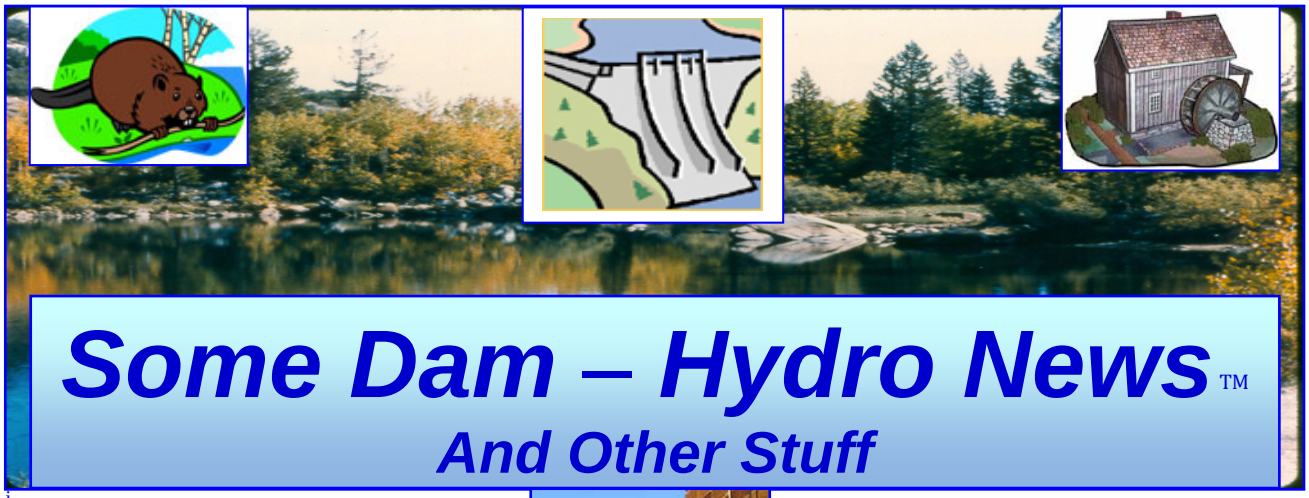
8/03/2012



Some Dam – Hydro News™

And Other Stuff

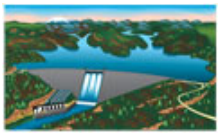
i

Quote of Note:

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

Ron's wine pick of the week: **Ghost Pines Winemaker's Red Blend 2009**

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



Dams:

(If you had a real dam to start with, you wouldn't be in this fix! Repairing something that doesn't resemble a dam leaves you with something that's not much of a dam, huh!)

Frustrations growing over pace of fixing Hope Mills dam

Jul 26, 2012, By Rodger Mullen Staff writer, fayobserver.com

Hope Mills, NC - In February, the town Board of Commissioners was told that repairs on the failed Hope Mills Lake dam should start in August. Town officials now agree that deadline will not be met, but they are not willing to say when work will start. "As far as putting a specific date to it, that's hard to do right now," said Mayor Jackie Warner. "I don't think anybody can say it's this amount of time or that amount of time." The situation has frustrated and angered some residents. "At this point in the game, I'm becoming less hopeful than I have all these years," said Pat Hall, secretary of the Friends of Hope Mills Lake. "I'm almost to the point where I'm saying the citizens of Hope Mills have been scammed."

The town has been without its centerpiece lake since the 2-year-old, $14 million dam failed in June 2010. In its place is an empty lake bed with overgrown vegetation surrounded by fencing and warning signs. The town and the firms that built and designed the dam have been working on the stabilization of the remaining structure and a plan for its repair. Five months ago, Kevin Lugo of the engineering firm MBP presented an update on the project to the town board. MBP was hired by the town to oversee work on the dam. Lugo said at the time that work could begin in late August after the repair plan was reviewed by the town, the engineering firms and state agencies. Completion was scheduled for October 2013, although Lugo said the schedule may need to be adjusted depending on weather and the permitting process. The repair project would utilize most of the remaining structure, Lugo said. He said the repaired dam would look much the same as it did before the breach. A plan presented to the board last year called for building a cut-off wall, repairing spillway slabs, filling gaps beneath the structure, installing a set of valves and replacing most of a fish ladder. Lugo could not be reached for comment this week. The plan has not come before the town board. After the board approves it, the plan will have to be submitted to state dam safety officials for their approval. Town Manager John Ellis said the completed plans are in the hands of McKim and Creed, one of the engineering firms that designed and built the dam.

Marianne Boucher, corporate communications manager with McKim and Creed, confirmed that the firm has received the plans. "We have received (the town staff's) final comments on the plan and we are in the process of reviewing those comments with the town's consultant this week," Boucher said. Boucher said she did not know when McKim and Creed's review would be completed. State dam safety

engineer Steve McEvoy said he had expected to have seen a plan by now. "I don't have a date yet as to when that will occur," he said. McEvoy said the stabilization that was done on the dam has a "design life" of two or three years. The stabilization plan was approved in March 2011, which means it could be good until March 2014. Ideally, McEvoy said, the repairs should be completed before then.

"We were willing to give the town some leeway in that design life, because you can't say the day after the deadline it's going to fall apart," McEvoy said. "It's not like an expiration date." McEvoy said the state would have different options if the repair work is not completed by the end of the stabilization design life. "We could go in and, first of all, ask for studies that would better define the remaining design life," McEvoy said. "If we felt there was a threat, we may take action at that time. We could write a dam safety order that would require the dam to be removed or repaired in not less than 90 days." Nick Herman, of the Brough Law Firm, is the lead counsel for Hope Mills on the dam issue. At recent Board of Commissioners meetings, lawyers with the firm have met with commissioners behind closed doors. Commissioners have not commented on what was discussed in those meetings, and the minutes have been sealed. "It's sort of classic attorney advice and counsel with a client," Herman said. Herman noted that the board passed resolutions earlier this year asking their lawyers to deal with the issue "expeditiously." The commissioners gave the Brough Law Firm permission to consult with outside counsel on possible litigation on the dam issue. "There have been, since that time, ongoing, extensive discussions among the parties about (the dam) and how to resolve these issues without litigation," Herman said. Warner said she believes the dam can be repaired without cost to the town, other than lawyer and consultant fees. She said she is hopeful the town will not have to go to court over the matter. In its most recent budget, the town doubled fees on Internet gambling machines and stipulated that the money be placed in a fund set aside for possible litigation on the dam. "As far as the cost of the repair of the dam, that's not on our agenda," Warner said. "We paid for it one time." Warner said she understands the frustration of some residents about the pace of the project. But she said it's important to go through the process cautiously. "We can't rush this, because we want this to be the last time we have to go through this," she said. Warner said she expects the board and the public will get an update on the dam at the board's Aug. 6 meeting.

Friends of Hope Mills Lake was formed after the lake's 80-year-old earthen dam failed in heavy rains on Memorial Day weekend in 2003. The group raised money and support to replace the old dam. Friends secretary Pat Hall said the group holds annual meetings that are attended by between 50 and 100 people. Warner and a couple of members of the Board of Commissioners attended a meeting last month, Hall said. Hall said the group has been sometimes frustrated at the amount of information it has been given on the project. "I think we have been patient," Hall said. "We have been inquiring, and a lot of that time we just get blank stares, but we keep coming back." Helen Jensen is a Friends of Hope Mills Lake member who found her own way to protest the situation. Wednesday, Jensen picketed for about an hour near the lake bed, holding a sign that read, "Fix Hope Mills $14 Million Dam" on one side and "Repair Hope Mills Dam" on the other. Jensen said she was upset that so much money went to pay for a dam on a lake that isn't there anymore. She said it was a personal protest and was not done on behalf of the Friends or any other group. "There were lots of horns honking, lots of lights flashing," Jensen said of her protest. "People said, 'You go!' and stuff like that. It was interesting." Hall said she and other group members remain committed to the dam's repair and the lake's return. "It's not just property values, it's the tranquility and the beauty the lake gives us," she said. "It's an asset, it's a value, and I think we owe it to our next generation to preserve it."

Idaho Water Dept. turns down Bear River dam permit

By Rebecca Boone, Associated Press, spokesman.com, July 27, 2012

Boise, Idaho (AP) — The Idaho Department of Water Resources rejected a proposal to build a dam on the Bear River. The Twin Lakes Canal Co. filed an application with the agency in 2007 to build a 700-foot-long, 108-foot-high dam in Oneida Narrows near Preston in eastern Idaho. The proposed dam would have created a reservoir with a surface area spanning more than half a

mile. The river already has three hydroelectric dams operated by PacifiCorp Energy, and the proposal for a fourth attracted vigorous opposition from anglers, recreationists and environmentalists. Andrea Santarsiere of the Greater Yellowstone Coalition said the conservation group was happy with the decision involving the last free-flowing section of the Bear River that's accessible to the public. “We commend the department for recognizing that keeping the river free-flowing has benefits to the imperiled native Bonneville cutthroat trout, wildlife, and recreational use. All of that would have been lost if the dam went forward,” Santarsiere said.

Officials with the Twin Lakes Canal Co. didn't immediately return a call from The Associated Press seeking comment. The company wanted to build the dam because it typically doesn't have enough water to irrigate all the land of its shareholders. In the written decision denying the permit, Idaho Water Resources Department officials said the public has an interest in augmenting the water supply to farmers, but the benefits of building the dam don't outweigh the benefits of keeping the river as is. The river is a highly used fishery, department officials noted, and many of the animal species in the region rely on the water and riparian areas for food, cover and nesting. The river is home to the Bonneville cutthroat trout, one of 14 cutthroat species in the West. The trout isn't listed as a threatened or endangered species, but in 2006 the Idaho Department of Fish and Game put in place more restrictive fishing regulations to help protect it in the Bear River. The proposed reservoir would also lead to evaporation of some water, which would adversely affect the water rights of people downstream, the department found. PacifiCorp Energy initially threw its support behind the proposed dam but backed away from the project after determining a new dam would conflict with its existing hydroelectric license. The Bear River drains an area of 6,900 square miles in southwestern Wyoming, northern Utah and southeastern Idaho, carrying about a million acre-feet of water a year into the Great Salt Lake.

(Jail and fines for building illegal dams. Some people have a head of stone. In Oregon, you need a permit for almost everything. It’s a surprise they allow rain barrels.)

Jackson County man sentenced for illegal water diversion, ordered to breach dams

By Eric Mortenson, The Oregonian, July 27, 2012, oregonlive.com

A Jackson County man with a 10-year history of illegally diverting water with homemade dams was sentenced this week to 30 days in jail and fined $1,500. Gary A. Harrington was convicted earlier this month of nine counts of unauthorized water use. Under Oregon law, all water is publicly owned and a permit is required to divert or store it for personal use. State Water Resources Department officials said Harrington has three dams across channels that cross his property outside of Medford and feed into Big Butte Creek. The creek is a tributary of the Rogue River.

Two of the dams stand about 10 feet high and the third is about 20 feet tall. Harrington stocked the reservoirs that formed behind the dams with trout and bluegill, built boat docks and used the ponds for fishing. State officials estimated 40 acre-feet of water collected behind the dams, enough to fill nearly 20 Olympic-sized swimming pools. Officials are uncertain whether Harrington built the dams himself, ordered their construction, or if they were on the property when he bought it. At any rate, it is illegal to divert and store waters of the state without a permit. Tom Paul, deputy director of the Water Resources Department, said Harrington would not have been granted a permit even if he'd applied for one, because the city of Medford has an existing water right to the Big Butte flow. Harrington twice was ordered to drain the reservoirs and did so in 2002 and 2008, but refilled them each time, according to a Water Resources Department news release. At Harrington's sentencing this month, a judge ordered the headgates kept open with chains and locks, and ordered the dams to be breached after the water drains. In addition to the fine and jail time, Harrington was placed on probation for three years. He is scheduled to begin his jail term in August, and water officials are watching to make sure Harrington complies with the terms of his sentencing, Paul said. Harrington was cited and fined in 2002, and in 2008 pleaded guilty to one count of unauthorized water use. The day after his probation expired, however, he closed the headgates and refilled the reservoirs, Paul said. Oregonians may collect water that

gathers on impervious surfaces such as a parking lot, or divert roof runoff to rain barrels, but otherwise need a permit. Paul said Harrington appears to have political beliefs that are in opposition to state law. Harrington represented himself at his Jackson County Circuit Court trial this month. "I don't think he necessarily believed what we were telling him," Paul said.

(Dam nonsense. I guess this is important for photographers. Who pays for this stuff and why is this article in a paper from India?)

Grand Coulee Dam to get new laser light show

By K.C. Mehaffey, July 27th 2012, india.nydailynews.com


Current Laser show

July 27--GRAND COULEE -- After 25 years, Grand Coulee Dam will get a brand new laser light show next summer. The new show will include a new story about the dam's impact on people, local communities and the nation's energy needs, and new laser equipment to tell that story. Officials say the public will notice brighter colors and better sound. The U.S. Bureau of Reclamation will be selecting representatives from various groups, including American Indian tribes, irrigators, salmon biologists and others, to talk about Grand Coulee Dam and its influence on North Central Washington. "The script will be revised based on the input from these folks," said John Redding, spokesman for the Reclamation bureau. He said that group has not yet been selected.

The agency has awarded a $1.6 million contract to LumaLaser of Eugene, Ore., to put together the new show, with funding from the Bonneville Power Administration. The modernized system will use less electricity, saving more than 75 percent of the current laser show's use, Redding said. All equipment related to the show will be upgraded, including the sound system. The effort to replace the aging laser light show will begin late this summer, and should be in place for next summer's visitors. "The reason we're replacing it is, it's got outdated information in it, and some of it is now just inaccurate. It needs to be changed," said Lynn Brougher, the Bureau's spokeswoman at Grand Coulee Dam. She said some people have told the agency they don't want the show changed. "We have a lot of folks that really like the show we have now," she said. This summer may be the last chance to see the old show, she said. The agency hopes the new laser light show will be ready when next summer's showings begin over the Memorial Day Weekend. The free show can be seen from several locations in the Grand Coulee area, and is shown each night from late May through late September. Grand Coulee Dam was completed in 1941, and the current laser light show has been shown to thousands of visitors every summer since 1989, a news release from Reclamation said. In that time, it has experienced many technical and maintenance problems.

(The dam is 101 years old)

Las Vegas dam leaks, could fail

City water supply loses 60 million gallons a year

krqe.com, 27 Jul 2012

Las Vegas, N.M. (AP) - A century-old dam in northern New Mexico that holds a city's water supply is riddled with holes and on the brink of failure. About 60 million gallons of water is leaking through the 101-year-old Peterson Dam in Las Vegas every year. Consultants have recommended that the dam be raised to provide the city with 1,200 acre-feet, or more than 391 million gallons, of additional storage, a project estimated at $20 million. Its current capacity is 211 acre-feet, or 68 million gallons - a small fraction of the water the city uses in a year. The average

household in Las Vegas uses 48,000 gallons of water a year. Gov. Susana Martinez toured the dam this week, saying she would make the dam's repair a priority in the next legislative session with a proposed $2 million in funding, the Las Vegas Optic reported. "The people of Las Vegas have to start putting pressure on their legislators to do the right thing," she said.

Peterson Dam is a symbol of the city's dilapidated water infrastructure, but officials say the entire system needs an overhaul. The city already is planning stark water rate increases to fund improvement projects that go beyond the dam and could cost $120 million over 40 years.
Utilities director Ken Garcia said the rates likely will go up 26 percent in each of the next three years, following by a 7 percent hike in the 2015-16 fiscal year. The increase would allow the city to tap into $45 million in bond funding for the projects. Garcia told Martinez that the proposed increases could be lessened if the city secures $10 million in state and federal funding.
Rebuilding the dam will take at least two years. In the meantime, the city will undergo a project in October to recapture most of the leaking water and pump it back into the water system. The city and the federal government have reached an agreement to let 5 percent of the water leak through the dam to maintain a wetland that serves as a habitat for the Southwestern willow flycatcher.

Hydro:

Press Release July 19, 2012

BOEM and FERC Revise Guidelines for Development of Wave Energy and Ocean Current Technologies in U.S. Waters

Washington D.C. — The Bureau of Ocean Energy Management (BOEM) and the Federal Energy Regulatory Commission (FERC) today announced the availability of revised guidelines for potential marine hydrokinetic energy developers interested in pursuing technology testing and commercial development activities on the nation's Outer Continental Shelf (OCS). The revisions promote further clarity for the regulatory process and facilitate a more efficient process in authorizing marine hydrokinetic (e.g., energy developed from waves and ocean currents) research and testing activities. The revised guidelines, which were announced today by the two agencies at the HydroVision International conference in Louisville, Kentucky, are available at http://www.ferc.gov/industries//hydropower/gen-info/licensing/hydrokinetics/pdf/mms080309.pdf.

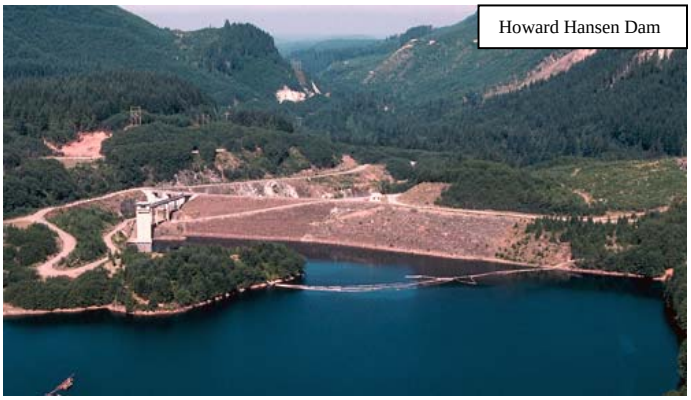
"These revised guidelines strengthen opportunities for testing wave energy and ocean current energy technologies on the OCS and reflect our ongoing collaboration with FERC to enhance efficiencies under our respective authorities," said BOEM Director Tommy Beaudreau. "We will continue to work closely with FERC to provide a clearly defined path forward for the marine hydrokinetic industry in support of the Administration's 'All-of-the-Above' energy strategy." "FERC is committed to improving the tools and information we provide to those interested in developing hydrokinetic technologies in the U.S. as we gain valuable experience. These revised guidelines represent such progress and provide a streamlined process that will accelerate the development of these technologies on the OCS," said Jeff Wright, Director of FERC's Office of Energy Projects. "These guidelines were developed in a spirit of full partnership that we look forward to continuing into the future."

The revised guidelines released today replace existing guidelines that were issued in 2009 by BOEM's predecessor, the Minerals Management Service (MMS), and FERC. These guidelines provide information about respective responsibilities of each agency and how best to navigate the process of obtaining a marine hydrokinetic lease and license on the OCS. They cover topics such as: provisions for obtaining leases and licenses, fee structures, and hybrid (e.g., wind and marine hydrokinetic) project considerations. The guidelines were developed as part of a Memorandum of Understanding between the Department of the Interior and FERC. On April 9, 2009, Interior Secretary Ken Salazar and FERC Chairman Jon Wellinghoff signed a Memorandum of Understanding to clarify jurisdictional understandings regarding renewable energy development on the OCS in order to develop a coherent, streamlined process that would help accelerate the development of offshore marine hydrokinetic energy projects. The agreement established a cohesive, streamlined process to lease, license and regulate all renewable energy development activities on the OCS, including marine hydrokinetic sources (wave and ocean current). Under the Memorandum, BOEM and FERC will coordinate to ensure that marine hydrokinetic projects meet the public interest, including the adequate protection, mitigation, and enhancement of fish, wildlife, and marine resources and other beneficial public uses. Both agencies may inspect authorized marine hydrokinetic projects on the Outer Continental Shelf to ensure compliance with the terms of leases, easements, rights-of-way, licenses or exemptions.
The Memorandum of Understanding is available online at the following url:
http://www.ferc.gov/legal/maj-ord-reg/mou/mou-doi.pdf.
The complete Guidelines are at:
http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTIwNzI1LjkzMDY5MTEmbWVzc2FnZWlkPU1EQi1QUkQtQlVMLTIwMTIwNzI1LjkzMDY5MTEmZGF0YWJhc2VpZD0xMDAxJnNlcmlhbD0xNzA5MTYzNCZlbWFpbGlkPXJjOTA0QHZlcml6b24ubmV0JnVzZXJpZD1yYzkwNEB2ZXJpem9uLm5ldCZmbD0mZXh0cmE9TXVsdGl2YXJpYXRlSWQ9JiYm&&&122&&&http://www.ferc.gov/industries/hydropower/gen-info/licensing/hydrokinetics/pdf/mms080309.pdf

(This may be old news, but it needs repeating!)

Dams hold potential for new, affordable electricity

July 24, 2012, olympiabusinesswatch.com


Howard Hansen Dam

Rather than remove dams, as some folks continue to advocate, how about converting some existing dams into electricity producers? It might come as a surprise to residents of the Pacific Northwest, who rely heavily on hydropower, but only 3 percent of the nation's 80,000 dams are designed to produce electricity. However, 70 percent of the non-powered dams have the potential to produce electricity. A new report (PDF) from the U.S. Department of Energy claims that converting a small fraction of those dams into electricity generators could be an affordable way to add a large amount of renewable energy to America's grid at a relatively low price. Most of that potential is concentrated in just 100 dams. "The abundance, cost, and environmental favorability of [non-powered dams], combined with the reliability and predictability of hydropower, make these dams a highly attractive source for expanding the nation's renewable energy supply," according to the DOE report. Officials examined more than 54,000 of the 80,000-plus non-power generating dams and determined they have the potential to add up to 12,000 megawatts of new renewable capacity to the system. Washington has 10 of them, according to the Spokesman-Review, including the Howard Hanson Dam in King County. According to the study, it has the potential to generate 26 megawatts, or enough electricity to power 26,000 homes. Lawmakers are interested in the potential. In a

unanimous, bipartisan 372-0 vote, the U.S. House of Representatives recently passed the Hydropower Regulatory Efficiency Act. If passed by the Senate, the bill would expedite the licensing of projects that retrofit existing dams and pipelines for energy generation. U.S. Rep. Cathy McMorris Rodgers, R-Wash., co-authored the legislation. While the 10 non-generating dams in Washington wouldn't rival the Grand Coulee Dam's 6,800 megawatt electricity generation that AWB President Don Brunell mentioned in a weekly column this spring, converting these dams for other purposes would provide an "environmentally sound and logical" method to produce clean energy.

First U.S. Tidal Power Project Set to Launch in Maine

By Nathanael Greene, NRDC, July 24, 2012, renewableenergyworld.com

The ocean is a tremendous bank of energy. Covering more than two-thirds of our planet, the amount of energy embodied in the ocean's tides, currents, and waves, not to mention temperature and salinity gradients, could power the world — if we were able to commercialize the technology to harness its renewable power. While technologies harnessing energy from tides and currents have been domestically discussed for decades, no project has ever reached commercial development, and been connected to the grid in the United States. In Eastport, Maine, however, this will soon change with the launch of the Ocean Renewable Power Company (ORPC) TidGen Cobscook Bay tidal energy project. Harnessing the power of the massive tidal shifts in Cobscook Bay, an inlet connected to the much larger Bay of Fundy, the project is the first in the U.S. to receive a FERC license, negotiate a power purchase agreement, and install and operate a power-producing tidal generator. As clean energy advocates, we are excited to highlight new, innovative projects that inject clean power and jobs into communities, deploy American ingenuity and know-how and utilize smart clean energy policies. The DOE invested $10 million in the project as part of its larger water power program that aims to better understand the environmental impacts that come with harnessing ocean energy, as well as refine, and make more cost-effective, the technologies that do so.

In addition to harnessing local sources of energy, the project apparently:

- Harnessed local knowledge and workers to plan the project. Understanding of Maine's tidal flows and currents, and marine geology was critical in project planning and implementation, and 50 and 70 local workers, including local fisherman facing underemployment from declining fish stocks, as well as others with a Maine maritime background were hired to help complete the project.
- Sourced components from local manufacturers. Beyond the locals working to plan and construct the project, the turbines and generators were also New England-sourced. Bristol, Rhode Island-based Hall Spars, a former yacht mast manufacturing company, supplied the turbines, while Massachusetts-based Comprehensive Power made the generator.

