroad cars, torn houses from their foundations and piled them alongside crushed and mangled cars. All I can think about is how much these people are suffering. Roadblocks force us on a three-hour circuitous route to the section of town where my family lives. Yards look like ponds, and water streams down streets, but most homes are intact. I breathe a sigh of relief. Jeff spots our car and yells, "Mom and Dad, I didn't know you were coming!" My parents are surprised to see us. We are thankful to see them! Wearily, they recount the seven hours of horrific storms and loss of utilities. As we talk, I hear the "wump, wump, wump" of low-flying helicopters traversing the Conemaugh River to rescue people clinging to trees and debris. With local TV and radio stations off the air, few realize the enormity of the destruction and death until the Tribune Democrat newspaper delivers a special flood edition, printed in Greensburg. Twelve inches of rain fell in seven hours; six earthen dams collapsed; entire families perished; babies were swept out of mothers' arms; communities were obliterated. Over the next five days, Don and I help where needed. Now, it's time to return to Lancaster. Tears course down our faces as we say goodbye. On the trip back home, I try to come to grips with the destruction and human suffering I witnessed. However long that will take, the past five days are forever etched in my mind. *The writer, who lives in Lancaster, notes that today is the 37th anniversary of the 1977 Johnstown Flood. An even more destructive flood washed out the town May 31, 1889.*

(If there's a dam proposed, it will be opposed!)

## Indiana Group: Proposed Dam Threatens Environment, Recreation

Public News Service - IN | July 21, 2014

The Hoosier Environmental Council says the reservoir that would be created by damming the West Fork White River would harm the environment and Indiana's recreation and tourism. Photo courtesy moundslake.org. The Hoosier Environmental Council says the reservoir that would be created by damming the West Fork White River would harm the environment and Indiana's recreation and tourism. Photo courtesy moundslake.org. Indianapolis, IN – Environmental groups in Indiana warn there would be long-lasting impacts if the proposed Mounds Lake Reservoir northeast of Indianapolis is constructed.



Community leaders in Anderson want to build a dam on the West Fork White River that would create the reservoir, extending seven miles upriver, in hopes of boosting economic development and improving flood control. But Tim Maloney, senior policy director for the Hoosier Environmental Council, says damming a free-flowing river has serious consequences for the aquatic ecosystem. "The fish communities will change," he explains. "The ability of fresh-water mussels to survive would be affected. "Of course, you have the effects on the river where the lake actually is, but also downstream, it changes the river dynamics as well." Nearly 1,000 acres of hardwood forest along the river would be flooded by creating the reservoir. Maloney says man-made reservoirs also are vulnerable to siltation and blue-green algae contamination, both of which seriously reduce their prospective benefits to anglers, boaters and tourists. The Indiana Archaeology Council is also opposed to the proposed project. Maloney says that's because the reservoir has the potential to damage parts of the prehistoric Native American earthwork sites already preserved in Mound State Park.

"They would not be submerged by the lake, but they'd be very close to the shoreline and subject to erosion and shoreline damage occurring because of the wave action on the shoreline," he points out. Those who favor the project say it will provide billions of gallons of water to mitigate drought and flood impact. But opponents argue a new reservoir should only be considered after other strategies to reduce water demand are considered. Maloney adds that with careful planning, his group is convinced the free-flowing river and adjoining natural lands can provide opportunities for more sustainable economic development. "Protecting the river can also provide significant outdoor recreation and tourism benefits that the Anderson area could better capitalize on, and provide improvements to the region's quality of life," he says. **It's estimated that more than 360,000 people visit Mounds State Park every year.**

(The power of water is always underestimated. Even with a life-jacket, most people couldn't swim out of the hydraulic force.)

### **Drowning machines: safety near dams**

Jul 21, 2014, Written by Michelle Corless, Multimedia Journalist - kwwl.com

Family and friends are mourning the loss of Andrea Zimmerman. The 29-year-old drowned this weekend while tubing with friends after she went over the Troy Mills dam on the Wapsipinicon River. **Experts say the problem with dams is that you may not know you're in danger until it's too late. Once you're sucked in, it can be impossible to get out. They say before you head out on the water you should do some research.** "Those roller dams, they're called drowning machines for a reason," said Justin Jensen, Cedar Rapids Firefighter. "They're extremely hazardous. They're dangerous."



