



Some Dam – Hydro News and Other Stuff

i



11/06/2009

Quote of Note: From one of the Country’s great philosophers – I wonder if he knew he was talking about our politicians! – “I really didn't say everything I said.” -- YOGURTER

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

Ron’s wine pick of the week: Elderta E Seires Shiraz-Cabernet Sauvignon 2006

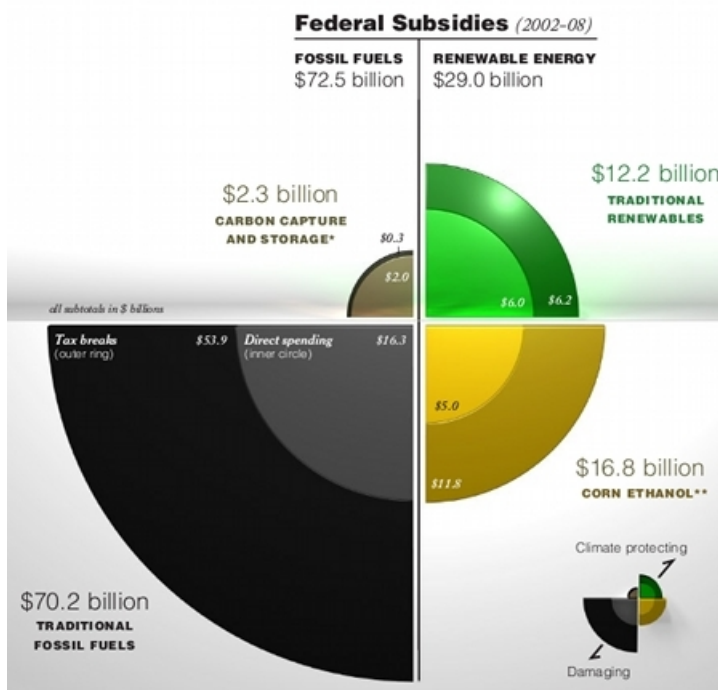
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson

Other Stuff

(Here’s an eye-opener – full report at: http://www.elistore.org/Data/products/d19_07.pdf)

Energy Subsidies Favor Fossil Fuels Over Renewables

eli.org



The current energy and climate debate would benefit from a broader understanding of the explicit and hidden government subsidies that affect energy use throughout the economy. In an effort to examine this issue, ELI conducted a review of fossil fuel and renewable energy subsidies for Fiscal Years 2002-2008. Our findings are presented in the graphic “[Energy Subsidies Black, Not Green.](#)”

The accompanying paper, [Estimating U.S. Government Subsidies to Energy Sources: 2002-2008](#), describes the approach used to identify and quantify the subsidies presented in the graphic. ELI researchers used a standardized methodology to calculate government expenditures. Where this methodology was lacking or did not apply, ELI researchers calculated subsidy values on a case-by-case basis.

Applying a conservative approach, explained in further detail in the

paper, ELI found that

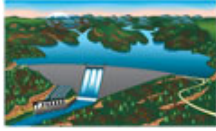
- The vast majority of federal subsidies for fossil fuels and renewable energy supported energy sources that emit high levels of greenhouse gases when used as fuel.
- The federal government provided substantially larger subsidies to fossil fuels than to renewables. Subsidies to fossil fuels—a mature, developed industry that has enjoyed government support for many years—totaled approximately \$72 billion over the study period, representing a direct cost to taxpayers.
- Subsidies for renewable fuels, a relatively young and developing industry, totaled \$29 billion over the same period.
- Subsidies to fossil fuels generally increased over the study period (though they decreased in 2008), while funding for renewables increased but saw a precipitous drop in 2006-07 (though they increased in 2008). The largest subsidies to fossil fuels were written into the U.S. Tax Code as permanent provisions. By comparison, many subsidies for renewables are time-limited initiatives implemented through energy bills, with expiration dates that limit their usefulness to the renewables industry.
- The vast majority of subsidy dollars to fossil fuels can be attributed to just a handful of tax breaks, such as the Foreign Tax Credit (\$15.3 billion) and the Credit for Production of Non-conventional Fuels (\$14.1 billion, though this credit has since been phased out). The largest of these, the Foreign Tax Credit, applies to the overseas production of oil through an obscure provision of the Tax Code, which allows energy companies to claim a tax credit for payments that would normally receive less-beneficial tax treatment.
- Almost half of the subsidies for renewables are attributable to corn-based ethanol, the use of which, while decreasing American reliance on foreign oil, raises considerable questions about effects on climate.

In Canada, Utility Buys Rival to Gain U.S. Access

October 30, 2009, nytimes.com

Hydro Québec, the Quebec government's electrical utility, said on Thursday that it would buy its counterpart in the neighboring province of New Brunswick for 4.75 billion Canadian dollars (\$4.4 billion), The New York Times's Ian Austen reported. The acquisition of the New Brunswick Power Corporation appears to be aimed at increasing Quebec's electrical export business to the United States rather than to extend its reach into a relatively small market along the Atlantic coast of Canada. By purchasing the company, Hydro Québec gains direct access to portions of Maine and New Hampshire. Thanks largely to giant hydro electric projects in northern Quebec; Hydro Québec enjoys a substantial surplus in electricity. It exported power valued at 1.19 billion Canadian dollars (\$1.1 billion) last year, including long-term sales to the United States. Quebec is spending 8.5 billion Canadian dollars (\$7.9 billion) on a hydroelectric project largely intended for out-of-province sales. "New Brunswick sits in the middle of a lot of interconnections," Thierry Vandal, the president and chief executive for Hydro Québec, said. "To get export markets you need interconnections."

The New Brunswick deal was swiftly condemned by Danny Williams, the premier of Newfoundland and Labrador, as an effort to keep his province exporting electricity to the northeastern United States as well as other parts of eastern Canada. "It will be attempting to strand Newfoundland and Labrador, so good, cheap, competitively priced energy can't be offered to that whole region," Mr. Williams told reporters in St. John's, Newfoundland. Quebec and Newfoundland have long feuded over water resources used to generate power. Mr. Vandal dismissed Mr. Williams's complaints, saying that the Federal Energy Regulatory Commission in the United States effectively required Hydro Québec to provide transmission access to other Canadian power exporters. But he also suggested that there was a considerable gulf between the two provinces over the terms of such access. "We've been committed to open access on transmission for a long time," Mr. Vandal said. "But open access does not mean free." Hydro Québec has long been an important symbol in its home province. The Quebec government has used it to help develop industries like aluminum, and Quebec consumers enjoy unusually low electric rates. Jean-Thomas Bernard, an economist at Laval University in Quebec City who studies energy policy, said the company's expansion outside of the province would further enhance its reputation in Quebec.



Dams

(As we always said – “Today’s maintenance problem could be tomorrow’s dam safety problem”)

Bureau of Reclamation eyes small hole in Red Willow Dam

mccookgazette.com, October 28, 2009

The U.S. Bureau of Reclamation is inspecting a small hole discovered in **Red Willow Dam at Hugh Butler Lake north of McCook, NE.** Engineers from Reclamation's Denver Technical Service Center and Nebraska-Kansas Area Office will be on-site to monitor, excavate and inspect portions of Red Willow Dam in order to identify the cause of a small hole discovered last week by maintenance crews working at the facility. Aaron Thompson, Reclamation's Nebraska-Kansas Area Manager, expects no effect on visitors to Hugh Butler Lake. "Primarily, I want to ensure that people are aware that we'll have crews at the dam site," he said. "Reclamation takes the structural integrity of our dams very seriously, and any anomalies within the vicinity of our facilities are approached with an abundance of caution." Thompson said that as a precaution, local emergency managers were notified. "We are currently gathering data on the situation and monitoring the site," he said. "When we have completed investigations, we will formulate a plan of action based on those results."

Red Willow Dam, located on Red Willow Creek about 11 miles north of McCook, is an earthfill embankment with a structural height of 126 feet that forms a reservoir of 86,630 acre-feet. An un-gated concrete spillway is located in the right abutment and a river outlet works provides for river and irrigation releases. The reservoir behind the dam is Hugh Butler Lake.

Troubling update on the structural integrity of Isabella Dam

KGET.com, 10/28/09

County supervisors received a troubling update on the Lake Isabella Dam Tuesday. Emergency response personnel met later in the day to plan for a full-scale evacuation in Bakersfield in the event an earthquake were to cause the dam to fail. **A 600-foot-long trench, full of monitoring devices, snakes along the western-side of Lake Isabella's auxiliary dam.** Geologists and engineers hope to gain crucial data from those devices, about seismic activity in and around the Kern Canyon fault, which runs underneath the lake and its two dams. "We are trying to get an idea of how big this fault is, the magnitude of this fault and what kinds of materials have been moving over the last, say, thousands of years," said Tony Kittner, a geologist with the Army Corps of Engineers.

That fault line is thought to be capable of producing an earthquake strong enough to rupture the auxiliary dam, plunging thousands of people downstream into massive flooding. "The auxiliary dam has a liquefaction potential in the soils," Kittner said. "There are sands that can move." County supervisors learned Tuesday that multiple scenarios have been identified which could cause problems at the dam, everything from seepage and erosion, to a full-blown rupture. **"We've identified a total of 46 potential failure modes at the dam," said Ronn Rose of the Army Corps of Engineers.** "That is a huge number. Eighteen of those PFM's are judged as being significant." Meanwhile, work continues on a comprehensive evacuation plan. **In a worst case scenario, more than 250,000 people in Bakersfield would have to seek shelter and higher ground, less than eight hours after dam failure,** said Georgianna Armstrong, manager of Kern County Emergency Services. "Our plan assumptions build on an earthquake being the triggering event," Armstrong said. "We assume a maximum pool of water behind the dam, which is a worst case scenario. There are several pieces missing to the evacuation puzzle." **Officials stress, the likelihood of a dam failure at Lake Isabella is remote.** But if it happens, everyone needs to be ready. Experts say the biggest hurdle in all of this is to figure out the best way to repair the dam, perhaps even build a new dam. The Corp of Engineers says it will be extremely expensive and in the best case scenario, we wouldn't see construction start until 2014.

Crews prevent dam from breaking

By Jeff Haldiman, October 31, 2009, News Tribune

The crisis was averted. Now the question is who will pay for the repair and cleanup? Crews cleared the area around Renn's Lake Friday morning after spending Thursday night, and into the overnight hours Friday, pumping water from the lake in an effort to prevent the lake's earthen dam from collapsing. Thursday's heavy rainfall -- 2.19 inches -- weakened the dam, which already had absorbed weeks of steady rain (9.84 inches for the rest of October alone) and caused a substantial section to erode. Cole County Emergency Management Director Bill Farr credited the efforts of county volunteer firefighters and local farmers in helping get the situation under control. They brought in pumps to help relieve pressure on the dam. "Renn's gets water from the Route C and Idlewood area and that all drains towards the lake," Farr said. "The problem was erosion over several years. We had over 60 inches of rain last year, and you add that to what we've had this year, it makes a difference."

Farr said this dam is not regulated by the Department of Natural Resources' Dam and Reservoir Safety Program. "It seems they don't do anything that's less than 35 feet in height," he said. Renn's, which was completed in 1950, has a height of 30 feet. "DNR did come out early Friday morning and said all that was being done to address the situation was by the book," Farr said. He said the problem area was on the lower part of the seven acre lake, close to the spillway. "A lot of trees had grown on the dam site," he said. "Those trees and tree roots weakened the dam structure, allowing water to seep through. The rainfall caused concrete to give way and six- to eight-inch trees were also taken down." Had there been a breach, the fear was there could end up being a wall of water that would have flooded nearby U.S. 54. Farr said the Renn family still owns the property where the lake and dam sit. Members of the Cole County Commission came out Thursday night to look over the situation. "We're very fortunate we didn't have a tragedy," said Presiding Commissioner Marc Ellinger. "Now we need to figure how to address this situation and then how do we address other dams like this one in the county?" Ellinger said according to the county emergency operation plan, an assessment was done in 2004 and at that time 31 dams were in the county. Commissioners have scheduled a discussion of dam safety at their regular meeting Monday morning.

County dams sound, federal inspectors say

By Jackson Holtz and Noah Haglund, Herald Writers, November 2, 2009

There are dozens of dams in Snohomish County, including one bigger than King County's Howard Hanson Dam. The dams here are safe, experts say, and aren't designed to prevent flooding like the weakened Howard Hanson, the dam that's threatening the Green River Valley. Dams upriver here range from 9-footers on tributary creeks to the massive Culmback Dam on the Sultan River. The 270-foot-tall Culmback, bigger than the Howard Hanson, holds more than 160,000 acre feet of water behind it in Spada Lake. The dam provides electricity and drinking water for Snohomish County PUD and the city of Everett, WA. "Prior to construction, the project underwent an elaborate design process to ensure it was structurally sound," said Neil Neroutsos, a PUD spokesman. Federal regulators inspect the dam each year and have found no problems, he said. Another large dam — on the Tolt River in King County — flows into the Snohomish River watershed via the Snoqualmie River. Seattle Public Utilities operates the 200-foot-tall structure to manage drinking water and to produce a small amount of electricity.

Dave Remlinger, a French Slough Flood Control District commissioner, blamed Seattle's management of the Tolt Dam for contributing to last year's flooding here. "They knew this event was coming," Remlinger said. "The Tolt Reservoir dumped it. You put this big surge into the system. That whole bubble follows all the way down river." Tom Fox, water resources manager with Seattle Public Utilities, says heavy rainfall caused an automatic discharge. There are three smaller dams in Snohomish County in need of repair, said Doug Johnson, a spokesman for the state Department of Ecology. If any of the small dams fail, the likely damage would be flooded basements or some other type of property damage. A county study of worst-case scenarios found that it would take a shallow 7.5-magnitude earthquake to cause widespread dam failure here.



Hydro

For Immediate Release

NHA applauds \$531 million federal hydropower investment

CREBs funding key to building new resources, new jobs

Washington, D.C. (November 2, 2009) – Statement by National Hydropower Association Senior Manager of Government and Legal Affairs Jeffrey Leahey on the Clean Renewable Energy Bonds (CREBs) program:

"The National Hydropower Association is pleased to see that hydropower projects last week received 24 percent of the \$2.2 billion in bonds allocated under the Clean Renewable Energy Bonds program. By providing more than \$531 million in funding for hydropower projects, the federal government is supporting efforts that will create jobs and add to the country's domestic, affordable electricity generation resources. "NHA, along with our industry partners, has urged Congress to expand funding for the CREBs program and make allocations on a pro rata basis. Under the old allocation methodology that funded projects solely on the basis of cost, the CREBs program often overlooked promising hydropower projects. "By pursuing this new allocation approach, legislators are helping to provide the tools the industry needs to begin creating as many as 700,000 new jobs and 60,000 megawatts of clean, renewable generation resources through hydropower. "NHA salutes the legislators and policymakers who have improved the CREBs program, so that it recognizes the extraordinary energy, environmental and economic benefits that can come from hydropower. We stand ready to work with all stakeholders to ensure that Americans will continue to enjoy the affordable, abundant, renewable electricity that hydropower provides."

(What is this all about? Why does someone decide to shut down hydro generation?)

BRA moves ahead on dam plan

Mark Engebretson, lakecountrysun.com, October 28, 2009

The Brazos River Authority Board of Directors moved ahead on plans to decommission the generators at Morris Sheppard Dam at a board meeting in Waco Monday. Terry Lopas, BRA strategic planning manager, told the board it will take a number of steps before that can happen. "One has to be the application, the actual plan of decommissioning," he said. In addition, outside agencies will have to review the plan. He said it will not be a requirement for them to approve the plan, but it would be helpful. In addition, he said there needs to be a way to get power to the dam and the offices and residences at Observation Point. Other considerations he cited were actually stating a reason for decommissioning the facility, actually disconnecting the generators and, finally, downstream environmental concerns for water flow.

County votes to write letter of support for hydro facility

By LIZ BEAVERS, News-Tribune, Oct 29, 2009

Keyser, W.Va. — Despite some previously-stated reservations about the lack of permanent jobs to be generated, the Mineral County Commission Tuesday voted to write a letter of support for the hydroelectric facility proposed to be constructed on Jennings Randolph Lake. The letter, directed to the Federal Energy Regulatory Commission in Washington, D.C., was recommended by the Mineral County Green Jobs Task Force, which is chaired by Commission President Wayne Spiggle. "The Mineral County Green Jobs Task Force studied the proposal and recommended that county government endorse it," the letter states. "The task force and the commission found no environmental impact that would be adverse to current uses of the dam. "While the jobs associated with the project would be minimal and the generated electricity may not be utilized locally, the county does anticipate a modest benefit via property taxes the company would be paying," the letter continued. "Needed local construction work will also be generated by this project."

David Sinclair, a representative of Fairlawn Hydroelectric, a subsidiary of Advanced Hydro Solutions of Fairlawn, Ohio, met with the commissioners in June to share information about the proposed facility. Sinclair assured the commissioners at the time that the addition of a power plant on the lake would not affect the water levels in the reservoir, nor would it interfere with the recreational activities. "Any arrangements the Corps has made with the kayakers and the fisherman will remain unchanged," he said. While the Corps would maintain its own intake, the power plant would use a separate intake, and the waters released from both would be regulated in order to maintain temperature once they come together in the North Branch of the Potomac below the dam, thus protecting the habitat of the fish located there. According to the letter, the fact that hydropower does not require back up from other fuels qualifies it as a green project. "The task force believes that the Federal Energy Regulatory Commission should give preference to alternative energy projects that do not require fossil fuel cogeneration," the letter states. On a motion made by Commissioner Janice LaRue and seconded by Commissioner Cindy Pyles, the letter was approved. When sent to D.C., the letter will contain the signatures of all three commissioners.

