Some Dam – Hydro News and Other Stuff

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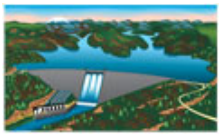
2/06/2009

Quote of Note: "All the best forms of corruption are legal!" - - *Molly Ivins*

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

Ron's wine pick of the week: **Rodney Strong Estate Chalk Hill Chardonnay 2005**

Other Stuff:



Dams

UPPCO reconsiders AuTrain Dam

By JOHN PEPIN, The Mining Journal Staff Writer, *January 27, 2009*

AuTrain, MI - While continuing to evaluate three primary scenarios for the future of the AuTrain Dam, Upper Peninsula Power Company officials said Monday they are also re-examining whether the hydroelectric project is an economically viable venture for the company. "We don't have any decisions yet," said Keith Moyle, UPPCO's vice president and general manager. "We're still looking at options." At a meeting in AuTrain Monday, UPPCO officials said they expect to reach a decision in April. They will then meet with local citizens to discuss their plans. In September, UPPCO officials said an estimated $12 million cost to upgrade spillways at the Forest Lake Basin to meet a 10,000-year flood event would outstrip the value of energy produced by the small facility, which generates about 4 percent of UPPCO's entire electricity output. The preparedness standard is required by the Federal Energy Regulatory Commission, which granted a 40-year license to UPPCO to operate the dam that is located about 14 miles west of Munising off M-94. But Monday, UPPCO officials said they now contend the probable maximum flood flow estimated to determine the necessary spillway upgrades is too high based on historical flooding data for the AuTrain River. Contracted engineers estimated that maximum flow at 64,000 cubic feet per second, while the largest flow documented there reached 1,400 cfs in 1960.

Robert Meyers, project manager of regional generation for UPPCO in Ishpeming, said a rule of thumb to determine probable maximum flood is 10 times the highest flood on record. Even at 2,000 cfs, which is significantly higher than the flooding of 1960, the probable maximum flood flow would only reach 20,000 cfs, not 64,000, Meyers said. UPPCO is recalculating the figures for the 10,000-year flood, hoping to convince federal regulators that flooding spillway provisions could be scaled back, dramatically dropping costs. "We're thinking that number is going to come down significantly," Meyers said, referring to the flood flow.

Meanwhile, the value of the energy produced at the dam has increased because the Michigan Legislature passed a renewable energy portfolio standard that requires electric utilities to have 10 percent of their energy coming from in-state generated renewable sources, including hydroelectric power, by 2015. UPPCO has easily met this standard already but will have the ability to sell hydroelectric energy credits to larger companies like Detroit Edison, which will have a much more difficult time coming up with its 10 percent, according to UPPCO officials. The potential cutting of dam upgrade costs and the increase in energy value could make the AuTrain Dam a project UPPCO would rather keep and maintain than sell, decommission or abandon, which are the other three options the company is evaluating. In exploring selling the dam to an independent power producer, UPPCO will advertise requests for proposals to gauge interest in the property, which includes all project lands and generating facilities. "The purpose for that is to find out if it can be sold and the results of that would effect other proposals," said Greg Egtvedt, manager of environmental assets and environmental licensing for Integrys in Green Bay. The proposals are due back to UPPCO by early March for evaluation. A consortium of local government officials has convened to determine what options are available if UPPCO sells the power generation and dam, but the reservoir is maintained under state jurisdiction by another entity. State requirements would allow 10,000-year flood provisions to be half of those required by the FERC. "That alternative is going forward," Egtvedt said. "We continue to study that." Realtors for UPPCO are also reappraising lands associated with the Forest Lake Basin under various scenarios, based on the options the company is exploring for the dam. UPPCO officials said Monday prior interest in Forest Lake Basin properties by Minnesota-based Naterra Lands Inc. - which sued UPPCO for breach of contract in other land sales - never resulted in contracted sales for the basin. UPPCO is also studying abandonment of the dam, which involves determining costs for removing facilities and what would happen to the AuTrain River flow downstream. UPPCO officials and the public have characterized this as a "last option" that "nobody wants." Results of those studies are expected to be available by the end of March or early April.

TVA Fly Ash Spill Update

NEWSINFERNO.COM, January 26th, 2009

The Tennessee Valley Authority (TVA) says it's close to completing the first phase of its fly ash spill clean up, which has been described as significantly expensive, complex, and lengthy, reports the Tennessee Green. In December, a dam break at TVA's Kingston Fossil Plant caused a massive fly ash—also known as coal ash—spill that released 80 acres of sludge from the facility. Though the exact cause of the accident remains unknown, it was thought that six inches of rain over the previous 10 days and overnight temperatures in the teens contributed to the dam breach. The fly ash pond at the plant had a history of safety problems, including two other breaches in the prior six years and a number of so-called "baby blowouts." Damaging 15 and destroying 3 homes, hundreds of acres of land, and surrounding waterways, the spill is believed to be the largest of its kind in U.S. history. The ash contains large amounts of toxic chemicals, which have been linked to cancer and other dangerous diseases and, in addition to containing lead, mercury, thallium, and arsenic, contains sharp-edged silica that can be inhaled, concerning health officials.

The cleanup is continuing at a rate of about $1 million daily. Sludge is being stabilized and the TVA is looking at ways to remove ash from the environment and restore the land and water to pre-disaster conditions, said Tennessee Green. The state of Tennessee must approve TVA's plan, which must be submitted no later than mid-March, said Tennessee Green. The TVA said at least 300 acres of land had been coated by the sludge, making it nearly 50 times larger than the 1989 Exxon Valdez spill in Alaska; it has since said that 5.4 million cubic yards of potentially toxic fly ash was released from a retention pond, which—according to the Knoxville News, is triple the estimate of the 1.7 million cubic yards the TVA first released. One problem has emerged regarding the Emory and Clinch rivers clean-up, said the Tennessee Green, because there are a number of radioactive pockets in the beds which occurred following nuclear power and weapons development there. Residents are concerned about where the ash will end up and if it can continue to hurt the environment and residents. Meanwhile, the TVA was accused of minimizing the seriousness of the massive and toxic spill and the Associated Press is reporting that those critics may have been on to something, citing a memo prepared by TVA's public relations department and intended for a news briefing in which TVA described the spill as a "sudden, accidental release," rather than "catastrophic," among other incriminating items. It could be years before the environmental impact of the Tennessee fly ash spill is fully understood. And, despite the dangerous and carcinogenic properties of the waste, several days after the spill, the TVA still had not issued any environmental warnings to nearby residents, and insisted there was no evidence yet about toxins in the fly ash. One environmental advocate told The New York Times that it was "mind boggling" that the TVA had failed to issue any health warning to residents and

various environmental groups warned that the situation would become more dangerous when the toxic muck dries and becomes airborne and breathable.

Emergency action plan for the Ross Barnett Reservoir

Jackson, MS February 1, 2009, By Marsha Thompson, WLBT TV

JACKSON, MS (WLBT) - Just the thought of another 1979 flood is terrifying for the scores of people that were up to their rooftops in water. The Ross Barnett Reservoir is 44 years old. Is it safe? Could it fail? And if it does fail are emergency responders prepared? The Ross Barnett Reservoir contains 33- thousand acres of water; it's bridled by flood gates and an earthen dam system. It's held strong for 44 years. But there are concerns. Larry fisher, the Hinds County Emergency Operations Director was asked if the dam was fail-safe. "No, by no means, all earthen dams are considered critical," replied Fisher. The Department of Environmental Quality tells WLBT News there are 269 high hazard dams in Mississippi. High hazard in terms of potential damages downstream should one fail. Not in the current safety or construction of the dams. Fisher wants to prepare for a worst case scenario. A larger breach.

