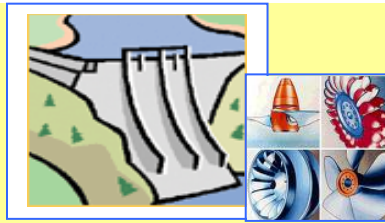


4/01/2011



Some Dam – Hydro News™ and Other Stuff

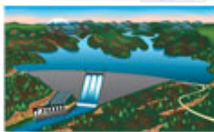


Quote of Note: “The only difference between a tax man and a taxidermist is that the taxidermist leaves the skin.” - Mark Twain

“Good wine is a necessity of life.” - Thomas Jefferson

Ron’s wine pick of the week: The Eyrie Vineyards Pinot Gris, 2007 Willamette Valley, Ore.

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



Dams

(Excerpts)

(Mmmm! You hire the guy you’re likely to sue in the future. Go figure!)

Hope Mills considers legal options on repair of dam

Mar 22, 2011, By Rodger Mullen, Staff writer, fayobserver.com

Hope Mills, NC - The Board of Commissioners voted unanimously Monday to pursue legal action over the failed Hope Mills Lake dam, if progress is not made by June in repairing the structure. "As a town, we need to be prepared, and the way to be prepared is with legal representation," said Commissioner Terry Smith, who made the motion. The action came after Randy Beeman, the town manager, reported that state Dam Safety officials have approved "phase two" stabilization efforts on the dam. The dam was breached June 17, less than two years after it was completed. The \$14 million dam replaced an earthen structure that was breached in heavy rains in 2003. Since the failure, the firms that designed and built the dam - Crowder Construction Co., MacTec Engineering and Consulting, McKim and Creed engineering and Morrison Engineers - have been working to stabilize the structure and determine the cause of the failure. Monday night, Beeman said those efforts have gained state approval. He said the stabilization should be good for two to three years. "That's very good news," Beeman said.

Before the meeting, commissioners received a letter from James Mark Smith, senior vice president of McKim and Creed. He said the team expects to finish a dam repair plan next month, and he requested a meeting with town staff to discuss it. James Mark Smith said the repaired dam would probably utilize the undamaged sections of the structure, rather than having to start from scratch. He said the firms are funding and performing work on the dam "without admitting

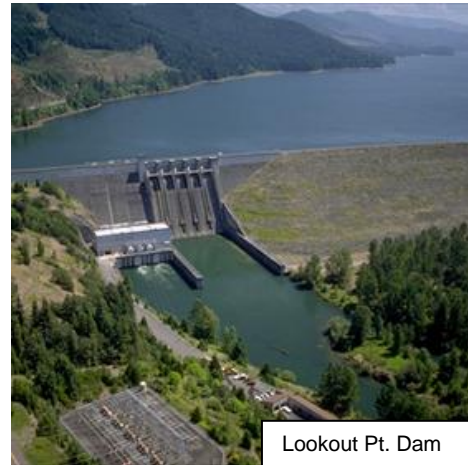
any liability or fault and with full reservation of all rights." Terry Smith said the letter contained good news, but he wanted the town to be ready for the possibility it may have to go to court over the matter. "By our first meeting in June, (we should) have a legal team ready to stand up for the citizens of Hope Mills," he said. Smith's comments drew applause from the audience at Town Hall. Commissioner Tonzie Collins said he is anxious to see progress on the dam. "When you talk about stabilization, stabilization, you get tired of hearing it after a while," he said. "We need to make our move now." -----.

(The article makes the judgment that the dams are "relatively safe" – relative to what? If there is anyone checking on this issue, it is certainly the USACE!)

Willamette Valley dams "relatively safe"

Reported by: KMTR.com Staff, kmtr.com,3/23/11

Springfield (KMTR) – As Japan cleans up after a massive earthquake, on this side of the Pacific Ocean the U.S. Army Corps of Engineers is checking local dams to see what might happen if an earthquake of equal magnitude were to hit here. There are 13 corps-operated dams in the Willamette Valley; all built in the 1940's, 50's and 60's. Most are made of rock and clay which have more "give" during an earthquake. The dams undergo seismic safety reviews every 15 years. That is what's happening now at Lookout Point and Fall Creek Dams southeast of Springfield. Geo-technicians say our local dams are all relatively safe from a big earthquake. But Jeremy Britton, a geotechnical team leader for the Corps of Engineers, says the bigger concern is the spillways at the dam and how well they would stand up to a major quake. "The earthquake occurring is such a small probability, and the dams are in good shape, so that's a much lower risk than something like the spillway gates," Britton says. "So that's kind of how we think about what we're going to tackle first and how we're going to use our funding the wisest way and lower the risk for the valley." When it comes to repairs on the dams themselves, Britton says limited federal funding puts projects on a "worst-first" basis.



Lookout Pt. Dam

If one of the dams were affected by a geological disaster, the Corps of Engineers would notify Lane County Emergency Management, who would then alert the public. Jasper residents Larry and Marjorie Davis live right on the bank of the Willamette River, downstream from Lookout Point Dam. They say they keep a close eye on water levels and have an emergency plan ready, just in case. Marjorie says, "It's a concern, yeah, and especially if they're working on the dams. And if they say that there's some problem with the dams up there ... we are deeply concerned about that." Emergency managers say everyone in Lane County should be prepared for a major event, since Oregon is overdue for a major earthquake. They recommend keeping a "grab and go" kit in your car—another in the house—and have a backpack ready in case you need to relocate quickly to a shelter.

Elwha River dam removal project cost estimate shrinks

By Tom Callis, Peninsula Daily News, peninsuladailynews.com

Port Angeles, WA — The National Park Service has reduced the cost estimate for the mammoth Elwha River Restoration Project, which includes the removal of the streams' two dams. The project is estimated to cost \$324.7 million, said Dave Reynolds, Olympic National Park spokesman. That's down from the



Elwha Dam

previous estimate of \$351 million. Reynolds attributed the decrease to the dam removal contract coming in lower than anticipated. The project was first tagged with a \$119 million cost estimate in 1999. The park service awarded a \$26.9 million contract to Barnard Construction Co. of Bozeman, Mont., last August to remove the Elwha and Glines Canyon dams. The removal of the 108-foot Elwha Dam and 210-foot Glines Canyon Dam is to begin in September and be finished by September 2014. The goal of the project, the largest of its kind in the nation, is to restore salmon habitat. The two dams were built without fish ladders. The federal agency, which is heading the project, estimated that the contract to tear the dams down could have cost between \$20 million and \$40 million. Dam removal, authorized by Congress in 1992, will begin in September and be complete by September 2014.

(This is an interesting interactive depiction of how Glines Canyon Dam on the Elwha River, WA will be removed. Instant re-vegetation – it's magic! Go to this web site to click through the dam removal sequence:

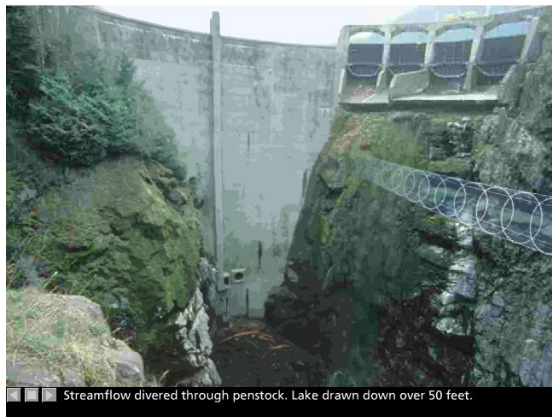
<http://www.interactive-earth.com/resources/science-visualizations/7-glines-canyon-dam-removal-process.html>

Glines Canyon Dam Removal Process

<http://www.nps.gov/olym/naturescience/elwha-ecosystem-restoration.htm>

First phase of removal

Glines Canyon Dam Removal Process



Last phase of removal

Glines Canyon Dam Removal Process



(Here's a twist! Someone opposing dam removal.)

Proposed Dam Demolition Draws Opposition

By Noel Brown, March 24, 2011, gpb.org

AUGUSTA, Ga. — The New Savannah Bluff Lock and Dam was built in the 1930s to create a deepwater area for barges transporting oil and timber to Augusta. Although it's no longer used for that purpose, the dam faces demolition for another reason -- the endangered short-nosed sturgeon. Deepening the Savannah Harbor downstream would damage the fish's ability to migrate. A recent federal study suggests getting rid of the dam would open migration routes. But destroying the dam would also lower water levels along Augusta's riverfront, which U.S. Congressman Paul Broun says would be bad for the local economy.



"Destroying the dam would hurt the economic growth and the development for decades so it's absolutely critical that we keep the dam in place," says Broun. Another option is installing a tunnel to let fish pass through the dam to their spawning grounds upstream. But Tonya Bonitatibus with Savannah Riverkeeper says that might not be enough to protect the sturgeon. "It's completely unknown technology and there aren't any sturgeon scientists that say this thing is going to work-- in fact they're all saying it's not going to work," Bonitatibus says. The Army Corps of Engineers, which owns the dam, is trying to transfer it to the city of Augusta. The local government could then decide to demolish it or pay the estimated \$22 million it would take to fix the aged dam and add the fish passage. Congress gave the Army Corps a mandate to repair the dam but never funded construction.

(What about the City of Seattle?)

Seismic Reviews Of Many Oregon Dams Way Behind Schedule

Rob Manning | March 25, 2011, news.opb.org | Portland, OR

Geologists and politicians alike predict that an offshore earthquake – like the one that hit Japan – would have catastrophic consequences in Oregon. They say schools would collapse. Roads would buckle. Oregon is also home to hundreds of dams. As Rob Manning reports, officials have a lot of work to do to determine the seismic risks of many of those dams. A few years ago, Oregon's earthquake experts at the Department of Geology and Mineral Industries surveyed the seismic condition of schools and fire stations all over the state. But agency scientist, Ian Madin, says there's one reason dams have not been studied. Ian Madin: "Well, no one has asked us to do it and paid us to do it." Madin says there's a more technical reason, too. He says doing what's called a "Rapid Visual Screening" that works with buildings doesn't work for dams. Ian Madin: "There is an established, published methodology for doing Rapid Visual Screening of buildings. There is no such methodology for doing Rapid Visual Screening of dams. It just doesn't exist."

Oregon has more than 1,300 dams. Three-quarters of them are so small or remote, they're not considered very dangerous if they fail. That leaves more than 300 that emergency officials believe could threaten human life or property, if something went wrong. Discovering the likelihood of something actually going wrong requires literally drilling down into the dam and the ground it sits on. And that is time-consuming and expensive. The Army Corps of Engineers supervises 20 Oregon dams out of its downtown Portland district office. The agency is supposed to do seismic reviews of each dam, every 15 years. But the Corps is way behind. The Corps has reviewed only seven of its 13 dams in the Willamette Valley. And two of those studies are so old, they need to be done over. Jeremy Britton leads the Corps' Portland geo-technical team. Jeremy Britton: "The way the Corps does it, is they look at all the risks in the country, and they try to rank them, and they fund things based on a 'worst-first' kind of approach. So sometimes these seismic safety reviews that we budget for, they end up not receiving funding because there are other higher, critical projects." Out of the seven seismic reviews the Army Corps has done of Willamette Valley dams, they've raised sufficient questions – in every case – to merit a deeper study. Most of the follow-up reviews are incomplete. The Corps has finished one for the Fern Ridge reservoir near Eugene. That study found pockets of fill material. Geologists say that



Fern Ridge Dam

sustained shaking from a subduction zone earthquake could reach the Willamette Valley and turn that fill material to jelly. Jeremy Britton: "If the entire deposit were to liquefy, it wouldn't be able to support the dam embankment, and the dam could move upstream or downstream, and we could have enough loss of height that the worst case would be that the reservoir overtops the dam, and it fails. So, we've identified a potential problem." Britton says a "Phase Two" review could determine how much fill there is – and where it is – at Fern Ridge. Britton says such reviews take a year or two. But it's been ten years since the earlier study found potential problems. The Phase

Two review is still incomplete. Britton says money to finish the study competes with more pressing day-to-day problems – like fixing a problematic gate. Jeremy Britton: "Usually when there's a problem under normal operating conditions, as compared to these extreme event-type things, in combination with there's a known deficiency – where we know there's a problem with the gates versus the dams, where we're not necessarily sure there's a deficiency from a seismic point of view, the gates just leap above."

It is a bit of a chicken-and-egg issue. Officials acknowledge that since seismic studies haven't been funded in the past, there may not be enough information available to prove they're worth spending money on, in the future. What studies have been done aren't readily available. Federal officials say national security means reviews and emergency plans aren't usually publicized. But OPB's Vince Patton was able to observe while seismic tests were done at one dam. He visited the Scoggins Dam in Washington County as part of a story he did for Oregon Field Guide in 2009. Vince Patton: "They drill through every layer of the dam, into the bedrock of the valley 165 feet down. Every core sample from each key depth is tested."



Scoggins Dam

The Scoggins Dam is one of 22 dams owned by the federal Bureau of Reclamation. It's one of three the Bureau is investigating for seismic risk. The Bureau has upgraded three dams to a higher seismic standard since the early 1990s. Reclamation officials say they often identify seismic problems through comprehensive inspections they do every six years. But with increasing concerns about the dangers of a subduction zone earthquake, officials expect seismic safety to be a bigger focus in the future. The Army Corps and Bureau of Reclamation own some of the biggest dams in Oregon. An

additional 28 hydropower dams in Oregon have a federal requirement to withstand a "maximum credible earthquake." That leaves more than 200 dams that are located in areas where federal regulators say they could cause significant harm to people and property. The Department of Water Resources inspects dams with the greatest potential for damage every year. Department engineer Keith Mills says the state is caught up on those inspections, but he says the inspections don't dig into seismic problems. The last time the state thoroughly reviewed dams for earthquake risk was 30 years ago. Mills wants to update that. Keith Mills: "Obviously, we didn't know the earthquake risk at that time, but we do have some good basic information on those dams, and right now, I'm working with my intern to make a priority list that we need the most new information on." Mills intends to do initial assessments on 40-or-so dams close to the Cascadia Subduction Zone off the Oregon Coast. Further studies would likely follow. Fixing what they might find – and paying for it - is another matter.



Hydro

(Good luck getting money from Congress. Isn't this an earmark?)

Yakima water reservoir planned near Ellensburg

March 25, 2011, seattletimes.nwsources.com , The Associated Press

ELLENSBURG, Wash. — Ranchers Jack and Beneitta Eaton own about 4,000 acres of the land in a canyon southeast of Ellensburg that could be turned into water reservoir. They say they've known for some time about plans for a new reservoir in the Yakima Basin. Now, they're **waiting to see if a dam is built and their land is purchased.** The Daily Record reports supporters hope to have a funding request before Congress in 2013. Local, state and federal agencies in the Yakima

River Basin Water Enhancement Program agreed on the proposal in December. Earlier this month, nine environmental groups said they wanted 71,000 acres of watershed preserved as a condition of their support.

(You have to wonder sometimes – how many times does someone have to say the obvious? You can be sure that there will be the usual opponents. When will they face reality? You can't get it done with wind power alone!)

In Our View: Electrifying Idea

Cantwell wants to increase hydropower; more than a million jobs could be created

columbian.com, March 20, 2011

That do comedian Tim Allen and U.S. Sen. Maria Cantwell have in common? An abiding love for "More power!" For the comic, that's the solution to every challenge that might arise in any home-improvement project. For the senator, boosting the Northwest's hydropower capacity would be one of the most productive ways to accelerate a recovery from the lingering economic crisis. She's correct, of course, and what we like best about her Hydropower Improvement Act (introduced on Thursday) is that it takes a proven success — indeed, the pride of the Northwest — and makes it even better. And all of this would be accomplished without adding dams, just through upgrading current power-producing dams, bringing other dams online and enhancing conduit programs, pumped-storage facilities and other power sources. More than just a boost in power, the act would yield a significant increase in jobs. One study mentioned in Cantwell's bill envisions the current national hydropower work force of 300,000 people bolstered by up to 1.4 million new jobs (direct and indirect) across the country. Oh, but this proposal surely will become smothered in partisan bickering, you might argue. But consider the bipartisan thrust of the Hydropower Improvement Act. Cantwell chairs the Energy and Natural Resources Subcommittee on Energy. Her primary co-sponsor on this bill is Sen. Lisa Murkowski of Alaska, ranking Republican on that same subcommittee. They are joined by seven other co-sponsors from both parties. All nine sponsors are working across party lines because they know that hydropower is America's largest source of clean, renewable energy, one that produces almost a third of the country's energy. They also know that hydropower has stood the test of time with a track record of more than a century of generating affordable, emissions-free energy. Dams not only yield almost three-fourths of the energy consumed in our state, they also provide irrigation for Eastern Washington farms where apples, cherries, hops, wheat and other crops are grown.

Current hydropower production can be increased by upgrading turbines to produce more power with the same amount of water, and adding power-producing capacity at other dams. (About 97 percent of the nation's 80,000 dams do not generate electricity.) Modern technology is pioneering other forms of hydropower beyond just dams, with programs that use conduit devices, hydrokinetics and what's known as closed-loop pumped storage. The Hydropower Improvement Act, if approved, would establish a competitive grants program and expand research and development programs with the Department of Energy. Cantwell specified on Thursday how this measure would impact our region: "Emissions-free hydropower is the backbone of Washington's economy, providing around three-quarters of our electricity, and keeping our rates among the lowest in the country. This bipartisan bill will help find ways to increase our nation's hydropower capacity without building new dams, improving air quality while creating new clean energy jobs." Another co-sponsor, Republican Sen. Mike Crapo of Idaho, said: "In addition to putting people to work, we can continue to broaden our alternative energy portfolio and move closer to ending our dependence on energy provided by foreign oil. This legislation is another step in the process." Many proposed solutions to the economic crisis deal with the traditional; others deal with the innovative. This measure embraces both: reliable, time-honored hydropower taken into the 21st century. "More power!" makes sense, because America needs the renewable energy, and Americans need the jobs.

Quincy appeals hydropower project dismissal

by Brooke Hasch, connecttristates.com, 03.21.2011

Quincy, IL -- The city of Quincy is playing a waiting game over its planned hydropower project. Mayor John Spring says a Washington, D.C. law firm hired by the city filed a 53-page appeal on Friday. Last month the Federal Energy Regulatory Commission dismissed the City's and its hydropower corporation's license and permit applications. You can read that notice here. The city wants quick answers from FERC. "We'd like to understand why they dismissed the license applications. We really have not been given any clear reasoning from FERC and that's why you have U.S. senators asking questions, as well as the city of Quincy," said Mayor Spring. Mayor Spring is referring to a letter from U.S. Senators Dick Durbin and Mark Kirk, asking FERC to carefully review the city's appeal. FERC has 30 days to respond to the appeal. The city is going ahead with its plans in the meantime.



(Guess they couldn't come up with the term – pumped storage? The comment about not having Penrose, CO get to big is a puzzle. While it might be a congested during construction, we're talking about 20 full-time jobs if it gets built.)

Hydropower Plant Could Come To Penrose Proposed Near Brush Hollow Reservoir

Lindsay Watts, KRDO NewsChannel 13, krdo.com, March 22, 2011

Penrose, Colo. -- Green power could be coming to Fremont County. A bill that's just unanimously passed the state House and Senate could pave the way for a \$1 billion hydropower plant in Penrose. An energy company out of Canada is interested in building the South Slope Project, a hydroelectric generator and storage facility, near the Brush Hollow Reservoir. It's estimated the plant would provide 300 to 400 construction jobs and then 20 to 30 full-time jobs when the plant is finished.

