Some Dam – Hydro News™

and Other Stuff

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3/04/2011

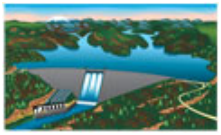
Quote of Note: *"The only reason some people get lost in thought is because it's unfamiliar territory: -- Paula Fix*

"Good wine is a necessity of life." - -Thomas Jefferson

Ron's wine pick of the week: **Ravenswood Belloni Russian River Zinfandel 2007**

"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Other Stuff:



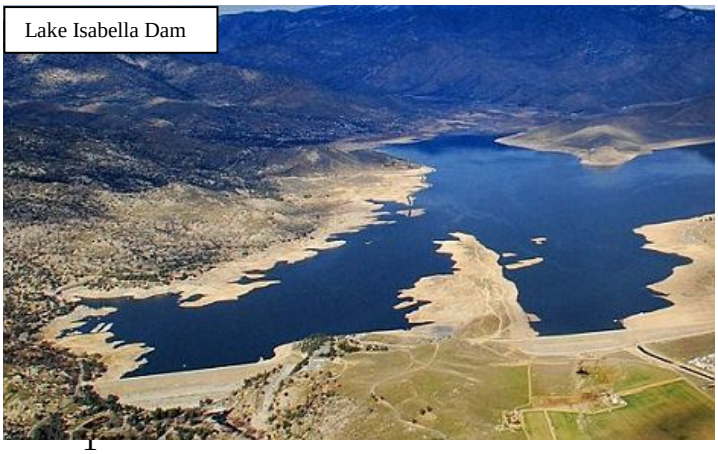
Dams

(Might as well start this Newsletter with this long long article. How many times has this story been told? With the economic mess the Country is in, will we ever invest in dams and other infrastructure or wait until it's too late? The latter is probably the answer unfortunately.)

Danger Pent Up Behind Aging Dams

By Henry Fountain, nytimes.com, February 21, 2011

Lake Isabella Dam



LAKE ISABELLA, Calif. — Frank Brassell, owner of Nelda's Diner in this town wedged between the slopes of the southern Sierra Nevada, knows his fate should Lake Isabella Dam, a mile up the road, suddenly fail when the lake is full. "I work here," Mr. Brassell said, looking around the brightly lighted diner. "And I live right over there," he added, pointing across the town's main street. "The water would all come down here and it would try to take a

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

right turn and go under the freeway, and it wouldn't all go," he said. "So I'm dead."

Lake Isabella Dam is just one acute example of a widespread problem: Of the nation's 85,000 dams, more than 4,400 are considered susceptible to failure, according to the Association of State Dam Safety Officials. But repairing all those dams would cost billions of dollars, and it is far from clear who would provide all the money in a recessionary era. The stakes are particularly high not just for Mr. Brassell and the other 4,000 residents of Lake Isabella, but for the 340,000 people who live in Bakersfield, 40 miles down the Kern River Canyon on the edge of California's vast agricultural heartland. The Army Corps of Engineers, which built and operates the 57-year-old dam, learned several years ago that it had three serious problems: it was in danger of eroding internally; water could flow over its top in the most extreme flood season; and a fault underneath it was not inactive after all but could produce a strong earthquake. In a worst case, a catastrophic failure could send as much as 180 billion gallons of water — along with mud, boulders, trees and other debris, including, presumably, the ruins of Nelda's Diner — churning down the canyon and into Bakersfield. The floodwaters would turn the downtown and residential neighborhoods into a lake up to 30 feet deep and spread to industrial and agricultural areas. The potential is for a 21st-century version of the Johnstown Flood, a calamitous dam failure that killed more than 2,200 people in western Pennsylvania in 1889. But corps and local government officials say that the odds of such a disaster are extremely small, and that they have taken interim steps to reduce the risk, like preparing evacuation plans and limiting how much water can be stored behind the dam to less than two-thirds of the maximum. Still, they acknowledge that the impact of a dam failure would be enormous. "It's not just the loss of life, potentially," said David C. Serafini, lead technical expert for the corps on the project. "It's the economic damages and the environmental damage, too." Corps engineers are preparing to propose fixes later this year. But at best, repairs would not begin until 2014 and could cost $500 million or more, money that would have to be approved by Congress.

Nationwide, the potential repair costs are staggering. A 2009 report by the state dam safety officials' group put the cost of fixing the most critical dams — where failure could cause loss of life — at $16 billion over 12 years, with the total cost of rehabilitating all dams at $51 billion. But those figures do not include Lake Isabella and other dams among the approximately 3,000 that are owned by the federal government. The corps, for example, says that more than 300 of the roughly 700 dams it is responsible for need safety-related repairs, and estimates the total fix-up bill at about $20 billion. The corps has already spent about $24 million just to determine the scope of the problems at Lake Isabella, and with the New Orleans levee failures during Hurricane Katrina a lingering memory, Congress has appropriated money for other federal dam repair projects as well. But about two-thirds of all dams are private, and financially struggling state and local governments own most of the remainder. It is difficult to predict how needed repairs to these dams will be financed; legislation to provide federal money to help has languished in Congress. What's more, the number of high-risk dams keeps rising as structures age, downstream development increases and more accurate information is obtained about watersheds and earthquake hazards. Among the corps's dams, Lake Isabella is one of 12 that are ranked in the highest category, as a dam with serious problems and serious failure consequences, given the large downstream population. "The classification is it's an unsafe dam," said Eric C. Halpin, the corps's special assistant for dam and levee safety. But Mr. Halpin noted that 319 of the corps's dams were considered "actionable from a safety standpoint."

Lake Isabella would be one of the more expensive projects, but then again, its problems are legion. It is actually two earthen dams, a main one that is 185 feet high and an auxiliary one that sits on higher ground and is 100 feet high. With a rock ridge between them, they stretch for about a mile across the Kern River Valley. For six decades the dams have controlled flooding on the Kern, helping Bakersfield to grow and thrive. And the lake that formed behind the dam has become the main driver of the economy of Lake Isabella and other towns, bringing fishers, boaters and whitewater rafters to the area. But there have always been people in the area who felt the dams were flawed. David Laughing Horse Robinson, an artist and teacher who lives in the

lakeside town of Kernville, said his grandfather, who worked on the dam, and others used to talk about it. “Constantly,” he said. “How it was the stupidest thing they ever did. It’s doomed.” Water seeps through the Lake Isabella dams, as it does through most earthen dams, which account for a vast majority of dams in the United States. But the seepage at Lake Isabella was especially severe — it is what prompted the corps to perform a full-scale study of the dam. Water seeping through a dam can erode it from the inside out, to the point where the dam may fail. Engineers have learned to build structures into dams like drains and filters, to stop erosion and allow infiltrating water to drain safely away. But the Lake Isabella dams were constructed before such features became commonplace. “It was built with the best available knowledge and technology at the time,” said Veronica V. Petrovsky, who is managing the project for the corps.

That knowledge, or lack of it, extended to the understanding of the large and complex watershed, which includes the slopes of Mount Whitney, the tallest peak in the contiguous United States. To determine how big the spillway needs to be, it is critical to know how much water might be impounded behind the dam each year. Calculations show that in an extreme year with a “probable maximum flood,” the spillway would be far too small. “We could not release the water fast enough,” Ms. Petrovsky said. “It would overtop.” An overtopped dam can fail quickly as the water erodes the downstream side. Concerns about seepage, in particular, prompted the corps to restrict the lake level, because less water creates less hydrostatic pressure that would force water through the dam. Earlier this winter, the lake was so low that water did not even lap up against the auxiliary dam. But the corps has been monitoring the heavy rains and snowfall that California has experienced this winter and says that in the spring and summer it may be necessary to divert water through the spillway to maintain the safer lake level. Overtopping, however, presents only a “small concern,” the corps said. With both seepage and overtopping there would be plenty of warning that the dam was in jeopardy, allowing Lake Isabella and Bakersfield residents to evacuate. An earthquake would be a more immediate disaster, although Bakersfield would still have about seven hours before a wall of water made its way down the canyon, according to the corps. The auxiliary dam was built, knowingly, on the Kern Canyon fault, one of many in the region. At the time the corps brought in seismologists and geologists who concluded that the fault was not active. Only recently have scientists been able to accurately detect and measure ancient earthquakes, a field known as paleoseismology. Mr. Serafini and others determined that there have been three significant earthquakes on the fault in the past 10,000 years. “We have got a fairly active fault on our hands,” Mr. Serafini said. The last quake occurred about 3,400 years ago, he added.

It’s possible to construct a safe earthen dam on an active earthquake fault, by using the proper materials to minimize settlement or slumping when shaken, and including drains and filters to help stop the inevitable cracks from growing through erosion. Not only do the Lake Isabella dams lack those features, but the auxiliary dam was built on sediments that could turn into a virtual liquid in a quake, leading to even greater damage. While Mr. Serafini and his team are still working on proposals, the likeliest solutions include blasting a much bigger spillway out of bedrock adjacent to the main dam and using the excavated rock to build a buttress — essentially an entirely new dam — downstream from the auxiliary dam. The old dam could still move in an earthquake, Mr. Serafini said, but the buttress would have the necessary drains and filters to prevent failure. While the proposals are being fleshed out, the corps team has been holding meetings in the area to let people know what the possibilities are. “We don’t hear much from the people of Bakersfield,” Ms. Petrovsky said. “It’s one of those ‘out of sight, out of mind’ things. You forget there’s a dam up here holding back a lot of water.” Not so in Lake Isabella, however, where the dam, and its potential for failure, are harder to ignore. “I think we’ve all put some thought into it,” said Mr. Brassell, the diner owner. “But anytime you have a diverse group of people there are going to be those who are panicked at some level, and those who are calm. Faith in God, you know. He’s going to do what he wants.”

(Someone has to pay the bill and it’s usually the ratepayer!)

Judge recommends rate hike to pay for dam removal

By Jeff Barnard AP Environmental Writer, mercurynews.com, 02/23/2011
Grants Pass, Ore.—An administrative law judge has recommended granting PacifiCorp a temporary 2 percent rate increase for its 45,000 electric customers in California to help pay the costs of removing dams on the Klamath River. The proposed ruling filed Tuesday will be taken up by the California Public Utilities Commission after a month of public comment. The $13.8 million raised by the surcharge over nine years would go into trust funds against the day federal authorities approve removing the Portland-based utility's four hydroelectric dams on the Klamath River in Oregon and California. Projected to begin in 2020, removing the dams is part of a landmark agreement to help salmon, give farmers better assurances of irrigation, and restore the ecology of the Klamath basin. Oregon authorities have approved a similar surcharge.

(Politics and dam removal. This battle has been going on for more years than I can recall. Maybe, it's time for the dam removal crowd to move on. Do they realize we have a real energy crisis and it's growing???.)

Rep. Hastings blocks breaching Snake River dams

Washington Rep. Doc Hastings says he'll use his position as chairman of the House Natural Resources Committee to block any bills related to breaching lower Snake River dams.
seattletimes.nwsource.com, February 24, 2011, The Associated Press

KENNEWICK, Wash. — Washington Rep. Doc Hastings says he'll use his position as chairman of the House Natural Resources Committee to block any bills related to breaching lower Snake River dams. Hastings says salmon runs are recovering under current management practices and dam breaching is the last resort. The Tri-City Herald reports the Republican congressman was in the Tri-Cities Wednesday and spoke to the Pasco-Kennewick Rotary Club. Hastings says he's concerned that tearing down any Snake River dam puts every other dam at risk. Environmentalists favor removing dams to restore Snake River salmon runs.

(This is a reminder that they're out there! Why do we call some like this "Mr."? I have a few things I'd like to call someone like this guy and I have a solution, I would just turn it over to Uncle Vince!)

Saudi arrested in US over plan to bomb dams

February 26, 2011*, smh.com.au*

Washington: The FBI has arrested a Saudi man in Texas who was allegedly amassing bomb components for attacks on dams in California and Colorado and the Dallas home of the former president George Bush.. Khalid Ali-M Aldawsari, who attended a small college near Lubbock, Texas, was charged with attempting to build and use a weapon of mass destruction. An FBI affidavit unsealed on Thursday alleges Mr Aldawsari kept a detailed journal outlining plans for attacks, described nuclear power plants as "nice targets" and collected the names and home addresses of three former US military officers from Abu Ghraib prison, in Iraq. The 20-year-old described on his "fromfaraway90" blog his journey to Texas on a financial scholarship and student visa, "providing me with the support I need for jihad", the FBI said. Mark White, an FBI special agent in Dallas, said authorities did not believe Mr Aldawsari was sent by a terrorist organisation, nor do they believe he was radicalised by foreign terrorists or a local mosque once he arrived in the US in September 2008. "We do not see him associated to anybody, and we are not looking for anyone else at this point," Special Agent White said.

"But this was not just some kid who thought he would get some chemicals. This guy was training and he knew what was needed to create a bomb. He had the capability to do it, and had already bought sulphuric and nitric acids. This guy was moving along." After arriving in the US, Mr. Aldawsari learnt English, rented a one-bedroom apartment, and bought a car. He attended Texas Tech University, then switched to the smaller South Plains College, in Levelland, Texas, and took up chemical engineering classes. Mr. Aldawsari's arrest can be tied back to a February 1 telephone call to the FBI from the Carolina Biological Supply Company, in Burlington, North Carolina, which became suspicious of a chemical purchase he made.

Hydro

Idaho Power sets deal with hydro project near Jerome

By Audrey Dutton - idahostatesman.com, 02/22/11

Idaho Power Co. has entered into a 15-year agreement to buy power from the 8.1-megawatt Hazelton A Hydroelectric Project near Jerome. The project is already built and generating power. The project's Massachusetts-based developer SE Hazelton had an agreement with Idaho Power that began in 1989, but the agreement expired Dec. 31. The new 15-year agreement started Jan. 1. Idaho Power is requiring the facility to be up to date with Idaho Power's current tariffs and processes. The rate to be paid to the project developers is set by the state, and the cost is entirely passed on to customers. The agreement's rate for 2011 during normal seasons and normal hours is $60.06 per megawatt-hour, escalating to $103.76 by 2025.

(This is not earth-shaking, but the media and enviro blogs like this stuff.)

LIHI Certification for Woronoco Hydropower Project

Woronoco Hydropower Project located on the River Westside in Russel, Massachusetts has obtained the LIHI Certification by the Low Impact Hydropower Institute. This certification is valid for five years and would expire on January 28th 2015.

azocleantech.com

The Low Impact Hydropower Institute is basically a non-profit organization with a focus on reduction of environmental impacts due to generation of hydropower and certifies only those projects, which have either avoided or decreased the environmental impacts based on the criteria given by the Institute. The certification has been issued on a conditional basis that the applicant would in 2011 both commence and complete the project all based on a schedule, which has been established previously. The applicant should use methods, which have been approved previously along with sample sizes, effectiveness testing of downstream fish passage for fish such as the American Eel and Atlantic Salmon. They have to demonstrate and show to the LIHI, as indicated by the effectiveness testing that the measures taken for downstream fish passage at the facility are suitably protective of both the American eel and the Atlantic Salmon that are passing through the facility area. This LIHI program has been created mainly for assisting consumers to recognize low impact and environmentally sound hydropower units. Once a project gets certified by LIHI, the owner can use the certification as a part of their marketing strategy and claim to be a certified low impact facility.