(Don't know if dam photo that was in article is the right dam)

Aspen family builds on hydro tradition

Browns tap stimulus funds for hydroelectric project on their historic family ranch

Scott Condon, Aspen Correspondent, Glenwood Springs, CO Colorado, October 31, 2009



Aspenite Ruthie Brown is building off of her great-grandfather's foresight to create a model renewable energy project in south central Colorado. Brown secured a \$308,000 grant from the U.S. Department of Agriculture and a \$600,000 low interest loan to install a 340 kilowatt hydroelectric project at her family's A.E. Humphrey Ranch in Creede. The system will produce roughly enough power to supply 230 homes once it is completed in spring 2011. Brown said she is a strong supporter of renewable energy and wanted to demonstrate to ranchers in the San Luis Valley that hydroelectric power is a cost-effective investment. Her family is negotiating with a local utility to sell the power generated back to the grid. That will provide the income to maintain the historic ranch and keep the land undeveloped for additional generations, she said. Her family tapped into a special program by the agriculture department to award \$62.5 million in stimulus money to grants and loans for renewable energy and energy efficiency projects. The funds were awarded to 705 farms and ranches across the country. Flux Farms of Carbondale, a consulting firm

on renewable energy projects, is helping Brown with the project.

The Brown family roots are best known on her father's side. Her grandfather, DRC Brown, was a merchant in Aspen's early days as a silver mining camp. His investment in mines helped build a fortune and his diversified interests helped him avoid the financial ruin that wiped out many mining barons in the silver crash of 1893. Ruthie's great grandfather on her mother's side purchased 400 acres in the high country near Creede in 1920 to start a ranch. One of his first projects was building a 90-foot high dam on Goose Creek to create a recreational lake and a hydro power project to provide electricity for the ranch. That dam was an amazing project, Brown said, because the materials had to be hauled in by hand or by livestock, and the concrete had to be hand-mixed on site. The Humphreys Lodge on the property was powered solely by that micro-hydro project from 1924 until 1980, when it was hooked to the power grid to provide backup electricity, Brown said. The old powerhouse will be hooked to the grid as part of this project so it can supply power to sell. The cost of the project is about \$900,000. Utilizing the existing dam that her great grandfather constructed 90 years ago was key to making it affordable, Brown said. She is projecting that the project will show a small profit after just one year, thanks to the grant and low-interest loan through the agriculture department. Brown is working with state senator Gail Swartz of Snowmass Village to streamline the permit process for micro-hydro projects so that more landowners in Colorado will pursue them. Construction at the Humphreys Ranch is expected to begin next year.

(This is news to me!)

New York Area to Have 17 GW of Renewable Energy Projects

greenoptimistic.com, By Mike on October 31st, 2009

According to a recent report by SNL Financial, a business research firm, more than half of all planned energy projects in the Northeast Power Coordinating Council region, comprising part of Canada and 6 US

states, are renewable energy projects. Steve Piper, the associate director of power markets at SNL, **claims that in the next five years about 17,000 megawatts of planned renewable energy projects in the region will be completed.** "For the time there's still quite a lot of momentum," he said. "And the tax incentives make renewables more attractive than conventional development." Renewable energy projects analyzed by the study include wind, geothermal, hydroelectric, biomass and solar. **Most of the projects are focused on wind plants, being located in New York. The state has 210 hydroelectric projects planned in New York, totaling 3,482 megawatts and approximately 64 wind projects on tap, totaling 4,814 megawatts. It must to be known that four out of the five largest planned renewable projects are hydroelectric.**

(Here's a hydro buff's dream home - <http://www.redhohomes.info/Skipsblog/wordpress2/?p=461>)

Own Your Own Hydropower Plant

redhohomes.info, Nov. 2, 2009



This listing just came on market. You don't often see opportunities like this, to buy a functioning hydropower facility with a cute house. It's listed for sale by Charles Brown of Coldwell Banker in Redding.

He writes of it: **"Own your own hydroelectric power plant with a 900 sq ft cabin. 2 separate 40 acre parcels adjacent to each other house this very unique project and well below replacement cost. Make your own power and sell it to PG&E. Original 30 year agreement currently has 7 years left. An experienced**

buyer is needed, one who understands the complexity of the business."



Well, "complexity" is the understatement of the day. Let's see: We have water, energy, and fishery issues involved. Mix it up with money and politics, and you have a surefire recipe for some headaches. But think of it.

Live in some really lovely Northern California woods. Produce (relatively) green, carbon-free power for revenue. This is surely an intriguing property, on several

levels. Also, not a bad place to be WTSHTF, like if the whole US power grid were to be taken offline. Just a thought. A dark thought, maybe. Asking just \$799K. This property is located in western Shasta County.



(Looks like getting out of Maine gets rid of the hassle of dealing with the environmental issues)

PPL Corp. announces sale of 6 dams

By Kevin Miller, BDN Staff, 11/3/09

AUGUSTA, Maine — PPL Corp. announced Monday that it has completed an \$81 million deal to sell six Maine dams to another firm. **Under the terms of the deal first announced in July, PPL will sell its stake in the dams the company now operates at Milford, Orono, Stillwater, Ellsworth, Medway and West Enfield.** The company purchasing the dams, Black Bear Hydro Partners LLC, is a subsidiary of Boston-based ArcLight Capital Partners, which has a stake in energy generation, transmission and infrastructure throughout the United States and Europe. **Black Bear Hydro Partners already owns a 50 percent stake in the West Enfield facility. Collectively, the six dams produce 36 megawatts of hydropower.** Officials have said in the past that the sale would not affect power production at the dams and that staff working at the facilities will remain on the job. The deal involving the six dams also is not expected to affect the separate sale of three other PPL dams along the Penobscot River that is part of a historic river restoration agreement.

A coalition working together as the Penobscot River Restoration Trust is awaiting state and federal regulatory approval of plans to purchase the Veazie, Great Works and Howland dams from PPL. The trust plans to remove the Veazie and Great Works dams and build a state-of-the-art fish bypass around the Howland dam, thereby reopening nearly 1,000 miles of watershed to Atlantic salmon, shad, alewives and other sea-run fish. As part of the deal, PPL was allowed to offset the loss of the three dams by increasing power generation at the facilities sold Monday. "PPL believes strongly in this important project and remains fully committed to obtaining all approvals necessary to transfer these three facilities to the trust," William Spence, PPL's executive vice president and chief operating officer, said in a statement. PPL said it is selling the six dams to Black Bear Hydro because the facilities are outside of the company's core areas in the mid-Atlantic and the Northwest. Based in Allentown, Pa., PPL controls or owns more than 12,000 megawatts of generating capacity in the U.S. ArcLight Capital Partners, the parent company of Black Bear Hydro, manages more than \$6.8 billion in energy investments, according to the company's Web site.



Water

(If they had built the dams years ago when they should have been built, no one would be complaining about how long it will take to build them now! The real solution is simple – stop the population explosion in CA.)

Sierra Club California Urges Legislators to Vote No on the Water Package

by Dan Bacher, Nov. 2, 2009, indybay.org



Sierra Club California is strongly urging everybody to take action NOW to stop legislation that could authorize the construction of two dams and a peripheral canal approximately the size and length of the Panama Canal around the Delta. "We need your help today in order to stop Californians from being sunk with billions of dollars of more debt," said Jim Metropulos of Sierra Club California. "Today, the Governor and legislative leaders are siding with special interests and forcing through a Delta package that would lead to the construction of a peripheral canal that could cost Californians as much as \$50 billion." As of Friday, October 30, there were no less than 20 water bills introduced, including many over 100 pages long. Environmental groups from around California weighed in Friday with their opposition to the dangerous proposed water legislation. The Sierra Club California, Planning and Conservation League, Friends of the River and the Butte Environmental Council have

joined Restore the Delta, California Sportfishing Protection Alliance, the California Water Impact Network (C-WIN), California Striped Bass Association, Clean Water Action, the Environmental Justice Coalition for Water, Winnemem Wintu Tribe, Northern California River Watch, the Public Trust Alliance and the Environmental Protection Information Center in opposing the legislative water package, including the estimated \$9 billion general obligation bond. Metropulos noted that the Delta policy package creates the Delta Stewardship Council to manage the Delta, the majority of whom will be appointed by the Governor. The Council will decide on the whether to build a Peripheral Canal and how big the canal should be.

"Since the Governor already supports the largest canal possible, it's likely that the Council will approve a canal as long and as wide as the Panama Canal, capable of sucking the Delta dry," he said. "In addition, the Council fails to include adequate representation of Delta interests." The Department of Water Resources has begun drilling for engineering studies for a Peripheral Canal, bigger than the Panama Canal, that would run 48 miles through the center of the Sacramento Delta. The canal would have a capacity greater than the entire flow of the Sacramento River during drought years, according to Metropulos. The Department of Water Resources also wants to build two new large dams to create Sites and Temperance Flat reservoirs.

Sites, proposed for Sacramento Valley's west side, would divert water from the Sacramento River, while Temperance Flat would be built on the San Joaquin River east of Friant Dam. "For decades, Friant Dam has diverted so much water that sections of the San Joaquin River have been completely dry," noted Metropulos. "After years of lawsuits, a small part of the original flow was restored this year." Metropulos emphasized, "These projects will not save the Delta, or the Sacramento or San Joaquin Rivers. They will destroy them. Nor will these projects solve our current water crisis, since they will take years to build." Metropulos noted that the state needs a comprehensive water package to address California's water needs and to protect the Delta ecosystem, but it "has to be done the right way - in a way that benefits all Californians and the environment." "We cannot go back to the 1950's. Instead of wasting billions on dams and a canal, we should prioritize aggressive conservation programs, replace leaking pipes, increase water recycling, clean polluted groundwater, encourage graywater use, and promote greater water efficiency in agriculture. This package does not go far enough in these areas," Metropulos added.



Environment

(Nature at its best – go to this web site to see some really great photos:
<http://www.naturesdomain.us/2009/11/01/the-eagles-of-conowingo/>)

The Eagles of Conowingo

naturesdomain.us, November 1, 2009



My son Ray has already done a post on this but I will add a little more. We took our camper and stayed at the Elk Neck State campground so we wouldn't have as long to get to the Conowingo Dam. This is a great campground to stay in if you are visiting the area at the top of the Chesapeake Bay. The state park here has many walking trails and some great views since it is a peninsula with high elevation looking out over the surrounding waters. If you are a nature photographer it is approximately 40 minutes from the Conowingo Dam. Shureslanding Road. [View Larger Map](#) will take you right to the parking lot at the dam.

Like Ray said in his post, the Bald Eagles congregate in the river area just below the dam starting in October and staying through the winter. There is an area near the dam right on the river that is perfect to shoot from. The sun is always in a good position throughout the day for photographing; you never have to shoot into it. Many photographers there use 500mm lenses but if you're patient there will be some good shots at a reasonable distance to use a 200mm. I use a 300mm with a 1.4 adapter and do well with that combination. There are always other photographers there to give you pointers about the best spot to shoot from and what settings to use. I will almost guarantee you will go home with some great Eagle photos. Even if you are not into photography it is still a nice place to visit to watch all the Eagles fishing. Here are some of the bird shots and some of the fall foliage.

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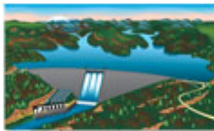
11/12/2009

Quote of Note: "The trouble with socialism is that you eventually run out of other people's money." - - Margaret Thatcher

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

Ron's wine pick of the week: Francis Ford Coppola Encyclopedia Tempranillo 2007 (Spain)

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



Dams

(The long lack of oversight on fly ash ponds is getting attention – imagine designing a dam as a dam!)

Trimble coal ash pond worries environmentalists

BY JAMES BRUGGERS • COURIER-JOURNAL.COM • NOVEMBER 3, 2009

An expanded LG&E ash pond next to the Ohio River in Trimble County would have 100 foot tall walls and store more ash than burst across hundreds of acres in Tennessee last year. The ash pond, part of LG&E's expansion of its power plant near Bedford, sits on the floodplain of the Ohio River, roughly 30 miles upstream from Louisville's drinking water intake. LG&E and Kentucky Division of Water officials said the bigger ash pond will be safe, but environmentalists argue the plan was approved before last year's 5.4 million cubic yard ash slide in Tennessee and should be reconsidered. Representatives of the Kentucky Waterways Alliance and the Sierra Club plan to raise their concerns about the size of the pond Thursday in Bedford at a public hearing scheduled to consider a new wastewater discharge permit for the power plant. The new wastewater permit and coal ash pond issue are in many ways intertwined because both deal with potential water pollution. Environmental groups argue the water permit would allow toxic heavy metals and other pollutants to get into the Ohio River from a planned new scrubber sludge storage pond.

With the EPA promising by the end of December to unveil the first national rules for handling coal combustion wastes, including ash and scrubber sludge, representatives of the two groups want the state to wait for the new guidance. "The proposed (wastewater) permit reflects none of what we now know about coal ash or scrubber wastewater," said the Sierra Club's Craig Segall. Proceeding now would mean the plant would get a "dinosaur treatment system ... right on the verge of real public health standards coming in." Reports that have come out since the Tennessee slide have highlighted the toxicity of coal combustion wastes and a lack of federal oversight. In addition, the EPA last week said current coal-fired power plant wastewater regulations are inadequate with regards to pollutants and are three decades behind the electric

power industry's changes. Louisville Water Co. spokeswoman Kelly Dearing Smith said she could not comment on LG&E's plans to expand its ash pond or the state's proposal for the new wastewater discharge permit because water company officials were not aware of them. She said the company's treatment process effectively removes pollution from the Ohio River, but added, "We want to start with the cleanest water possible."

As the Tennessee spill near Knoxville showed, a major ash release can pollute water for many miles downstream, said Mark Quarles, an analyst for Globally Green Consulting, who reviewed the draft permit for the two groups. The U.S. Fish and Wildlife Service has also documented how metals in ash, such as selenium, can kill fish and cause birth deformities in birds that eat the fish. The draft wastewater permit "mostly ignores" concerns about toxic heavy metals, Quarles said. State officials have placed limits on only one metal – chromium – when there are actually many more in coal plant wastewater, Quarles said. The permit also doesn't limit discharges of other pollutants that would likely be in the plant's effluent and does not require thorough enough monitoring of what's in the wastewater, he said. Peter Goodman, assistant director of the Kentucky Division of Water, said the state is not in a position to wait for the EPA. "To my knowledge, EPA hasn't yet determined how to handle coal combustion waste disposal," he said. "There is no moratorium in place to compel the state not to issue a permit."

LG&E parent E.ON U.S. and other investors are building a new, \$1.2 billion, 750 megawatt generating unit at the site. At the same time, the existing ash pond is about 80 percent full, company officials said. State officials last year approved expanding the ash pond to 11.5 million cubic yards — up from the current 8 million cubic yard capacity. The Trimble pond is designed differently — as a dam — from the one in Tennessee and meets Kentucky dam safety standards, Goodman said. He also noted that it recently passed an EPA inspection. Regarding the wastewater permit, he said the state only issues permits that "sufficient to protect water quality standards." And he said it appears to be too late for anyone to challenge last year's permit authorizing the taller pond walls. The environmentalists said they only recently learned about last year's decision to allow the ash pond walls to be raised as much as 40 feet and have not decided as a group how to respond. John N. Voyles Jr., LG&E's vice president for transmission and generation, said the new permit "meets all the criteria of the guidelines for our industry." He also noted that it will be designed so there are no direct discharges into the Ohio River. The company intends eventually to build a landfill near the plant to bury combustion waste, he said, but the company needs to use the pond until then. The landfill will have a water-tight liner and a system for extracting and treating any water that collects in it, he added. Environmentalists point to EPA studies that have found that ash ponds often leak from the bottom into groundwater, causing contamination. Additionally, the company's plan includes a new settling pond that could hold up to 2.4 million cubic yards of scrubber sludge. The sludge is supposed to settle to the bottom of the pond, with excess water draining into the Ohio River. In July, LG&E announced it was seeking to raise residential customers' monthly bills by an average of 71 cents next year to pay for \$72.5 million in pollution-control facilities, including the new Trimble landfill and the higher ash pond walls.

No dam removal

November 04, 2009, Ashland Daily Times

The Tribal Council of the Shasta Indian Nation would like to reiterate our position on the Klamath dams removal project. The said dams are located within the aboriginal territories of the Shasta people, yet we have not been included in any of the discussions or decisions. We have stated and continue to stand on our position that the dams remain as they are. After many discussions with elders, citizens and researchers, they believe the same. These were some of the concerns from the people we spoke with and they are valid:

The first being that in a time when people are concerned about their "carbon footprint," wouldn't it be in all of our interests to keep an already clean, renewable source of hydro power? Yes, the salmon are very important to the Shasta, but so are people, all people. There are many other roads that could have been considered. Dam removal should have been a last resort rather than a jackpot for the Klamath Basin Restoration Agreement "stakeholders. People are concerned about flood control, property damage and pay-rate increases — all issues that have been touched on, but not sufficiently addressed. Most of the science presented is not even there, especially on the sediment issue! Our biggest concerns are the artifacts that will emerge, and will they be repatriated back to the Shasta people? Like we stated, we have not been invited to the talks, so we can only assume we will not be consulted on our historical sites and their contents. Are federal laws being ignored as well? As for the algae concern, major fuel companies have announced they have invested in research to create renewable fuels from algae; that would seem like a better economic plan for all parties.

The Shasta people have been noted for our ability to make peace, respect others, work together and operate in our individual abilities. There is a better solution; we are requesting a meeting with any party interested in finding them. For more information, go to www.shastaindiannation.org. Thank you and we look forward to your comments.