State Rep. Keith Swerdfeger, R-Pueblo West, sponsored the bill that has set the stage for South Slope's construction. It gives the Public Utilities Commission authority to treat hydroelectric as a source of renewable energy and allows developers of hydroelectricity to sell their energy to utility companies. That could mean cheaper rates for Colorado residents. "One thing about water in a mountain state, that energy comes down 24-7, and we need to look at taking advantage of that," said Swerdfeger. Penrose residents had mixed opinions on the plant. "I think it might help the economy here in the Penrose area, which is not good right now," said Ronald Roberts. Others were concerned Penrose could become too developed. "I really probably wouldn't want it, just because I like the small town effect," said Dennis Pyles. "I just don't want it to grow too big and have people coming in." There's still a lot of work to be done before this power plant could become a reality. Swerdfeger said, at the earliest, construction could be underway in a year.

(Hydro project relicensing – another project that dates me – darn!)

Water relicensing discussed at NID

By Trina Kleist, Staff Writer, theunion.com, March 23, 2011

The process of relicensing the complex system that supplies drinking and irrigation water to western Nevada County will be reviewed at a meeting today. The Nevada Irrigation District will submit an application next month to the Federal Energy Regulatory Commission to renew licenses the district holds for the Yuba-Bear Hydroelectric Project. The 50-year licenses expire in 2013. That project was completed in 1966 after three years of construction, at a cost of \$56 million. It involves eight reservoirs, four hydroelectric power plants, and miles of canals, flumes, tunnels, power transmission lines, roads and related facilities spread over 400 square miles in Nevada, Sierra and Placer counties, according to NID documents.

In addition to providing water for 25,000 customers, the project also generates electricity, which is sold to Pacific Gas and Electric Co. — a partner with NID in the project's construction, General

Manager Ron Nelson said. Electricity revenues provide the district about \$3 million yearly, but that changes from year to year, depending on water flows, Nelson said. Revenue pays off the bonds that funded the project, according to NID documents. Jackson Meadows, Bowman, Rollins and Scotts Flat lakes are among the reservoirs in the project. "We're about halfway through the relicensing process," Nelson added. Other matters on tap at today's NID meeting:

- District board members are expected to declare a surplus of about 15,000 acre-feet of water for 2011, making that water available for sale to the South Sutter Water District, which contracts with NID for surplus.
- The board is expected to approve a new dam safety program, in line with new federal regulations. NID already monitors its dams daily and does periodic inspections, Nelson said.
- The board will discuss spending more than \$257,000 to upgrade software and replace hardware for the hydroelectric division.
- Board members also will discuss a December actuarial valuation; and a December audit of cash, reserves, long-term debt and borrowing.

Wasco County hydropower plant at White River Falls scuttled

By The Associated Press , March 25, 2011, oregonlive.com



The Dalles, WA -- Officials in Wasco County have scrubbed the idea of small hydropower plant at White River Falls. The Dalles Chronicle reports the project couldn't pass a cost-benefit analysis based on the outlook for energy prices over the next 20 years, and there were problems securing a water right for the plan from state parks officials. It would have been at the base of the falls, site of a plant the Oregon Parks and Recreation says provided power from 1910 to 1960, when The Dalles Dam was completed. The stream is a tributary of the Deschutes River.



Water:

(Does anyone really know – probably not?)

Is Lake Powell slowly dying?

BY TOM WHARTON, The Salt Lake Tribune, sltrib.com, Mar 21, 2011

Some say Lake Powell and Lake Mead are slowly dying. Others maintain the Colorado River reservoirs, two of North America's largest, are doing just fine. These experts say they not only meet current needs but have the potential for pipelines that bring water into Denver and St. George as well as a nuclear power plant on the Green River. How the water is managed over coming years has enormous consequences for the West. At stake are the growth potential for



many major Western cities that rely on Colorado River water for drinking, crops grown in California, cheap hydroelectric power, recreation enjoyed by millions each year, the ecological health of the Grand Canyon and the survival of several endangered fish. "Everyone predicts that Lake Powell's days are numbered," said Dan McCool, professor of political science and environmental studies at the University of Utah, adding that all models looking at climate change indicate that it is going to get drier and warmer in the Colorado River Basin, reducing future flows. In 2007, Western states and the federal government signed an agreement specifying what happens when water is in short supply. When the level of Lake Mead drops below a certain elevation, more water is released from Lake Powell in a process called equalization. In its latest study, the Bureau of Reclamation (BOR), which manages the system, put the probability of a 2011 equalization release from Lake Powell to Lake Mead at 97 percent. The release will likely be 11.63-million acre-feet instead of the usual 8.23 million, about 40 percent more than usual. The final decision won't be made until April. If the release occurs as expected, there likely won't be a water shortage in the lower basin states of Nevada, Arizona and California in 2012. A 10-year drought has caused Mead to recede, forcing the probable equalization. Those opposed to equalization say that, ultimately, it causes Utah and other upper-basin states to lose out on their share of the Colorado River, thus impeding their growth. The situation could get worse.

A 2008 study by research marine physicist Tim Barnett and climate scientist David Pierce of the Scripps Institution of Oceanography concludes there is a 50 percent chance that Lake Mead will be dry by 2021 if the climate changes as expected and future water usage is not curtailed. That could affect the water supplies of between 12 million and 36 million people as a net deficit of nearly 1 million acre-feet of water per year from the Colorado River system continues. "It is inevitable that sometime in the next few decades, various states of the West will have to make some extremely tough decisions," said Jack Schmidt, a river expert and professor at Utah State University. "There are well respected, serious studies done that look at water-use patterns and climate change. They predict the probability that Mead and Powell will both approach going dry for a few years and, in wet years, fill back up. They will get lower than they already have. That is inevitable" Schmidt said that could create a societal nightmare in the lower basin with water use curtailed. Rick Clayton, a hydraulic engineer in the water resources group of the Bureau of Reclamation, strongly disagrees that the Colorado River cannot meet current and future water needs or that Lake Mead, Lake Powell or both may eventually disappear. He said that during the current 10-year drought — which could be ending this year with the latest models showing above-average snowpack in the Colorado Basin — Powell and Mead have operated as planned. Although both reached low levels, they continue to produce electricity and provide water. "The way we operate the system can react to dry conditions when they occur," said Clayton. "For that reason, we will be able to sustain the system. It is complicated, but from where I sit, the system is functioning as it was intended when it was designed. We are able to react as appropriate to changing conditions." But he does say that if conditions were to remain dry for another 10 or 20 years, the states and the Bureau of Reclamation might need to revisit current policy and make adjustments in order to preserve storage in reservoirs. Clayton said upper-basin states Wyoming, Colorado, Utah and New Mexico can continue to develop their share of the Colorado River. "We believe we can manage the system to provide that water," Clayton said, noting the lower basin already is fully developed. Paul Ostapuk, a board member for Friends of Lake Powell based in Page, Ariz., said his group had long been in favor of the 2007 agreement. "It evens off over the long run," he said. "When we get too low like we did earlier in this decade and Mead was higher, there were provisions in there to slow the flow. The reverse is happening now. With all the gloom and doom about the Colorado River, if runoff is 85 percent of normal or above, Lake Powell rises. If we get a couple of normal years, things will improve more than they have." But what is "normal?" "Normal is in many cases abnormal," said McCool. "There is no normal. There are changes and because of climate change, the change will be radical. They say we are in an 11-year drought. Maybe we are just in 11 years of reality and there will always be a drought. We live in a desert and drought is permanent."

Is there a better way to manage the reservoirs? Richard Ingrebretsen, president of the Salt Lake-based Glen Canyon Institute, which has advocated draining Lake Powell, said that using all of Powell's water to preserve Lake Mead is the way to go. "Keep Mead full and use Powell as a backup," he said. "You will save water and restore these beautiful rivers. Keep the [Glen Canyon] dam there to keep some water in Powell some of the time. And restore rivers for long term use. ... They [the Bureau of Reclamation] don't need Lake Powell. They need Lake Mead." This spring, with the equalization that has never been done before, you are setting a huge precedent sending the water down from Powell to Mead." Schmidt has similar thoughts. "Among the things that we could ask ourselves if we wanted to be really innovative is whether it makes more sense to store the majority of water in Mead and have Powell be secondary," said the Utah State professor. "Or should Powell be primary and Mead the secondary site? Or should we manage both with equal contents? We don't ask those questions." With potential climate change and the demands on Colorado River water increasing throughout the West, more experts are seeking answers. "Serious scientists are doing these studies," said Schmidt. "Water managers, be they conservatives or liberals, all take this utterly seriously. They are not in the business of talk-radio climate change denial. They are in the business of managing water supplies in the Western U.S. And they take it utterly seriously because it would be grossly irresponsible not to."

(Sometimes it just rains too much! It's too bad that some people think the silt in the reservoirs is the problem.)

Valley's dams can lessen flooding, but can't entirely prevent it

By Lee Morrison, TimesReporter.com staff writer, Mar 20, 2011, cantonrep.com

Dover, OH - Large volumes of precipitation - not the system of dams and lakes designed to reduce flooding - are to blame for the recent high water problems in the region, according to officials overseeing the system. However, residents of northern Tuscarawas County and the Atwood Lake region in Carroll County who have been isolated by the flooding contend that more should be done. The flooding of the region this year, and in 2005 and 2008, resulted from some of the highest amounts of rain and snow on record, said Nick Krupa, operations manager for the U.S. Army Corps of Engineers office near Dover Dam. The Corps manages the dams in the 8,000-square-mile Muskingum River Watershed for flood management in partnership with the Muskingum Watershed Conservancy District, which manages most of the reservoirs behind the dams. Krupa cited statistics from the Ohio Department of Natural Resources' water inventory. He said February 2011 precipitation was 200 percent above normal and ranked in the all-time Top 10 for that month, dating back 129 years. In January 2005 and March 2008, the amount of precipitation for those months ranked the fourth highest on record in more than 125 years, he said. "Dams can't prevent flooding - they can reduce flooding," he said.

Watching Water Levels

Krupa said decisions to determine how much water to discharge from each dam are based on protecting life and property downstream. Much of the problem stems from the many areas in the region where there is uncontrolled runoff from smaller tributaries without a dam or lake to help control the volume or flow of water, he said. "For instance, water from Crooked Run Creek and other creeks and streams flows unchecked into the Tuscarawas River, and that becomes a factor in how much water we are able to release from storage behind our dams," Krupa said. By using a dam, "we're able to knock the peak off many of these flood stages," he said. Immediately downstream from each dam is a gauge that measures water level, and limits are set for those elevations. "We want to protect life and property. As it rains and the water level naturally rises and reaches that elevation limit, the dams have to start closing gates so those levels aren't exceeded for flood-control purposes." He said the Corps also uses computer models for rainfall to help coordinate all 16 dams in the system and the impact as far downstream as Marietta. That, in conjunction with the actual gauge readings, factors into determining how much water will be released from a dam or lake. Krupa said the basic principle of using dams and lakes as flood-control structures involves what's downstream, not behind them. "No homes have been damaged north of Dover Dam because of the water stored there from excess runoff," he said. "It's

stored until it can safely be released downstream. "These events are so infrequent over the course of history that people think it's safe to continue to develop closer and closer to these dams," he said. "We're dealing with a large population being so close to a major storage area for water, and that comes into conflict with the operations of Dover Dam."

Lakes too shallow?

Bob Comer, of the Atwood Lake region, contends that a major contributor to the problem is that lakes within the Muskingum Watershed Conservancy District have not been dredged. He said plans for the lake system established in the 1930s called for dredging, because the lakes would fill with silt within 50 years. He contends that the increased amount of silt limits the amount of water the lake can hold without flooding. "It is my opinion that the current flooding of over 30 roads and the closing of Tusky Valley High School is a direct result of the failure to dredge Atwood Lake and all of the other MWCD reservoir lakes," he said last week. When Atwood Lake "was drained down this past fall, I noticed that the lake is extremely shallow, and the bottom isn't all that far from the top of many of the banks." Krupa said that actually isn't a factor. "Flood storage capacity is measured from the water surface elevation to the top of the dam," he said. "Because silt accumulates below the normal water surface level, it doesn't impact the storage capacity." Comer and others call for projects to raise the surface height of roads that are prone to flooding, such as Route 39 near Dellroy Elementary and Avalon Road in Carroll County. Darrin Lautenschleger, MWCD public affairs administrator, said MWCD's long-term budgeting process calls for spending up to \$1 million annually over the next 20 years on dredging to preserve the functional operation of the reservoirs. "It is possible some dredging could begin as early as 2012," he said. MWCD is working with Ohio University's Civil Engineering Department to research the MWCD reservoirs, inventory existing sediment information and prepare for future erosion modeling, he said. That report will be completed this year. "That information will help the MWCD in how to approach dredging in an effective and cost-efficient manner," he said. "Obviously, the events of 2005, 2008 and 2011 will be part of that consideration." He said dredging is extremely expensive and the basic maintenance has been deferred over the years because of financial issues. Lautenschleger said he empathizes with residents, and "I understand the frustration of road closings. It's unfortunate that Tusky Valley schools have been idled for a whole week." He explained that the system was established in the aftermath of the Great Flood of 1913, the greatest natural disaster in Ohio history when more than 400 people died, including 11 within the Muskingum River Watershed.

Billions In Damage Prevented

Since their construction, the reservoirs and dams in the MWCD region have been credited with saving more than \$8 billion worth of potential property damage from flooding, according to the federal government. "It has allowed economic development in areas that probably couldn't have occurred without them," he said, mentioning Gradall and New Towne Mall near the Tuscarawas River in New Philadelphia. He said the system has contributed to the quality of life on many levels, including safety, the economy and recreational opportunities. He contends that without it, the region still would be much like it was in the early 1900s, with severe erosion problems. "We've planted millions of trees to help prevent that," he said. "Also, flooding problems would be more widespread than what we have today. Farmland would be more in danger of flooding and losing the crops when that happens."

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4/08/2011



Some Dam – Hydro News™ and Other Stuff



Quote of Note: “If A is success in life, then A equals x plus y plus z . Work is x ; y is play; and z is keeping your mouth shut.” - - Albert Einstein

“Good wine is a necessity of life.” - - Thomas Jefferson

Ron’s wine pick of the week: 2008 Las Perdices Malbec, Mendoza, Argentina

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

This Newsletter starts with 2 lite articles & a cartoon – Oh well; ya gotta smile sometimes in a world where we only seem to get the bad news!

Other Stuff.

Dilbert

BY SCOTT ADAMS



Dams:

(This is really important news in the dam building world! Sometimes we take ourselves too seriously)

Beaver rebuilding dam in Alhambra Creek

abclocal.go.com, March 28, 2011

MARTINEZ, Calif. (KGO) -- There is a new sign of hope for fans of the Martinez beavers. Last week the recent series of storms had washed out their dam along the Alhambra Creek. **This morning, a group called Worth a Dam, that advocates for the animals, emailed new video showing one of the beavers gathering sticks to rebuild.** The family of beavers has become one of the city's big attractions and many residents expressed concern last week when their dam was destroyed.

(Excerpts - This article is included only because I think there should be a contest on who (with people from Maine excluded) can pronounce the name of the Dam. There are many small reservoirs in NE with scenery like this one.)

Canton dam funding assured, chairman says

By Tom Standard, Special to the Sun Journal, Mar 29, 2011, sunjournal.com

Canton, ME — **Lake Anasagunticook Dam** Advisory Committee Chairman Malcolm Ray assured members Monday night that the **\$500,000 grant to build a dam** on Whitney Brook was included in the 2010 federal budget. Confusion about receipt of the federal funding resulted after a memorandum from the Maine Department of Economic and Community Development was read at the selectmen's meeting last week. The letter stated that due to uncertainty over the 2011 federal funding for Public Facilities and Public Infrastructure Grants, the department was unable to move forward with awarding grants. Selectmen interpreted the memorandum as referring to the dam money when it actually referred to a \$36,000 grant requested by the Canton Water District to improve its filtration system. The dam, which regulates the water level in the Lake Anasagunticook, is to replace one the town took by eminent domain for safety reasons. -----.



(This an interesting dam. Basically a buttressed wall. Wish we could borrow money at 2 % interest! The article doesn't mention why the highest bidder says they deserve the job - should be interesting!)

Lake Solitude Dam repairs in High Bridge might start soon

March 31, 2011, By Teresa Fasanello/Hunterdon Democrat, nj.com/hunterdon-county-democrat



High Bridge, NJ — A construction company will likely be selected to repair and strengthen Lake Solitude Dam, at Borough Council's April 14 meeting. The borough is under order from the state Bureau of Dam Safety to improve the dam or breach it, allowing the South Branch of the Raritan River to flow freely. The bureau first declared the dam to be in danger of washing out and causing property damage downstream in 1980. **Last year, the borough accepted a \$5.6 million state loan, with a 2% interest rate, to repair the dam.** The borough purchased the 145-acre property in 2001, including

the buttress dam, which was built in 1872 to create a 30-acre lake on the South Branch.

The dam is approximately 175 feet wide and 40 feet tall, constructed with concrete-encased steel beams anchored into bedrock and reinforced with stone buttresses, and a 500-foot long earthen berm which needs to be strengthened and raised, according to Borough Administrator Doug Walker. Although officials said previously some dredging of the lake bottom might be necessary, the lake will not be disturbed. Work is expected to begin in April or May, he said. At council's March 24 meeting, council voted to postpone awarding the project to a bidder so that Borough Attorney Barry Goodman would have time to determine whether the company selected was in

conformance and offered the lowest price. According to the meeting agenda, council was prepared to award the project to Kyle Conti Construction of Hillsborough, which offered a price of \$2,388,388. Adamsville Maintenance of Bound Brook bid of \$2,396,445. But the day before the meeting, council received a letter from Adamsville, arguing that it deserved to get the job. "We want to make sure we look into it," said Goodman after the meeting, explaining that sometimes companies will sue if they believe they were unfairly treated. Jogi Construction of Edison was the lowest bidder with its \$2,369,632 offer, but was rejected because its bid did not conform to the borough's specifications for the project, Goodman said.

(The Japanese earthquake has placed a new sense of awareness and urgency on seismic upgrades.)

Seismic upgrades to improve dam safety in Utah

By Amy Joi O'Donoghue, Deseret News, deseretnews.com, April 2, 2011

Echo, UT — A big rig is sinking a drill deep into the soil — with an aim of 150 feet — and a lubricant foam is flying everywhere. Soon, the nearby ground is covered with the milky-white stuff as a four-man crew comes up with the prize: a handful of dirt and rock. The drilling is part of seismic upgrades at Echo Reservoir that will be made over the next year or so. Initial sampling of soils helped the U.S. Bureau of Reclamation understand the type of materials that were underneath the water and how they would react in the event of an earthquake. "It's kind of like taking an X-ray or a CAT scan and from that you develop a prescription on how to fix it," said Barry Wirth, a spokesman with the federal agency.



Over the years, the bureau has conducted extensive seismic studies on dams in Utah and has set about to make improvements that, while costly and time-consuming, are necessary. Those improvements are not only for the dams' structural integrity, but critical for public safety and to ensure continued storage of water.

"Many of these were built years and years ago before we had the knowledge and understanding of the level of earthquake potential in Utah," Wirth said. "They were built before a lot of the engineering solutions to seismic events existed. That is one of the reasons we are on such an ardent schedule to review facilities because we are going back and applying state of the art technology to bring them up to seismic standards." Water immediately downstream from a dam saturates the soil. Soggy soils do not stand up well in earthquakes, which sap the strength and stiffness of soil in a process called liquefaction. When that happens, the dam could slump. In many cases, crews excavate the liquefied materials and replace them with strong, more stable rocks and dirt. Earthen berms are built to help buttress the dam, shoring it up to better withstand tremors.