At the same time, as environmental advocates, NRDC wants to make sure the right approach is taken to harness the clean renewable energy of ocean tides, while protecting sensitive marine life and minimizing conflict with other uses of the ocean.
In any ocean energy initiative, there are several elements that we expect to see in a properly developed project:

- **Stakeholder outreach:** any new industrial ocean renewable energy projects must take into account the interest and expertise of stakeholders and citizens.
- **Finding the right location:** the project location needs to be sufficient for power generation, while minimizing environmental impacts and avoiding conflicts with other ocean uses.
- **Safe technology:** the technology should be designed to protect birds, fish, ocean wildlife and the sea floor.
- **Phased project development with robust monitoring and adaptation:** given the innovative nature of ocean energy technology, scaling up a project gradually, with monitoring of environmental impacts from the start, can help gather the knowledge

needed to reduce such impacts and inform adaptation of the project design. Based on available information, steps taken by OPRC to date — such as its use of slow moving, blunt blade turbines, its phased implementation plan and its commitment to ongoing monitoring — are encouraging.

Ultimately, if the OPRC project is successful, it could pave the way for ocean tidal power to play a more prominent role in the nation's renewable energy industry. Tidal power could theoretically generate 250 TWh of energy per year in the U.S., enough to provide power to tens of millions of homes. With careful planning to protect the marine environment, test projects like these can pave the way for clean, renewable energy resources to meet this potential, while creating jobs, investment opportunities, and a multitude of environmental benefits.

Environment:

(When you look at the photo below, you get the idea re who's going to win this battle! On the other side, imagine paying up to $1.05 per kWh for electricity.)

Classic Alaska resource battle brewing over Wood-Tikchik Hydropower

Craig Medred | Jul 25, 2012, alaskadispatch.com

West End Chikuminuk Lake

Alaska Commissioner of Natural Resources Dan Sullivan, a man known for touting energy development in Alaska, has blocked an Anchorage-based electric co-op from trying to tap hydropower in the largest state park in the United States. Nuvista Light and Electric Cooperative Inc., a company with ties to the Calista Corp., wanted to explore development of Chikuminuk Lake in the northern portion of the 1.6-million-acre Wood-Tikchik State Park. Calista is an Alaska Native regional corporation formed under the terms of the Alaska Native Claims Settlement Act. Based in Anchorage, it has 17,300 shareholders, many of whom still live in remote communities in Western Alaska. The regional hub there, Bethel, is starved for an economical power source. The Alaska Legislature this year appropriated $17.63 million to Nuvista to begin studies on engineering, permitting and licensing for the Chikuminuk project, but Alaska Gov. Sean Parnel in June trimmed the funding to $10 million. Meanwhile, opposition to the project has started to materialize.

Dan Dunaway of Dillingham, one of the funding members of Nushagak-Mulchatna Wood-Tikchik Land Trust, noted in a letter to Parnell earlier this year that two sites for hydroelectric projects -- Lake Elva and Grant Lake -- were identified and set aside in the initial park legislation more than three decades back. "There is significant opposition to even those projects," he said. "To add a third hydroelectric project in an unauthorized site in the Park severely calls into question the state's commitment to create and maintain protected areas for the long term. At minimum, if the Chikuminuk site is studied or considered for development, then the total concept and impacts of hydroelectric development within the Park should be considered as a package...." Dunaway and others in Western Alaska had pushed the state Department of Natural Resources hard to deny Nuvista's permit. No matter how much money the Legislature might be willing to throw at the

project, they argued, the law is the law. State Parks Director Ben Ellis, in the end, agreed with them. He ruled the Natural Resources Department lacks the authority to grant a permit. Before that can happen, he said, the Legislature will have to amend the law. Nuvista executive director Elaine Brown said Monday the co-op has no plans to appeal. It's headed for the Legislature for a fix. "We're not going to appeal it this year," she said Monday. "We were planning to go to the Legislature. Now it is mandatory to go the Legislature. At the time they gave us the money, the topic was brought up. So the Legislature knows."

Battle over parks management

Thus the stage is set for what could be a landmark battle over how the 49th state manages state parks, a legacy from when Alaska leaned left instead of right. Wood-Tikchik was established in 1978 during the term of environmentalist Jay Hammond, possibly the most left-leaning Republican governor in U.S. history. It was Hammond who helped shepherd into law a share-the-wealth scheme called the Alaska Permanent Fund. A wholly socialist idea, it gave and continues to give all Alaska residents -- even those who arrived in the state only a year ago -- their "share" of the oil revenue from Alaska's North Slope. The share is usually over $1,000 a year. Eight years earlier, under Democratic Gov. Bill Egan, the Legislature had created the half-million-acre Chugach State Park sprawling across the mountains above Anchorage. The Chugach is today the third-largest state park in the nation. It is followed closely in size by the 400,000-acre Kachemak Bay State Park at the end of the Kenai Peninsula, created in 1970 under Egan, and the 325,000-acre Denali State Park on the south slope of the Alaska Range overlooking 20,320-foot Mount McKinley, also known to some as Denali. First designated in 1970, Denali was significantly expanded in 1976 when Hammond was governor. A lot has changed in Alaska since then. The state began a slide to the right in the 1990s, and by early in the new millennium had become a rock-rib conservative state. Along the way, rural Alaska grew from a place where people still lived almost wholly off the land to a place integrating into the cash economy and the luxuries of modern life -- the vast majority of which require power. Like the computer on which you are reading this, and the television and the refrigerator and the lights and the water pump and -- even if your home is heated by natural gas -- the ignition system and blower for your furnace, and much more require electricity. Costs for both power and home-heating fuel have risen to astronomical levels over the years in rural Alaska, as Nuvista has noted repeatedly as it probes hydropower opportunities in Wood-Tikchik.

"Residents of the region have the highest energy costs in the nation at $7 to $12 per gallon for diesel heating fuel; and diesel generated electricity is delivered at a cost ranging from $0.58 to $1.05 per kilowatt hour. In less than five years the percentage of income that must be utilized for home heating and electricity has risen from 40 percent total income to over 60 to 75 percent total family income," the Nuvista website notes. "Since 1975, more than 30 reports and studies have been written by various agencies documenting the energy options and needs in the Yukon-Kuskokwim (river delta) Region." None of these plans have produced cheap power in an area where conflicts between the needs of tomorrow and the preservation of the wilderness of today meet head on. Wood-Tikchik is an iconic park. Nationally unrivaled, it sprawls west from the tundra of the Nushagak River lowlands on the edge of the Interior to the Wood River Mountains near Bristol Bay. From north to south, more than a half-dozen major lakes -- the biggest up to 45 miles long -- stair-step their way down to the community of Dillingham on the edge of the famous fishing bay, about 325 miles southwest of Anchorage. Nestled between towering peaks and high-alpine valleys, many of the lakes have been accurately described as "fjord like." Rich with fish that help nourish uplands that support healthy populations of grizzly bears, wolves, caribou and moose, the park was set aside by a conservation-minded Alaska Legislature to protect wild resources. Nuvista is hoping an energy-minded Legislature will see things differently. "We continue on with everything we have planned for the year," Brown said. "The only part of our project that was delayed until next year was the geotechnical work ... We still have all of our mapping," cultural studies and more to complete. "We're working on our study plans to deal with FERC," the Federal Energy Regulatory Commission, she said. Brown is optimistic the Legislature will decide that this time development trumps conservation. Dunaway, meanwhile, is fearful of exactly the same thing.

(Mother Nature and the ocean are more resilient than some people thought, so what do we really know? See video at: http://www.nwcn.com/home/?fId=163948316&fPath=/news/local&fDomain=10212)

Silt from Elwha River dam removal doesn't hang around, say scientists

by Gary Chittim / King 5 News, NWCN.com, July 26, 2012

Before the historic removal of two dams on the Elwha River, scientists studied all the plant and animal species they could. They wanted to know how a giant plume of silt from the removal project would affect them. Scientists returned to the Elwha Thursday to find out.

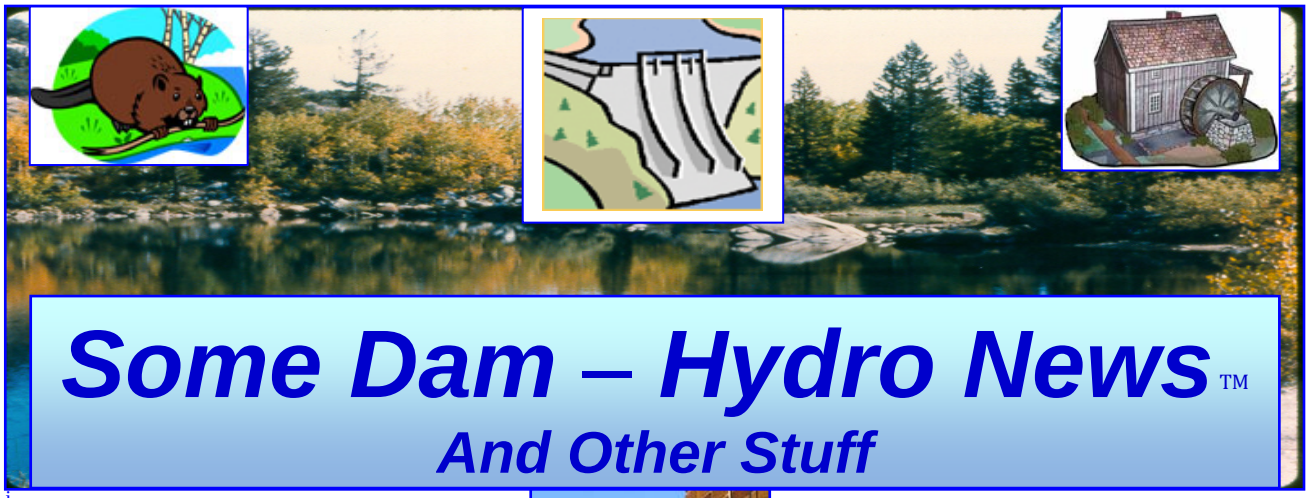
Port Angeles, WA -- As EPA diver Sean Sheldrake prepares to step into the sediment-filled Strait of Juan de Fuca, he knows the risks that await him. "Now that the dams have been removed, there is no more 50 feet of horizontal visibility. It's really where the rubber meets the road, as far as this study and dam's removal," said Sheldrake, whose team is assisting divers and scientists from the U.S. Geological Survey. "We're going to stay close together." Sheldrake was also here last year helping the USGS explore and document the bottom of the strait where the Elwha River flows out. Since then, the dam removal has sent a massive plume of silt downriver and into the strait. The USGS has spent years studying the area so it can compare and contrast the ecosystem before and after the dam removal. After 40 minutes under the 45 degree temperature water, the dive team surfaces with video and a surprise. They say the thick cloud of silt is there, but it seems to be floating above the sea floor and is being whisked away by the heavy currents.

USGS research ecologist Jeffrey Duda said early indications are the ecosystem is naturally designed to handle this type to event and it bodes well for the months and years ahead as the Elwha returns to a free flowing river. He warns heavier sediment will flow down the river later, but for now, the largest dam removal project in U.S. history is not causing the kind of damage many experts expected.

See also NYT Article: http://opinionator.blogs.nytimes.com/2012/07/26/biological-boomerang/

[i]This compilation of articles and other information is provided at no cost for those interested in hydropower, dams, and water resources issues and development, and should not be used for any commercial or other purpose. Any copyrighted

8/10/2012



Some Dam – Hydro News™

And Other Stuff

i

Quote of Note: *"There are no shortcuts to any place worth going." - - Beverly Sills*

"Good wine is a necessity of life." - -Thomas Jefferson
Ron's wine pick of the week: **Columbia Crest Cabernet Sauvignon "H3" 2009**
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Dams:

(You have to wonder how they did the economics of hydro. That doesn't matter because these dams were coming down anyway.)

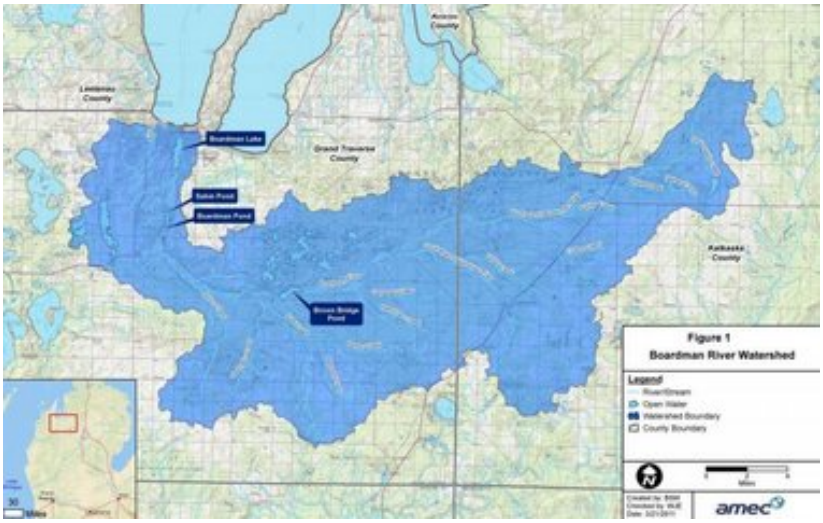
Massive Boardman River dam removal project poised to begin near Traverse City

mlive.com, July 29, 2012, By Garret Ellison


Brown Bridge Dam

Traverse City, MI — Excavators in northern Michigan are poised to begin removing the first of three obsolete hydroelectric dams in Grand Traverse County following the approval of a construction contract this week. The Traverse City Record-Eagle reports a $2.9 million contract between the Boardman River Implementation Team and AMEC Engineering & Infrastructure was approved this week for the removal of the Brown Bridge Dam in Garfield Township. Three dams on the Boardman River are being removed during the next three years, starting with the Brown Bridge Dam, a non-operating hydroelectric dam that was built in 1921. Removal of the Boardman and Sabin dams downstream will follow. Removal of the dams will restore 18 miles of river flowing into West Grand Traverse Bay back to its historic channel and reconnect 160 miles of river and tributaries. The project is reportedly the largest ever

river-restoration project undertaken in the state, and possibly one of the most comprehensive dam removal and restoration projects in the country.



It follows seven years of feasibility studies, planning and public meetings. The U.S. Army Corp of Engineers recommended that all three dams be removed and Union Street Dam in downtown Traverse City be reconstructed. Partial water drawdowns of manmade ponds to the south of the dams began last year. Anglers are especially excited for the removal. According to a 2008 study, downstream waters are approximately 10 degrees warmer because of the dams. The colder water should allow fish species such as brook trout to repopulate. At the Brown Bridge Dam, it's estimated that the restored river channel would be approximately 17,000 linear feet. The Boardman River headwaters are located in Kalkaska County and 36 miles of the river are designated as a Blue Ribbon trout stream. Removal of the dams "will not significantly alter flood discharge rates or flood elevations," according to the final environmental assessment report on the Brown Bridge Dam removal, prepared by the U.S. Fish and Wildlife Service in June.

The Brown Bridge Dam is owned by the city of Traverse City. Sabin and Boardman dams are owned by Grand Traverse County. The dams were decommissioned after Traverse City Light & Power determined in 2006 it was no longer economically feasible to produce hydroelectric power on the Boardman River. The Record-Eagle reports that sediment from a temporary draining phase of the Brown Bridge Pond will be captured in traps. About 250,000 cubic yards of excess material will be dredged during the project, which will restore the river bottomlands. The Brown Bridge Dam portion of the project should be completed by the spring. Other river restoration projects under consideration in Michigan include a dam removal on the Huron River near Ann Arbor, and a proposal to restore the rapids to the Grand River in downtown Grand Rapids for a price tag of $27.5 million.

(Lots of fluff in the article, but it points out the benefits of flood control dams.)

Army Corps celebrates milestone for key dams

By Nancy Bean Foster, Union Leader Correspondent, July 29.

Hopkinton, NH — When a series of hurricanes ravaged the Northeast in the late 1930s sending floodwaters gushing downstream across New Hampshire and into Massachusetts, the Army Corps of Engineers set to work building the largest flood-control project east of the Mississippi.

On Saturday, the Corps celebrated the 50th anniversary of the Hopkinton-Everett dams with a ceremony at their office. Park ranger Jen Samela said the two dams that comprise the project were built in response to the hurricanes that hit New

England in 1936 and 1938. During the storms in 1936, smaller rivers like the Contoocook in Hopkinton sent flood waters rushing into the Merrimack. That water headed downstream in a devastating surge that wreaked havoc all the way to the Atlantic. The Army Corps of Engineers knew at that point that some dams were needed to keep the smaller rivers from dumping so much water into the Merrimack at once, but if they weren't motivated enough, the Great Hurricane of 1938, which left a swath of destruction from Florida to Maine, sealed the deal.

Building begins

But it wasn't until 1959 that actual construction got going and the dams were completed in 1962 — the Hopkinton on the Contoocook River, and the Everett located two miles away in Weare on the Piscataquog River. Hopkinton Dam stands 76 feet high and 790 feet long, while the Everett Lake is 115 feet high and 2,000 feet long. Behind the dams are three "storage areas" where the water accumulates including Everett Lake, Elm Brook Pond and Hopkinton Lake. The two dams look like separate structures in normal conditions, but when the rains come, they work together in unison to hold back up to 51 billion gallons of water in the land between them. "The flood waters can cover up to 8,000 acres when the dams are completely full," said Samela. "But that only happens in a 500-year flood and we haven't had one of those yet." Thus far, the dams have rarely come close to capacity. The highest water levels in recent memory were during the Mother's Day Flood of 2006. "That was first time I got to see the project do what it was meant to do," said Park Ranger Karen Hoey. "It was unbelievable to me." But despite the damage to some parts of the state, that flood wasn't record-setter. It was the flood in the spring of 1987 when rain and snow-melt brought the Hopkinton-Everett Dams their highest waters ever and the lakes were at 95 percent capacity. "When you work here, you do look at rain a little bit differently than most people," said Hoey. "Especially in the spring."

Fair-weather fun

When the dams aren't holding back torrents of flood waters, the space between them creates ideal recreation space, according to Hoey. Elm Brook Park offers a perfect white sandy beach, pavilions where groups can hold events, bath houses, even a park for flying remote control airplanes. Kayakers enjoy the peace and quiet of the rocky pond, and walkers can be seen getting their exercise each morning, Hoey said. "It's the best-kept secret in Hopkinton," said Hoey, who started working at the dam as a seasonal employee when she was studying psychology at Colby-Sawyer College and became a full-time ranger after she graduated. In addition to Elm Brook Park, the dams have made room for an OHRV park with 18 miles of trails for off-road vehicles and snow mobiles, and Clough State Park which has boat ramps and good fishing as well as trails for hiking and mountain biking.

All in a day's work

For the rangers and the volunteers who man the Hopkinton-Everett Dams, every day is just a little bit different than the one before. The rangers offer guided tours to folks who stop by, visit schools to talk about the project to students, ensure the parks are in good shape and keep an eye on the dams to ensure that they're always ready for rain, said Hoey. During the summer, the gate to Elm Brook Park is manned by volunteers who trade hours collecting the $1-per-person entrance fee in exchange for exclusive camp sites at the park that they call home for the season. The biggest challenge the rangers face, said Hoey, is making people understand that the primary purpose of the project is flood control, not recreation. "We had to shut down early one day because of the conditions, and people were not happy," she said. "But I love this job. I learn something new every day."

(A dam advocate's view.)

Washington View: Dam removal not prudent in all cases

By Don Brunell, Columbian business commentator, July 31, 2012, columbian.com

Some activists believe there is no such thing as a good dam, that we should destroy all dams to restore fish runs, no questions asked. A more balanced approach would be identifying dams we can live with, and dams we can live without. When the Elwha Dam was completed in 1913,

people cared more about electrifying the Olympic Peninsula than protecting migrating salmon. After all, salmon were plentiful and electricity was the force driving economic growth. But the dam denied salmon and steelhead access to their traditional spawning grounds about 50 miles upriver. Last year, all that began to change. Both the Elwha and Glines Canyon dams were demolished with the hope that the fish will return. A similar story unfolded last year when the Condit Dam was breached, opening miles of old spawning streams on the upper White Salmon River in the Columbia River Gorge.

While dam busting has its place, it is only one option. For example, the Condit Dam was owned by PacifiCorp, as are the Merwin, Yale and Swift dams on the north fork of the Lewis River. Even though they are owned and operated by the same company, their situations are very different. The Lewis River dams were constructed between 1931 and 1958 with no fish passages. As part of the new 50 year operating license, PacifiCorp agreed to spend $120 million to return fish runs above the Swift, the upper most of the trio. This is how it works: Adult salmon and steelhead heading up the river to spawn are collected below Merwin, the first dam, and trucked to Swift Reservoir, where they are released to continue their spawning swim. The downstream migration is a little trickier. Juveniles, which are more elusive, are collected at the head of Swift Dam and trucked downriver to the release point below Merwin. On the Columbia and the Lower Snake rivers, adult salmon and steelhead use fish ladders to bypass the concrete barriers. But for fish heading out to sea, one of the best options has been to collect and barge the fish around the dams. Even though barging young fish has been around since 1955, some feel it is unnatural. Others say fish released from a barge or truck lose their homing instinct and are confused when they return from the ocean to spawn. Over the years, transporting fish has improved greatly. Each year, more than 20 million fish travel by barge, dodging predators and deadly turbines. Barging appears to work best for steelhead and spring chinook, which spend a year in the fresh waters before heading out to sea. That makes sense since they grow bigger and stronger before making the trek.

The point is, 100 years makes a tremendous difference. If the dams on the Elwha and White Salmon rivers were constructed today, they would have included fish passage systems. Because they did not, they came down. But not all dams have to come down. When fish passages are an option, it is worth the investment to enhance fish habitat while providing low-cost electricity for our growing economy. In 1910, there were just over 1.1 million people in our state, and our economy was just developing. Today, we have 6.7 million who depend upon low-cost electricity for our homes, businesses, hospitals, schools and factories. We also have much better science that enables us to make more precise site and species-specific decisions. So removing all of the dams -- dams that provide electricity, irrigation, flood control and commercial water transportation -- is not an option. But restoring habitat and giving ocean-going fish a short ride to safety is. *Don Brunell is president of the Association of Washington Business, Washington state's chamber of commerce.*

(Over 120 years ago construction began)

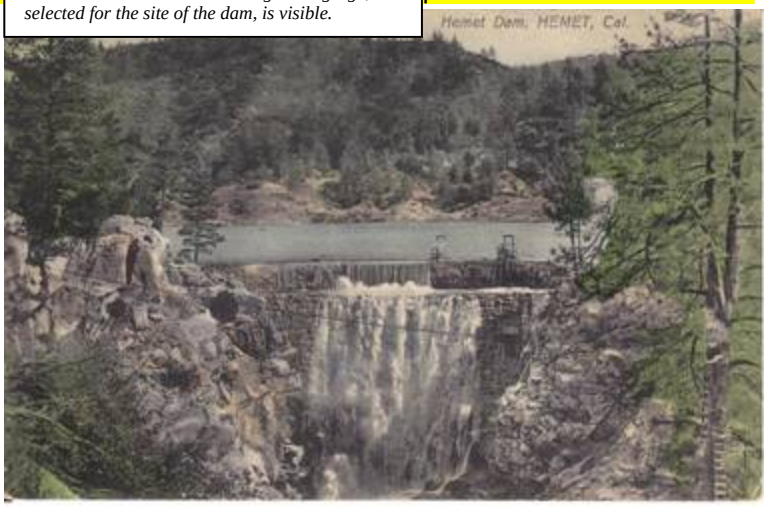
HEMET: Lake Hemet Dam was lifeblood for city

Planning began in 1887; construction ran from 1891 to 1895

By Kim Jarrell Johnson, Columnist, 31 July 2012, pe.com

In the early 1890s, Lake Hemet Dam, one of the engineering marvels of its time, was constructed in the San Jacinto Mountains, above today's city of Hemet. Without it, the city may never have existed. The San Jacinto River did not supply enough water to support farming and settlements throughout the San Jacinto Valley, and the existing city of San Jacinto already was struggling with its water supply. Further development required a new, reliable source of water. In January 1887, a group of investors, which included Edward L. Mayberry and William F. Whittier, decided they had found a way to rectify the situation. That month they formed both the Hemet Land Company and the Lake Hemet Water Company. The primary purpose of the land company was the subdivision and sale of property in the San Jacinto Valley. This included lots in a town site called South San Jacinto. The town site was later moved and the new town was named Hemet. The

purpose of the Lake Hemet Wate[illegible]veral hundred acres of land on the west end of Garner Valley [illegible]purchase came with a water right that allowed the capture of water at its source in the mountains. In turn, the water could be brought to the dry valley below. The San Jacinto Register gushed "… this grand work … will make our mesa land blossom like a rose. …" The plan was to collect the flow of Hemet Creek, one of three tributaries that unite to form the San Jacinto River. To do this, a dam would have to be built in the mountains to create a reservoir and make water available year round. The creek ran through a narrow granite gorge, which offered a suitable site for the construction of a dam. This major construction project required the movement of men, machinery and materials to the dam site. Before work on the dam could begin, Mayberry and Whittier first had to construct a road into the San Jacinto Mountains. Work began on the road late in the summer of 1888; it was finished less than a year later. The dam was to be constructed from large blocks of granite cut from sites near the location of the dam. The type of cement needed for construction was not available in the United States, so it was imported from Belgium. The first stone was placed Jan. 4, 1891, and construction was completed four years later. The finished height of the dam was 122.5 feet. The height was later raised another 12.5 feet in 1923. From its completion in 1895 until the construction of the Roosevelt Dam in Arizona in 1911, the Lake Hemet Dam was the largest solid masonry dam in the world. Lake Hemet is owned today by the Lake Hemet Municipal Water District. The lake, off of the Pines to Palms Highway south of Mountain Center, has a storage capacity of 260 billion gallons of water and 12 miles of shoreline. Camping, boating and fishing are allowed at Lake Hemet.