Athena Bagwell, for the Shasta Indian Nation Tribal Council

Work to raise San Vicente Dam under way

BY ANNE KRUEGER, NOVEMBER 6, 2009, SIGNONSANDIEGO.COM



Workers are excavating the base of the San Vicente Dam and using high-pressure water to scrape off its face in the first phase of a \$588 million project to raise the 66-year-old structure. The San Diego County Water Authority project to raise the 220-foot dam by an additional 117 is the largest dam raise in the United States. It's also the tallest in the world to use a process called roller-compacted concrete, which can be placed in less time at a cheaper cost, but is as strong as conventional concrete. The project kicked off in July, and is expected to take about three years to complete. The first phase involves hydro-blasting the dam face to remove about 2 inches of concrete to create a bonding surface for new concrete to be added, said Kelly Rodgers, project manager with the

San Diego County Water Authority. Workers are also excavating at the base of the dam. The new dam will be widened from 150 feet to 225 feet, and its length will grow from 950 feet to 1,400 feet when completed. After that work is completed next summer, roller-compacted concrete will be added to form a stair-step-like structure on the dam face. Rodgers said employees from the city of San Diego, which owns the dam, and the State Department of Water Resources Division of Dam Safety are closely involved in the project.

The dam held 90,000 acre-feet of water before it was closed, and will be able to contain 242,000 acre-feet of water after the dam raise is completed. An acre-foot is equals more than 325,000 gallons of water. The dam raising is part of a larger \$1.5 billion project by the San Diego County Water Authority to provide up to six months of emergency water storage. It also will provide additional storage from rainy years during droughts. Other parts of the project include a new dam in the North County community of Olivenhain, a pipeline connecting Olivenhain and Lake Hodges, a pump station at Lake Hodges, and an 11-mile pipeline connecting the San Vicente reservoir to an aqueduct near Interstate 15 at Mercy Road in San Diego. When the reservoir is filled, it will cover 1,600 acres — 500 more acres than it had covered before the water level was lowered for the dam construction. The work is expected to be completed in late 2012. The reservoir will remain closed to boaters for an additional two to five years until it refills.



(They ruined the best aerial photo of a dam in the world – I guess for a good reason)

The New Bridge At The Hoover Dam Take a look at the 8 images...

<http://funzu.com/index.php/crazy-pics/the-new-bridge-at-the-hoover-dam-06112009.html>

Creeping closer inch by inch, 900 feet above the mighty Colorado River, the two sides of a \$160 million bridge at the Hoover Dam slowly take shape. The bridge will carry a new section of US Route 93 past the bottleneck of the old road which can be seen twisting and winding around

and across the dam itself. When complete, it will provide a new link between the states of Nevada and Arizona. In an incredible feat of engineering, the road will be supported on the two massive concrete arches which jut out of the rock face. The arches are made up of 53 individual sections each 24 feet long which have been cast on-site and are being lifted into place using an improvised high-wire crane strung between temporary steel pylons.

(There is not about history – it's dam removal!)

GOLD RAY DAM'S HISTORICAL HIGHLIGHTS

November 08, 2009, mailtribune.com



The original Gold Ray Dam was built from logs in 1904 by brothers C.R. and Frank Ray, and it used ropes and turbines to bring public hydroelectric power to the Rogue Valley for the first time. In 1921, the dam became part of the California-Oregon Power Co., which later became Pacific Power. The utility replaced the timber dam with the present concrete dam in 1941 and added a fish ladder and fish-counting station that began operation in 1942. In 1968, a submerged counting station was built into the fish ladder, allowing a counter to sit in the chamber and view salmon and steelhead swimming past a glass wall in the ladder. The rope-driven turbines operated for almost

70 years, the last of their kind among Pacific Power holdings when the utility retired them for cost reasons in 1972. That same year, the utility deeded the dam and its 29 adjacent acres of land to Jackson County for a park. Demolishing the dam was considered but dropped after Oregon Department of Fish and Wildlife biologists argued the dam was needed for fish counting and upstream wetlands preservation. In 1991, a video system was installed in the counting chamber, allowing migrating salmon to be videotaped around the clock. The actual fish counts are tabulated by an ODFW employee viewing the tapes. The county in July received a \$5 million federal stimulus grant to remove the dam from the Rogue by the end of 2010. In September, Slayden Construction Group of Stayton received a \$5.5 million contract to design a dam removal plan and study its impacts to the environment. The bid includes removal if approved by Jackson County commissioners.

Dam plan worries residents

City proposal would raise Talquin water level by a foot

By TaMaryn Waters • DEMOCRAT STAFF WRITER • November 9, 2009

A proposal to raise the water levels at Talquin Dam by 1 foot has residents living on Crooked Road worried and angry. Both the Tallahassee City Commission and the Leon County Commission are getting updates on flood concerns in the area. The City Commission is slated to get a presentation Tuesday on a project that will replace the existing dirt emergency spillway with a concrete one and raising the crest height to 69.5 feet, 1 foot more than normal level. City staffers say they are working with a limited window: most improvements must be done in non-hurricane season months, and the city is already a year behind schedule to begin federally mandated improvements. However, some residents believe the city is moving too fast on a project that could have what they feel are devastating consequences. "It feels like they didn't want us to know about the project or understand it," said Tom Jacobs, who had to rebuild his home on Crooked Road as a result of damage from Tropical Storm Fay.

Jacobs, an ecologist who's been living in a mobile home for 14 months as a result of Fay, said the city gave little notice to residents regarding the \$8.5 million project. He said residents learned of the proposal in September through handouts placed in mailboxes. At the time, the city planned to begin in October. But Michelle Bono, assistant to the city manager, pointed out that Jacobs and other residents from Crooked Road were in attendance at the Franklin County Tri-County Flooding Meeting in April where the project was discussed. Bono also said the city is currently working to set up another meeting with Crooked Road residents. Rob McGrarrh, manager of the city's Power Production department, said the initial plan was to begin in October, but permitting issues have stalled it. The new plan is begin sometime near Jan. 1. If the project gets stalled further, the city may have to wait another year to begin. He said the city must do something because the Federal Energy Regulatory Commission said the Talquin Dam is similar to a dam in Michigan that failed during a heavy weather event nearly six years ago. He said the city has been working on an analysis and solution for six years. McGrarrh said the city looked at several options. One option was "armoring the soil" along the Ochlockonee River, which feeds Talquin. But that won't work because of soil properties in the area, McGrarrh said. The other option was closing the existing emergency spillway and extend the earthen dam by 700 to 1,000 feet. But he said the city would have to carve a ditch through the nearby trees and wetlands. McGrarrh said the proposal is the best fit based on five reasons: it meets FERC engineering guidelines; it minimizes overall flooding concerns; it minimizes environmental impact; it can be done in the non-hurricane months; and it's the most cost effective compared to other options. "We recognize and understand the concerns of the citizens down stream," McGrarrh said. "But it's a balancing act." -----

(This is not good news)

DEP finds problems at W.Va.'s coal-ash dams

Agents should 'look at these things more frequently,' official says

By Ken Ward Jr., November 5, 2009, Charleston Gazette

CHARLESTON, W.Va. -- Nearly two-thirds of the coal-ash dams across West Virginia might need repairs, and a quarter of them are ranked as being in poor or unsatisfactory condition, according to a report released Thursday by the state Department of Environmental Protection. DEP inspectors found stability problems, seepage and erosion at some of the dams as part of a roughly 10-month "comprehensive review" launched after the failure of a coal-ash impoundment in East Tennessee brought new attention to such facilities. Agency officials also found problems that prompted at least five enforcement actions at landfills where dry waste products from coal-fired power plants were dumped, according to the 44-page DEP report. In a news release, agency officials downplayed the problems they found during aerial and on-site inspections and said owners of the dams were making any needed repairs. "We were able to identify stability issues along some embankment slopes, but largely the problems we noted involved control of animals and vegetation," said Brian Long, coordinator of DEP's dam safety program. "The agency is requiring the owners to address any issues found at their sites and bring them into satisfactory condition."

During their review, DEP inspectors also discovered that American Electric Power built two coal-ash dams at one Mason County site without the state knowing about it. Neither of the dams at AEP's Little Broad Run Landfill were designed or built to comply with safety standards in West Virginia's Dam Safety Act, according to the DEP Report. State dam-safety experts seldom inspect coal-ash dams in West Virginia, because state law does not require periodic reviews by DEP officials. Dam owners do have to conduct periodic inspections, with mandated schedules varying according to the potential hazards of specific sites. After the collapse of a dam at a Tennessee Valley Authority coal-fired power plant in December 2008, The Charleston Gazette revealed that most of the coal-ash dams in West Virginia had not been visited by a state dam inspector in at least five years. DEP Secretary Randy Huffman said his agency is exploring options for more frequent inspections of the 20 coal-ash impoundments under its dam-safety jurisdiction.

"We found enough through this exercise to be concerned, and to revisit our policy," Huffman said. "We probably need to look at these things ourselves a little more frequently." The DEP reported that eight of the 20 coal-ash dams it examined were in satisfactory condition, meaning there were no "existing or potential" safety deficiencies. Seven dams were listed in fair condition, meaning action might be needed to avoid risks posed by "rare or extreme hydrologic and/or seismic events." Three were listed in poor condition, meaning safety deficiencies were found that require further investigations, studies or repairs. Both of the recently discovered AEP dams at the company's Little Broad Run Landfill were listed in unsatisfactory condition, meaning there were deficiencies that require "immediate or emergency" action. The DEP report said the Little Broad Run facility was designed as a fly-ash landfill, but, the report said, stormwater control measures "resulted in the construction of two impoundments" that were expanded to greater than 25 feet tall, bringing them under state Dam Safety Act jurisdiction. DEP inspectors found no spillways and embankments consisting of "highly erodible fly ash materials without apparent connection to natural ground foundation." Inspectors concluded that the "downstream hazard potential appears to be high -- loss of life is likely if the dams were to fail." In August, the DEP issued an order requiring AEP to fix the problems. The Little Broad Run site is located near AEP's Philip Sporn Power Plant at New Haven. Just last week, the U.S. Environmental Protection Agency announced that it had told AEP to conduct new tests because of concerns about the safety of two other coal-ash impoundments located at the Sporn site. In its new report, the DEP ranked one of those Sporn impoundments as in satisfactory condition and the other as in poor condition. The other two sites listed in "poor condition" are the Dutch Hollow and Finney Branch dams, both owned by Hatfield Enterprises and located near Dunbar, in Kanawha County. DEP inspectors found at the Dutch Hollow site "active piping of fly ash materials into a sediment control pond, but without discharge to the nearest stream." At Finney Branch, part of the south embankment did not meet dam-safety stability requirements, according to the DEP report.

Some call for state agency to monitor dam safety

By Dennis Sherer, Staff Writer, TimesDaily.com, November 9, 2009

As director of the Franklin County Emergency Management Agency, Roy Gober has concerns about tornadoes, ice storms, chemical spills and other disasters striking the county. Far down on his list of worries is the possibility that one of the three Tennessee Valley Authority dams in the county will break and cause widespread flooding. "I have a lot of confidence in TVA," Gober said. "They do a good job monitoring their dams, and when there is a problem, they take care of it." But while dams owned by utilities such as TVA and

Alabama Power are closely monitored for leaks, many privately owned dams and some owned by local governments are not inspected or maintained. Alabama is the only state that does not have an agency that monitors dam safety. TVA completed a major renovation of its Bear Creek Dam near Hodges earlier this year that was aimed at plugging leaks that have plagued the earthen structure since it was completed in 1969. Crews are now working to seal leaks in Little Bear Creek Dam west of Belgreen. Holes are being drilled into the base of the dam to allow concrete to be pumped into the mound of earth and stone to prevent water from seeping through its foundation. TVA spokesman Scott Brooks said the agency's dam safety staff had been monitoring seepage issues at Little Bear Creek Dam for more than a year before deciding to repair the dam. TVA officials have said there is no threat of the dam collapsing. He said TVA follows strict federal guidelines mandated by the Federal Emergency Management Agency to inspect all 49 dams in the TVA river system every five years. The inspections are summarized by FEMA in a report the agency produces every two years. TVA also performs intermediate inspections, including monthly checklist inspections as well as special inspections if an event, such as a nearby explosion, occurs. "TVA has an intense inspection program in place to ensure safety," Brooks said.

Gober wishes all earthen dams were maintained as well as those on TVA property. "All earthen dams leak. If you don't take care of the leaks, a little leak can become a big one that causes major problems," he said. In 2008, Sloss Lake dam, which is owned by the city of Russellville, began leaking, causing emergency agencies in Franklin to consider evacuating homes downstream from the impoundment that borders Alabama 24. Gober said police were prepared to begin evacuating residents living near the dam as the leaks reached the point that the dam was in danger of collapsing. Emergency responders were able to use large pumps to lower the level of the lake and reduce pressure on the dam. "Gober said a state agency responsible for monitoring dam safety in Alabama would be helpful. "Having somebody who could go around inspecting the dams to make sure they are safe would be money well spent," he said. State Rep. Randy Wood, R-Anniston, introduced a bill in the 2009 legislative session that called for forming a state dam safety agency, but it failed to win approval. Wood plans to introduce the bill again in 2010. "I'm typically not in favor of expanding government," Wood said. "But when there are times when people fail to look after something properly themselves, we need the government to step in and make sure that they do what they are supposed to. We need to take steps to make sure the dams around the state are kept safe.

"There are a lot of dams around the state that have never been inspected to make sure they are safe since they were built 20, 30, and even more than 50 years ago." State Sen. Roger Bedford, D-Russellville, said the U.S. Army Corps of Engineers and other federal agencies charged with dam safety do an adequate job in Alabama. "I don't see where we need to create another state agency," he said. Larry Childers, director of communications and information for the Alabama Department of Economic and Community Affairs, said the agency is working to develop an inventory of all dams in the state and the risks they pose to people living downstream. The results of the survey will be shared with state lawmakers in hopes of encouraging them to create a dam safety agency. "We believe the availability of this data will be a valuable tool for the Legislature and others interested in dam safety," Childers responded in an e-mail. The Department of Economic and Community Affairs estimated there are more than 4,000 dams in Alabama. About 94 percent of those dams are earthen. The average height of the dams is 26 feet. "Because Alabama does not have an official dam safety program, there is currently no requirement that dam owners report a breach or failure to any one agency," Childers wrote in his e-mail. "To the best of our knowledge, there has been no loss of life due to a failure, but significant property loss has occurred." On Nov. 24, 2004, the St. Clair Emergency Management Agency reported a dam break that caused significant structural damage to private property. On July 16, 2004, the dam at the Mobile County Public School System's Environmental Studies Center failed. During Hurricane Ivan, 270 homes below the East Lake Dam in Birmingham were evacuated for fear of a potential dam break. Childers said there might have been other dam failures that were never reported. Wood said the strongest opposition to his efforts to create a state agency for regulating dam safety has come from local governments in south Alabama. "There are some city officials who don't want us snooping around their dams," Woods said. "We need to be able to inspect those dams to make sure they are safe. We need to become proactive with dam safety and not just reactive by responding to disasters after one fails."



Hydro

PPL Receives FERC Approval to Expand Holtwood Hydroelectric Plant

HOLTWOOD, Pa., Nov. 3 /PRNewswire-FirstCall/ -- Approval by the Federal Energy Regulatory Commission of a request by PPL Holtwood, LLC, is a significant milestone in the plan to increase generation of clean, renewable energy and improve migratory fish passage, the company said Tuesday (11/3). "Expanding the Holtwood plant is part of PPL's commitment to make sound financial investments while increasing the proportion of non-fossil-fuel resources in our strong generation portfolio," said Victor N. Lopiano, PPL's senior vice president-Fossil and Hydro Generation. "We appreciate FERC's timely action on our application." About 40 percent of the electricity PPL generates annually comes from nuclear, hydroelectric and renewable sources that do not emit carbon dioxide to the atmosphere, he said.

The expansion project, with an estimated cost of \$440 million, will add enough renewable energy to power 100,000 typical homes. PPL's planned 125-megawatt increase in generating capacity will more than double Holtwood's existing generating capacity of 108 megawatts. In addition, in approving this application FERC has extended the existing operating license for the Holtwood hydroelectric plant through August 2030. PPL resubmitted the Holtwood expansion application to FERC in April 2009 after withdrawing the original application in December 2008, citing economic conditions. In re-filing the application, PPL said incentives in the federal stimulus package could make the project feasible again by offsetting the factors that caused the company to withdraw its original application. "We continue to work with the U.S. Department of Energy to obtain loan guarantees for the Holtwood project from the federal economic stimulus package. The loan guarantees will enable us to reduce the overall financing cost for the project to develop additional clean, renewable energy," Lopiano said. Additional benefits of the project are improved passage for migratory fish along the Susquehanna River and its tributaries, and improved recreational opportunities. PPL has selected Walsh Construction of Chicago as the general contractor for the project, which is expected to create more than 200 construction jobs. Some pre-construction work has begun. Construction is expected to start in the first quarter of 2010. PPL purchased the turbine generators for the project from a Pennsylvania company, Voith Hydro of York.

FERC's approval of the Holtwood project comes just weeks after PPL's official start of redevelopment at its Rainbow hydroelectric plant near Great Falls, Mont. The Montana project, with an estimated cost of \$230 million, will increase the amount of clean, renewable power generated there by 70 percent and improve fish passage when the project is completed in 2012. The Holtwood plant has been generating electricity since 1910, using the power of the water held back by a 55-foot-high dam across the Susquehanna River between Lancaster and York counties in south central Pennsylvania. The dam creates Lake Aldred, an 8-mile reservoir that provides opportunities for boating, fishing and other public recreation. PPL Corporation (NYSE: PPL), headquartered in Allentown, Pa., controls or owns more than 12,000 megawatts of generating capacity in the United States, sells energy in key U.S. markets and delivers electricity to about 4 million customers in Pennsylvania and the United Kingdom. More information is available at www.pplweb.com.

(There is nothing out there – renewable or not that can produce power for less than 4 cents/kWh, so why is this not happening at a faster pace. Answer – the environmental movement and the fascination with junk energy like wind power are the reasons.)