The improvements being made to Echo will require lowering the water level 15 feet by mid-July of 2012, said Curt Pledger, manager of the bureau's Provo area office. Water districts such as Weber Basin and others will steadily tap the water supply at Echo to make the drop happen by that time frame. "Instead of taking a little bit out of all the reservoirs, they'll pull heavy on Echo and keep water in the upper reservoirs," Pledger said. Seismic upgrades have already been made to Deer Creek and Pineview and to the spillways at Hyrum and Scofield reservoirs. Pineview, in Weber County, which was built over a three-year period beginning in 1934, was reinforced with an earthen berm and also had seismic upgrades made to its spillway. Crews will begin sampling soils next week at Willard Bay, a water storage reservoir north of Ogden that abuts the Great Salt Lake and is a popular boating destination. Tage Flint, general manager of the Weber Basin Water Conservancy District, said the district and the bureau began a feasibility study to determine the potential impacts of raising the level of the dam by three to four feet. The additional capacity would allow the district to capture some of its water rights to the Ogden and

Weber rivers in high run-off years, boosting water storage to meet increasing population demands in the years to come. That study, however, has been put on hold after the district learned that the AV Watkins Dam that creates the fresh water bay is on the priority list for a seismic evaluation.

The 46-year-old dam on the shore of the Great Salt Lake is somewhat of an anomaly in Utah, with an odd rough-rectangle shape that is 14.5 miles long. A five-mile stretch of the dam has been classified as "high hazard," not because it is at imminent risk of failure, but rather because there are people, houses and other infrastructure that could be at risk should it fail. That stretch of the dam runs parallel to I-15 in Box Elder County, where houses and farms dot the landscape. Pledger said it will take a number of months for analysts in Denver to determine the seismic health of the structure, with results tentatively due in October of this year. Such improvements, he added, can take just a few years to complete or up to a decade depending on the complexity of the work and budget constraints. "Dams with the highest priority get the most money and the most attention."

(The problem with this article is that it will be used by anti-dam proponents who will blindly extrapolate it to hydroelectric dams everywhere. China may or may not have dam safety problems, but hydroelectric dams in the United States shouldn't be painted by their actions. While the article may or may not have a legitimate point with respect to such dams in China, the article could have been more careful to indicate that the statements made should not be used across the board for other countries. The question as to whether hydroelectric dams are more unsafe than nuclear plants when applied to the U.S. experience would be NO! Of course, people can confuse statements made by the American Society Civil Engineers and other organizations about dam safety in the U.S. The dams noted by ASCE are not hydroelectric dams. The dams referenced by ASCE are an important part of the Nation's infrastructure and we in the U.S. could do more to make those dams safe, but they are not hydroelectric dams. In fact, of all the dams in the U.S., hydroelectric dams are, in fact, the safest. So, the article needs to be put in its proper context.)

Lawrence Solomon: Dams are worse

(<http://ep.probeinternational.org/2011/04/02/lawrence-solomon-dams-are-worse/>)

(April 2, 2011) While many believe that nuclear is the most dangerous source of electricity, the designation actually belongs to major hydroelectric dams.

Japan's ongoing disaster at the Fukushima nuclear plant, now in its agonizing third week, has led many to conclude that nuclear is the most dangerous way to generate electricity. Not so. Nuclear is not the most dangerous, not by a long shot. That distinction unambiguously belongs to large hydroelectric dams. The most catastrophic dam failure in history occurred in China in 1975, with the near-simultaneous failures of the Banqiao and Shimantan dams. The "August 1975 disaster," as the Chinese call the horrors associated with the dams' collapse, drowned 26,000 people, according to the Chinese government. Another 200,000 lives were lost in its aftermath. Records from the days following the dams' collapse describe the chaos: "East of Xincai and Pingyu, the water is still rising at the rate of two centimetres an hour. Two million people across the district are trapped by the water.... In Runan, 100,000 who were initially submerged but somehow survived [by clinging to trees, rooftops, etc.] are still in the water. Forty thousand people have been rescued; 200,000 are sick with diarrhea and other related illnesses. There's no medicine. In Shangcai, 300,000 people are marooned on the dam, on rooftops, and elsewhere. Twenty communes have been engulfed by flood waters. Many people haven't eaten anything for days. In Shangcai, another 600,000 are surrounded by the flood." Four days later: "The disease morbidity rate has soared. According to incomplete statistics, 1.13 million people have contracted illnesses, including 80,000 in Runan and 250,000 in Pingyu; in Wangdui commune alone, 17,000 people out of a total population of 42,000 have fallen ill, and medical staff, despite their best efforts, can only treat 800 cases a day." In all, 11 million were affected by the disaster, which came of a severe storm and unprecedented rainfall, leading to flooding that overwhelmed the two dams. Shimantan was built to withstand a flood so rare that it would come but once every 500 years;

Banqiao was built to withstand an even rarer event — a once-in-a-1,000-year flood. The flood that arrived in August of 1975 was a once-in-a-2,000-year flood.

When the dams failed, they unleashed a tsunami six meters high and 12 kilometres wide that inundated 29 counties and municipalities. The scale of the disaster compares to that of the earthquake and tsunami that hit Japan. It cannot compare to the consequences of the radiation leaks from Japan's Fukushima reactors, which, though dangerous to nuclear workers, are likely to cause no casualties among the general population. Neither can it compare to either of the two other serious nuclear accidents that have occurred, at Three Mile island, which led to no deaths, and at Chernobyl, where United Nations agencies such as the World Health Organization, the International Atomic Energy Agency, and the Scientific Committee on the Effects of Atomic Radiation have been steadily decreasing death estimates with the passage of time. Because the dead bodies have simply not materialized, the UN agencies now outright dismiss the very high estimates of death that came from organizations like Greenpeace, saying of them, "These claims are highly exaggerated." The maximum number of deaths that the UN agencies estimated in 2005 was "a few per cent.... Such an increase could mean eventually up to several thousand fatal cancers." Even here, the UN agencies expressed doubt that these predicted deaths could be substantiated. "An increase of this magnitude would be very difficult to detect, even with very careful long-term epidemiological studies," it reported. The difficulty stemmed from the theoretical model that the UN was using to project deaths — known as the "linear no threshold" model, it amounted to a guesstimate that even the scientists who uphold it acknowledge to be unproven and unprovable. Three years later, the UN distanced itself even further from claims that the Chernobyl accident could have killed many in the general population — the UN's Scientific Committee on the Effects of Atomic Radiation found only 15 fatalities from thyroid cancers. "Among the general population, to date there has been no consistent evidence of any other health effect that can be attributed to radiation exposure," it reported. Because the theoretical models diverged so much from reality, it decided to set them aside. "The committee has decided not to use models to project absolute numbers of effects in populations exposed to low doses because of unacceptable uncertainties in the predictions," it stated. While deaths from nuclear accidents are hard to find, those from dams are not. Italy lost 2,000 people in a 1963 dam failure, France 400 in a 1959 failure. Smaller dam failures have led to lower losses of life in the U.K., the United States and Germany. The future will likely make the hazards of dam building more evident still, particularly in China, the world's most aggressive dam builder.

According to the Chinese government itself, some 37,000 dams — 40% of its total — are at risk. In the decade ending in 2008, 59 dams were breached either due to torrential rains or shoddy construction. In 2008, Sichuan, home to 90% of China's dams, suffered a devastating earthquake that damaged some 1,800 dams and left 69 of them in danger of catastrophic collapse. Near Sichuan, situated atop two fault lines and upstream of Wuhan, population 10 million, lies the Three Gorges Dam, the world's largest. If the Three Gorges dam failed catastrophically, as dam experts fear it might, the tsunami that would be unleashed would precipitate the world's largest man-made disaster, with a death toll in the millions. *Financial Post*
LawrenceSolomon@nextcity.com, *Lawrence Solomon is executive director of Energy Probe, an anti-nuclear organization, and the author of The Deniers.*
The extent of damage wreaked by the 1975 floods was first revealed in the West by Dai Qing in her 1998 book, The River Dragon Has Come. To read more of her description, click [here](#). Third in a series Next: The real problem with nuclear power



Hydro:

(There are some good things in the MOU such as only one environmental document, but it is a puzzle why they couldn't figure out a way to do away with the duplicative permitting by the Corps,

the real problem. It basically says we'll try to avoid delays by doing things simultaneously. The original Federal Power Act superseded the 1899 Act, but a recent amendment apparently led to this duplicative process.)

News Release: March 30, 2011

FERC and U.S. Army Corps of Engineers sign agreement on hydropower

Washington, D.C. – The Federal Energy Regulatory Commission (FERC) and the U.S. Army Corps of Engineers (USACE) signed an updated agreement on March 30 to coordinate their efforts associated with evaluating proposals to construct and operate non-federal hydropower projects at USACE-owned facilities. The Memorandum of Understanding (MOU) establishes a framework for early coordination and participation between FERC and USACE to ensure timely review of proposed non-federal hydropower development applications. "The intensified interest in developing renewable energy in this country has made hydropower an increasingly important player in the game," FERC Chairman Jon Wellinghoff said. "Small hydropower development has become a highly desirable option, and today's MOU goes a long way to moving these resources forward. I thank the Corps for its commitment to this effort." "The Corps of Engineers is committed to early coordination with the Federal Energy Regulatory Commission when carrying out our regulatory responsibilities with regard to the National Environmental Policy Act and the Clean Water Act. This MOU provides a roadmap for identifying issues and resolving them, and integrates our efforts on these important hydropower projects. We look forward to working with the Commission and a new era of cooperation," said Jo-Ellen Darcy, Assistant Secretary of the Army for Civil Works. The revised MOU provides for:

- Early involvement of FERC and USACE staff during the pre-filing stage of licensing and the environmental review process so issues are identified early and sufficient information is gathered to inform both agencies' decisions;
- Establishing a schedule between FERC and USACE early in the process so all applicable review and approval activities occur concurrently to avoid unnecessary delays and redundancies;
- Sharing of administrative and technical data as necessary between FERC and USACE; and
- Establishing FERC as the lead federal agency for preparation of the environmental document, with USACE participating as a cooperating agency as needed.

Under the Federal Power Act, FERC issues preliminary permits and licenses for the development of non-federal hydropower projects, including proposals for construction of hydropower projects on or near federal dams or facilities operated by the USACE in waters of the U.S. USACE evaluates these proposals to ensure they comply with the Clean Water Act and the Rivers and Harbors Act of 1899.

Governor signs hydro power bill

istockanalyst.com, March 30, 2011, (Source: The Pueblo Chieftain) By Patrick Malone, The Pueblo Chieftain, Colo.

Denver, CO -- Gov. John Hickenlooper on Tuesday signed a bill into law that opens the door to more hydroelectric power generation operations in the state. Under HB1083, the Public Utilities Commission can authorize hydro projects and allow rates to be adjusted to recover the costs of the projects, similar to other renewable energy sources like wind and solar. For Southern Colorado, the bill was the first step toward a possible hydroelectric and pumped hydro project that could create 300 construction jobs and up to 30 permanent positions. TransCanada Corp. is in the preliminary stages of eyeing an \$800 million hydro plant near Penrose. Concessions to environmental groups that worried about the impact on aquatic life and others who were concerned about its impact on downstream water users paved the way for the bill's popularity.

"When we started out, I was scratching my head wondering how we were going to get this passed. We were butting our heads against a wall," said sponsor Rep. Keith Swerdfeger, R-

Pueblo West. "We backed up, just started communicating with the people that had concerns, and then it came on board." The bill passed through two committees, the Senate and the House twice without a vote against it. Experts testified that hydro is an economical way -- except for the hefty up-front investment -- to store and generate energy in order to fill gaps in wind and solar generation, and that up to six sites throughout the state have been identified as suitable sites for hydroelectric plants. "South Slope has gotten a lot of headlines as a project, but I think this bill is bigger than that," Swerdfeger said. "We should be looking at taking advantage of our natural resources. Colorado's a high-mountain state; water flows downhill, and that's energy on a constant basis. If we can take advantage of it, we should." Sens. Angela Giron, D-Pueblo, and Kevin Grantham, R-Canon City, also sponsored the bill.

(Excerpts)

U.S. Gears up for hydroelectric capital and maintenance projects

pr-usa.net, 30 March 2011

Researched by Industrial Info Resources (Sugar Land, Texas) -- **Industrial Info is tracking \$1.25 billion in hydroelectric capital and maintenance projects that have started or are scheduled to start construction in the United States in 2011.** One of the largest hydroelectric organizations in the world, the U.S. Army Corps of Engineers (Washington, D.C.) has allotted for \$388 million for capital and maintenance for the 2011-12 budget cycle. For details, view the entire article by subscribing to Industrial Info's *Premium Industry News* at http://pr-usa.net/index.php?option=com_content&task=view&id=672619&Itemid=30. -----.

Feds See Hydro Potential At 3 C. Oregon Dams Three on High Desert Among Six in Oregon, 70 Nationwide

From KTVZ.COM News Sources, March 31, ktvz.com

Washington -- **The Department of the Interior released the results of an internal study Thursday that shows the department could generate up to 1 million megawatt hours of electricity annually and create jobs by adding hydropower capacity at 70 of its existing facilities.** Six of those studied were in Oregon and three in Central Oregon. The report, Hydropower Resource Assessment at Existing Reclamation Facilities, estimates that the additional hydropower capabilities could create enough clean, renewable energy to annually power more than 85,000 households.

In Oregon, the list includes six dams and reservoirs, including Wickiup, Haystack and Bowman Dam in Central Oregon. **Based on industry estimates for job potential associated with the kind of hydropower additions identified in this report, approximately 1,200 jobs could be created, including jobs in administration, manufacturing, construction, engineering, operations and maintenance.** "Adding hydropower capability at existing Reclamation facilities is a cost-effective and environmentally sustainable way to build our clean energy economy," said Assistant Secretary for Water and Science Anne Castle. "We can increase our renewable hydropower output without building new dams. This report highlights the exciting potential for substantial hydropower development and related jobs at existing facilities throughout the western United States." The Bureau of Reclamation developed the report as part of President Obama's initiative to develop a comprehensive renewable energy portfolio and to meet 80 percent of our energy needs with clean sources by 2035. "Our report reflects Reclamation's commitment to advancing renewable energy in a manner that promotes efficiency and sustainability through the use of existing resources," said Reclamation Commissioner Mike Connor.

The report studied 530 sites throughout Reclamation's jurisdiction, including dams, diversion structures, and some canals and tunnels. Of those sites, the assessment made a preliminary identification of 70 facilities with the most potential to add hydropower. **These 70 facilities are located in 14 states.** Colorado, Utah, Montana, Texas and Arizona have the most hydropower potential. Facilities with additional hydropower potential are also found in California, Idaho, Nebraska, Nevada, New Mexico, Oregon, South Dakota, Washington and Wyoming. The chart at www.usbr.gov/power shows a state-by-state breakdown of the 70 sites with the greatest potential

to develop additional hydropower and contribute clean energy to the grid. It indicates potential installed capacity, annual production and a benefit-cost ratio that incorporates incentives for developing clean renewable energy available from existing federal and state programs. Reclamation Commissioner Connor explained how the report can best be used.

"Although this report is not a feasibility analysis, it provides information that allows Interior and developers to prioritize investments in a more detailed analysis that focuses on sites demonstrating reasonable potential for being economically, financially and environmentally viable," he noted. Connor pointed out that for many of these sites, hydropower development would be conducted under a "Lease of Power Privilege Agreement" through which a non-federal entity is given a contractual right for up to 40 years to use a Reclamation facility for electric power generation. Reclamation will be publishing two Federal Register notices in the near future regarding Lease of Power Privilege opportunities at Granby and Pueblo dams in Colorado. These dams were identified in the report as having high potential for hydropower development. A related, important product that Reclamation is making publicly available is the Hydropower Assessment Tool that was used in the report to analyze the 530 sites. The tool can be applied to any potential hydropower site and requires simple inputs of daily flows, head water elevations and tail water elevation. The results provide valuable information on potential hydropower production and economic viability. The report released Thursday dovetails the 2010 Federal Memorandum of Understanding for Hydropower between the U.S. Department of the Interior, U.S. Department of Energy, and the U.S. Army Corps of Engineers. This Memorandum of Understanding was established to help meet the nation's needs for reliable, affordable, and environmentally sustainable hydropower by building a long-term working relationship, establishing goals and priorities, and aligning ongoing and future renewable energy development efforts. The Bureau of Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its 58 power plants annually produce, on average, 40 billion kilowatt-hours per year, enough to meet the needs of 9 million people. The report and Hydropower Assessment Tool are available on Reclamation's website at www.usbr.gov/power. A recording of today's teleconference will be available on the site later in the day.

Utah company considers hydropower at Clark Canyon

istockanalyst.com, (Source: The Montana Standard) By Tim Trainor, The Montana Standard, Butte

April 01--A company from Utah will ramp up its studies this spring as it continues to test the feasibility of producing hydropower at Clark Canyon Dam. In August 2009, the Federal Energy Regulatory Commission issued a license to Symbiotics LLC, based in Logan, Utah, that would allow it to build and operate power-producing turbines at the dam, located 20 miles south of Dillon. Steve Davies, Montana's dam safety program manager for the U.S. Department of the Interior's Bureau of Reclamation, said much of this year's work will consist of exploratory drilling. The company will analyze the results and study the makeup of the ground beneath the earthen dam to see if it could support a powerhouse. "There hasn't been any drilling investigation down there since the 1980s," Davies said. "They are doing this drilling to find out exactly what is down there." The facility, if built, would not affect dam operation, which stores water for irrigation.



Symbiotics would have no say on how much water is released from the dam, nor would it have any claim to that water. It could only use the resource only as a pass-through on its way downstream. "The irrigators make the decision (on how much water is released) and we just use whatever they give us," said David Boyter, head of engineering operations for Symbiotics. Boyter said the company's current design calls for a powerhouse 36 feet wide and 64 feet long, located

where the water leaves the dam and enters the Beaverhead River. It could provide 4.7 megawatts of energy. Drilling work will be done intermittently for the next four to six weeks, said Davies. Boyter said they hope to begin construction on the powerhouse "within a year." He said the company is still studying where it would best connect the power it produces at Clark Canyon to the grid, but a 161-kilowatt NorthWestern Energy line runs over the dam and there are substations nearby. "That's something we are still finalizing," said Boyter. He said Symbiotics would hire one full-time and one part-time employee to monitor the dam. The project has already undergone a substantial environmental review, which included study of how construction would affect the fishing on the Beaverhead River below the dam as well as recreation on the reservoir. Clark Canyon Dam, completed in 1964, is owned and maintained by the East Bench Irrigation District.

Kauai utility OKs deal to develop hydroelectric projects

By Star-Advertiser staff, staradvertiser.com, Apr 01, 2011

Kauai Island Utility Cooperative said its board of directors has approved agreements with Free Flow Power Corp. to pursue the joint development of six hydroelectric projects proposed for the island. Under the terms of the agreements, FFP has transferred ownership of the six previously announced hydroelectric projects to KIUC. KIUC will oversee the development of the six and potentially several more projects, the utility said in a news release. "These agreements are an important step to ensure that any hydroelectric projects developed on Kauai are owned and controlled by the people of Kauai and operated in a way that serves their best interests," said David Bissell, KIUC chief executive officer. Free Flow Power has filed six preliminary applications with the Federal Energy Regulatory Commission. In March FERC approved the first of the preliminary permits for a project on the Wailua River. The other applications are pending before FERC.