It's been almost five years since someone died at the roller dam in Cedar Rapids, one of seven deaths that have happened over time -- including two firefighters in the 1970s. According to the Iowa Department of Natural Resources, recirculating currents at the dams can trap and drown victims. **Our crew watched a piece of debris floating down river get sucked into the dam and never saw it resurface.** That's why firefighters have to go through special training to do rescues there. "We're trained as rescue swimmers wearing personal flotation devices, helmets, all our safety gear," said Jensen. "There is a way for us to get up to a low-head roller dam and perform a rescue on someone that's trapped inside." **They say the best thing to do is to stay away.** The Iowa DNR says you should get to know the water before you get on it. Make sure you boat with experienced people. Keep your eyes open for warning signs. And, always wear a life jacket.

(This happens all too often!)

### **Edinburgh dam may get signs after teen drownings**

By Nina Criscuolo: July 23, 2014, wlf.com

Edinburgh, Ind. (WISH) – **Six weeks after a swimming incident left two Franklin boys dead and a girl in the hospital, Edinburgh officials are taking steps to prevent something like that from happening again.** Their idea is new signage along the Big Blue River, warning swimmers and fisherman of the dangers near the dam. Leaders in Edinburgh hope new signs will



Copy obtained from the National Performance of Dams Program: <http://npdp.stanford.edu>



urge people to be careful when in and around the water. Bob Jessie owns the bait shop in Edinburgh. "I deal with it day to day and some days I do a little better than others," Jessie said. He was there on June 6 when four teen boys jumped over the dam after Sarah McLevish fell over it. Jessie quickly reacted to help the teens. "It was one of the scariest times I've ever had to deal with and I think it's changed me a little bit. I think anything like that would change somebody," Jessie said. The tragedy has also impacted how people approach the Big Blue River. "Any time there is flood waters, it doesn't matter where the river is at, whether there is a dam there or not, it's a dangerous thing for anyone to be in," Edinburgh Utilities Director and Councilman John Drybread said.

"After that we talked about what we could do to warn people or just give them a heads up," Drybread said. He and other Edinburgh leaders say increased signage will be the first step. Currently, there are no warning signs along the river. "We have no jurisdiction over the river, it's a public water way, but we thought at least minimum we could do that," Drybread said. 24-hour reminders along the shore, much like the memorial items for Michael Chadbourne and Jason Moran, who lost their lives after the June 6 swimming accident. For Jessie, who overlooks people on the river each and every day, he's supportive of the idea. "In fact, I would contribute to the cost of that if that's something that they would decide to do," Jessie said. "It won't take long once we make the decision, but there are some things to consider so we just want to make sure we do it right," Drybread said. In the meantime, Jessie says he's seen local police officers keeping an eye on those enjoying the river since the drowning. Some people have asked about the dam being removed. Town leaders say removing the dam would cost at least \$500,000. It was built in 1884 to power a grist mill, but does not currently serve much of a purpose. News 18's sister station WISH-TV did speak with the mother of one of the survivors of the June 6 drowning. Deb Brown-Nally said the signs would not ease her family's pain or grief, but it is needed. She hopes it will prevent others from having to go through something so difficult.

(Small but big trouble! Maybe!)

### Indiana homeowners face \$1.5M dam repairs bill

The Associated Press, miamiherald.com

Peru, Ind. -- A state agency says six dams on small lakes in a northern Indiana subdivision need about \$1.5 million in repairs that the homeowners should pay to have completed. Some of the about 20 property owners in the Hidden Hills neighborhood just outside the city of Peru maintain the dams are too small to fall under the jurisdiction of the Indiana Department of Natural Resources. The Kokomo Tribune reports (<http://bit.ly/1nXiBVB>) the DNR says failure of the dams could pose serious risk to homes downstream. The agency says the dams built to create lakes for the neighborhood were never permitted or inspected. Miami County commissioner Larry West is among the property owners. He says the DNR hasn't done a proper study to back up its findings.