After an extensive 4- year study, the first ever emergency action plan is drafted by the Corps of Engineers. 44 years after the reservoir is built. It's a plan to get people out of harms way if the dam blows. We were not allowed a copy of the draft report. Reservoir management officials say they are still consulting with other emergency management agencies and getting their input. On any given day huge volumes of water are discharged through the gates of the Ross Barnett spillway. On any given day, some speculate trouble could erupt. It did. August 29, 2005. Hurricane Katrina hit. The dam was battered by waves, 80 mile per hour winds. Water began boiling up from underground, signs of a potential dam trouble spot. According to Bennie French, Director of the Pearl River Valley Water Supply District, a surprise failure is also possible, "You could have a failure we would not be aware of until it actually took place" said French.

The Army Corps of Engineers has released the draft copy to prepare for a sunny day event with three different scenarios. A 50-foot wide breach. One on the Madison County side, one on the Rankin County side and one near the spillway. The most vulnerable and first to be flooded a trailer park on the Madison County side of Spillway Road. French said, "Should the dam fail obviously there would be a need to evacuate people living below the dam in an expeditious manner." There is also a plan of action to repair the dam in the event of a failure. The Corps of Engineers plan also recommends evacuation on the Rankin County side, in a few neighborhoods in the event the gravel emergency spillway fails. Rankin County resident Bill Hardin told WLBT News he had not heard of the action plan that shows his neighborhood off Old Fannin Road might need to be evacuated if there was a breach of the dam. "I wasn't aware of that" Hardin Said. "In that case we would evacuate some people living in the low end of that development but the studies don't indicate those houses would flood," according to French. Still unsettling news for this homeowner who does not have flood insurance. Reservoir officials say this Corps of Engineers study shows there would be little or no flooding impact if the dam blows on either the Madison or Rankin County side or near the middle of the spillway at the floodgates. They said the floodwaters would hug the dam and run back into the Pearl River channel. "As I said the study relieved a lot of my fears rather than caused me more fear," said French. It's an unfinished plan of action that leaves questions in the mind of Hinds County's first responders. "We have to look at a worst case scenario, a breach of 100 yards or 150 yards," said Fisher. A breach much more catastrophic in scale than the Corps plan calls for. We asked Fisher if he felt confident with the plan of action. "We have some questions about it. So you are not confident with it. No," said Fisher. Officials insist the reservoir is safe, the plan of action not only mandatory but necessary to protect all of those downstream.

Dam Use in the U.S. Has Passed Its Prime

More dams are being demolished than built in the U.S. these days.

By Dunstan Prial - February 02, 2009, Entrepreneur.com

Civil engineer Andrew Straz has spent his entire career working on dams. Most of the work over that three-decade span has been dismantling them, however. Environmental concerns have shifted over time, Straz explained, and fish passage issues, in particular, have taken precedence in recent decades over either the hydroelectric power generated or the recreational uses created by the 78,000 dams that sever many of America's rivers. Consequently, many more dams are being demolished than built in the U.S. Dams block fish from completing their natural migration patterns and, as societal priorities have changed, dam removal has become a primary business for engineers like Straz. "Most of the activity is taking dams out," said Straz, who is based in Maine. That's been the case since the mid-1980s, when new dam construction fell off sharply both for environmental reasons and the simple fact that many of the prime locations for dams had

already been exploited. And it's a complete reversal from the 1960s, when nearly 19,000 dams were built in the U.S., more than any other decade, according to data from the U.S. Army Corps of Engineers. Most of the large dams constructed between the 1940s and 1980s were built to generate electrical power. Those dams have served their purpose well and are under no threat of demolition.

Consider that the Hoover Dam and the Glen Canyon Dams, both built across the Colorado River, provide more than six million people with electricity in the Southwest. But numerous reasons have emerged for dams to come down, beginning with the environmental concerns and also including safety issues and declining economic efficiency. In the past, the benefits of building dams -- primarily the generation of renewable hydroelectric power and the creation of reservoirs both for controlled fresh water storage as well as recreation -- were viewed as outweighing the obvious environmental impact. That's changed. At the same time, the threat of dam failures has grown as the nation's inventory of dams has aged. A recent study conducted by students at the Massachusetts Institute of Technology showed that 25% of the nation's dams were older than 50 years, in other words already beyond their 50-year life expectancy. That number is expected to grow to 85% by 2020. Moreover, a report by the American Society of Civil Engineers found 3,300 of the nation's dams to be "unsafe." Those dams either need to come down or be repaired, both prospects costly and controversial. Finally, as dams get older they get more expensive to maintain, and the cost of that maintenance often exceeds the financial benefits of keeping it intact. That's why many dam owners, mostly private utility companies, are opting for removal.

Despite these dynamics favoring demolition, there are a handful of new dams going up, mostly in the West, where dams have long been used as collection points to provide fresh water for large population areas. That need is growing, said Dan Johnson, a senior engineer and vice president with GEI Consultants, a national water resources and geotechnical engineering firm. Currently, there are two large dam projects underway in Northern California, and another two in Colorado, and a major replacement project in Charlottesville, Va., according to Johnson. The new Western dams are being built solely to increase water storage capacity, a need driven by "increased population bases," said Johnson. With droughts plaguing the West for much of the last decade, and predictions of future droughts brought on by expected climate changes, policy makers in the West have been able to overcome considerable opposition from environmental groups and obtain approval for new dam construction to increase reservoir space. "That storage has become very important. It's like an insurance policy," said Johnson. "We can store water for down years, for the low-yield years" after droughts have depleted existing supplies. Approval takes years, though, given the myriad permits needed to block off a river and cover often vast portions of dry land with water. "They do create impacts, we have to acknowledge that," said Johnson. "Consequently, we're not building as many, but we are building them." Johnson said levees are in much the same situation as dams. The few levees going up are being built by real estate developers who are building in flood prone areas and who are trying to make their developments more attractive to potential buyers. Levees often preclude the need for expensive flood insurance by homeowners who buy in areas affected by flooding. In reality, most of the business for civil engineers whose expertise is dams and levees lies in repairs and refurbishing of existing structures. But finding money for those repairs will be difficult. The Association of State Dam Safety Officials has estimated that it will cost $36 billion to repair all of the nation's aging dams. Straz, the Maine dam consultant, said impetus for those repairs may come from a renewed focus on finding renewable energy sources. Utility companies seeking alternatives to fossil fuel-based energy will likely consider fixing up their hydro-electric dams, he said.

(A dam sale?)

Power Company puts Mich. dam up for sale

Associated Press, February 2, 2009, Chicagotribune.com

AuTRAIN, Mich. - The AuTrain Dam is now for sale.

The Upper Peninsula Power Co. said Monday it plans to sell the dam after determining that it would be too expensive to upgrade the structure so that it could withstand a "probable maximum flood." The utility is seeking bids from independent power producers for the hydroelectric dam near Munising in the Upper Peninsula. Utility spokesman Charlie Severance tells the Milwaukee Journal Sentinel that independent power producers use a different method of accounting that could possibly make the dam more affordable to them. The utility company is also exploring whether to transfer the dam to the state.