Water.

(Does anybody think that CA will use common sense or wait until it's too late?)

Dan Walters: California's water flow squandered

sacbee.com , Apr. 03, 2011

Those who really believe California has a water shortage should spend five minutes standing in Old Sacramento, watching the Sacramento River. Operators of the three major dams on the Sacramento and its tributaries – Shasta, Oroville and Folsom – have opened their gates widely, sending boiling torrents of water downstream. They must draw down reservoirs behind the dams to control anticipated runoff from one of the heaviest mountain snowpacks on record. A week ago, Sacramento River flows hit 90,000 cubic feet per second, even with diversions into bypass channels. But on Friday, the flow was about 75,000 cfs, which meant that someone watching the river for five minutes at Old Sacramento would see nearly 170 million gallons of water – enough flow to fill an empty Folsom Lake in less than a week. Let's put that in another context. The difference between California's having an adequate water supply and an inadequate supply is roughly 3 million acre-feet of water a year. That's the equivalent of just 20 days of current Sacramento River flow.

In a rational world, the extra flows in this and other high-water seasons would be diverted into what's called "off-stream storage," either into underground aquifers or into reservoirs such as San

Luis Reservoir on the Pacheco Pass between Los Banos and Hollister. However, San Luis, which holds more than 2 million acre-feet, is already full to the brim, and Southern California reservoirs are nearly full. State water authorities have long called for more off-stream storage to capture high flows. For instance, had the proposed Sites reservoir in western Colusa County been built years ago, as it should have been, it would be absorbing another 2 million acre-feet of water for use in drought years and to stabilize flows on the Sacramento River. If global warming has the widely predicted effect of reducing snowfall and increasing rain, off-stream storage will become even more critical. But Sites, like other aspects of California water policy, has been tied up in political stalemate for decades. It's not a conflict over water, but rather one of competing visions of how California should develop as it gains population in the 21st century. Those who prefer high-density urban growth, rather than low-density suburbs, believe that restricting water supplies will help their cause. They don't, in other words, want Californians to have an abundant water supply for both agricultural and non-farm uses. Jerry Brown – who championed water supply improvements during his first governorship – indicates that he will make them a priority if and when the budget crisis is resolved. A good first step would be to assemble the Legislature in Old Sacramento and compel its members to watch a squandered opportunity flow to the sea.

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4/15/2011



Some Dam – Hydro News™ and Other Stuff



Quote of Note: *Error of Opinion may be tolerated where Reason is left free to combat it.* -
Thomas Jefferson

“Good wine is a necessity of life.” - -Thomas Jefferson

Ron’s wine pick of the week: Gascon 2008 Malbec - Argentina

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

(This issue is much about WATER!)

Other Stuff.

(Interesting article about Bio-mass. Everyone says hydro costs around \$3,000 per kW to build, so why is it economical to build a bio-mass plant for \$5,000 per kW when you still have to pay for growing, harvesting, processing, and shipping bio-mass products to burn? Who does the economics for power companies?)

Biomass Can Displace Coal

Will it create less CO2?

Ken Silverstein | Apr 11, 2011, energyBizInsider.com

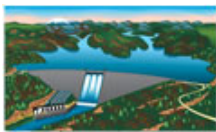
Dominion Virginia Power is converting three of its coal plants to those that can use biomass, or in this case, wood chips that it says will result in less pollution. If approved by local regulators, the project could get going in two years -- and become a harbinger of things to come in the utility sector. It's all part of Dominion's plan to meet Virginia's voluntary Renewable Portfolio Standard that calls on the state's investor-owned utilities to provide 15 percent of its power from green sources by 2025. Wood chips, in fact, are part of the biomass family. But unlike its agricultural brethren, they do not result in food shortages and those wood chips could be mixed in with coal before it is combusted. "Our proposal to convert these units from coal to biomass provides customers with economical electricity, delivers environmental benefits and takes advantage of a renewable, low-cost fuel source," say Dominion Generation CEO David Christian.



Each of these units can currently generate 63 megawatts of electricity of peaking power, running only when demand is at its highest, the utility says. When converted, they would crank out 50 megawatts each, but operate essentially all of the time. Together, these stations would provide electricity to about 37,500 homes. Dominion goes on to say that the fuel switch would reduce nitrogen oxides, sulfur dioxide, mercury and particulate emissions, and all of the stations would meet stringent new emissions standards established by the U.S. Environmental Protection Agency. While some disagree, it maintains that wood fuel is "carbon neutral." The three power stations to be affected are Altavista, Hopewell and Southampton County. They would work similarly to another of Dominion's facilities that uses the concept: Pittsylvania. That 80 megawatt plant is one of the largest on the East Coast with more than 90 percent of its fuel stock coming from waste wood that would otherwise be burned off or dumped in landfills. As is the case with any biomass facility, there must be a continuous supply of wood chips. Take Pittsylvania: Dominion says that 3,300 tons of waste wood are loaded on to 150 trucks each day.

Mixing with Coal

Building a biomass plant from scratch is a hugely expensive undertaking. Estimates are that it cost twice as much as a coal plant. Further, coal produces about twice the oomph -- BTUs -- as wood chips, meaning power plants have to burn twice the amount of wood chips as they would with coal. That has led the Manomet Center for Conservation Sciences to say that the net effect on greenhouse gas emissions is higher. Generally, if more trees are cut down and then there would be fewer of them to absorb the carbon emissions. Newly planted trees, meanwhile, are unable to absorb that carbon at the same rate as older trees. A more practical solution may be to co-fire the wood and coal together. About 20 utilities in North America are now using wood chips to replace 5-25 percent of the needed coal or natural gas. Biomass plays a key role today with 7,000 megawatts of installed capacity, says the U.S. Department of Energy. It also says that the co-firing of biomass and fossil fuels is the most immediate step that utilities can take to cut their carbon dioxide emissions. Consider WE Energies, Wisconsin's largest utility: It is building a 50-megawatt wood-burning power plants that is expected to be operational in 2013. That is a \$250 million effort intended to settle a coal plant-related lawsuit. It's similar to a situation to that of FirstEnergy, which is spending \$200 million to convert two of its coal units so that they would run on wood chips, producing 312 megawatts. "The most economical means of generating electricity using these wood chips is the technology of co-firing," writes Southern Co., which is using the technology at one of its Alabama facilities. "The high capital and operating costs involved with a new stand-alone power plant are avoided. It is a renewable technology most likely to directly displace coal. And there are tens of millions of acres of forests in Alabama, Georgia, Mississippi, and Florida, many located within reasonable transportation distance of Southern Company power plants." Utilities are under pressure to reduce their emissions. And while the cutting down of trees to make electricity would come under fire from opponents, the using of biomass from wood waste is a more plausible option. It's not a panacea but it is one way to lessen the nation's dependence on coal.



Dams:

(I guess this should be called a dumb budget cut or numbskull decision)

Dam safety group alarmed over Va gov amendment

Bob Lewis, AP Political Writer, ctpost.com, April 4, 2011

Richmond, Va. (AP) — A national organization of dam safety professionals is urging Virginia legislators to reject Gov. Bob McDonnell's amendment exempting most agricultural dams from regulation. Mark Ogden, an engineer with the Association of State Dam Safety Officials, e-mailed Virginia members urging them to pressure legislators to reject an obscure amendment McDonnell

added to the state budget bill. A letter the organization wants its members to send to state delegates and senators warns that the change could exempt 97 percent of farm dams from regulation. That would include 45 rated as high hazard with probable loss of life if breached and 319 that risk some loss of life or serious economic damage. Lawmakers take up McDonnell's vetoes and amendments to 2011 legislation at a special one-day reconvened session on Wednesday.



Hydro:

(Every little bit helps)

Tarrant Regional Water District awaits approval of hydroelectric plant

Star-Telegram.Com, Apr. 03, 2011, By Bill Hanna, Star-Telegram.Com

With the costs of pumping water from East Texas a big part of the Tarrant Regional Water District's expenses, the agency is looking to offset some of those expenses by generating its own power near Lake Arlington. The hydroelectric plant is still awaiting final approval from the Federal Energy Regulatory Commission, which the district hopes to receive in 60 days. It will take about 18 months to design and manufacture the turbine and four months to build the plant, said David Marshall, engineering services manager for the district. Part of the impetus for the plant is the Texas Legislature's approval of Senate Bill 12 in 2007. It requires government entities in areas of the state that are not meeting the Clean Air Act's standards to reduce energy consumption by 5 percent. Those areas include Dallas-Fort Worth. Since most of the district's supply is in the Richland-Chambers Reservoir and Cedar Creek Lake in East Texas, its ability to cut power consumption is limited. "Ninety-nine percent of our energy costs are for pumping, and we can't reduce those because that's where our water is," Marshall said. The 1.6-megawatt hydroelectric plant should help the district reduce its carbon footprint by about 5 percent.

In an average year, the district uses 15 to 18 megawatts and spends \$17 million on pumping. During the 2006 drought, however, costs soared to \$28 million because the district had to pump more water from East Texas. The plant will be built about two miles south of Lake Arlington at Tarrant Regional's discharge outlet, where water pumped from Richland-Chambers Reservoir and Cedar Creek Lake is released to flow into Lake Arlington. "Rather than releasing water through a valve, we will release it through a turbine," Marshall said. Bids have been sought for the turbine, which is expected to cost about \$2.7 million. The project is likely to cost \$4 million. To meet the state mandate, the water district also buys 5 percent of energy from green power providers and has rebuilt some of its pumps to be more energy-efficient. "We can't reduce pumping, but this does reduce our carbon footprint," said Marshall, who added that the district plans to use the electricity generated itself instead of selling it. If it ran full time, the plant would come close to accounting for 10 percent of the water district's electricity usage, but it will run only when water is being pumped through the outlet from East Texas. The district has looked at building a similar plant at Eagle Mountain Lake but said it wouldn't be cost-effective. The district serves about 1.7 million people, including Fort Worth, Arlington and Mansfield, and its operations span 11 counties from Jack to Freestone.

(While some who have reviewed the report mention that the estimated power is "ambitious", this is a good start for doing something long overdue)

Fresno River dam shows hydropower potential

Written By Business Journal Staff, Thebusinessjournal.Com, 04 April 2011

The John Franchi dam on the Fresno River is one of 70 in the United States showing the most potential for adding hydropower, according to recent report by the Bureau of Reclamation. In

researching for the report, the Bureau considered 530 sites in their jurisdiction to determine where generating electricity from moving water would be economically feasible and would produce sufficient power. The John Franchi Dam, also known as the Madera Diversion Dam,

would be able to generate 1,863 megawatt-hours using a hydropower system with an installed capacity of 469 kilowatts, according to the report. In addition, the Bureau pegged the cost-benefit-ratio at 0.9 with certain green incentives, well above the 0.75 needed to ensure the project is practical. Construction is estimated at \$3.6 million to add hydropower with operations and management expected to cost \$109,800 each year.

Operated by the Madera Irrigation District, the earth and sheet steel piling dam was built in 1964 spanning 263 feet across the Fresno River to support the Madera Canal. Taken together, the 70 dams listed in the report could generate up to 1,007 megawatt-hours if equipped with hydropower technology.



(It's about time hydro gets some of the funds instead of wind and solar. After all, it is the most efficient renewable or any kind of power in the world and it's "solar" power too. Am I the only one who doesn't like worn out useless words like "sustainable" and "metrics"? It reminds me of that most disliked word – "synergy"!)

US Departments of Energy and Interior to award \$26.6M to develop advanced hydropower technologies

By Green Car Congress on 04/05/2011, favstocks.com

US Department of Energy Secretary Steven Chu and US Department of the Interior Secretary Ken Salazar announced \$26.6 million in funding (DE-FOA-0000486) for research and development projects to advance hydropower technology, including pumped storage hydropower. This funding is focused on development of innovative technologies that can produce power more efficiently, reduce costs and increase sustainable hydropower generation at sites not previously considered practical. The funding announcement seeks environmentally responsible projects that increase the generation of reliable hydropower for the electricity supply. Projects will be selected in four areas:

- **Sustainable Small Hydropower (\$10.5 million awarded over 3 years)**: These projects will research, develop, and test low head small hydropower technologies that can be quickly and efficiently deployed in existing or constructed waterways. DOE will fund system or component model development, as well as the testing of these systems.
- **Environmental Mitigation Technologies for Conventional Hydropower (\$2.25 million awarded over 3 years)**: These projects will develop innovative conventional hydropower technologies that feature enhanced environmental performance designs to increase electricity generation while mitigating fish and habitat impacts and enhancing downstream water quality. As an example, concepts that demonstrate turbine efficiencies greater than 90 % and fish passage survival greater than 96 % will be sought.
- **Sustainable Pumped Storage Hydropower (\$11.875 million awarded over 4 years)**: DOE intends to provide technical and financial assistance to accelerate pumped storage hydropower projects already in the pipeline. Projects that begin construction by 2014 and integrate wind and/or solar will be preferred. DOE will also support analyses that calculate the economic value of pumped storage hydropower in dynamically responding to the grid and in providing other ancillary services.
- **Advanced Conventional Hydropower System Testing at a Bureau of Reclamation Facility (\$2.0 million awarded over 3 years)**: These projects will support system tests of innovative, low-head hydropower technologies at non-powered hydro facilities and sites owned by the US Department of the Interior's Bureau of Reclamation. The deliverable includes testing to demonstrate energy cost reductions that could be replicated at other Bureau of Reclamation sites. Both the Bureau and Department of Energy are sponsoring

this work.

DOE will evaluate applications based on the metrics and guidelines published in the solicitation and will award funding on a competitive basis to a variety of projects and to technologies at various levels of development. Mandatory letters of intent are due 5 May 2011, and completed applications are due 6 June 2011. The solicitation is issued by DOE's Wind and Water Power Program, which works to research, test, and develop innovative technologies capable of generating renewable, environmentally responsible, and cost-effective electricity from wind and water power. The Bureau of Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 western states. Its 58 power plants annually produce, on average, 40 billion kilowatt-hours per year, enough to meet the needs of 9 million people. Last week, Interior released a study that shows the department could generate up to one million megawatt hours of electricity annually and create approximately 1,200 jobs by adding hydropower capacity at 70 of its existing Bureau of Reclamation facilities.

(I guess sometimes miracles do happen. Who'd a thunk that Congress would call hydro a renewable and get that from both parties? The only small problem is getting the House to do something – anything!)

Hydropower Buzz Gains Momentum With Senate Bills, Administration Investments

By Katie Howell, April 6, 2011, nytimes.com/gwire

An often-overlooked renewable energy source is gaining momentum as lawmakers on Capitol Hill struggle to find consensus in an increasingly partisan environment and the Obama administration is looking to decrease reliance on foreign oil. A trio of hydropower measures is moving rapidly through the Senate, at least two federal agencies are taking a hard look at hydropower potential, and the Obama administration is beefing up its investment in hydropower technologies with the Interior and Energy departments yesterday announcing \$26.6 million in funding for hydropower research and development projects. "The time is ripe to expand the country's hydropower capacity," said Andrew Munro, president of the National Hydropower Association, during the industry's annual meeting this week in Washington, D.C.

Perhaps the biggest movement on the hydropower front in recent weeks is the rapid advancement in the Senate of several bipartisan hydropower measures. Just weeks after introduction, two bipartisan hydropower measures (S. 629 (pdf) and S. 630 (pdf)) from Senate Energy and Natural Resources ranking member Lisa Murkowski (R-Alaska) may be some of the first legislation the committee takes up this year. "I'm expecting that we will move quickly to report out these measures," Murkowski said yesterday during remarks at the hydropower conference. The committee has already held a hearing on the two measures that would advance hydropower project deployment by requiring better interagency coordination, funding competitive grants for increased production and investing in more research and development, and promote development of marine and hydrokinetic energy resources by promoting research, testing and certification of the new technologies. The committee also heard testimony on the energy and water portions of the 2009 energy bill (S. 1462 (pdf)) that was reported out of committee on a bipartisan vote. And Chairman Jeff Bingaman (D-N.M.) has indicated bipartisan measures, like the two Murkowski bills and the S. 1462 language, could be among the first measures the committee marks up in the next two weeks. "We're anxious to find solutions to energy problems," Bingaman said last week. "I think we'll have good support for practical solutions, maybe not on everything but a lot of things." Murkowski said she and Bingaman yesterday were slated to hash out a committee markup schedule for the next two months. "My hope is that both of these measures make it through the process in this next month," she said. Murkowski's measures already enjoy broad bipartisan support both on and off the committee, and it is little surprise as hydropower has a much broader regional distribution than other renewable energy sources.

Utilizing existing dams

A new Oak Ridge National Laboratory study released yesterday found that by adding power-generation equipment to existing dams, the United States could generate more than 12 Gigawatts of electricity. A sizeable portion of that new generation capacity -- 3,000 megawatts -- could be sourced from 10 large dams in the South, Midwest and Rust Belt. And an Interior Department study released last week showed that the agency could generate up to 1 million megawatt-hours of electricity each year by adding hydropower capacity to some of its existing structures, like dams, canals and divergent structures, in 14 Western states. Hydropower has been criticized by conservationists for the heavy environmental footprint associated with dam construction and stream divergence. But hydropower proponents say increasing generation at existing structures would be a low-impact way to boost the nation's renewable energy portfolio. "Adding hydropower capability at existing [Bureau of Reclamation] facilities is a cost-effective and environmentally sustainable way to build our clean energy economy," said Assistant Secretary for Water and Science Anne Castle. "We can increase our renewable hydropower output without building new dams" (*E&E Daily*, April 1). Indeed, the Oak Ridge study found that 3 percent of the nation's 80,000 dams currently generate electricity.

Dorena Dam subject of public hearing

A company's hydropower project proposal awaits multiple reviews by various agencies

By Susan Palmer, The Register-Guard, registerguard.com

Cottage Grove, OR — A controversial proposal to put hydropower turbines on Dorena Dam east of Cottage Grove will get another public hearing on Tuesday. The hydropower project was once part of the Emerald People's Utility District plans, but the local utility sold its interest to Symbiotics, a Utah-based firm that's working to put turbines on Dorena and other dams that were built primarily for flood control, irrigation and recreation in the Western states. The state Department of Environmental Quality must review the project and confirm that it won't harm the water quality on the Row River, where the dam is located, before construction can proceed. The project also must pass an extensive review by the Federal Energy Regulatory Commission, which already has issued an initial license for the project. The DEQ is expected to issue its permit, which will clear another regulatory hurdle before construction can begin.

The dam is operated by the U.S. Army Corps of Engineers, which also must sign off on it. Key features of the proposed hydro work include: installation of a pile-supported intake structure in the reservoir; cutting through the dam to create a funnel for the water to flow to a powerhouse that would be built; construction of temporary dams to keep water away from the construction area; and construction of a transmission line. Project critic John Steele, an area resident who lives downstream of the dam, has objected to the project. He says the project's design will harm water quality by increasing turbidity in the river and stirring up mercury now sitting on the bottom of the lake. The mercury has flowed into the lake from waste piles at mercury mines that were once operated upstream of Dorena. Steele also has said another regulatory hurdle remains — the state Department of Fish and Wildlife must assess whether migratory fish are present or have been historically present in the area of the dam and whether they could be influenced by the change.



Water.