For Immediate Release, November 4, 2009

Hydropower Upgrades to Yield Added Generation at Average Costs Less Than 4 cents per kWh - Without New Dams

\$30.6 million Recovery Act investment by the Department of Energy highlights the additional potential of hydro power

WASHINGTON, DC – U.S. Energy Secretary Steven Chu today announced up to \$30.6 million in Recovery Act funding for the selection of seven hydropower projects that modernize hydropower infrastructure by increasing efficiency and reducing environmental impacts at existing facilities. The expanded hydro generation projects have estimated incremental costs of less than 4 cents per kWh on average. The selections announced today will deploy innovative technologies such as high-efficiency, fish-friendly turbines, improved water intakes, and advanced control systems in order to increase power generation and improve environmental stewardship. Under Secretary Kristina Johnson made the announcement while visiting Voith Hydro Inc.'s manufacturing plant in York, Pennsylvania. "One of the best opportunities we have to increase our supply of clean energy is by bringing our hydropower systems into the 21st Century," said Secretary Chu. "With this investment, we can create jobs, help our environment and give more renewable power to our economy without building a single new dam." DOE sought cost-shared projects that upgrade existing hydropower facilities without requiring significant civil works modifications to dams, allowing for them to be developed quickly to help create jobs and stimulate the local economy. The solicitation sought two classes of projects: those larger than 50 megawatts (MW) of installed capacity and those of 50 MW or smaller.

The selected projects will increase generation by an estimated 187,000 MWh/year, or enough to meet the annual electric usage of more than 12,000 homes. This incremental generation is virtually carbon free, and it represents a reduction in carbon dioxide emissions of over 110,000 tons per year compared to electricity from the average U.S. grid. Additionally, upgrading existing hydro facilities in this way is a very inexpensive way to provide renewable energy: the estimated cost of the added generation is less than 4 cents per kWh on average, placing incremental hydro among the most inexpensive sources of renewable energy. The following projects have been selected for negotiation of awards for the amount listed:

Hydropower Upgrades for Projects Larger than 50 Megawatts (MW)

- **Alabama Power Company – up to \$6 million for a project in Mitchell, AL** - For a project that will increase efficiency and upgrade four units at three hydroelectric plants on the Coosa River by replacing 1940s to 1960s vintage turbines with new high-efficiency stainless steel turbines and runners that maximize each unit's ability to utilize the limited available water. Generation will increase by 36,087 MWh annually (7.3% increase).
- **Alcoa, Inc. – up to \$13 million for a project in Robbinsville, NC** - To replace four 90-year-old Francis Turbines with four new high-efficiency stainless steel turbines, generators, and transformers, providing an additional 22 MW of generating capacity at Alcoa's Tapoco Cheoah plant. Annual generation would increase by 95,000 MWh (23% increase), and the project would reduce the likelihood of an oil spill into the river with the replacement of water cooled transformers and removal of lead and asbestos from all four generating units.
- **City of Tacoma, Department of Public Utilities - up to \$4.67 million for a project in Potlatch, WA** – To add two 1.8 MW Francis Turbines to the existing 81 MW Cushman No. 2 Dam, adding 23,500 MWh of annual generation (14% increase) and 3.6 MW of capacity. In addition, the project will incorporate an upstream fish collection pool to enable reintroduction of native fish above the dam for the first time since the 1920s.

Hydropower Upgrades for Projects Less Than or Equal to 50 MW:

- **The City of Boulder, CO** – up to \$1.18 million for a project in Boulder, CO – To upgrade the 100-year-old Boulder Canyon Hydroelectric Project by replacing two older turbines with a single, high-efficiency unit. The new turbine would operate at a wider range of flows and higher efficiency ranges, resulting in an increase in annual generation of 11,000 MWh (30% increase). Upgrades to wiring and removal of asbestos would reduce environmental hazards and improve safety.
- **Energy Northwest - up to \$800,000 for a project in Packwood, WA** – To design, manufacture, and install a new state-of-the-art Pelton Wheel Turbine at the Packwood Lake Hydroelectric facility. The new turbine will have greater efficiency at low power operations, increasing annual generation by 5,868 MWh (6% increase), and will benefit the local fish population and create more sustainable habitat conditions downstream.
- **Incorporated County of Los Alamos, NM - up to \$4.56 million for a project in Los Alamos, NM** – To add a low flow turbine/generator to the 13.8 MW hydroelectric plant in Abiquiu, New Mexico, increasing the total plant capacity by 3 MW and allowing the dam to operate when releases are below or above the capacity of the two existing turbines. The upgrade will increase annual generation by 6,462 MWh (22% increase). The project's environmental benefits include higher dissolved oxygen content in downstream water and increased minimum flows.
- **North Little Rock Electric Department - up to \$450,000 for a project in Little Rock, AR** – To install an automated intake maintenance device at its 39 MW hydroelectric facility on the Arkansas River to clear debris currently obstructing the intake and allow the facility to operate consistently at near peak efficiency and significantly reduce the high cost of dredging. Air pollution would be reduced in a non-attainment air basin as the debris has been previously burned for removal.

Following negotiation of final funding amounts, projects are expected to begin in 2010.

Hydropower Reigns as Undisputed King of Renewable Energy

marketwire.com, Nov. 4, 2009

NEW YORK, NY--(Marketwire - November 4, 2009) - SBI Energy, a leading energy market research firm and publisher of "Ocean Energy Technologies and Components Worldwide," has released "Hydropower Energy Technologies Worldwide: Large, Small, Mini, Micro and Pico." The report presents an in-depth analysis of the applications, products, manufacturers, and trends in the development of hydropower resources in the United States and around the world. During the period 2009 through 2013, hydropower in all its forms is forecast to grow faster than it has in the past five years to meet the increasing need for renewable energy sources worldwide. The projected uptick marks a return to popularity for hydropower as

the undisputed king of renewable energy boasting technologies that are proven and widely used, in addition to emerging technologies just beginning to enter the marketplace.

SBI Energy identifies several advantages hydropower has over other forms of electric generation that will help drive growth for the foreseeable future. Perhaps most importantly, hydropower is a clean, renewable energy source that can significantly reduce the reliance on fossil fuels and is the world's largest renewable energy source, far outstripping the generating capacity of wind, solar, and other sources of renewable energy. In addition, over 70% of potential hydro producing sites around the world are as yet unused, leaving significant room for possible growth. "The future of hydropower looks brighter than it has in ten years," says Shelley Carr, publisher of SBI Energy. "Mandates and goals for renewable energy, carbon credits and trading, more streamlined licensing, rising fuel costs, and technical issues associated with other energy sources will all play a part in driving the future growth of hydropower."

Large scale hydro projects will not likely occur in the United States and other developed countries. Instead the application of smaller scale hydro projects has provided a substantial impetus for further development due to the continuing demand for more and cleaner electricity. China, the world leader in small hydropower operations with an installed capacity of 51 GW, is expected to continue to pace the rest of the world with a 47% increase in hydro electricity production by 2020. Over the next five years, Japan, the U.S., Italy, and Brazil are also expected to rank among the top producers of small hydro energy. "Hydropower Energy Technologies Worldwide: Large, Small, Mini, Micro and Pico" provides a comprehensive assessment of the current hydropower market, the environmental concerns that have limited its growth in developed countries, the potential opportunities for new development, and the emerging technologies that harness the power of the ocean. Market sizes and trends are projected through 2013. For further information, visit: <http://www.sbienergy.com/redirect.asp?progid=76154&productid=1926640>

(Well, this one takes the prize)

Hydropower is so trendy, people are stealing the equipment

Nashua Telegraph, November 04, 2009, by David Brooks November 04, 2009

A pair of 500-pound floodgates, used to channel water for a 23-kilowatt generator on the Warner River, has been stolen - and a turbine was taken previously! Or so reports the Concord Monitor: Each of the gates, cast from 5/8-inch-thick steel, weighed upward of 500 pounds. (The owner) thinks someone with a winch and flatbed truck or two strong people with a pickup truck could have made off with them. When the turbine was in use, he usually left them leaning against a 15-foot boulder.

Hydroelectric plant will make enough to power 7,500 homes

November 5, 2009, startribune.com

Power from a new hydroelectric plant on the Mississippi River will produce enough electricity for about 7,500 homes by the end of next year, according to officials who provided an update on the project Thursday. The 10-megawatt plant is located just below the new Interstate 35W bridge at the Lower St. Anthony Falls Lock and Dam. The U.S. Army Corps of Engineers, which owns the lock and dam, gave permission to a private company to build the hydro plant in an alternate lock in the river that is not needed for commercial river traffic. That company, Brookfield Renewable Power of Massachusetts, also operates the 20-megawatt hydro plant just downriver at the St. Paul Ford truck assembly plant. Brookfield project manager Steve Mockler said the new \$35 million plant is about 30 percent complete, will install 16 turbines and will sell its electricity to Xcel Energy. Minneapolis Mayor R.T. Rybak and several legislative leaders praised the new project as an example of clean energy. "This is what the green economy is all about," said Sen. Scott Dibble, DFL-Minneapolis. Rep. Mike Beard, R-Shakopee, said he avoids using the word green, but joined others in touring the construction area. "Putting turbines like this in the run of the river makes a lot of common sense," he said.

(This article doesn't tell the interesting part of the story. There were 4 competing applicants for this permit and three were cities. Out of the confusion about who filed first created in part by the ability to file electronically, the FERC apparently threw up its hands and did the only thing it could do. They had a drawing and the City of Angoon won.)

Angoon hydro project gets preliminary permit

The Associated Press, Anchorage Daily News, November 8th, 2009

ANGOON -- The city of Angoon has been granted a preliminary permit for the Ruth Lake hydropower project. The 20 megawatt hydropower project is designed to produce low cost electricity for Angoon and to eventually provide hydropower to other Southeast communities. Angoon Mayor Albert Howard said he's looking for region-wide collaboration on the project. The mayor said Angoon, as well as most communities off the road system, are getting hit hard by the rising cost of diesel fuel, which powers the generators that currently provide electricity.



Water

California lawmakers approve \$11B water overhaul

By SAMANTHA YOUNG (AP), November 4, 2009

SACRAMENTO, Calif. — California lawmakers have passed an \$11 billion overhaul of the state's antiquated water system, ending decades of debate over how to supply a soaring population while preserving the fragile environment. The state Assembly passed a package of water bills and the bond measure to fund them before dawn Wednesday. The Senate which earlier passed a less costly package later approved the final version. The plan calls for restoring the crucial Sacramento-San Joaquin Delta. It also provides funding for new dams, groundwater cleanup, conservation and habitat restoration. Schwarzenegger calls it a historic achievement that will allow California to prosper. Lawmakers have long struggled over ways of restoring the crucial Sacramento-San Joaquin Delta while creating stable water supplies for cities and farms.

Dams should already be in place

2009-11-09, fayedailynews.com, By Robert Tribble

According to Rebecca Wodder, president of American Rivers, a recent court ruling has been made that says Atlanta has not been authorized by Congress to withdraw drinking water from Lake Lanier. She also says that a plan to dam the Flint River will be devastating and be a waste of taxpayer dollars. It also has been reported that Gov. Sonny Perdue is considering several new reservoirs on the Flint and Chattahoochee rivers after the Court ruled that Georgia has three years to stop withdrawals from Lake Lanier or be authorized by the U.S. Congress to continue the withdrawals. Atlanta is our state's largest city and most of us don't care about living there because we enjoy the small town life style. However, the folks in the Atlanta area must have water, and it must be provided from lakes in the surrounding area. Water conservation alone will not solve their problem. A proposal to have a study done to build dams on the Flint that could guarantee water for Georgians for decades to come was made last year by Congressmen Nathan Deal and Lynn Westmoreland. The Flint winds for more than 200 miles from the South Atlanta suburbs to the Gulf of Mexico and has two small dams on it already. Westmoreland was going to ask the Army Corps of Engineers to do a study on whether larger dams could be built that would provide the needed water. As soon as the Deal and Westmoreland plans were announced a group of extreme environmentalists who call themselves the Flint River keepers became active and dedicated themselves to fight any future dams on the Flint. They said the Flint would no longer be a river but rather a ditch, which of course is hogwash. It has been over a year since Deal said he was drafting legislation to allow construction of dams on the Flint. It also has been over a year since Westmoreland began pushing for more studies of the river. He said back then his plan was about managing our natural resources and if there was a solution to manage the river systems why not do it.

Many of you remember that Congress approved the money to build three dams on the Flint River back in the early 1970's. Congressman Jack Flynt from Griffin led the movement. The four major reasons for the dams were electricity, flood control, water and recreation. The cost to build the dams back then was less than a tenth of what the cost would be today. Our famous governor, who was eventually elected president, vetoed the needed project in 1974 and the state legislature came very close but was unable to rally a two thirds vote to override the veto. Jimmy Carter opposed the dams after taking a paddle ride down the river and becoming convinced that some fish or other creatures would be destroyed. Carter's veto of the three dam project 35 years ago has done much economic damage to the areas along the river where the dams were to be built.

It caused the loss of much needed electricity, has allowed flooding to occur on numerous occasions along the river and has stopped any chance of water being provided for Atlanta or any other area. Free flowing

rivers are beautiful and enjoyable, but so are large lakes. Three dams on the Flint that flows for more than 200 miles would still leave many miles of river from one dam to the other. The dams should already be in place.



Environment

(This is a lengthy article, but for those interested here's the link to the full story:

<http://crosscut.com/2009/11/03/science-environment/19322/>)

November 03, 2009

How taking out dams splits environmental groups

The issues are maddeningly complex and politically explosive. Here's a close look at the bedeviled Klamath River basin, where a seeming agreement is dividing the greens.

By Daniel Jack Chasan - crosscut.com

Report: Sea lion kill hasn't reduced salmon toll

By JEFF BARNARD (AP), November 6, 2009

Killing or removing 25 California sea lions over the past two years has not reduced the toll on salmon at the base of Bonneville Dam in the Columbia River. A report from the U.S. Army Corps of Engineers estimates sea lions ate 4,960 salmon and steelhead during the spring of 2009 at the dam near Cascade Locks, Ore. That compares to an adjusted estimate of 4,927 in 2008. Sharon Young of the Humane Society of the United States says the statistics show that trying to reduce the numbers of predators does not work when it comes to boosting salmon numbers. But a companion report from the Oregon Department of Fish and Wildlife estimates that removing the sea lions saved some 1,655 salmon.

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



Some Dam – Hydro News

and

Other Stuff

i



11/20/2009

Quote of Note: “You know you're getting old when you stoop to tie your shoelaces and wonder what else you could do while you're down there.” -- George Burns

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

Ron's wine pick of the week: Hyatt Rattlesnake Hills Washington Cabernet 2005

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

Other Stuff

(The environmental organizations jumped the gun on this one because they always want to blame everything on a dam. The early headlines even said “Dam Failed”. It was the transmission lines – dummies!)

OFFICIAL: BRAZIL BLACKOUT CAUSED BY BAD WEATHER

AP, Foxnews.com, November 11, 2009

RIO DE JANEIRO — Brazil's energy minister says a blackout that left 60 million people in the dark was caused by bad weather.

Edison Lobao says heavy rains and strong winds caused three transformers on a key high-voltage transmission line to short circuit, cutting the line. Two other lines went down as a part of an automatic safety precaution. That eventually caused the massive Itaipu hydroelectric dam — to which the lines were connected — to shutdown as well. Lobao said Wednesday that 40 percent of Brazil's total energy was cut, in some areas for up to four hours. The blackout that began late Tuesday has prompted questions about the robustness of Brazil's energy grid; just weeks after the nation won the right to host the 2016 Olympic Games.

Also see this article from the LA Times:

Brazil's frayed wires finally short out

Experts say the power outage that affected tens of millions was inevitable given the aging infrastructure.

<http://www.latimes.com/news/nation-and-world/la-fg-brazil-blackout12-2009nov12.0.3613840.story>

(Typical of wind power advocates, they don't think they should pay taxes like the other energy resources do! http://www.trib.com/news/state-and-regional/article_8508cf2b-fc0f-5b67-9022-1099804cc89e.html?print=1)





Wind tax talk whips up debate

By MATT JOYCE - Associated Press writer | Posted: Tuesday, November 17, 2009 12:00 am

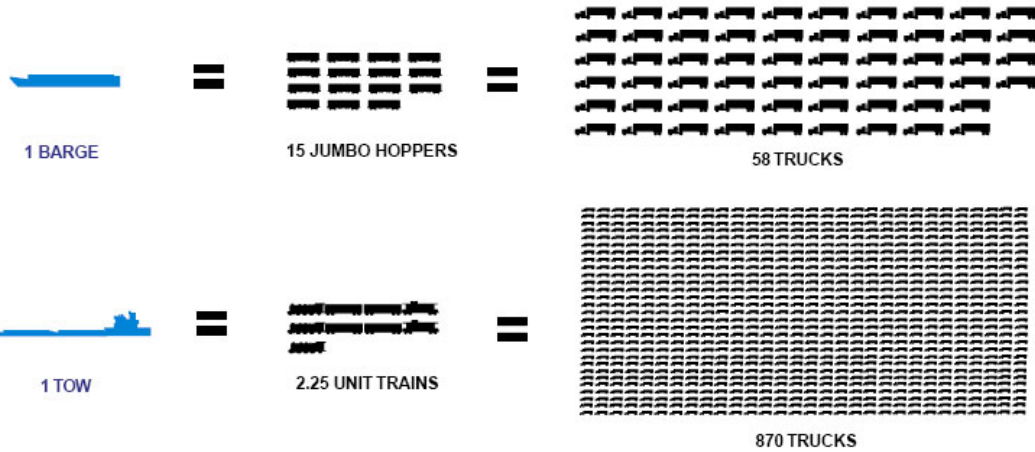
CHEYENNE -- Wyoming lawmakers will soon take up the thorny issue of whether to impose new taxes on wind energy development, a proposal that developers say could stunt the fledgling industry's growth in Wyoming.