Hydro

BRF plans updates to 96-year-old dam

By Kevin Murphy, Leader-Telegram, 2/1/2009

MADISON, WI - Black River Falls Municipal Utilities plans to rebuild parts of its 96-year-old dam and install equipment that will let it produce electricity even when the river is at low-flow stages. The dam can supply about 15 percent of the electricity needed by the Jackson County city of nearly 3,500. However, when the Black River drops to certain levels, not enough water can be diverted to the powerhouse on river's west bank to operate the two turbines. In a plan submitted Thursday to the Wisconsin Public Service Commission, the utility seeks authority to spend $2.8 million that would replace eight leaking spillway gates with six bigger gates and construct a powerhouse on the east bank along the river's main channel. If approved, the minimum-flow generating project would add 410 kilowatt hours to the dam's current generating capacity of 920 kilowatt hours. "This (project) will allow us to produce power 24/7. It's an old dam, built in 1912, and we didn't want to lose it, so this allows it to be repaired and also produce more power," Mayor Ron Danielson said. Past studies have placed the cost of repairing, replacing or removing the dam between $5 million and $13 million depending on the option chosen.

The 198-foot-long dam backs up the Black River into a 198-acre reservoir. Authorities require 50 cubic feet of water to pass through the dam per second, which is now accomplished mainly by the leaks in the spillway or Tainter gates, a type of radial-arm floodgate used in dams and canal locks to control water flow. As outlined in preliminary plans, tighter Tainter gates would allow the required 50 cubic feet of water to pass through the low-flow generator system instead of "being wasted," said Mark Stephenson, a DNR dam safety engineer in Black River Falls. "It makes for efficiency, and having the same amount of flow there would have no impact on the fish population," he said. The DNR would review the dam's redesign through a biological and environmental perspective while the Federal Energy Regulatory Commission would analyze it for overall safety and power impacts, said Stephenson. The DNR would review the dam's redesign through a biological and environmental perspective, while the Federal Energy Regulatory Commission would analyze it for overall safety and power impacts, Stephenson said. Approval is also needed from the Army Corps of Engineers. Danielson didn't know when the project would receive all necessary approvals but said there was little opposition to it at a public hearing last fall. "Even the property owners (along Roosevelt Drive) want the river drawn down so they can repair their shorelines," he said. The DNR recommends beginning construction this fall when the river can be drawn down in stages. It's possible to still generate some power while the year-long construction process is ongoing, but that is subject to some engineering decisions, said Danielson.

The utility plans to finance construction with a long-term federal Rural Development loan, repaid by higher rates and possibly funding from the economic stimulus package being considered by Congress. "The (city's) utility commission wants a maximum of 15 percent increase in rates associated with the low-flow project, and although there's a concern with any rate increase, I think people will see we'll still have some of the lowest rates around," Danielson said. Despite the maintenance and operating expenses associated with its hydro dam, the utility can still generate power less expensively than purchasing it wholesale, said Danielson.

Water

Water by the numbers

StarTribune.com, January 28, 2009, Minneapolis-St. Paul, MN

- **70** - Percent of the Earth's surface covered by water.
- **3 -** Percent that is liquid fresh water.
- **74 -** Gallons of water needed to make a cup of coffee (including plant growth).
- **713 -** Number of gallons of water needed to make a medium-sized cotton T-shirt.
- **21** - Gallons of bottled water consumed by the average North American in 2005. Globally, consumption of bottled water nearly doubled between 1997 and 2005.
- **2.7 MILLION -** Tons of plastic used for bottled water worldwide each year.
- **20 -** Percent of those bottles that is recycled.
- **¼ full -** Amount of oil poured into an empty plastic water bottle that is equivalent to how much oil it took to create, distribute and dispose of that bottle.
- **850 BILLION -** Number of gallons of water taken daily from the Great Lakes for hydroelectric power, municipal and manufacturing use in the U.S. and Canada. (the water is used and returned). *Source: Science Museum of Minnesota*

Army Corps Of Engineers Ups Release from Thurmond Lake

By PAIGE TUCKER, WJBF News Channel 6, February 3, 2009

McCormick County, SC—The low water levels you see right now at Lake Thurmond could get even worse. "It's hard to say. We're in unprecedented territory. We haven't been through a drought this severe, "says Chrissy Westerberg, Park Ranger. The U.S. Army Corps of Engineers is now releasing water at the rate of 3600 cubic feet per second through the Thurmond Dam, up from 3,100 cfs (cubic feet per second). Even with that increase, that's below the federal minimum, but because of the drought, the lake is authorized to release less. Park rangers say drought conditions have not improved, that the decision was based on an effort to protect an endangered species of fish in the Savannah River. "Because they couldn't say for sure that we would have enough water below the dam in the Savannah River for the short nosed sturgeon spawning, they had to go back to the regular 3,600 cfs." With summer boating season around the corner, rangers say water safety will be another big issue this year. "We just continue to stress that they need to be safe around the water. That's going to be the biggest safety factor is the lower lake level, unknown drop-offs below the water. "Since November, the Corps had been releasing less water to keep up its conservation pools. Now, lake levels at Russell and Lake Hartwell will be watched closely to see how the boosted release from Thurmond will affect them.

Corps seeks Cold Brook warning system improvements

By Curt Nettinga, February 03, 2009, Hot Springs Star

OMAHA, Neb - The U.S. Army Corps of Engineers will begin working with the National Weather Service, Fall River County and the City of Hot Springs to improve the flood warning system for Cold Brook Dam and areas downstream. In a news release dated Jan. 26, the Corps noted that the plans are in the early stages but that the early-warning system would need to be revamped. When Cold Brook Dam was completed in 1953, its primary purpose was to reduce flooding in Hot Springs. Cold Brook Reservoir collects water from a very large area north and west of Hot Springs, according to Fall River County Emergency Manager Frank Maynard. The dam was designed in 1944, to accommodate a rainfall event of 9.1 inches in a 24-hour period, which is based on 150 percent of the 1907 Fort Meade storm. Corps dam designs have changed and are now designed for a rainfall event called the "Probable Maximum Precipitation" or PMP. In the case of Cold Brook drainage basin, the PMP would be just under 24 inches of rain in a 24-hour period. Such a rainstorm would fill the reservoir and could top the dam.

"The Corps did evaluations of all of their more than 600 dams and ranked them on a scale of one to five, with one being Critical and five being Absolutely Safe," Maynard said. "There were none that received a

five," he noted. "Cold Brook Dam was given a four in their evaluation." Maynard said that discussions have begun on the warning system, but said he believes that sensors placed further up the drainage basin could be in the works. Determining early that a heavy rainfall occurring 20 miles northwest of Hot Springs is headed toward Cold Brook will allow emergency measures to be instigated in time to evacuate people. Fall River County is looking at ways to clean up the flood channel from the edge of the Corps property to the city limits. The City of Hot Springs is continuing work on its portion of a channel reclamation project from the city limits.

Current studies, according to the release, indicate that under existing conditions, Cold Brook Dam could safely pass 55 percent of the runoff produced from the PMP. To ensure Corps dams do not present unacceptable risks to the public, the Corps is implementing a new risk-based process to prioritize dam safety deficiencies on a nationwide basis. The hydrologic capacity issue at Cold Brook Dam will be carried forward and included as part of the Corps' risk-based approach to dam safety and prioritized on a national level. In addition to improving the flood warning system for Cold Brook Dam, the Corps is planning to update the dam's Emergency Action Plan. The Corps will conduct an exercise this spring, in collaboration with state and local emergency management agencies and responders, to improve coordination and response actions to flooding or a dam safety situation.