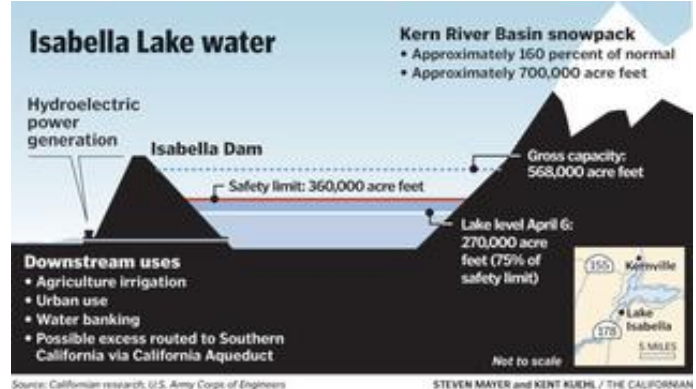
(Unfortunately, the anti-dam movement has made sure most of it will not get stored for future use when it will inevitably be needed.)

What will we do with all this dam water?

By Steven Mayer, Californian staff writer, Apr 07 2011

The Kern River is rich with water this year, so rich some of its bounty could be lost to Los Angeles. Few locals like to see water from the Kern -- considered some of the most pristine in the state -- diverted to L.A. via the California Aqueduct intertie. But reduced storage flexibility in Isabella Lake and a huge snowpack just starting to melt could narrow options for water managers. Sending water over the Grapevine is something of a last resort, said Kern River Water Master Chuck Williams, who coordinates the release and

distribution of water from Isabella Dam. But the L.A. option is still considered a "beneficial use," and is preferred over allowing Kern River floodwater to inundate the Tulare Lake Basin, an ancient destination for Kern's floodwaters that is now covered in valuable farmland.



"The river interests need to step up outflow from Isabella," said Florn Core, the former water resources manager for the city of Bakersfield. "They've probably already started." Indeed they have, Williams said. Both inflow from snowmelt and outflow determined by valley water interests have increased significantly in the past week. And it's likely to go higher. **What makes this year different is not the healthy snowpack. Yes, it's big at nearly 160 percent of normal in the southern Sierra. But we've seen bigger.** The challenge this year is the reduced capacity of Isabella Lake.

In 2006, the U.S. Army Corps of Engineers placed a limit on the amount of water that may be stored in Isabella. Under normal conditions, the lake's capacity is 568,000 acre-feet. But concerns about the stability of the lake's Auxiliary Dam caused the Army Corps to reduce the fill-limit at Isabella to 360,000 acre-feet, about 63 percent of the physical capacity of the reservoir. **"We've lost 200,000 acre feet of space to regulate the flow of water,"** Williams said. With mostly lackluster water years since 2006, the new limit on the lake's capacity has not been a great challenge. But this year, according to forecast models, there's enough snow above the lake to fill Isabella twice more through July. How does one manage such a monstrous amount of snowmelt without overflowing the lake, or releasing more water down river than can be absorbed by agricultural irrigation, urban use or water banking projects? John Johannis, chief of water management for the Army Corps of Engineers, said the Corps doesn't anticipate taking control of Isabella water releases this spring, which can happen when flood control becomes a concern. Based on the forecast of operations -- the amount of snow and the rate at which it will melt -- Corps analysts don't expect Isabella's water level to rise past 350,000 acre-feet, Johannis said. Beyond flood control issues, what happens to the water once it leaves the lake is not the Corps' concern. In 2006, when the Corps released a significant amount of water to lower the lake level, some water was routed into the Kern River-California Aqueduct Intertie, a structure connecting the two bodies of water near Tupman. "Once Kern water goes into the intertie, it becomes the property of the state of California," Williams said.

Built by the U.S. Army Corps of Engineers in 1977, the intertie's purpose is to convey Kern River flood water into the aqueduct, in order to avoid damage to lands downstream, especially the farmland in the Tulare Lake Basin, a huge area west of Tulare and north of Wasco. But managing the flow of the river is not just about increasing or decreasing water releases, Williams said. There are water rights to abide by, he said. And entities downstream must have a place to put the water. But Williams doesn't sound the least bit worried. He's been doing this for decades, and for every big water year, he's seen bigger. "We've had years with much higher runoff," he said Wednesday. And he echoed the Army Corps' Johannis, who said the lake's fill-limit is not

absolute, especially in the event of a rapid and unexpected inflow. Williams put it in simpler terms. "Some rules are made to be bent," he said.

(Water – water – everywhere. The West and Midwest have more water than they can store so look out downstream – here it comes.)

Capturing river water with dams in California faces problems

scrippsnews.com, Submitted by SHNS on Fri, 04/08/2011 - By MATT WEISER, Sacramento Bee,

As prodigious winter runoff empties into the ocean, Californians who spent the past few years in a drought might see those rivers gushing by and wonder, thirstily, "Why can't we capture that?" Had we done so in the last wet period, the thinking goes, perhaps we could have tempered the sting of drought. More storage capacity could also reduce flood risk in years when the rain and snow just won't stop. The idea is simple, but executing it is controversial and expensive. Large state and federal water storage projects have been in the planning for years, and construction dates remain elusive. There are new water storage projects under construction in California, but they are exclusively small, locally funded projects, carefully devised to address environmental concerns. "Developing water today is very expensive," said Michelle Denning, regional planning officer for the U.S. Bureau of Reclamation. The price of water from new dams carries much of the burden to repay construction cost. The danger: It will be so expensive nobody will want to buy it. This is the concern with two large projects the federal reclamation agency is studying: Temperance Flat, a new dam on the San Joaquin River; and raising Shasta Dam on the Sacramento River.

In Shasta's case, despite a potential storage increase of 650,000 acre-feet, a dam raise of 18.5 feet would yield an estimated annual new water supply of just 60,000 acre-feet on average, due to the need to preserve flows for fisheries. That could make the potential \$1 billion cost difficult to finance. An acre-foot is enough to supply two average households for a year. The Shasta Dam project faces another hurdle: State law prohibits any state agency from participating because it would submerge a portion of the McCloud River, designated "wild and scenic." On the San Joaquin River, the proposed Temperance Flat dam may have trouble penciling out because it would reduce the generating capacity of the Kerckhoff hydroelectric system. "The only way these two projects would be built is if taxpayers provide massive subsidies," said Jonas Minton, a senior project manager at the Planning and Conservation League, who formerly oversaw water storage investigations at the state Department of Water Resources. "Environmentally acceptable dams are being built," he said, "when those who benefit put up the money." That is happening in the hills near Brentwood, on the edge of the Sacramento-San Joaquin Delta, where the Contra Costa Water District this month begins building an expansion of its Los Vaqueros Reservoir. The existing earthen Vaqueros Dam will be raised 35 feet, increasing capacity from 100,000 acre-feet to 165,000. That extra capacity will be used to store better-quality water pumped from the Delta when it's available so it can be used during dry years. "We're not using it to supply more houses or more growth," said Greg Gartrell, the district's assistant general manager. Instead, he said, "We'll be able to get through three- to four-year droughts without rationing." The \$118 million project is funded by ratepayers and faced almost no opposition from environmentalists or regulators. That is partly because it will reduce the district's need to draw water from the Delta in dry years, when the estuary is stressed. Those kinds of environmental benefits are key to any new storage project. Planners are tweaking their projects carefully to find those benefits.

Reservoir operators in North Platte River Basin brace for avalanche of water

By Algis J. Laukaitis / Lincoln Journal Star JournalStar.com | April 10, 2011, journalstar.com

It's rare to see millions of gallons of water spilling out of a reservoir, especially in the West, where water is more precious than gold. But the water was spilling from Pathfinder Reservoir, 45 miles southwest of Casper,

8

Copy obtained from the National Performance of Dams



Wyo., in June, because it couldn't hold any more water. **The last time that happened was in 1984.**

The U.S. Bureau of Reclamation, which controls nine reservoirs in the North Platte River Basin, predicts it will happen again this summer. The reason: too much snow in the Rockies. When it melts in late spring and early summer, reservoirs will be bursting at the seams. "Wyoming is loaded with water. They have a lot of snowpack," said Cory Steinke, civil engineer with the Central Nebraska Public Power and Irrigation District based in Holdrege. Central began releasing water from Lake McConaughy in early March to make room for anticipated record spring runoff, and the bureau has been doing the same from its reservoirs. "They're throwing water through the system. They're putting in as much as they can and sending it down to us. They see what's coming, and they are a little scared," Steinke said. The bureau's Wyoming office estimates the snowpack in the upper North Platte River Basin above Seminoe Reservoir is 140 percent of its annual average and will reach 200 percent by early summer.

Projections for runoff through July exceed 1.4 million acre feet of water, double the 30-year average of 714,000 acre feet. Last year's runoff was 1.2 million acre feet. The bureau recently told Central officials that inflows into Wyoming reservoirs this year will likely rank among the top five highest on record. "We are trying to evacuate as much water as we can ahead of what looks to be extremely high snowmelt runoff," John Lawson, manager of the bureau's Wyoming office, said in a news release. "What we don't know at this time is how quickly the snowmelt will occur, how much more accumulation of snow we'll receive and how much rainfall will occur in the area in addition to the runoff," he said. Lake McConaughy near Ogallala, which is owned and operated by Central, is independent of the bureau's North Platte Project, a series of storage and diversion dams and canals that provide water for irrigation and hydroelectric power generation mostly in Wyoming. **As of Friday, Lake McConaughy was 93 percent full. A year ago it was 74 percent. "We may approach 100 percent of capacity (this year)," Steinke said.** Water releases from Lake McConaughy into the North Platte River already have caused some lowland flooding downstream around North Platte. The river has raised the water table, and water is seeping up through the sandy soil. **"Most of it (the flooding) is between the river and North River Road. Some residents live around there,"** said Jim Nitz, director of Lincoln County Emergency Management. **"Their sump pumps are pretty much working full-time."** Due to the high volume of water coming down the North Platte River, the National Weather Service has issued flood warnings for Keith, Garden and Lincoln counties. Central is working with Nitz and the weather service to keep track of the situation, so if a major storm is in the forecast, water releases can be curtailed from Lake McConaughy. Steinke said lowland flooding problems could persist through July. "We're kind of pushing as hard as we can without causing major damage," he said. **Big rains are a worry.** A July 2002 flood, caused by 10 inches of rain in five hours, destroyed 64 homes in Ogallala, killed a truck driver and closed Interstate 80 for a week after two bridges collapsed. Nitz said some families along North River Road may have to be evacuated if the situation gets any worse. "If we would get heavy rains, that would be a big issue," Nitz said, adding that the North Platte River is running just a little above its flood stage of 6 feet. "We're hoping it doesn't get any higher." Jan Bush, who lives along North River Road, said water is seeping up through some of the old river channels and flooding some basements and cellars. But her home is not in danger, she said. "It's been way worse than this. There have been times when there has been water running in ditches on both sides of the road." Bush said she is more concerned about Lake McConaughy being full and huge waves, pushed by strong winds, causing damage to the face of Kingsley Dam. The Federal Energy Regulatory Commission, which licenses Kingsley Dam because of its hydroelectric plant, restricts Lake McConaughy's elevation to reduce such wave damage. **Steinke said the lake's elevation is fewer than 5 feet from the maximum water storage level of 3,265 feet permitted by the commission. Central has petitioned the commission for permission to temporarily exceed that by 2 feet.** Central officials also are watching the South Platte River, which funnels spring runoff from the mountains into Nebraska just below North Platte. Steinke said that could create flooding problems in June. Last year, the South Platte River was flowing at 7,000 cubic feet per second at the Nebraska/Colorado state line, Steinke said.

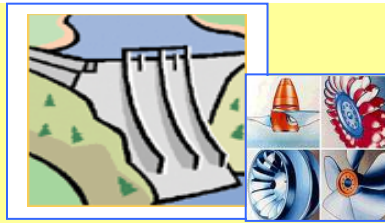
The Nebraska Public Power District has two reservoirs downstream from North Platte, Steinke said, but they are typically full and any spare room would be used to capture South Platte River flows. The avalanche of water, which is creating headaches for water managers, is good news for hydroelectric power generation and for irrigators. Central customers will get their full allocation of water this year, just like last year, Steinke said. Between 2004 and 2009, their allocations were drastically reduced because of a prolonged drought. In September 2004, Lake McConaughy was at less than 20 percent of water storage capacity, its lowest level since it was built in the 1940s.



Environment.

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4/22/2011



Some Dam – Hydro News™ and Other Stuff



Quote of Note: "A democracy will continue to exist up until the time that voters discover they can vote themselves generous gifts from the public treasury." - - Alexander Tyler 1787

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

Ron's wine pick of the week: Renato Ratti Barolo Marcanasco 2006 Rated in the Top 100-2010

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

Other Stuff.

(Oh oh – maybe natural gas isn't so clean! See article link below.)

Natural Gas Stature Undercut

Gas lobby fires back

Ken Silverstein | Apr 13, 2011,

http://www.energybiz.com/article/11/04/natural-gas-stature-undercut?utm_source=2011_04_13&utm_medium=eNL&utm_campaign=EB_DAILY&utm_term=Original-Member

(Now, here's a good idea! The wind folks doing what they do best – blowing in the wind! No one needs their energy, but they want paid for it anyway – Huh!)

BPA proposes suspending excess wind power

The Bonneville Power Administration wants to shut down Northwest wind farms this spring when hydroelectric dams are generating plenty of electricity as a huge mountain snowpack melts.

The Associated Press, seattletimes.nwsourc.com, April 13, 2011

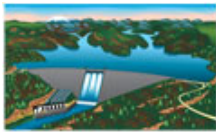
Seattle, WA — The Bonneville Power Administration wants to shut down Northwest wind farms this spring when hydroelectric dams are generating plenty of electricity as a huge mountain snowpack melts. The wind-power producers are fighting the proposal that could cost them millions in lost revenue. The Seattle Times reports the Portland-based BPA says a wind power shutdown would be a last resort, but it has to be ready to balance the flow of energy it markets in the Northwest as well as meeting commitments to ratepayers, helping salmon and selling power outside the region. Wind farms have been sprouting in Washington and Oregon thanks to tax credits and requirements that utilities use more renewable energy. The industry says if there are shut downs it should be compensated for lost revenue.

(I guess we knew this would happen – no guts!)

BPA halts plan to shut off wind power

April 15, 2011, oregonbusiness.com

The Bonneville Power Administration pulled back on its plan to halt wind energy production when water levels in the federal hydropower system are high. The plan was intended to stop over-generation, when spring runoff creates more hydropower than consumers can use. Opponents to the plan, including Sen. Jeff Merkley and Rep. Earl Blumenauer, Oregon democrats, say it has the power to upend renewable energy development in the Northwest and unfairly discriminates against wind-energy generators. Though the plan is intended in part to help BPA comply with laws that protect endangered salmon and steelhead, environmental groups counter that it does not.

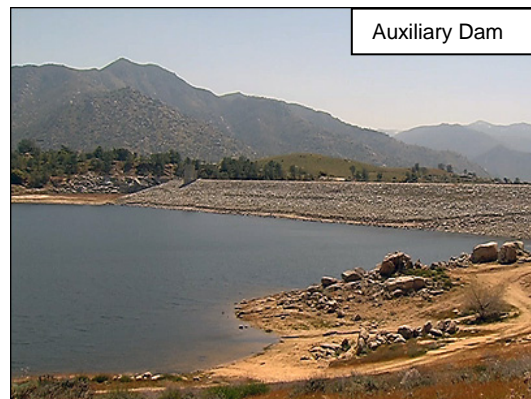


Dams:

How to fix the Isabella dams? Engineers zero in on proposals

By Carol Ferguson, Eyewitness News and BakersfieldNow.com, Apr 12, 2011

Lake Isabella, Calif. — Engineers are almost ready to tell us how they plan to fix the dams at Lake Isabella. Eyewitness News and BakersfieldNow.com has learned two main projects top the proposals that the U.S. Army Corps of Engineers will take to public meetings set for May. The two dams -- the main dam and auxiliary dam -- were completed in 1953. But in 2006 they were ranked among the most "at-risk" dams the Corps operates across the entire nation.



"They're earth-filled dams," Corps of Engineers senior project manager Veronica Petrovsky told Eyewitness News. "There's a better way to do them, to make them more structurally sound." Three main problems put the dams at risk. One is the size of the spillway for the main dam. "The primary solutions are going to include an auxiliary spillway," David Serafini explained. He's the lead engineer for the project. Pointing to a map, Serafini shows where a bigger spillway could be built west of the existing one. That spillway would go through Forest Service and Corps property at the lake, according to these engineers. The additional spillway would be big enough to safely handle new projections on the maximum amount of water that could end up in the reservoir on the wettest-possible winters. The spillway would take care of the concern about "over topping" of water over the dam. Serafini said rock blasted or dug out to build the new spillway, could then be used for the other major component of their proposals. That's a downstream "buttress" for the auxiliary dam. The buttress will address the other two main worries, which are earthquake safety and erosion inside the dam. Serafini said an extra, thick layer would be built along the downstream side of the dam, using design features the old dam lacks. "The buttress will actually include filters and drains," he explained. That will ease concerns about internal erosion, what they call "seepage" or "piping." The stronger materials in the buttress will also help with worries over nearby earthquake faults, which are now believed to be active. "The full length of the dam will be protected from cracking and erosion potential," Serafini said. He added that the new layer would go directly on the existing dam. "It won't look much different," Serafini said. "The slopes will probably be flatter than what's currently at the auxiliary dam."

Petrovsky said they currently have about six alternatives being refined. They have to consider even options like no change or removing the dams. The new spillway and downstream buttress are main components of the best ideas. It's been five years that engineers have studied conditions at the dams, and started developing plans to deal with the problems. Petrovsky said it simply takes time to make sure they have all the needed information and the best proposals. "We have to have measures in place that drive down the risk of all three of these factors, and that's what's taking the time," she said. The Isabella dams ended up ranked so high for risks because of the problems identified in the structures, plus the number of people living downstream. According to flood maps, if the dams failed when the reservoir was full, water could rush down the Kern River Canyon reaching Bakersfield in seven to nine hours. Water could end up 30 feet deep near the river, and some five feet deep in many areas around town. "The dam protects more than 300,000 people located in the Bakersfield area and about 350,000 acres of agriculture land and oilfields," says a fact sheet put out by Kern County. Asked if the proposed projects would change conditions at the reservoir, Serafini pointed out most of the work on the auxiliary dam would be downstream, not on the lake side. "So, we have very minimal effects potentially at the reservoir," the engineer said. He said they would also try to do work during the drier winter months, when the lake levels are generally lower. The level at the lake is already required to be lower to help reduce risks until the solutions are built. The Corps engineers said they hope to have a final decision on designs by this November or January 2012. It's expected construction could start in 2013, and take three years to complete.

Public meetings on the design proposals will be held in Kernville at the Odd Fellows Hall on May 17 and at the Lake Isabella Senior Center on May 18. A meeting in Bakersfield is set to take place in the Kern County Administrative Center on May 19. All the sessions will run from 6-8 p.m. Serafini said the Isabella dams are now ranked as "level one." That's the most at-risk, and the Corps has 14 only dams at that level. "Isabella is still one of the top hazard dams in the Corps' inventory," Serafini said. "Once modifications are constructed, it will be reclassified to a much lower level."

(I watched the video, but don't see the breach – do you?
http://www.kfyrtv.com/News_video.asp?news=48123)

Des Lacs Dam Continues to Hold Despite Partial Breach

Rob Martin, 4/14/11, kfyrtv.com

It's still a waiting game but the signs are encouraging. Flood watchers say the Des Lacs Dam has partially breached. However, they say if the water fully breaks through, it still shouldn't be a major concern. Residents below the dam have been on their toes this week with the water reaching historic flows. But some home owners have stayed, while others are starting to move back in. "A lot of the home owners are back in to them even though we've still got the risk of the dam breaching. It could breach at any time," said Burlington Fire Chief Karter Lessman. That's hard to believe when you are talking about a dam failing, but it looks like the highest crests are behind us, unless we get any major unforeseen precipitation.