### Hydro:

(No water, no kWh.)

### Hydroelectric compound runs out of water

By Amanda Hinds Doyle, Jul. 18, 2014, siskiyoudaily.com

Yreka, CA – Wednesday was a day of relief for the Higgs family all-electric compound on the Shasta River after days without water. The compound has run on hydroelectric power for more than 80 years, said compound residents Michael and Lenita Higgs. The compound is equipped with three different turbines built by Michael's father, Stuart Higgs, for varying weather conditions.

In a 1991 article in Home Power, Richard Perez said, "Stuart and his family operate the biggest home power system I have ever seen." "With a daily output of up to 720 kilowatt-hours, Stuart's hydro could power 10 average American households, or over 50 energy-efficient households," said Perez.

Stuart Higgs said he has won two first-place prizes at the International Hydroelectric Contest for his turbine designs. There is a large turbine for winter, a medium turbine and a small turbine for extremely low flows. For the past three weeks, the compound, consisting of three houses and seven people, has been faced with major adversities due to the continuing drought. Family members have been forced to live elsewhere due to extreme drought conditions that left the compound completely void of electricity. Starting Monday, the river almost went bone dry on the compound, according to the pair. Without water, the families are left, without any electricity to shower, keep food refrigerated or supply minimal air conditioning. On Wednesday, the family was informed that water was being sent their way, but only eight cubic feet. Normal summer water supplied to the compound is approximately 14 cubic feet. The Higgs said they are so confused why everyone else has water along the river, aside from them. According to the couple, officials suggested they bring in a water tank, but no one else has done that, said the Higgs. With such low water levels, at times the compound must choose which house can run certain electricity. "There have been many droughts before and we've done fine," said a confused Michael Hicks, about why this year is so difficult. Stuart Michael said the compound has riparian rights, and everyone along the river should be getting a proportionate amount to what their right is. "We need to use the water efficiently," said Stuart Michael. While the compound needs the water to run, there is no water being taking from the river, that doesn't get put right back, said the Higgs. For now, the compound is back up and running, but with a mere half the water they normally are allotted in July. The Watermaster was contacted with no reply.

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## **PPL requests federal approval to sell Wallenpaupack**

### **Sale of hydroelectric plant proposed to create Talen Energy**

69 News, wfmz.com, Jul 18 2014

Allentown, Pa. - PPL is seeking federal approval to sell its popular Lake Wallenpaupack in the Poconos. But a PPL spokesman stressed it's only one option in a request made this week to the Federal Energy Regulatory Commission by the Allentown-based utility. Lake Wallenpaupack is a 5,700-acre lake in Pike and Wayne counties that is owned and operated by PPL, according to the Pennsylvania Fish and Boat Commission. PPL spins off power plants to form large, independent company. The 13-mile-long lake was created in 1926 to power a hydroelectric plant, but it is open to the public for recreation purposes. Wallenpaupack's hydroplant is used in times of high electricity demand. PPL owns most of Lake Wallenpaupack's shoreline. It operates several campgrounds, observation and overlook areas, a wildlife refuge, two natural areas and an environmental learning center at the lake.

PPL is seeking federal approval to combine PPL Energy Supply's generation assets with Riverstone Holdings generation assets to form Talen Energy Corporation. Talen Energy will be a new, stand alone, publicly-traded company. PPL filed the request Tuesday with FERC. PPL outlined two potential options in case FERC finds the transfer would result in too much influence over pricing. "These are simply proposals to FERC at this time, should FERC require us to sell any power plants in order to obtain approval for the transaction," stressed PPL spokesman Ryan Hill. "No final decisions have been made." In one option, hydroelectric plants at Lake Wallenpaupack and Holtwood on the Susquehanna River would be sold, with the balance of plants being Riverstone's. In another, PPL would sell off its natural gas-fired power plant at Ironwood in Lebanon. The rest of the plants are Riverstone plants. Hill said the FERC review will take about three to six months. He said any sale of assets would take place within a year after the FERC's approval of transactions.