China's 7.9 Earthquake Blamed On Dam

Chattabox.com, Feb. 3, 2009

China (ChattahBox) – The devastating earthquake that occurred in Sichuan in 2008, killing more than 80,000 people, has been blamed on the large Zipingpu dam. According to both Chinese, and American, scientists, the dam that holds more than 315 million tons of water back from the main water line, may have caused a problem as the weight of the water pressed down to the base rock beneath, creating a series of small reactions that led to the 7.9 earthquake. It was a threat that the government had been warned repeatedly against, as construction of this, and many other dams, began. "I not only opposed the construction of Zipingpu, but also the over development of the reservoirs on Minjiang River," Fan Xiao, the chief engineer at Sichuan Geology and Mineral Bureau, said. There are ten major reservoirs on the main river, 29 on its tributaries and a lot more smaller-scale reservoirs, all of which block the flow of the entire river, and are very hazardous to the local geology." A full investigation into the matter has been launched, although the government still refuses to take responsibility for the dam, or the earthquake, insisting that recent studies are wrong.

Environment

Dam reports available to public

By David Smith, Siskiyou Daily News, Feb 02, 2009

Siskiyou County, Calif. - A slew of reports concerning the potential removal of four dams along the Klamath River have been released for public viewing by American Rivers, including studies on economic impacts, engineering and technical aspects of dam removal, effects on aquatic life, a 2007 Federal Energy Regulatory Committee (FERC) Final Environmental Impact Statement, effects of sediment transport, water quality and others.

One report, concerning the presence of cyanotoxins in the water downstream from the Copco 1 and Iron Gate reservoirs, states, "Some of the highest levels of microcystin ever recorded in the world were measured from Copco Cove in Copco reservoir." The report is aimed at verifying the Klamath's designation as an impaired river by the Clean Water Act standards. The report, compiled by the State Water Board, details a series of tests of Klamath system mussels, perch and salmon for cyanotoxins, which are recognized as dangerous to humans and some animals. Using a variety of testing locations and samples, the water board researchers concluded that variations exist along the river system, namely, microcystin in yellow perch is higher in Copco reservoir than Iron Gate, and the concentrations in yellow perch and

mussels is significantly higher in the summer than any other time of the year. The issue of cyanotoxins and blue-green algae in the Klamath has been addressed in the past, and studies suggest that PacifiCorp, if the dams are to be relicensed, will have to add measures to the dams which will reduce or eliminate the presence of the algae in order to have them relicensed. The list of reports also contains a FERC estimate of the costs of dam removal, using heavy construction materials data from 2007 and using original construction reports to determine the amount of material in each dam. The cost estimates do not include the salvage value of materials that could offset the cost of removal and assume that sediment release will be done in a manner that does not require any additional funding. The report states, "If contaminated sediment is found, and is not suitable for downstream transport, the costs of dam removal would be substantially higher." The estimates are as follows:

- Decommissioning and removal of JC Boyle facilities-$18,911,000;
- Removal of contaminated sediment, if needed-2 to 7 million dollars;
- Decommissioning and removal of Copco 1 Dam-$20,368,000;
- Removal of contaminated sediment, if needed-955 million dollars to 2.9 billion dollars; and
- Decommission and removal of Copco 2 dam-$3,731,000.

The report concludes that there is unlikely enough sediment behind the dam to cause a problem; and Decommissioning and removal of Iron Gate dam-$36,853,000. Removal of contaminated sediment, if needed-485 million dollars to 1.5 billion dollars. More reports will be detailed in future editions of the Siskiyou Daily News.

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Some Dam – Hydro News and Other Stuff

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2/12/2008

Quote of Note: *"Everyone thinks of changing the world, but no one thinks of changing himself." --Leo Tolstoy*

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

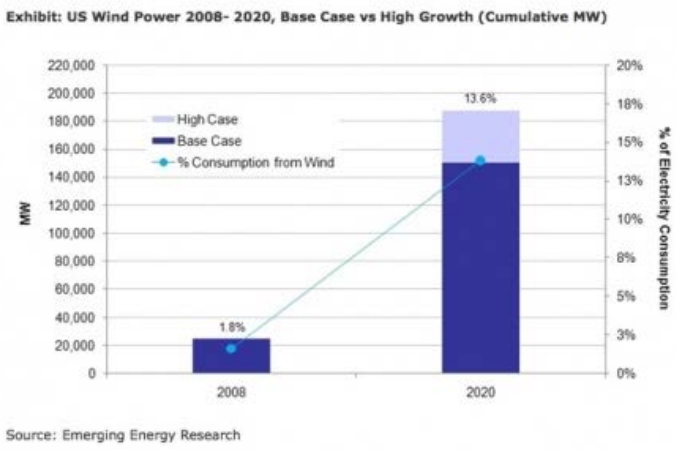
Ron's wine pick of the week: **Beaulieu Vineyards Napa Cabernet 2005**

Other Stuff:

(These wind developers have it made. First, they get the largest government subsidies. Now, somebody else is going to pay for their transmission lines – the taxpayer. And, what about the backup power because wind is not dependable? Who pays for that? Let's be honest about this, wind is not economical power on its own. Hydro has to pay the full freight and is still cheaper, but hydro will never see its full potential until the NGOs say it's OK!)

U.S. Wind Power Capacity Could Top 187 GW by 2020

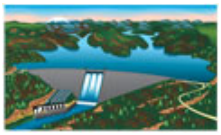
By JOSIE GARTHWAITE, February 3, 2009, The New York Times



Adding hundreds of small transmission line projects and grid upgrades to the 57 GW of large-scale transmission initiatives now being developed in the western U.S. (many of them in Texas) could have a significant impact on wind power development in less than six years, according to a new report from Emerging Energy Research. Add a national renewable portfolio standard and increased investment in transmission infrastructure, and the firm says wind power capacity could reach 187 GW by 2020. As we reported earlier, T. Boone Pickens and Senate Majority Leader Harry Reid, much like President Obama and the American Wind Energy Association, want to see more money go into transmission initiatives. And a renewable portfolio standard, enacted in various forms in different states, is now on the table in Washington.

But these conditions are not guaranteed, which means installed capacity could hover closer to 140 GW a decade from now. "The inability of transmission build-out to keep pace with wind project development activity will increasingly constrain the growth of the U.S. wind power market in the near-term," Emerging Energy's senior wind analyst, Matthew Kaplan, said in a release today. During the next three years, the research firm expects annual growth in U.S. wind capacity to "stall" at 8-9 GW. The fact that 9 GW of new installations on a yearly basis has come to look like a stall shows just how firmly wind has become a part of mainstream visions for a cleaned-up national energy portfolio — the U.S. increased its wind capacity by a record-breaking 50 percent last year with less than that, despite the stranglehold on credit markets in the last quarter.

(Interesting web site on Critical Infrastructure)
http://ciasce.asce.org/



Dams

(Some of these so-called numbers were compiled by a very anti-dam whoever! But, here they are as food for thought.)