Burlington Mayor Jerome Gruenberg said, "For now we are safe, even if it totally breaches, right now we are confident that the flow will stay in the river channel" Walking around the dam, the river still looks ominous, with water roaring by, homes within a few hundred yards of the actual dam and FEMA keeping a close eye with a satellite feed to authorities in Bismarck. In the city of Burlington, residents can sleep well tonight without a major chance of seeing water coming into town. "I don't even see it coming up into Burlington at this point with the amount of water that's dropped on the Des Lacs," added Lessman. But you should be warned, it will take up to three

weeks to see the threat completely diminished. And, compared to 2009 flooding in the Souris River Basin, there has been more road damage from the floods this year. All dikes and dams in the threatened area are being monitored around the clock. If there are any more breaches, watch for warnings and announcements from the National Weather Service.

(What was EBMUD thinking? You can't do anything in these days without some sort of environmental impact statement)

Sierra foothill dam expansion blocked

By Mike Taugher, Contra Costa Times, mercurynews.com, 04/14/2011

A judge has blocked a disputed attempt by the East Bay's largest water district to raise a dam in the Sierra foothills. The East Bay Municipal Utility District's analysis of the project failed, among other things, to consider the environmental damage the project would do to a stretch of whitewater popular with beginning river kayakers, the court ruled. "As a result, the district's board was given an erroneous view of the potential environmental impacts" of the project, wrote Sacramento Superior Court Judge Timothy Frawley. He invalidated the \$6 million, 32-month study the district approved in 2009. It had concluded that in order to meet the water district's drought protection goals it would have to either build a major desalination plant or raise the dam at Pardee Reservoir. In his ruling made public Thursday, Frawley said the Oakland-based district erred by failing to identify the environmental harm that could be done by raising the dam and by not considering the less destructive option of investing in a separate dam expansion in the Contra Costa Water District.

The East Bay district had argued that because it had not actually proposed to build the dam, it was not yet obligated to fully identify environmental damage. But the court ruled that the study put the district on a course to build it and that it at least had to address environmental problems in a general way. In rejecting a partnership with the Contra Costa Water District, EBMUD brass argued the timeline for the Los Vaqueros expansion project was too uncertain. That project, which met with nearly zero opposition, is scheduled to begin construction within weeks. "They could have had a secure water supply under construction decades before they could ever start Pardee," said Bill Jennings, executive director of the California Sportfishing Protection Alliance. "Los Vaqueros would have been the most beneficial and least costly alternative." A spokesman for the district said he had no comment beyond the fact that the ruling was being reviewed and that the matter would likely come to the board of directors at its April 26 meeting. "Staff is reviewing it, and the board will discuss it and tell us what's next," said EBMUD spokesman Charles Hardy. The lawsuit was filed by the sportfishing alliance, the Foothill Conservancy and Friends of the River. "We hope this ruling will bring EBMUD to its senses," Foothill Conservancy President Katherine Evatt said in a news release. "It's time for them to stop wasting their ratepayers' money pursuing 'New Pardee' and develop an environmentally sound long-range water plan that doesn't depend on destroying more of the Mokelumne River." The long-term plan is intended to limit rationing to the district's 1.4 million customers to no more than 10 percent. It comes on the heels of the completion this year of the nearly \$1 billion Freeport Regional Water Project, built in partnership with Sacramento. That project is meant to reduce the rationing to no more than 25 percent in a bad drought. EBMUD directors John Coleman, Katy Foulkes, Lesa McIntosh and William Patterson voted to approve the impact report. Directors Andy Katz and Doug Linney voted against it. Director Frank Mellon walked out of the room because, he said, once an amendment he proposed was rejected he did not want his name attached to a vote.

(Now, the world will be saved. In any event, the dam looks like a pile of rubble, so it doesn't appear all that earth-shattering if it's removed. Of course, they want the Federal government to pay for it!)

Kerry, Frank call for the removal of Taunton's Whittenton Dam

By Gerry Tuoti, Staff Writer, Apr 15, 2011, tauntongazette.com

Taunton, MA — Sen. John Kerry and Congressman Barney Frank are calling on the federal government to assist in funding the removal of the stone spillway that was installed in place of the

Whittenton Dam during a crisis nearly six years ago. “Not only is the removal of Whittenton Dam necessary for public safety and the protection of property, but it is also an integral component in the SRPEDD-led partnership to restore river connectivity and fish passage in the Mill River watershed,” the legislators said in a joint letter sent Thursday to U.S. Agriculture Secretary Thomas Vilsack. They are seeking approximately \$500,000 in federal funding to complete the project. “This is an attempt that’s overdue, and I applaud the actions of Sen. Kerry and Congressman Frank,” Taunton Mayor Charles Crowley said. “The rocks are one of a series of remaining obstacles to finally cleaning up the river.”



Built in 1832, the industrial Whittenton Dam threatened to give way in October 2005, prompting the evacuation of more than 2,000 people. “Part of the dam was removed and rock was placed against the front of the dam to prevent it from washing out,” Kerry and Frank said in the letter. “The temporary emergency repairs funded by (the Emergency Watershed Program) saved residential properties and the city’s commercial district. Now, the time has come to complete the EWP project by removing the damaged dam and the temporary repairs. Since 2005, the dam and repairs have continued to deteriorate.” The Southeastern Regional Planning and Economic Development District, in coordination with several other agencies, is working on a project to remove dams along the Mill River. They say the project will restore the river to a more natural state and will reduce the threat of future floods. The Mill River flows south through Taunton from the man-made Lake Sabbatia before emptying into the Taunton River. “What we’ve been trying to do is clean up the river and put in fish ladders at various intervals,” Crowley said. “The Taunton State Hospital dam is being removed already, so the only obstacle that stands in the way would be the Reed & Barton Dam.” A new dam will be installed this year at Lake Sabbatia, the mayor said. That structure will include fish ladders and will control the flow of the Mill River. “Ultimately, the project will reconnect 40 miles of Mill River main stem and tributaries to the dam-free Taunton River and Narragansett Bay,” Kerry and Frank’s letter states.



Hydro:

City Looks to Old Mill Race as Power Source

by: Rachel Barnhart, 13wham.com, 4/11/11

Rochester, N.Y. – The city wants to study bringing an old mill race back to life. The Johnson Seymour Mill Race dates back to 1815 and powered the city’s flour mills and other industry on the east side of the river. “I don’t think Rochester would be what it is without the mill races and the mills that they drove,” said city historian Christine Ridarsky. “These races were used to divert water from the Genesee River to run the mill wheels that ran all of our business. This was the Flour City before it was the Flower City.”

The Johnson Seymour Mill Race still carries water to this day under the Rundel Library, helping to cool the building. But it is no longer a source of power. The city wants to change that by installing hydrokinetic turbines that would create small amounts of power – perhaps enough to power the library. “It’s never going to be something where we were selling power back to the utility, but we’ll be able to use it to offset the city’s power costs and hopefully that can go into other programs,” said City Engineer Jim McIntosh. The city put out a request for proposals for a study that would cost a maximum of \$40,000. “The idea of using our history for something modern, with the idea of

driving us into the future is a fabulous idea," said Ridarsky. "Let's put it to work." **The hydro-power project complements a much larger effort to build a park that overlooks the raceway.** The Promenade at Erie Harbor Park would take vacant land that includes the old subway bed behind the Dinosaur Barbeque and turn it into a trail and park. The entire project would cost \$2.5 million and would have a similar feel to the boardwalk along Corn Hill Landing.

(An interesting case)

Hydropower appeal not included in FERC meeting agenda; commission has until Monday to respond to Quincy's appeal

By Matt Hopf, Herald-Whig Staff Writer, 4/16/2011, whig.com

The request for a rehearing from the city of Quincy to the Federal Energy Regulatory Commission is not included in the agenda for the commission's April 21 meeting. The agenda was released late Thursday afternoon. The city hoped the commission would push the request for a rehearing forward after the Feb. 17 FERC order to dismiss both preliminary permit and licensing applications to construct a hydropower facility at Lock and Dam 21 in Quincy in order to qualify for federal grant funding. The 53-page appeal filed March 18 argues that Great River Hydropower LLC and the Mississippi River No. 21 Hydropower Co. are both branches of the city and not separate third-party corporations, as the order suggested. FERC has until Monday to respond to the appeal, though the commission could extend that.

According to the six-page order issued in February, FERC gives preference to states and municipalities if the "proposed plans are equally well adapted." The misuse of that preference occurs when a municipality and a non-municipality are coordinated in a matter that uses the municipal preference. The order says the city applied for and received the preliminary permit application and held it while the license application was being prepared. Great River filed the notice of intent to file the development application under the preliminary permit. The hydropower company created the limited liability corporation last March to attract private investors and to use federal stimulus money on the project. The city's brief stated that "Mississippi Hydropower and Great River are 100 percent owned and controlled by the City and were created for the express purpose of enabling the City to have access to grants available under Section 1603 of (the American Recovery and Reinvestment Act). Consequently, the only entity advantaged by Great River's license application was the City itself." Washington, D.C., law firm Van Ness Feldman is handling the appeal at an estimated cost of between \$25,000 and \$45,000. The FERC order barred the city, the hydropower company and Great River from filing for a preliminary permit or development applications for one year if the decision stands, opening the door for other potential developers. On Tuesday FERC ruled the city and Mississippi River No. 21 Hydropower Co. are also parties to the appeal. The hydropower company announced in February that it signed a letter of intent with Canadian-based Coastal Hydropower Corp. The letter stated that Coastal plans to obtain an 80 percent equity interest in the project. The company focuses on the application of the very low head turbine. Plans at Lock and Dam 21 call for preliminary installation of 10 units, with an additional 20 turbines to follow. The 30 turbines would produce 15 megawatts of power.

(The same can be said for hydro in the U.S. Giving the facts and very well said.)

Hydro remains an environmentally sound power source

By Josée Morin, The Gazette April 13, 2011, montrealgazette.com

The article "Hydro power's dirty side" (Gazette, April 9) contains a number of what we consider factual errors and presents a one-sided argument. We would like to provide a more balanced perspective on Hydro-Québec's hydro-power projects. **The errors related to greenhouse-gas emissions from hydro-power reservoirs were among the most glaring in this article.**

First and foremost, the article mentions large amounts of methane emissions. Methane emissions are not an issue in Quebec because the water in our reservoirs, located in boreal regions, is cold, regularly remixed and re-oxygenated. A higher level of oxygen in the water means less methane is emitted. **A large-scale scientific study, "Net Greenhouse Gas Emissions at Eastmain 1**

Reservoir, Quebec, Canada," carried out in collaboration with 80 experts from the Université du Québec à Montréal, McGill University and Environnement Illimité Inc., confirmed that "CH4 (methane) emissions are very small and represent less than one per cent of total emissions." Eric Duchemin, of the Institut des sciences de l'environnement at the Université du Québec à Montréal, is cited as disagreeing with Hydro-Québec's position that greenhouse-gas emissions taper off 10 years after flooding. Hydro-Québec's analysis is shared by many credible organizations. For example, the International Panel on Climate Change arrives at the same conclusion in its Fourth Report. This report was cosigned by a dozen specialists, including Eric Duchemin. Apparently, Mr. Duchemin is contradicting himself. While all electricity generation creates greenhouse-gas emissions, whether directly or indirectly, hydro power ranks as one of the lowest emission-generating options per kilowatt hour produced. Emissions from reservoir generating stations in Quebec are comparable to those produced by wind generation and represent about a quarter of those from photovoltaic solar facilities, due to the manufacturing process involved. Compared with one of Hydro-Québec's reservoir-generating stations, a gas-fired power plant produces about 40 times more greenhouse-gas emissions and a coal-fired plant about 100 times more. References in the article to a "dead river flowing," "river's last moments," "dried-up riverbeds" and destruction of "the province's last remaining rivers" may be sensational, but they are far from the truth. After the project is completed, the Romaine River will continue to be a very rich ecosystem.

Quebec is very fortunate in having a huge number of rivers - some 4,500 - and only 74 have been harnessed for hydro-power generation. Forty years of extensive research on hydro-power developments has demonstrated that in northern Quebec, a hydroelectric generating station reservoir, far from being sterile and devoid of life, constitutes an ecosystem whose biological productivity compares favourably with that of a natural lake in the same area. As for whether we can fully replace hydro power with alternative energy solutions and energy-efficiency measures, we would respond that it's not a question of choosing energy efficiency and other renewables over hydro power. The major environmental challenge facing North America is to replace coal to generate power and oil used in transportation. We will make more progress in meeting this challenge by continuing environmentally sound hydro-power development. Josée Morin is manager for public affairs and media at Hydro-Québec.

(Excerpts)

Susitna hydroelectric bill passes through Alaska House committee

by Christopher Eshleman / newsminer.com, Apr 12, 2011

Juneau, Alaska — A key House committee Tuesday advanced plans for a proposed hydroelectric dam. The move leaves five days left in this first session of the two-year Legislature for review by the full House and the Senate. The bill would let the state's energy offices finance, build and own the proposed Watana dam, which would straddle the Susitna River between Anchorage and Fairbanks. The House Finance Committee pared much of the bill Tuesday, which as rewritten would no longer rebuild the Alaska Energy Authority as a standalone state agency. AEA would instead remain housed within the Alaska Industrial Development and Export Authority. The bill is House Bill 103. -----

(That's not the Leaning Tower of Pisa, that's a photographer using the wrong lens.)

Leg. pushes hydroelectric plant

The controversial St. Anthony plant would power 2,000 homes in Minneapolis

By John Hageman, 2011 / 04 / 14, mndaily.com

A long-denied hydroelectric plant near St. Anthony Falls could finally become reality, and critics are up in arms. The Minneapolis Park and Recreation Board has denied the construction of a hydroelectric plant in the area for years, fearing its impact on the historic falls. Crown Hydro, LLC has



explored several avenues to convince the park board to allow construction, and so far none has been fruitful. But a bill authored by Rep. Mike Beard, R-Shakopee, and a group of 25 bipartisan legislators directs the park board to authorize an agreement with the company. It also allows the board to collect a royalty of up to 4 percent of annual electrical production revenues. Discussion of the bill at Wednesday night's Environment, Energy and Natural Resources Policy and Finance Committee hearing quickly turned to questions of state government's role in local matters. An attorney for the park board testified that the bill would require the Legislature to participate in a breach of contract between the park board and Crown Hydro. "I think this is an inappropriate bill for us to consider," said Rep. Jean Wagenius, DFL-St. Paul. Despite that concern, the bill moved to the Government Operations and Elections Committee. A more severe version of the bill introduced earlier this week would have cut state aid to the park board unless it allowed the facility to be built.

The proposed 3.2 megawatt facility would be able to power 2,000 homes using two turbines 40 feet underground at the west end of the Stone Arch Bridge, according to the company's website. The project is touted as a source of renewable energy with a low impact on the neighboring community. It would use tunnels under the historic mills to divert water into the turbine. Crown Hydro offered \$500,000 and annual royalties to the park board for use of the land in its latest proposal on March 22. The offer also mentioned its intention to pursue legislation unless the Park Board approved the project, according to Park Board President John Erwin. Beard called constructing the facility "common sense" for a community exploring renewable sources of energy. "What's not to love?" he said. But some local government officials are more cautious. Some Park Board commissioners are concerned that the new plant would divert too much water from the Mississippi River and ruin the aesthetics of St. Anthony Falls. Erwin added that Crown Hydro hasn't guaranteed that the falls will remain flowing at 2,000 cubic feet per second as requested. But according to the company's website, the turbines won't run when the water level is below average. Acquiring a license to build a hydro plant is a long process that involves several state and federal agencies to ensure minimal impact on the environment and the adherence of the company to the terms of the agreement, said Rupak Thapaliya, national coordinator of the Hydropower Reform Coalition. Crown Hydro was awarded a 50-year license in 1999 by the federal government to build a facility. Although the project went through a rigorous application process, Park Board commissioner Liz Wielinski isn't convinced that there won't be consequences. She said the board isn't against the idea of hydroelectric power but is concerned that Crown Hydro doesn't have experience in maintaining a plant. "It's a historic site. It's where Minneapolis began," Wielinski said. "Do we really want to take the chance that [Crown Hydro] is going to fix things if it goes wrong?" Wielinski is also concerned that the legislation would set a "terrible precedent" where the state orders local governments to allow private companies to build on their property. Ward 3 City Councilwoman Diane Hofstede, whose ward includes St. Anthony Falls, shared similar concerns. "We feel that the local jurisdiction is the one that has the most information, is closest to the constituents and can make the best recommendations," Hofstede said. Beard said that by bringing forth legislation, he hopes to get the two sides to cooperate and strike a deal without writing it in statute. Similar legislation was introduced in 2009 but was scrapped as the two parties left with the understanding that they would reach an agreement, according to Crown Hydro's attorney Tim Keane. But that agreement never took place, and both sides found themselves back at the Capitol on Wednesday. Beard expects a different outcome this time around. "We're not rattling the saber here," Beard said.

Administration Lays the Groundwork for Hydropower Boom

Apr. 14 2011, blogs.forbes.com

The US Department of the Interior, the Department of Energy (DOE), and the US Army Corps of Engineers are quietly laying the groundwork for a renewable energy boom that you might not expect. What they've done is announce a memorandum of understanding to work together to support environmentally sustainable hydropower. They're not talking about building new dams, which have questionable environmental benefit, but rather to remove barriers to developing cost-effective hydropower at existing dams and waterworks. **Hydropower does not get much attention**

from investors. In large part, that's because of the lack of growth. As Energy Secretary Steven Chu said, "While hydropower is the largest source of renewable electricity in the nation, hydropower capacity has not increased significantly in decades." This new initiative won't bring US hydropower growth up to the levels we've recently seen in wind or solar, but it should provide an opportunity for nimble renewable energy developers with some experience in hydropower to build profitable installations on Federal dams.

As I discussed in my overview of hydroelectric power in 2008, the main barriers to new hydroelectric facilities are complex environmental studies, permitting issues, and water laws. That's what makes this new inter-agency cooperation so important. With the three relevant Federal agencies working together to remove barriers to development on federally owned facilities, hydroelectric developers can be reasonably confident that their investments in planning will eventually bear fruit in new hydropower generation, and not be blocked at the last minute by unexpected red tape. I see this as part of a pattern of the Obama administration promoting renewable energy by administrative means now that legislative action looks unlikely. Other manifestations of this trend include the Administration's recent short-list of renewable energy projects to be given priority in the environmental review and public participation process, and the DOE's work marking out National Interest Electric Transmission Corridors. Quite often, the barriers to clean energy are not financial, but rather the bureaucratic red tape put forward by a system that was designed for an outmoded energy paradigm. In an era of limited budgets, attacking these important non-financial barriers makes both environmental and fiscal sense.

Not So Small Hydropower

It's not just the Feds who are pushing to tackle red tape for hydropower. Colorado Governor's Energy Office (GEO) has a partnership with the Federal Energy Regulatory Commission (FERC) to streamline the permitting of small hydro projects in existing conduits in Colorado. The GEO expects that the first application to FERC will be filed in late April 2011, and the first permit will be issued by FERC in late July, and end after 20 applications. FERC and the state of Colorado will then assess the outcomes and look for ways in which the lessons learned can be implemented in FERC's regular processes. Despite the name the potential for small hydropower in the US is quite large. A 2006 Idaho National Laboratory report [PDF] found that approximately 5400 sites could be feasibly developed, enough to increase hydropower generation in the US by 50%, or an average production of 18GW, about the same as the total non-hydro renewable generation in 2010 (EIA data).