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## **Hydro Green Energy wants to build hydroelectric plant on Monongahela River**

By Tory N. Parrish, July 19, 2014, triblive.com

A Dallas startup could become the first company to operate a hydroelectric power plant in Allegheny County. Hydro Green Energy wants to build a 5.2-megawatt, low-impact hydroelectric plant at the Braddock Locks and Dam on the Monongahela River. Adding power to existing dams is quicker, cheaper and less risky than building dams, said the Department of Energy, which is promoting the development of low-impact hydropower at dams. That's the approach Hydro Green Energy and other companies plan to take. If the Federal Energy Regulatory Commission approves Hydro Green's planned \$15 million Braddock project, it would produce enough power for about 5,250 homes and be the company's first commercial use of its technology, said Mike Maley, president and CEO. "We're barely going to be visible, and we're going to have virtually no environmental impact. That's why we're very comfortable with our technology," he said. A Boston company, Free Flow Power, is seeking approval to build 10 low-impact hydroelectric power stations — including at Allegheny Lock and Dam No. 2 and at Emsworth Locks and Dam — on the Allegheny, Ohio and Monongahela rivers. Hydro Green is awaiting final licenses for other projects, similar to its Braddock proposal, on the Allegheny River near Oakmont and on the Monongahela River near Morgantown, W.Va. The Braddock project is further along in the approval process, Maley said.

Hydro Green has 15 projects planned across the country. Hydropower is the nation's largest renewable energy source for electricity generation, but it accounted for only about 6 percent of total generation in 2013, according to the federal Energy Information Administration. About 2,500 dams provide 78 gigawatts of conventional hydropower in the United States, but there are more than 80,000 dams that do not produce electricity, according to a 2012 report from the Department of Energy. The Army Corps of Engineers owns the Braddock Locks and Dam. Hydro Green started its application process in 2011, and hopes to obtain its license in time to start construction in the first quarter of 2015, Maley said. "They put you through your paces," he said. "They make sure that everything meets every standard possible." Federal Energy Regulatory Commission staff issued an environmental assessment for the project on June 13 but hasn't set a timeframe for issuing the license, spokesman Craig Cano said. Building hydropower plants in Pennsylvania is a smart approach, said Jay Apt, director of the Carnegie Mellon Electricity Industry Center. "This is a more company-friendly environment, because the wholesale prices for electricity are higher in our region than they are in most of the areas where the Mississippi River flows," Apt said. The Pennsylvania Environmental Council supports hydropower projects that use existing infrastructure, such as the Army Corps' locks and dams, and projects that will not be used temporarily, said Lindsay Baxter, a program manager in the council's Southwestern District office in the Strip District. "We have the topography and the water resources in Pennsylvania to support a lot of low-impact hydro," Baxter said.

## #17, Shoshone Falls Power Plants

July 20, 2014, Times-News, magicvalley.com

Shoshone Falls, ID • Two hydroelectric power plants stand side by side, on the north side of the Snake River at the base of Shoshone Falls. Construction of the first power house began in 1900 when Twin Falls founder I.B. Perrine persuaded Harry Hollister, of Chicago, to invest in the hydroelectric project. Work on the tunnel for the pipe, or penstock, began the following year. Crews blasted rock from the base of the canyon and tunneled upward.

In August 1907, water was released into the penstock, and the power plant produced 500 kilowatts of electricity. "The huge turbine wheel and the massive generator revolve



The building on the right was built by I.B. Perrine in the early 1900s. The building on the left — with the red roof — was built by Idaho Power Co. in 1927.

at top speed with a sound like the purr of a satisfied tomcat,” wrote the Twin Falls Times when the Perrine plant came on line. A second generator was installed in 1909, increasing production to 3 megawatts, the same as it produces today. “Most visitors to Shoshone Falls don’t even notice the original gray building built by Perrine,” Idaho Power Co. spokesman Dan Olmstead said. The company bought Perrine’s plant in 1916 and built another power house next to the original one in 1927. Dwarfed in size and production by its successor, the first power plant still produces electricity. In all, the plants generate 12 megawatts. Idaho Power plans to expand the site into a 60-megawatt facility someday.

(Almost 100 years and still ticking!)