Numbers

Dams, From Hoover to Three Gorges to the Crumbling Ones

by Jeremy Jacquot, February 8, 2009, Discover

845,000 - Number of dams in the world. The United States has 80,000, with a total storage capacity of 48 trillion cubic feet of water. Hoover Dam, straddling the Nevada-Arizona border at Lake Mead, is the country's largest, storing 1.2 billion cubic feet.
49 - Number of dam failures in the United States between 2000 and 2007. Overtopping due to poor design accounts for 34 percent of all failures. Some 85 percent of all large dams will have passed their projected life spans by 2020. The Association of State Dam Safety Officials estimates that it would cost $10.1 billion to repair the dams most in need of rehabilitation.
$25 billion - Projected final cost of the Three Gorges Dam in China. Construction of this dam—the world's largest, holding back more than 1.4 billion cubic feet of water—has displaced at least 1.3 million people. Thirteen cities, 140 towns, and 1,350 villages have been intentionally flooded. When complete, the 410-mile-long reservoir will generate 84.7 billion kilowatt-hours of electricity per year, the energy equivalent of 50 million tons of coal.
65 - Percentage of ocean-bound freshwater flow that is obstructed by dams. More than half of the world's 292 large river systems are adversely affected by dams. Water development, including damming, harms 91 percent of endangered fish species and 22 percent of endangered birds in the United States, according to a study published in *Bioscience* [subscription required].
250 billion - Kilowatt-hours of U.S. hydropower production in 2007, representing 6 percent of the country's total electricity supply. Washington, Oregon, and California are the top hydroelectric producers in the nation. Worldwide, 19 percent of electricity comes from hydropower. The top-generating countries are Canada, the United States, and Brazil.

Ore. panel considers rate boost to remove dams

By BRAD CAIN, Associated Press Writer, February 3, 2009

Groups representing irrigators, fishermen and tribes on Tuesday urged Oregon lawmakers to approve a bill to increase power rates for PacifiCorp customers to pay for removal of four hydroelectric dams on the Klamath River. The rate hike bill is needed to help put into effect a tentative deal reached last fall by state and federal officials calling for removal of the dams as a way to settle a decades-long water struggle in the Klamath Basin. As a Senate panel opened hearings on the proposal Tuesday, supporters said it would improve beleaguered salmon runs and provide stability for agriculture in the area. The committee also heard from opponents. Some questioned the wisdom of getting rid of a source of "clean" energy while others worried about cost overruns and whether it is fair to ask the utility's Oregon customers to shoulder most of

the cost of dam removal. The Senate measure would allow PacifiCorp to collect surcharges from its customers in Oregon and California to cover up to $200 million of the cost of removing the dams. A maximum of about $180 million of that would come from Oregon ratepayers, and the rest from California customers.

A nonbinding agreement signed in November by the U.S. Department of Interior, PacifiCorp and the governors of Oregon and California calls for a final agreement by June 30, 2009, and gives the federal government until 2012 to figure out whether removing the dams is feasible. It sets 2020 as the deadline for starting to remove the dams but does not include a deadline for finishing the job. Among those opposing the measure Tuesday was Katherine Lehman, an Ashland resident who said the dam removal would be "boondoggle" that would remove a source of "clean green power." Others testified however, that the four aging dams represent only about 1 percent of PacifiCorp's energy portfolio and are anything but "green." "They block access by salmon and steelhead to many miles of badly needed habitat, and they impair water quality, water temperature and habitat in ways that cause serious problems for salmon and steelhead," said Jeff Mitchell, spokesman for the Klamath Tribes of Oregon. The committee members also heard complaints from Sen. Doug Whitsett, R-Klamath Falls. He noted that while PacifiCorp provides power to 1.7 million customers in six western states, the utility's Oregon customers will bear the brunt of the dam removal costs. "The wisdom of authorizing these kinds of cost exposures to more than a half million Oregon PacifiCorp customers is hard to grasp," Whitsett said. However, Gov. Ted Kulongoski's natural resources adviser, Mike Carrier, said only Oregon and California participated in the negotiations and the other four states — Washington, Idaho, Nevada and Utah — felt they had nothing to gain from the dam removal deal. The costs of removal were apportioned based on the number of customers PacifiCorp has in Oregon and California, Carrier said. Utility officials estimate that the average PacifiCorp customer would see a rate increase of about $1.50 per month under the legislation. The Senate committee is scheduled to vote on the measure Thursday.

(This paper is quite lengthy, so for those who are interested here's the link to the full text – very worthwhile reading: http://www.waterpowermagazine.com/story.asp?sectionCode=46&storyCode=2052043)

Dam safety, emergency action plans and water alarm systems

International Water Power and Dam Construction, February 03, 2009

Dam safety is an integral concept, which comprises structural safety, dam safety monitoring, operational safety and emergency planning, writes Martin Wieland and Rudolf Mueller

(This letter comes about because of a problem that has existed for far too long, i.e., the Weather Service probable maximum precipitation estimates in the eastern part of the country, and elsewhere for that matter, are in need of re-evaluation because they are based on outdated assumptions that new data and technology would suggest should be lowered! The writer doesn't realize the problem, unfortunately.)

Letter to the editor

Forcing costs on LOW is a dam outrage

The Free-lance Star, *2/5/2009*

The issue of the Lake of the Woods dam is an example of government run amok ["LOW agrees to improve spillway for dam," Jan. 31]. The concept of the state-required increase in spillway size is based on the possibility of 37 inches of rain in 24 hours. There is no record of that much rain in this area since about 2500 B.C., the year of Noah's flood. In fact, the state officials who feel they have an unquestioned control over our money admit that this much rain might not occur in 500 years, or maybe never. But they go blindly ahead and claim we must err on the side of safety. If we don't spend this money, somebody's crawl space might get wet and maybe someone too stupid to leave after a couple of feet of rain will drown. The Lake of the Woods attorney appears to have taken the wimp approach and assumed we must abide by the regulations. Baloney! If the regulation is bad, it should be fought tooth and nail in the courts.

The initial reclassification of the dam from class II to high-hazard class I in 2001 was based only on the possibility of a "sunny day" break, and had nothing to do with downstream damage or injuries. It was miss-presented as a sunny-day break hazard in order to declare the dam a high-hazard class I. Once it was declared a high hazard, it must then require a larger spillway. You don't need to be a rocket scientist to note the lack of connection between a sunny-day break and the necessity for a larger spillway. If the state is

requiring new and additional safety requirements to a perfectly good dam, the state should pay for them. To force this unnecessary cost on Lake of the Woods residents is unconscionable.
William E. Nowers, Locust Grove, VA

Despite low funding, many state dams are inspected regularly

2/2/09, High Plains/Midwest AG Journal, Oklahoma

While Oklahoma is one of the lowest states in the nation in funding for dam safety, it does not mean all the dams are going without inspection. An article distributed by the Associated Press in January 2009 points out that Oklahoma is one of the lowest states in the nation for dam safety funding, with a budget of $395,336 for 2006. That is the budget for the dam safety activities of the Oklahoma Water Resources Board and not for the Oklahoma Conservation Commission or the state's 88 local conservation districts. All of the inspections carried out by local conservation districts and the assistance provided by the Conservation Commission, NRCS and county Emergency Management Agency staff take place without receiving any funding from that budget. Of the 4,477 dams regulated by the Oklahoma Water Resources Board in the state, 2,105 are inspected annually by local conservation districts. These are small watershed upstream flood control dams that were constructed as floodwater retarding structures. And it is not just the high hazard structures that are inspected--conservation districts inspect all of their dams including those designated as low hazard. Of these 2,105, 229 dams are classified as "high hazard" since they have the potential for loss of life if they should fail. For many of those the reclassification to high hazard has been a recent development--in recent years or even months. Case in point--42 low hazard dams were reclassified as high hazard dams by the USDA Natural Resources Conservation Service within the last six months due to downstream development since the dams were originally constructed.