(There are some good news things from CA. It's particularly interesting because of the total hydro within the State (there are imports too), 86.4 % is large hydro which the state does not recognize in their Renewable Energy Portfolio rules – go figure! Here's some interesting stats re CA Hydro. Go to this web site for tables and other data (worth a look): http://energyalmanac.ca.gov/renewables/hydro/index.html)

California Hydroelectric Statistics & Data

In 2007, hydro-produced electricity used by California totaled nearly 43,625 gigawatt-hours (GWh) or 14.5 percent of the state's total system power. In-state production accounted for 69.5% of all hydroelectricity, while imports from other states totaled 30.5%. A total of 343 hydroelectric facilities are in California with an installed capacity of 13,057 megawatts (MW). Hydro facilities are broken down into two categories: larger than 30 MW capacity are called "large hydro"; smaller

than 30 MW capacity is considered "small hydro" and are totaled into the renewable energy portfolio standards. The amount of hydroelectricity produced varies each year. It is largely dependent on rainfall.

One of those hydro facilities is the Edward Hyatt Power Plant on Oroville Dam, pictured on the right. According to the Calif. Dept. of Water Resources, the "Hyatt Power Plant was constructed in the bedrock below Lake Oroville. A cavern the size of two football fields was dug out to house the facility." Of the six units, three generate power, while the other three can either pump water for pumped water storage or generate power." The Hyatt Power Plant is part of California's State Water Project, which is the largest state-built water and power development and conveyance system in the United States. It is the largest single power consumer in the state and the fourth largest energy producer. It makes a significant contribution to the state's electrical grid because the hydro power offers a flexible resource with rapid response to help stabilize the power grid.

(News about these backpack units keeps popping up from time-to-time. Not much power output, but what the heck – it's still hydropower and that's a good thing. Wonder what a kWh will cost? These people also know how to dream. Imagine all the locations with these units installed!)

Bourne Energy Exhibits Multi-functional Hydrokinetic Technology

Bourne Energy's RiverStar BackPack Power Plant has the multi-functionality of a Swiss Army knife. Not only can it serve as a river power generator and a sustainable watermaker, but it can also operate as an energy regenerator when placed in the cooling system outflows of power utility and industrial plants.

February 28, 2011, prweb.com

Malibu, CA (PRWEB) - Bourne Energy will display its portable renewable energy system at CleanTech Forum 2011 in San Francisco March 14-16. Bourne's RiverStar BackPack Power Plant (RS-BPP) is the latest generation of hydrokinetic technology, a dam-less form of hydropower, that harnesses the natural flow of a river. It replaces large scale dam/reservoir construction with mass producible, self-contained "energy robots" placed directly in a river. There is no need for construction of heavy duty access roads, excavation or the use of explosives. Nor does the power site require special geological features needed for the construction of dams/reservoirs. Flowing water is the only prerequisite. Now hydropower can be scaled from hundreds of watts in backyard streams to megawatts in the world's largest rivers. Hydropower is already the major renewable energy source producing almost 20% of global electricity. This new technology could potentially open up thousands of new hydropower sites worldwide.
Along with its quick installation, the BackPack Power Plant has the multi-functionality of a Swiss Army knife. Besides harnessing river energy it can power an internal or external reverse osmosis watermaker bringing affordable clean water to remote areas of Africa, Asia and South America.

The unit can also operate as an energy regenerator when placed in the cooling system outflow canals of many of the nation's 5,400 power plants as well as the outflow areas of many of the 16,000 water treatment plants. Keeping U.S. power on requires the electric sector to withdraw approximately 200 billion gallons of freshwater per day to cool the nation's nuclear, coal and natural gas power plants. That is a huge amount of potential hydropower. The RS-BPP can also harness the moving water in the thousands of miles of water aqueduct canals worldwide. Further, solar panels can be integrated into the unit creating a hybrid solar-hydro power generator to harness both the hydro and solar power available along the hundreds of miles of water aqueducts in the American Southwest. The regenerator can be placed in the outfall areas of the 2,500 established hydropower dams to capture waste energy. The unit increases dam power output

without requiring construction to enlarge reservoir or dam size. The RS-BPP can also produce power from many of the 80,000 non-hydropower dams in the world. It has applications in energy and water intensive industries including: power and water utilities, bottling plants, data centers, mining, pulp & paper, agriculture, semiconductors, textiles, metals production, chemicals, oil & gas and coal. Application of the RS-BPP can not only produce clean power for many of the world's developing world countries that most need it but also reuse waste energy in many industrial countries who are trying to reduce their carbon footprint.

Water

(This is stacking up to a classic battle between dam proponents and opponents. Hey, that rhymes!)

Controversial Dam Proposal Answer To Atlanta's Water Crisis?

February 24, 2011, wsbtv.com

Atlanta **--** A controversial plan that first came up 40 years ago is back on the front burner. Several people believe damming the Flint River could be the answer to Atlanta's ongoing water crisis. But those fighting the plan for decades are prepared to keep battling to stop it. The Flint River begins as a spring under Hartsfield Jackson Atlanta International Airport. It grows into a free-flowing river that eventually merges with the Chattahoochee River in South Georgia. Some middle Georgia residents, like State Sen. George Hooks, call the Flint the purest river in the state. In the 1970s, Congress authorized three dams to be built along the Flint River. Environmentalists opposed it, and then-Gov. Jimmy Carter killed the project. Two years ago, congressional records show, then-U.S. Rep. Nathan Deal proposed a federal study on reauthorizing the dams. At this time, he proposed dams could increase flow in the lower Chattahoochee River and relieve some of the pressure on Lake Lanier. Now, Deal is governor and is promoting reservoirs to deal with the state's water crisis. That makes the Flint River dam opponents very nervous.

"We would lose the last undammed river as it crosses the fall line in Georgia," said Flint riverkeeper Gordon Rogers. "You get a mix of animals and plants (along the river) that is absolutely unique in Georgia." Still, some people in the Thomaston community along the Flint believe a reservoir on the river would bring economic benefits to an area hit hard by mill closures. Mayor Hays Arnold said it also could prevent disasters like the devastating floods along the Flint in the 1990s. "We overlooked what could happen in 1994 with the great flood. We overlooked the drought situation that occurred in our state a few short years ago. These cycles are going to recur," said Mayor Arnold. Former Thomaston Mayor Sam Brewton disagrees. He owns property along the river, and said he's been an advocate of Flint River Preservation since he was in high school. "I don't want to protect the river because I own the property. I bought the property because I love the river and have for many years," Brewton said. Gov. Nathan Deal is making the water crisis one of his top priorities. He said the state is faced with some difficult decisions about how Georgia is going to supply itself with water. Still, he said damming the Flint may not be possible now, because of time and money. "I don't think in the short term that it's going to provide us with the kind of relief we need," said Deal. "I think we need to concentrate on the areas we know we have jurisdiction over and that will be tributaries, perhaps tributaries of the Flint." Deal said instead his focus now is on reservoirs in North Georgia. Flint River dam opponents think that's where it should be. State Sen. George Hooks thinks that's where it should be. The Flint River flows through seven of the 12 counties he represents. "The most practical thing would be to

build the reservoirs in North Georgia so it would be almost a downhill flow," said Hooks. Still, the debate along the river is sure to continue as it has for the past 40 years. "I would have grave concern that if we don't move forward with doing something now, we'll regret it," said Arnold. "I think some things should be preserved for our children and grandchildren," said Brewton. "Full-on free flowing rivers are now very rare. Very rare. And when they're gone, they're gone forever."

Environment

(I guess a sea lion knows a good meal when they see one. It's my favorite choice at Jake's Seafood restaurant in Portland, OR too.)

Steller sea lions munching sturgeon at record clip at Bonneville Dam

February 25, 2011, By Quinton Smith, oregonlive.com

BONNEVILLE, ORE. - Lenza Paul and Michael Farber stand at the lip of Bonneville Dam, layered against the winter cold, binoculars and clipboard in hand, and count. On 29 weekdays from Jan. 7 through Feb. 17, Steller sea lions killed 1,400 sturgeon, already surpassing last year's total. For 10 years the highly publicized fight on the Columbia River and in the courts has been over California sea lions that show up below Bonneville Dam in March to eat endangered, migrating spring Chinook salmon. A few years ago, the Stellers came to the feast. Some are staying year-round, having discovered the thousands of slow-moving, white sturgeon clustered below the dam to grow and breed.

The Stellers have come to the table just as sturgeon numbers are crashing. A sharp decline in the last four years in juvenile sturgeon as well as older breeding fish in the Columbia has biologists both puzzled and looking for solutions:

Oregon and Washington fishery agencies petitioned to remove Steller sea lions from federal protection - it is listed as "threatened" under the Endangered Species Act. Key to that is to count how many salmon, steelhead and sturgeon the Stellers take. The decline led Oregon and Washington this month to put the tightest limits ever on sport and commercial sturgeon fishing, the fourth straight year of cuts. While the states are about to adopt a conservation plan, most biologists and fishermen fear a continued decline of sturgeon, and an eventual halt to all sport and commercial fishing. "Stellers are larger, they're adaptive, they're predators, they're smart," says Robert Stansell, the U.S. Army Corps of Engineers fish biologist who has run the Bonneville Dam sea lion predation counts since they started in 2002. "They know how to prey on fish and they've learned there's a huge sturgeon population here."

California sea lions vs. Stellers at Bonneville Dam

The corps estimates that California and the threatened Steller sea lions took 4,000 to 6,000 migrating spring chinook each of the past three springs as they cluster below Bonneville Dam to enter the fish ladders. The Marine Mammal Protection Act restricts what humans can do to California sea lions, even though they aren't listed as threatened or endangered. In 2006 Oregon

and Washington got federal permission to haze them and a year later permission to remove or kill up to 85 a year. Over the next three years agencies captured and moved 10 California sea lions to aquariums, and euthanized 30 others. The most California sea lions spotted at Bonneville was 104 in 2003; 89 were observed last year. The first California sea lions of 2011 were observed Monday at Bonneville - the latest appearance in five years. California sea lions mainly feed on salmon and leave in June when the spring run ends. Stellers, on the other hand, stay below the dam all year now, Stansell says, and clearly have developed a taste for sturgeon. Already this year, 32 different Steller sea lions have been counted below the dam. Larger -- they weigh 2,000 pounds -- and more aggressive than California sea lions, the Stellers are pushing their way in. Only a handful were observed each year from 2002 through 2007; the number jumped to 39 in 2008, then to 75 last year, according to the corps' counts. Stellers eat sturgeon until salmon runs begin in March then return to sturgeon once the salmon move upriver. And the fish are easy pickings: While spring chinook travel fast to reach the upper Columbia, sturgeon are the opposite -- they can't climb the fish ladders and the larger breeding fish prefer the turbulent water below the dam to spawn.

Delisting the Steller sea lion from the Endangered Species List

Oregon, Washington and Alaska last year petitioned to take Stellers from Alaska to California off the federal threatened list, arguing that overall increases met 3 percent growth for 30 years. The National Marine Fisheries Service has said delisting "may be warranted" and a decision is due in August. Even then, though, state fishery managers could get permission to remove or kill Stellers only if they are hurting an endangered species -- and sturgeon are not. Guy Norman, a Washington Department of Fish & Wildlife regional director, says it may come down to asking Congress to change the Marine Mammal Protection Act to include sturgeon. That would not guarantee anything. The 9th U.S. Circuit Court of Appeals late last year halted removing or killing California sea lions below Bonneville. The Humane Society of the United States argued that the government had not made a good enough case as to why sea lions killing endangered salmon was worse than sport and commercial fishing killing many, many more. NMFS says it will not appeal, but will ask for authorization to allow California sea lion removal this spring. "We're taking about every step available to us," says Steve Williams, of the Oregon Department of Fish and Wildlife, "but the reality is that the federal law does not give the states the ability to do some things at these pinch points like Bonneville Dam." The Humane Society is opposing delisting the Steller. It asked that the Stellers be broken into three segments - Alaska; British Columbia; and Washington/Oregon/California - and treated differently. It points to studies indicating Stellers in Canada and Alaska are robust but are declining elsewhere, especially California.

Sharon Young of the Humane Society understands her opponents' concerns about sturgeon. But she says commercial and sport catch - 17,000 this year - is much greater than what Stellers take. "There are a lot of things that could make a huge difference for those fish that are unpopular or inconvenient or awkward," Young says. "Killing sea lions is a distraction to addressing those other issues."

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3/11/2011

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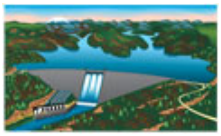


Dams

(A dubious honor at best and you wonder how many dams were removed for dam safety reasons.)

Mass. leads region in removing obsolete dams

March 2, 2011, Associated Press, online.wsj.com

Boston — A new study has found that Massachusetts leads the Northeast in an annual listing of states removing dams to benefit rivers and promote healthy ecosystems. The national river conservation organization American Rivers said Wednesday that Massachusetts oversaw the safe removal of five dams last year. A total of 16 dams were removed in the six New England states and New York State. The largest was the Briggsville Dam on the North Hoosic River in Clarksburg, adjacent to the city of North Adams. Removing the 15-foot high and 200-foot long dam restored continuity to more than 30 miles of headwater streams and trout habitat. Environmental Affairs Secretary Richard Sullivan said removing obsolete dams is a sensible technique for dealing with aging structures that impede natural habitats and are expensive to maintain.

(It would be good if the Corps would mention how high the water level would be without flood control)

Dams working to keep Coshocton County water levels down

coshoctontribune.com, Mar. 2, 2011

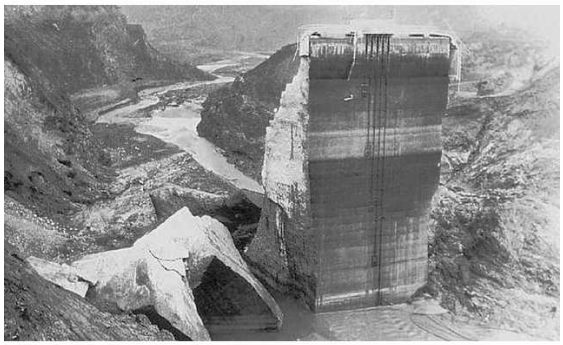
Coshocton, OH -- The water at Mohawk Dam has risen 30 feet since Saturday. Coshocton County continues to deal with flooded roadways and high water from a February that dropped 3.6 inches of precipitation, according to records kept at the North Appalachian Experimental Watershed in White Eyes Township. Average rainfall for the month during the past 10 years is 1.88 inches. Lori Everhart, director of the Coshocton City and County Park District, said cleanup after flooding has become an annual ritual. Picnic shelters, the Playvilion, parking lots and softball diamonds were underwater Tuesday, as the water from the Walhonding River and one of its tributaries, Mill Creek, overflowed into the area. "It happens almost every spring," Everhart said. The U.S. Army Corps of Engineers, which oversees the 16 dams in the Muskingum Watershed, was monitoring the situation and the gates were lowered at Mohawk Dam on the Walhonding, despite the reservoir being at an alert pool level at 44.9 feet early Tuesday evening. The water had risen 30 feet since Saturday, and 5.7 feet at the village of Walhonding, about three miles west the dam. Nick Krupa, operations manager for the Muskingum area office of the U.S. Army Corps of Engineers, said the level of the Muskingum River at Dresden would be monitored closely, and if necessary gates would be lowered at Wills Creek also. "We'll try to keep the river below 18.5 feet at Dresden if possible," he said. The Muskingum River at Dresden was 18.4 feet deep at 6 p.m. Tuesday.