### **Energy Northwest to operate Tieton Dam electric project**

Annette Cary, Tri-City Herald July 21, 2014, bellinghamherald.com

Energy Northwest in Richland, WA has agreed to operate and maintain the Tieton Dam Hydroelectric Project in Yakima County. The one-year contract is worth \$350,000 and may be renewed annually. The agency will be able to do the maintenance work with current staff at its Packwood Lake Hydroelectric Project, which is about 35 miles away in Lewis County. That will provide some economies of scale, said Jim Gaston, Energy Northwest general manager of energy services and development. There are no plans to add staff. The additional work also will further Energy Northwest’s expertise in operation and maintenance of hydro facilities, he said. The Tieton project is a 15.6-megawatt facility that operates seasonally. It is smaller than the Packwood project, which has a generating capacity of 27.5 megawatts and was Energy Northwest’s first electric power generation project when it began operating in 1964.

The Tieton Hydropower Project was built in 2005-06 at the base of Tieton Dam, which was constructed from 1917-25 to provide irrigation water. The project operates when water is released for irrigation from May through October. The Tieton project is owned by the Southern California Public Power Authority on behalf of the California cities of Burbank and Glendale, which have agreements to purchase the power. Burbank is responsible for overall operation and maintenance. The agreement Energy Northwest signed has an emphasis on operating and maintaining the Tieton project using best utility practices and meeting equipment manufacturer recommendations. Energy Northwest also will meet all regulatory and safety standards and requirements. “This agreement complements Energy Northwest’s clean energy generating assets,” said Mark Reddemann, Energy Northwest’s chief executive officer. Energy Northwest operates the Northwest’s only nuclear power plant, the Columbia Generating Station near Richland, and also has hydro, wind and solar power generating projects.

(Interesting title. 100 years and still churning out kWh’s.)

### **HOGS to cruise Lake Wisconsin**

July 23, 2014 • Kim Lamoreaux, capitalnewspapers.com

The 100th anniversary of the opening of the Alliant Energy Prairie du Sac Hydroelectric Dam has sparked a number of events in the area this summer and fall, beginning with a motorcycle ride July 27. The Best Dam Ride by a Dam Site will be hosted by the Sauk Prairie Area Historical Society, which has partnered with Sauk Prairie Harley Davidson’s Harley Owners Group, also known as HOG, to offer motorcycle riders a chance to tour Lake Wisconsin, which was formed when the dam was constructed in 1914. The ride starts at the dam with a brief tour, then leaves for Sauk Prairie Area Historical Society’s Tripp Heritage Museum in Prairie du Sac as the second stop. The museum is open from 1 to 5 p.m.



July 27. Seven stops around Lake Wisconsin later, the tour ends at the Woodshed Ale House in Sauk City. The other stops include Que's River Deck in Prairie du Sac, the Lake Wisconsin Golf Course, Fish Tales, Sunset Harbor, Gibraltar Rock and Fitz's on the Lake in Lodi, the Merrimac Ferry, and returns to Prairie du Sac. SPAHS director of development Jody Kapp created a brochure that riders can take with them describing the stops on the tour. "Since it's the 100th anniversary of the dam we thought, 'Wouldn't it be fun to do a ride and get that whole perspective of the lake all around the lake and learn about the history of the dam?'" Kapp said. "What better way to see something than on the back of a bike?" Kapp referred to the dam tour as a "peek" at the dam's powerhouse, but riders can sign up during the stop at the Tripp Heritage Museum for the full tours beginning Sept. 12, 13 and 14. "It'll be a nice way to get a lot of our members who aren't necessarily from Sauk Prairie and are from Madison and as far away as Wisconsin Rapids and show them what Sauk Prairie is all about," said HOG chapter secretary Sandy Opitz. "I think it will give our members and others in the area a beautiful view of Sauk Prairie and the people in the area, and just to see the beauty around the lake and the local side roads we have."