The Oklahoma Conservation Commission, working with local conservation districts, the NRCS and local county Emergency Management Agency personnel, are approaching the end of a campaign to update and standardize emergency action plans statewide for the 229 high hazard dams under the care of local conservation districts. Two hundred and twenty-seven of the dams have EAPs that were updated in the last year, including Bellcow Lake in Lincoln County, and the remaining two have EAPs that are 90 percent complete. An upstream flood control dam originally built as far back as the late 1940s in a rural location becomes high hazard if the situation changes to where loss of life could occur if the dam breached--that could be only one residence or business built below a dam. The Oklahoma Conservation Commission and NRCS in Oklahoma continually review watershed dam inspection reports for operation and maintenance needs and determine if reclassification is required. Some high hazard dams are being upgraded extensively to meet dam safety mandates for increased public safety. The upgrade usually requires that raising the height of the dam, widening the secondary earthen spillway and possibly replacing the concrete principal spillway. The average cost of modifying one such dam in Oklahoma is currently about $1 million.

Currently there are no restrictions on development below classified dams. The Oklahoma Legislature may consider legislation this session that would limit development in the breach inundation areas below dams. By eliminating development in these areas, fewer dams will be reclassified as high hazard in the future. This restriction on development downstream from dams would significantly reduce the liability and expense to the state and private citizens for dam modification to meet high hazard standards. Oklahoma's 2,105 upstream floodwater retarding structures--watershed dams--represent a $2.1 billion infrastructure that provides the state with an average of $75 million in benefits annually according to NRCS.

(Excerpts – here's another case related to the PMF in an area where the PMP probably should be re-evaluated.)

Two unsafe area dams need work

By Beth Brelje, Pocono Record Writer, February 07, 2009

Two dams that guard East Stroudsburg's drinking water are considered unsafe by the Pennsylvania Department of Environmental Protection. It doesn't mean the dams are in imminent danger of bursting, but they do need some expensive attention. The East Stroudsburg Dam and Middle Dam manage the flow of water at a reservoir on Reservoir Run, formerly known as Sambo Creek, in Smithfield and Middle Smithfield townships. (At the request of the U.S. Board of Geographic Names, in 2008, Sambo Creek was renamed Reservoir Run and Sambo Island was renamed Turtle Island.). The dams were built in the 1930s as projects for the Works Progress Administration, according to records in East Stroudburg. Since then, spillway requirements have changed. Today both dams have spillways incapable of handling a probable maximum flood, sometimes called a 500-year flood, or worst-case-scenario flood. Spillway deficiencies are the reason the two dams are considered unsafe, according to East Stroudburg manager Jim Phillips. Labeled "high-

hazard" by the state Department of Environmental Protection, both could cause deaths downstream if they fail. High-hazard dams have higher safety criteria. There are seven high-hazard dams in Monroe County according to the DEP. High-hazard dams are monitored closely and inspected every time it rains. If you live near one, the department says you've been notified. The department will not provide a list them because of homeland security concerns.

BLUESTONE DAM

Corps: Ongoing stability project will significantly improve safety
By Amelia A. Pridemore, Register-Herald Reporter, February 07, 2009

HINTON, WV — For more than 60 years, Bluestone Dam has made life from Hinton to Point Pleasant considerably safer, preventing about $4.6 billion in flood damages to people living along the New and Kanawha rivers, U.S. Army Corps of Engineers representatives say. However, considerable work will need to be finished if lives and property are to remain safe, they said. If Bluestone Dam were to fail, the results would be catastrophic. “This nation cannot take a failure of Bluestone Dam. The consequences are enormous,” said Col. Dana R. Hurst, commander and district engineer for the Corps of Engineers’ Huntington District. Hurst and other representatives conducted information sessions last week with reporters and residents in Hinton. Those attending were given updates on the 10-year, $250 million construction project to fully stabilize the dam and what dangers the community could face during a major disaster. Hurst said Bluestone Dam was safe. Even if heavy precipitation struck, it would still be safe. But during what he called a “Noah’s Ark” flood, that would be an entirely different situation. “Today, with its pool at 1,406.5 feet, that dam is safe,” he said. “If that rose one foot, it would still be safe. A week from now, it would still be safe. “But at higher elevations, there is concern for its stability.”

Bluestone Dam began operation in 1949. Hurst said that when the dam was originally built and designed, it was constructed to withstand the worst event in history to that date. But after 1960, the National Weather Service began using models called “probable maximum precipitation.” “Basically, this is a ‘Noah’s Ark’ rainfall event that could occur,” he explained. Hurst said the dam’s foundation was also a major concern. Bluestone has 55 monoliths — individual pieces that came together during construction. The rock underneath the dam could cause those monoliths to slide. Between 1998 and 2005, the situation was evaluated and construction and design began. But a major 2005 weather event led to serious re-evaluation. “But something happened. Hurricane Katrina happened in 2005,” Hurst said. Afterward, the corps began re-evaluating elements like debris blockage, protection from scour (erosion) and consequences, he said. Effects of disaster, after Katrina, are measured by the probability of an event multiplied by consequences — both in terms of potential life lost and economic impact. By using this, the corps has determined a Bluestone Dam failure would be horrific.

To study potential consequences, corps officials superimposed precipitation from 2004’s Hurricane Ivan atop the Bluestone Dam area, Hurst said. They examined what an Ivanesque event would do both now and after the dam was fully stabilized. According to data from the National Weather Service, Hurricane Ivan caused $14.2 billion in U.S. damages. “It could happen, and it did happen in 2004,” Hurst said. “It just didn’t sit on the New River Basin.” Right now, Bluestone Dam operates at an “interim” level, Hurst explained, until the stabilization work is complete. This allows a maximum height of 1,499.6 feet of water behind it. If it rises much higher, the dam could slide and fail. He noted corps officials have discussed lowering the interim amount. Downstream and in the direction of downtown Hinton, the corps’ authorized “impact stage” level is 10.7 feet, Hurst said. But the amount of water that could come from a Hurricane Ivan storm could force the corps to release more water. Otherwise, the dam could fail. “Failure of that dam would be much more severe than if this water were to be released,” he said. Hurst noted water from the New River eventually flows into the Kanawha River, then the Ohio River. A dam failure would cause major flooding not only in Hinton, but also in downstream cities like Charleston and Point Pleasant. He reminded people of the large chemical plants along the Kanawha River. “I was talking with Gov. (Joe) Manchin in his office. I told him there would be 15 feet of water in the governor’s office if this dam fails at full flood control pool,” he said. - - -

The ongoing stability project — with total completion scheduled for 2017 — will significantly improve safety, Hurst said. After the project is complete, Bluestone Dam will be able to hold 1,520 feet behind it, he said. In the same Hurricane Ivan scenario, corps officials would only have to gradually release water — keeping downstream levels at or below the 10.7-foot impact stage. “We would just control our releases out of the dam,” he said. Stabilization project work began in 1998, and the first phase’s construction bid was awarded in 2000, Hurst said. Now the project is on Phase 2B, and this is scheduled for completion in December. Phase 2B includes installing 150 anchors, of which 100 are done. The anchors are constructed of steel

strand cables that have a 35,000-pound design load for each strand, said Mike McCray, project geologist for the corps. Most of the anchors are composed of 61 strands which will hold more than 2 million pounds each. A hydraulic jack stretches out the cables like a guitar string, he explained. “They’re so large, a jack had to be made just for this project,” he said. Hurst explained the anchors are being installed into the dam’s bedrock, and they’re like a bolt screwed into it. These also give the concrete much more additional weight and keeps it from sliding. “They act like 2 million pounds of additional weight,” he said. Phase 2B also includes work on the dam’s penstocks, which are basically round openings at the dam’s base. Hurst explained these, originally constructed for a possible hydropower plant, can be used to release water at the base and relieve base water pressure from a large storm event. Rusty Landry, a certified health, safety and environmental specialist for Bayman Construction, which is working on the dam project, also noted employees have worked 965 days without a lost-time accident. - - -

Phase 2C is scheduled for award next year, Hurst said. That includes another 450 anchors, plus scour protection work. “This has been a tremendous return to the American taxpayer,” Hurst said. “The return on this investment will be so great.” In the meantime, the corps has partnered with federal, state and local officials and have continually undertaken emergency exercises, Hurst said. It has also worked to make the public more aware of any potential dangers and what is being done to prevent it. Pointing out many people died during Hurricane Katrina because they did not evacuate, he encouraged the citizens to heed any evacuation orders. He also encouraged them to watch weather forecasts and lake/river levels.