The National Weather Service issued a flood warning through 12:45 p.m. today for Coshocton County, which included the villages of Plainfield, Warsaw, New Guilford, Nellie, Layland, Bakersville, Blissfield, Cooperdale and Coshocton. Melting snow and Monday's rain has saturated the ground and caused area stream beds to overflow, according to the NWS. The Muskingum River below Coshocton was at 16.9 feet at 6 p.m. Tuesday and is predicted to crest at 17.3 feet by today. At 18 feet moderate flooding occurs along County Road 1A and lower areas of Ohio 16 south. The Tuscarawas River at Newcomerstown was at 8.6 feet early Tuesday evening, above its 8 foot flood stage as issued by the NWS. Officials predict it will remain around that level through the night. Several area roads near streams or behind the dams were flooded Tuesday, and the NWS advises motorists not to drive through water on the roads because the depth might be too great to allow the vehicle to cross safely. Everhart said workers will closely monitor the water level and hope it doesn't rise above 19 feet or so, which would bring the muddy turbulence into the pool at Lake Park Aquatic Center. That would mean expensive repairs if the water gets into the electrical system, damages fence and gets into the pool house, Everhart said. The park district doesn't carry flood insurance, it's too expensive. If the water doesn't rise any higher than it was Tuesday, crews at Lake Park will be busy picking up limbs, logs and other debris that washes in with the high water. "It's off-season for us, so it's not a real concern unless it gets higher," Everhart said.

(A reminder about why we should care about the safety of dams and the rest of the Country's critical infrastructure – but we won't!!!)

March 13, visit the site of the famous disaster with 'Dam Man' Frank Rock

March 4, 2011, the-signal.com



On Sunday, March 13, the Santa Clarita Valley Historical Society will host a tour of the site of the St. Francis Dam disaster in San Francisquito Canyon. The dam break is the second-worst natural disaster in the state of California: The failure of the St. Francis Dam, on March 12, 1928, killed more than 450 people, leveled farms and homesteads, destroyed property and livestock, and changed the way dam safety was addressed forever. "Dam Man" Frank Rock - considered an expert on the dam disaster, who has appeared on the Discovery and History Channels, as well as local documentaries of the event - will give a short free lecture at the Saugus Train Station, providing an overview of the dam disaster, followed by a ticketed event, a

three-hour motor coach tour of the dam site. The lecture will start at 11 a.m. The bus tour will leave Heritage Junction Historic park at noon and return at approximately 3 p.m. The tour includes snacks and motor coach transportation. Rock will provide a historical narrative of the disaster during the bus tour. The lecture is free. Admission for the bus tour is $35 per person. Tickets may be reserved by calling (661) 254-1275 with credit card and contact information, or by mailing your ticket order to P.O. Box 221925, Newhall, CA 91322-1925. Mail orders must be received no later than March 8. Because this tour is a very popular fundraiser, it is impossible to guarantee that seats will be available for purchase on the day of the tour.

(Gee, I wonder if anyone looked into whether the probable maximum precipitation info is right.)

Terre Haute to raise dam to shield against floods

Associated Press, March 5, 2011, chicagotribune.com

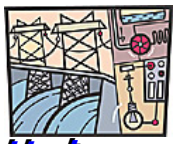
Terre Haute, Ind. — An Indiana dam that withstood significant flooding in 2008 could be an even stronger deterrent to floodwaters under plans to raise its height. Terre Haute officials are seeking a grant of more than $750,000 to build up the Hulman Lake dam so it could withstand rainfall as high as 26 inches over six hours. Such rainfall is known as "probable maximum precipitation," and the Indiana Department of Natural Resources says the dam needs to be high enough to handle it because it sits upstream from populated areas, the Tribune-Star reported. A study of the dam said a breach under maximum rainfall conditions would flood more than 4,000 residences and could result in a "substantial" loss of life. The dam was built in the 1970s and can currently handle a 100-year flood similar to one that occurred in June 2008. In that case, some areas of Vigo County received 12 to 16 inches of rain over a 24-hour period.

(Frankly, this guy is struggling for something meaningful in life. Who pays these people? Well, at least I found two new words – “ecocriticism” and “greenwash”.)

Historic artwork promoting dams to be discussed

Mar. 7, 2011, By Melissa O'Neil Perdue, WSU Tri-Cities, wsutoday.wsu.edu

RICHLAND - The federal government’s use of art to help justify large dams, including the Grand Coulee Dam, is the focus of a lecture about ecocriticism at noon Monday, March 21, in the East Building auditorium, WSU Tri-Cities. “The Fine Art of Bureaucracy” will be presented by Paul Lindholt, professor of English at Eastern Washington University. He interprets the series of paintings commissioned by the U.S. Bureau of Reclamation in the late 1960s and early 1970s, an era when the public was becoming increasingly aware of environmental issues. The bureau paid artists to paint favorable images or “imaginative aspects” of big dams and surrounding areas. According to Lindholdt, it was an effort to “greenwash” the agency - or offset the negative environmental image developing at the time. His research has been published in the online Journal of Ecocriticism managed by the University of British Columbia. The presentation will include a slide show of 55 images. At least 355 pieces of art were funded by the bureau 1968-1974. Lindholdt is the first to study this art collection. He specializes in American literature, environmental studies, ecocriticism and American studies. The lecture is sponsored by the WSU Tri-Cities College of Liberal Arts.



Hydro

(This is going to be interesting to follow)

Motion filed to FERC by D.C. law firm; Council agrees to hire firm

By Matt Hopf , Herald-Whig Staff Writer, 3/1/2011

The Federal Energy Regulatory Commission received a motion Monday morning on behalf the city of Quincy as it starts the appeal process in the dismissal of the city's preliminary permit and licensing application to develop hydropower at Lock and Dam 21. The motion was filed by Jay Ryan and John Clements, attorneys from the Washington, D.C., firm Van Ness Feldman. It asks for the city and Mississippi River No. 21 Hydropower Co., also known as the C-corp, the right also to be part of the appeal. The license application was filed by Great River Hydropower LLC, but FERC's order banned the C-corp and the city as well as the LLC from resubmitting any application for next year. The City Council voted 10-2 Monday night on a resolution authorizing the city to hire Van Ness Feldman to handle the FERC appeal. Aldermen Paul Havermale, R-3, and Kyle Moore, R-3, voted against the measure. Aldermen Jennifer Lepper, R-5, and Dan Brink, R-6, were absent. Mississippi River No. 21 Hydropower Co. approved the same resolution Friday afternoon.

The appeals process with FERC is expected to cost between $25,000 and $45,000, though there is no spending cap on the resolution. "That's why they're going to send us bills," Joe Duesterhaus, counsel for the hydropower corporation, said. "We're going to review them to keep them on focus and keep them on task too, but there's no guarantee that they are going to stop at ($45,000) unless we tell them." The agreement with Van Ness Feldman is limited to the appeal with FERC, and the City Council would have to authorize the firm to continue work on an appeal in federal court. Quincy Mayor John Spring said if the appeal was resolved quickly, the firm would only be paid for work they complete. "Doesn't that put the council in a bad spot if we all of a sudden hit ($45,000) and we're five days away from filing the appeal, and there's going to be 10,000 more dollars?" Moore said. "I think we would come to you before we reach that point," Spring said. Moore said his vote was consistent with previous dissenting votes on hydropower-related items. "If this were a vote to spend $45,000 in which we won an appeal, and afterwards we would be made whole and out of the hydropower business, I would have supported it," Moore said. Duesterhaus said he instructed the firm to submit the motion as his agent, and if the City Council did not accept the letter of engagement at Monday's meeting, he would tell the firm to cease operations and include any expenses incurred on his bill.

Great River Hydropower LLC was established by the Mississippi River No. 21 Co. in March 2010 to attract private investors and also pursue federal grant money. FERC accepted Great River's license application on Jan. 5 and set a deadline of Feb. 7 to intervene on the application. FERC said in the Feb. 17 order that the city misused "municipal preference" where states and municipalities are given priority over private entities in applying for a license or permit for an energy project. FERC said the city applied for and received a preliminary permit application and held it while the license was being prepared. Great River filed the notice of intent to file the licensing application under the preliminary permit, which gave Great River a competitive advantage, according to FERC. According to the motion filed Monday, it was filed after the Feb. 7 deadline because "there was no apparent reason for the city to intervene in Mississippi Hydropower's permit application ... prior to the Feb. 17 order." The city needs to file the entire appeal by March 21 -- 30 days after the FERC order. FERC issued a notice Feb. 4 announcing environmental scoping meetings and an environmental site review on March 8. The visit was canceled one day after FERC dismissed both applications. The city has spent $4.973 million so far in the hydropower effort since 2006. The city spent $3.427 million for hydropower in 2010, the

majority coming from a $6.6 million bond the city sold in 2009. Between 2006 and 2009, the city spent $1.485 million. All was general fund revenue except for a $475,750 grant the city received. The city has spent $60,688 on the project this year.

(Excerpts)

Hannibal offers letter of support for Quincy hydroelectric project

3/2/2011, By Mary Poletti, Herald-Whig Staff Writer, whig.com

HANNIBAL, Mo. -- The Hannibal City Council on Tuesday unanimously approved a letter of support for the proposed hydroelectric plant on Lock and Dam 21 in Quincy. The letter was passed without remark early in an otherwise spirited council meeting, and Mayor Roy Hark signed the letter during the meeting. The move to support Quincy's project signals strengthened regional support for a project facing a federal road block in the form of a denied permit from the Federal Energy Regulatory Commission. Quincy Mayor John Spring, who attended Tuesday's meeting with several other Quincy city officials, said the city is "moving forward" on the project. The Quincy City Council on Monday approved hiring a Washington law firm and beginning the process of appealing FERC's permit denial, which was issued Feb. 17. Hannibal's letter of support is the second such vote of confidence from Missouri officials in as many weeks and the second since the permit denial became public. Last week, the Marion County Commission voted to support the project after previously expressing ambivalence toward project leaders' attempt to alter the Missouri tax structure to lessen the plant's considerable tax liability. The plant technically will be in West Quincy.

In the letter, which is dated Feb. 22, Hark touted the project's job creation and economic development potential for the region. "Such an investment in renewable energy can only help the City of Hannibal and other local communities with finding clean energy in the future," Hark wrote. Spring echoed Hark's sentiments. "This isn't just a Quincy project, it's a regional project." ----------.

(An interesting perspective, especially the notion that people should sacrifice for the greater good. Mmmm!)

Randy Udall and Auden Schendler: Guest opinion

Aspen should take the lead on clean hydropower

Randy Udall and Auden Schendler, Special to The Aspen Times, Aspen CO Colorado, March 1, 2011, aspentimes.com

Even though it rained all day on Christmas in Aspen, we've had a pretty cold winter. But that's not true globally. The year 2010 tied 2005 for the hottest year in the historical record. Arctic sea ice in January was at the lowest level ever measured by satellites. Last year 19 nations set all-time temperature records, including Russia, where cataclysmic fires shrouded Moscow in smoke and a punishing drought prompted Vladimir Putin to halt wheat exports. Pakistan hit 129 degrees, and Washington, D.C., experienced 67 days of 90-degree weather, a new record. Hurricane Earl was the fourth most powerful hurricane to ever visit the north Atlantic, and large portions of Tennessee experienced an unprecedented deluge, a one in 1,000-year rainstorm that would have floated Noah and almost drowned Nashville. Australian floods covered an area the size of France and Germany combined. All of these extreme weather events are exactly what climate models and paleoclimate data forecast we'll see more of if we clever apes continue burning 1 million tons of fossil fuel each hour. Indeed, half of all the fuel humans have burned in our entire history on the planet has gone up in smoke since 1985. That's a big bonfire.

The twin threats of climate change and peak oil cast an enormous shadow over our future, but Congress is paralyzed by partisan discord. Meanwhile, China is eating our lunch when it comes to exporting renewable energy products, and the Germans installed more solar cells in 2010 than we Americans have in 50 years. And we invented that technology! The only way forward, now, is for communities like Aspen to lead, as we have been doing. Already, Aspen's Municipal Electric Utility, one of the oldest west of the Mississippi, gets a larger share of its energy from wind power than any of the 3,000 utilities in the country. The next step in getting to 100 percent clean power is back to the future. For its first 50 years, Aspen was powered by “white coal,” hydropower, and

no wonder, since four different drainages converge here. The sun delivers its energy democratically, every town gets a dollop. But great hydropower sites — places where water and steep drops converge — are rare birds indeed. We've been blessed with a great natural opportunity, one we ought to seize. The city already operates two hydro plants, one at Ruedi Reservoir and one on Maroon Creek. In 2007 voters overwhelmingly approved building a 1.2-megawatt plant that would, in effect, recreate the plant we foolishly shut down back in the 1950s. The brick powerhouse still survives under the Castle Creek Bridge. This new plant would generate 5,500 megawatt-hours a year. That's a lot — about 8 percent of the power supplied by Aspen's utility, or one sixth of all the power used by the Aspen Skiing Co. to run its four area mountains, including lodges and restaurants.

The proposal has run into some resistance from homeowners on Castle and Maroon Creeks, and other concerned citizens who see themselves as stewards of the valley's stunning natural beauty. But we are not talking about Glen Canyon Dam here or mountaintop mining. This run-of-the-river project has been studied nigh unto exhaustion, and the robust conclusion is that it's environmentally sound. There is no science to show the stream will be damaged, and the town has proposed rigorous monitoring to ensure conditions don't change. Adequate stream flows — more than 8.5 million gallons a day — will be preserved. Birds will nest. Trout will survive. Kids will fish. The roundabout of life will go on. The biological analysis was done by Dr. Bill Miller, who is widely respected in the Division of Wildlife and by the U.S. Forest Service. Project opponents support spending $500,000 more in taxpayer money for a 2-year study that will likely draw the same conclusion. This is wasteful and unnecessary, especially at a time when we can't adequately fund our schools. Utility manager Phil Overeynder has been providing both clean power and clean water here for nearly 20 years, and has no interest in trashing his legacy or the creeks that provide our drinking water. But no matter how reassuring the biological data, Castle Creek homeowners and others who oppose the project feel they are making a sacrifice. And in a way they are. They are making a sacrifice for the greater good, for lower emissions, for a more livable future. And we as a community will be making a statement that Aspen is willing to accept some of the impact of generating power to run our homes, rather than outsourcing that impact onto poorer communities and into our children's blood and lungs. At this moment in human history, when the troubling evidence on climate change is being presented every day on the front page, if the citizens of Aspen can't take the lead on climate action, it's not clear exactly who will.