This postcard, circa 1910, shows the Hemet Dam with Lake Hemet behind it. The granite gorge, selected for the site of the dam, is visible.

House Leadership Delays Consideration of Critical Flood Control Dam Funding

July 31, 2012, agc.org

House Republican leadership continues to delay consideration of a farm bill, which includes $85 million a year through FY 2017 for the Small Watershed Rehabilitation (SWR) program, the nation's only dam rehabilitation program. This program assists local communities with improving aging flood control dams, thereby helping to address public health and safety needs before a tragic dam failure occurs. The House Agriculture Committee approved the legislation for floor consideration on July 12. Majority Whip Kevin McCarthy (R-Calif.) recently said the farm bill will be "done before we're out of the year," but noted that House members know very little about the bill's contents, raising concerns that it would not pass. Bringing the farm bill to the floor would put congressional members on both sides of the aisle in a difficult pre-election voting situation. Fiscal conservatives from rural districts would find themselves in a position of having to vote against federal subsidies for farmers and Democrats would have to vote for cuts to the federal food stamp program. Watershed infrastructure is a vital component to the nation's flood control efforts and this infrastructure sorely needs improvement. Currently, $15 billion worth of 11,000 flood control dams and conservation practices in 2,000 watersheds provides $2 billion in annual benefits to over 47 million citizens. As it stands, nearly one-fifth of those 11,000 dams have reached the end of their 50-year planned service life. By 2016, almost two-thirds of the watershed dams will reach this milestone. In addition to these watershed protecting measures, the House version also cuts

grants to the Rural Utilities Service's Rural Water and Wastewater Facility Grants from $30 million annually to $15 million annually. The Senate approved a farm bill in June that includes the same $85 million authorization level, but not additional funds for the Civilian Conservation Corps. The Rural Utilities Service Grants are held at $30 million annually. AGC continues to strongly advocate for sorely needed investment in our nation's aging infrastructure, including its dams and water/wastewater facilities.

ESCONDIDO: Rebuilt Wohlford Dam slated to open in 2017

By David Garrick, nctimes.com, 8/1/12

Wohlford Dam

Public agencies and community groups have raised a variety of concerns about proposed revisions to Escondido's blueprint for growth, including… City Council members took another step toward keeping central Escondido safe from severe flooding Wednesday when they agreed to pay consultants $3.5 million to design a roughly $26 million rebuild of the Lake Wohlford Dam. The 116-year-old dam was declared seismically unsafe during a 2007 federal analysis. Since then, city officials have been forced to sharply reduce how much water is in the adjacent reservoir because the federal analysis determined a large earthquake could liquefy the dam's earthen portions. The replacement dam, which is scheduled to be constructed by summer 2017, would save Escondido's 26,000 water ratepayers money by allowing the city to store more water during droughts, Utilities Director Chris McKinney told the council. "Whatever water we can avoid importing is a good thing," said McKinney. "Paying for outside water ends up costing ratepayers millions of dollars."

Since the dam was deemed unsafe, the amount of water in the reservoir has been reduced from 6,500 acre-feet, which is about 2.1 billion gallons, to about 2,800 acre-feet, or roughly 900 million gallons. McKinney said the new dam would also improve water quality, expand recreational opportunities on the lake and give the city another possible place to purified sewer water, which the city hopes to begin using as drinking water in coming years through a process that critics call "toilet to tap." The $26 million price tag for a new dam has been daunting to city officials, but they secured a state grant last October that will cover half the cost, and McKinney said some of the remaining money might be covered by federal grants. Mike Arnold, Escondido's lobbyist in Sacramento, said the project was ripe for grants because there aren't too many other cities that have a dense population center located beneath a large dam that's been declared seismically unsafe. The 100-foot-high dam, which is about five miles northeast of downtown Escondido, was built out of rock in 1895 and expanded with silt and sand in 1924. The silt expansion is the part of the dam that makes it susceptible to quakes, McKinney said. Any expenses not covered by grants would be paid by the city's water customers, he said. In addition to designing the new dam, the consultants that the council hired Wednesday, Black & Veatch Corp. of Kansas, will also handle geotechnical studies and environmental approvals.

When Councilman Ed Gallo asked whether endangered animals in the area or other environmental hurdles could stymie the project, McKinney said he was confident that any hurdles would only force the city to adjust the design of the dam. And City Attorney Jeff Epp said the city would probably be able to overcome any problems by declaring the project was required by "overriding considerations," such as the need to protect central Escondido from flooding. While city construction projects are rarely completed on time, McKinney said the dam would be done by mid-2017 because the state grant required completion of the project within five years of the city

beginning design work. Mayor Sam Abed said ratepayers should be pleased the city is moving forward with the dam because it's a more cost-effective way to increase the local water supply than most other options, such as a plan to build a desalination plant in Carlsbad. Councilwoman Olga Diaz also said the expense should be considered a long-term investment because the new dam is expected to be adequate for at least the next 100 years. McKinney said a 2010 analysis of dam options by outside consultants was outdated based on recent changes in dam construction. While a second analysis will cost extra money, he said the new approaches would make the dam construction less expensive, reduce the amount of earth the dam would disturb and improve aesthetics. "It will look a little more like the natural earth in the area," he said.

Hydro:

(Here's what diehard hydro people need!)

Two Handles LED Hydroelectric Widespread Waterfall Sink Faucet

(The FERC overreached and then fixed the problem, but now a Congressman wants to change things. Remember, all they wanted to do in 1986 was clear up the question of public preference at relicensing and what we got was a colossal mess with no clear authority with anyone on relicensing - known as ECPA. Sometimes, even if there is a problem, the fix is worse than the thing they tried to fix, especially if Congress tries to fix it!)

US rep. proposes bill after Lake of Ozarks issue

The Associated Press, Jul. 30, 2012 - sacbee.com

Camdenton, Mo. -- Republican Missouri U.S. Rep. Vicky Hartzler wants to reduce federal regulators' authority over hydroelectric projects. Hartzler's district includes part of the Lake of the Ozarks that has been embroiled in controversy during the past year over land near the lake. Land included within the boundary of the hydroelectric project falls under the Federal Energy Regulatory Commission's authority, while other property does not. The congresswoman plans to introduce legislation designed to limit FERC's authority over issues not directly connected to power generation. The measure would allow state legislatures to give local communities greater authority over shoreline management. Hartzler plans to hold a news conference Monday at her home in Camdenton near the Lake of the Ozarks.

(Huh, is steel that expensive and is the access road paved with gold? Let's see, that means the

bid price was almost 84 % above the estimate. The bid is over $5700 per kW. That doesn't make sense!)

Whitman bids come in $12 million over estimate

by Leila Kheiry, July 30, 2012, krbd.org

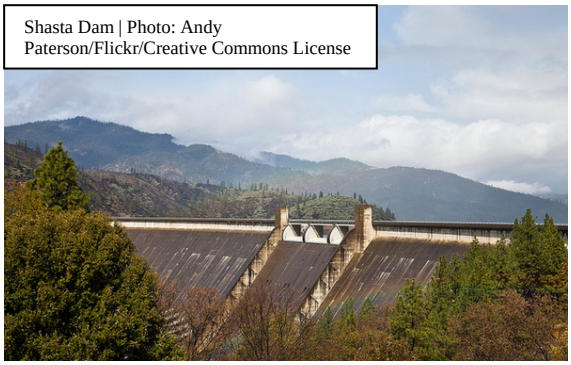
The City of Ketchikan plans to scale back or even kill its long-planned Whitman Lake Hydroelectric Dam project after construction bids came in at least 12-million-dollars over the estimated cost. The engineer's estimate for Whitman was about $14.3 million. The lowest bid, submitted by Ketchikan's Dawson Construction, was $26.4 million. City Manager Karl Amylon said that design engineering firm Hatch Associates blames the rising cost of steel and a redesigned access road. Hatch representatives worked with Dawson officials to find a way to reduce the cost. Amylon said the revised plan would delete the larger of the two generators at the dam. Removing that unit also would eliminate the need for some related items, such as diverting the nearby Achilles Creek. It also would reduce the dam's power output. Originally Whitman was expected to add 4,600 kilowatts of capacity. That would drop to 700. Amylon said he's disappointed the full project won't happen. "We've been at this for a long time, and we thought we were on the verge of moving the project forward, and with the numbers that came in on the bids, I think everyone was taken aback," he said. He said the city has worked on the project for about 25 years.

"We definitely have several million dollars into the development of the license and the engineering of the project," he said. Amylon said if the city wants to move forward with the project, construction must begin by March 16, 2013, to comply with the Federal Energy Regulatory Commission license. He says the smaller scope would require an emergency declaration by the Ketchikan City Council to allow an immediate redesign, for construction to start by deadline. He said project changes would need FERC approval, as well as the OK from other federal and state agencies. Amylon said the city instead could cut its losses and abandon the project, but that would be a difficult choice. "This is particularly disappointing because we have a limit on our available hydroelectric resources that the community can take advantage of," he said. Whitman was the next logical step. I'm not really sure where we're going to go from here." If the city kills the project, he said they should try transferring an $8.7-million state grant for Whitman to the Southeast Alaska Power Agency, to help expand capacity at Swan Lake Hydroelectric Dam. SEAPA is a cooperative of Southeast utilities, and provides power to Ketchikan, Petersburg and Wrangell. The Ketchikan City Council meets Thursday, and will decide then what to do about Whitman.

(How do we know this? When the time comes for this change, no one who said this will be around whether right or wrong! The answer is CA needs more dams! Conservation is being overwhelmed by population increases.)

California Will Lose Hydropower Capacity As Climate Warms

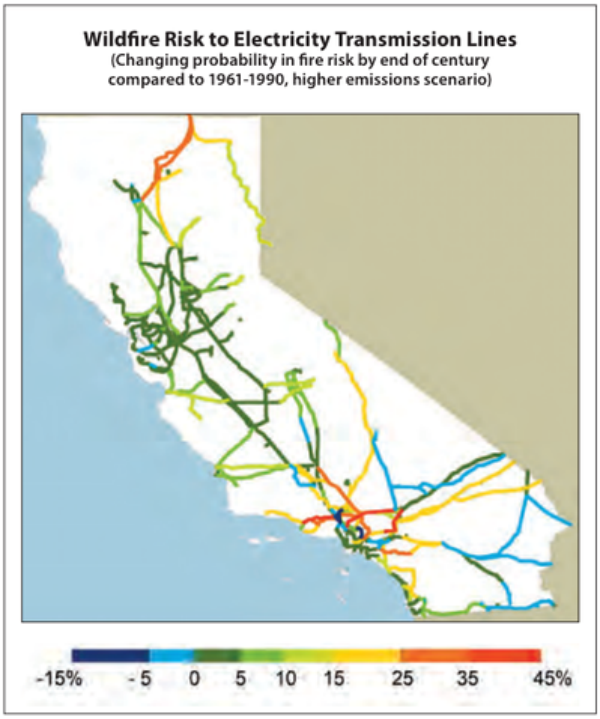
by Chris Clarke, July 31, 2012, kcet.org



Shasta Dam | Photo: Andy Paterson/Flickr/Creative Commons License

An assessment of the effects of California's changing climate projects that existing hydroelectric generating facilities will be unable to keep up with demand for power. The report, "Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California" released today by the California Energy Commission (CEC) and the Climate Change Center, is the third statewide assessment of California's future in a warmer world. And the outlook for our hydroelectric infrastructure isn't rosy. Statewide temperatures rose 1.7° between 1895 and 2011. California is expected to gain 2.7° in the first half of this century. Expected effects include more frequent large storms, greater demand for electrical power on hot days, and increased wildfires.

Despite the likelihood of stronger storms, California reservoirs may well find themselves with a shorter water supply on average. California's historic water supply system for both power generation and drinking water storage was built on the assumption that most of the state's usable precipitation falls in winter as snow in the mountains. Snowmelt has recharged the reservoirs each year, and managers could anticipate the next year's supplies by measuring snowpack. Three quarters of California's hydroelectric power is supplied by "high-elevation" facilities built above 1,000 feet in elevation. These facilities typically have small reservoirs, and are thus quite vulnerable to reduction in output due to reduced snowpack. Many of these hydropower facilities are in the Sierra Nevada, the region in California where warming has been the most marked. The report forecasts significant reduction in power output from these high-elevation plants during hot summer months, when demand for electricity is greatest in California. Compounding this problem is the greater likelihood of wildfires brought about by climate change. Climate is linked to wildfires by a variety of factors, ranging from warmer winters that kill fewer bark beetles to drier conditions overall to increased prevalence of summer lightning storms. Burned-over landscapes like those surrounding reservoirs in the Sierra Nevada can erode catastrophically after damaging fires, and silt washed off burned landscapes will inevitably find its way into reservoirs, reducing the state's hydroelectric capacity still further.

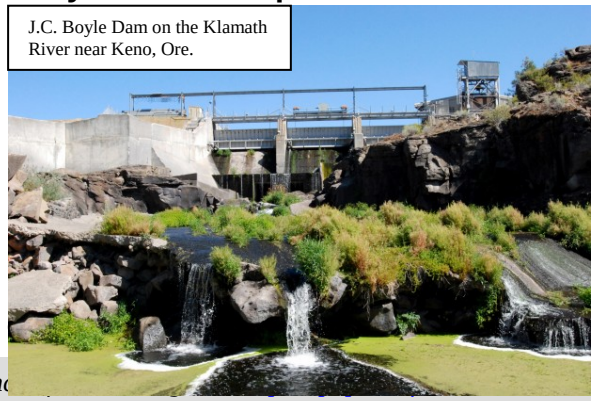


Wildfire Risk to Transmission Lines. Increased likelihood of wildfires will also make the power distribution system far more vulnerable, especially in the mountains near Los Angeles and the crucial northeastern corner of the state, our link to the reliable hydropower of the Pacific Northwest. Even in the absence of fire, an increase in hot days will increase the electrical resistance of the transmission lines, by as much as 7-9%. The report points out that reliance on our current system of long-distance power transmission will become increasingly risky as those transmission lines become ever more vulnerable, and suggests microgrids and distributed generation as a possible remedy to this vulnerability. *The report was conducted by the CEC and Climate Change Center under the auspices of the California Environmental Protection Agency, as directed by a Executive Order signed by Arnold Schwarzenegger in June 2005 that requires periodic science reports on the potential impacts of climate change on the California economy.*

(Well, someone finally said what a lot of people have been thinking!)

Radical environmentalists push to destroy dams to reopen salmon spawning habitat

By: Audrey Hudson, 8/1/2012, humanevents.com


J.C. Boyle Dam on the Klamath River near Keno, Ore.

Nestled beneath the picturesque mountains and cobalt blue skies of northern California is the shimmering deep-water Copco Lake teeming with fish—it's where families like the Taits have vacationed for generations. It's the carefree fishing, exploration of rich geographical areas and the wildlife viewing of

bald eagles and black-tailed deer that have lured Ken Tait and his wife Valletta to their vacation retreat for 32 years. "It's the great, hidden secret of California," Tait says. "It would be a tragedy to destroy it." But that's exactly what is happening.

Environmentalists, local Native American tribes and several government agencies want to tear down the four hydroelectric dams on the Klamath River—one of which created Copco Lake—that stretches 255 miles from Oregon to the Pacific Ocean. Primarily the dams create clean energy to supply more than 70,000 homes and businesses in northern California and southern Oregon with electricity, but opponents say the dams must be destroyed to restore depleted fisheries and reinvigorate their upstream habitat. Interestingly, a fish hatchery just below one of the dams produces five million salmon smolts a year, 17,000 of which return annually to spawn. But those fish don't count, says Rep. Tom McClintock (R-Calif.), chairman of the House Natural Resources subcommittee on water and power and the leading opponent on Capitol Hill of the dams' demolition. "Adding insult to insanity, when they remove the Iron Gate Dam, the fish hatchery goes with it," McClintock said.

Genetically inferior

Environmentalists say hatchery fish are genetically inferior and lack the behavioral skills to survive in the wild, and should not be included in population counts. "And yet science has not been able to define any conceivable difference between a hatchery fish and a fish born in the wild, than it's been able to discern the difference between a baby born at home and a baby born at a hospital," McClintock said. "This is not about saving the salmon. This is about this bizarre new religion of the left, which reasons that mother Earth is suffering a terrible infestation of human beings and must be restored to its pristine, pre-historic condition. The only practical problem with that is it requires restoring the human population to its pristine, pre-historic condition. And that is not going to end well," McClintock said. "You laugh, but when you talk to these people, you realize that we are literally dealing with the lunatic fringe of our society, and they happen to be in control of our public policy on these matters because we've let them," McClintock said. It has been 50 years since PacifiCorp was last issued a license to operate the dams, a time when there was no Clean Water Act, no Environmental Protection Agency (EPA) forcing the agency to jump through bureaucratic hoops. When the license expired in 2004, environmentalists and tribes took advantage of the process to push for demolition, while federal agencies demanded that PacifiCorp spend $400 million to construct bypasses around the dams for the fish. The complicated process also involves tribal treaty rights for Native Americans and water rights for farmers. After years of negotiations, lawsuits by environmentalists, and an EPA ruling that further blocked PacifiCorp's chance of getting needed permits to operate the dams, the company had few choices to consider and in 2008 announced that removing the dams would be the cheapest alternative for its customers. PacifiCorp, based in Portland, serves 1.7 million customers in eight states, including Oregon, northern California, Utah, Wyoming, Idaho, Colorado, Montana and Arizona. It is owned by MidAmerican Energy Holdings Co., which is controlled by investor Warren Buffett's Berkshire Hathaway. Besides 44 hydro systems, PacifiCorp operates 14 coal mines and facilities, 13 wind systems and more than a half-dozen natural gas and geothermal operations. The company reported $4.6 billion in operating revenue for 2011.

Reopen spawning habitat

Dismantling the four dams would reopen hundreds of miles of spawning habitat on the Klamath River for Coho salmon—which are not native to the river—as well as Chinook, steelhead, and lamprey that opponents of the dams say are dangerously close to extinction. Using the dams to divert water to farmers and cities also creates toxic algae and parasites that contaminate the water built up behind the dams, opponents say. It would be the largest dam removal project in California's history if Congress and Interior Secretary Ken Salazar approve it at an estimated cost of nearly $300 million. PacifiCorp customers are expected to pay $200 million; another $100 million would come from the federal government. By comparison, the price tag for PacifiCorp to keep the dams operational is $500 million. PacifiCorp operates more than 40 hydro facilities in the western U.S., and while they have agreed to remove some of their dams on the Klamath

River, they are forging ahead with the burdensome and costly license renewal process to keep dam operations on the North Umpqua River in Oregon and Lewis River in Washington. “For us, it’s about what decision produces the least-cost, least-risk option for our customers and the company,” said Bob Gravely, PacifiCorp spokesman. “Usually that decision comes when we have to renew a license. Does it make more sense from a cost and risk perspective to make the capital investments and adjust operations to continue operating a dam under the terms of a new license or does it make more sense to decommission the project and replace the power? It can go either way depending on the circumstances,” Gravely said.

Squandering $250 million

McClintock offers another alternative: “We’re told that yes, this is expensive, but it will cost less than retrofitting the dams to meet cost-prohibitive environmental requirements,” the congressman said during a House floor speech last year. “If that is the case, then maybe we should re-think those requirements, not squander more than a quarter billion dollars to destroy existing hydro-electric dams. Or here’s a modest suggestion to address the salmon population—count the hatchery fish.” The dams would be replaced in 2020 with wind and solar power operations to provide electricity, MClintock says, but he warns that the intermittent nature of solar and wind means they are an unreliable sole source of energy. “You may have noticed that when a cloud passes over the sun, or the sun goes down, or the wind falls off, the generating capacity of these solar and wind projects drops suddenly, unpredictably and precipitously,” McClintock said.

The numerous stakeholders in the operation reached an agreement in 2010 that the dams should be removed, prompting new scientific and environmental analysis with the Interior Department wielding the power to say whether or not the dams stay. However, Salazar missed the March 31 deadline to make his decision. His spokesman told Human Events that the delay was due to Congress’s failure to pass legislation authorizing the Obama administration to move forward. Asked whether Congress will give Salazar that authority, McClintock explained: “Over my dead body.” The multi-million dollar removal project also requires Congress to approve the federal funding, but a spokesman for House Natural Resources Committee Chairman Doc Hastings (R-Wash.) told Human Events that any request for money to tear down the dam faces the congressman’s determined opposition. The chairman also weighed in on the Obama administration’s actions last year to include the entire nation in on the decision-making process, and to pay them for their troubles. Some 10,000 households received surveys in the mail asking them to help measure the societal and economic value of removing the dams. The surveys included a $2 bill, along with a promise to pay respondents another $20 for mailing the survey back to government bureaucrats before the deadline. “This is as maddening as it is wasteful,” Hastings said at the time. Copco Lake—its name derived from the California Oregon Power Company—was artificially created by one of the dams in 1919. Former President Herbert Hoover used to vacation there, so did Western novelist Zane Grey and the intrepid explorer Amelia Earhart. Today, nearly 150 vacation homes dot the landscape. “It’s not a big resort, but people love the fishing, which will all be gone,” Tait said. With the threat of the dam’s demolition looming and the prospect of the glimmering waters replaced by an arid lakebed filled with sagebrush, property values have already plunged. The Taits intended that their four children and nine grandchildren would inherit the family’s vacation home, but now they fear there will be nothing left for their future generations. “It’s just criminal that they are thinking of taking it down, and it’s all about the fish,” Tait said. “It’s government run amok. It’s really a shame.”