HOW MUCH BARGES HOLD

CARGO CAPACITY

				
BARGE 1500 TON 52,500 BUSHELS 453,600 GALLONS	15 BARGE TOW 22,500 TON 787,500 BUSHELS	JUMBO HOPPER CAR 100 TON 3,500 BUSHELS	100 CAR UNIT TRAIN (GRAIN) 10,000 TON 350,000 BUSHELS	LARGE SEMI 25 TON 875 BUSHELS

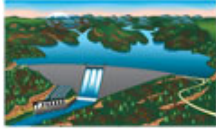
EQUIVALENT UNITS



EQUIVALENT LENGTHS



**US Army Corps
of Engineers**
Louisville District



Dams

(Doing a good deed for the Boy Scouts is much more than that – the dam does provide flood control benefits)

Boy Scouts get \$1.3 million state grant for Stillwater Lake Dam project in Tobyhanna Twp.

November 11, 2009, poconorecord.com

The Commonwealth Financing Authority has awarded a \$1,312,500 state grant to rehabilitate the Stillwater Lake Dam in Tobyhanna Township, Monroe County, PA which serves the Minsi Trails Boy Scouts and plays a key role in regional flood control. State Rep. Mike Carroll, D-Luzerne/Monroe said the funds will be used for renovations, demolition, excavation and grading, engineering and administrative costs to rehabilitate the dam, which was built in the early 1900s before current dam safety standards were developed. "This funding award is the result of unparalleled cooperation among many elected officials including the Tobyhanna Township supervisors, Monroe County commissioners, state Senators Ray Musto, Bob Mellow and Pat Browne and state Representatives Doug Reichley, John Siptroth and Mario Scavello," Carroll said. "In addition, I wish to recognize and thank Tom Harrington of the Minsi Trails Boy Scouts for his leadership on this vital project." State Sen. Ray Musto, D-Luzerne/Carbon/Monroe, who worked with Carroll to obtain funding for the Stillwater Dam repairs, said he was glad to see that this worthwhile project has received funding. "There was recognition that the lake is a valuable resource for the area," Musto said. "I'm excited that we can now move forward on making the necessary repairs to the dam that will protect residents of the area and keep an important recreational area in place."

During the state budget process, Carroll worked to include language in the Fiscal Code bill (H.B. 1614) that provided specific authorization for Stillwater Dam and allocated additional funds for high hazard unsafe dam projects. These are dams that, if they fail, could result in subsequent loss of lives or substantial property damage. The state Department of Environmental Protection recently classified the Stillwater Dam as a high hazard unsafe dam. "It is crucial this dam be repaired to protect downstream residents from future flood events, preserve the lake for outdoor enthusiasts who utilize the lake for recreation while preserving vital fish and wildlife habitat," Carroll said. "The Minsi Trails Boy Scouts have taken the lead on this crucial community project with many beneficiaries not the least of which is the thousands of scouts who utilize the camp each year." Funding for this grant comes from the H2O PA program, which provides grants for projects involving the repair, rehabilitation or removal of all or a part of a high hazard unsafe dam. The program is administered by the state Department of Community and Economic Development under the direction of the Commonwealth Financing Authority, an independent agency that evaluates and administers funding for projects that create jobs and invest in the state's financial growth. Reconstruction of the dam is expected to begin next year and is expected to be completed by June 2011 in time for the summer camping season.

(I like the omelet analogy)

Removal of Boardman Dams Has Negative Environmental and Energy Impacts

By Mr. Bruce Edward Walker | 11/11/2009 – Mackinac Center for Public Policy (mackinac.org)

The road to hell is paved with the shells from proverbial eggs broken in the service of producing an idealized omelet. In the case of Grand Traverse County, enough eggs are being broken to warrant the attention of the folks at the Guinness Book of World Records. In the first of two videos dedicated to plans to remove three of four dams on the Boardman River to increase tourism and recreational opportunities, the Property Rights Network showed how a water drawdown impacted residents living on the impoundments. The second video, below, details the consequences of dam removal on the delicate ecosystems that have developed since the dams were built more than a century ago, as well as how decommissioning the dams makes little sense in terms of generating clean, renewable, inexpensive and reliable hydroelectric power. Thus far, more than 34

dedicated acres of the Grand Traverse County Educational Reserve have suffered the indignity of the seven-foot drawdown of waters between the dams with no attempts whatsoever by Traverse City or Grand Traverse County to mitigate the loss of wildlife habitat. Additionally, neither the Michigan Department of Environmental Quality nor Department of Natural Resources has demanded or enforced any mitigation. Property Rights Network Director Russ Harding explains in the video that the desire to restore the Boardman River watershed to its pre-settlement condition is foolhardy as the river was more than probably blocked by beaver dams and fallen trees prior to the dams' construction in the 19th century. Since the dams were built, Harding adds, the dam impoundments slow down sediments from the river and serve as filters for possible contaminants that the river might carry. (To view 2nd video go to this web site: <http://www.mackinac.org/article.aspx?ID=11326>)

The loss of renewable and reliable hydroelectricity wrought by decommissioning of the dams in preparation for their removal also is addressed in the video. Harding estimates that nearly \$2 million of revenue has been lost already from this natural power resource, and that 12 wind turbines at a cost of \$1 million each would be required to replace the energy potential of the dams. William Stockhausen, president of Elk Rapids Hydroelectric Power LLC, also acknowledges the value the dams present for power generation. "As they are, the dams are basically structurally sound and, therefore, with the hydro, have much intrinsic value," he says. "It is surprising that the dams were decommissioned in the first place. It is like giving away the city's and county's crown jewels."

(See the graphic under "Other Stuff" – the title should have said "The Importance of Dams and US Waterways")

The importance of US waterways

By Timon Singh | 11/12/09, americainfra.com

Traditionally, when it comes to transporting cargo around the country, trains and trucks are the options that first leap to mind. However, neither of these options are arguably as efficient as using America's inland waterways.



Barges and boats transport 625 million tons of cargo over 12,000 miles of waterways every year across the US, and with a single 15-tow barge transporting the same amount as 870 tractor-trailers it makes financial sense to opt for waterway systems. There's just one problem... America's inland waterway systems are in a state of disrepair, despite their importance to the US economy.

US Army Corps of Engineers

Recognizing their importance, the [US Army Corps of Engineers](http://www.usace.army.mil) is working to replace the system implementing a number of construction projects to stop the waterways being

abandoned. The Corps manage the nation's 257 locks and dams, but at the end of the day, many are way past their 50 to 60 year service life. According to a recent 'Report Card' study for American Infrastructure, of the country's locks, 30 of them were built in the 1800s whilst another 92 were more than 60 years old. Not just that, but the report also rated the condition of America's waterways a grade of D- and estimated that the cost to replace and upgrade the system would cost in excess of \$125 billion. One of the largest 'lock replacement' projects being undertaken by the Corps, is upgrading the McAlpine lock on the Ohio River (that took 10 years to build) and the [Olmstead Lock and Dam](http://www.usace.army.mil), one of the busiest locks in the US and is replacing locks 52 and 53. The locks see 96 million tons of cargo, including coal and grain, move through them and over the dam each year. Built in the 1920s, locks 52 and 53 are two of the oldest structures on the inland waterways system. If they were to ever fail, it would have a catastrophic chain reaction causing more than \$300 million in losses for companies, depending on how long they were down for repairs. The Olmstead works include underwater foundation preparation, lift-in construction of the tainter gates and navigable pass shells for the dam, floating approach walls, directly connected hydraulic cylinder operation of the culvert valves, miter gates, tainter gates, and a central station to operate both the dam and the twin locks. Depending on funding, the project should be completed by 2021.

(Interesting EPA decision! The recommendation of the engineering firm is changed. I hope EPA knows something about dam safety!)

EPA releases reports on AEP coal-ash dam in W.Va.

by Ken Ward Jr., November 17, 2009, The Charleston Gazette, wvgazette.com



U.S. Environmental Protection Agency officials have **finally** made public the contractor's report upon which they based their decision [to require additional testing and warn the public](#) about possible structural problems at two American Electric Power coal-ash dams in Mason County, W.Va. The [report by EPA contractors from the firm Dewberry](#) is among three new documents made public today by federal officials, as part of their continuing probe of impoundments across the coalfields where utilities dump toxic ash from coal-fired power plants. EPA also made public [a response by AEP](#) and then [a reply to that prepared by](#)

[EPA contractors](#). If you recall, EPA [warned the public about concerns](#) regarding the two dams at AEP's Philip Sporn Plant near New Haven on Oct. 29 — oddly enough, sending out the press release the day before [AEP planned a huge celebration just up the road at its Mountaineer Plant to kick off a carbon capture test project there](#). But at the time of the press release, EPA refused to release its contractors' report publicly. They did give it to the West Virginia Department of Environmental Protection, and I asked WVDEP to provide it to me. But I haven't heard back in response to that request. Initially, EPA outlined its concerns about the two Sporn dams this way:

As part of that effort, EPA contractors identified factors at the AEP Philip Sporn facility that are similar to the Kingston facility — specifically, both facilities piled coal ash and bottom ash around the impoundment to raise the impoundment's walls. To ensure the impoundment's stability, EPA is requiring AEP to conduct two tests: a liquefaction test to determine if the foundation will become unstable under certain pressures, and a slope stability test to determine if the impoundment's embankment will fail under certain pressures.

The new documents show that EPA contractors had recommended the agency list the Sporn facilities as being in "poor conditions" and outlined these reasons:

*The classification reflects concerns of the dam assessors about ongoing sloughing of downstream dikes, **the ongoing occurrence of ground vibrations that could affect slope stability**, the use of fly/bottom ash as a material of construction and foundation for the existing dikes, and a lack of stability analyses that address these concerns.*

In response to information submitted by AEP, the EPA contractors are now recommending that the Sporn facilities be upgraded and listed as in "fair condition." According to [this document](#), EPA contractors made this change:

... Because the facility is located in a region of low incidence and low intensity of earthquakes ...

But, the EPA contractors are still recommending a site-specific analysis of the coal-ash dumped at the Sporn site to determine how stable it is. On its Web site, EPA says:

Finally, EPA has directed another of its engineering contractors to conduct a peer review of the Dewberry draft report on the Philip Sporn facility, as well as a review of the conclusions reached in Dewberry's November 10, 2009 memorandum. This peer review will be completed the week of November 16, 2009, and will be posted on the website once it has been received and reviewed by EPA.

And in a news release just issued, EPA says:

Though EPA does not believe the impoundments pose an imminent threat to the surrounding communities based on the draft report's assessment and follow-up technical reviews, EPA issued an information request letter requiring the company to conduct several studies to assure the safety of these impoundments. The company is required to provide the results of those studies to EPA within 90 days. The company has agreed to perform the requested studies. The agency will continue to work with AEP and state and local officials and will use all necessary authority to assure the safety of the facility.

Keep in mind that [a separate review by the WVDEP's dam safety section](#) not only found its own problems with these two Sporn dams, but also found two other coal-ash dams near the Sporn site that [state regulators didn't even know existed](#). And, interestingly, the Sporn site [was not listed among the 43 coal-ash facilities at 22 sites](#) that EPA initially provided information about to the public. It's the only coal-ash impoundment that's not on that list for which EPA has issued any sort of public warning.



Hydro

(New education toy on hydro)

Hydropower

Renewable Energy Science Kit

<http://www.thamesandkosmos.com/products/hp/hp.html>



Hydropower has been used for hundreds of years in watermills and is now commonly used to generate electricity in applications such as hydroelectric dams and tidal power plants. **Explore the power of water by building models and conducting experiments with them.** Learn about how different devices are used to extract useful energy from moving water — from a waterwheel in a small stream to a giant turbine in a tidal power station. **Build a waterwheel, a sawmill, and a hammer mill to harness the energy of moving water to do different types of physical work.** Investigate the intriguing properties of water by performing experiments involving surface tension, adhesion, and cohesion. Learn

about water pressure by building a water tower, communicating vessels, and a water fountain. Construct a hydroelectric power station to generate electricity and light an LED. **Learn about where the energy in ocean waves, tides, and rivers comes from, and discover how we can generate electricity from them.** The full-color, 32-page experiment manual offers illustrated instructions and scientific information.

Ages 8 and up - 32-page Manual - 30 Experiments and 10 Building Projects

(Is it no wonder that the energy world is so full of miss-information? The author obviously has no clue about the subject. Of course, hydropower is renewable. We cannot run out of water because there is something known in science as the hydrologic cycle, without which this planet we live on and all its plants and animals would not exist. What absolute nonsense! The reason that hydro is not considered a renewable is all about politics and the ill-advised environmental movement that somehow does not like anything on a river, including dams and hydropower plants so they have convinced politicians to declare hydro as not being renewable. That also is nonsense. If you don't like hydro, just say so and why. However, you cannot deny that hydropower is a renewable energy resource and, in fact, is a form of solar power because it is the sun that causes the hydrologic cycle. The potential for additional hydropower development is huge and can be accomplished without building a single new dam because only about 3 % of the more than 80,000 dams in the country are used for hydropower. Furthermore, there is a substantial potential for hydropower in hydrokinetic and ocean energy.)

Hydropower Is No Longer a “Renewable” Energy Because of Climate Change

by Susan Kraemer in Blue Energy, Climate Change, bluelivingideas.com, Posted on Nov 04, 2009

Because a supply of water can no longer be relied on in some regions of the US; some of the states with legislation now in place to increase renewable energy no longer define existing hydro-electric power as a “renewable” source of power. Because of climate change we are seeing already, warming and drying states; like California and the Southwest have declining snow-melt and are already preparing for reduced

production of hydro-power. In these states hydro-electric power can longer be counted on to replenish itself with more water in the future.



This fact is now being reflected in state legislation. The Renewable Portfolio Standard is a law in more than half the states now; requiring that utilities get an increasing percent of their electricity from renewable resources such as sun, wind, geothermal power. But utility-scale hydro-electricity does not count towards the RPS in California. Of old hydropower; only very small installations are grandfathered in under the RPS. Any new hydroelectric power must not require any appropriation or diversion of water from a watercourse, so utility-scale hydro-electric power will never be built in California. Only future wave energy off-shore would qualify.

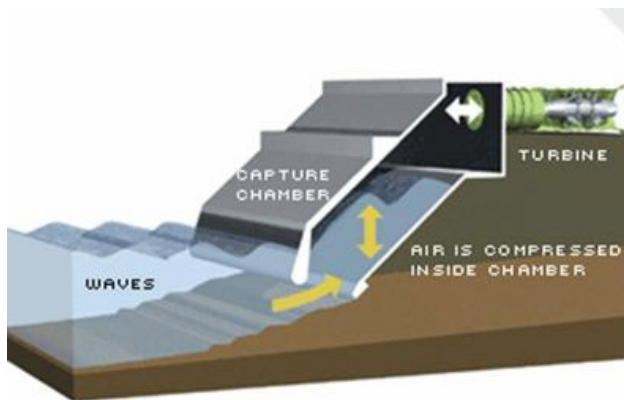
You can see how your state deals with hydro-electricity if it has a Renewable Portfolio Standard on this map. In some states, hydro is restricted by size limits: 200 MW in Vermont or 30 MW for California, while in others it is restricted by

technology: for example, pumped storage does not qualify in Maryland. But the rain-rich Northeast still defines renewable energy to include hydro power. Hydro contributes 30% of what helps Maine get an astounding 55% of its electricity from renewable power already, the most of any state in the US. According to the NOAA, both the Northeast and the Northwest will see greatly increasing precipitation events with climate change. Now that we will possibly be able to finally pass nationwide RPS legislation in the Clean Energy Jobs & American Power Act to ape the states' RPS, we should take into consideration the increasing climactic differences between regions of the nation when it comes to water expectations, as a result of climate change. Both the feast in the Northeast and the famine in our deserts. In the 19th century, dams were built with only a rudimentary understanding of the ecology of rivers. Now that we are inventing many new ways to make hydro-electricity that are not damaging to the current inhabitants of rivers, we should include these source of power, if we can, in the states that will have more precipitation with climate change, even as we try, by increasing our supply of renewable energy; to prevent yet more drastic climate change in the future.

(This is an interesting idea – combing tidal hydro with compressed air)

Tidal wave energy

Nov. 11, 2009, biofuelswatch.com



As the majority of the Earth's surface is covered by oceans that are constantly shifting and changing throughout the year, there is a tremendous amount of power that is able to be tapped by harnessing the wave movements from the tides. Tidal wave energy refers to the ability or process of utilizing these shifts in the ocean to produce electricity and power conventional appliances. Similar to other forms of hydropower such as that used in dams across the world that harness the natural flow of rivers and regenerate electricity, tidal wave energy is produced by harnessing the power of tide shifts and channeling waves into turbines that can generate electricity. Unlike conventional hydropower, however, tidal wave generators do not have to necessarily block off the natural flow of water and can operate by

simply utilizing an ocean's natural current without impeding any water flow. Currently there are a number of different tidal wave generator designs that exist and are used throughout the world along the coasts in order to generate power. The simplest form of these is to simply place a turbine into the direct flow of the current and allow the current to rotate it as it comes and goes. While this is a very simple way to generate electricity, it is not necessarily the most efficient as it relies entirely upon the arbitrary flow of the ocean and cannot guarantee regular energy production.

A more efficient form of tidal wave energy can be achieved by utilizing natural tide currents to channel a flow of water into a container unit, which can then be used to feed a steady stream into a turbine at much higher

speeds than may be able to be achieved in most natural cases. These forms of tidal energy generators can produce substantial amounts of electricity with little or no impact upon the environment. Though tidal wave energy is extremely environmentally friendly, the reason why it is not as heavily used across the world as other forms of energy production is simply due to its lack of ability to output large amounts of power regularly that can be utilized by large numbers of people. Other forms of hydropower such as dams can generate much more electricity at a regular rate and can provide adequate power production for a number of areas. An example of this is Las Vegas, Nevada, which is powered almost entirely off of electricity produced by the Hoover dam. Nevertheless, tidal wave energy has been seeing some improvements in recent years that have been allowing it to develop stronger, steadier sources of electricity in order to become a more viable alternative energy source. These include developments in to both design as well as hardware, including more efficient turbines that can generate more electricity with less input so that even weaker ties can be used to generate some power. Look for tidal wave energy to become more common in the future as people shift more away from conventional fuel sources for energy towards renewable, alternative energy sources such as these and technology continues to develop support the needs of the people.