Scientists tell us we need to cut emissions 60 to 80 percent by mid-century. We don't need to trim them a little, we need to slash them a lot. If we do, the Colorado our grandchildren know will resemble the one we love. To achieve that goal, Americans are going to have embrace a new kind of environmentalism the way the Germans and Danes and Spaniards have, where responsible energy production in our backyards and on our rooftops and local streams is not something to oppose but something to celebrate, where Aspen gets kudos not just for our bottomless powder but for our clean power. *Energy analyst Randy Udall ran the Community Office for Resource Efficiency for 14 years. Auden Schendler is vice president of sustainability at Aspen Skiing Co.*

(This news is not going to make the State of NC a happy bunch of campers. They want the profit for the State coffers. Interesting view by State – Company makes investment, creates the opportunity to make profit, and then someone just wants to take it and they don't want to pay full value. Mmmm!)

Alcoa Says Contested NC Dams Generated $8M Profit

Alcoa banked $8M in profit from NC dams key to battle with state over water use, development

By Emery P. Dalesio Associated Press**, R**aleigh, N.C. March 4, 2011 (AP)

Alcoa Inc. said a series of North Carolina hydroelectric dams the company is fighting to continue operating generated $8 million in profit from electricity sales last year. The company planned to release financial statements Friday that show its Yadkin River dams have returned profits of

between $8 million and $7.3 million in the past three, recession-scarred years on electricity sales that have averaged around $30 million since 2007. The figures, audited by accounting firm PricewaterhouseCoopers, and comments by an Alcoa executive offer insight into why the company is waging a determined fight with state officials for a renewed operating license of up to 50 years for its four dams on the Yadkin River in central North Carolina. Alcoa sees itself as an energy company within the country's largest aluminum maker, vice president Kevin Anton said in an interview with The Associated Press.

"Alcoa is a big energy company and this fits very well in our energy portfolio. We're bullish on energy prices in the long term. We're bullish on green power. So that's why we're here," Anton said. "We're committed to it." Alcoa also operates hydroelectric dams on the North Carolina-Tennessee border, Quebec, Brazil, and Central America. State officials briefed by the company had no immediate comment. Gov. Beverly Perdue, like her predecessor Mike Easley, is trying to block Alcoa's federal license renewal, anticipating the river's waters may be needed by humans in the decades ahead. Officials also believe they could spur local job growth by attracting industries with dam-generated electricity. Pittsburgh-based Alcoa and its predecessors built the Yadkin River dams decades ago to supply electricity to a Stanly County aluminum smelter that once employed hundreds but has been closed for years. Alcoa now sells the electricity to commercial customers. Alcoa said those sales have been down from $47 million in 2005 because of reduced rainfall and lower electricity demand and prices resulting from the recession. The figures, audited by accounting firm PricewaterhouseCoopers, and comments by an Alcoa executive offer insight into why the company is waging a determined fight with state officials for a renewed operating license of up to 50 years for its four dams on the Yadkin River in central North Carolina. Alcoa sees itself as an energy company within the country's largest aluminum maker, vice president Kevin Anton said in an interview with The Associated Press. "Alcoa is a big energy company and this fits very well in our energy portfolio. We're bullish on energy prices in the long term. We're bullish on green power. So that's why we're here," Anton said. "We're committed to it." Alcoa also operates hydroelectric dams on the North Carolina-Tennessee border, Quebec, Brazil, and Central America. State officials briefed by the company had no immediate comment.

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Water

For Immediate Release, March 02, 2011

Chairman McClintock: We must restore abundance as the cornerstone of our federal water and power policies

Bureau of Reclamation FY12 Budget Scrutinized by Subcommittee on Water and Power

Washington, D.C. – The Subcommittee on Water and Power, held an oversight hearing today to examine the FY 2012 budget request for the Bureau of Reclamation (Reclamation). Subcommittee Chairman Tom McClintock also focused on Reclamation's wasteful spending and a divergence from its original mission of providing water and power

abundance that has resulted in lost jobs and economic hardships for Westerners. “It is the objective of this sub-committee to restore the original – and as yet unfulfilled mission of the Bureau of Reclamation – to develop and utilize our nation’s vast water and hydroelectric resources to build a new era of abundance and prosperity for our nation. The failure of the last generation to keep pace with our water and power needs has caused chronic water shortages and skyrocketing electricity prices that are causing serious economic harm,” said Chairman McClintock. “I hope that this Administration will become a partner in this new era of abundance rather than an obstacle. The rationing of shortages has never solved a shortage – only a policy of abundance can do that. We have wasted not only money but time, and we can afford to waste no more of either.”

Last year due to regulations imposed by Reclamation to divert water from farms to a three inch fish, some communities in California’s San Joaquin Valley recorded 40% unemployment. This year, with Sierra Nevada snowpack at near record levels, San Joaquin farmers may only get 50% of their water allocations, keeping thousands out of work. Reclamation’s policies have clearly contributed to increased unemployment and higher consumer costs, particularly in rural communities. "Even with reservoirs nearly overflowing, anticipated water allocation levels are nowhere near the full allocation farmers should receive. Increasing water storage must be a top priority in the Valley,” said Rep. Jeff Denham. "It is incomprehensible that farmers cannot receive the full allocation of water that they have a contract for even in wet years such as this one with a year-to-date snowpack at 127%.” Water lost due to environmental flows doesn’t just affect irrigators or municipal water users—hydropower generation also suffers greatly. Glenn Canyon Dam in northern Arizona has lost up to 1,000 megawatts, or enough to power one million homes, due to environmental mandates. Some wholesale electricity customers served by Reclamation power facilities are paying 16 to 30 percent higher rates because of environmental related regulations. Every megawatt of clean, cheap, reliable hydropower we lose must be replaced by more expensive forms of electricity—costs that will ultimately be passed on to the ratepayer.

“The Administration is creating regulatory and administrative uncertainty that threatens thousands of jobs in my district and the long-term water supply for Arizona. Take for example the Navajo Generating Station (NGS), located near Page, AZ - the lack of coordination between the BoR, BIA, and the Office of Surface Management on critical services contracts related to the operation of the plant threatens its viability and the primary source of power for the infrastructure that pumps water to 80% of Arizona's population,” said Rep. Paul Gosar (AZ-01). “With extremely high unemployment in my district, as well as the scarcity of water in Arizona, it is time we implement commonsense policies that allow our region to address our water and power needs, while also protecting the environment.” Instead of focusing on building new water storage and infrastructure, the Bureau of Reclamation is spending scarce taxpayer dollars on questionable projects. At a time when the federal government is running record budget deficits, Reclamation has funded dubious ventures such as toilet exchange programs, tiger salamander research, and “City Makeovers.”

Environment

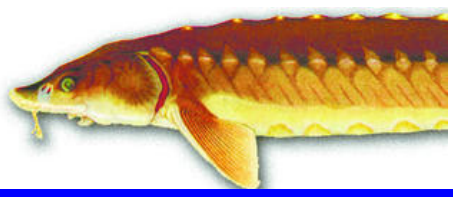
(No point in commenting, the folks in NC are full of them – see below!)

Endangered fish keeps Duke license on hold

Dispute over the shortnose sturgeon's presence in the Catawba-Wateree river basin slows funds for other projects.

By Bruce Henderson, charlotteobserver.com, Mar. 05, 2011

An ancient fish species that might, or might not, haunt the Catawba-Wateree river basin is raising tension over



Duke Energy's overdue hydroelectric license. As Duke spars with the federal agency that protects the endangered shortnose sturgeon, millions of dollars in conservation and recreation benefits promised in the new license are on hold. Groups that negotiated those terms, and recently South Carolina's entire congressional delegation, are urging federal officials to fish or cut bait. The debate plumbs the intricacies of federal laws protecting rare creatures, pitting the reality of new boat ramps against the hope that fading species can be pulled from the brink of extinction.

Duke's Catawba-Wateree hydro license expired in 2008. All Duke needs for a renewal is agreement from the National Marine Fisheries Service that its 13 dams won't hurt the sturgeon, which once swam far up Piedmont rivers. That was in the days before dams, polluted water and overfishing landed the sturgeon on the endangered-species list in 1967. The fisheries service says Duke hasn't provided enough information to assess whether operating its dams will harm the fish. Federal biologists say they're legally obliged to see if the sturgeon can reclaim its former territory if given the chance. "We shouldn't be arguing about whether sturgeon should be in that river," said Prescott Brownell, who works for the federal agency in Charleston. Shortnose sturgeon are found in most large rivers along the East Coast, cruising the bottom in search of clams, worms and insect larvae. Covered in bony plates instead of scales, they grow up to 4 feet long and can reach 50 pounds. The fish once swam up Carolinas rivers to the fall line, where the soft coastal plain meets the hard-rock Piedmont, and were a mainstay of American Indian diets. The Catawba Indian Nation near Rock Hill is now among groups urging the Federal Energy Regulatory Commission to issue Duke's new license. Under it, the tribe will get a new canoe landing at its riverfront reservation south of Charlotte and money to monitor archaeological sites. Both Carolinas wildlife agencies, the N.C. Wildlife Resources Commission and the S.C. Department of Natural Resources, wrote similar letters. "All the concerns we have for game lands, access areas and fishing piers, that's all on hold until this is settled," said Tim Gestwicki, executive director of the N.C. Wildlife Federation. "The sooner we get a license, the sooner those things go in."

New license terms that include steadier flows and injections of oxygen into the water released from the Wateree and Wylie dams will also improve fish habitat, Duke says. Duke contends that it's not responsible for the sturgeon's plight. It says the species hasn't been documented in the Wateree River, which flows south of the Catawba below the Wateree dam in South Carolina, since 1896. Duke's first dam on the Catawba went up in 1904. "The data isn't really establishing any cause-and-effect link between the sturgeon and our facilities," said licensing manager Mark Oakley.

Agencies disagree

Sturgeon have entered the Wateree River, said biologist Mark Collins of the S.C. Department of Natural Resources. It's unclear how far up the river they've traveled, he said. The fish are known to have spawned in the cleaner Congaree River, Collins said. The Congaree and the Wateree both flow into the Santee River on the S.C. coastal plain. The fisheries service is working on similar assessments of effects on sturgeon by a dam of the state-owned utility Santee Cooper. The Federal Energy Regulatory Commission, which will issue Duke's new license, found in 2009 that Duke's dams aren't likely to harm the sturgeon. The fisheries service disagreed, viewing the lack of sturgeon in the Wateree as "a clear indication" that the dams are a problem. The fisheries service warns that if FERC issues a license before the service has weighed in, the energy agency could be charged with violating the Endangered Species Act. Two advocacy groups, American Rivers and South Carolina's Coastal Conservation League, sided with the fisheries agency. Oakley said Duke learned in December that the fisheries service wants it to build structures to lift sturgeon around its first four dams. That would cost $45 million to $50 million, it says. David Bernhart, a fisheries service official in St. Petersburg, Fla., said fish passages would be the simplest approach. "We never said this is what has to happen," he added. But because Duke's hydro license will be in effect for up to 50 years, Bernhart said, the agency wants to know how Duke would respond if sturgeon show up later in its waters.

Reading the comments by North Carolinians is interesting for entertainment

- **thatcharlotteguy**
  "An ancient fish species that might, or might not, haunt the Catawba-Wateree river basin is raising tension over Duke Energy's overdue hydroelectric license." & it is not impossible that I think that once I might have seen the Tooth Fairy cavorting on the river bank at what have been around that same time that the ancient fish could have been swimming by. But, maybe not.
  Read more: http://www.charlotteobserver.com/2011/03/05/2112293/endangered-fish-keeps-duke-license.html#ixzz1Fp13aPpL

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Some Dam – Hydro News™

and Other Stuff

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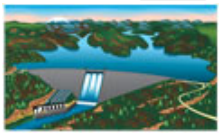
3/18/2011

Quote of Note: *"Just because you do not take an interest in politics doesn't mean politics won't take an interest in you!" - Pericles (430 B.C.)*

"Good wine is a necessity of life." - -Thomas Jefferson

Ron's wine pick of the week: **Broadside Wines Edna Valley Wild Ferment Chardonnay 2008**

"No nation was ever drunk when wine was cheap." - - Thomas Jefferson



Dams

(This article is beyond explanation. You have to see it first-hand. It's curious and an interesting idea that only an architect could dream about. No engineer would touch it!)
Full article: http://www.evolo.us/competition/re-imagining-the-hoover-dam/

Re-imagining the Hoover Dam

March - 7 – 2011, Third Place, 2011 Skyscraper Competition, Yheu-Shen Chua, United Kingdom

The current public amenities of the world-famous Hoover Dam in the United States consist of a viewing platform, a bridge, and a gallery scattered around the entire site. This project aims to reconfigure these programs by merging them into a single vertical super structure. One of the main purposes of the project is to allow the water from the upstream river to engage directly with the visitors through a series of containers. A hanging tower above the 700-foot drop into the Black Canyon would be used as gallery and a vertical aquarium.

(Worth a look – click on the link to view slide show with some great photos: http://www.popularmechanics.com/technology/engineering/architecture/the-worlds-18-strangest-dams#fbIndex1
This article was sent to me by Ed T... The title makes no sense. It should be "Unique" dams)

The World's 18 Strangest Dams

By Michael Seo, Popularmechanics.Com

Whether its builder is a beaver or a person, a dam is always used for the same purpose: to manage, direct and prevent water flow. Within that definition, there are many different types of dams, from mammoth hydroelectric generators—which produce 20 percent of the worlds' electricity energy and 88 percent of all renewable electricity—to the small sand dams of Kenya that are designed to store water for the dry season. There an estimated 845,000 dams in the world; here are our picks for the 18 strangest.

Excerpt – Sample of first slide:

Three Gorges Dam

Where: Sandouping, China–Yangtze River

Why It's Unique: China's Three Gorges Dam is not only the world's largest hydroelectric dam, it's also the world's single largest source of electricity. The construction of the dam has been convoluted: Preliminary plans began as far back at 1932 but construction but didn't start until late 1994; the dam isn't scheduled to be completely finished until 2011. The structure's estimated life is as short as 70 years; that was deemed long enough to justify the displacement of 1.24 million people.

(Now, this is dreaming big in a State that's broke. Where will the money come from since the Federal government is just as broke?)

Monticello Dam: Tear it down and build it bigger!

By Peter Kilkus, lakeberryessanews.com

The rumor of raising Monticello Dam has been around for decades. In my special report last year on Lake Berryessa history, Is Lake Berryessa Headed for Another Ten-Year Drought or a Thousand-Year Flood?, I asked, "Where did this rumor start and why does it pop up every now and again?" According to David Okita, general manager of the Solano County Water Agency, CalFed, collaboration among 25 state and federal agencies, did a "brainstorming" survey many years go of every potential future water project in northern California. Although raising Monticello Dam made the original list of possible projects, after practical criteria such as cost, safety, flooding adjacent property, were applied to screen the list down to real opportunities, raising the dam was dropped from the list. It has never been discussed seriously since then. It is NOT in any plan and never will be. But there is another potential source to this rumor, and it was a much more ambitious project than just raising the dam. According to The Solano Water Story published by the Solano Irrigation District, banner headlines in California's newspapers in September, 1963 announced Governor Edmund G. Brown's startling new state water plan in which Berryessa would have a
major role.