Group calls hydropower proposal an 'extreme' bill

By Zack Colman - 08/03/12, thehill.com

An environmental advocacy group says a bill introduced Thursday in the House will harm rivers by cutting funding for restoration programs, according to **UPI**. House Natural Resources Chairman Doc Hastings (R-Wash.) says his bill would officially recognize hydropower as renewable energy. It also blocks federal funding for hydropower dam removal. “This bill would officially recognize hydropower as renewable energy and help eliminate government roadblocks and frivolous litigation that stifle development,” Hastings said in a statement Thursday. But American Rivers, an advocacy group, told UPI that Hastings’ bill is “an extreme piece of

legislation" that would end environmental protections for areas near hydropower projects. The group said it prefers a different bill introduced last month by Rep. Cathy McMorris-Rodgers (R-Wash.). The Hastings bill also prohibits federal funding for an Obama administration effort to upgrade electricity systems that mostly serve rural customers. A group of more than 160 lawmakers from both parties in both chambers has written a letter to Energy Secretary Steven Chu opposing that initiative, saying it would amount to a **top-down policy** that raises power prices for rural customers. The National Rural Electric Cooperative Association (NRECA), the group that represents the rural electric utilities affected by that Energy Department endeavor, supports the Hastings bill, NRECA spokeswoman Tracy Warren told E2-Wire on Friday.

Environment:

(What is the truth and what is fiction? The Tribe's view.)

Facts and fiction on the Klamath River Settlement Process and dam removal

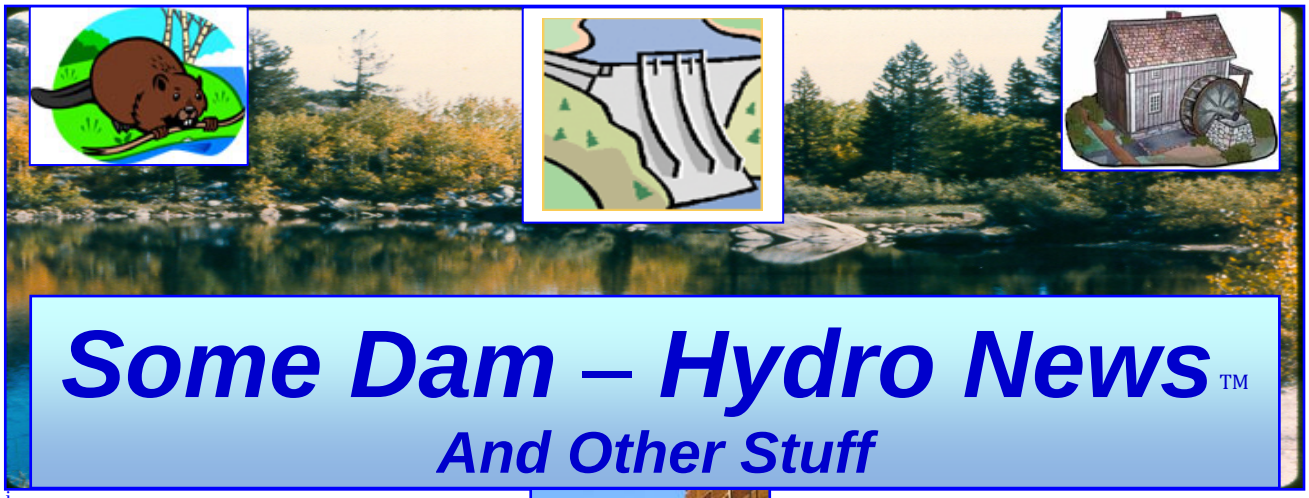
Hayley Hutt/For The Times-Standard, 08/02/2012, times-standard.com

Full water allotments went to farmers in the Upper Klamath this year, which left little water for salmon and the birds in the Nation's first wildlife refuges. Only water mandated by the Endangered Species Act to keep Coho Salmon alive will be available, regardless of the fact 380,000 Chinook Salmon are expected. This is two-and-a-half times more salmon than in 2002 when the fish kill occurred. Proponents of the Klamath Basin Restoration Agreement say this situation will change under the KBRA. Flows will change, but not improve. The Bureau of Reclamation's own study shows that under the KBRA, flows will be less than current flows in normal years and much less in dry years, putting salmon in danger. The KBRA guarantees 378,000 acre-feet of water to farmers in dry years, yet includes no guarantees for salmon or refuges. The KBRA also strips federal protection for water rights of Tribes even if they didn't sign the agreement, and subverts the Clean Water Act, leaving no one to fight for salmon if the plan fails. KBRA proponents say legislation is the only way to get dams out, and they are supporting PacifiCorp's effort to stall Clean Water Act processes regarding the dams. This stalling could continue through 2020, making PacifiCorp $27 million a year, even though PacifiCorp has operated the dams outside the law for over 50 years. Toxic algae releases and lethal conditions for salmon continue.

Arguments against regulation show the holes in the KBRA. Furthermore, PacifiCorp has removed dams, such as the Condit dam, under the Federal Energy Regulatory Commission process without the $250 million from taxpayers that the agreements call for. KBRA supporters assert Condit dam removal involved negotiations. In truth, PacifiCorp issued a dams surrender plan, and the government accepted it. Tribal water rights and flows were never on the table. The only legislation needed on the Klamath is appropriations for restoration. The Hoopa Tribe is committed to dam removal. This is why on July 17 more than 100 of us protested the Water Board's decision to stall regulation. We cannot support a deal that terminates tribal water rights, sidesteps public processes, ignores the Clean Water Act and is not scientifically justifiable. Even proponents of the KBRA admit legislation is not moving in Congress. Meanwhile the Klamath River is suffering. It is time to return to public processes and take the dams out. PacifiCorp stated that relicensing the dams is uneconomical. Anyone who believes that Warren Buffett cannot surrender the dams without the KBRA is ignoring the facts. No amount of stalling will keep these dams from falling.
Hayley Hutt is a member of the Hoopa Valley Tribal Council.

[i]This compilation of articles and other information is provided at no cost for those interested in hydropower, dams, and water resources issues and development, and should not be used for any commercial or other purpose. Any copyrighted material herein is distributed without profit or payment from those who have an interest in receiving this information for non-profit and educational purposes only.

8/17/2012



Some Dam – Hydro News™

And Other Stuff

i

Quote of Note: *"Standing in the middle of the road is very dangerous; you get knocked down by the traffic from both sides." -- Margaret Thatcher*

"Good wine is a necessity of life." - -Thomas Jefferson
Ron's wine pick of the week: **Yorkville Cellars US Red Blend "Hi Rollr Red" - 2009**
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Other Stuff:

(There's nothing like a reporter who doesn't know the subject. Wind power is not dependable power. Hoover, on the other hand, with its reservoir produces dependable and more efficient power! And, he fails to mention that China has taken over the manufacturing of wind turbines.)

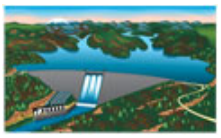
How's 12 Hoover Dams?

By Matt Miller, washingtonpost.com, 08/10/2012 TheWashingtonPost

It's inaccurate enough when conservatives claim that President Obama's stimulus "accomplished nothing" or "didn't work," but another misleading meme is that the stimulus made no public investments of lasting value. My colleague Charles Krauthammer repeats that canard in his Friday column:

> Obama loves to cite great federal projects such as the Hoover Dam and the interstate highway system. Fine. Name one thing of any note created by Obama's Niagara of borrowed money. A modernized electric grid? Ports dredged to receive the larger ships soon to traverse a widened Panama Canal? Nothing of the sort. Solyndra, anyone?

Well, speaking of the Hoover Dam, how would 12 Hoover dams do for starters? As my colleagues at the Center for American Progress note, the stimulus created the equivalent of a dozen Hoover Dams. They write: The maximum output of the Hoover Dam is about 2 Gigawatts of electricity. The increase in U.S. wind-power output under the Obama administration so far has been 25 Gigawatts — 12 times as much as produced by the dam. Under normal wind conditions, that's enough to power over 6 million more homes with renewable, environmentally-friendly energy. That explosion in wind-power didn't happen by chance: as Michael Grunwald points out in a Time column today, it was "the Obama stimulus bill that revived the wind industry and the rest of the clean-tech sector from a near-death experience." Bottom line per CAP: "The United States has doubled its annual wind power output to 50 Gigawatts, thanks in large part to the stimulus bill, enabling us to keep pace with China, the world's wind power leader." Surely reasonable conservatives would agree that 12 Hoover Dams ain't bad for government stimulus work.



Dams:

(San Francisco is just nutty enough to remove Hetch Hetchy Dam. Maybe it's their destiny! It just might happen when the ballot question is a dumb question!)

Dam could be removed to restore Yosemite's lost Hetch Hetchy valley

Voters will decide whether they want a plan for draining the 117-billion-gallon Hetch Hetchy reservoir in Yosemite National Park, exposing for the first time in 80 years a glacially carved, granite-ringed valley of towering waterfalls.

By Tracie Cone and Jason Dearen, The Associated Press, seattletimes.com, August 5, 2012

Yosemite National Park, Calif. — This fall San Franciscans will vote on a local measure with national implications: It could return to the American people a flooded gorge described as the twin of breathtaking Yosemite Valley. Voters will decide whether they want a plan for draining the 117-billion-gallon Hetch Hetchy reservoir in Yosemite National Park, exposing for the first time in 80 years a glacially carved, granite-ringed valley of towering waterfalls 17 miles north of its more famous geologic sibling. The November ballot measure asks: Should city officials devise a modern water plan that incorporates recycling and study expansion of other storage reservoirs to make up the loss? The measure could eventually undo a controversial century-old decision by Congress that created the only reservoir in a national park and slaked the thirst of a city 190 miles away.

The battle over Hetch Hetchy, first waged unsuccessfully by naturalist John Muir, had turned the Sierra Club from an outdoors group into an environmental powerhouse. The fight gained momentum in recent years when unlikely allies joined forces. On one side are Republican lawmakers and environmentalists, including Ronald Reagan's former interior secretary, who want the dam removed and valley restored. On the other are Democratic San Franciscans, led by Sen. Dianne Feinstein and Rep. Nancy Pelosi, fighting to hold onto the city's famously pure drinking water in a drought-prone state. "Eventually it will be broadly understood what an abomination a reservoir in a valley like Yosemite Valley really is," Donald Hodel, the former interior chief, told The Associated Press. "I think it will be hard to quell this idea (of restoration). It is like ideas of freedom in a totalitarian regime. Once planted they are impossible to repress forever." Over the past decade, studies by the state and others have shown it's possible for San Francisco to continue collecting water from the Tuolumne River further downstream. But the city never seriously has considered giving up its claim to the valley. "This is a ridiculous idea," Mayor Ed Lee said. "It's a Trojan Horse for those that wish to have our public tricked into believing we have an adequate substitute for the Hetch Hetchy reservoir. We do not. There isn't any." The gravity-fed system serves 7 percent of California's population, city water officials say. Turbines from its dams generate hydroelectric power for city buildings, streetlights and traffic signals, the airport and the transit system. And two-thirds of the water from the system is sold to neighboring municipalities. All of this for just $30,000 a year — the rent set by Congress when it passed the Raker Act in 1913 despite opposition by 200 newspapers across the country. For the next decade stands of black oaks that had shaded deer and bear along the Tuolumne River through the half-mile-wide valley were removed along with 6 million board feet of lumber used to build the dam. By 1923, water began flooding what once were lush meadows. In recent years, politicians have argued that San Francisco is getting a bargain and that the rent should be increased. Others have said San Francisco is violating the Raker Act because the city's transmission lines stop 30 miles short of the city and that Pacific Gas & Electric profits by carrying it the rest of the way. With opposition from then-Mayor Feinstein, Hodel brought the issue back to life in 1987 as a way of alleviating crowds and traffic in Yosemite Valley, which now sees 4 million visitors a year.

Most recently the George W. Bush administration tried funding a feasibility study, but it was quashed politically by Democrats when Pelosi was Speaker of the House. "San Francisco is known as a progressive city in many ways, especially environmentally. But in water, it's just not the case. We've got a very sweet deal," said Spreck Rosekrans of Restore Hetch Hetchy, who has studied the issue for 20 years. "Restoring the valley would undo the greatest wrong that has ever been done to a national park." Studies by the federal Bureau of Reclamation, the state Department of Water Resources and others show restoring the valley is technically feasible. The cost estimates range from $3 billion to $10 billion. "On top of that staggering price tag, replacing the water supply is unrealistic when California already lacks infrastructure to provide enough water for its economy or environment," said Feinstein. "We should move past this debate and focus on real solutions to California's water challenges." The opposing sides also dispute the impact of reservoir removal. The Hetch Hetchy group says the city would lose 20 percent of its 1.7 billion kilowatt power-generating capacity, roughly the amount of excess production sold at cost to the Modesto and Turlock irrigation districts. The city says it would lose about twice that much, which would cost $41 million. In addition, utilities officials say water rates would increase by up to $2,777 per household a year and the city would be vulnerable during droughts. Mayor Lee and others argue that the timing is wrong to spend so much money on a project that ultimately could make Bay Area water deliveries less reliable. Proponents say passage of the measure in November would give San Francisco a chance to plan for restoration on its own terms. Voters would decide in four years whether to move forward with the plan. "The opposition to removal is akin to the famous expressions many years ago about relinquishing the Panama Canal: 'We stole it fair and square and we should keep it!'" Hodel said.

(Sooner or later, there will be more dams or people will get really thirsty! Of course, every time a new dam idea comes up, people mention Teton Dam.)

New Dams in Idaho?

Four potential Idaho dam sites are officially under consideration. Why? In 2008, the Idaho Legislature charged the Department of Water Resources with creating more water storage.

By Kate Thorpe, public lands intern, Posted by Marie Kellner at Aug 02, 2012, idahoconservation.org

Weiser-Galloway Reservoir Site. Marie Kellner photo.

The last dam built in Idaho was the Teton Dam in the mid-1970s. Just in case you don't know of or remember the catastrophe that dam became—the dam failed due to the geology of the area and the associated construction methods. It was never rebuilt. Or at least, it hasn't been rebuilt *yet*. In 2008, the Idaho Legislature directed the Idaho Water Resources Board (IWRB) to investigate new water storage projects. In response, four potential projects are under consideration. Two involve altering existing structures: Minidoka Dam on the Snake River and Arrowrock Dam on the Boise River. The other two projects introduce entirely new dams on the Henry's Fork or Weiser Rivers. ICL recently toured the potential Weiser-Galloway Project site on the Weiser, just upstream of the town of Weiser. While water storage has been considered on the Weiser for decades, the current study is the most thorough yet. The IWRB and U.S. Army Corps of Engineers are drilling core samples at the site to determine whether the area has the geologic integrity for the potential dam. They expect to have an answer this winter. If the geology of the site proves suitable, the proposed reservoir would be 900,000 acre-feet. That's almost as big as the Boise River's Lucky Peak, Arrowrock and Anderson Ranch reservoirs *combined!* The latest cost estimate for the Weiser-Galloway Project is $502 million. Given our changing climate, water storage is a bigger issue than ever in Idaho. But ICL believes that alternative storage methods should be pursued and that every efficiency within our current water management

system should be sought before we start building dams again. The state of Idaho hasn't built a dam since the collapse of the Teton Dam in 1976. Sometimes the status quo is the way to go. (This is the right web site to carry this article. The so-called scientists didn't stop to think that only a very small percentage of the 80,000 dams in the U.S. have significant drawdowns!!!!)

A new global warming culprit: Dam drawdowns

Posted on August 8, 2012 by Editor | junkscience.com

Washington State University researchers have documented an under-appreciated suite of players in global warming: dams, the water reservoirs behind them, and surges of greenhouse gases as water levels go up and down.

Bridget Deemer, a doctoral student at Washington State University-Vancouver, measured dissolved gases in the water column of Lacamas Lake in Clark County and found methane emissions jumped 20-fold when the water level was drawn down. A fellow WSU-Vancouver student, Maria Glavin, sampled bubbles rising from the lake mud and measured a 36-fold increase in methane during a drawdown. Methane is 25 times more effective than carbon dioxide at trapping heat in the atmosphere. And while dams and the water behind them cover only a small portion of the earth's surface, they harbor biological activity that can produce large amounts of greenhouse gases. There are also some 80,000 dams in the United States alone, according to the U.S. Army Corps of Engineers National Inventory of Dams. "Reservoirs have typically been looked at as a green energy source," says Deemer. "But their role in greenhouse gas emissions has been overlooked."

(Who said they're not building any more dams?)

Work wrapping up on Comal dam

By Zeke MacCormack, mysanantonio.com, Friday, August 10, 2012

New Braunfels, Texas — The long-awaited completion of a $19.2 million dam on a tributary of Dry Comal Creek marks the latest efforts to predict and prevent flooding in the Guadalupe River basin. "We're thrilled to have it done," Assistant Comal County Engineer Robert Boyd said Wednesday as contractors toiled to finish the 1,700-foot long, 86-foot-high structure. "It's going to be a huge benefit to Comal County and New Braunfels." It's the fifth flood-control dam built on tributaries of the creek since the 1970s, and the first finished of five new dams proposed by county leaders in the wake of massive flooding in 1998 that caused more than $1 billion in property damage and took 29 lives in South Texas. No work has occurred on the other proposed dams in the Guadalupe River basin due to a lack of available funding. But some of those sites will be studied in a $1.4 million mapping initiative of the Guadalupe, Blanco and San Marcos rivers now underway by the U.S. Army Corps of Engineers and the Guadalupe-Blanco River Authority. "We're trying to establish accurate flood plain models so the counties and cities along the river can properly manage future development," said GBRA Chief Engineer Tommy Hill. The models, based on measurements taken with lasers aimed from airplanes, will be far more accurate than existing maps, said Hill, noting large stretches of the Guadalupe River have yet to be modeled downstream of Seguin. "We want to turn these models over to the National Weather Service to help improve their forecasting on where flooding will occur and how high the water should get," he said.

Last year the City of New Braunfels installed eight sirens to alert residents to floods, wildfires and other emergencies. The city also has identified 19 flood-related projects, most involving neighborhood drainage improvements. Some will be in a bond package that's expected to go before voters in May. "The first group would be like $55 million, so I don't know how many we can

do," Mayor Gale Pospisil said Thursday. The city also is continuing its program of buying flood-prone riverside properties, thanks to a $700,100 grant announced last month by the Federal Emergency Management Agency. "When you have houses that have been replaced a couple of times due to floods, the best thing you can do is buy the property, make them into nice parkland and keep people from rebuilding," she said. City leaders have closely followed work on the county's new dam, Pospisil said, adding, "We're delighted it's almost done and we know it will help to alleviate flooding downstream." Not having witnessed flash-flooding in the valleys below Canyon Lake, nor seen much rain while on the job, employees of ASI Constructors couldn't help but wonder at times as they poured and compacted 80,000 cubic yards of concrete. "To build a big dam on a dry creek is very unusual," said Kevin Delo, job superintendent ASI, a Colorado firm that builds dams around the world. Unlike other projects he's worked on, there was no need to divert water while building the dam that features a 5-by-6 foot flow-through culvert that will cut the creek's maximum flow by 90 percent. The project was slated for completion in 2010, but was delayed by design changes and replacement of the original contractor and engineer. Since his firm took over last November, Delo said, "it's been a battle with the heat, material shortages and some mechanical issues." His crew of 50 worked around the clock, six days a week, to obtain substantial completion of the dam by July 31, a deadline mandated for the county to get a $12.2 million federal grant. While recently poured concrete cures behind metal forms, workers are busy putting dirt along the dam's base, planting vegetation and removing a concrete plant erected at the site. They should be done by late next month.

***Hydro**:*

(The article doesn't give the licensing process a resounding mark)

Company requests permit to study hydropower plant at Coralville Dam

Army Corps officials say such studies not uncommon, but usually don't go further

Written by Tara Bannow , Iowa City Press-Citizen, Aug 4, 2012, press-citizen.com

The question of whether a hydropower plant at the Coralville Dam would be cost effective or even feasible is one that someone out there is almost always trying to answer. In fact, one company is seeking a permit to study it at this very moment. Coralville LLC, an operation located in Boulder, Colo., is requesting a permit for a feasibility study through the Federal Energy Regulatory Commission, which has the ultimate authority over such projects. The request is in the comment period, and objections must be submitted to the FERC by Aug. 14. Permits to study this type of a project are doled out in three-year increments, and only one developer can hold a permit on one area at a time. Many people have studied building hydropower projects at the Coralville Dam over the years, but none have gone further than that, said Jim Bartek, hydropower coordinator with the U.S. Army Corps of Engineers' Rock Island office.

Although hydropower is beginning to look more attractive given the rising the cost of gasoline, money is probably still too much of a barrier, Bartek said. "They're very expensive to construct," he said. "It takes a lot of up-front investment and capital to at least get them off the ground." The U.S. Army Corps of Engineers' Rock Island District, which includes the Coralville Dam, covers 20 locks and dams and three reservoirs. Each site along the Mississippi River and most of the Illinois Waterway has a permit associated with it to study hydropower projects, Bartek said. The district has three hydropower projects, all of them at dams. A developer has a license to build a hydropower project at the Red Rock Dam in Pella, which will likely be constructed, he said. Many of the developers who apply to study a dam just put out blanket requests across the entire region, Bartek said, and it's not uncommon for them to be located in another state. The history of permits to study hydropower at the Coralville Dam doesn't reveal much about the people behind them. They're all limited liability companies with no websites and generic names like Midriver Power, Coralville Hydro and Coralville Energy. All of them at one time have received permits to study the

project and it fizzled from there. A project's potential impact on endangered species in the area could be a big deterrent, as well as whether the plant would interfere with the dam's operations, said Troy Lyons, director of engineering services with the University of Iowa's IIHR Hydroscience and Engineering program. FERC's arduous approval process takes years, and that alone could be driving people away, he said. "There's lots of paperwork and waiting periods," Lyons said, "and it has to be approved by the DNR and all the local agencies that control the fish and environmental concerns."

Press Release

Eagle Creek Renewable Energy Acquires Blue Heron Hydro, LLC, Will Develop Two New Hydroelectric Facilities on Vermont's West River

marketwatch.com, Aug. 6, 2012

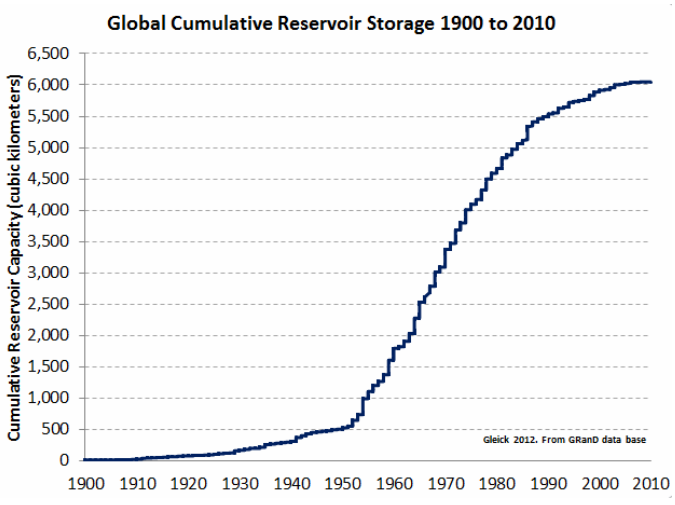
Morristown, N.J., Aug 06, 2012 (Business Wire) -- Eagle Creek Renewable Energy, LLC announced today that it completed the acquisition of Blue Heron Hydro, LLC from developer Lori Barg on July 28, 2012. Blue Heron owns the development rights to two hydroelectric facilities to be built on Army Corps of Engineers dams on the West River in southern Vermont. The acquisition is the first pure development project for Eagle Creek. The facilities, located at the Ball Mountain and Townshend dams, will total approximately 3.1 megawatts and will generate over 10,000 MWh of clean renewable energy per year using water already flowing through the Army Corps dams. The facilities have long-term power purchase agreements through the Vermont Sustainably Priced Energy Development (SPEED) program and will support Vermont's goal of providing 20% of electricity from new renewable resources by 2017. "The acquisition of Blue Heron is an important step in our effort to build a company that both acquires and optimizes existing hydroelectric facilities and constructs new facilities in a manner that is safe, responsible, and respectful of the environment and the many stakeholders of our water resources," said Bud Cherry, Eagle Creek's CEO. "This acquisition continues the growth and value creation underway at Eagle Creek while broadening the scope of our efforts to include the construction of new generating facilities from late stage development opportunities." The Federal Energy Regulatory Commission issued new 50-year operating licenses to the two Blue Heron projects earlier this year. Construction of the turbine and generator equipment for the projects has begun at Obermeyer Hydro, Inc.'s facility in Fort Collins, Colorado. On-site construction is expected to begin in the first quarter of 2013, with the projects in service in the third quarter of 2013.