(It seems the Senator doesn't think Angoon should have all that hydropower. The FERC decision is going to be appealed so it's not over yet, but the FERC rarely reverses itself.

Here's the audio for the interview:

http://kstk.org/modules/local_news/index.php?op=centerBlock&ID=367

FERC allows Angoon to study Ruth Lake hydro feasibility

Lisa Phu, November 12, 2009, petersburgpilot.com

Last Thursday, the Federal Energy Regulatory Commission (FERC) issued a preliminary permit to the City of Angoon to study the feasibility of a hydroelectric project at Ruth Lake, which is located on the mainland near Petersburg. Petersburg Municipal Light and Power, the City and Borough of Wrangell, and Cascade Creek, LLC were the other entities competing for the permit. All applications to FERC, including Angoon's, were filed online at the same time on February 3, according to FERC. On August 12, FERC conducted a random drawing of the applications claiming municipal preference – Angoon, Petersburg, and Wrangell – to establish priority in the event that FERC deemed none of the applications as better than the others. At that time, Angoon was drawn first, followed by Petersburg, and then Wrangell. Despite objections from various entities regarding the tie-breaker process, potential hidden hybrids, as well as other concerns, FERC's random drawing held up. According to the FERC order that issued the preliminary permit, "Since none of the applicants has presented a plan based on detailed studies, there is no basis for concluding that any one applicant's plan would be superior to the plans of the others... Where equally adapted plans are presented by municipal applicants, the [FERC] issues the permit to the applicant with the earliest application acceptance date." By getting the preliminary permit, Angoon now preserves the right to have first priority in applying for a license to develop Ruth Lake. This is Angoon's second preliminary permit. Their first was issued for Scenery Creek.

Petersburg mayor Al Dwyer says he was disappointed by the outcome. "I thought Petersburg was the most logical choice because we're not tied into a private developer. We're strictly a municipality," he said. What Dwyer is referring to is Angoon's involvement with private company Cascade Creek, LLC. Petersburg was one of the entities that alleged to FERC that both Angoon's and Wrangell's applications constituted hidden hybrids, in which Cascade Creek; LLC is the undisclosed non-municipal interest. FERC did not investigate the allegation. Albert Howard, mayor of Angoon, confirms that Angoon is still working with Cascade Creek. "The community of Angoon has been in such a bad way for so long that we were looking for opportunities. And [those at Cascade Creek, LLC] were the only ones that seemed to have an idea where we should go," he said. "The whole thing was to benefit the community. That's what I was put in place for and that's what I intend to keep doing. And if we can do this right, I'm going to make sure everyone in Southeast benefits from this." Angoon currently pays around \$.54/kw hour and the cost of diesel is expected to go up. For Mayor Howard, getting affordable energy for Angoon has always been his top priority, but he sees energy costs as being a regional issue for all of Southeast. "This is a regional problem; it's not just our problem," Mayor Howard said. "If we do this right and everybody is happy with the outcome, everyone is going to benefit. There is no reason to oppose these projects other than for personal reasons." But there are individuals who are unclear as to how developing Ruth Lake would aid Angoon. Senator Bert Stedman is one of them. He doesn't think Angoon is a good fit for developing either Scenery Creek or Ruth Lake. "Angoon has Thayer Lake and that produces around 4 or 5 megawatts and Angoon needs about 1, so I'd like to work with Angoon to move Thayer Lake forward so they can get off their diesels and onto hydro. Clearly, Thomas Bay [where Scenery Creek and Ruth Lake are located] is too far, too big, and too complex," the senator said during a recent visit to Wrangell. Stedman favors the joint development of Ruth Lake by Petersburg and Wrangell. "We'll see over the next few months if Angoon really wants to slow down portions of the intertie or

spend time building Thayer Lake. I hope at the end of the day they concentrate on Thayer and we can concentrate on moving forward with the scoping on Ruth Lake.”

When asked about Thayer Lake, Mayor Howard said, “That project solely belongs to our Native Corporation. It has nothing to do with the city. All we can do is seek support for it.” Kootznoowoo, Inc. is the Native Corporation of Angoon, and they’ve been working towards developing Thayer Lake for several years to replace the city’s use of diesel generators. Since the proposed project falls in wilderness land, a Final Environmental Impact Statement was completed by the Forest Service February this year, and a Record of Decision was released in the spring. Kootznoowoo, Inc. can move forward with building the hydroelectric facility at Thayer Lake as long as they abide by certain terms and conditions laid out by the Forest Service, like burying the transmission line. Kootznoowoo, Inc. and other Angoon entities are actively seeking funding for the project. According to Mayor Dwyer, the City of Petersburg has a resolution backing the development of Thayer Lake. “Of course they haven’t touched that, but here they are going to develop the Thomas Bay area. It kind of boggles my mind why that’s happening,” Dwyer said. Whether or not Petersburg plans on working with Angoon is currently unknown said Dwyer. “I don’t know. We haven’t had the chance to discuss it with all the players, like the superintendent of Power and Light, the city manager, and the other councilors.” Wrangell Energy Committee member Paul Southland said he’s just excited FERC finally made a decision. “Now we know who has it, the next question, of course, is how it’s going to be developed and whether we’ll be able to do it cooperatively. Wrangell has already indicated an interest in cooperating with Angoon,” Southland said. Mayor Howard said Angoon’s intention is to hopefully work with both Wrangell and Petersburg. “We’ve worked pretty closely with Wrangell and we have a good relationship with them. We’ve been in contact with them off and on,” he said. “The door’s always been open for Petersburg but they’re taking a different approach. At some point I’m hoping they’ll sit down and talk with us, and that way we make sure the project benefits them and it’s built the way they want it. The intention isn’t to come into their backyard and destroy everything. We just want to build a project.”

(Hydro faces obstacles from every direction)

Griggs hydro-power idea hits resistance

November 15, 2009, By Robert Vitale, THE COLUMBUS DISPATCH

A fledgling Cincinnati energy company is looking at the Scioto River as a potential source of green power for at least 3,000 homes. But the idea of turbines and transmission lines at Griggs Reservoir already has opponents, including environmentalists who have been fighting plans for a boathouse at a city-owned park. They don't like the hydroelectric proposal, either. "It's a contest between green recreation vs. green profits, and the integrity of our parkland is at risk," Alex Silbajoris, chairman of Friends of the Scioto River, wrote recently to the group's members. Alan Skelly, the chief executive officer of Ohio Power and Light, said the two can coexist. "When people think of hydro, they think of something big and massive and interfering," he said. "It doesn't have to be that way." Skelly, whose self-described "alternative-energy, clean-power company" started operations in May 2008, is seeking permission from the Federal Energy Regulatory Commission to study the possibility of hydroelectric operations at Griggs. Hydroelectric power is produced when water is diverted through a turbine. The mechanical energy created is converted by a generator into electricity.

Federal approval to study the idea at Griggs would be a first, tentative step. Skelly's company and an adviser on the project, Free Flow Power of Gloucester, Mass., would look at the design of the dam, the flow of water in the reservoir and river, and other data to determine whether a hydroelectric project would be possible and profitable. Other federal agencies would weigh in - the Interior Department already has raised endangered-species concerns - and city government would have a say as well. The administration of Columbus Mayor Michael B. Coleman, which won City Council approval for the Griggs boathouse last month, has "no plans to develop or allow" hydroelectric projects at Griggs, according to a Public Utilities spokeswoman. Studies for federal approval would take two or three years, Skelly said. He also has asked federal regulators for permission to study similar projects at nine state-owned dams along the Muskingum River in Morgan, Muskingum and Washington counties in southeastern Ohio. At Griggs, on Columbus' Northwest Side, backers envision building an underwater intake structure into the reservoir side of the dam's western edge. The most visible parts of the project would be a 2,500-square-foot building to house the turbines and generators, a smaller substation on shore and a 1,100-foot overhead transmission line. Skelly compared his plans to a city-run hydroelectric plant at the dam of O'Shaughnessy Reservoir, 10 miles upstream on the Scioto River. People don't even know it's there, he said. The Griggs project would have a capacity of 4 megawatts, which is enough to power at least 3,000 homes, according to calculations used by the National Hydropower Association. O'Shaughnessy's plant has a 5-megawatt capacity. It rarely operates at that level, though, said Laura Young Mohr, a spokeswoman for the Columbus Department of Public

Utilities. The O'Shaughnessy plant, which opened in 1987, needs repairs and hasn't operated consistently for three years, she said. Even at capacity, according to Mohr, the O'Shaughnessy plant has been a "minor player" for the city's electric utility, which serves 14,000 customers. It was built mostly with federal money through an initiative that followed a 1979 spike in oil prices.

(Imagine, coal is a good alternative to renewable hydro to protect the environment. Mmmm! Here are both sides of a story on hydro. You can go to the link in this story and watch the NBC video.)

NBC Begins 'Green Week' With Energy Double Standard; Ironically Favors Coal Power in Dam Tear-Down Story

By Julia A. Seymour, November 16, 2009, newsbusters.org

On any other day, NBC "[Nightly News](#)" would be attacking coal for being a dirty pollutant and advocating reliance on other forms of energy. But on Nov. 15, as it began the first of its "Our Planet" segments for [green week](#), the network used coal power as part of the argument in favor of destroying manmade dams. "This is what the dams harness: the power of the Elwha to generate electricity. Impressive, even vital 100 years ago. But today the dams are no longer needed. Now with coal, wind and solar power, repairing the dams is just too expensive," said chief environmental correspondent Anne Thompson. Thompson has often attacked coal power on NBC. On Feb. 21, 2009 she offered viewers [plenty of reasons](#) why building a much needed coal plant in Nevada was a bad idea. She has also supported the idea of [capping carbon emissions](#), which would increase the cost of coal power. But in this segment, Thompson presented the destruction of hydroelectric dams as a positive thing, bringing rivers back "to their natural state" for the sake of fish.

"The Chinook salmon in Washington State's Elwha River are between a rock and a hard place. The hard place is this 108-foot high dam - one of two dams on the Elwha - blocking the salmon's journey upstream to spawn. Not for much longer," said Thompson. Thompson reported that about 40 dams per year are being torn down in the U.S., but failed to mention that many tear-downs are controversial, and included no criticism of plans to tear down the Elwha dam. That's in keeping with network practice. In 2007, the Business & Media Institute found the network news ignoring such dam removals, which were being promoted by left-wing environmental groups like Environmental Defense, the Sierra Club and others. A BMI [Special Report](#) found that in 13 months of coverage, not one network story touched on the subject of dams coming under siege by environmentalists. During that same time, the top five newspapers did 65 stories on the controversy surrounding just one of the potential tear-downs. Hydroelectric power is a renewable energy resource according to the Environmental Protection Agency, so the form of power should be embraced by environmentalists who want to end reliance on fossil fuels and end global warming. Yet those are the very people crusading to destroy these dams.



Environment

(What nonsense! Dams do not cause fecal pollution. These small dams have absolutely nothing to do with the polluted status of the River; it's those who discharge their crap in the river. The author is so enamored by American Rivers that the facts become irrelevant. Poor reporting! For the author's information, the 200 dam removals were NOT solely due to the "expertise" of American Rivers.)

Dam-age control

fredericknewspost.com, November 14, 2009

Basic descriptions of Maryland's Patapsco River are misleading. Generally, they explain that it is a "river in the central part of the state that flows into the Chesapeake Bay." The word "flow" is misleading. More to the point, it's wrong. The four dams that variously span the Patapsco up-, mid- and downriver are testimony to this. So, too, are the thwarted fish runs, imperiled fish and wildlife, compromised water quality and threats to public safety and recreation opportunities they have spawned. The Simkins, Union, Daniels and Bloede dams -- all relics from the late 1800s and early 1900s -- are outdated and unsafe by any standard. The

havoc they have wreaked on the 35-mile-long river, whose South Bank rises where Howard, Carroll, Frederick, and Montgomery counties meet, continues to take its toll. A recent example: A report this year from the Maryland Department of the Environment identified the waters of the Lower North Branch Patapsco River as "impaired by fecal bacteria" to the extent that it could not attain "the beneficial use designation of water contact recreation."

Thankfully, the National Oceanic and Atmospheric Administration is on the case. In June it announced the allocation of \$4 million in economic stimulus money to American Rivers' river-restoration program to remove the Patapsco's Union and Simkins dams in the next two years. Built at the beginning of the 20th century, the mid-river dams once supplied area textile mills with water power. Their removal is one of Maryland's most expansive river restoration initiatives to date and it is awash with economic rewards. The project is one of 50 habitat-restoration projects in more than 20 states to which NOAA allocated stimulus money. Those 50 were chosen from among 814 proposals. We and our river are lucky. The undertaking will support an estimated 42 construction, engineering, and scientific and technical consulting jobs over a projected 51-week period. The American Rivers people are the best in the business. To date they have brought their conservation expertise and advocacy to bear in the removal of 200 dams nationwide. The group's push to undo the Simkins and Union dams was a group effort that also included NOAA, the Maryland Department of Natural Resources, and Friends of the Patapsco Valley State Park. Indirectly, it also involved the American farmer, writer and academic Wendell Berry, and specifically a sentiment he once expressed: "Men may dam it and say that they have made a lake, but it will still be a river. It will keep its nature and bide its time, like a caged animal alert for the slightest opening." Currently, 600,000 miles of America's 3,500,000 miles of rivers lie behind an estimated 60,000 to 80,000 dams -- many awaiting, and worthy of, just such an opening.

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



Some Dam – Hydro News

and

Other Stuff

i



11/27/2009

Quote of Note: "The budget should be balanced, the Treasury should be refilled, public debt should be reduced, the arrogance of officialdom should be tempered and controlled, and the assistance to foreign lands should be curtailed lest Rome become bankrupt. People must again learn to work instead of living on public

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

Ron's wine pick of the week: Catena Mendoza Malbec 2006

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

Other Stuff

(Excerpts - Does anybody know what something like this costs or whether it even makes energy sense? I bet hydro pumped storage would work better.)

Beacon Power Breaks Ground on 20-Megawatt Flywheel Energy Storage Plant

your-story.org, November 19, 2009, 14:32

New York State Officials Cite Benefits for Renewable Energy Expansion and Grid Stability

TYNGSBORO, Mass. & STEPHENTOWN, N.Y.–(BUSINESS WIRE)– Beacon Power Corporation was joined today by state and local officials at a formal groundbreaking event in Stephentown, New York, signaling the start of construction for the nation's first full-scale 20-megawatt (MW) flywheel frequency regulation plant. Speakers at the event included Garry Brown – Chairman of the New York Public Service Commission; Kimberly Harriman – Assistant Secretary of Energy, Office of Governor David A. Paterson; Rana Mukherji – Vice President, Market Structures, New York Independent System Operator; Peter Douglas – Director, Energy Efficiency Research, New York State Energy Research and Development Authority; and David Connors – Regional Representative, Office of U.S. Senator Kirsten E. Gillibrand. Stephen G. Whitley, President and CEO of the New York Independent System Operator, commented: "New York's competitive electricity market attracts investments in new energy technologies, such as Beacon Power's flywheel energy storage system, that build the smarter grid of tomorrow. Advances in energy storage are a key component in expanding renewable energy across New York while sustaining a reliable power grid for New York consumers." "Today's groundbreaking is a perfect example of federal, state and private investment coming together to ensure that the nation's first plant of this kind will be built in Stephentown," said U.S. Senator Kirsten E. Gillibrand. "This new flywheel frequency regulation plant will advance stable, reliable and efficient electricity grid operation in the state. I look forward to continuing to work with Beacon Power as they move forward with this investment." "This is a truly significant milestone in our company's history, and it represents equally important progress toward the development of a smarter grid in New York State and the nation in general," said Bill Capp, Beacon president and CEO. "Our flywheel systems provide an essential grid-stabilizing service, and they do it faster and much more efficiently than today's conventional methods."

most of which consume fossil fuel and produce harmful CO₂ greenhouse gas emissions. We're grateful for the consistent support we've received from the organizations represented here today, as well as from the U.S. Department of Energy, and we look forward to playing our part in helping this state build a cleaner and more secure energy future." Initial construction work on the 20 MW plant will start this month, including site clearing, adding drainage and fencing, and some landscaping. Full construction is expected to begin in late Q1 2010, and be completed in 16 to 18 months.

Flywheel Energy Storage and Frequency Regulation

Frequency regulation is an essential grid service that is performed by maintaining a tight balance between electricity supply and demand. Beacon's 20 MW plant has been designed to provide frequency regulation services by absorbing electricity from the grid when there is too much, and storing it as kinetic energy in a matrix of flywheel systems. When there is not enough power to meet demand, the flywheels inject energy back into the grid, thus helping to maintain proper electricity frequency (60 cycles/second). According to a 2008 study by Pacific Northwest National Laboratory, a DOE research institution, 1 MW of fast-responding flywheel-based regulation can be expected to provide the equivalent of 2 MW of conventional slow-responding regulation, based on a mix of conventional regulation resources like those used in California. In areas with less hydropower-based regulation than California, the comparative advantage of flywheels may be even greater. Thanks to their ability to recycle electricity efficiently and act as "shock absorbers" to the grid, Beacon's flywheel plants will also help support the integration of greater amounts of renewable (but intermittent) wind and solar power resources. Unlike conventional fossil fuel-powered generators that provide frequency regulation, flywheel plants will not consume any fuel, nor will they directly produce CO₂ greenhouse gas emissions or other air pollutants, such as NO_x or SO₂.