The $3.7 billion plan included 35 dams, 70 miles of tunnels, 10 pumping plants, and 15 powerplants. The time-table called for start-up in 1976 and completion about 2020. According to the plan, the still-young, 304-foot high Monticello Dam would he removed, rather than letting it remain as an underwater barrier. It would he replaced with a 650-foot high earth and rockfill dam a mile downstream from the concrete arch dam. The new reservoir would be three times larger than Lake Berryessa, with 10 times its capacity or 16 million acre-feet (compared with Shasta's

4.5 million acre-feet). The enlarged lake would extend into Pope Valley almost as far as Aetna Springs in Napa County and into Capell Valley, taking nearly 18,000 acres of agricultural and grazing land out of production. Estimated cost of the Greater Berryessa Project, as it was called, was put at $360 million by the State Department of Water Resources (DWR). The timetable for this part of the project indicated a start-up in about 1990. In essence, the idea was to integrate the Greater Berryessa Project with the $280 million Clear Lake Diversion Project. The latter included three dams on the Middle Fork of the Eel River, with tunnels to the Main Eel River, Russian River, and Clear Lake to Putah Creek, then through two more dams and Lake Berryessa to the Sacramento River. From Clear Lake, the water would be diverted by a two-mile tunnel to Soda Creek in the Upper Putah Creek basin, developing 400 feet of power head that would be harnessed with the construction of two dams on Soda Creek.

According to the DWR, discharges from the power facilities would be released into an enlarged Lake Berryessa capable of meeting the export demands of the Sacramento-San Joaquin Delta and those of the Solano Project. Even the Bureau of Reclamation, which had never been accused of thinking small, was impressed by the scope of Governor Brown's plan, describing the overall project as "staggering but physically possible and since the Greater Berryessa Project would not be built for at least another 30 years, the present Monticello Dam by that time will have served its useful life." Brown's master plan for the state's water problems never caught on with the public or the legislature. His grand plans are collecting dust at the DWR.

(Some Dam history – 100 years and counting! So much for the nonsense about dams having a 50-year life. Who said that? The article doesn't mention the stone masons from Italy who were crucial to the construction of the dam – see info at: http://www.bookrags.com/tandf/italian-workers-in-the-construction-of-tf/. I always called it the Italian Dam!)

Roosevelt Dam's Centennial

By Tim Ehrhardt, March 9, 2011, paysonroundup.com

On March 18, 1911 Roosevelt Dam was dedicated and opened by former President Theodore Roosevelt. Nearly 100 years has passed since this momentous event, which was the culmination of the hard work of many, including many from Rim Country. Here's a look at the dam that forever changed Arizona.

Throughout the 1890s, discussion began on the possibility of damming the indomitable Salt River and its nearby tributary Tonto Creek. During early settlement in Arizona, the Salt River posed a challenge for settlers in the Phoenix area. Its rising waters created problems nearly every winter, yet the water was very much needed in the dry desert. If only there was a way to harness nature's power. It was from this thinking that Roosevelt Dam came. In 1902, President Theodore Roosevelt signed the Reclamation Act of 1902 into law. This act is also sometimes referred to as the Newlands Act, after its author Francis Griffith Newlands, a Democratic congressman from Nevada. This federal law provided funding for irrigation projects in a number of western states and territories, including Arizona. On March 13, 1903, Roosevelt Dam became one of five federal projects to be authorized under this act. It would become the first of the five to be completed. During the next few years, work proceeded on Roosevelt Dam. One of the first tasks was figuring out a road to the dam site. There was some thought to improving the Reno Road, but instead the Fish Creek path, now known as the Apache Trail, was decided upon. A clip from the Sept. 12, 1903 Arizona Republican better explains why. "One of the most important points against it [the Reno Road], however, is the fact that it is 110 miles to the dam site over that route against seventy-five miles via Fish creek, which represents an extra haul of at least thirty miles on every load of freight that will prove expensive in both time and money. The Fish creek line when once built will be there to stay, will be a scenic route, a short drive in comparison, and one that will naturally be traveled by the thousands who will visit

the dam site in years to come. And with further exploration there is no doubt the Fish creek line will be found far less expensive than at first believed, which with the fact that the telephone and transmission lines must go that way give that route a long way the best of it in the argument." One of the key elements of Roosevelt Dam was not just water storage, but also power generation. This actually began before the dam was finished. Power generation on a trial basis at the dam began in March 1906 and on Oct. 1, 1909 permanent power delivery to the Phoenix area from the dam was initiated.

Fast forward to March 1911. Theodore Roosevelt had been a national hero. Born in New York State, he became a hero for his role in the Spanish-American War of 1898. He served as part of the 1st United States Volunteer Cavalry, which became known as the "Rough Riders." This unit had a number of westerners, including Bucky O'Neill of Prescott, who died in battle. O'Neill was no stranger to the Payson area, as his 1880s newspaper Hoof and Horn published a number of articles touting this area. Roosevelt had signed the reclamation act in 1902 that helped pave the way for the dam and ultimately the dam was being named for him. Newspapers across the country carried accounts of Roosevelt's visit to the dam. Here's a clip from the March 19, 1911 Lima Daily News. "The arrival of the Roosevelt party, who motored seventy-five miles across the desert to attend the ceremonies, was a signal for wild hilarity among those assembled to witness the event. The cheering crowds pressed about the little group of prominent state and government officials to offer thanks and congratulations to the Colonel, to whom in a great measure they owed the successful completion of their project and he repeatedly removed his, 'Stetson' in acknowledgment of their cordial welcome." Amongst Roosevelt's remarks that day were the following:

> "… first of all, I want to thank you for having named the dam after me. I do not know if it is of any consequence to a man whether he has a monument. I know it is of mighty little consequence whether he has a statue after he is dead. If there could be any monument which would appeal to any man, surely it is this."

Theodore Roosevelt would unsuccessfully go on to run for president again the following year. It was a controversial race, as Roosevelt ended up running as a third party candidate after losing the Republican nomination to incumbent President William Howard Taft. However, while Roosevelt's political fortunes fell after the dedication, the dam became quite legendary, as this clip from the December 18, 1915 Arizona Silver Belt shows. "Roosevelt lake is the result of man's work, but the building that man did was done upon a foundation laid by the Master Hand that time when all these mountains were made and molded into their present shapes. The same Master Hand directed the waters from the mountains to lead the way to the Place and to fall to man the marvelous story of the wonderful benefits that would come to him through building upon that foundation by omnipotence laid a structure for the storage of the water from the hills and valleys above." Eventually, Roosevelt Dam was expanded and renovated. A project between 1989 and 1996 raised the dam's height by 77 feet. Highway 188 was also realigned with a new bridge created so that vehicles no longer had to travel over the top of the dam. On March 18 and 19 Salt River Project will celebrate Roosevelt Dam's Centennial. A private event will be held on March 18, during which the time capsule buried in 1961 will be reopened. A public event will be held from 9 a.m. to 4 p.m. on Saturday, March 19 at the Roosevelt Dam Visitors Center. Complimentary shuttle busses will take visitors to the crest of the dam from the visitors' center on a first-come, first-served basis.

(It looks like a Federal handout is getting tougher to come by. Now what? Getting the Washington office of FEMA to reverse a local decision is iffy.)

FEMA rejects appeal for aid to rebuild Lake Delhi dam

blogs.desmoinesregister.com, Mar 10, 2011 | by William Petroski

The Federal Emergency Management Agency said Thursday it has denied an appeal by state officials for millions of dollars in federal money to rebuild the Lake Delhi dam that was destroyed by flooding last July. Beth Freeman, FEMA's regional administrator in Kansas City, Mo., said in a letter to state officials on Thursday that the federal agency had "rightfully denied" the association's request for federal assistance. She agreed with a decision made by FEMA

administrators last August that the nonprofit Lake Delhi Association, which owns the dam, is not eligible for federal aid. That's because it is a private organization that does not provide any essential government services to the general public, she said.

The northeast Iowa dam was breached July 24 after a downpour of 14 to 16 inches of rain fell upstream in the Maquoketa River watershed. The lake, surrounded by hundreds of homes and cabins, was drained by the disaster and can't be refilled until the dam is repaired at a cost of about $5.8 million. The river now flows through the former lakebed in a narrow channel. Buzz Graham, chairman of the Board of Trustees of the Lake Delhi taxing district, said Thursday night the denial was not a surprise because FEMA regional officials simply upheld their original decision. A second appeal will now be filed with FEMA national officials in Washington, D.C. that should have a better chance of winning approval, he said. "We wouldn't be appealing if we didn't feel we had a good shot. We feel positive about the whole thing. We are still optimistic and we still think we are right," Graham said. FEMA officials said Thursday they have also denied appeal for federal money by the Lakewood residential community in Norwalk for flood-related damage in 2008 at Lake Colchester. J. Derek Hill, administrator of the Iowa Division of Homeland Security and Emergency Management, said in a statement he regretted FEMA's denial of the two regional appeals. He promised his agency would assist both the Lake Delhi and Lakewood districts in their further appeals to FEMA headquarters.

(Politics and dams! Not a good mix!)

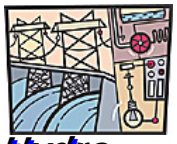
Christie announces independent investigation into Pompton Lake Dam

Sunday, March 13, 2011, By Leslie Scott**,** Suburban Trends**,** Staff Writer, northjersey.com

North Jersey – Gov. Chris Christie visited Pompton Lakes, Pequannock and Little Falls where residents were once again hit by flooding this past week and announced on Friday that he will be doing an independent investigation of the much criticized Pompton Lake Dam. The dam is owned by the U.S. Army Corps of Engineers, which is in charge of how the flood gates are operated. Although the Army Corps has maintained the gates are not aggravating flooding, residents tell a different story. Because of persistent flooding trouble, municipal and state officials have joined together in calling for a closer look at how the Pompton Lake Dam is impacting towns like Pompton Lakes, which sit below the dam. Christie made his presentation Friday at the Passaic County Public Safety Academy in Wayne to an audience including the press and members of the New Jersey Office of Emergency Management Urban Search & Rescue, who are trained for swift water recovery in flood areas. He was flown in by helicopter to a landing site in Riverdale. Knowing that the Pompton Lake Dam has been a sore point since its reconstruction in 2007, Christie announced the independent investigation and said: "We're trying to understand what's going on there, whether it is working the way it should be, and if it isn't how it could be changed to protect the folks of Pompton Lakes and other affected communities from the kind of flooding that we've seen." Christie mentioned that the committee he formed to take a look at remedies for the Passaic River Basin's long history of flooding has come up with a 15-Point Plan, which includes both long-term and short-term measures. Other towns have seen an end to their flooding dilemmas through cooperative efforts, he said.

Case in point, he said, is a project in Bound Brook, which pooled federal and state funds to bring about substantial relief for that flood-prone area. The project, which includes levees and other relief measures, is only 80 percent completed but already seeing results, he said. But for residents of Pompton Lakes the solution continues to lie in reexamining the Pompton Lake Dam. "You can't tell me the dam is saving anybody but Oakland," said Joan Gray, who has lived in Pompton Lakes for 26 years and experienced three floods since the dam began operating in 2007. Before that, although she was affected by Hurricane Floyd, she never really flooded. Susan Wagner got a foot of water in her home last week. She stopped by the corner of Lincoln Avenue and Haroldson Place to give two pumps to her husband who stayed at their home on Madison Avenue. Wagner herself left her house late Thursday afternoon to stay with her daughter in Riverdale. Wagner said she does not want to do this again. "I would love to sell but I can't afford to sell. I would get nothing for my house," she said.

The borough began preparing for the second storm of the week during the evening of March 9. All of the heads of the police, fire, rescue squad, and Community Emergency Response Team (CERT) met to coordinate their strategy for dealing with the storm and its aftermath. That night Governor Christie declared a state of emergency. Mayor Katie Cole said this means the National Guard could be utilized for evacuation assistance. Early Friday afternoon Mayor Cole said that several hundred homes flooded this time.



Hydro

(If you own a licensed hydro project, this will affect your wallet.)

News Release: February 17, 2011
Docket No. RM11-6-000

FERC seeks comment on charges for use of government lands

The Federal Energy Regulatory Commission (FERC) is seeking public comment on how best to calculate rental rates for the use of government lands by hydropower projects. FERC-regulated hydropower licensees must compensate the U.S. government for the use of federal lands through payment of an annual fee. FERC issued a Notice of Inquiry today seeking suggestions on how to create an administratively practical formula that applies uniformly to all hydropower licensees, does not impose exorbitant costs on the Commission and reflects reasonably accurate land values. The inquiry addresses a Jan. 4, 2011, decision by the Court of Appeals for the District of Columbia Circuit vacating the Commission's implementation of its fee schedule for the collection of annual charges under its regulations. The Court said that the Administrative Procedure Act requires FERC to seek notice and comment on the methodology used to calculate annual charges because the fee schedule is based on the U.S. Forest Service land value index, and the Forest Service made changes to the methodology underlying this index. Comments are due 60 days after publication in the *Federal Register*.

(You can buy more than an old car at an auction. How about some hydro power? – "Going once - going twice – Sold!")

Chelan auctions $86.7 mln of Washington St hydropower

Mar 7, 2011, (Reporting by Scott DiSavino; Editing by John Picinich), reuters.com

(Reuters) - Chelan County Public Utility District (PUD), a public owned power company, auctioned $86.4 million of excess power over the next four years from a couple of hydro dams on the Columbia River in Washington State.

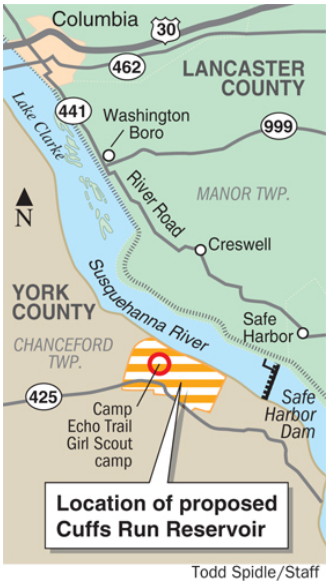
In a release Friday, the PUD said it will sell some power from the Rock Island and Rocky Reach dams from Nov. 1, 2011 through the end of 2015. The successful bidders were subsidiaries of NextEra Energy Inc (NEE.N) and JPMorgan Chase & Co (JPM.N). The purchasers will pay about $43.2 million each and receive 4.5 percent of the output of 1,300-megawatt Rocky Reach from Nov. 1, 2011 through June 30, 2012, and 3 percent of the combined output of Rocky Reach and 624-MW Rock Island dams from July 1, 2012 to Dec. 31, 2015. The PUD said this was the third sale of its kind in the past year. The previous two auctions raised $129 million - for output from Dec. 1, 2010, through 2014. After a couple years of low market power prices and low stream flows leading to budget deficits, the PUD started selling slices of hydropower output last year to help protect customers from large swings in power rates and stabilize revenues. The PUD said it did not guarantee the purchasers a specific number of megawatts, but, in exchange for fixed payments, the purchasers will receive a percentage of hydropower production under whatever generating conditions exist at the time. The PUD said it still expects to have adequate energy supplies to meet local demand and, for all weather conditions and water supply, have additional power to sell on the surplus market beyond what was auctioned.