(Sometimes you have to read this kind of stuff so you can face the world and get on with business in spite of it. Some positive and some negative views of hydro. There is not any mention of the benefits of dams for food, transportation, flood control, water supply, etc.)

Dam It, Don't Dam It, Undam It: America's Hydropower Future

Peter H. Gleick, President, Pacific Institute, 08/06/2012

Slowly, but surely, there is a growing realization that the future of energy in America, and around the world, lies not with fossil fuels but with alternative sources of energy. Fossil fuels in the form of combustible carbon (coal, petroleum, and natural gas) largely powered the world's massive and rapid industrial development over the past 200 years by providing convenient and economical energy, mobilized on a vast scale. The problem is not that we are running out of fossil fuels. It turns out the problem is that we have too many of them. Continuing to rely on carbon-based fuels to satisfy current and



expected global energy demand will, we now understand, destroy the stability of the very climate of the planet. We cannot afford the environmental damages that are rapidly accruing from continued use of fossil fuels.

As a result, attention has turned to finding ways of satisfying our energy needs with abundant renewable sources of energy that are also believed to offer significant environmental benefits. In recent years, much of the focus has been on capturing some of the vast energy available in wind and energy from the sun. There are other options, as well, including tidal power, renewable biomass, geothermal, and especially the power of falling water, in the form of hydropower. Hydropower is not new; indeed, it is the oldest and best developed renewable energy source in the world. Tens of thousands of major dams (and many more small dams) have been built around the world for power, water supply, or flood control. Indeed, archeologists have found dams that are thousands of years old. By some estimates 20 to 25 percent of the planet's entire annual river flow can be stored in artificial reservoirs, and incredibly, the redistribution of this much water has already caused a tiny but measurable change in the orbital dynamics of the planet. We get far more electricity from hydropower than from all the other renewable energy sources put together, and hydro facilities provide more electricity than nuclear plants. But the construction of new dams has slowed in recent decades, especially in the United States and Europe. Figure 1 shows the explosive growth in reservoir storage capacity globally over the past century, followed by a leveling off in recent years.

Why? In the U.S. we've built on almost all the good dam sites (and many bad ones), and the financial and environmental costs of new dams are high. Most major dams in the U.S. were built with taxpayer money. Throughout the 20th century, Congress authorized hundreds of billions of dollars to be spent from the U.S. Treasury to support efforts of the Bureau of Reclamation, the Army Corps of Engineers, the Bonneville and Tennessee Valley Authorities, and state and local authorities to dam U.S. rivers. Many of these dams helped power the nation through World War II and the economic expansion that followed. Many of them powered the rural electrification programs, and many of them today continue to provide inexpensive electricity to millions of Americans. But as the best dam sites were used, newer projects became more and more economically expensive. By the late 1970s taxpayers were beginning to question the value and effectiveness of these subsidies. Ultimately, both Jimmy Carter and Ronald Reagan worked to cut Congressional pork projects in the water sector, leading to the Water Resources Development Act of 1986, which effectively brought an end to most federal water pork (this history is described in a new book on U.S. water policy). Given today's fiscal realities, significant new federal funds for water projects are unlikely to materialize. Hydro projects must now typically be paid for by the local communities that receive the benefits, which leads to much more careful and rational economic analysis. Just as the financial costs of dams were rising, there was a revolution in our understanding of their environmental costs: to fisheries, wetlands, water quality, and river health. In the United States, almost all the environmentally acceptable and economically rational dam sites already have dams on them. Sure, we could put big new dams in the Grand Canyon, or on rivers in a few other pristine parks or protected areas, or on remaining undammed stretches of a few good-sized rivers. But the American people decided long ago that the environmental costs of such projects now usually far outweigh any benefits they would provide.

In California, for example, despite regular calls by some for new dams, the only plausible options under consideration are a dam squeezed between two others on an already over-exploited river, a dam in a dry valley that would be filled by pumping water from a nearby river, and raising the height of a 70-year-old dam to permit it to store more water. These are the kinds of options remaining to us, and none would generate much, if any, additional electricity. There is another factor at work today: The expanding efforts to restore the health of our rivers and streams have led to the realization that some of our oldest and most environmentally damaging dams can be cheaply and easily removed. Many of them are in decrepit condition -- even hazardous to downstream communities -- and the cost to repair or renovate them is high. Or they are silting in and becoming useless for power or water storage. As a result, hundreds of small- and medium-sized dams have actually been removed in recent years, successfully restoring significant

stretches of rivers from Maine to California. Very little hydroelectric power has been lost; indeed, a parallel refurbishment effort to put modern, efficient generators in other old dams has permitted us to increase overall hydroelectricity production. The good news is that smart and careful hydroelectric systems can still be built, here and especially in developing countries where significant untapped potential remains. But those systems must be built carefully -- not the way we built them in the United States, when local communities were not consulted, when environmental risks were unknown or ignored, and when true financial costs were hidden by subsidies. (And, I should note, not the way the Chinese are now pursuing them, aggressively, outside its own borders, in poorer countries.) We know better today. Renewable hydro systems can and will play an important role worldwide in helping us make the transition from fossil fuels to sustainable renewable energy sources. But we must not assume that all hydropower is good, and we must not go back to the days when we sacrifice other American values for the sake of any particular form of energy.

Renewable Energy Groups Applaud Senate Finance Committee Vote to Enhance Production Tax Credits

Modification of Qualifying Criteria is Critical for Continued Growth of Baseload Energy Sources Biomass, Hydropower, Waste-to-Energy and Geothermal

Washington, DC – August 3, 2012 – Leaders of four renewable energy trade associations today commended a last-minute vote by the Senate Finance Committee yesterday afternoon to extend and enhance production tax credits (PTCs) for all renewable energy sources. The tax credits are essential for the development of clean energy-generating facilities by offsetting the high cost of construction. Yesterday's action by the Committee will give renewable baseload technologies equitable access to this important program by allowing eligible facilities to qualify for the tax credits when construction is commenced. "We are highly encouraged that the Senate Finance Committee passed this tax credit extension, and we urge the full Senate and the House to approve the credit before the end of the 112th Congress," said Bob Cleaves, President and CEO of Biomass Power Association.

"The construction of new biomass facilities can be prohibitively expensive, and our industry relies on one-time tax credits to attract private investors to support the building of new plants. An extension of PTCs will help ensure that renewable energy sources continue to produce a growing share of electricity for our nation." "The Senate Finance Committee should be applauded for taking action to address uncertainty that is harming the economy and undercutting renewable power development," said Karl Gawell, Executive Director of Geothermal Energy Association. "The proposed changes in the tax code would encourage new renewable technologies across the board. Allowing projects to qualify by starting construction will spur development of geothermal power projects that would otherwise be on hold due to the impending PTC cliff. At this critical time, The Committee's action will create jobs and support U.S. companies in highly competitive global energy markets. We thank Senators Baucus and Hatch for their leadership." "The Energy Recovery Council commends the Senate Finance Committee for including important changes to the production tax credit that will allow all renewable technologies to benefit from this important program," said Ted Michaels, President of Energy Recovery Council. "Modifying the definition of placed in service will provide more opportunities for waste-to-energy facilities to utilize the renewable tax credit, which will in turn drive sustainable waste management practices in the United States."

"NHA commends the Finance Committee for approving an extenders package containing improvements to the PTC and ITC. These changes allow more base-load renewable energy like hydropower to be built as part of our national energy portfolio and increase America's access to reliable, affordable electricity," said Linda Church Ciocci, Executive Director of the National Hydropower Association. "We look forward to working with finance members and staff further on the provisions so that hydropower project developers can better utilize these important incentives." Baseload energy sources – which provide consistent power independent of external factors like weather or time of day – particularly rely on PTCs at a time when fuel costs are high

and electricity prices are low. These sources of energy combined produce almost 75% of the nation's renewable electricity, according to the U.S. Energy Information Administration.

(These are the times when dams do what they're supposed to do, but you won't hear a peep out of dam opponents when dams benefit society!)

Hydropower supply in Midwest, Plains ample despite drought

By Chuck Raasch and Doyle Rice, USA TODAY, usatoday.com, 8/9/12

The drought worsened this week in the Midwest and the Plains, but the region's hydroelectric power has not diminished because abundant 2011 rain and snow filled reservoirs. Nearly a quarter of the U.S. is enduring "extreme" to "exceptional" drought, according to the weekly U.S. Drought Monitor released Thursday by the National Drought Mitigation Center. That's the highest percentage in those categories since record-keeping began in 2000. The entire states of Arizona, Indiana, Illinois, Iowa, Missouri, Kansas, Nebraska, Oklahoma and Colorado are in drought.

But hydroelectric power generated by six big dams on the Missouri River in the Dakotas and Montana was 12% above normal, providing enough electricity in July to power 90,000 homes for a year, says Mike Swenson, Missouri River power production team leader for the U.S. Corps of Engineers in Omaha. The corps increased flow out of the dams to maintain enough water for navigation on the river from Gavins Point Dam in South Dakota to where the Missouri joins the Mississippi River at St. Louis, and the higher flows led to increased power production, he says. "If it continues to be dry like this into the fall, then once we get into the next year, we will start to see some reductions," he says. Buck Feist, a spokesman for the Bureau of Reclamation's Great Plains regional office, which oversees 79 reservoirs and 20 hydroelectric plants in nine states from Texas to Canada, says "reservoirs are working pretty much as they were designed — to store water to see you through these drought areas." Overall demand for U.S. electricity did not hit an all-time high in July, despite temperatures that made it the hottest month on record in the USA. That's largely because of conservation practices and a soft economy, Edison Electric Institute spokesman Jim Owen says. "Power demands are always higher in the summer when it is hot," he says, but "demand has been a little bit soft overall for the last couple of years for one basic, fundamental reason: Even though the economy has improved a little bit, it is still a little soft around the edges." Peak demand so far in 2012 for the nine states that are all or partially served by the Little Rock-based Southwest Power Pool (SPP) was 53,690 megawatts on July 31, more than 1,000 megawatts below the Aug 2, 2011, peak. SPP spokesman Pete Hoelscher says that power company officials are closely monitoring river levels for hydropower impact. If the heat persists, he says, demand for power could surge later this month when schools begin classes.

(Interesting – we give funds to groups who bring law suits about hydro projects!!!! How many people know that?)

Hydropower bills energize environmental debate over dams

By Michael Doyle | McClatchy Newspapers, 8/10/12, mcclatchydc.com

WASHINGTON — Hydropower dams would get a boost, while their skeptics would get punished, under a controversial new bill backed by Western conservatives in Congress. In a bit of tit for tat, the legislation introduced this month would strip federal funding from environmental groups that have challenged hydropower facilities in court over the past decade. The bill further would block federal money from being used to study or undertake dam removals, save for the rare occasion when Congress has authorized the action. "This bill would . . . help eliminate government roadblocks and frivolous litigation that stifle development," Rep. Doc Hastings, R-Wash., said in a statement when he introduced it. The chairman of the House of Representatives Natural

Resources Committee, Hastings has convened a panel hearing for next Wednesday in Pasco, Wash., that will be stacked with hydropower supporters, providing a hint of legislative momentum.


Grand Coulee Dam

But with little time left in a Congress now mostly focused on campaign season, and with the 17-page Hastings bill poisonous to prominent environmental groups, the legislation appears fated for now to serve primarily as debate provocation. "This is incredibly extreme," said Jim Bradley, the senior director of government relations for American Rivers. "I haven't seen anything quite like this. It's a little bit shocking for a member of Congress to create this kind of blacklist." American Rivers, the National Wildlife Federation and Trout Unlimited are among the organizations that could be cut off from federal grant funding under the bill; each has been party to a suit potentially challenging hydropower generation, and each has received federal money. "We're very concerned about it," said Steve Moyer, Trout Unlimited's vice president for government affairs. It's all a reminder that hydropower, however fresh it sounds, can generate political heat as well as occasional cooperation. In June, for instance, a sharply divided House passed a bill by Rep. Jeff Denham, R-Calif., that would permit California's Merced Irrigation District to raise the spillways on the district's New Exchequer Dam. That would increase power production and water storage, but it also would temporarily inundate part of a protected Wild and Scenic River. The Obama administration opposes the Denham bill, which faces an uncertain future in the Senate. Hydropower rhetoric, too, can get heavy. At a hydropower hearing last year, Rep. Tom McClintock, R-Calif., the chairman of the House Water and Power Subcommittee, denounced American Rivers, which advocates for protecting river habitat nationwide, as an "extremist organization." Last year, on a closely divided vote, McClintock won House approval for an amendment blocking the removal of what he called "four perfectly good hydroelectric dams" in the Klamath River Basin of Oregon and Northern California. Congress later dropped the amendment; but, as with the new Hasting bill, a point had been made about an important part of the nation's energy mix.

In a more collaborative vein, Rep. Cathy McMorris Rodgers, R-Wash., won unanimous House support in July for a bipartisan bill that streamlines licensing for small hydropower projects. The legislation would exempt from federal licensing requirements the nation's 1,100-plus hydro projects that aren't operated by the federal government and that generate less than 10 megawatts of electricity; the current exemption is limited to projects that generate less than 5 megawatts. "Notwithstanding all of (the) benefits, the regulatory approval process for hydropower development, especially for smaller projects, can be unnecessarily slow, costly and cumbersome," Rodgers said during House debate. Her bill awaits Senate action. Hydropower accounts for about 8 percent of all electrical production nationwide. California has more hydropower facilities than any other state, while Washington state leads in overall power production. Lawsuits periodically have challenged these dam operations, directly or indirectly, and supporters of Hastings' bill say the litigation slows energy development and increases consumer costs. Groups that file lawsuits that "if successful would result in" a reduction in hydropower generation would be covered by the federal grant cutoff, under the new bill. Attorneys for such groups likewise would be cut off. Spencer Pederson, a spokesman for the House Natural Resources Committee, said the panel didn't have a list of which organizations might be affected. "It is a policy statement about the importance of hydropower and how taxpayer dollars shouldn't be used to destroy that resource," Pederson said of the bill. Court and federal grant records show that American Rivers would be affected because the group has litigated and it's received federal funding, including a $1 million National Oceanic and Atmospheric Administration grant last year. The 110,000-member Trout Unlimited likewise has sued and has received federal grants,

including a $350,000 habitat conservation grant last year, federal records show, while the significantly larger National Wildlife Federation has sued and received a variety of habitat conservation grants last year.
(Excerpts -
Hydro/dam history – go this web site:
http://blog.oregonlive.com/terryrichard/2012/08/bonneville_dam_fulfilled_campa.html
and see photos past and present)

Bonneville Dam fulfilled campaign promise when FDR dedicated it Sept. 28, 1937 (photo galleries)

blog.oregonlive.com, August 11, 2012, 10:59 AM , By Terry Richard, The Oregonian

President Franklin D. Roosevelt fulfilled a campaign promise when construction on the $88.4 million project started in 1934. Named for Army Capt. Benjamin Bonneville, an early explorer of what became the Oregon Trail, Bonneville Dam boasted some unique engineering designs. Colonial-revival-style architecture was featured in the administration buildings. The powerhouse on the Washington side opened in 1981 and the modern navigation lock in 1993. The 97-acre district around the dam was added to the National Register of Historic Places in 1986.

Hydropower: The Columbia River Basin combines abundant water with elevated terrain, allowing its 56 dams to produce 40 percent of U.S. hydropower. Bonneville is the second oldest dam on the Columbia, behind Rock Island Dam (built in 1933 near Wenatchee, Wash.). The Bonneville Power Administration also celebrates its 75th anniversary this year.

Kings of the dams: The three great Depression-era dams, Bonneville, Hoover and Grand Coulee, are still the best known in the West. Grand Coulee, on the Columbia in central Washington, is by far the biggest, generating six times the power of Bonneville and three times the power of Hoover on the lower Colorado River.

Navigation: The Columbia and Snake rivers operate as a freight-hauling waterway from Lewiston, Idaho, to the Pacific Ocean, nearly 500 miles. The navigation locks are designed to handle a four-barge tow, the equivalent of 140 jumbo rail cars or 538 semi-trucks.

Fish counts: When formal counting began at Bonneville in 1938, salmon runs in the Columbia River were already severely depleted. The tally of 469,000 salmonids that year has grown to 1.8 million in 2010. September is peak month to see chinook salmon.

The hatchery: Bonneville Fish Hatchery, managed by the Oregon Department of Fish and Wildlife, predates the dam, having been built in 1909. Its most famous resident is Herman the Sturgeon, 10 feet long, 450 pounds and about the same age as the dam.

Bridge of the Gods: The steel-grated bridge, four miles upstream at Cascade Locks, opened in 1926. The pool behind the dam mandated that the bridge be rebuilt by elevating it 44 feet. It reopened in 1940. Toll today is $1 for automobiles. ----------.

Recreation: Lake Bonneville, the 46-mile long pool behind the dam, is known around the world for high-end sailing, but fishing is the main recreational use. Seven camping parks are near the

lakeshore. Lowlands below the dam on the Washington side are laced with trails that can be

hiked year-round.----------.

Water:

(Some agencies don't care about people.)

Placer County Water Update

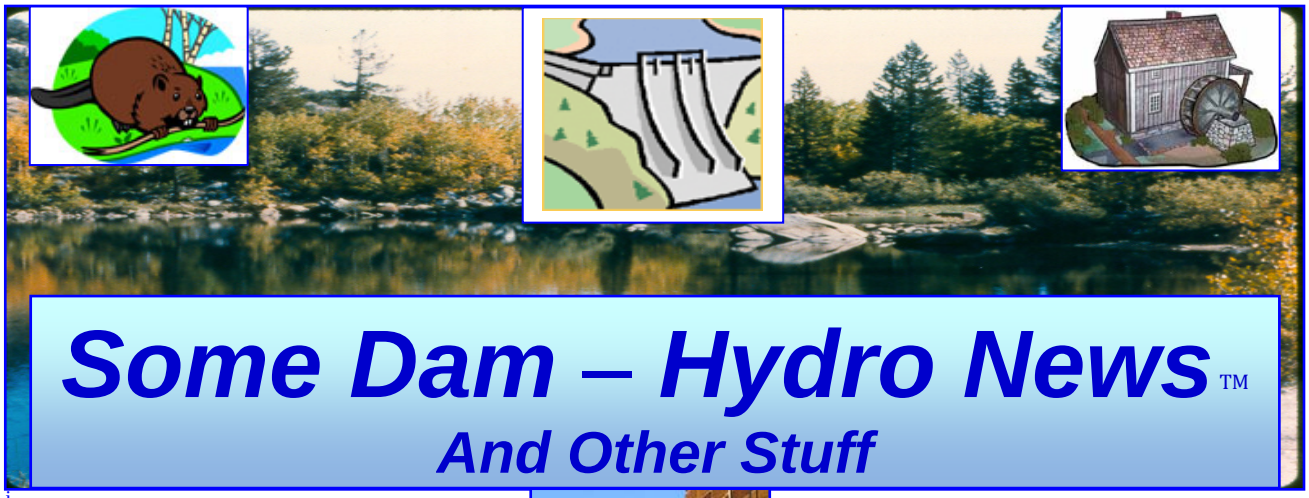
rocklintoday.com, August 03, 2012 – PCWA

Auburn, CA -- As varied interests debate water flows through the Pacific Gas and Electric Company's Drum-Spaulding Hydroelectric Project, the Placer County Water Agency is working to ensure that Placer County water supplies are not reduced. PCWA receives up to 125,400 acre-feet of water from the Yuba and Bear rivers each year via PG&E water systems and uses this water to supply most of its customers in the central and western portions of Placer County. "This water supply can't be replaced; we can't afford to lose any of it," the agency's Director of Strategic Affairs Einar Maisch said Thursday (Aug. 2) in a presentation to the PCWA Board of Directors. Maisch said PCWA has been intimately involved in PG&E's ongoing six-year effort to obtain a new federal license for the Drum-Spaulding Project and that staff believed that agreements-in-principle had been reached on important water flow issues. He said, however, that recent July 31 filings by state and federal resource agencies indicate that they are backing away from earlier positions. Maisch and Resource Planning Administrator Andy Fecko listed several issues of concern, including limitations on flows in the Bear River, adequate flows in back-to-back dry years, a mandatory "block flow" increase of 2500 acre-feet on the South Yuba River, higher flows for anadromous fish, revised seasonal flows into Folsom Reservoir, and uncertainty of flows in Auburn Ravine.

All of these changes, if implemented, could result in water supply losses of 20,000 acre-feet or more to PCWA and seriously impair the agency's ability to supply customers in Placer County, Fecko said. Similar filings were made on NID's Yuba-Bear Hydroelectric Project, which serves customers in both Placer and Nevada Counties. The NID Board of Directors will be considering the impact to its customers at its Board meeting on August 8. PCWA is committed to doing what it can to protect all sources of water that benefit the people of Placer County. "The shame of this is that the parties had negotiated significant environmental enhancements to the Yuba and Bear River watersheds, without significant impacts to customers," Breninger said. "These new conditions just released on Tuesday provide very little additional environmental benefit but will be devastating to existing residents and businesses." The Board of Directors authorized staff to continue coordinating with PG&E and NID in negotiations with involved agencies and interest groups, but also to prepare and file alternative terms and conditions if needed, and to file for an administrative hearing to compel changes if the issues cannot be resolved. Maisch said the process will likely be expensive, costing up to $500,000, if all steps are necessary. Directors will discuss budgeting at a later date. The water supply protection effort is in addition to PCWA's ongoing relicensing program for its Middle Fork American River Hydroelectric Project. The agency has invested seven years and $37 million in the Middle Fork relicensing.

[i]This compilation of articles and other information is provided at no cost for those interested in hydropower, dams, and water resources issues and development, and should not be used for any commercial or other purpose. Any copyrighted material herein is distributed without profit or payment from those who have an interest in receiving this information for non-profit and educational purposes only.

8/24/2012



Some Dam – Hydro News™

And Other Stuff

i

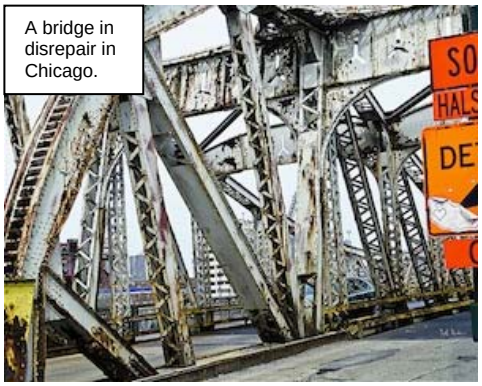
Quote of Note: *"Life is a dream for the wise, a game for the fool, a comedy for the rich, a tragedy for the poor." -- Sholom Aleichem*

"Good wine is a necessity of life." - -Thomas Jefferson
Ron's wine pick of the week: **Penfolds Koonunga Hill Shiraz Cabernet 2009**
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Other Stuff:

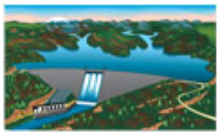
Let's Get Ready to Crumble

Posted by Alexander Reed Kelly, Aug 18, 2012, truthdig.com



A bridge in disrepair in Chicago.

The American Society of Civil Engineers, the nation's oldest national engineering group, has awarded America's roadways a grade of D-, rated one in four bridges as "structurally deficient or functionally obsolete" and warned that thousands of American dams are on the verge of failure. It warned that unless tax dollars are redirected, the whole thing could crumble. Altogether, Americans spend 4.2 billion hours a year stuck in traffic because of poorly maintained roads at a cost of $78.2 billion annually in squandered time and fuel. The average age of America's 600,000-plus bridges has reached 43 years old, and Congress needs $17 billion a year to make them safe for use. The nation has 6,000 deficient dams, with 1,800 of them rating a high "hazard potential," which means that structural failure could kill people. The society's complete report card can be found here: http://www.infrastructurereportcard.org/



Dams:

(Seismologists predict that there could be "a whole lot of shakin' going on"!)