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## Feds give SMUD 50-year license for hydroelectric projects on American River

By Dennis McCoy | Sacramento Business Journal | Jul 24, 2014, bizjournals.com

The Sacramento Municipal Utility District got a 50-year renewal to operate its hydroelectric projects on the upper American River. The utility operates 11 reservoirs and eight powerhouses in the upper American, which generate 688 megawatts of electricity, representing about 15 percent of SMUD's annual power. Part of the new license from the Federal Energy Regulatory Commission calls for SMUD to make some changes. The utility will make several recreational upgrades to reservoirs and it will increase the volume of water it releases into streams to benefit natural resources.

"It is gratifying to receive a new 50-year license," SMUD CEO Arlen Orchard said in a news release. "It allows SMUD to continue to generate large quantities of non-carbon-emitting energy over the next 50 years from our most valuable, lowest-cost power supply." The license also allows SMUD to move ahead with the design and potential construction of the 400 megawatt Iowa Hill pumped-storage development, which would pump water uphill during times of light electric use, and generate power during summer peak periods. The utility is still doing feasibility work on the \$800 million Iowa Hill project, which could take three years. The new license, which SMUD has been working on since 2000, reflects formal agreements SMUD reached with and interests, such as state, and federal resources agencies, environmental groups, local governments, the whitewater rafters and people in the area. Under this license, SMUD will begin a 20-year program to upgrade all 52 recreation areas such as campgrounds, picnic areas, paved bike trails, hiking trails and shower facilities.



### Environment:

(They don't look so good after spawning! More tear the dam down stuff.)

**Are the feds simply shielding Columbia River dams from wrecking balls? The Obama administration keeps recycling Bush-era Columbia River policies, and it keeps losing. What's the deal?**

July 23, 2014. By Daniel Jack Chasan, crosscut.com

In the words of the former New York Yankees catcher and manager Yogi Berra, "it's **deja vu all over again.**" In mid-June, the National Wildlife Federation and an array of other environmental and fishing groups filed a complaint in federal court alleging that the federal government's Biological Opinion (BiOp) on the operation of the Columbia River dams violates federal law. The feds have been issuing these Columbia River BiOps since the Clinton administration. Conservation groups, fishing groups, tribes and the state of Oregon have been challenging them — and prevailing. Courts have shot down four BiOps so far. The BiOp issued in 2010 was much like the one issued in 2008 (deja vu). The BiOp issued this year is much like the one issued in 2010 (deja vu all over again). Yogi nailed it.



A Chinook spawns in a Washington state river. Photo: [Dan Hershman](#)

When the current BiOp came out in January, little had changed from the version that a federal court struck down in 2011 — it was clearly just a matter of time before the usual plaintiffs came back to make some of the usual arguments. "We've talked with [the Bonneville Power Administration], we've talked with the [U.S. Army Corps of Engineers], we've talked a lot with Washington state in order to set the table for a collaborative negotiation," says Save Our Wild Salmon executive director Joseph Bogaard, but it hasn't worked. Everyone is back in court. True, the past doesn't necessarily provide a roadmap to the future. True, when the National Oceanic and Atmospheric Administration (NOAA) released the BiOp, it proclaimed that "improvements at federal dams on the Columbia and Snake rivers, rehabilitation of habitat, and other actions are benefiting federally protected salmon and steelhead as much as or more than anticipated five years ago." Still, based on the historical record, one would be foolish not to anticipate the usual results.

There are, however, two ways to view the repetition of results. On one hand, the federal defendants haven't taken a single round in court. On the other, they haven't had to fundamentally change the system. "If the defendants define delay as victory," Bogaard says, "then they're winning." The focus of all these ponderous BiOps and all these years of litigation has been the impact of dam operations on the Columbia River system's threatened and endangered salmon populations. There are 13 of them, the first of which was listed for federal protection in 1991. How does the Columbia River dam system (which includes dams along the Snake River) affect the fish? How will the feds mitigate the effects and restore the populations? (Although the BiOp overview talks of avoiding "the likelihood of jeopardizing the continued existence of 13 listed salmon and steelhead species," the Endangered Species Act calls for recovery, not mere survival, of listed species. The Bush administration invented the concept of "trending toward recovery," which has not yet been adjudicated but survives in this BiOp.) The plaintiffs argue, as they always have, that the feds aren't doing and don't plan to do enough. This threatens the recovery not only of salmon populations, but also of endangered Southern Resident Killer Whales, which some prefer to call Puget Sound orcas. The orcas eat salmon. They prefer to eat big, fatty Chinook salmon. They evolved near the Columbia, which was the greatest Chinook river in the world. In its recovery plan for Southern Resident Killer Whales, NOAA has acknowledged that "perhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon from the Columbia River basin." And yet ... the BiOp recognizes the relationship, but argues that business as usual is all the endangered sea mammals need. Hatcheries will more than make up for the Chinook currently lost at the dams, so the orcas' food supply won't decline. But the plaintiffs argue that NOAA has chosen the wrong baseline. The BiOp doesn't confront the fact that the current number of salmon supports a small and dwindling