(Another pumped storage project proposed in Pennsylvania. That would make three with the existing Seneca and Muddy Run projects. CA has the most – I think it's around 8 projects or so.)

Hydropower project proposed for both York and Lancaster counties

The project would call for a dam to be built across Cuffs Run

By Sean Adkins, Daily Record/Sunday News, 03/08/2011, ydr.com



Todd Spidle/Staff

York, PA - A Massachusetts-based hydropower company has proposed stretching a 9,800-foot-long, 225-foot-tall dam across Cuffs Run in Chanceford Township as part of a York County/Lancaster County hydroelectric project. In November, Free Flow Power Corp. filed an application for a preliminary permit with the Federal Energy Regulatory Commission in regard to the project. "It's the very first step in the beginning of the licensing process, said John Guidroz, director of project development for Free Flow Power. "This is just a place holder in a line and a way to outline the project for FERC." Likely, Free Flow Power will spend the next three to five years navigating regulatory hurdles on its way to obtaining a full license for the project, he said.

If approved, the Cuffs Run Pumped Storage Hydroelectric Project will have the capacity to generate roughly 990 megawatts of electricity, according the application filed with FERC.
One megawatt is enough to power 800 homes at once. In comparison, in 2009, Three Mile Island Unit 1 in Dauphin County was capable of producing roughly 870 megawatts of continuous power -- enough energy to run about 900,000 homes. In addition to the dam that would cross Cuffs Run and an unnamed stream creating an upper reservoir, a 700-foot-long, 95-foot-high dike would cross the eastern side of the run. Also, the company has proposed building an underground powerhouse complete with three pump turbines. A three-mile long transmission line would connect the hydroelectric project with an existing 250-kilovolt line, according to the company's application with FERC. The proposed project, whose environmental and engineering costs are estimated to be $1 million, will use water from Lake Clarke. "This is project is at least three years away," Guidroz said.

New hydropower facility planned at Carter Lake

$6 million project expected to come on line in mid-2012

Staff reports, Tuesday, March 8, 2011, greeleytribune.com

Berthoud, CO — Construction on a hydropower facility at Carter Lake, southwest of Loveland, is scheduled to start this fall, according to officials with Northern Water. Carter Lake is a reservoir of the Colorado-Big Thompson Project system, which brings a supplemental water supply to northeast Colorado from the Colorado River on the Western Slope. The facility, when completed, will produce enough power for about 1,000 homes. The construction comes with the completion of a power purchase agreement with Poudre Valley Rural Electric Association, said Carl Brouwer, Northern Water project manager. The $6 million project received a $2 million low-interest loan through the Colorado Water Resources and Power Development Authority. The project is expected to generate $600,000 a year. That money will be used to repay construction loans and help pay for any future upgrades.

"We're pleased that the C-BT will provide a portion of the green, sustainable energy that Poudre Valley needs," Brouwer said in a news release. Brad Gaskill, CEO of Poudre Valley REA, which has headquarters west of Windsor, said the project is an example of the REA's commitment to pursue renewable energy resources and make them a part of the association's portfolio mix. The association provides electricity to more than 35,500 customers in Weld, Larimer and Boulder counties. The plant is designed to produce 7-10 million kilowatt hours of energy when it comes on

line in mid-2012. Northern Water will own, operate and maintain the project. A 600-foot power line will link to Poudre Valley REA's transmission system.

(If we can't build enough hydro in the U.S., we can at least buy from good friends who are wise enough to do so. The Minnesota law is really dumb – what is the 100 MW limit all about? Sounds like environmentalist nonsense.)

Minnesota approves Minn Power plan on hydro credits

March 9, 2011, By Bob Geiger, finance-commerce.com

The Minnesota Public Utilities Commission will allow Duluth-based Minnesota Power to meet state renewable energy standards by purchasing excess power from six Manitoba Hydro dams. The PUC's 3-0 vote came Tuesday after testimony from utility representatives that an 11-year agreement would generate credits to satisfy state requirements. "It's a hedge against the unknown," said David R. Moeller, senior attorney for ALLETE, the parent of Minnesota Power, at Tuesday's hearing. Under state law, the utility needs to generate 25 percent of its energy from renewable sources by 2025. Moeller referred to the unknown future value of renewable energy credits as carbon regulation increases. The credits are used to determine if a utility is meeting the state's renewable energy standards.

Minnesota Power currently buys 50 megawatts of power from Manitoba Hydro under an agreement scheduled to expire in 2015. The utility says the future purchase will allow it to cut power costs for its 144,000 ratepayers. Assuming steady generation, 1 megawatt of electricity would power 750 homes for a year. According to PUC documents, Minnesota Power intends to buy at least 1 million megawatt hours over the life of the contract. The documents characterize the maximum amount of electricity the utility will actually buy as a "trade secret." Manitoba Hydro exported $427 million worth of electricity to other Canadian provinces and U.S. utilities during the year ending March 31, 2010, said Glenn Schneider, a spokesman for Winnipeg-based Manitoba Hydro. Minnesota Power is one of several state utilities purchasing electricity from Manitoba Hydro. Others include Xcel Energy and Maple Grove-based Great River Energy. Minnesota Power, which serves northeastern Minnesota and northwestern Wisconsin, intends to purchase surplus power from four hydroelectric energy dams along the Winnipeg River and two five-megawatt dams on the Laurie River in northern Manitoba. Minnesota law limits the volume of hydropower eligible for renewable energy credits to 100 megawatts.

The utility plans to increase the amount of energy it buys from Canada in 2020, when it starts a separate 15-year, 250-megawatt hydropower deal with Manitoba Hydro. Utilities earn one renewable energy credit by generating or purchasing 1 megawatt hour of power from renewable sources such as wind, solar, biomass or hydro. Minneapolis-based Xcel Energy, which in 2010 signed an 850-megawatt hydropower deal with Manitoba Hydro, does not receive renewable energy credits from Canada. Xcel plans to seek renewable energy credits from Canada in 2015, before its 10-year, $3 billion power contract with Manitoba Hydro begins. Like Minnesota Power, Xcel plans to buy energy from dams with less than 100 megawatts in size to comply with state law. Betsy Engelking, resource planning director for Xcel, said last month that the utility is reviewing potential sites for electricity purchases before the 2015 request. Schneider of Manitoba Hydro said Minnesota Power plans to buy surplus energy from the Pine Falls, McArthur Falls, Pointe du Bois and the Slave Falls facilities on the Winnipeg River.

By the numbers - **$427M**

Value of electricity Manitoba Hydro exported to Canadian provinces and U.S. utilities in fiscal year ending March 31, 2010. *Source: Manitoba Hydro*

(Does this qualify as research?)

IDED: $435,700 awarded to support hydroelectric turbine and training projects in Iowa

3/10/2011, iowapolitics.com

March 9, 2011 (DES MOINES, IA) AmJet of Keokuk, Iowa was awarded a $325,000 grant by the Power Fund Board to support the building and testing of a hydroelectric turbine today. The grant will be matched with $200,000, and will allow AmJet to test, and potentially begin full scale production, of turbines suited to generate electricity from low head dams. The Power Fund Board also approved a project with Iowa Western Community College in Council Bluffs, Iowa, providing $110,700 in grant funding for the purchase of a mobile training lab. The mobile lab will allow the college to provide hands-on energy efficiency training at each of its satellite locations. For additional information please visit our website at: http://www.energy.iowa.gov/Power_Fund/index.html

(Excerpts from a very long article. See following for complete article: http://www.petersburgpilot.com/www/stories/031011Ferc.htm***)***

FERC appeal denied, dampens future of hydro power projects

Keith Chaplin, March 10, 2011, petersburgpilot.com

The United States Court of Appeals made a judgment on a case between Petersburg Municipal Power & Light and the Federal Energy Regulatory Commission in late February that put a damper on Petersburg's role in hydropower development in the region. The petition for review of orders in a FERC decision to award a hydropower permit in 2009 was denied Feb. 25, and the lower court ruling upheld in a case involving a hydropower project in Thomas Bay. The project — located at Ruth Lake — had four applicants in 2009, the Municipalities of Petersburg, Wrangell and Angoon, as well as private developer Cascade Creek LLC. All four applicants applied to develop Ruth Lake, but due to an online runoff and all entities filing applications after hours, Angoon won a lottery run-off after the four applicants were narrowed to just municipalities. Cascade Creek LLC is currently working toward creating a hydropower project at Swan Lake, a few miles north of Ruth Lake. Both lakes have drainage into Thomas Bay. Angoon also possesses the pre-permit application to develop Scenery Lake, north of both Swan and Ruth Lakes.

Petersburg Municipal Power & Light Superintendent Joe Nelson addressed the Petersburg City Council on Monday, March 7. "Basically, the judges upheld the FERC decision to use a lottery," _____.

Muskingum River hydroelectric project gains steam

Meetings conducted, final application expected in 2012

Mar 12, 2011, Written by, Brian Gadd, zanesvilletimesrecorder.com

Zanesville, OH-- A Massachusetts firm has another year to file an application to install hydroelectric turbines at nine Muskingum River low-head dam and lock locations, including those in Muskingum and Morgan counties. In the meantime, public meetings were conducted in Zanesville, McConnelsville and Beverly this week so representatives of Free Flow Power of Gloucester, Mass., could present information and answer residents' questions. The locks and dams being considered for the project are: Ellis Dam, Zanesville and Philo in Muskingum County; Rokeby Lock, Malta-McConnelsville and Luke Chute in Morgan County; and Beverly, Lowell and Devola in Washington County. Under the original proposal first pitched in 2009, small "run of the river" power plants would be constructed near the locks, consisting of an intake structure and power canal, a powerhouse containing the generating units, a transformer linked to transmission lines and the tail race, which allows the water to continue flowing downriver. A control building and electric substation also are called for and would be built on acquired land near the dams.

Current plans being considered would have a section of the dam head cut out for construction of the intake structure rather than adding on to the existing structures. That idea "was enough to give us pause," said Doug Albaugh, secretary of the Friends of the Lower Muskingum River group. Albaugh lives in the Stockport area near Luke Chute. Albaugh said he was concerned the plans called for water to be diverted through the power structure during times of low water levels. "At times in the summer months, you would have nothing (no water) going over the dams, but only over the turbines," Albaugh said.

Dave Mathew, an avid Dresden-area boater, agreed. "I guess at low pool there wouldn't be any water going over the spillway," said Matthew, who attended the Zanesville meeting due to interest in how the project would affect the currently-closed Ellis Dam Lock. "There is also talk of raising the height of the dams," he said, which would cause the water to flow faster and add to potential generating capacity. "I'm all for the green part of it," Mathew said. Two turbine generator units at each location -- one is called for at the Zanesville Lock -- would generate a combined 174.1 gigawatt hours of electricity, according to preliminary estimates and tables outlined in the company's pre-application document. Albaugh also said there is a concern with how changing the flow of water will affect freshwater mussels, which thrive downstream from each of the dams. FLMR President Marilyn Ortt also requested on-site discussions at the Luke Chute and Devola locations with the Free Flow Power representatives, Albaugh said. "They are certainly providing plenty of opportunities for input," he said. Jon Guidroz, director of project development, said the information he has received is each of the local meetings "had a great turnout and generated a lot of conversation." "We're navigating the FERC (Federal Energy Regulatory Commission) process, we've prepared our pre-application document and are in the process of presenting that information to local and state agencies and stakeholders," Guidroz said. "We're at the stage where we are soliciting public feedback and comment." He said further environmental studies would be conducted and local comments would be collected and considered as plans for the hydro project continue to be refined during the next year. When Clean River Power, now a wholly owned subsidiary of Free Flow Power, filed paperwork to conduct a feasibility study for the project in March 2009, a three-year window for the study and filing the final application was approved. After the final application is submitted, it's expected to take as many as three to five years for federal approval for the project.

Environment

(There's always someone who doesn't like anything. The push for small hydro is not only about building new dams. These people forgot to look at the thousands of existing dams apparently. So, please explain the environmental damages since the dams are already there and most will be operated run-of-river. I have a biased view. Hydro is beautiful – large or small! Did you ever try recreating on a coal pile or hanging from a windmill?)

Small Isn't Beautiful

Are "small" hydropower dams as green as some claim?

conservationmagazine.org

It's time to rethink the world's growing interest in using small dams to generate clean electricity, two Indian researchers argue. On closer look, small hydropower could bring many of the same environmental problems that now haunt big dams around the planet. Concerns about climate change and fuel prices have helped create "a great resurgence of interest all over the world in the development of 'small' hydropower systems (SHSs)," which typically generates less than 25 megawatts of power, Tasneem Abbasi and S.A. Abbasi of Pondicherry University in India write in *Renewable and Sustainable Energy Reviews*. "The surge is essentially propelled by the belief that SHSs… are a source of clean energy with little or no adverse impacts on the environment." A

1998 International Energy Agency review, for instance, concluded that SHSs "tend to have a relatively modest and localized impact on the environment."

That view has helped drive a surge in small dam construction. Worldwide, small hydro now produces 47,000 megawatts of power, according to the European Renewable Energy Council, with production doubling in some areas over the last decade. Asia and Europe are small hydro leaders, with China alone already boasting some 100,000 small dams. And "other countries, including two the world's fastest growing economies – India and Brazil – are putting in place increasingly ambitious plans to tap" small hydro, the authors note. The rush, however, reminds the authors of the "very optimistic, almost reverential, attitude towards hydropower projects which…prevailed during the early 1950s." Then, they note, nations built hundreds of large dams that later turned out to have extensive environmental consequences, ranging from destroyed fisheries to declining water quality. Now, the authors worry we're ready to repeat history. "By all reasoned assessments, the environmental problems caused by small hydro look small in comparison to large hydro," they concede. But after walking through a series of scenarios, they argue those advantages fade when large and small projects are compared by "the scale of impact per kilowatt of power generated. Once this is done, it emerges that the problems that would be caused due to widespread use of SHS would be no less numerous, and no less serious, per kilowatt generated, than those from centralized hydropower." Problems such as siltation and eutrophication, for example, are likely to be common at "mini" and "micro" projects because they tend to create small, shallow pools. And the emissions of methane and other greenhouse gases from such muddy lagoons could rival emissions from rice paddies, they add.

"It is a moot point," they conclude, "whether the adverse impacts of a large number of small hydro would be only as severe as, or worse than, the impact of the 'known devils' – large hydropower projects of equivalent capacity." It's time, they say, to put in place rules and remedial measures that "may save the world from considerable disillusionment and environmental damage." **–** ***David Malakoff*** | March 10, 2011. Source: Abbasi, T., & Abbasi, S. (2011). Small hydro and the environmental implications of its extensive utilization. *Renewable and Sustainable Energy Reviews, 15* (4), 2134-2143 DOI: 10.1016/j.rser.2010.11.050

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Some Dam – Hydro News™

and Other Stuff

i

3/25/2011

Quote of Note: *"Be more concerned with your character than your reputation, because your character is what you really are, while your reputation is merely what others think you are." – John Wooden*

"Good wine is a necessity of life." - -Thomas Jefferson

Ron's wine pick of the week: **Bonterra Organically Grown Cabernet Sauvignon 2008**

"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Other Stuff:

(What the article doesn't say is that if hydro makes the rates among the cheapest in the country, won't adding wind and solar make the rates go UP! I don't like to eat barley –ugh, so making something useful out of it is OK with me.)