Earthquake Study Raises Risk Potential Around Central Wash. Dams

Tom Banse, 08/13/2012, kuow.org, Transcript

Wanapum Dam, Wash. - Central Washington was considered at low risk for earthquakes back when big hydropower dams went up on the Columbia River many decades ago. But a recently completed seismic hazard assessment has found greater earthquake potential for the area than previously thought. Now the dam owners have to figure out how to respond. Seismic retrofits could cost ratepayers across the region hundreds of millions of dollars. I'm sitting on the Columbia River shore just across from the massive concrete and rock face of Wanapum Dam. When I drove over here -- over the Cascade Crest from the Puget Sound Basin -- I thought I was leaving Earthquake Country behind. Turns out, I'm wrong. But you know, the folks who designed this dam more than half a century ago -- and the nearby dams up and downriver -- they too didn't consider this Earthquake Country. That according to the engineers who now have to figure out what if anything to fix. "The potential always existed. You know, we're just more aware of it and we have a better understanding now of what the potential loads are," says Grant County PUD Hydro Engineering Manager Kevin Marshall. The "better understanding" comes from a newly released seismic hazard reassessment of the Mid-Columbia region. It took four years to produce and was commissioned by three Central Washington public utility districts. The new study covers six large hydropower dams they own. If you follow the curves of the Columbia River downriver through central Washington, you'll pass by Wells Dam, Lake Chelan Dam, Rocky Reach, Rock Island, Wanapum and Priest Rapids Dam. "Our Chelan and Rock Island structures were designed and built in the 1920's and early 30's," says Bill Christman, Marshall's counterpart at Chelan County PUD. "Back then, people didn't have a good understanding of the earthquake potential. And if there was an earthquake, they didn't consider it to be catastrophic necessarily, because the region was virtually unoccupied." Now there are a lot more people here. And the estimate for how strongly the ground could shake from a local earthquake has tripled or quadrupled.

Consulting seismologist Ivan Wong says the risk comes primarily from crumpling of the earth's crust roughly between the Oregon-Washington border, Yakima, Ellensburg and Wenatchee. "Those folds, those geologic structures we see in the Yakima Fold Belt are underlain by faults that can rupture in large magnitude earthquakes," he says. "Probably in the range of the upper magnitude sixes to maybe more than magnitude seven." So here's the question ... could the Mid-Columbia dams survive that kind of big earthquake? "For the most part, I think the dams are going to be very robust," says Marshall. "They will survive, but there will be some triage necessary," Christman adds. "They won't survive without some damage. We don't think there will be any uncontrolled rapid release of water, which is one of the standards we use to try to decide what if anything do we need to do before an earthquake to really protect those structures." Last year's killer quake in Japan showed that large dams can withstand just about anything you can throw at them. This according to the dam safety chief for the federal Bureau of Reclamation, Brian Becker. "In Japan, there was a report of one failure and I think seven dams that were damaged," he says. "In general, I think dams fared relatively well. So maybe there's some comfort and solace in that." Yet the Mid-Columbia dam owners and their federal regulator are taking an approach that has very little tolerance for risk. After all, lives are at stake. They say they're prepared to spend money to protect against an event that may only happen once every 10,000 years. Grant and Chelan County PUD started to analyze specific vulnerabilities at each of their dams even before the ink was dry on the regional seismic study. The next round of studies promise to open a tough debate about what price for what degree of safety. "When you get into dam issues where you have to do remediation, it gets very expensive very quick," Marshall says. "A good example I think is we've got these big transformers on the deck of the dams that could fall over or be misplaced," Christman says. "Just tying things down and responding in a way that keeps things from falling over in a big ground shaking event costs a lot of money." In the end, the multimillion dollar cost for earthquake retrofits comes out of ratepayer pockets. The three Mid-Columbia public utility districts sell surplus power throughout the Northwest, so pretty much all of us could be chipping in small amounts in coming years. The new information about earthquake potential in central Washington has prompted the U.S. Department of Energy to launch its own seismic risk update for the Hanford site and its sensitive nuclear facilities. Separately, the Eugene

Water & Electric Board has ordered up a similar comprehensive seismic reevaluation of its hydropower dams on the McKenzie River in the Oregon Cascade foothills.

(It took nine years to reach a decision!)

Brown Bridge Dam begins deconstruction

By Loraine Anderson, August 16, 2012, record-eagle.com

Traverse City, MI — Some 75 to 100 people gathered Wednesday afternoon for what U.S. Sen. Carl Levin called Brown Bridge Dam's "reverse ribbon-cutting." "This is not a new project," Levin told a crowd gathered on an overlook not far from a hill excavated in 1921 to provide the soil needed to fill the dam's berm. "We're putting something back that was disturbed for good reasons at the time. "I congratulate you not only for doing this, but for also doing it right," Levin said. After nine years of study, discussion, debate and engineering, preliminary deconstruction began this week at the dam site off River Road in East Bay Township following the Michigan Department of Environmental Quality's approval of a permit to remove the 91-year-old dam.

An access road for trucks and dredging equipment is already being prepared, said Sandra Sroonian, senior principal engineer for AMEC, which was hired to design, engineer and oversee Brown Bridge Dam's removal. Dredging in a sand delta that formed over the last 90 years at the north end of Brown Bridge Pond could start next week. On Monday, workers will begin removing equipment and scrap metal from the power house, she said. Other federal guests at the kickoff included Dan Ashe, director of the U.S. Fish & Wildlife Department, and Bob Jackson from the Bureau of Indian Affairs. "It's important to celebrate projects like this that restore a piece of property that has given much," Ashe said. Fish & Wildlife has funneled $1.5 million in grants to the Grand Traverse Band of Ottawa and Chippewa Indians, which is one of the many partners in the project. The BIA's Jackson, who kayaked the Boardman River Wednesday morning, came bearing good news. The project, officially called A River Reborn, was selected nationwide as a recipient of the Department of Interior's national 2012 Partner in Conservation award.

Brown Bridge Dam is the last of five dams built on the Boardman River from 1867 through 1921, and is slated for removal this summer. The other two dams to be removed are Sabin and Boardman over the next three years. Union Street Dam in Traverse City will be modified. Hank Bailey, a Grand Traverse Band natural resources official, spoke about an important American Indian principle of considering the impact on seven generations when making important decisions. "What I see here makes my heart feel so good," Bailey said. "I think this area is beginning to understand the seven generations concept." He likened the river restoration project to clearing a blocked artery. "We're healing one of Mother Earth's arteries. I think she's been hurting for a long time," he said.

(In a time when dams were looked upon more positively and the benefits they provide were appreciated. I wonder if Chet is related to Tom?)

Ceremony marks 50 years since JFK dedicated dam

By Chet Brokaw Associated Press , The Associated Press - Pierre, S.D. , August 18, 2012

Exactly 50 years after President John F. Kennedy dedicated the Oahe Dam, several hundred people gathered at the same spot Friday to marvel at how much the massive dam has changed life along the Missouri River. Pierre Mayor Laurie Gill said the dam and its reservoir flooded hundreds of thousands of acres of good farm land, but it has also helped prevent devastating floods, generated electricity, provided fishing and other recreation activities and helped spur growth in Pierre and Fort Pierre just a few miles below the dam. "It's difficult for me to imagine Pierre and Fort Pierre without the Oahe Project," Gill said during the one-hour ceremony that was held at the visitor's center atop the dam. Fishing boats moving through the reservoir served as a backdrop. At least 18 men who worked on the dam's construction attended the ceremony. Former U.S. Sen. George McGovern of South Dakota, who attended the 1962 ceremony, had planned to speak Friday, but was unable to attend because he has a bad cold. Eric Stasch, operations manager at Oahe Dam, noted that Kennedy said the dam would not only help the Missouri River

basin but also boost the nation's economy and security. "You can hear the message of hope and commitment in JFK's words, and the Oahe Dam was a catalyst for the tapestry of a brighter future he painted that day," Stasch said. Oahe Dam is one of the world's largest rolled-earth dams, according to the U.S. Army Corps of Engineers, which operates the Missouri River dams. The reservoir is 231 miles long with 2,250 miles of shoreline, stretching from the South Dakota capital of Pierre to the North Dakota capital of Bismarck.

Kennedy said in 1962 that the Oahe Dam and the other five built on the Missouri River would reduce flooding, create reservoirs for recreation, generate electricity and provide regulated water for irrigation, drinking and downstream barge traffic. He noted that President Franklin D. Roosevelt took an idea from President Theodore Roosevelt to promote legislation that authorized construction of the Missouri River dams. "Too often we take for granted these miracles of engineering and milestones in river development. Too often we see no connection between this dam and our nation's prosperity, our national security and our leadership of those nations who cherish their freedom," Kennedy said. Kennedy was also prophetic in noting that the water in the river could not meet all demands all the time. In dry years, upstream states have fought to keep more water in the reservoirs in Montana, North Dakota and South Dakota to support fish reproduction and the economics of a huge sport fishing industry. Downstream states have urged higher releases of water to support downstream barge traffic and water supplies for cities and industries. The dams have mostly prevented the uncontrolled flooding of the past, but extensive flooding occurred last year in the Dakotas, Iowa, Nebraska and Missouri because of record releases caused by a deep mountain and prairie snowpack and heavy spring rains in the upper basin. However, Stasch and others noted last year's flooding would have been much worse without the dams. Pierre lawyer Jamie Damon said at Friday's ceremony that she got Kennedy to come to South Dakota because of a fourth-grade project, in which each student had to write a letter to someone. She invited the president to dedicate the dam, which her father helped build as a bulldozer operator. "I wanted the president to come to Pierre to see the dam my dad built. While I knew other people worked on it, I was 9. My dad built it," she said. Russ Nyhaug, 84, of Baltic, said the ceremony brought back memories of his work as a mechanic on the tunnels that deliver water to the power generators. "It feels good to be a part of something like this. There was a lot a lot of hard work, but there was a lot of fun, too," Nyhaug said.

(I'm guessing the phrase 10,000 times safer means that the design earthquake has a probability of one in 10,000 years.)

Repair plan for the vulnerable Lake Isabella Dam released

kget.com, 8/16/12

The Army Corps of Engineers released a tentative plan Thursday on how to repair the vulnerable Lake Isabella Dam. They plan to reinforce the existing dam, not build a new one. While design is happening now, construction on the dam won't start until 2016. The plan is to raise the dam 16 feet, create a spillway for overflows, patch areas susceptible to seeping, and earthquake-proof the dam. The Army Corps of Engineers Sacramento District said this will make the dam 10,000 times safer. Problems with the dam were discovered years ago and the dam has since been dubbed one of the most "at-risk" dams the Army Corps of Engineers takes care of nationwide. "This is a very critical project for us," said Joe Calcara, Civilian Leader for the Army Corps of Engineers South Division. "This is our number one priority in this region for dam safety." If the dam broke, officials predict catastrophic results. They predict the water would rush into the Kern Valley eventually overwhelming hundreds of thousands of residents in Bakersfield. Congressman Kevin McCarthy, as well as other Army Corps of Engineers leaders, toured the dam Thursday, assuring the public that the dam is safe for now and will be even safer when it's repaired. "Safety is the number one concern," said McCarthy. "This is one of the top safety concerns throughout the nation."

"We think this dam project will be completed about ten years from now," said Col. Bill Leady, Commander for the Army Corps of Engineers Sacramento District. Dam construction will actually start in 2016. Estimated costs are between $400 and $600 million. These are funds that

Congressman McCarthy said will be available. "This is on the top priority list and will be fully funded," he said. The most controversial part of the plan is, at some point during construction for about nine to ten months, the lake water will be lowered seven feet from its average level. This would be from 2,550 feet above sea level to 2,543 feet above sea level. Currently, Lake Isabella is low at 2,547 feet above sea level. "It just can't be done in any cost effective way without lowering the water for a short period," said Col. Leady. Lowering the lake level may cause submerged trees and rocks to peak out, which may bother boaters. "It's fun to go out on the water, but if it's too low you're going to get stuck, and you're going to run into rocks and trees and that won't be fun," said Jennifer McLaughlin, visiting the lake from Orange County. "That's not even cool." said Mike Rizzo, Lake Isabella resident. "That will wreck a lot of crap around here. The tourism, the economy, and all that good stuff" The Army Corps of Engineers said it will try to avoid lowering the lake level during the tourism season. The lake may not be lowered until 2019 or later.

Lock and dam system help barges on upper Mississippi but conditions worsen downriver

Erik Hogstrom Telegraph Herald, August 18, 2012, therepublic.com

Barges vs. Trucks

- The 15-barge tow has a total cargo capacity of 22,500 tons, or 787,000 bushels. It would require a fleet of 870 - 53-foot dry vans to haul the same quantity of freight.

Barges vs. Trains

- In comparing the 15-barge tow to the jumbo hopper car, you would need 225 of them to carry the equivalent amount of cargo.

Dubuque, Iowa — Thank the lock and dam system for keeping tri-state area barge traffic flowing. Depleted by drought, Mississippi River conditions tell a sobering tale downriver. "The upper river is still in pretty good shape because of the lock and dam system," said Mike Petersen, spokesman for the St. Louis District of the U.S. Army Corps of Engineers. "Once you get out of the lock and dam system, into open water, we get all the mud from the Missouri River but none of the water from the Ohio River." Diminishing river levels to the south mean an extra burden for barge captains and a potential burden for consumers later this year. "We're seeing more difficulty from St. Louis south," said Ann McCulloch, spokeswoman for the American Waterways Operators, a 350-member trade association representing the nation's tugboat, towboat and barge industry. "If your goal is to get to the Port of New Orleans, you have to navigate low waters to get there. " Every 1-inch loss of water depth in the river decreases the carrying capacity of a single barge by 17 tons of cargo. Barge operators are lightening loads to avoid sandbars and other low spots along the river. "Our members are moving commerce, albeit with lighter loads, so they are making more trips," McCulloch said. More trips mean more costly transport, with consumers likely to feel the economic pinch. The U.S. Department of Agriculture's initial estimates of the drought's impact at the grocery store indicate poultry costs rising 3 to 4 percent, beef rising 4 to 5 percent and dairy products rising 4.5 percent — increases that add up to more expensive shopping. Local barge operators are keeping an eye on river conditions. "As of right now, it's OK," said Capt. Tom Weber, of ARTCO Fleeting Services of Dubuque and Cassville, Wis. "But if it keeps dropping, it's going to create problems. They're talking about loading barges a little lighter. You're going to have to use more barges to move the same amount of product." However, engineers designed the lock and dam system with low water in mind. "It is designed to maintain a 9-foot channel under all flow conditions," said Kevin Landwehr, the hydrology and hydraulics chief of the U.S. Army Corps of Engineers' Rock Island District. Supplemental dredging helps maintain that channel, and Landwehr described 2012 as "fairly normal" for the tri-state area portion of the Mississippi River. "We're open for business and we intend it will remain open," Landwehr said.

***Hydro**:*

The Green Mountain State Just Got a Little Greener with Eagle Creek's New Hydroelectric Facilities

August 14, 2012, By G. Winston, greenbuildingelements.com

Putting the "green" back in the Green Mountain State, Vermont's Eagle Creek Renewable Energy, LLC recently acquired the development rights for two hydroelectric facilities from Blue Heron Hydro, LLC. This acquisition marks the first pure development project for Eagle Creek, and is scheduled to be built on Army Corps of Engineers dams in southern Vermont. Although the project represents a major step for the company in terms of fostering growth and opportunity, it also indicates the advancement of environmentally friendly facilities and an increase in general public awareness of energy conservation on a large scale.

The Blue Heron Hydro Project

Specifically, the hydroelectric facilities will be located at the Ball Mountain and Townshend dams in southern Vermont. Using only the water flowing through these dams, the facilities will total an estimated 3.1 megawatts and generate more than 10,000 MWh of clean and renewable energy each year they're active. This outstanding efficiency is a step toward the state's overarching goal of ensuring that at least 20 percent of Vermont's electricity is derived from new renewable resources by the year 2017. Further support for the facilities and additional measures taken to meet this goal are made possible by the Vermont Sustainably Priced Energy Development (SPEED) program. Bud Cherry, the CEO of Eagle Creek, recently commented on the project in a press release published by Business Wire. He stated, "The acquisition of Blue Heron is an important step in our effort to build a company that both acquires and optimizes existing hydroelectric facilities and constructs new facilities in a manner that is safe, responsible and respectful of the environment and the many stakeholders of our water resources."

The Facts About Hydroelectric Power

One of the oldest forms of energy in the world, hydroelectric power is made possible simply by utilizing flowing water to spin turbine blades and activate generators. These generators supply power to homes and businesses in a designated area while the water is continually recycled through the blades, thus eliminating consumption without sacrificing efficacy. Although hydroelectric power plants and generators are on the rise, they still only account for about 7 percent of the nation's total power. The majority of energy today is produced by fossil-fuel and nuclear power plants, which are much less sustainable.

In addition to the general eco-friendliness of using renewable water as a central power source, hydroelectric power comes with several additional benefits.

- **Limited Pollution**: Since fuel isn't burned, hydroelectric power produces no pollution.
- **Economic Efficiency**: Nature provides the water for free, while the operations and maintenance costs are exceptionally affordable.
- **Reduced Greenhouse Gas Emissions**: Hydroelectric power helps to reduce the growing problem of global climate change.

- **Reliability**: Several hundred years of using this technique verifies the dependability of hydroelectric power.

Looking Forward to a Brighter Future with Sustainable Energy
The growth of hydroelectric power facilities offers excellent opportunities for those with a construction management degree to apply their skills toward building a more environmentally friendly and sustainable planet. As the planet's resources continue to grow thin, building these more efficient facilities will become more and more urgent in preserving the environment without compromising a comfortable lifestyle.

(Here's a project that will be in for a hard hill to climb. The generating units would use the Archimedes screw type unit being used in the UK. The Yuba River is fraught with controversy over fishery issues. This is not Canada where they actually like hydro projects.)

Canadian Firm Proposes New Yuba River Dam

August 13, 2012, yubariver.org

A surprise application by a privately-owned Canadian company to build a new hydroelectric facility at Daguerre Point Dam on the lower Yuba River has elicited response from conservation groups and resource agencies. "This project would jeopardize years of hard work by the public and resources agencies to restore the Yuba River's wild Chinook salmon runs, which are among the best in the Central Valley, as well as other endangered fish species," said John Regan, President of the South Yuba River Citizens League (SYRCL), a Nevada City-based nonprofit dedicated to protecting the Yuba River. "It's completely inconsistent with years of regional cooperation and progress on a huge array of issues affecting the Yuba. And worst of all, the proponents never bothered to contact local communities or agencies about their proposal."
In a Preliminary Permit Application dated July 9, 2012 filed with the Federal Energy Regulatory Commission (FERC), Archon Energy of Tampa, Florida is proposing a 3-megawatt hydroelectric facility adjacent to Daguerre Point Dam. According to the filing, the project would "divert a significant portion of the river flows from just upstream of the existing dam" through a series of turbines. According to the company's website, Archon Energy is a privately-owned Canadian company.

Formal responses, none favorable, have been filed with FERC by SYRCL, the Yuba County Water Agency, the National Marine Fisheries Service, and the California Department of Fish and Game. SYRCL's response was co-signed by three other conservation groups—California Sport fishing Protection Alliance, American Whitewater, and Foothill Conservancy. SYRCL believes that the proposed project would conflict with a range of complex resource issues on the Yuba. In February 2012, the National Marine Fisheries Service (NMFS) issued a Biological Opinion which found that Daguerre Point Dam likely jeopardizes the survival of three species of endangered fish. NMFS ordered the Army Corps of Engineers, which operates Daguerre, to improve fish passage for migrating salmon, steelhead trout, and sturgeon. "This application flies in the face of current conservation science and river management" said Gary Reedy, SYRCL's River Science Director. "Not only does it conflict with the Biological Opinion, it disregards the existence of species listed under the Endangered Species Act. The application suggests that diverting a majority of the river through turbines would have no effect on fish, and that there is no need for additional studies. In fact, a diverse group of stakeholders on the lower Yuba River has been engaged for years in planning studies of salmon habitat and impairments, without the

complexities of this new project." "Archon has not accounted for their project's potential negative impacts on existing fish passage at Daguerre or future efforts to improve fish passage, not to mention agricultural water diversions and other regional interests," said Regan. According to its Application, Archon envisions an expedited permitting process that would allow it to submit a formal project application to FERC (the Federal Agency which permits dams) by January 31, 2013. The Application further states, "The Applicant does not propose to do any new studies and is not aware of any studies that should be conducted to provide critical information to determine the potential impacts, which should be determined before licensing." "This filing illustrates how uninformed these out-of-town proponents are about the Yuba River," said Regan. "Local, state and federal resource agencies and a diverse group of stakeholders have been engaged in years of painstaking negotiation and collaboration to improve conditions in the lower Yuba. It's mind-boggling, frankly. SYRCL and our partners are going to fight this project tooth and nail from the outset. This is a low-benefit project that would cause more harm than good."

The project would be located downstream of a 39-mile segment of the South Yuba River that was declared a California Wild & Scenic River in 1999. That designation prohibits the construction of new dams and related structures, but would not prevent Archon's proposal. ----------.

(Hope someone explains why Federal money funds any organization! When the shoe is on the other foot, it gets kinda uncomfortable – huh?)

Doc Hastings Holds Hearing on Bill Seeking to Punish Anti-Hydropower 'Extremists' and Thwart Dam Removal

By Nina ShapiroThu., Aug. 16 2012, blogs.seattleweekly.com

Yesterday, Rep. Doc Hastings presided over a hearing in Pasco about a bill he has proposed in Congress that aims to thwart hydropower opponents. The bill would block federal funding from groups that call for dam removal--groups that in his opening remarks he labeled "extremists."

He elaborated:

> Over the past decade, they changed their tactics from the overt to the more covert - but they are as committed and well-funded as ever. They've poured their money into lawyers and lawsuits aimed at pressuring federal agencies and seeking to advance their agenda in the courts, and particularly in the courtroom of a Portland judge who's now admitted his anti-dam bias.

What Hastings is referring to here is protracted litigation over the proposed dam removal on the Snake River. Like most such cases, the litigation stems from environmentalists' concerns that the dams are impeding salmon runs-- an argument that runs up against strong hydropower support from farmers and trade groups. In a television interview last spring, the judge who long presided over the Snake River case indicated that he ultimately sided with the environmentalists. "I think we need to take those dams down," U.S. District Court Judge James Redden said. That may have been the last straw for Hastings, whose Central Washington district takes in part of the Snake River. But the bill he's introduced would have an effect that goes way beyond what happens in Central Washington, says Jim Bradley, senior director for government relations at the D.C.-based non-profit American Rivers. That's because the bill doesn't only punish groups like his. It also says that no federal dollars can be spent on dam removal projects--or even studying the possibility of such projects--without Congressional approval. Bradley calls this section of the bill, not as widely known as the section inflicting payback on environmental groups, "really nefarious." He says that there are a lot of "unsafe" dams out there, particularly on the East Coast. "These are dams that date back to the Industrial Revolution," he says. "They generate power in the kilowatt, not the megawatt." Yet even if everybody agrees that they should come down, Hastings' bill would hold such projects up, Bradley claims. Spencer Pederson, press secretary for the House Committee on Natural Resources, which Hastings chairs and which held the hearing

yesterday, counters that it's "common sense" to have Congress control the purse strings on costly projects. Congress could still choose to spend money on dam removals, he says. Clearly, that's not the intention, though. Yesterday's line up of witnesses leaned heavily in favor of ardent hydropower supporters. "Dam removal will not increase fish survival and would have a significant negative impact on our economy," said Jack Heffling, president of the United Power Trades Organization.

(Hydro on the move! Should be an interesting parade across 13 States. Boundary Dam on the Pend d'Oreille River is a 340ft high, 740ft long arch dam.)