(Many know that this party considers wind power – junk energy, so there was no way that including this article from England could be resisted.)

Wind power will make Britain the dirty old man of Europe

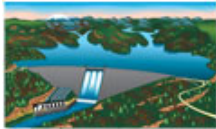
By Charles Moore, Nov 2009, telegraph.co.uk

About 30 days ago, the Prime Minister warned that there were "50 days to save the planet". The world had to reach agreement at the climate summit in Copenhagen next month, or else. Since then, the press has been briefed that there will not, in fact, be agreement in Copenhagen. So there would seem to be only 20 days left to save the world. Don't worry too much. Mr Brown has been doing a bit of what is called "expectation management". Probably world leaders will come up ("just in time") with a "political agreement", ie one with no settled figures but lots of intentions. The world will survive, thanks to our saviour Gordon. Most of us will not be as grateful as he thinks we should be. As the climate change argument has raged, we have grown weary of the tendency to prophesy. The Prince of Wales has chosen July 2017, for some reason, as the moment when we shall have "irretrievable climate and ecosystem collapse" unless we mend our ways now. Lord Stern, who reported on the economics of climate change, says that we will lose five per cent of GDP per year "now and forever". Flee From the Wrath to Come! At the same time, oddly, that doom is predicted, so – often by the same people – is salvation.

An EU directive requires 15 per cent of our final energy consumption to come from renewable resources by 2020. At present, only five per cent of our electricity comes from renewables, but by 2020, says Mr Brown, it will be 30 per cent. In Scotland, where the SNP's favourite sport is to claim to trump Labour, 50 per cent of electricity is supposed to be produced by renewables by 2031. How will this miracle occur? There are various types of renewables – wave, tide, "anaerobic digestion" – but in Britain, the chosen method is chiefly onshore wind. I mention Scotland because a disproportionate amount of the wind power would come from there. When I was in the Lammermuir hills near Edinburgh in the summer, I came across an interesting example of the great wind debate. The Lammermuirs are very beautiful, with lots of upland birds such as curlew, wheatear and golden plover. They are also unusual, because this wild space is extremely close to Edinburgh. At Fallago Rig there, North British Windpower and the Duke of Roxburghe, who owns the land, want to put up 48 wind turbines, 120 metres high. Against the duke are all the local community councils, the Scottish Borders Council, Scottish Natural Heritage, and, piquantly, another duke, the Duke of Northumberland, who, like Roxburghe, has a grouse moor there. The Ministry of Defence also objected, because the wind farm would interfere with its radar, which defends the neighbouring Torness nuclear power station. Last year, an inquiry found against the wind farm, but the Scottish executive refused to publish the inquiry's report. The objectors discovered, almost by accident, that the Reporter had sustained the objection about radar. The Scottish executive, desperate to push for its targets, put pressure on the MoD, and the objection was quietly withdrawn. The executive eventually agreed to have a reopened inquiry, but with the same Reporter, on the issue of radar alone, making approval of the wind farm inevitable. This ploy has now failed. Under threat of judicial review, the Scottish executive has had to widen the scope of the inquiry to

include environmental factors. Meanwhile, the Scottish Borders Council accuses Roxburghe Estates of starting to develop the site without waiting for permission, which they deny. I do not know if the developers are indeed jumping the gun, but it would be rational for them to do so, because what emerges from this case – and from many others – is that, whatever the formal process of local objection, government is desperate for wind power. And what government wants, government usually gets.

When I talked to North British Windpower, they were eloquent on how the present generation had a duty to the next. Wind power, they said, will fill a gap of energy over the next 20 years while other forms of renewables are developed. It is natural that they would think this way. Under the Renewable Obligations Certificates system (ROCs), they can sell their energy at a virtually guaranteed price. The electricity has value in its own right, and added value of about the same again because suppliers have to buy it to avoid fines from Ofgem, the energy watchdog. The extra money is paid by all of us on our electricity bills. It amounts to £1 billion a year, and Ofgem calculates that it will be about £4 billion by 2020. It is a tax, although it does not go through the Treasury. **But wind has some problems. The output of the turbines varies greatly from hour to hour, sometimes being near capacity, sometimes nothing at all (over the year, a 30 per cent "load factor" is considered good).** As Jesus himself put it, "The wind bloweth where it listeth... but thou canst not tell whence it cometh, and whither it goeth." So thou canst not rely on it to put thy light on when thou flickest the switch. The system therefore needs a conventional capacity to fire it up, in case the wind drops when you need it most. The larger the wind capacity, the more costly and troublesome the fluctuations in the grid. And the infrastructure needed is expensive, intrusive and energy-consuming. In Scotland, the proposed Beaully-Denny transmission line would send more than a hundred miles of new and enormous pylons through some of the most beautiful country there is. Near us in Sussex, when wind turbines were installed on Romney Marsh (overruling almost unanimous local objection, of course), each one required concrete foundations 116 feet deep. Concrete manufacture is the largest source of industrial carbon dioxide on the planet. According to the chief scientific adviser to the Department of Energy and Climate Change, if onshore wind were to produce just a fifth of the power used per Briton per day – the equivalent of us each driving a fossil-fuelled car 25km every day – we would take up 10 per cent of our landmass and double the entire world fleet of wind turbines. The phrase "carbon footprint" is well known. If we go ahead with wind power, huge beasts, the technological equivalent of the dinosaurs, will plant their feet all over our remotest regions. Also like the dinosaurs, they will fascinate future generations, by their weird size, and by the fact that they have become extinct. **I began this column by questioning predictions. But now I shall be rash enough to make one. We shall not meet any of these targets. Within a few years, we shall have to seek EU derogations to allow our old coal-fired stations to stay open longer, just to keep the lights on. We shall not bethe jolly green giant of Europe, but the dirty old man.**



Dams

Corps finishes interim Howard Hanson Dam repairs

by KING 5 News, king5.com, November 16, 2009

SEATTLE - The U.S. Army Corps Engineers says contractors have wrapped up what it calls interim risk reduction measures on the Howard Hanson Dam. The main feature of that work was the so called grout curtain. Contractors pumped thousands of gallons of a cement mixture into the earthen section of the dam. The grout finds and fills gaps and crevices which led to dangerous levels of seepage earlier this year. The Corps still warns it will not allow the dam to fill up to its normal levels this winter, which may mean some flooding along the Green River. This week's steady rain storms have them carefully monitoring the river above and below the dam, but they say there is no risk of flooding at this point. The Corps is much more concerned about relentless rains pounding the Kitsap Peninsula and the forecast calls for more of the same. The Corps has assumed control of the Wynoochie River Dam north of Aberdeen and has activated its flood center, meaning it will be staffed around the clock until rain and river levels go down.

(I guess if you count every hole in the ground on every farm, you can get to 50,000 dams. Wish someone would put this into perspective and focus on the real dams)

Many S.C. Dams May Hold Hidden Dangers Many Dams Are Not Subject To Inspection

Tim Waller, WYFF News 4, Buyer Beware, November 17, 2009

GREENVILLE, S.C. -- It may be hard to believe, but there are more than 50,000 dams in South Carolina. Even harder to believe is the fact the many of these dams are not subject to state inspection. "Most of these are privately-owned dams," said Adam Myrick of the South Carolina Department of Health & Environmental Control. "The responsibility (to inspect them) is on the property owner." DHEC is the agency responsible for ensuring the safety of dams in South Carolina. Dams classified as "high hazard" are inspected by the agency on a yearly basis, while "significant hazard" dams are inspected every three years. **But since most dams in South Carolina (86 percent) are privately-owned, many receive no inspection at all.**

In 2005, the environmental group Upstate Forever commissioned a study on dams in the Saluda-Reedy Watershed. Group founder Brad Wyche was amazed by what the study found. **"We found over 3,000 dams in this one watershed, and we found that only about 160 of those dams are subject to the state inspection program," Wyche told News 4's Tim Waller.** The report by Pinnacle Consulting Group found most dams in the watershed "don't receive proper maintenance." Of the 2,700 "earthen" dams, it found 2,500 of those dams are unregulated, and "present substantial concerns to downstream waters and properties." **"Some of the dams are very small and probably pose no risk; some of the dams are more significant in size and probably pose some risk. But we really don't know what we're dealing with," Wyche added.** This is not to say that private dams in South Carolina never receive any inspection. The Greenville County Soil and Water Conservation District monitors and maintains nine privately-owned watershed lakes and their dams in the Upstate.

"We come out several times a year and make sure things are as they should be," said Lynne Newton of the USDA's Natural Resources Conservation Service. **But because private dam owners are responsible for the safety and maintenance of their own dams, it is unlikely that all dam owners are doing what they're supposed to do.**

"Especially people who have bought a farm, they didn't build the dam, they weren't there when the people built the dam, so they may not have learned how to maintain the dam that they have since acquired," said Dr. Rob Hanley of the Greenville County Soil and Water Conservation District. Without proper maintenance, Hanley said it's possible these dams could fail. "There are dam collapses every year," he said. "Some of them are old dams, and some of them believe it or not are new dams."

In 1990, the Kendall Lake Dam near Camden collapsed after 14 inches of rainfall. Four people died when their car became submerged. That same year, seventeen other dams in South Carolina failed when tropical storms brought torrential rains to the state. **But none of those dam failures compare to what happened in Toccoa, Georgia in 1977.** A private earthen dam high above Toccoa Falls Bible College collapsed after several days of heavy rainfall. More than 100-million gallons of water was unleashed, killing 39 people. **The Association of State Dam Safety Officials gives South Carolina low marks for dam safety. It ranks South Carolina 42nd in the nation for dollars spent on dam safety regulation, and 46th in the nation for the number of full-time employees dedicated to dam safety.** Currently, DHEC's Dams and Reservoirs Program is a one-man department, though officials say the number is misleading. **"The one person who you're referring to more or less manages the program, and provides support. We've got dam inspectors in all eight regions of the state,"** said DHEC spokesman Adam Myrick. Old mill dams present another danger, since many are more than one-hundred years old. "Those are very much a concern of ours, because they just aren't built to the engineering specifications that the new dams are," said Doug Bryson, the Emergency Management Coordinator for Spartanburg County. One mill dam that concerns Bryson is the Old Apalache Mill Dam on the outskirts of Greer. Built in 1904, the dam is still standing, but shows visible cracks in the mortar between the huge masonry stones. "There's a tremendous amount of pressure as the water raises behind it, the pressure on that structure, where it could theoretically give way and breach, and have a dam failure," Bryson said. **Fortunately, some mill dams are being purchased by public utilities to generate hydroelectric power. Spartanburg Water System recently purchased the century-old Clifton Dam on the Pacolet River.** "We realized that this is an opportunity for us to not only to restore this dam back to a good functional use, but also take advantage of the water supply that's available there and the possibility of some green energy," said Rebecca West of the Spartanburg Water System. But officials say many more dams across South Carolina pose safety concerns that are not being addressed. It's believed that over time, some of those dams could fail with possibly catastrophic consequences. **"Dams collapse, and every year, there's a dam or two in the United States that will collapse," Hanley said.**

KY Lawmakers Hear Testimony of Ohio River Locks and Dams

Stephanie Crosby November 18, 2009, From Kentucky Public Radio's Tony McVeigh, wfpl.org

Kentucky lawmakers now have a clearer picture of the economic impact of locks and dams along the Ohio River. There are 20 locks and dams on the Ohio River, eight along Kentucky's northern border. In terms of tonnage, three western Kentucky locks are the busiest in the nation. Col. Keith Landry, Commander of the Louisville District Corps of Engineers, says Kentucky's locks have an annual nationwide economic impact of more than seven billion dollars. "Based on the money the Louisville district spent in the Commonwealth of Kentucky, over a half-billion dollars in personal income was generated, which led to 40-million dollars in tax for the commonwealth," said Landry. And that's just for fiscal 2008. Col. Landry says the locks and dams not only are safe, cost effective economic engines, they're green. A barge can move a ton of freight almost 600 miles on a single gallon of fuel. A train can move that same ton 425 miles, but a truck, only 65 miles.

(Geologists love this stuff)

Geologists to map new fault near Truckee

By Barbara Barte Osborn, Bee Correspondent, sacbee.com, Nov. 19, 2009

Geologists from two national engineering firms will begin mapping the recently identified Polaris earthquake fault near Truckee. Martis Creek Dam – plagued by seepage as well as the fault – has been deemed one of the riskiest of the U.S. Army Corps of Engineers' 610 dams nationwide and is the subject of a long-term study and remedial efforts. Kleinfelder and AMEC-Geomatrix will be paid \$250,000 for their part of the continuing study of the dam in Martis Valley, which lies between Truckee and North Lake Tahoe.

"Seismically, it's very active up there," said Ronn Rose, a corps geologist and dam safety program manager for the corps' Sacramento district. Discovery of the fault, in which Rose had a part, is "exciting for the geology community," he said. "It's not common that you find a brand-new fault." The fault is about 21 miles long, extending from a few miles south of the Northstar-at-Tahoe ski resort northward into the Sierra Valley near Loyalton, Rose said. It has been recently active – geologically speaking – "probably within the last 11,000 years," he added.

In a conference this summer, a corps presentation included a 2008 U.S. Geological Survey calculation that the Polaris fault "may be capable of a 6.9 event." More mapping and trenching are needed to determine the exact length of the fault and whether it is linked to other known faults, Rose said. "The longer the fault, the larger the earthquake that could occur," he said. Maps expected to be ready by next spring or summer will help determine sites for future trenching and information-gathering. Seepage at the dam is less of a concern, he said, as "it's for flood protection and we don't store a lot of water behind it." By 2014 the corps expects to determine what should be done about the dam – "from leaving it as is, to removing it, to new construction," said Adam Riley of the corps' Civil Works Project Management office. He said construction could begin in 2019 if that option is chosen.

(Aren't they a little premature? This project is under an FERC license and any plan to raise Pardee Dam WILL have to go thru full environmental review. It appears though that this group prefers rafting to drinking water even if the water is needed for drinking!)

Environmental groups sue to block raising the height of Pardee Dam

By The Record, November 19, 2009, recordnet.com

Environmental groups this afternoon followed through on their threat to sue the East Bay Municipal Utilities District over a plan that considers raising Pardee Dam northeast of Stockton. The complaint was not immediately available. But in a news release, the Foothill Conservancy said the district's plans to bolster its water supplies over the next three decades do not comply with the California Environmental Quality Act. Raising the dam would inundate an upstream portion of the Mokelumne River used for rafting. "We won't let this big, powerful utility destroy more of the Mokelumne," said conservancy Executive Director Chris Wright.

An East Bay MUD spokesman said he had not seen the complaint and could not comment. The district has said it has not decided whether to raise the dam, although it remains an option in a recently released 2040 water supply plan. Other parts of the plan include increasing water conservation, to set water conservation at 10 percent during drought years, and to store water underground and possibly build a desalination plant near Pittsburg. The lawsuit was filed in Amador County Superior Court.

(If there was ever a case where people should doubt that 37 inches of rain could fall in 24 hours, this has got to be the one)

LOW restates dam objections

LOW officials urges state board to reconsider dam ruling

BY ROBIN KNEPPER 11/20/2009, fredericksburg.com, VA

RICHMOND, VA--Pushed by irate members, the Lake of the Woods Association again yesterday asked the state Soil and Water Conservation Board to relieve it of having to comply with dam-safety regulations. The Orange County homeowners' association finally agreed in January to abide by the eight-year old ruling of the board and build an auxiliary spillway on the dam of its largest lake. Nevertheless, at the conservation board's meeting in Richmond yesterday, President Bruce Kay became the latest in a long line of LOW officials to ask the board to accept other actions by the community, such as increased monitoring, to make the dam safe. Board Chairwoman Linda Campbell said it was not appropriate for the board to take action on Kay's plea before it was reviewed by the staff of the Division of Dam Safety. Division Director William Browning told the board that as long as there were homes and businesses in the dam's inundation zone, there would be no basis to lower the classification. According to state regulations, a dam receives the state's highest hazard rating if its failure would probably cause people to die. That rating requires the LOW dam's spillway to be capable of discharging water from 37 inches of rain in 24 hours. "There's nothing here that's any different," Browning told the board when asked about Kay's presentation, "but we will look at it."

After LOW agreed to build the new spillway, the state promised the homeowners' association \$1 million to help pay for the work. LOW secured a \$5 million line of credit to draw against as construction proceeded and a local contractor was hired to do the work. But loud and angry protests erupted after the LOW board voted Oct. 3 to levy a \$1,200-per-lot assessment on the 4,257 lot owners to pay for the \$6 million spillway project. The assessment bills are due Dec. 1, but directors agreed Nov. 7 to allow payments to be spread over two years. That furor was accompanied by the continuing protest of residents Ralph Hollm and Bill Nowers, who have collected the signatures of hundreds of residents on petitions asking the conservation board to back off its hazard classification of the dam and urging the governor's office to intervene. They have claimed that adding a second spillway to the 40-year-old earthen dam could compromise its safety. A third avenue of protest opened after Bob McDonnell was elected governor. Supporters of the Republican have vowed to lobby him to overrule or replace the conservation board after he takes office in January. LOW has been fighting the state over compliance with the regulations for eight years, spending an estimated \$2 million for lawyers, lobbyists, engineers and consultants, as well as for studies of the impact of a dam failure on homes, residents businesses and roads. According to a presentation made at the LOW board meeting on Wednesday, at which residents questioned the contractor and project managers, the spillway construction project is on schedule and is expected to be completed in August or September of next year.



Hydro

PUD works on a plan for people and fish

The PUD is renewing a hydropower permit and hopes to improve the Sultan River's environment and recreation.