(Ouch, worked on this original license too with Bill Lee as the staff engineer for Duke Power, as it was called at the time. The folks in SC know that "Hydro is Beautiful"!)

Keowee hydro station turns 40 on Sunday

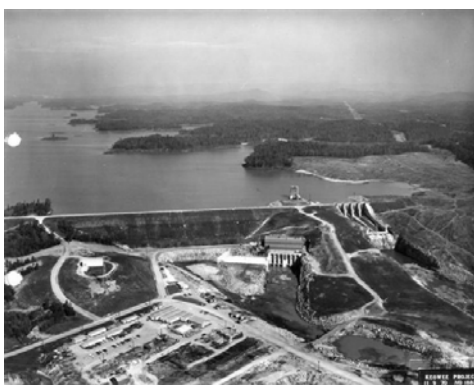
By Jennifer Crossley Howard, April 14, 2011, independentmail.com

Seneca, SC — John Powell was sitting in a Future Farmers of America class at Keowee School when the possibilities for his future widened. His teacher told the seventh-grade class that Duke Energy was going to build the 18,500-acre Keowee Lake to power much of the Upstate, including their town of West Union. That was in the 1960s. "He predicted exactly what would happen," said Powell, now an Oconee County, SC businessman. "He told our class water would go up, and you could see property value going up as much as \$500 an acre."



In 1971, months after the lake was completed, the Keowee Hydroelectric Station started operating on the lake. The 158-megawatt station supplements energy during peak morning and evening hours of electricity use and also serves as a backup power source for Oconee Nuclear

11/09/70 Photo



ion sends power to 126,400 homes in Pickens and Oconee counties, SC and beyond. It's one of the things that really highlights the importance of water in both businesses and how water is integral to the fabric of local communities," said company spokeswoman Erin Culbert. Sunday marks the day 40 years ago when the station first sent power to homes to the Upstate, including Powell's childhood home. In the late 1960s, Powell's family lived about three miles from the future site of the station on S.C. Highway 183. He lives about the same distance away now. Powell, who is 60, said being so close to an energy source is inspiring. "It makes you feel proud to live that close to something that beautiful," he said. Appreciation for the beauty of Lake Keowee and the utility of the Keowee station runs deep in the people of Oconee and Pickens counties, Culbert said. "Many people relate memories from their childhood to fishing on those reservations," she said.

Powell watched Lake Keowee being built, and he later splashed in its waters. "What was funny is we'd go down in the lake bed when water was backed up and go back the next weekend and be under water," Powell said. Duke Energy started as a hydroelectric energy company to support the mill and textile industry, Culbert said. The company has the third-largest number hydroelectric stations in the country. The Keowee station is part of Duke's Keowee-Toxaway Complex, which includes the Oconee Nuclear Station and the Jocassee and Bad Creek hydroelectric stations. Five employees worked at the station in 1971, and now 10 work there, Culbert said. The Keowee station works the hardest during hot days, which come early in the Upstate. Last June, for example, temperatures reached 97 degrees by June 16, six days before the start of the season. Duke's hydroelectric stations supply 15 to 25 percent of electricity needed when energy use peaks, Culbert said. That allows maximization of energy without the aid of coal or natural gas combustion turbines, Culbert said. There is no celebration planned for Sunday, but Culbert said a combined party with Jocassee and Bad Creek employees is likely later this year. Bad Creek celebrates its 20th anniversary in May. Culbert said the anniversary takes on special significance because in a time when renewable energy is prized, hydroelectric energy has no emissions. "It's equally important as we move forward as we try to sustain energy resources," she said.



Water.

(Good news for water-short areas)

Nevada's Lake Mead to rise 20 feet in 10 months

The Associated Press, 04/12/2011, mercurynews.com

Las Vegas, NV—Federal officials say the wettest year in more than a decade will let Colorado River water managers send more water to drought-ravaged Lake Mead this year. The U.S. Bureau of Reclamation says the reservoir behind Hoover Dam should rise almost 20 feet in the next 10 months. The Las Vegas Review-Journal reported that bureau officials will send 11.56 million acre-feet of water through the Grand Canyon from Lake Powell to Lake Mead this year. On average, the bureau sends a minimum of 8.23 million acre-feet of water from Lake Powell to Lake Mead per year. The allotment should avoid a shortage declaration that would have required Nevada and Arizona to cut river water use. The Las Vegas area draws about 90 percent of its drinking water from Lake Mead.



Environment

(Good news isn't sensational so there hasn't been much press coverage on this one.)

Snake River steelhead pass dams at 2nd-highest rate

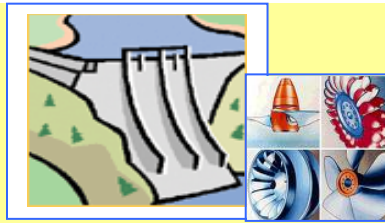
By the Herald staff, Apr. 15, 2011, tri-cityherald.com

Young Snake River steelhead migrated to the ocean at the second highest rate on record last year, according to new research. About 21 percent more steelhead passed safely through dams on the Columbia and Snake rivers in 2010 than the average number since the late 1990s, according to the National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center. Young chinook and sockeye salmon also made it through the dams at rates higher than average, according to the center.

The eight federal dams spill water for fish migration through the end of the juvenile migration in August and the Army Corps of Engineers has installed surface passage systems at all eight dams in the last decade. Electric ratepayers paid for most of the improvements through the Bonneville Power Administration. NOAA research also showed that the surface passage systems, including a new fish slide at Little Goose Dam, helped speed young fish downstream by moving surface water more quickly through spillways. Faster travel reduces exposure of young fish to predators and higher water temperatures. About 35 percent of fish were taken downstream by barge in 2010, fewer than in almost all years since 1995. NOAA's report also showed that new aerial wires hung below John Day Dam to discourage bird predation and completion of a spill wall to guide fish away from predators at The Dalles Dam contributed to fish survival.

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4/29/2011



Some Dam – Hydro News™ and Other Stuff



Quote of Note: *"A tax loophole is something that benefits the other guy. If it benefits you, it is tax reform."* -- Russell B. Long

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

Ron's wine pick of the week: Baron Edmond de Rothschild Flechas de los Andes Gran Malbec 2009 Mendoza, Argentina

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

Other Stuff.

(Now, if we can get them to include ALL hydro – it would be good. You would think that Starbucks could figure that out since they're located in the NW where most of the power is large hydro.)

Intel, Kohl's, Whole Foods Markets named EPA's greenest companies

Wichita Business Journal, April 19, 2011, bizjournals.com/Wichita

A few days before Earth Day, the Environmental Protection Agency has announced Intel, Kohl's and Whole Food Markets are the country's **top corporate buyers of "green" power** — solar, wind, geothermal, biomass **and small-scale hydroelectric**. Forbes has produced a slideshow with data about the top 10 companies on the EPA's Green Power Partnership list. Kohl's has three locations in the Wichita area. Other list-makers with a Wichita presence include Starbucks, at No. 4, and Staples, at No. 6. Wal-Mart's green California and Texas facilities also made the list.



Dams:

(Let's understand that most of the dams that are the subject of this article hardly qualify as dams.)

Connecticut dam owners part of a trend

By Judy Benson, The Day / April 17, 2011, boston.com, Information from: The Day, <http://www.theday.com/>

Pawcatuck, Conn.—**It took 300 years or so to block off nearly every New England stream larger than a trickle with walls of earth, stone and concrete.** Originally built to power mills or hydroelectric plants, or capture streamwaters into lakes and ponds for reservoirs, recreation and flood control, many of the dams have now outlived their purpose. Their owners are long gone, or unable or uninterested in investing in repairs. **Now, a decade into a movement to dismantle**

obsolete dams wherever feasible, Linda and Bill Rutan of Pawcatuck are poised to become some of the latest contributors to the trend. "After the floods in 2009 and 2010, we started to see the fragility of this whole thing," said Bill Rutan, standing atop the warped earthen wall of a 100-year-old dam that pools the waters of Anguilla Brook into a small pond. Nearby were a row of sandbags and a couple of man-sized holes that remain from the deluges. Repairing the structure would be prohibitively expensive for the couple, but leaving it as is would risk a potentially dangerous collapse of the dam next time the brook swells with floodwaters. "It's had some years of neglect," he said.

Because the brook empties into a tidal cove and historically was an important passage for migratory herring and eels -- the name "Anguilla" is biologists' nomenclature for American eel -- the Rutans' dam turned out to be an ideal candidate for removal with the help of state, local and national groups that work on river and wildlife restoration projects. **Once the dam is torn down, which could be as soon as this summer, and a fish ladder built over another dam downstream, herring and eels will be able to swim unimpeded from Long Island Sound to ancestral waters near Route 184, where they spend their adult lives.** And with the brook once again flowing, the water and habitat quality for river species are expected to improve. "With two relatively small activities (the dam removal and fish ladder installation) we'll open up a whole basin for fish habitat," said Duncan Schweitzer, vice president of the Avalonia Land Conservancy, a local group that's one of the partners in the Rutan dam project. "It's cost-effective restoration."

Engineers are working on plans to execute the step-by-step dismantling of the dam, starting with a drawdown of the pond behind it. Applications have been submitted for the required state and federal permits. Along with Avalonia, which recently received a \$75,000 state grant toward its part of the work, the state Department of Environmental Protection, the U.S. Fish & Wildlife Service and the Nature Conservancy are partners in the project. The remainder of the costs will be covered with other grants and contributions of expertise from the various partners. Brian Graber, Northeast river restoration program director for the nonprofit group American Rivers, traced the recent surge in interest in dam removal to 1999. That year, federal utility regulators ordered an old hydroelectric dam on the Kennebec River in Maine removed for ecological reasons. It opened 17 miles of fish habitat, sparked the return of species such as shad, striped bass and herring and turned the area into a hub for recreation. **Since then, according to American Rivers, more than 450 dams have been taken down nationwide, 60 of them in 2010 alone,** as more groups realize how collecting water behind so many dams diminishes water and habitat quality and biodiversity. Native fish and other aquatic populations become genetically isolated from one another, and migratory fish that are important food for wildlife can't reach spawning areas and carry micronutrients from marine waters to freshwaters upstream. Additionally, the many dam blockages are believed to be one of the factors that have caused the declines of species such as river herring. While the Rutan dam may be relatively small compared to others that have been demolished around the country in recent years, its upcoming removal would occur during a banner year for dam removals. **Several large, well-known and high-impact dams are also slated to come down in 2011, among them two on the Penobscot River in Maine and three in Washington state.**

When the movement began, Graber said, dam removals were mainly being done as part of larger efforts to restore rivers and fish populations, and public safety was a secondary benefit. Now, the balance has shifted. "The biggest issue now is public safety" because of the dangers of dams left in disrepair, particularly during floods, he said. "Our general feeling is that removal is the most cost-effective solution." American Rivers has been a partner in two dam removal projects in southeastern Connecticut, both on the Eightmile River, which is one of two rivers in the state to be part of the National Parks Service's Wild and Scenic Rivers program. In 2005, a dam in East Haddam was taken down, and two years later, the Zemko dam in Salem came down in a project overseen by the Nature Conservancy. Adam Whelchel, director of conservation programs at the conservancy, said his organization would like to see another Eightmile dam removed, at Ed Bill's Pond in Lyme. It considers the Zemko project a success, he said, based on the quick recovery of

native plant and insect life to the area where a mill pond was located before the dam removal. The fish populations, however, are another story.

Barry Chernoff, professor of environmental studies and director of the College of the Environment at Wesleyan University, has been studying the fish populations in the section of the Eightmile where the Zemko dam was located since 2004. Chernoff said he's had some unsettling findings from comparing the numbers and diversity of fish before and after the dam removal, and comparing it to nearby control sites. That section of the river isn't used by migratory marine fish species, but is populated by native freshwater fish. "Immediately the population below the dam dropped, and it became a very uninteresting community of brown bullheads and eels," he said, prefacing his remarks by saying that he has long been an advocate of removing dams whenever feasible. "The numbers of tessellated darters are much smaller than it was, and I'm not seeing blacknose or longnose dace. I am really worried that this little section of stream hasn't recovered in this amount of time. But the part that is recovering is the section above where the impoundment was. The question is, 'Why?'" Sediments above the dam were tested for contaminants before the removal, Whelchel said, and no concerns raised, so he doubts sediment releases are affecting the fish. In addition, the pond was drained gradually so that as much sediment as possible would remain in place. Chernoff's work, which is continuing, demonstrates that more research is needed to understand the dynamics of dam removals and habitat recovery, Whelchel said. He remains convinced that given enough time, the fish populations will catch up with the rest of the restoration of the Zemko site. "It's already exceeded our expectation as far as the vegetation, but it's too soon as far as the fish go," he said. Also of significance to southeastern Connecticut is American Rivers' partnership with the Wood-Pawcatuck Watershed Association in last year's removal of the Lower Shannock Falls dam on the Pawcatuck River, a waterway shared by both states. On the association's website, one of several photos of the backhoes and bulldozers at the site is accompanied by an anecdote from a doctor who was passing by. He likened removing dams to repairing a clogged artery.

Across Connecticut, nine dams have been removed in the last decade, beginning with three on the Naugatuck River, said Steve Gephard, supervising fisheries biologist for the state Department of Environmental Protection. Six more projects including the Rutan dam are in the works, and several more are in early stages. One future project the DEP hopes to undertake would remove a series of dams from a stretch of the Moosup River in Plainfield. With hundreds of old dams around the state to choose from and limited resources, Gephard said, the state picks its projects based on several criteria. The best candidates for removal have willing owners; are in areas important for fish habitat; can attract local, private and national partners; and don't have ponds full of contaminated sediment that would be expensive to dredge and dispose of, or better left in place. The contaminants are often the remnants of whatever industry was once located at the dam site. "You never want to be in a position of letting those sediments go, because that could damage healthy habitat downstream," he said. He's seen good results from dam removal projects the DEP has been involved in, with native plants repopulating areas where dams had been located within a single growing season, and fish soon after learning that a new section of the river is now open to them. The emergence of dam removal as a key tool in the river and fish restoration field, he said, is the result of a convergence of historical economic forces and wider recognition of the environmental and public safety benefits of getting rid of obsolete dams. "From the mid-1700s until about 1920, we were building a lot of dams for specific purposes, and because people were making money from them, they were taking care of them," Gephard said. "When these companies went out of business, there was no longer anybody to take care of them. A lot of these are earthen dams, and they're like ticking time bombs. There's not a town or a watershed in the state that doesn't have a dam, and all streams have been impacted."

More money sought for San Clemente Dam removal

By Kevin Howe, Herald Staff Writer, 04/18/2011, montereyherald.com

More help is on the way for removal of San Clemente Dam from the upper Carmel River. The California Coastal Conservancy and Wildlife Conservation Board will consider approval of funds for the San Clemente Dam Removal project within the next six weeks, said Trish Chapman of the state Coastal Conservancy. On May 19, the Coastal Conservancy will meet in Los Angeles to consider approving \$4.5 million for the construction phase of the dam removal project. This, combined with \$2.5million already committed to the design and permitting phase of the project will make the Conservancy's contribution \$7 million so far. On June 2 in Sacramento, the Wildlife Conservancy Board will consider approving \$7 million for the construction phase of the dam removal project. Key objectives of the project, Chapman said, are:



- Remove San Clemente Dam and permanently resolve the public safety threat posed by the dam which has the potential to fail in either a maximum flood or maximum earthquake.
- Provide unimpaired access to 25 miles of spawning and rearing habitat for steelhead trout, a federally threatened species.
- Restore the river's ecological processes, including sediment transport to Carmel River State Beach, helping to maintain the beach's resiliency to sea level rise.
- Enhance habitat for the California red-legged frog, a federally-threatened species.

California American Water, which will pay approximately \$49 million of the \$84 million dam removal and river rerouting cost, will transfer 928 acres it owns to the U.S. Bureau of Land Management for permanent watershed conservation and compatible public access. Cal Am's contribution was based on the amount it would have cost the company to buttress the dam rather than remove it, and the remaining money will come from federal, state and private sources. Under an agreement signed in January 2010, the Coastal Conservancy will contribute \$34 million. Included in the project is rerouting of a half mile of the Carmel River into San Clemente Creek to create a permanent disposal area for sediments that have accumulated in the dam's reservoir. The half-mile of San Clemente Creek upstream of San Clemente Dam will be excavated and restored to enable passage by adult and juvenile steelhead, and provide riparian and aquatic habitat for a variety of species. As the last step, San Clemente Dam will be removed. Work is expected to begin in 2013 and be completed in 2016. San Clemente Dam was built in 1921 and designed to hold about 1,400 acre-feet of water, but years of silt buildup have reduced its capacity to about 125 acre-feet. In the early 1990s, the state Department of Water Resources' Division of Dam Safety declared the structure unsafe. Officials say the dam could collapse in a magnitude-5.5 earthquake on the Tularcitos Fault, which the dam straddles, or in a magnitude-7 or greater earthquake on the San Andreas Fault. An environmental impact report issued in 2007 by the state Department of Water Resources and the Army Corps of Engineers evaluated five options to bring the dam into compliance with current standards, including reinforcing the dam by buttressing it with added concrete. Environmental groups have favored demolishing the dam and rerouting the river because that would provide the greatest benefit to wildlife and the river ecosystem, allowing the Carmel River to flow naturally, making it easier for steelhead trout to spawn.

("Never allow anyone to mine or drill for oil under a dam" – old rule that works! The quote of the day in the article: "We don't believe that Consol's argument on this holds water.")

Ryerson park dam still shifting

Due to earth movement, state rescinds order for Consol Energy to fix dam, lake

April 19, 2011, By Don Hopey, Pittsburgh Post-Gazette, post-gazette.com

The state has withdrawn its order requiring Consol Energy to repair the damaged Ryerson Station State Park Dam and refill and restore Duke Lake because land around the Greene County dam

continues to shift and move. According to a Department of Environmental Protection letter to Consol, the recently discovered earth movement around the cracked and unstable park dam precludes repairs at this time. As a result, the DEP said it was pulling its November order, which would have required Consol to fix the dam and the lake, "in order to properly evaluate and understand this new significant development." The cost of those repairs to the dam, lake and park have been estimated at \$58 million. Consol said the continued earth movements mean that its longwall mine, operating in the area in 2005 but not now, didn't cause the damage to the dam. But an environmental organization that has intervened in a state DEP lawsuit against the mining company for damaging the dam said the ongoing ground movement didn't negate the company's responsibility for damaging the dam in 2005. Consol conducted longwall mining at its Bailey Mine near the dam from December 2004 through 2006. By summer 2005, the 515-foot concrete structure was damaged and its integrity in jeopardy. The state was forced to breach the dam and drain Duke Lake. Jerry Richey, Consol executive vice president for corporate affairs and chief legal officer, said in a statement that the continuing earth movement lets the company off the hook. "We believe that the DEP's recent determination that the Ryerson park dam site is still moving supports our position in this case from the beginning: The damage to the Ryerson park dam was not subsidence related," Mr. Richey said.