Traffic alert: Large turbine runner traveling through York County Monday

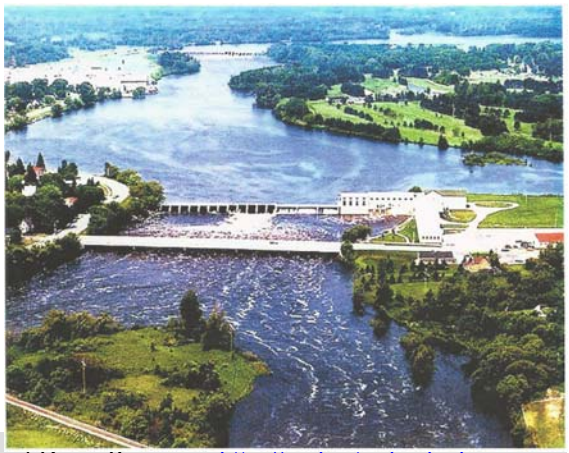
By Lauren Boyer, Daily Record/Sunday News, 08/17/2012, ydr.com

Be on the lookout for traffic disruptions in York County Monday as Weir American Hydro ships the first of two hydroelectric turbine runners from its facility on Stonewood Road in Springettsbury Township. The turbine runner, which weighs 181,000 pounds and measures more than 10 feet tall, will begin its 2,073-mile journey to Washington state where it will be installed in one of Seattle City Light's two largest generating plants, part of the Boundary Hydroelectric Project. The runners will produce 230 megawatts of power. The oversized load requires a 20-axle truck with a police escort. The trip will take three weeks to cross 13 states, including Pennsylvania, Maryland, West Virginia, Kentucky, Indiana, Illinois, Wisconsin, Minnesota, South Dakota, Wyoming, Montana, Idaho and Washington. It will travel from Weir American Hydro's plant on Stonewood Road west on state Route 462 to Route 30 west to Interstate 83 north. Weir American Hydro began creating the Boundary turbine runners in February 2010. The Boundary Hydroelectric Project is located on the Pend Oreille River in northeastern Washington, approximately one mile from the Canadian Border. It is Seattle City Light's largest hydroelectric project, and supplies more than one third of the utility's power. During a good water year, the Boundary facility generates almost 4 million megawatt-hours of energy. Boundary Dam arches between two massive rock cliffs, and the powerhouse is located deep inside a limestone cavern.

(Hydro is the best renewable bargain around and it's dependable power not subject to the whims of the wind! Of course, as always, there's an argument on whether to count hydro as a renewable!)

Hydro dams to provide SMW of power

By Don Reid , The Daily Reporter, Aug 17, 2012, thedailyreporter.com



Litchfield, Mich. - Members of the Michigan South Central Power Agency (MSCPA) will get up to 5 megawatts (MW) of power from two dams across the Menominee River, the state line with Wisconsin, by next July. Directors of the joint power agency approved a 20-year purchase contract for the output of nine generators on the two dams, which were built in the 1920S to power paper mills. They were purchased in 1995 by North American Hydro, which will be responsible for all operations,

maintenance and licenses. "It's a done-deal and a real bargain," MSCPA general manager, Glen White, said about the deal, which only requires the finishing of paperwork. The MSCPA will get the total capacity of the plants, which he expects to average around 3 MW for $49 a MW hour. Power not needed by local communities could be sold on the power grid. The agency will also get the renewable energy credit (RECS) and is a hedge against possible passage on the November Michigan ballot of a constitutional amendment to require 25 percent of all Michigan power come from four renewable sources by 2025. Currently, four MSCPA members have purchased just over 18 MW from a series of plants on the Ohio River and under construction by American Municipal Power (AMP). Because the deal was done before the current state law on renewable sources, they could argue against the 15 percent requirement by 2015_ The amendment likely would not let them count, according to board member and Marshall City Manager Tom Tarkiewicz. The vehicle tire fracturing plant undergoing testing at the Litchfield coal-fired generator also would not count under the amendment, which only counts, biomass, wind, solar and hydro in the state. Current legislation recognizes 12 renewable sources. If the tire plant and Ohio hydros are counted, the five members - Coldwater, Union City, Marshall, Hillsdale and Clinton - would meet the 25 percent. All the state's power companies are opposing the amendment as unrealistic and predicting it would raise utility rates.

Environment:

(How come they don't like hatchery fish? If a fish can be grown in a hatchery, swim downstream and make it to the ocean, survive 3 years in the ocean, and then swim back upstream to spawn, isn't that a pretty strong fish? As for cycles, look at the weather and the oceans, don't they cycle? That's nature!)

Are Dams, Hatcheries Driving California's Boom And Bust Salmon Population Cycles?

August 8, 2012, caltrout.org

In a year which will see the highest salmon returns to some of California rivers since 1978, some are pronouncing California's salmon woes cured. Yet the boom and bust cycles typifying California's salmon runs in recent years (record low returns followed by record highs) suggest things are far from wonderful. In fact, in this California Watch article, scientists like Peter Moyle of UC Davis point a finger at California's hatchery system as a driver of the boom and bust cycle: A certain amount of fluctuation in the annual salmon yield is natural, but some scientists think that the collapse in '08 and '09 was part of a more dramatic, and unpredictable, boom-and-bust cycle — and that the fishery could be in for more of the same. The problem, they say, stems from

CALIFORNIA WATCH

Founded by the Center for Investigative Reporting

get a

HEALTH & WELFARE | K-12 | HIGHER ED | MONEY & POLITICS | ENVIRONMENT | PUBLIC SAFETY

Today's Keywords | August 8, 2012 : Genetically modified fish / Good government measures & Newsom donc

ENVIRONMENT | DAILY REPORT

Boom-and-bust salmon catch is booming again

August 7, 2012 | Maria Finn, Food & Environment Reporting Network

PRINT

SAN FRANCISCO – After years of going begging, Northern California is awash in salmon. Charter boats are booked up to two weeks in advance, and anglers claim to be bagging their limits before noon. The smell of gurry and the glimmer of scales are back at San Francisco's Pier 45, where commercial fishermen unload their catch.

The return is also a boon to eager chefs, diners and fishmongers, who saw California salmon disappear from

the fact so much of the catch – a full 90 percent — originates in state hatcheries. It turns out natural selection has its way with fish even in unnatural settings; hatchery fish are protected from predators and fed on a regular basis, so when released they enjoy a size advantage over wild fish. They displace (and suppress) wild fish, yet they're ultimately less suited for life in the wild.

Are California's salmon suffering boom & bust cycles at the hands of dams, hatcheries? Other field studies have shown that hatchery steelhead trout can dramatically reduce fertility of "wild" fish in as little as one generation. Eliminating hatchery fish isn't a viable solution — at least as long as spawning habitat remains locked away behind dams: Peter Moyle, a fish expert at UC Davis, has been sounding the alarm about California salmon for some time, and he points out that hatcheries are only part of the problem. "Fixing this for a healthier fishery requires a two-pronged approach," he said. Moyle wants to relocate the hatcheries, or at least release the hatchery fish down river, so they don't compete with river-spawning salmon. He also thinks the state needs to restore the rivers and estuaries so the wild fish can thrive.

The best possible scenario for salmon, environmentalists say, would be to remove major dams in California that block the salmon migration. "There are some dams that have outlasted their usefulness," said Curtis Knight, Mt. Shasta regional manager of the environmental group California Trout. He points to dams on the Klamath River, four of which are scheduled to be removed in 2020 in California and Oregon if current plans get the green light. These dams don't generate much hydroelectric power, irrigate many farms or help with flood control, he said. But they block more than 300 miles of salmon habitat. Independent scientific reviews show that the adult salmon population in the Klamath basin would rise by 80 percent once the dams are removed. In other words, until California solves its hatchery and dam issues, we can expect continued boom and bust cycles.

(Wow, a rational decision by a judge!)

Glen Canyon Dam not subject to yearly reviews

By Felicia Fonseca, The Associated Press staff, 08/14/2012, Copyright 2012 The Associated Press, www.standard.net

Flagstaff, Ariz. — Yearly environmental reviews of a dam near the Arizona-Utah border that delivers water to millions of people would be impractical and aren't required by law, a federal appeals court has ruled in rejecting a bid by an environmental group to force the reviews. The U.S. Bureau of Reclamation operates Glen Canyon Dam in Page, releasing higher volumes of water during the winter and summer months when the demand for electricity peaks and less water when the demand drops. The Flagstaff-based environmental group, the Grand Canyon Trust, contends that the flow regime has harmed the endangered humpback chub and other resources downstream. The group sought to have the bureau consult with the U.S. Fish and Wildlife Service each year on the environmental impacts of the dam as part of its annual operating plan. But a three-judge panel of the 9th Circuit U.S. Court of Appeals ruled Monday that the plan merely projects water releases and cannot be used to alter the established flow regime. Allowing a challenge for each plan would be unduly cumbersome and unproductive in addressing environmental issues, and there's no guarantee one challenge would be resolved before the next plan should be issued to Congress and the governors of Colorado River basin states, Judge Ronald Gould wrote for the court. "There is no benefit to endangered species in having an unending judicial process concerning annual reporting requirements that Congress mandated," he wrote.

While the Grand Canyon Trust didn't prevail in requiring the annual environmental review, the ruling still provides an opening for challenging the operating criteria that was adopted in 1996, Neil Levine, an attorney for the group, said Tuesday. Environmentalists have said they want to see a long-term plan that includes steady water releases, mimicking the natural flow of the Colorado River. "It's undisputed in the Colorado River that the habitat has not improved for the chub and other cultural, recreational and archaeological resources," Levine said. "They are still being harmed by the way the dam is being operated." Federal officials have been working on a long-term management plan for the dam. The proposals that have emerged so far have common threads in that they consider controlling nonnative fish like rainbow trout that feed on native fish, periodically flooding the Colorado River to build up sediment, establishing a recovery plan for the endangered humpback chub, controlling vegetation and monitoring cultural resources. Dozens of federal and state agencies, American Indian tribes, environmentalists and the power industry have an interest in how the dam ultimately will be run.

(A crayfish, is a crawfish, is a crawdad! This sounds like someone's feelings (the rafters) are hurt and the agencies are still tinkering so PG&E is caught in the middle. I guess whitewater rafters are now fish experts! Don't know much about crayfish except they are good in Crawfish Etouffee.)

Groups plan crayfish suit against PG&E, feds; hydroelectric facilities spark lawsuit notice

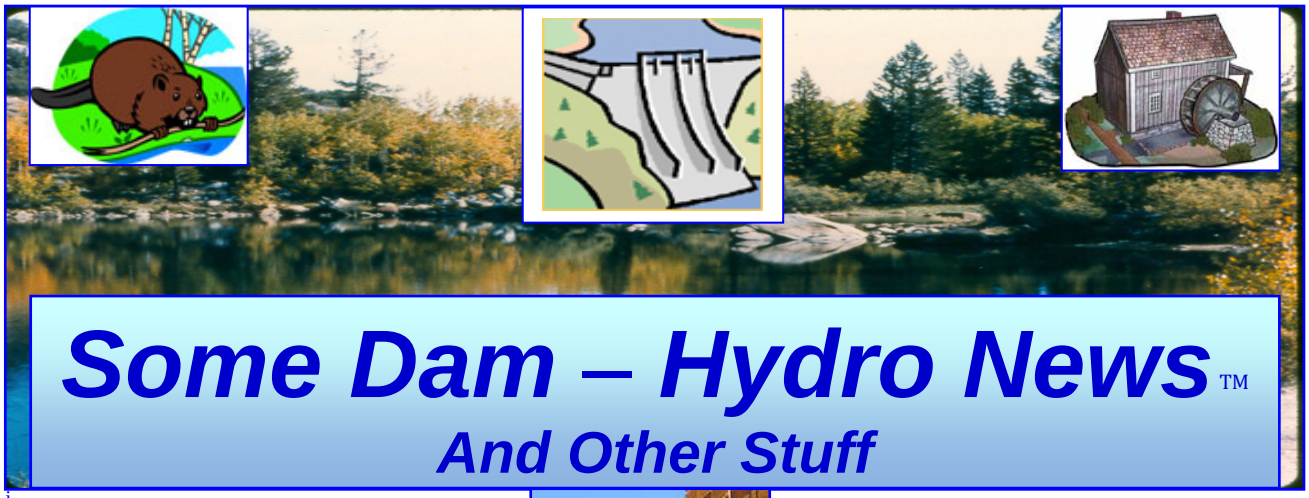
By Damon Arthur, August 14, 2012, redding.com

Two recreation and conservation groups have notified Pacific Gas and Electric Co. and several federal agencies they plan to file a lawsuit over protection for the endangered Shasta crayfish. American Whitewater and Friends of the River say PG&E's operation of hydroelectric facilities in the Pit River area is hurting the crayfish, and that federal agencies are not doing enough to protect the animal. Megan Hooker, American Whitewater's associate stewardship director, said her agency is seeking legal action against the groups because officials refuse to meet with the nonprofit firm. "We're not eager for litigation to happen. What we really want is a meeting," Hooker said. "If they had just agreed to sit down with us and discuss our concerns, then we wouldn't be in this situation."

According to its website, American Whitewater promotes river recreation and conservation. It also is working with Friends of the River on its legal action against PG&E, the U.S. Fish and Wildlife Agency, the Department of the Interior, Department of Energy and the Federal Energy Regulatory Commission. American Whitewater is required to file the notice it intends to sue 60 days before filing a lawsuit, Hooker said. The crayfish are native to the Pit River in the Fall River Mills and Cassel areas. They were first listed as an endangered species in 1988. According to the fish and wildlife service, competition from the non-native signal crayfish, and "human disturbances" in the area have led to the decline of the Shasta crayfish. American Whitewater officials say PG&E's hydroelectric facilities on the Fall and Pit Rivers have continued to harm the crayfish. Hooker said PG&E and the fish and wildlife service have focused on trying to protect the crayfish in the area of the Pit River from the Pit 1 Forebay near Fall River Mills downstream to the Pit 1 Powerhouse. To help the crayfish recover, the agencies need to take a broader look at the entire Pit River basin, Hooker said. Paul Moreno, a PG&E spokesman, said the utility has been working for many years with the wildlife service and FERC to help the crayfish. "We take our environmental stewardship very seriously," Moreno said. "We're operating our (hydroelectric) system in an environmentally friendly way." For years, PG&E had been required to send higher water flows down the river to flush out sections of the stream in the spring and summer. But the wildlife service said flushing was hurting the crayfish, so it was suspended in 2010. The State Water Resources Control Board is working on a report assessing the environmental impacts of permanently stopping the river flushing, Moreno said.

[i]This compilation of articles and other information is provided at no cost for those interested in hydropower, dams, and water resources issues and development, and should not be used for any commercial or other purpose. Any copyrighted material herein is distributed without profit or payment from those who have an interest in receiving this information for non-profit and educational purposes only.

8/31/2012



Some Dam – Hydro News™

And Other Stuff

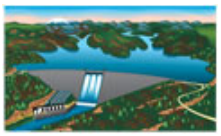
i

Quote of Note: *"Cautious, careful people, always casting about to preserve their reputation and social standing, never can bring about a reform." -- Susan B. Anthony*

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

Ron's wine pick of the week: **Villa de Capezzana - Carmignano 2007**

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



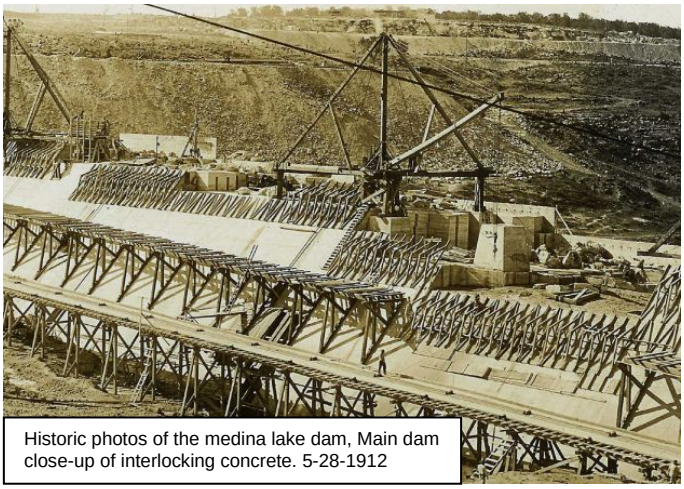
Dams:

(Another century mark reached by a dam and the benefits it provides to society!)

100 years later, Medina Lake dam still a marvel

By Zeke MacCormack, Sunday, August 19, 2012, mysanantonio.com

The Medina Lake dam is a huge block of concrete, lodged in a canyon, which impounds a waterway flowing along the border of Bandera and Medina counties. But that description hardly does justice to the enduring edifice on the Medina River, say those behind Saturday's celebration of the dam's construction 100 years ago. They see the dam as an engineering marvel that provides water critical to surrounding farmland, safeguards downstream residents from flooding and spawned, among other developments, Lakehills, now Bandera County's largest community. "It's a lifeline to have the dam here to provide



Historic photos of the medina lake dam, Main dam close-up of interlocking concrete. 5-28-1912

water to our crops," said Robert Hancock, chairman of the Medina County Historical Society and former mayor of Castroville. The founder of that downstream city, Henri Castro, reportedly recognized the potential of creating such a reservoir soon after settling there in the 1840s.

But it's San Antonio resident Alex Walton who is credited with envisioning the dam in a box canyon while on an 1894 hunting trip, and then methodically pursuing the monumental project. Walton studied engineering for years before soliciting the aid of a veteran dam-builder, Dr. Frederick Pearson, who then sold $6 million in bonds in England to fund the dam. Pearson later died on the Lusitania when it was torpedoed by a German U-boat. Ranchers in the scenic river bottom were displaced as land for the reservoir was acquired by the Medina Irrigation Co., the original dam owner, from which the present day community of Mico took its name.

Historic photos of the medina lake dam Sept.26, 1911

Seventy lives were lost during construction among the labor force of thousands, who used picks and shovels to excavate the dam's foundation in the limestone bedrock, earning up to $2 a day. "The dam came about through American ingenuity, British financing and the majority of Mexican labor," said Robert Pachecano, whose grandfather, Natividad Pachecano, used skills honed at the dam to later start a concrete firm. The project 30 miles west of San Antonio drew people from near and far to watch as the river's flow was diverted and 292,000 cubic yards of concrete were mixed on site. The concrete was conveyed by elevated pulleys to create the span, which measures 1,580 feet long and 164 feet high. "It was kind of ahead of its time, in terms of its features," said Warren Samuelson of the Texas Commission on Environmental Quality's dam safety section. "They had drainage systems to allow the water to escape if it seeped into, or under, the dam." Fearful of floods during construction, Pearson's crew rushed the project to completion in just one year after starting work in November 1911. The flooding concerns were misplaced: A dry spell prevented the lake from filling up for several years. Tourists nonetheless flocked to see what was then the biggest dam in Texas — and the nation's fourth largest — and to swim, boat and fish in the reservoir's sparking waters.

"So stupendous is the conception, so vast the scale of actual accomplishment ... this everlasting monument to man's mastery over the greatest forces of nature has achieved a deserved fame in the four corners of the earth," stated a 1920s sightseeing brochure, according to "Medina Lake," a new book by Bandera County residents Karen Downing Ripley and Rebecca Huffstutler Norton. Hotels, bars and recreation-related businesses took root along the Bandera County shoreline. The recreational tourism is down from its peak decades ago, but waterfront lots still draw residents despite dramatic fluctuations in the lake level. "That lake can fill up as fast as it drops," said Ed Berger, manager of the Bexar-Medina-Atascosa Counties Water Improvement District No. 1, which has owned and operated the dam since 1950. "We know it's been worse," he said. "Some people say it went down to the original riverbed, and the lake was almost dry, in the 1950s." The reservoir was created to feed the BMA's network of irrigation canals that serve 34,000 acres of downstream farmland. However, to ease a budget squeeze in the 1990s, the agency sold nearly a third of its 66,000 acre-foot annual water allocation as municipal drinking water for San Antonio. While everyone would prefer to see the 5,500-acre reservoir full, a silver lining was found by Carol Smith, head of the Medina Lake Preservation Society, which organized Saturday's centennial events. The events run from 10 a.m. to 9 p.m. in Mico and Lakehills. "The focus of this celebration is the dam, and you can see more of it when there's less water," observed Smith. A full listing of events can be seen at www.medinalakepreservation.org. The celebration comes just as contractors wind up a dam stabilization project launched in the wake of

a 2002 flood in which the water rose to within inches of its crest. Some feared the dam could slide downstream or turn over if was overtopped, said Samuelson of the TCEQ. Hancock, then Castroville's mayor, had more than a few nervous moments before the lake subsided. “We were really worried about how well the dam would hold up,” recalled Hancock, 77. “Now that they've been able to provide it additional support, people aren't so worried.” The dam has played a “vital” role in the agricultural, economic and cultural development of its host counties, said Elenora Dugosh Goodley of the Bandera County Historical Commission. “If the reservoir were not there, it would change everything,” she said.

(100+ year-old dam gets a reworking. They still make better tires than dams! But, anything that gets rid of old fashioned flashboards is a good thing.)

‘Rubber dam’ installation begins as Bowersock power plant construction progresses

By Chad Lawhorn — Lawrence Journal-World , August 19, 2012, www2.ljworld.com

Consider it one big summertime inflatable. Construction crews recently began installing a large rubber inner tube-like device atop the Bowersock Dam on the Kansas River. The work is part of the $25 million project by the Bowersock Mills & Power Co. to build a new hydroelectric power plant on the north bank of the river in downtown Lawrence. For the next three to four weeks, crews will be installing what has been called a “rubber dam” across the top of the current dam, which is more than a century old. The rubber dam can be inflated with the flip of a switch from Bowersock’s new plant. The inflated dam will increase the height of the dam, allowing more water to pool upstream. Most importantly, Bowersock leaders said, the device means their employees no longer will have to walk out on the dam to manually raise and lower plywood flashboards. “This is a huge advance for us,” said Sarah Hill-Nelson, an owner of the Bowersock Mills and Power Co. “It is going to be so much safer.” The rubber dam also should make it much easier to ensure the city of Lawrence, which has a water treatment plant just upstream of the dam, will continue to have a deep mill pond from which to draw water. The city last year agreed to largely pay for the $425,000 rubber dam project because of its benefits to the city’s water treatment plant. Hill-Nelson said the power plant project has benefited from the dry weather and could start producing electricity in October. “It is getting pretty exciting,” Hill-Nelson said.

(Now, the fun begins! This will be a long hard road. If they only had the foresight to build it the first time around instead waiting all these years, or would that be hindsight? It is amazing how uninformed people are in thinking you could generate this much power with wind and solar and all that other stuff that is so inefficient.)

Locals speak against Susitna dam project

frontiersman.com, August 20, 2012, by Scott Anderson Talkeetna Good Times

Talkeetna, Alaska — About 45 people — mostly from Talkeetna, Trapper Creek, Chase and Sunshine — attended a recent Alaska Energy Authority board meeting at the Talkeetna Alaskan Lodge. Most were there to express opposition to construction of the proposed Susitna-Watana dam. Several speakers said they opposed the scale of the dam and favored other, smaller alternative energy projects, such as wind power, tidal power, geothermal power and solar power. Several others who spoke against the project also said they are originally from the Pacific Northwest where several dams have been, or are in the process of, being taken down.

Depending on the size of dam built at river Mile 184, above Devil's Canyon, cost estimates range from $4.33 billion to $4.76 billion, depending on the dam's height, according to AEA handouts. Other information from the AEA includes:

- A 700-foot dam would be 2,000 feet above sea level, with a reservoir 39-miles long and 2-miles wide at its widest point, with a capacity of 600 megawatts, producing 2.5 million megawatt hours of energy annually.
- A 750-foot high dam would require a 41-mile reservoir and produce an "optimized annual energy" of 2.8 million megawatts.
- The project would provide "nearly 50 percent of Railbelt demand," with a projected life of more than 100 years.

Many who spoke said they are skeptical of the estimated project life and of engineers' ability to design a fail-proof dam in an earthquake-prone area. Throughout the public comment portion of the meeting, those speaking against construction of the dam drew frequent rounds of applause. Several said they have no faith in the AEA's ability to evaluate the project fairly and objectively, and a few speakers said they're convinced the AEA is acting at the behest of Gov. Sean Parnell. Some also expressed concerns about the project being "fast-tracked."