By [Bill Sheets](#), Herald Writer, [heraldnet.com](#)

EVERETT, WA — A few years from now, there could be more salmon spawning in the Sultan River, and more chances for kayakers and boaters to get out on the water as well. Improving a river for people as well as fish is the key component of the Snohomish County PUD's application to renew its federal licensing for its hydropower system, utility officials say. **The PUD expects to spend \$21.4 million on projects to restore fish habitat and whitewater riding opportunities to the Sultan River, and more in upkeep over 45 years for a total of \$69.5 million. The expense will be financed with bonds backed by power bills paid for by PUD customers.**



The PUD filed a settlement agreement last month with the Federal Energy Regulatory Commission. The previous 50-year license is due to expire in 2011. The new 45-year license still must navigate state and federal rules before it can be approved. The PUD began

bringing interested parties together in 2005 to discuss the new hydropower license, officials said. The Tulalip Tribes and a whitewater recreation group were involved in the talks, along with several government agencies. While the federal government requires only one monthly meeting a year with interested parties prior to relicensing, "we've probably been having 30 or 40 a year," said Kim Moore, an assistant general manager for the PUD. "That's what's unique here," PUD general manager Steve Klein said. "We're able to come together to be co-managers of the resource." The previous license, issued in 1961, was for Culmback Dam alone. The Henry M. Jackson Hydroelectric Project, added in 1984, consists of several parts. The dam was built in 1965 to expand Spada Lake and increase drinking water supply for the county. About 80 percent of the drinking water for Snohomish County comes from Spada Lake, via Lake Chaplain to the city of Everett. In 1984, the dam was raised, quadrupling the size of the lake. That same year, a 4-mile tunnel, 10 to 14 feet in diameter, was bored through Blue Mountain and a smaller, 4-mile pipeline was added to divert water from the lake to a new pumphouse downstream on the Sultan River. There, four turbines generate about 5 percent of the PUD's power, enough for about 35,800 homes. While the PUD has taken several measures to lessen the project's effect on the river and the environment, the low water flow caused by the dam and the pipeline creates problems, both for fish and whitewater enthusiasts. Side channels to the river, where fingerling salmon often stop to eat, have dried up. Debris that formerly was washed out accumulates instead. When a big flow does come, it's often too much. "All of the peak flows were taken out unless it was such as big flow that it would overtop the dam and then it was damaging," said Abby Hook, a hydrologist for the Tulalip Tribes. "Instead of a dynamic system, you have kind of a static canal."

One project involves adding more dead trees and wood to the river to create a greater variety of flow conditions, including pools where fish can rest. Another involves reopening many of the former side channels, either by digging or by strategically placing dead wood in places where the water will naturally divert into the former streambeds, Hook said. Another measure to help fish will help people as well. More water will be released from the dam to mimic natural high flows. That will provide chances for river rafters to run whitewater as well. Before the hydro project features were added in 1984, the river was well-known among whitewater riders, said Tom O'Keefe of Seattle, stewardship director for American Whitewater, a national advocacy group. For 12 to 14 miles in the Sultan River's upper reaches, just below the dam, "it's a pretty spectacular river canyon," said O'Keefe, who was involved in the discussions with the PUD. Historically, the river had rapids from class 2 to class 4, in the moderate-to-difficult range, he said. The scale goes up to 6. The agreement allows for predetermined releases of water on four days per year, two in April or May and two in September, with at least two weeks notice; and two other times a year at the PUD's discretion with 48 hours notice, officials said. O'Keefe said he would like to have had more whitewater days but agreed to this number for several reasons. The upper parts of the river are difficult to reach and are not likely to be a spur-of-the-moment destination, he said. It's a physically demanding trip that even serious river riders would likely not attempt for two weeks in a row, he said. Also, there are other whitewater opportunities in the Skykomish River drainage area and the hydroelectric project supplies clean energy to the county.

O'Keefe, who has been involved in many similar agreements around the nation, praised this one even though he didn't get everything he wanted. "It's one of the best, most innovative plans in the country regarding how to marry all the interests," he said. Other features include:

- Monitoring and protecting historic properties, including old mining camps;
- Protecting wildlife, such as marbled murrelets, and terrestrial habitat;
- Improving boat ramps;
- Converting former roadways into hiking trails.

HYDRO SITES GET SECOND LOOK

STEPPING IN: Massachusetts firm studies locales that Toronto firm rejected

By NANCY MADSEN, TIMES STAFF WRITER, watertowndailytimes.com, NOVEMBER 22, 2009



A Massachusetts company has applied to the Federal Energy Regulatory Commission to build hydroelectric plants on the Black River at Felts Mills and Great Bend. Free Flow Power Corp., Gloucester, Mass., has applications under Qualified Hydro 22 LLC and Qualified Hydro 23 LLC to take over the sites previously considered by Brookfield Renewable Power, Toronto. Brookfield surrendered its preliminary permits for the sites Sept. 30. "Through our screening processes, it has been determined that

this site is no longer compatible with our interests," Brookfield engineer Jeffrey M. Auser wrote in a letter to FERC.

Free Flow Power Corp. filed preliminary applications, basically placeholders while site investigation is done. FERC will determine whether those applications are complete and then open the request for public comment. According to the commission, a preliminary permit allows the developer only to conduct feasibility studies. Construction and operation of a project require a license, which cannot be granted until after a separate process. Jon Guidroz, director of project development at Free Flow Power, said the developer will use the preliminary permit to investigate the sites, if it is granted. "Free Flow Power will be studying many facets of the project, including ways to incorporate hydrokinetics into the plans," he said in an e-mail. "I think this is a key difference from any previous proposals." Hydrokinetics uses turbines that are driven by the natural movement of water instead of water released through a dam. The company will evaluate the existing structures, look for the best project configuration, determine the best equipment, fine-tune energy production projections, identify environmental impacts and mitigation measures, determine which structures can be rehabilitated and estimate costs for economic feasibility.

The applications said the two projects would have a total capacity of 13 megawatts and are expected to produce about 64,500 megawatt-hours per year. In Great Bend, the electricity producer is applying to build a dam at the site of the partially breached dam just upstream of the Route 26 bridge over the Black River. The reservoir created by the dam would cover 220 acres and extend 2.3 miles upstream, two miles short of the Deferiet hydroelectric dam. In Felts Mills, the company said its plan is to rebuild the partially breached Felts Mills dam at Mill Island. The reservoir created by the dam would cover about 140 acres and reach 2.5 miles upstream almost to the Great Bend project. The two could connect to a National Grid 115-kilovolt line at a substation on Fort Drum or at a new substation. According to Times archives, opposition to similar projects began as early as 1992. Some environmental groups, state agencies and the U.S. Fish and Wildlife Service have opposed projects based on the threat of environmental damage. Kevin Colburn is national stewardship director at American Whitewater, a North Carolina-based river conservation group. "American Whitewater generally does not support the construction of new dams. We do often support additions of hydropower generation to non-hydro dams, capacity additions to existing dams, and efficiency upgrades at existing dams," he said in an e-mail. "There is simply no need to sacrifice free flowing rivers for small amounts of hydropower." Watertown resident Steven S. Massaro has been a strong supporter of more recreational opportunities on the Black River for at least 20 years and is the director of New York Rivers. He said he wants to see that section of the Black River declared a wild, scenic or recreation river under the state's Wild, Scenic and Recreation Rivers Act. The program is managed by the state Department of Environmental Conservation. The law protects "designated rivers in a free-flowing condition, protecting them from improvident development and use." "I'm not against hydropower," Mr. Massaro said. But he said there are about 28 dams on the Black River. He said the old dams in the river should be removed. "They're eyesores and navigation hazards," he said. "Right now, they're a big problem because you have to portage around the impediments." He said that section of the river is prime recreational water, partly because of its proximity to Fort Drum and Watertown. "We need to keep it free-flowing, wild and scenic so our children and grandchildren can use it and enjoy the scenery," he said.

(Wow, they have spent \$600,000 already and are going to spend another \$82,000 and still don't have an answer. Their problem seems to be that they need someone who can give them an answer and haven't found them yet.)

Hydroelectric Dam analysis considered

Fierke presents proposal to FD council Monday

By BILL SHEA Messenger staff writer, November 24, 2009, messengernews.net. Iowa

Despite all the studies and debate that have surrounded the Fort Dodge Hydroelectric Dam for the last six years, officials still don't have a clear idea of its potential to generate power, according to City Manager David Fierke. To remedy that shortcoming, he has presented the City Council with an \$82,000 proposal intended to provide key information on safety issues and the recreational potential of the dam as well as its generating capacity. Under the proposal before the council, McLaughlin Whitewater Design Group, of Denver, Colo., would be hired to do an analysis of the dam on the Des Moines River. Stanley Consultants Inc., of Des Moines, which did some recent work related to the dam, would be the company's primary subcontractor. A \$20,000 grant from the Iowa Department of Natural Resources will pay part of the cost. The remainder of the money will come from water bill revenue. "What we don't know is if any hydroelectric project is feasible," Fierke said. "What we decide to do for hydro, if anything, will determine what we do with safety and recreation," he added.

Councilman Don Wilson reminded his colleagues that the city spent more than \$600,000 on studies and legal fees to sever ties with Fort Dodge Hydroelectric Development Co. after that firm's plan to restart the dam was deemed a money-losing proposition. Some of that money went to Stanley Consultants Inc. "I think we should proceed with caution," Wilson said. Fierke plans to submit the proposed contract with McLaughlin Whitewater Design Group to the council for action next month. If the council approves the contract, the company will have 180 days to complete its report.



Water

(Cloud seeding was always a confusing subject. Question – if there's rain in them there clouds and cloud seeding forces that water out somewhere, does that mean it doesn't rain somewhere else?)

Idaho Power's cloud seeding efforts keep water flowing over dams - and may save you money

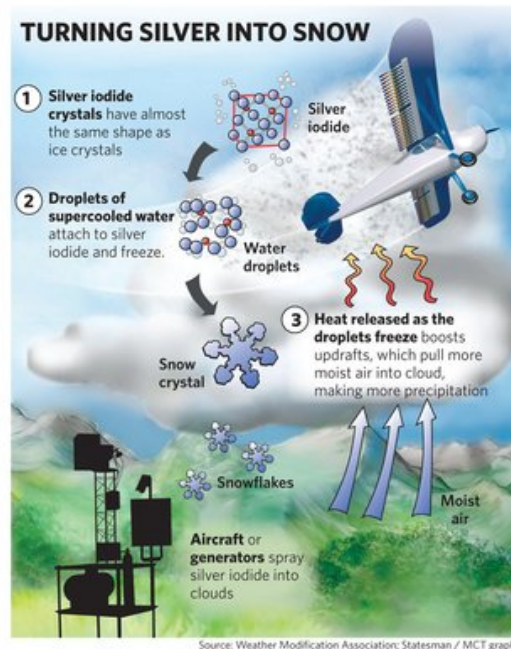
BY ROCKY BARKER - Idaho Statesman - 11/19/09

Cloud seeding once was seen similar to well divining, medicine shows and miracle healers. But today Idaho Power Co. is investing up to \$1 million to seed the clouds above Idaho's mountains - in hopes of increasing the snowpack that holds the water that will drive the hydroelectric turbines to produce the cheapest power the company can get.

The Boise utility is not alone. Eastern Idaho counties and businesses have put together a coalition to pay for cloud seeding in the Upper Snake River Basin. They estimate their limited efforts already have increased the snowpack there by 7 percent - about half as much as Idaho Power hopes for. "I feel really good about it," said Paul Romrell, a Fremont County commissioner who heads the coalition. "Our reservoirs levels are in better condition than they've been in for years." The basic technology has been around for a while. Silver iodide is sprayed into the clouds, pulling the moisture out to form ice crystals that drop and fall on the earth as snow or rain. Boise Airport has long used cloud seeding to clear winter fog that delays flights. Farmers experimented with the technology back in the 1980s.

Venezuelan President Hugo Chavez made news recently when he called for a massive cloud seeding program to combat the record drought in his country and Cuba. China has the most extensive weather modification program in the world, with more than 35,000 people working in cloud seeding programs across the country, Business Week reports. In the past, cloud seeding's effectiveness for increasing precipitation was dismissed except in special cases, said Kevin Wade, Idaho Power water resource information supervisor. But scientists recognized that it was effective when it was used in mountain ranges to create snow. That has led several Western states, including Wyoming, Nevada and Colorado, to embark on major cloud seeding efforts. Idaho Power began in 2003 after a stockholder at an annual meeting asked its leaders to study it. Roger Fuhrman, who headed Idaho Power's water management staff, was skeptical, but the utility put engineers CH2M Hill to work on the study. "They convinced us this was real science and could be duplicated," Fuhrman said.

Now Idaho Power has 10 silver iodide generators on the ground in the Payette drainage and one plane devoted to cloud seeding there. It has another 10 of the remote-controlled generators in eastern Idaho,



where the coalition has 25 manually operated generators. "The remote control generators can be fired up from a laptop in Boise," Romrell said. The company estimates it can increase the snowpack in the watershed above its hydro dams from 120,000 acre-feet to 250,000 acre-feet annually - that means the \$1 million expenditure breaks down to about \$7.70 an acre-foot. "That varies from year to year," Fuhrman said. For comparison, Idaho Power pays \$8 an acre-foot to buy power in the Payette Basin and more than \$20 to buy water in the Upper Snake. The technology is not without a downside. When a huge blizzard brought record snows this month to Beijing and other cities, Chinese officials acknowledged that cloud seeding contributed. The state-run Xinhua news agency said the Beijing Weather Modification Office claimed it had created 16 million metric tons of additional snow in the storm, which angered people caught in it. Idaho Power and eastern Idaho officials say the cloud seeding they do is targeted to backcountry drainages in the Payette Basin and eastern Idaho. "If the wind would put the snow over a populated area, we won't turn it on," Romrell said.



Environment

(Mmmm! No fish killed, but they want the energy wasted anyway?)

No sanctions planned in release of lake water

Quality standards were violated, riverkeeper said

By SAMMY FRETWELL - thestate.com, Nov. 18, 2009

South Carolina's environmental protection agency has no plan to fine SCE&G for dumping oxygen-depleted water into the Saluda River, even though a local riverkeeper has called for sanctions against the utility. In a statement Tuesday, the state Department of Health and Environmental Control said South Carolina Electric & Gas intends to upgrade its hydroelectric station at Lake Murray - and that eventually should improve water quality in the Saluda River. The agency also said it is not unusual to see low oxygen levels below dams, particularly during heavy rains like those last week. DHEC believes there is room for improvement, but the agency "does not consider this specific event involving the release of water with low dissolved oxygen an issue that requires enforcement action," agency officials said in the statement.

Alan Mehrzad, riverkeeper for the lower Saluda, Congaree and Broad rivers, said Tuesday he wasn't surprised DHEC had declined to fine SCE&G. "DHEC is pretty soft when it comes to that," said Mehrzad, who earlier in the week called for fines against the power company for what he said were violations of state water quality standards. Soaking rains associated with the remnants of Tropical Storm Ida forced SCE&G to release more water through its power station last week than is normal. As a result, the water was relatively low in oxygen as it reached the river. For 15 hours Nov. 11-12, air levels in the Saluda also plummeted to well below the standard that fish need to survive, federal data show. No fish kills were reported, although that was hard to track. Mehrzad agreed that a power company plan to upgrade the hydro station will improve oxygen levels in water released to the Saluda. But he said that plan may not take full effect for 11 years. SCE&G also needs an interim plan to protect the river from releases, from the bottom of the lake, of water that lacks oxygen, he said. Mehrzad suggested using a spillway to release oxygen-rich surface water from the lake, rather than sending oxygen-depleted bottom water through the SCE&G power plant. Company spokesman Robert Yanity said a spillway that could release some surface water is only for emergencies. He said his company tried to protect water quality last week while dealing with an unusually high torrent of water associated with Ida. Water flowing at nearly 30,000 cubic feet per second was gushing into Lake Murray from upstream rivers, but the company has capacity to release only 18,000 cubic feet per second at the dam on the other side of the lake, he said. He noted SCE&G has not had any water quality violations this year. SCE&G's plan to upgrade its power station comes as part of a proposed new federal license to operate the Lake Murray dam. SCE&G has struck a deal with environmental groups and others, making it likely the Federal Energy Regulatory Commission will approve the license soon. But DHEC still needs to approve a water quality permit before the federal license can be OK'd. "Relicensing this dam presents an opportunity to help address this issue," the agency said in a written response to questions from The State newspaper."

(Looks like the groundwater table is a little low)

San Joaquin River flows stop below Mendota Dam

By Mark Grossi / The Fresno Bee , Nov. 21, 2009

The first revival flows of the San Joaquin River have stopped about 30 miles downstream of Mendota Dam, well short of fully refilling the dried riverbed. Reconnecting the entire river probably won't happen until next year, but federal officials collected a lot of information from monitoring wells during the seven-week experimental flow that ended Friday. Officials believe a lot of water was lost in a section that has been mostly dry for the last half-century. "As we sort out all the data, we'll have a better feel for how much we lost and how the river reacted," said Jason Phillips, restoration program manager for the U.S. Bureau of Reclamation. "But there were no surprises." The river restoration began Oct. 1 under a lawsuit settlement signed by farmers, environmentalists and the federal government in 2006. The San Joaquin dried up and salmon runs died after Friant Dam northeast of Fresno began capturing the water in the late 1940s.

Columbia River salmon judge presses for resolution

A federal judge in Portland says he wants an end soon to 15 years of litigation over imperiled salmon and dams in the Columbia River system.

By TIM FOUGHT, Associated Press Writer, Seattle Times, Nov. 23, 2009

PORTLAND, Ore. — A federal judge in Portland says he wants an end soon to 15 years of litigation over imperiled salmon and dams in the Columbia River system. Judge James Redden told lawyers Monday during a hearing expected to last much of the day that "with a little work" a plan is in sight that he could approve. He said the question is whether the government's river and dam management plan can set aside more water for fish recovery without breaching dams. Redden spoke approvingly of the Obama administration's recent additions to the 2008 plan. A key player in those additions, Oregonian Jane Lubchenco, was in the courtroom as an observer in her role as leader of the federal agency in charge of marine fisheries.

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