Cracks were discovered in the dam in April 2005, when Consol was operating 1,850 feet away from the dam and 350 feet below the surface. The state Department of Conservation and Natural Resources drained the 62-acre lake for safety reasons in July 2005. At the time the lake was drained, Consol's mining machines were operating 1,000 feet away and moving toward the dam. In January 2008, the DCNR, which manages the state's parks and investigated the cracks in the dam, filed a civil lawsuit in Allegheny County Common Pleas Court, alleging the company lied about the risks of mining under the state park and caused the damage. In February 2010, the Department of Environmental Resources said its investigation had determined that subsidence caused the failure of the dam, which was built across the Dunkard Fork of Wheeling Creek in 1960. The dam created Duke Lake, the centerpiece of the park and a popular fishing, boating and swimming impoundment until the dam failed. Raina Ripple, executive director for the Center for Coalfield Justice, which intervened in the state lawsuit, said the continuing ground movement increased her concern about the effects of subsidence from longwall mining. "DEP's decision to withdraw its dam rebuilding order does nothing to raise questions about the [DCNR] report findings," Ms. Ripple said. "We don't believe that Consol's argument on this holds water." Katy Gresh, a DEP spokeswoman, declined to discuss the department's ongoing evaluation or Consol's denial of blame because "we are in litigation and cannot comment at this time." Christina Novak, a DCNR spokeswoman, also declined to comment because of the ongoing legal case. Longwall mining is a highly mechanized technique that Consol was using in its Bailey Mine to fully extract all of the coal from the 4- to 8-foot-thick Pittsburgh coal seam. The technique causes surface subsidence of up to 4 feet directly above the mined area and extending into adjacent surface lands, similar to how a wider area of sand funnels through the narrow waist of an hourglass. According to the state Mining Bureau, the dam was outside the area where the mine is presumed to cause surface subsidence, or outside the so-called "angle of influence." But if mining caused the damage to the dam, it could mean that state mining regulators will need to expand the areas around mines for which mining companies are responsible for damages to surface properties and structures. The state's \$1.2 million investigation of the dam failure, conducted by the consulting firm Gannett Fleming, ruled out natural causes. "We hope this case moves forward after what we hope will be just a temporary delay due to the continuing land movement," Ms. Ripple said. "It's all about the accountability of Consol." Mr. Richey said in his statement that the mining company would work with the DCNR to "find a creative solution that will allow this important community amenity to be restored as quickly as possible."

(Well, it's been over a 100 years since the leak started so maybe a finger in the dam is appropriate)

Water levels at leaking Antero Reservoir to be drawn down

By Howard Pankratz, *The Denver Post*, 04/22/2011, denverpost.com

Safety concerns about Antero Reservoir near Fairplay have prompted Denver Water to announce that water in the reservoir will be reduced by 2 feet beginning the first week of May. The release of water will take four to five weeks. The reservoir will remain open to recreation during the drawdown, Denver Water and the Colorado Division of Wildlife said in a joint statement. Officials said that the drawdown is a safety precaution to reduce water pressure and seepage and ensure the dam does not pose a safety risk to area visitors and residents. They said that the reservoir, built in 1909, has experienced "excessive seepage" since it was built and has been operating since then under state restrictions.

"The dam has exhibited seepage for a prolonged period," said Mike Miller, Denver Water dam safety engineer. "Our accrued measurement data from within the dam indicate we need to conduct further studies to determine the extent of damage." Miller said lowering the water level will reduce the impact of the seepage. Denver Water said it will do more evaluations and develop a long-term plan for the reservoir. Jeff Spohn, DOW's northeast region aquatic biologist, said his agency and Denver Water are working together to reduce the drawdown's impact on the reservoir's fish population. "Once Denver Water finishes its study, we will have a better understanding of future fish management at Antero," said Spohn. Antero Dam was completed in 1909 by Canfield and Shields of Greeley, and its purchase was finalized by Denver Water in 1924.

Kerr dam operations, lake level, normal despite weather

Apr 22, 2011 11:12 AM by Dennis Bragg (KPAX/KAJ Media Center), kpax.com

Polson, MT - Although our continued damp, wet weather is raising the strong possibility of flooding later this spring, operators of the Kerr Dam say conditions at the dam, and on Flathead Lake, remain normal. PPL Montana crews have been busy working on the dam, doing their regular Spring testing, and getting the structure west of Polson ready for the seasonal runoff. PPL Montana spokesman David Hoffman tells Montana's News Station crews were working last week to "cycle" the gates, or opening and closing them to test the mechanisms. He says that may have given some people the impression there was a problem with the spillways but that everything is working as it should be on the Kerr Dam's 11 gates. Hoffman says while the level of Flathead Lake appears to be higher because of the wet spring Western Montana is having, it's actually "right where we want it to be." He says PPL Montana is keeping an eye on the forecasts though, with the Flathead basin snowpack running at 140% of average.



Hydro:

FERC responds to Quincy's appeal, giving itself more time for review

4/19/2011, By Matt Hopf , Herald-Whig Staff Writer, Whig.com

An order granting rehearing for further consideration regarding the hydropower project at Lock and Dam 21 in Quincy was issued Monday by the Federal Energy Regulatory Commission. Quincy Mayor John Spring said the order confirms that the commission received the appeal and that it responded within the required 30 days of the city's March 18 filing. He said the order essentially gives the agency more time to consider the appeal. Spring said it doesn't give any more details or provide a timeline when FERC would review the appeal. The city learned last

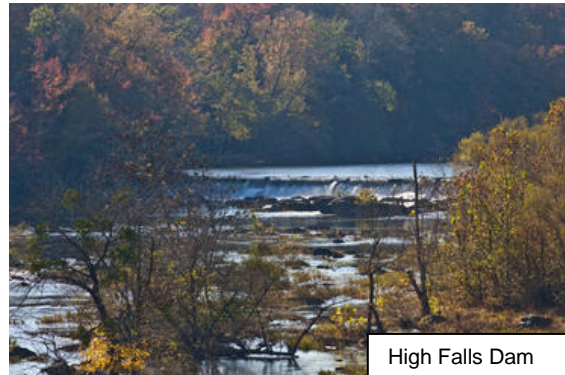
week that the appeal would not be a part of Thursday's FERC meeting. A call to the commission's meeting hotline revealed that no items have been added or removed from the meeting agenda. The city is hoping the commission reverses a Feb. 17 order that dismissed both the preliminary permit and licensing application to construct a hydropower facility at Lock and Dam 21.

(The reporting on this case has been decidedly lop-sided in favor of the water authority in the past, so the outcome gets little reporting from this news outlet – sore losers)

Appeals court sides with hydropower plants in lawsuit

news-record.com, April 19, 2011, By Taft Wireback, Staff Writer

Raleigh, NC — The state Court of Appeals ruled against the Piedmont Triad Regional Water Authority this morning, saying the agency should pay damages to the owners of seven small hydropower projects on the Deep River downstream from Randleman Regional Reservoir. The appeals court said in a ruling released today that the hydro plant owners were correct in claiming the reservoir reduces their income by removing a significant amount of water from the stream to provide drinking water for residents of Guilford and Randolph counties.



The water authority asked the appeals court to overturn a similar ruling in Guilford County Superior Court about 18 months ago that said the small power plants had been damaged by the reservoir and a trial should be held to determine how much they were due. Among other points, the authority argued that the dam owners gave up their right to compensation by failing to participate in the reservoir's planning stage when they were asked to specify any damages. The dam owners argued that whether they participated at the planning stage or not, they have a constitutional right to recover any income lost because of water removed from the river for residents of Greensboro, High Point and other communities in the two counties. "The issuance of a permit does not alter the rights of the property owners to seek just compensation," the three-judge panel said in its decision. Power-making equipment at five of the seven plants use the Deep River's current to operate, so less water equals less power. Two of the plants have not operated in years and federal energy officials are reviewing their licenses for possible revocation.

(Sometimes politicians strike you as just plain dumb!)

Governor strips Rainbow Dam from credit

greatfalltribune.com, Apr. 20, 2011

Gov. Brian Schweitzer has stripped the Rainbow Dam project near Great Falls from legislation giving green credits to energy produced from upgrades at hydroelectric facilities, saying it's unfair to grant the credit after construction began. On Monday, Schweitzer sent House Bill 59 back to the Legislature with an amendment excluding the \$240 million Rainbow project. "I believe most Montanans see the benefit of incentives that apply in a forward-looking manner to create jobs," Schweitzer wrote in his amendatory veto of HB59. "I do not believe these same Montanans support giving an after-the-fact reward to a company for a project the company already commenced. My amendments limit the bill's applicability to projects that commence construction after the effective date of HB59." David Hoffman, a spokesman for PPL Montana, which owns the dam, said it was unfair to exclude the Rainbow Dam project from obtaining the green credits. When Montana's renewable energy law first was passed in 2005, it didn't exclude wind power generated at Judith Gap even though it was under construction at the time, he said.

PPL first proposed HB59 to lawmakers. The bill, which previously passed the House and Senate, amends Montana's Renewable Power Production And Rural Economic Development Act, passed in 2005, by allowing expansion of generation capacity at existing hydro projects to be

incorporated into the state's renewable portfolio standard. Power certified as renewable can be more marketable because utilities in many states are mandated to purchase a certain amount of renewable energy. PPL officials have said that the incentives would lead to more construction and jobs. However, Schweitzer said allowing the incentives to apply retroactively creates no new jobs, adding that his amendments would allow incremental hydro expansion projects while still meeting the intent of the original act. Without the credits, expansion projects will be less attractive to the PPL, Hoffman said. Lawmakers must now decide whether to accept Schweitzer's amendments. Rainbow Dam's old brick powerhouse, which was completed in 1910, and its eight turbines are being mothballed as part of the project at the dam. **The powerhouse's 37 megawatts of electricity are being replaced by a new powerhouse with a single turbine capable of churning out 62 megawatts of electricity — enough for about 45,000 homes. Construction began in fall 2009, and is scheduled to be completed next year.**

(Excerpts – Now all they need is Money! And, how do they overcome the inevitable battle with the anti-hydro/dam folks?)

Alaska Energy Bill Passes Legislature

Source: Governor of Alaska, thegovmonitor.com, 21st April 2011

Governor Sean Parnell today welcomed the news that legislation necessary for the proposed Susitna Hydroelectric Power Project has passed the Legislature.

Senate Bill 42, introduced by Governor Parnell, authorizes the Alaska Energy Authority (AEA) to move forward on pursuing this important hydroelectric project.

"I appreciate the Legislature acting on one of my top priorities. Our administration has proposed a comprehensive energy strategy for Alaska's future and the Susitna project is a key component," Governor Parnell said. "Last year I pledged with the Legislature that Alaska would reach a goal of achieving 50 percent of its energy from renewable and alternative energy sources by 2025. **This project will generate stable, affordable energy for the Railbelt and for thousands of Alaskans in the Interior, while creating hundreds of jobs for Alaskans.**" -----

(Gee, what party poopers! What's the harm in a little wager? It's not like their betting in the horses!)

Rotor roulette took place at Chelan PUD dams

By Christine Pratt, World staff writer, April 22, 2011, wenatcheeworld.com

Wenatchee, WA — **Rotor roulette — an industry tradition of transforming a dam turbine shaft into a gigantic roulette wheel for the unit's inaugural spin —** has taken place as recently as 2010 at the Chelan County PUD's dams. PUD spokesman Steve Lachowicz said Thursday that the 2010 roulette took place at the Lake Chelan powerhouse. Employees paid \$5 to bet on one of 15 numbers. Roulette wagering also took place at Rock Island Dam during rebuild work there in 2008 and at Rocky Reach Dam in 1996 and 2003. Lachowicz said a quick check with dam supervisors earlier in the week produced no one who could remember such wagering after approximately the 1980s. But more Chelan PUD employees came forward after a Tuesday story in The World reported incidents of rotor roulette at Grant County PUD's Wanapum Dam, Lachowicz said. **"We have an administrative policy against gambling,"** Lachowicz said. **"We're directing employees that this kind of activity should not take place."**

U.S. marks first for hydropower

April 22, 2011, upi.com/Science_News

Albuquerque, NM, April 22 (UPI) -- **The startup of the first U.S. hydropower project in New Mexico completed with federal stimulus money is a milestone for a clean energy future, an official said.** The Abiquiu hydropower project opened this week in New Mexico. The plant is the first such completed project funded through the



American Recovery and Reinvestment Act, a federal stimulus package passed in 2009. U.S. Energy Secretary Steven Chu said the project was an example of how reinvestment goes hand-in-hand with a clean energy future. "Hydropower projects at both new and existing facilities will play an important role in meeting President (Barack) Obama's bold but ambitious goal of generating 80 percent of America's electricity from clean energy sources by 2035," he said. The hydropower project will increase local energy production from renewable resources by 22 percent, meaning 1,100 homes in Los Alamos County will have their energy demands met through the project.



Water.

(The power of water – impressive video!)

Videos: Raw power of floodwater Wednesday at Maple River dam spillway
Dams can do much to help provide flood protection, but they offer an impressive sight when their design accommodates floodwater that can no longer be held back.

By: Herald Staff Report, Grand Forks Herald, April 16, 2011, grandforksherald.com

Dams can do much to help provide flood protection, but they offer an impressive sight when their design accommodates floodwater that can no longer be held back. The earthen pass-through dam known as the Maple River Dam demonstrates what happens -- captured on video Wednesday by the U.S. Geological Survey -- during peak times of flooding. The video was posted to YouTube on Friday.

Located in southwest Cass County, near Sheldon, N.D., the Maple River Dam allows limited amounts of water to flow through. "During high streamflow conditions, water is stored (accumulates) in the reservoir," according to a USGS description with the video. "If the water rises high enough, it goes over a spillway." USGS says the video was recorded at about 12:30 p.m. Wednesday, when the stream flow above the dam -- also known as inflow - measured at about 5,120 cubic feet per second. That's about 38,300 gallons a second - or nearly 2.9 million gallons a minute. And it shows.



Look below to see the videos:

<http://www.grandforksherald.com/event/article/id/200450/>



Environment.

(Fish! A fish rapids – should be interesting if it works.)

Lock and Dam No. 1 to get fish-friendly update

By Michael Futch, Staff writer, Apr 17, 2011

Riegelwood, NC - Lock and Dam No. 1 will close to the public for two years for modifications to allow fish to bypass the lock and swim farther up the Cape Fear River during spawning season. The roughly \$12 million project, funded with federal economic stimulus money, is scheduled to begin May 22 and be completed in early spring 2013. "It's important for the fish," said Park

Ranger Tom Charles of the U.S. Army Corps of Engineers. "Only one-half the spawning fish make it past this lock. When this thing is completed, all the fish will make it to Lock and Dam No. 2. "They'll be getting more of a population growth. It's not just helping the fisheries in the river but helping the fisheries everywhere." Lock and Dam No. 1 includes a popular boat ramp and recreation area off N.C. 87, about six miles northwest of Riegelwood.



During its closure, the Army Corps of Engineers will install a series of rock vanes, or rows of large rocks, stretching across the face of the dam. The formation - known as rock-arch rapids - will create pools that mimic natural rapids fish use to swim upstream. The pools allow fish to rest as they migrate to their traditional spawning areas. The work will make the lock and dam the first on the East Coast with a rock-arch passage for fish migration. Charles said the construction will improve the stability of the dam. The work includes paving the two parking lots and the road leading to the boat ramp. The fish rapids will be built alongside the 200-foot lock. "The only way (the fish) can make it up the river would be by locking them through," said Charles, the only park ranger assigned to the Cape Fear's lock and dams. "There's no way the fish can make it when they're spawning. That's why the fishermen like it. Now, the fish are trapped." The passage will allow anadromous fish, such as striped bass, American shad and sturgeon, to pass the lock and dam. Anadromous fish are born in fresh water, spend most of their life in the sea and return to fresh water during the spring spawning season. The shortnose sturgeon, which is found in the Cape Fear, is an endangered fish whose survival could depend on the fish passage. "They think," Charles said, "this will help this species come back." Lock and Dam No. 1, the first of three such structures on the Cape Fear River, is 33 miles from the river's mouth. The locks and dams provide for a navigable depth of 8 feet at low water from Navassa to Fayetteville - a river distance of 111 miles. "Maybe in the future, we'll get money to do this at the other locks," Charles said.

Environmental document a win for fish

By The Yakima Herald-Republic, 04/18/11, thenewtribune.com

Migratory fish would have access to miles of habitat above Lake Cle Elum Dam for the first time in a century under a long-awaited environmental document issued Thursday. A juvenile fish release facility in the massive Cascade Range Lake eight miles northwest of Cle Elum and a program to reintroduce fish are spelled out in an environmental impact statement crafted jointly by the Bureau of Reclamation and state Department of Ecology. Returning adults would be captured below the dam and trucked up to the lake for spawning and rearing, according to the document. Yakama Nation fisheries officials called the document a major milestone in the long effort to restore more healthy fish populations. "This is as close as we have ever been," said Dave Fast, a senior research scientist for the Yakama Nation. "These fish are important in so many ways to the nation's culture and as a food source."

The fish passage proposal is designed to restore sockeye salmon, and expand Coho and spring chinook salmon populations. It also would help in the recovery of two species listed as threatened under the Endangered Species Act: steelhead and bull trout. Sockeye disappeared from the lake after basin storage dams for the Yakima Irrigation Project were completed between 1912 and 1933. None of the dams was equipped with passages for fish. Construction of the multistory fish release facility could cost \$84 million and would require congressional approval. What's more, a final design and modeling study -- also unfunded -- still is needed, said Wendy Christensen, technical projects program manager for the federal Bureau of Reclamation in Yakima. Planning for fish passage at Cle Elum and Bumping lakes began in 2002. At the time, the Bureau of Reclamation was proceeding with repairs to another basin storage dam, Keechelus Dam -- repairs that did not call for fish passage. But the Bureau agreed to work on fish plans with the state Department of Fish and Wildlife and the Yakama Nation. Efforts to reintroduce fish to the

lake in 2006 have been promising. Juvenile Coho salmon planted and released through a flume at the dam's spillway have been captured at the base of the dam as returning adults, according to Mark Johnston, a Yakama Nation research scientist. The offspring of sockeye salmon planted in the lake in 2009 and spawned naturally are poised to begin their migration this year. More sockeye were planted last year.

(Oh oh! The sea lions are in trouble again. Let's remember that the sea lions are killing more salmon than the turbines.)

Sea lions caught on tape at Bonneville Dam

by Keely Chalmers, KGW staff, April 21, 2011, kgw.com

Bonneville, WA -- Sea lions eating up the salmon at the Bonneville Dam will now be caught on tape. Last week, scientists with the Columbia River Inter-Tribal Fish Commission installed video-cameras to document just how much of the spring Chinook run the animals are eating. The cameras sit just below the dam's second powerhouse and just above an area where sea lions often gather and feast on salmon trying to make it up the fish ladders.



Federal researchers estimate the sea lions take between 2 and 4 percent of the spring Chinook run. But the tribes believe the sea lions are eating a much higher percentage. "If sea lions are taking fish here they would also, logic would tell you, be taking salmon populations... preying on salmon throughout the entire lower system," said Sara Thompson, spokesperson for the Columbia River Inter-Tribal Fish Commission. Thompson says if the cameras at the dam give an accurate count of how many salmon are being killed the tribes will install more cameras down river. "Right now we are correlating the information that we're receiving with what is being observed at the dam," said Thompson. The tribe's goal is to better understand the sea lions and ultimately come up with a way to better manage them.

"It's just another tactic to try and scapegoat the sea lions," said Andrea Kozil with the Human Society of the United States. Kozil argues it's not the sea lions creating the problem it's the over-fishing of the river and the introduction of non-native fish for recreation. "The non-native species eat over seven million smelt the baby salmon ... over seven million a year," said Kozil. The animal rights group recently won a lawsuit to stop the killing of California sea lions at the dam. But the tribes maintain the sea lions should be removed if they are indeed jeopardizing our endangered salmon. A problem they hope to prove on tape. The National Marine Fisheries Service is looking to issue a new permit to resume the killing of sea lions. That could happen by the end of this month.

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