During the public comment period, no one present spoke in favor of the project. "I have zero faith that AEA is going to take an honest, objective look at the data," Robert Gerlach said. "I think it's a rubber-stamp process." However, he said there are still some things that could keep the dam from being built — the Federal Energy Regulatory Commission and the courts.

"I've seen boondoggle after boondoggle after boondoggle being financed by the state," Gerlach said. "This is another one." Becky Long was among those who spoke in opposition at the meeting. "It is obvious from Governor Parnell's recent speech to the Alaska Power Association in Juneau that the proposed Susitna dam is an important part of administration plans for Railbelt energy," she said. "What is less obvious is that the Pebble Partnership's John Shively has said publicly that the Susitna Dam is part of the electrical plan for the Pebble Mine. Is Susitna going to power that mine? People ask me that all the time. People also ask if Susitna will power the proposed Donlin mine. What are the answers to these questions? Will Susitna also power the Jet Propulsion Lab in California, sending energy down to the Lower 48?"

During an update on the Susitna-Watana hydroelectric project AEA executive director Sarah Fisher-Goad said she has had no discussions with anyone from the Pebble Partnership or any representative of the Donlin Creek mine regarding providing power for either project.

"The Susitna River can only generate 250 to 350 megawatts of power, because that is all the water there is," she said. Fisher-Goad said variables like climate changes melting the glaciers and causing glacial sediment erosion make it uncertain whether there will be enough water or reservoir space to provide that amount of power for the next 100 years. "This board needs to give serious thought to future Railbelt needs without Susitna (dam), because it is for sure not going to be cheaper electricity for rural Alaska and in Fairbanks in 2024," Long said. She cited a July 16 report prepared by the Institute of Social and Economic Research at the University of Alaska Anchorage that says power from the dam would likely cost more to produce than using natural gas to produce electricity. Long said the report — "Susitna-Watana Cost of Power Analysis" — concludes that ratepayers would pay between 23 and 40 cents per kilowatt hour for hydro power produced by the dam, natural gas would cost $13 per million BTU, or 21 cents per kilowatt hour.

"AEA and FERC are only interested in the wholesale cost of power generated at the power plant," she said. "What the actual Railbelt consumer's rates will be after a dam is built has been ignored." Of the more than 356 people who attended FERC scoping meetings in March and April, 169 submitted comments. Those comments were used to make revisions to the second version of the projects scoping document, Long said. Richard Leo, representing the Coalition for Susitna Dam Alternatives, urged the AEA board to consider the possibility that the dam won't be built and to consider other alternatives. "This is not a local issue, this is a statewide issue," Leo said. He also read a letter from his son who lives in New York and opposes the project. Leo said his son represents the future generations that are supposed to benefit from the dam. Ric Ernst of Trapper Creek said communities in the Susitna drainage presently have "a vibrant visitor and tourism economy. Let's keep it." AEA has organized 19 stakeholder workgroup meetings, made about 60 presentations regarding the proposed Susitna-Watana hydroelectric project, made about 20 visits to communities, and has had initial meetings with CIRI and village corporations since December 2011.

In July, AEA filed its proposed 2013-14 study plan. Formal study plan meetings are scheduled this month, and comments on the proposed study plan are due by October. AEA expects to file its revised study plan in November, with the FERC issuing its study plan determination in November. An engineering feasibility report is expected in December. According to AEA, 17 early studies with fieldwork are currently under way, with approximately 80 people in the field this summer. AEA says the studies including synthesizing data from cultural, fish, large game and ice studies, extensive Chinook salmon studies, and data from the 1980s, with a goal to "better understand the Susitna ecosystem to build and operate the right project for Alaska." The proposed study plan includes 58 individual studies and has a projected cost of $60 million to $70 million. It is expected to include extensive studies on fish, including the five species of salmon, and to develop a better understanding of populations of big game such as caribou and moose. At the peak of construction, the dam project is expected to employ a workforce of 1,000, with a smaller permanent workforce.

(This is interesting because the modifications to the dam apparently are not for dam safety reasons.)

Senator asks court to block sales of bonds for Arkansas River dam

By Wayne Greene World Senior Writer, 8/22/2012, tulsaworld.com

A state senator is asking an Oklahoma County court to block the sale of $25 million in state bonds to finance improvements to Tulsa's Zink Lake dam.

"We have developed a spending problem at the state Capitol and as a result we have abandoned and ignored the requirements of our Constitution," said Sen. Patrick Anderson, R-Enid. "We must return to the core principles of our Constitution. Otherwise, we will be mortgaging the future of our children and grandchildren. "Hopefully, the declaratory judgment lawsuit that I have filed today will be the beginning of a renewed effort by state leaders to start following the Constitution rather than attempting to circumvent it." Proposed state financing for a series of low-water dams along the Arkansas River has a lengthy, complex history, involving multiple legislative bills, suits before the Oklahoma Supreme Court and a variety of plans for matching federal and local money. The most recent scenario was passed by the Oklahoma Legislature in 2009, calling for $25 million in state bonds to finance improvements to the Zink Lake dam and construction of dams in Sand Springs and Jenks. Earlier this year, the Oklahoma Capitol Improvement Authority started plans to move ahead with the bond sale, but with all the money dedicated to the Zink Lake dam. Project promoters have said the other dams would be financed with $50 million in authorized federal funding when it becomes available and local money. But in his suit, Anderson argues that the change in the how the money is so significant that it violates the legislative intent of the 2009 bill.

"The project that the Legislature voted to support never materialized," said Anderson. "Despite that fact, there is now a push to have those 2009 bonds issued for a different purpose. In short, those who are now advocating for the issuance of the bonds are asking the taxpayers of Oklahoma to make a $25 million gift so that aesthetic improvements can be made to a city park.

That was not the Legislature's intent when it passed this legislation in 2009." Anderson's suit also argues that the Zink Dam finance plan violates the state constitution because the money would be spent on an asset that the state doesn't own. "The use of state bond funds for this purpose violates multiple provisions of our state's Constitution," Anderson said. "Using the funds to raise the level of the Zink dam by three feet was not the Legislature's original intent; the Zink dam is not a state asset; and, there is no source of repayment for these bonds if they are issued. This is simply an attempt to get the state to pay someone else's bill." In July, Attorney General Scott Pruitt announced he would be taking similar questions about the dam project funding to the Oklahoma Supreme Court when it reconvenes this fall. That essentially put the capital improvement authority's plan to sell the bond on hold pending the high court ruling. Pruitt's action was originally spurred by a request from Anderson to determine the bond sale plan's constitutionality. Only legal and constitutional questions are at issue in the attorney general's case, Anderson said Wednesday. While either effort could result in the bond package being declared unconstitutional, Anderson said the two efforts take different legal tacts and would require different evidence.

(And, to all those people who say there are no new dams being built – how 'bout this one?)

Elkwater Fork Water Supply Dam Dedicated

By Jeff Schrock, Randolph, Tucker and Upshur County Reporter, August 22, 2012, wboy.com

Huttonsville, W. VA - The Elkwater Fork Water Supply Dam was built to assure a dependable source of potable water for Randolph County. "This is the tallest of those 170 structures most of all the other 170 structures are earth and dams this built out of roller compacted concrete," Kevin Wickey, state conservationist, National Resources Conservation Service. A three year project to construct the dam along with several months to fill a reservoir was officially dedicated on Wednesday. After extensive studies and analyses the solution was to construct a water supply impoundment on Elkwater Fork, a tributary of the Upper Tygart Valley River. "The purpose of this structure is water supply. Back in 1993 there was a severe drought in the area and water supply was within 72 hours of complete depletion," Wickey said.

The dam is 128-feet (39-m) high, and has a total length of 670 feet (204 m).

As a result of this event, several steps were taken to avoid future water shortages. It's estimated that more than 27,000 residents will now benefit from the improvement made to the Upper Tygart Valley municipal water system. "We can't live without water, we can live without a lot of things but water is one thing we can't live without and we need more water supplies to insure we have potable water," said Jim Roy of West Virginia Conservation Agency. The Huttonsville Public Service District said it plans to construct a water treatment facility near the reservoir. "We're hoping it will benefit the county and the public, because you got 27,000 to 30,000 and we're hoping in times of drought or anything like that people will benefit from that," said Steve Wamsley of Huttonsville PSD. Rep. Shelley Moore Capito (R) W.Va. said the June 29 storm is a perfect example of how much our water supply is a needed resource. "When we have a disaster like that so many people lost their water, and I think this will help provide water and more plentiful and accessible, it's great planning and I think that's what we need to do in this country," said Capito. Huttonsville PSD is seeking funds to build that treatment center, and once water flows from the dam, it will connect with the future site and lines will be constructed to convey treated water to local communities.

(It may not look like much of a dam, but it is an important water supply dam)

Savannah River's oldest dam could need repairs soon

By Rob Pavey, Staff Writer. chronicle.augusta.com, 8/22/12

The Savannah River's oldest dam is showing its age more than ever — and might need a facelift sooner, rather than later. "The structure itself is sound, but it needs to be stabilized," said Andy Cheek, a former Augusta Commissioner who has lobbied for repairs to the city's Diversion Dam near the Augusta Canal headgates. "There are more and more places that are weak and need to be rebuilt, repaired and strengthened," he said. "In some places, we're seeing erosion with up to 25 percent penetration of the 18-foot width of that dam." Built in 1875, the simple structure slices across the river near the headgates, backing up enough water to provide a consistent flow into the canal, from which the city's drinking water is extracted a few miles downstream. Cheek, who has approached city officials in past years about addressing the dam's needs, said it is difficult to document the dam's deteriorating condition because the worst areas are obscured by the river's flow. "I'd like to try to get the commission to coordinate a low flow day with Stevens Creek Dam upstream in order to go out and do a full, new assessment," he said.

About the Dam
- Built in 1875, the Augusta Diversion Dam is the Savannah River's oldest dam.
- Its purpose is to divert water into the Augusta Canal, which provides Augusta's drinking water.
- An earlier diversion dam, built in 1845, lies underwater nearby.

Source: Augusta Canal Authority

Although the 137-year-old dam is a scenic component of the popular Augusta Canal National Heritage Area, it is also a functioning industrial dam that is essential to the city's drinking water production. Augusta Utilities Director Tom Wiedmeier said the most recent assessment of the dam occurred in 2011. "After Andy Cheek had raised concerns about a year ago, we had our engineer, ZEL Engineers, take a look at it again," he said. "They felt it had not significantly deteriorated since previous inspections, and it was not in danger of imminent failure, but it was in a condition where things would have to be done at some point." City officials had planned to address repairs to the diversion dam at the same time another project was undertaken to provide fish passage at the site. The fish passage is a requirement likely to be included when the city completes a protracted re-licensing process with the Federal Energy Regulatory Commission for its canal and diversion dam. "The trigger to build a fish passage is when we get the FERC license," Weidmeier said. "But that process has taken a lot longer than we thought it would." Commissioners were told a year ago that the license was likely to be issued soon, at which time the repairs to the diversion dam could be planned concurrently with the design of a fish passage. If the license negotiations continue to move slowly, he said, the repairs may have to be undertaken before then. The most recent work on the dam occurred in 2005, when a $400,000 project replaced some of the removable timbers built into five gaps in the dam. Prior to that work, it had not been repaired since 1927.

***Hydro**:*

Hydropower Project Begins on Dorena Dam

August 20, 2012, By Rachael McDonald, klcc.org, KLCC Public Radio

The Dorena Lake Dam is getting a retrofit so that it can produce hydro-power. A groundbreaking for the project was held Monday. The dam was built on the Row River in 1942 for flood control. It created Dorena Lake, a popular recreation site. Canada-based Riverbank Power is adding a hydroelectric facility to the dam, which will provide power for about 1,200 households in the Cottage Grove area. The retrofit includes a fish passageway. Oregon U-S Senator Ron Wyden praised the project for combining energy production and fish health. "You can have, in a well thought through project like this, you can have power that's affordable, you can help consumers, you can help businesses and at the same time not sacrifice the treasures, our land air and water, our wonderful fish in the process." Wyden says he'd like to see more small dams like this one retrofitted for hydropower. He and Congressman Peter DeFazio were on hand for the groundbreaking. The construction project employs about 30 people. It's expected to be operational by in 2013.

(If the State says there's water in the river – there's water in the river. Yep, there's an Oroville in Washington too and about as far North as you can get and still not be in Canada.)

Groups say state ignored Clean Water standards when certifying Enloe Dam

By K.C. Mehaffey, World staff writer, August 21, 2012, wenatcheeworld.com

Oroville, WA — Five environmental groups say the state Department of Ecology failed to consider key elements of state environmental standards when it certified a proposal to rebuild Enloe Dam near Oroville last month. The five groups — American Whitewater, Sierra Club's Washington chapter, the North Cascades Conservation Council, the Center for Environmental Law & Policy, and the Columbia River Bioregional Education Project — filed an appeal this month with the state Pollution Control Hearings Board, questioning Ecology's water quality certification. Water quality certification is one of many requirements in a proposal by the Okanogan County PUD to rebuild the Enloe Dam to generate electricity. The PUD has been working for seven years toward restarting operations at the dam, which was built in 1920 but stopped producing power in 1959 when it became cheaper to buy from the Bonneville Power Administration.

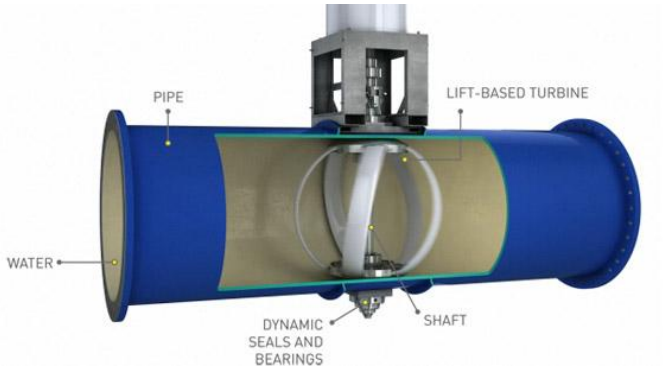
The full project will be considered by the Federal Energy Regulatory Commission, and water quality certification from the state is one of the requirements. The groups claim that if the Okanogan County PUD is allowed to rebuild the dam to generate power, it will nearly dewater the Similkameen River, and hugely detract from the aesthetic aspects of a new hiking trail that goes to the Similkameen Falls, where the dam would be built.
Ecology officials say the certification actually prohibits the utility from dewatering the river. "We are requiring they maintain a certain amount of water in the river at all times," said Ecology spokeswoman Joye Redfield-Wilder. Those amounts include at least 10 cubic feet per second from September to July, and at least 30 cubic feet per second from July to September. But Jere Gillespie, an Oroville area resident and spokeswoman for the Bioregional Education Project, said the river usually has far more water, and reducing it to 30 cfs amounts to a trickle. On Friday, the Similkameen near Nighthawk contained 948 cfs, according to the U.S. Geological Survey's river flow data. The average flow in mid-August is over 700 cfs, it said. "Little or no water will flow over the face of the dam, or over Similkameen Falls, for about eight months of the year," Gillespie added. She said taking that much water out of that stretch of river will also disappoint hikers who are flocking to a newly-built Similkameen Trail as part of the 1,200-mile Pacific Northwest National Scenic Trail. "Right now, the community is really enjoying that trail. There are people on it every day," she said. The trail includes signs, benches and a refurbished train trestle. "It's so handsome, and when you walk over it, you can look down and see the salmon, when they're running," she said. Redfield-Wilder said the state's water quality certification is simply gives the state an opportunity to weigh in on the project, which must be approved federally. She said the state set several conditions, including the expectation that the project will protect aquatic life.

"In the certification, there's a built-in opportunity for us to require them to change their practices if water quality is not being protected," she said.

(Excerpts – neat idea to get energy without having to deal with much regulatory stuff!)

Lucid Energy signs deal to deploy in-pipe hydropower system in Texas

By Christina Williams, Sustainable Business Oregon editor, August 21, 2012, sustainablebusinessoregon.com



Lucid Energy announced Tuesday that San Antonio Water System will install the LucidPipe Power System, an in-pipe hydropower generation system, as the company's first demonstration site in Texas. Construction on the 60-kilowatt project is expected to begin in early 2013. The installation will become one of Lucid Power's "centers of excellence" which Portland-based Lucid Energy will use to show off the system to prospective customers. The system will consist of three spherical turbines inside one section of a 24-inch steel water pipe at San Antonio Water System. LucidPipe uses a turbine to capture energy from fast-moving water inside large pipelines without disrupting operations. "Utilizing our water infrastructure to generate renewable energy fits our philosophy of environmentally smart solutions because it taps an existing resource — water moving through our pipelines — to provide low-impact, low-cost, renewable energy," said Steve Clouse, COO and senior vice president of San Antonio Water System. ----------.

(This case has gone on for years. You have to be wondering what the Turbine manufacturer was using for a brain!)

Potsdam wins $6.8 million judgment against Canadian hydropower turbine manufacturer

northcountrynow.com, August 23, 2012

Potsdam, NY – The village has received a favorable judgment for $6.8 million in its case against a Canadian hydro-turbine manufacturer. "There is a big difference between winning a lawsuit and collecting damages," said Village Administrator David Fenton. He said the village will begin investigating what steps can be taken to collect from the company, Canadian Turbines, Inc. of Burlington, Ont. "This order is the result of a lawsuit filed for liquidated damages for failing to provide materials stipulated in the contract for Potsdam's west hydro dam," said Fenton. The suit stems from a contract signed in June 2007 with Canadian Turbines for delivery of parts within 10 months for the village's new hydropower development at its west dam on the Raquette River. Some parts were delivered late, and some have never been delivered by the company. "The Plaintiff is hereby granted judgment against the Defendant in the amount of $6,837,000.00 plus the costs of this action in the amount of $2,751.26 for a total judgment of $6,839,571.26," said the state Supreme Court order, signed by Judge David Demarest. "The village of Potsdam will now commence actions to secure assets in satisfaction of the judgment," said Fenton, "which may include actions initiated in Canadian courts to obtain whatever assets may be available to satisfy this judgment." The contract called for daily penalties for non-delivery, among other provisions. Since then other companies have delivered the necessary parts. Fenton says the project could be generating power by December. "National Grid said they should be ready for us in four months, and we should be done with our work by then, " Fenton said.

(Better late than never. But waiting 30 years is kind of extraordinary!)

South Bend park turns to hydroelectric turbine for power

Associated Press, August 24, 2012, journalgazette.net

South Bend, IN – The St. Joseph River's capacity to power mills and other industry was one of the assets that drew settlers to its shores in the 1800s. City officials took a step toward tapping that power again this week by installing a long-forgotten hydroelectric turbine near the fish ladder at Seitz Park. Koontz-Wagner electrical workers used a crane to lower the turbine into its underground chamber at the park. The 62.9-kilowatt turbine will produce more than 500,000 kilowatt(hour: sic)s annually – that's about $40,000 worth of electricity. It will power Howard Park, including the ice rink and recreation center, as well as lighting along the East Race. The turbine is almost 30 years old, but this is the first time it's being put into action. Jon Burke, director of the city's municipal energy office, said the city purchased the turbine in 1983 when the fish ladder was under construction. "For a number of reasons, they weren't able to complete the connection and install the turbine," he said. "It was put in storage and forgotten about." It was remembered after a Green Ribbon Commission was formed in 2009 to identify measures that would lessen the city's environmental impact.

Environment:

(You can understand the excitement, but why is this a surprise? Salmon just keep swimming because it's their genetic instinct. They swim until they spawn and then disappear from the planet.)

Chinook salmon return to undammed Elwha River

Peninsula Daily News Staff, Aug. 21, 2012, kimatv.com

Port Angeles, WA — Adult Chinook salmon were observed on the Elwha River in Olympic National Park on Monday, park officials and biologists reported, less than five months after removal of one of the two dams. These are the first observed Elwha River salmon to naturally migrate upstream into the park, according to a statement released by the park. When the Elwha Dam became operational in 1913, 25 years before Olympic National Park was created by Congress, more than 70 miles of Elwha River habitat were blocked to fish passage. Salmon and steelhead were restricted to spawning in the five miles of the river below the Elwha Dam, just west of Port Angeles and outside the national park. Steelhead were discovered above the now-demolished dam earlier this summer.

The Chinook — also known as king salmon — were observed above the Elwha Dam site, approximately two miles upstream from the boundary of the park, by Phil Kennedy, lead fisheries technician. "We knew this was going to happen, and as I saw the fish roll, my heart jumped," Kennedy said. In the park's announcement, headlined "Return of the Kings," Todd Suess, Olympic's acting superintendent, said: "This has been an extremely exciting summer. First we see a renewal of a culture with the uncovering of the creation site of the Lower Elwha Klallam tribe, and now we see the renewal of the legendary Chinook in Olympic National Park." The tribe is a partner with the National Park Service in the $325 million federal project to remove the Elwha and Glines Canyon dams and restore the Elwha River and its fish runs. The Chinook salmon run in the Elwha was legendary, with stories of salmon weighing 100 pounds and swimming in schools that filled the river, before the two dams were built without fish ladders. In recent years the Elwha's king salmon population had plunged to a few thousand annually.

Creation spot discovered

Earlier this month it was announced that the tribe's creation site — a rock with two deep depressions — was found among the 1,100 acres of land that emerged after the Elwha Dam was removed and the lake behind it had drained. Sacred to the tribe, the site is where, by tribal teaching, the Creator bathed and blessed the Klallam people, and where tribal members for generations sought to learn their future. It had been submerged behind the Elwha Dam for 99 years. In addition, the park service also reported finding a site in a nearby location that documents human use as far back as 8,000 years ago, establishing it as one of the oldest known archaeological sites on the Olympic Peninsula. The news of the Chinook came as the four-day 2012 Elwha River Science Symposium began Monday at Peninsula College in Port Angeles. Scientists are sharing what has been learned during the first year of the Elwha River restoration project.

The Elwha dam removal project — the largest of its kind in U.S. history — is well ahead of schedule. By summer 2013, the glacier-fed Elwha River is expected to flow freely as it courses from the Olympic Mountains to the Strait of Juan de Fuca. The last remnants of the 108-foot Elwha Dam were removed in March. Glines Canyon Dam, eight miles upstream, will be gone by early next summer. Glines has been knocked down by explosives and huge hydraulic hammers to less than half its original height — about 90 feet of the 210-foot-high dam are left. The dam removal work was originally scheduled to run through 2014. After the two dams were built, all five native species of Pacific salmon and steelhead, a sea-going rainbow trout, were confined to the lower five miles of the Elwha. Once Glines Canyon Dam, 13 miles up river, is removed, salmon, steelhead and other fish that mature in the ocean and return to rivers to spawn will once again have access to more than 70 miles of spawning and rearing habitat, much of it within the protected boundaries of Olympic National Park. Scientists knew ocean-going fish would eventually return to the Elwha River once the two massive concrete dams were torn down. They just didn't think it would happen so soon. Biologists tracking fish in a tributary of the Elwha in June spotted wild steelhead that they said made it on their own past the site where the Elwha Dam stood for nearly a century. “We're wildly excited,” said Mike McHenry, fish habitat manager for the Lower Elwha tribe, said after the steelhead were spotted. “It just confirms what we have known all along — that these fish are quite capable of recolonizing the Elwha once we get the dams out of the way.” Fully recolonizing the river is expected to take years. All fishing in the river has been closed for five years. "Observation of these Chinook in Olympic National Park is a wonderful addition to the naturally returning steelhead recently observed by NOAA Fisheries and Lower Elwha Klallam tribe downstream of the park boundary," said Olympic National Park fisheries biologist Sam Brenkman. "We can now say that restoration of anadromous salmon in Olympic National Park is underway."

[i]This compilation of articles and other information is provided at no cost for those interested in hydropower, dams, and water resources issues and development, and should not be used for any commercial or other purpose. Any copyrighted material herein is distributed without profit or payment from those who have an interest in receiving this information for non-profit and educational purposes only.