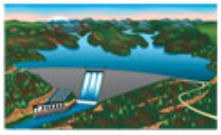
(Excerpts)

IDAHO'S RENEWABLE ENERGY INDUSTRY HIGHLIGHTED IN NEW PUBLICATION

Sfgate.Com, March 16, 2011

From solar and wind power to geothermal, the renewables industry has taken center stage in Idaho. The state highlights this surging industry in a new magazine featuring the companies and programs that are creating the growth. Idaho Business will be used to recruit new business to the state. The Idaho Department of Commerce created the publication to better communicate the state's strengths in this industry to companies seeking to expand or relocate in Idaho. Articles include:

- New wind projects, including a $500 million portfolio of turbines primarily owned by GE Corp.
- The state's use of hydropower, making electricity rates there among the lowest in the nation.
- Two new large solar component manufacturers that have just launched operations.
- A growing focus on geothermal for both direct power creation and downstream uses.
- Biomass projects using stalks and stems of wheat and barley.



Dams

Fremont officials see benefits to removing Ballville Dam

Mar. 8, 2011 | thenews-messenger.com

Fremont, OH -- City officials can list several reasons for removing the Ballville Dam. But possibly the most compelling one is money tied to the Fremont Reservoir project. The Ohio Department of Natural Resources gave the city $5 million to help pay for the reservoir -- which is under construction southwest of town -- in exchange for the city agreeing to take down the 100-year-old structure by December 2013, Mayor Terry Overmyer said. ODNR has long lobbied for the dam's removal to open up more spawning area for walleye and other fish along the river. The agency cannot pay for the dam removal, but it can help fund the reservoir, Overmyer said.

The dam, 17 miles from the Sandusky Bay, was built from 1911 to 1913 to generate power, but it has not done so in more than 60 years. Its purpose since then has been to back up water behind it -- forming a shallow, lake-like section of the river -- for the city's water intake. When the reservoir is built, Fremont will no longer need the lake area the dam creates, Overmyer said. The dam will be taken out in phases, and the city does not have a cost estimate for the total project, Overmyer said. The structure will not be removed until the Ohio Environmental Protection Agency confirms the reservoir is online and working properly, agency spokeswoman Dina Pierce said. The city also is getting $3.6 million from OEPA, Pierce said. That money is equal to a portion of the interest the city will pay back on the OEPA loans it took out for the reservoir project, she said. It could receive another $2.5 million from the agency for another pending loan, but that money has not been approved, Pierce said. Fremont gets the funding through an OEPA program that helps fund restoration and protection projects. "Ultimately, it's going to save them money by doing this," Pierce said. "It helps the environment. Financially, it helps the city." With the ODNR and OEPA funds and grant money from other sources, the city has raised $6 million -- which it won't have to pay back -- for the dam removal, Overmyer said.

Argument for Removal

Keeping the aging structure would be too costly to the city, Overmyer said. In 2004, ODNR's Division of Water examined the dam and determined the city needed to repair it. Three years later, the Division of Water ordered the city to either remove the structure or fix it. A 2005 estimate puts repairs at more than $4 million. Although OEPA is not requiring the dam be removed, the agency does strongly encourage it, Pierce said. Taking down the dam would provide more benefits than just improved fish habitat, she said. "Removing that dam will increase the water quality on the Sandusky River," Pierce said. "Free-flowing streams are always better. Water behind dams tends to get a little stagnant." So much silt has backed up behind the dam that the area around the intake has lost at least 78 percent of its capacity, according to a 2002 study published in the Journal of The American Water Resources Association. A manmade island sprung up from the silt a few decades ago, Fremont Safety-Service Director Sam Derr said. "In a drought, we wouldn't have enough water," he said.

Environmental Aspects

Not everyone thinks removing the dam is a good idea. In the early 2000s, a group dedicated to saving the dam attended Fremont City Council meetings and suggested alternatives to taking it down, said Jim Sherck, a retired Sandusky County Common Pleas Court judge who lives in Ballville Township. Although there is no longer an organized group, some people in the area are still against the dam removal, Sherck said. He worries ODNR's influence is blinding the city to the possible environmental impacts of removing the dam. Sediment trapped behind the dam contains various contaminants, including oil and gas runoff from parking lots and the banned pesticide DDT -- which was blamed for thinning the bald eagle population to near extinction before its rebound in recent years -- said Jim Evans, Bowling Green State University geology professor who has studied the area behind the Ballville Dam for more than 15 years. When the dam is removed, some of that silt likely will move up the river and into the Sandusky Bay, according to a 2007 study of the sediments Evans helped complete. "That silt, if it's released, is going to create havoc," Sherck said. "That's going to be released into a very pristine environment." Evans and the 2007 study, however, say Sherck's concerns are unfounded. "It would actually be levels (of contaminants) lower than what's there already," Evans said. "We would not be adding anything to Lake Erie that's not already there." And the amounts of DDT and other contaminants in the sediment are minor, he said. They will be diluted as they mix with other materials in the river, he said. "You're covering your bases by doing the kind of work we did there," Evans said. "It's going to make it below the level that we would consider any kind of a health impact. Those things are everywhere." Ice jams are another concern, said Jim Ellis, a Democratic candidate for mayor who regularly questions the reservoir project at Fremont City Council meetings. Ice backs up behind the dam in the winter, and some residents wonder whether the ice could cause serious problems without the dam holding it back, Ellis said. The U.S. Army Corps of Engineers is conducting a study on the ice jams to determine whether the city may need to put a structure that would hold back ice in the dam's place, Overmyer said. The results of that study are expected to be published sometime this month, Derr said.

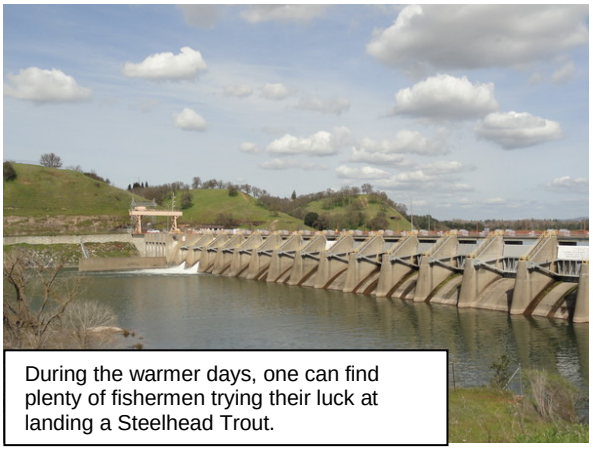
(Another benefit of dams)

NIMBUS DAM PROVIDES POWER AND RECREATION

The Hydroelectric Dam provides a source of power and approximately 8,700 acre·ft. of recreational waters known as Nimbus Lake.

By Brian Kniveton | March 12, 2011, fairoaks.patch.com

Upon completing construction in 1955, Nimbus Dam was built to re-regulate water flow on the American River. The Dam is most often used for irrigation, hydroelectric power, fish and wildlife protection. The resulting 540 -acre Nimbus Lake created by the dam is a local hot spot for recreational activities, including fishing, kayaking, sailing, hiking, bicycling and rowing. According to the United States Bureau of Reclamation Nimbus Dam's towering 16 gates, which stand 76 feet high and 1,093 feet wide, are made up of long volcanic sandstones and concrete conglomerates. Inside those gates houses the hydroelectric power plant which is owned by the Bureau of Reclamation. The power plant runs two generators which can create a combined capacity of 15,526 kilowatts of electrical power, which according to the Bureau's website equates to nearly enough power to light 250,000 100-watt light bulbs.



During the warmer days, one can find plenty of fishermen trying their luck at landing a Steelhead Trout.

(More dam history)

THE OPENING OF SUTHERLAND DAM WAS A LONG TIME COMING

Construction of the dam started in 1927 and finished in 1954. What caused the city of San Diego to wait so long to finish the project? Sutherland Dam made history when it was dedicated on June 5, 1954. More than 300 dignitaries and spectators turned out for the ceremony and luncheon hosted by the San Diego Chamber of Commerce. The moment in history wasn't that the dam was having a grand opening; it was the fact that the dam was finally finished. Construction on the project had started 27 years earlier. Lake Sutherland is located about 10 miles northeast of downtown Ramona and belongs to the city of San Diego. Dam construction began in 1927 and halted the following year. Lack of funds and a disagreement over water rights were the reasons for abandoning the project. Escondido wanted to claim water rights because the natural course of the water would be flowing west and out to the ocean. It wasn't heading toward San Diego and the city's filtration plant at Lake Murray in La Mesa. But it seems more logical that money was the bigger problem. Had there been enough in the coffers at that time, the flow of water out of Santa Ysabel Creek could have been directed in the right direction.

With an increase in population and more manufacturing demands by 1952, the decision was made to resume the dam's construction. By then, the legal and technical rights to the water had been resolved. Ramona Municipal Water District has access to the water in the lake, but the city of San Diego gets first choice. In a sense, San Diego takes the water from the top of the lake while Ramona's water comes off the bottom. When the second phase of construction began in 1952, pipelines were added to the plans to direct the water flow through Ramona to San Vicente Reservoir in Lakeside and on to Lake Murray. The city of San Diego's water department operates San Vicente and Lake Murray. Voters approved a $6.5 million bond to meet the construction costs for the second phase. The cost of the dam was $3 million, the tunnel was $1.75 million, engineering and miscellaneous costs were $250,000, and right-of-way costs were $1.5 million. Contractors for the dam were the Daley Corporation of San Diego and Bent Construction Company of Alhambra. The tunnel was built by Shea Construction, while the engineering was handled by Engineering Constructors Inc. and Harry L. Foster.

The dam was about one-fourth complete when it was abandoned in 1928. When construction started again in 1952, work picked up where it left off. Concrete had been poured for nine of the 17 arches and most of the wooden frames were still in position. The arches are called semi-ecological arches, curving between 18 buttresses, or abutments, which are the walls of the arches. Sutherland Dam is the last of the multiple-arched dams built in the county, according to reports published in local newspapers at that time and the 1953-54 issue of *Southwest Builder and Contractor* magazine. The arches rise 161 feet above the streambed and are 10 feet thick at the base and 40 inches at the top. A walkway across the top of the dam follows the contour of the arches. The dam measures 1,240 feet from side to side, including the spillway. The spillway is a lower section at the east end of the dam. It provides an outlet for the water when the level reaches 145 feet. The dam has spilled only a few times, in the 1970s and again in the 1990s. There are a few cracks in the dam, but they are considered safe, according to a former reservoir keeper at the dam. The cracks have only varied a couple thousandths of an inch over the years. An old scrapbook found several years ago at a yard sale in Ramona contained news clippings from when the dam opened for fishing in the summer of 1954. One news article stated: “The previously built buttresses were still covered with the old wooden frames. When the workers began removing these, thousands of bats flew out to the amazement of everyone.” It is a well-known fact that the lake, dam and road were named for John P. Sutherland, who was in real estate and insurance as well as growing fruits and grains in the vicinity where the lake is now located. One reason for why Sutherland became the namesake was that he had taken part in the preliminary studies for the dam. But local author Darrell Beck has it another way in his book, *On Memory's Back Trail*. He attributes his findings to James Jasper, an early-day newspaper publisher in Ramona and Julian. “A civil engineer named Post who was surveying the dam site and who was drenched in a rainstorm, stopped at Sutherland's office to record some papers,” Beck wrote. “Sutherland built a fire and gave Post some dry clothes while Post was waiting. As a result, the grateful surveyor said he would never forget this as Sutherland refused to take any pay

for helping him. “Thus, when the map was filed for record, Post had the title read, ‘Survey of Sutherland Dam Site,’ as a tribute to Sutherland's kind deed.*” The history for Sutherland Dam was researched at the Pioneer Room at the Escondido Library, and in the book* On Memory's Back Trail *by Darrell Beck.*

(Here’s a scary but necessary topic for discussion. Our entire infrastructure could use some re-thinking regarding designs to deal with Mother Nature)

Instead of Nuke Meltdown, Think Dam Rupture

Posted by Bruce Chapman on March 14, 2011, discoverynews.org

A 9.0 earthquake--the fifth worst on record--has devastated many communities in Japan and compromised countless health and commercial enterprises. We are seeing alarming coverage of the danger of nuclear plant damage. Nonetheless, every time the reporters get below the surface of the story they find that the actual prospects of nuclear contamination are small and limited. For one thing, since the Chernobyl accident in the Ukraine in 1986, new nuclear plants (especially in Japan) have included elaborate containment and other safety provisions. Damage to nuclear power in Japan will prove very expensive as a result of the quake and tsunami, but not in lives. Even in Chernobyl early predictions of thousands of deaths were soon discounted to 50, according to the International Atomic Energy Agency (IAEA), and most of those were from workers who went too close to the plant without adequate protection or, apparently, adequate knowledge.

So, yes, let us all agree that a 9.0 earthquake, even in a relatively well-prepared country like Japan, will yield many tragic stories and a horrendous cost. However, if you think the Japan quake and tsunami spell warnings against nuclear power, ask yourself these questions: How much better would gas plants or oil plants or coal plants have fared? How about hydroelectric dams in a 9.0 quake? How about solar panels and windmills in a 9.0 quake and after a tsunami with 25 feet water surge? The truth is, natural disasters are dangerous, even if one is prepared. The real lesson for America is to reconsider the building codes and emergency preparedness plans of our West Coast and other threatened areas. We are not in nearly as good shape on those scores as Japan was. But giving up on nuclear energy is not a sound conclusion to draw.

ONE YEAR AFTER FLOODS, STATE’S DAMS CRUMBLING

By Joe Joyce, WBZ-TV, March 15, 2011, boston.cbslocal.com

BOSTON (CBS) – “It was dark, torrential downpours and a 300 hundred year old dam that was about to go. It was a terrifying evening for all of us.” Freetown Selectwoman Jean Fox remembers the flooding rains one year ago when Forge Pond dam in Freetown almost gave way. “Given the weather situation, the high level of water…if this one goes, there is every potential for the following two to go as well, flooding the center of town as well as residences along the way.” These aging, crumbling dams dating as far back as the 1800’s are threatening lives and property across the state. Mark Ward is an administrator from the Town of Clinton. His town is suffering from the same problem. “They had a purpose years ago. They helped to power the mills. Now we are in a position where they need maintenance. They need repairs. People have forgotten about them.”