(This is interesting. Isn’t MSHA the agency that should be regulating these dams? Where have they been?)

WVa expert to testify in D.C. on coal waste dams

February 10, 2009, Charleston Daily Mail

WHEELING, W.Va. (AP) -- Wheeling Jesuit University's J. Davitt McAteer will testify on Capitol Hill this week about the school's work tracking coal waste impoundments. McAteer, former head of the Mine Safety and Health Administration, will speak Thursday to the House Subcommittee on Energy and Mineral Resources, chaired by West Virginia Democrat Nick Rahall. Production of coal waste is expected to grow with the demand for energy. The hearing will look at the need for safe disposal methods. A fly ash impoundment in Kingston, Tenn., that failed in December is only one of 600 waste dumps nationwide. McAteer says about half are large dams. Some impoundments store slurry, the waste from washing the coal, while others store coal ash, the material left over when it's burned.

Hydro

(Hydro education kit. I’m gonna get me one of these.)
http://ecochildsplay.com/2009/02/06/alternative-energy-education-fuel-cells-hydropower-and-global-warming-science-kits/

This summer, the **Hydropower** kit will be available, teaching children the science of water energy with twelve experiments and building projects. The power of water is one of the oldest sources of energy, and one which is completely renewable and natural. Experiments include building a waterwheel, a sawmill, a hammer mill, which all use water power for physical work; learning about water pressure with a water tower and a fountain; generating electricity with a hydroelectric power station; and learning how electricity can be generated by harnessing power from waves, tides, and rivers. **Hydropower** comes with a 48 page, experiment manual.

(When the environmentalists get done with their plan for hydro, we’ll probably rank much lower)

The U.S. ranks 4th in hydroelectric consumption

8 February 2009, Worldpress.com

According to British Petroleum, in 2006 the United States consumed 291.2 terawatt hours of hydroelectric power, 9.6% of the world total. That made the U.S. rank fourth in that category. China ranked first, consuming 416.7 terawatt hours, or 13.7% of the world total.

(How come hydro thinks small? These folks make a point that applies to any hydro project – renewable, economical, and long-lasting. But, it doesn't seem to happen as often as it should in the real world of hydro.)

Hydropower a benefit for farms

By MIKE McKIBBIN, Citizen Telegram, February 5, 2009, Rifle, Colorado

NEW CASTLE, COLO. - Using a farm or ranch's own water to produce power is a natural, according to three people with experience in hydropower projects. They talked about their experiences at the Wednesday, Jan. 28 Ag Day in New Castle. Old pickup alternator runs a home. Tom Golec, a longtime Roaring Fork Valley resident, has been involved with small hydro projects for over 20 years. He has supplied most of his home electrical needs on Ruedi Creek for the last 20 years with a small one-kilowatt generator powered by a spring used for domestic water. "It's basically this old Ford pickup truck alternator," he said as he lifted it onto a table. Golec's hydro project has required very little maintenance over the last two decades, he said. "I just recently put in a permanent magnetic generator instead of the old Ford alternator," Golec added.

Seven years ago, he partnered with a neighbor to develop a larger 25 kilowatt system that sometimes feeds the electric grid. That project's costs broke down into $30,000 for 2,000 feet of eight-inch plastic pipe, $35,000 for the powerhouse and electric grid interface. Golec said. "It'll likely be 15 or 20 years before we have to replace any parts," he stated. "If you maintain these, and they're designed right, they should run for maybe 100 years or more, like some of the ones you've heard about." The 25 kilowatt system produces about 175,000 kilowatt hours a year, and Golec and his neighbor receive $14,000 a year from Holy Cross Energy and $3,000 in federal tax credits. "So over the years, it's basically paid for itself," Golec said. Hydropower produces no emissions, but 175,000 kilowatt hours of electricity produced from fossil fuels would put 50,000 pounds of carbon monoxide into the atmosphere, he said. "So you get a lot more bang for your buck with hydro," he said. "This hasn't complicated our lives at all, and it's been a good income source." Most good agricultural sites are along irrigation ditches, he said.

Backward meter spinning

Joel Scott has lived in Aspen/Snowmass for 33 years with a degree in environmental conservation. He has managed the Quad III Ranch in Old Snowmass since the summer of 2003. In May 2006, the owners built a 5 kilowatt micro-hydro project powered by their 108-pounds per square inch, high-pressure irrigation system. Scott managed the project and currently maintains the system. "I can't express how much fun it was when the meter first started to spin backwards," he said. The year before the project was built, the ranch had $820 in retail electricity costs, Scott said. "In the first year, we zeroed out the ranch's electric bill," he said. The project cost $27,360 to build, but so far, the ranch has received a $10,000 check from Holy Cross Energy and $5,000 from CORE, Scott said, leaving only a $12,360 net outlay.

Power for 20 buildings

Steven Coley lived off the grid with a 75 kilowatt hydro plant for 25 years on the Rio Blanco Ranch outside Meeker, and has done hydropower feasibility studies for Indian Tribes. He is the owner of Mountain Property Resources, a renewable energy sales and development company.
Coley said the ranch powered all its 20 buildings with a system built in 1929. "We were a basically self-sustaining community," he said. He presented figures that said hydropower is the most efficient and lease expensive way to make electricity. While hydropower only supplies seven percent of all U.S. power needs, it includes 99 percent of power from all renewable resources, Coley said. Hydro plants are expensive to build, he said, and regulatory approval can take up to eight years for large projects. "Most of your costs are in the labor and the earth moving equipment," Coley said.

Restart the Hydroelectric Dam? Here's some history

By BILL SHEA, Messenger staff writer, *February 6, 2009*

The underwater inspection of the Hydroelectric Dam was the opening move in a fresh effort to decide its future. A plan to restart it as a generator of electricity ended last year when the Federal Energy Regulatory Commission refused to issue the needed license because of safety concerns. City officials began backing

away from the proposal before that ruling, however. They worried that cranking up the dam would be a money-losing operation instead of the viable one that was first promised. The dam was built in 1916. It was used to generate power for downtown streetlights until 1971. In 2002, Fort Dodge Hydroelectric Development Co., based in Cedar Rapids, began working with the city on a proposal to place a pair of 700-kilowatt turbines in the dam. Once restored to use, the dam would be used to power the John W. Pray Water Facility, the wastewater treatment plant, the pumps on water wells, downtown streetlights, the Municipal Building and the Fort Dodge Public Library. Fort Dodge voters in 2005 authorized the city government to borrow up to $7 million to pay for restoring the dam. Shortly after he took office in 2006, Mayor Terry Lutz persuaded the City Council to hire Stanley Consultants Inc. of Des Moines to review the proposal. That firm's report questioned the financial viability of the project. The City Council shelved the plan by the end of that year, then ended its contract with Fort Dodge Hydroelectric Development Co.