number of killer whales. To support more orcas — to restore the orca population, as the law requires — we will presumably need more salmon.



### ***Other Stuff:***

(Drought has other consequences!)

#### **Drought hinders state's emissions goals**

##### **As hydropower dries up, utilities turn to natural gas**

David R. Baker, July 19, 2014, sfgate.com

No state has done more than California to fight global warming. But a deepening drought could make that battle more difficult and more expensive.

A prolonged dry spell, stretching on for years, would slash the amount of power flowing from the state's hydroelectric dams, already running low after three parched winters.

The dams have, for years, been one of California's main sources of clean electricity, generating power without spewing greenhouse gases into the air. Drought forces utility companies to turn elsewhere for electricity, buying more from conventional power plants burning natural gas.

Emissions rise as a result. It's already happening. After falling for years, California's greenhouse gas emissions rose 1.7 percent in 2012, pushed up by the drought and the closure of the San Onofre nuclear plant in San Diego County. The state has not yet released emissions data for 2013. Experts say a sustained drought wouldn't prevent California from reaching its climate change goals. Instead, years of dry weather would force energy providers to find new strategies - ones that would likely cost more. In addition to being clean, hydropower tends to be cheap.

"It makes things harder," said Victor Niemeyer, program manager for greenhouse gas reductions at the Electric Power Research Institute. "If there's less hydro, the power has to come from somewhere. You have to burn more gas, and that costs more money, all things considered."

Hydroelectric dams

Pacific Gas and Electric Co. runs the nation's largest privately-owned fleet of hydroelectric dams, with more than 100 reservoirs feeding 68 generating stations. The current drought has hit some PG&E reservoirs hard, particularly those in the southern Sierra Nevada. Many of the utility's reservoirs in the northern Sierra are fed by groundwater as well as snowmelt and are faring better. Some PG&E reservoirs are as low as half capacity, while others are just below normal levels for this time of year. In its long-range planning, PG&E expects to rely less on hydropower in the future, because global warming models predict that the Sierra snowpack will shrink.

"That's an important effect that we see as real," said Todd Strauss, the utility's senior director of energy policy, planning and analysis. "It's not a negligible effect, but it's manageable." California has begun a series of initiatives intended to rein in greenhouse gas emissions. The state has boosted its use of renewable power, imposed tough fuel-efficiency standards on cars and required developers to cut the amount of energy that new homes and office building consume. Those efforts have produced results.

#### **Emissions rising**

California's emissions peaked in 2004 at 492.9 million metric tons of carbon dioxide equivalent, according to data from the California Air Resources Board. They fell slowly but steadily from 2007 through 2011. Then as the drought began, they rose. The closure of the San Onofre Nuclear Generating Station, after a small leak of radioactive steam revealed defective equipment, didn't help. In 2011, large hydroelectric dams accounted for 18.2 percent of all power generated in the state, according to the California Energy Commission. Nuclear plants supplied another 18.2 percent, while conventional power plants burning natural gas accounted for 45.4 percent. Renewable power sources, not including large dams, provided 16.6 percent of in-state generation. In 2012, hydro generation plunged to 11.7 percent, nuclear to 9.3 percent. Natural gas plants supplied 61.1 percent of the state's electricity. Between 1983 and 2001, hydropower averaged 15 percent of in-state generation. "There's no doubt, on the margins, a drier year leads

to higher emissions than you'd have otherwise," Strauss said. It isn't just a question of hydroelectric dams.





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