One of the main problems is ownership. Of the 3,000 dams in Massachusetts, 50% are privately owned…so it is not up to the state to maintain them. Some of the owners have passed away, while others cannot afford the upkeep. As the dams have lost their purpose and do not generate income, they have fallen into disrepair over the years. Are these becoming hazards in flooding

situations? “It is. It has become in our town,” says Mike Ward. With each passing major storm these aging dams are becoming more and more vulnerable leaving downstream communities very much at risk with not much being done about it simply because a lack of funding “There is no doubt that financing is a very significant issue for state and local agencies as well as private owners with regards to repairing these dams.” Ed Lambert is the commissioner of The Department of Conservation and Recreation who oversees about 1600 of these dams.
Related Links: State Auditor’s Dam Safety Report – this is the report noted yesterday that lists 100 municipally owned dams that are in poor or unsafe condition

DCR Office of Dam Safety
“We take dams and put them into different categories. The ones that we are most concerned about are the ones in high risk areas, those that will cause the greatest threat to life or property and are also in unsafe condition. We currently have about 59 dams which are in both those categories which are unsafe and poor conditions and can cause damage.” Lambert asserts, “We certainly do not want to take a wait and see approach when it comes to public safety. Of all the dams we oversee, we have located the owner in all but 35 of them. We plan to aggressively pursue and be in communication with these owners to help them in any repair or removal.” New legislation has recently been passed which now requires every dam in the state to be inspected every 2 years. Also new loan program will soon be presented to help give assistance to private owners for the removal or repair of their dams. Peter Richardson of the Boston Society of Civil Engineers says if something is not done soon, these dams have the potential to be ticking time bombs. “We are sitting on a lot of old dams and if we just leave them in the current condition and don’t evaluate them by either removing or repairing we are just asking for trouble.”

Japan dam failure renews focus on California dams

March 17, 2011 | Kendall Taggart, californiawatch.org

As Californians closely watch the catastrophe at Japan's nuclear plants, many engineers are also studying the failure of a dam in Japan’s northeast Fukushima prefecture. The extent of the damage is still unknown. "One dam failure is too many," said Nicholas Sitar, a professor of civil and environmental engineering at UC Berkeley. Experts have not yet determined what caused the dam to fail. The duration of ground shaking during the earthquake, which lasted roughly three minutes, may have contributed to the breach.

"In California we do not have the kind of tectonic setting that would produce extremely long durations," Sitar said. The Loma Prieta earthquake in 1989, for example, only lasted 10 seconds. Following the near-catastrophe during the 1971 San Fernando earthquake, when 80,000 people living downstream of the Lower San Fernando Dam were immediately ordered to evacuate, California revamped its seismic safety dam programs. "California probably has the safest inventory of dams in the world. Having said that the possibility of a dam failure is not zero. There is a process called structural Darwinism. An earthquake shakes a large area and if you miss something the earthquake finds it," said Raymond Seed, a professor of civil and environmental engineering at UC Berkeley. Many older dams in California are in need of seismic retrofitting. Several years ago, the Army Corps of Engineers learned that the 57-year-old Lake Isabella Dam in Kern County had serious problems. In addition to the danger of erosion and overflow in an extreme flood season, they learned that a fault underneath it previously thought to be inactive was actually active and could produce a strong earthquake.

A number of dams in Santa Clara County are running at diminished capacity, after restrictions were imposed by the California Division of the Safety of Dams. Seismic retrofitting of Santa Clara County's five dams, built between the 1930s and 1950s, could cost up to $150 million. "The problem is significant," Don Gage, chairman of the Santa Clara Valley Water District board, told Homeland Security News Wire. "You have to understand that these dams are 80 years old. The earthquake standards back then were not what they are today. We are going to have to shift dollars in our capital improvement programs from other projects to these dams." Since 2001, the Calaveras Dam has operated at 30 percent of capacity due to seismic concerns. The San Francisco Public Utilities Commission approved a $4.6 billion project* in January that will completely replace the existing seismically unsafe dam. After the failure of the St. Francis Dam in 1928, the Legislature created what is today called the Division of Safety of Dams under the California Department of Water Resources, which has tremendous regulatory authority over the construction and operation of dams. The Division of Safety of Dams holds the certificate for operation, meaning it can require a dam owner to lower the storage level if there are safety concerns. "We have the ultimate authority," said Bill Fraser, chief of the geology branch. "When you get a permit to build a house, it has to be built to a certain standard. But, unless you do make big changes, no one is going to make you upgrade anything. This is not the case for dams. Some of them pose a significant hazard to the public and the safety of dams is with the dam owner for life." The catastrophe in Japan makes clear the importance of strong regulations, Gov. Jerry Brown told reporters. "A lot of people say, 'Just get the government out of the way,'" he said. "Well, if you get 'em out of the way, people die."
*Correction: The Calaveras Dam Replacement Project is estimated to cost approximately $1 billion, not $4.6 billion. The Calaveras Dam project is part of a $4.6 billion regional Water System Improvement Program to upgrade aging pipelines, tunnels and reservoirs in the Hetch Hetchy regional water system.

Hydro:

(Oh my, worked on the original license application! In the hearing where I testified for the FPC (predecessor to FERC), the engineer testifying for Duke Power was Bill Lee. The licensing was a landmark case where future benefits from use of the reservoirs for Nuclear Power and pumped storage was used to justify the project economically, even though there was no guarantee that would happen, but fortunately it did (Oconee Nuclear plant and Bad Cr. PS).

Duke Energy Initiates Relicensing Process for Hydroelectric Stations

March 17, 2011, pennenergy.com, Source: Duke Energy

Duke Energy has filed two documents with the Federal Energy Regulatory Commission (FERC) that officially start the multi-year relicensing process for the two hydroelectric stations in the Keowee-Toxaway Hydroelectric Project (KT Project). Along with the Notice of Intent, Duke Energy also filed the Pre-Application Document that provides the FERC, federal and state agencies and other interested stakeholders with a wealth of information on the Keowee-Toxaway facilities and operations. It compiles existing information on environmental, cultural and natural resources, recreation and socioeconomics. It also identifies pertinent issues and defines potential studies that Duke Energy and stakeholders will undertake during relicensing. "Our emphasis has always been to operate these facilities in a way that balances the need for providing electricity for our customers while protecting water quality, water supply, recreation, aquatic life and wildlife habitat," said Jen Huff, relicensing project manager. "We remain committed to this same balance and look forward to working with stakeholders as we develop this new license application."

More than 30 agencies and organizations are represented in the relicensing teams that have been meeting since September 2009. The KT Project was originally licensed in 1966 for 50 years.

The current license expires in August 2016. The KT Project includes Keowee Hydroelectric Station and Lake Keowee, along with Jocassee Pumped Storage Station and Lake Jocassee. Together the two plants have an installed generating capacity of 868 megawatts. Lakes Jocassee and Keowee also support the operation of Oconee Nuclear Station and the Bad Creek Pumped Storage Project. The license application is scheduled to be submitted to the FERC by August 2014, and the next license term will be 30 to 50 years.

Senators Introduce Bipartisan Hydropower Improvement Act

WASHINGTON, D.C. – U.S. Sen. Lisa Murkowski, R-Alaska, yesterday introduced the Hydropower Improvement Act of 2011 (S. 629), which was co-sponsored by Sens. Begich (D-AK), Bingaman (D-NM), Cantwell (D-WA), Crapo (R-ID), Murray (D-WA), Risch (R-ID), Whitehouse (D-RI), and Wyden (D-OR).

The bill seeks to substantially increase the capacity and generation of our clean, renewable hydropower resources that will improve environmental quality and support local job creation and economic investment across the nation. Murkowski: "There is no question that hydropower is, and must continue to be, part of our energy solution, as it is the largest source of renewable electricity in the United States. Hydropower is certainly something we understand in my home state of Alaska, where hydro already supplies 24 percent of the state's electricity needs and over 200 promising sites for further hydropower development have been identified."

Begich: "If you want to be serious about renewable energy, hydropower has to be part of the discussion. Nowhere is that more true than Alaska, which holds over a third of our country's untapped hydropower. This legislation shows the way. We can develop fish-friendly hydro sites that lower ratepayers' costs. It's that simple."

Bingaman: "This bill allows us to highlight the potential for development of additional hydropower resources in an environmentally responsible way. It includes provisions that address the potential for hydropower development from smaller sources that are available, even in a dry state like New Mexico. Additionally, the bill emphasizes the need to improve efficiency at existing facilities and to tap into the hydropower potential at existing non-powered dams. I appreciate the ability to work with Senator Murkowski and the other members of the committee on this bipartisan bill."

Cantwell: "Emissions-free hydropower is the backbone of Washington's economy, providing around three quarters of our electricity, and keeping our rates among the lowest in the country. This bipartisan bill will help find ways to increase our nation's hydropower capacity without building new dams, improving air quality while creating new clean energy jobs."

Crapo: "As we try to shift quickly from a carbon-based economy, hydropower is one of the few forms of energy that can bridge the gap between where we are and where we want to be. That is why I am a proud sponsor of this legislation, which utilizes existing authorizations and does not add to the federal deficit."

Murray: "Hydropower is a critical energy resource in the Pacific Northwest, and we have one of the lowest carbon footprints here to prove it. I look forward to the working with my colleagues to pass the Hydropower Improvement Act, which will help increase the use of hydropower in an environmentally friendly way while creating new jobs and bringing additional clean energy online."

Risch: "Hydropower remains the cleanest and one of the most dependable, cost-effective domestic sources of energy. At a time when energy prices are climbing, it makes sense to do all we can to support and expand this segment of the industry. Streamlining the relicensing process and retrofitting existing structures for energy production is a no-brainer."

Whitehouse: "Rising oil prices, hurting countless Rhode Islanders, reinforce our need for renewable energy sources. Simplifying the process for developing small hydropower projects will help our country better harness the clean power of our natural resources."

Wyden: "The water already running through irrigation canals, water supply pipes and stored behind existing dams in Oregon and the rest of the country is literally an untapped energy resource. This bill will help irrigation districts, municipal water systems, and others recover clean, renewable electricity from hydroelectric projects with low environmental impact using existing water supplies. I look forward to working with Sen. Murkowski and the other co-sponsors of this legislation to move this bill forward in the Senate Energy Committee." Details of the Hydropower Improvement Act of 2011:

- Seeks to substantially increase our nation's hydropower capacity in an effort to expand clean power generation and create domestic jobs.
- Establishes a competitive grants program and directs the Energy Department to produce and implement a plan for the research, development and demonstration of increased hydropower capacity.
- Provides the Federal Energy Regulatory Commission with the authority to extend preliminary permit terms; to work with federal resource agencies to make the review process more efficient for conduit and small hydropower projects; and to explore a possible two-year licensing process for hydropower development at non-powered dams and closed loop pumped storage projects.
- Calls for studies on the resource development at Bureau of Reclamation facilities and in conduit projects, as well as on suitable pumped storage locations.
- Importantly, by utilizing existing authorizations, the bill does not represent new funding.

Environment

(If the article wasn't so political, it might be worthwhile)

FRANKENFISH PHOBIA

By Timothy Egan, opinionator.blogs.nytimes.com, March 17, 2011

Frankenfish is the big one

At a time when the shell of the earth has cracked and the ocean heaved a mortal wave upon a shore of vulnerable nuclear plants, a small miracle is playing out in the biggest river of the American West. Spring Chinook salmon, the alpinists of the maritime world, are following biological imperative and climbing their way up the Columbia to spawn and die. They are returning from a life in the distant Pacific, swimming home to a grave in gravel, some going almost 1,000 river miles inland. Chinook are the largest salmon, easily the most tasty, and perhaps the most imperiled. Given the demand for salmon, it is no surprise that a Frankenfish has emerged — a lab-created hybrid that could soon become the first genetically engineered animal approved by the Food and Drug Administration for human consumption. The company behind these manufactured fish promises that they will not affect ones from an ancient and wild gene pool.

Here we go again. It is human to think we can trick nature, or do it one better. It is human to think a tsunami would never knock out a nuclear plant, a hurricane would never bury a city and a deepwater oil drill would never poison a huge body of water. In the gods of technology we trust. Until they fail. And then, we feel helpless and small and wonder what they — or we — were thinking. The fate of wild salmon and a panic over power plants that no longer answer to human commands would not seem to be inter-linked. But they are, in the belief that the parts of the world that have been fouled, or found lacking, can be engineered to our standards — without consequence. You see this attitude in the denial caucus of Congress, perhaps now a majority of Republicans in power, who say, in the face of all evidence to the contrary, that climate change is a hoax. AquaBounty Technologies The "AquAdvantage Salmon," in the background, with a non-transgenic Atlantic salmon of the same age. The newfangled fish comes from AquaBounty Technologies, a company in New England, where many species of the water world are now extinct. They have patented an "AquAdvantage Salmon," a sterile Atlantic female with a Chinook gene that can "grow to market size in half the time of conventional salmon," says the company.

Consumer groups, and a bipartisan cluster of Congress that has not forsaken reason, are fighting fast-track Food and Drug Administration approval. They are also insisting that if the Frankenfish comes to market, the new salmon would have to be labeled transgenic (being or used to produce an organism or cell of one species into which one or more genes of another species have been incorporated <a *transgenic* mouse> <*transgenic* crops>; *also*: produced by or consisting of transgenic plants or animals) — over the company's objections. Wild salmon require so much work: they need clean water, a bountiful ocean and restraint to ensure that they aren't fished out of existence. Vigilance, and a small amount of sacrifice — what a drag. The alternative, some feel, is to create something under human control. What AquaBounty would do is to take the Chinook gene and splice it into a farm-raised Atlantic. A third fish, an ocean pout, which looks like an eel on a bad fin day, would provide the genetic code that allows AquAdvantage Salmon to grow so fast. Voila: fast fish from the factory, without the hassle of habitat preservation.

I'm not reflexively afraid of living better through chemistry. Genetically modified corn and soybeans have been around for some time. If we can grow food and fiber with less demand on water and nutrients, that's often worth pursuing. But the Frankenfish is a much bigger step, and not just because it opens the door to federal approval of all kinds of freaks from the farm. Splice a breast-heavy chicken with a pellet-loving pig and you're into some seriously modified "other white meat." With wild salmon, many people wonder what all the fuss is about. In the Northwest, salmon is our symbol, even if we've so mismanaged their spawning grounds with dams and overfishing. Where once there were perhaps 20 million salmon returning to the Columbia, that number now is barely a million in some years. Alaska has done much better. They have the world's largest wild salmon runs because they've protected habitats, kept water quality fairly good and regulated fishermen. These new salmon, AquaBounty says in its pleadings before the government, will not harm the ones handed down by the ages. There is "virtually no possibility of escape and interaction with the wild population," company officials say. Why do I not feel reassured? The last quarter century has bred skepticism into me, beginning with a personal experience in 1986. We were in Italy, my wife pregnant with our first child, when the Chernobyl nuclear plant blew. The Soviets lied, and covered up the accident. But what soon became clear — that a runaway reactor had spewed more than 400 times the amount of radioactivity into the environment than that released by the atomic bomb over Hiroshima — made us tremble. For days, along with the rest of Europe, we watched the pattern of a huge radioactive plume, as officials warned that pregnant women were at particularly high risk. Luckily, the radioactive cloud never came our way. But given the choice between the hard work of trying to respect the laws of nature, and the engineered solution, I'll take the seasonal miracle of wild salmon — and try to learn something about humility.