New hydroelectric plant for Juneau slated for fall

February 06, 2009, Fort Mill Times

JUNEAU, Alaska — A Juneau hydroelectric power generation project at Lake Dorothy is slated to come on line this fall. Utility officials say once it begins serving the Juneau area, the effect of future avalanche damage on power lines from the Snettisham hydroelectric project will not be as severe. Avalanches the last two winters have damaged power lines from Snettisham, forcing Alaska Electric Light & Power to switch to more expensive diesel fuel for power generation. The Lake Dorothy plant will tie into the last 10 miles of the Snettisham lines. Utility officials say if Lake Dorothy had been operating during the most recent repairs, the need for diesel would have been cut by 40 percent.

Environment

(Now, here's a person who is really mad! Take some time and read.)

Klamath Dam Removal Sheer Madness

Wildlife and people, 4 Feb 2009

*From **Klamath Basin Crisis** [here] — [Yesterday] around 100 people drove to Salem to testify at a hearing on Senate Bill 76, Klamath dam removal financing.. Up to $4.5 billion, according to FERC report, is the pricetag. 1800 petitions from Karuk tribal members, Siskiyou County residents, on and off Project irrigators and community members signed petitions opposing SB76, and these were submitted to the senators. Signers oppose the Klamath Basin Restoration Agreement. Advocates of SB76 tried to convince the senators and media that there is no opposition.*

The following is the Testimony of Katherine Lehman before the Oregon Senate Environmental and Natural Resources Committee, Hearing on SB 76, Tuesday, February 3, 2009 [here]: My name is Katherine Lehman. I live in Ashland, in Jackson County. I am the President of People for the USA! Grange, with members in both Oregon and California. PFUSA Grangers are "People united in applying Constitutional, free market principles in support of strong communities, vigorous economies, and a healthy environment." I appreciate the opportunity you've given me to comment on SB 76; I hope you consider my comments as earnestly as they are submitted. I hope each committee member has personally read the draft Klamath River Basin Restoration Agreement released in January 2008, and the Agreement in Principle released late last year, as SB 76 proposes Oregonians fund the proposed removal of 4 Klamath River hydroelectric dams; said dam removal is inextricably linked to both documents. The hydroelectric project owner is PacifiCorp. PacifiCorp has been attempting relicensing since 2006. If pursued, this will be the largest dam removal project in the world, necessitating generation of replacement of the project's 169 megawatts (mw) of abundant, clean (that is, greenhouse gas free, and carbon free), renewable, and sustainable electricity, serving about 70,000 customers. That is enough clean, GREEN POWER to serve the combined populations of Eugene and Springfield - GONE!

These agreements, while not yet binding, represent many serious infirmities, such as violations of existing Oregon and California state statutes, existing federal statutes, and even the U.S. Constitution. But too few care about violating the law anymore, so I am here today to speak for PacifiCorp's ratepayers, and as a taxpayer, for it is we who will pay the astronomical cost of this dam removal boondoggle - costs not just for the replacement energy required, but mitigation for the expected environmental and property damage, loss of jobs, tax revenues, and other significant impacts I don't have time here to fully address. Part of this proposed dam removal would entail the complete destruction of the Iron Gate Fish Hatchery. The hatchery was established in 1963 at river mile 190 to mitigate the effects of the dams on anadramous species. Production goals for the hatchery include 4,920,000 Chinook salmon smolts, 1,080,000 Chinook salmon yearlings, 75,000 coho salmon yearlings, and 200,000 steelhead yearlings (Richey 2006). If we Oregonians really mean to increase populations in these species, killing off such great production is worse than moronic. According to the Federal Energy Regulatory Commission's (FERC) final EIS, ~548,000 ratepayers will pay up to $4.5 billion for removal and disposal of 9000 acre feet of sediment from behind the four dams (there are reportedly some 20 million acre feet of sediment behind these four dams). A full ninety percent of these 548,000 PacifiCorp ratepayers reside in Oregon. This 9000 acre foot is equivalent to 1.5 million dump truck loads of sediment. The estimated $4.5 billion cost does not include liability for release of the toxins found to be in that sediment. According to FERC, this $4.5 billion will cost nearly $8,000 per electric ratepayer. What that adjusted cost will finally be at the time of actual dam removal, scheduled for somewhere between the years 2020-2025, is anyone's guess, but likely to be much higher.

FERC further estimates the cost of replacement power will add $35 million dollars PER YEAR to those same ratepayers. Worse, these costs do not include 1) The cost of decommissioning (unhooking and moving the generators); 2) The cost of environmental and fish passage regulations until the dams are removed; or, 3) The value of PacifiCorp's un-depreciated assets (dam, equipment, etc.). These assets are undefined in the AIP and could be substantial. As significant as these cost figures are, I'd like to bring them into much sharper focus against the background of our larger national economic emergency. The current U.S. population is somewhat in excess of 305 million. Less than half that number files federal income taxes. Of the 140 million who do file, according to the IRS, roughly 1/3 has zero tax liability currently. The U.S. Treasury states as of January 31, 2009, the public debt was $6,317,224,182,633.94 (that's trillion, with a "T"), and the intragovernmental debt is $4,314,781,064,103.03, for a combined debt of ~$10.64 trillion dollars. If you divide the combined debt of $10.64 trillion by ~305 million — every man, woman, and child in the country would be on the hook for just under $35,000. And lest we forget, the national debt is growing an average of $3.3 billion each day. While these numbers are jolting to those of us in Smallville, USA — those expected to pick up the tab — these figures are really only the tip of the U.S. debt iceberg. According to the Federal Reserve, there are 8 major areas where Americans hold debt. According to the Fed's "Flow of Funds Account," published in late September, 2008, the overall outstanding U.S. debt is $49 trillion. Of that amount, "Debt Area #4 - State and Local Governments" accounts for $2.19 Trillion in debt! If you divide our total national indebtedness of $49 trillion by 140 million, each taxpayer's share of this crushing debt is ~$350,000 — if we paid it off right now and didn't dig the nation and her taxpayers in any deeper!

My husband and I live on a modest income. We both started working in our mid-teens, and continue to work to this day. We are largely self-sufficient, growing much of our own food (and that for several others), and we utilize solar and other renewable energy sources in our home. We are not poor; but we would have to liquidate all our assets to pay our "fair share" of these expenses we are not, and never have been, consulted about. We do not have the years left to enable us to buy more land and rebuild our home. We could not afford to feed, clothe, and shelter ourselves, let alone contribute to our community, as we now do. We would become a burden on society… requiring more government indebtedness. There are already approximately 150,000 Oregonians out of work. That number is expected to rise this year. Projections further out are scarce. In July of 2008 — a mere seven months ago — the Oregonian newspaper reported mortgage defaults in the Portland and central Oregon areas were up 97% — far higher than at the peak of the last downturn in 2002. Southern Oregon mortgage defaults climbed 165% in the last two years. Statewide mortgage defaults are expected to continue much higher. Inflation is reported in single digits, but those of us buying animal feed, fertilizers, and other farming and ranching supplies experienced inflation rates in the higher double digits last year, with no relief in sight. Bankruptcies filed in Oregon increased 54% in the fourth quarter of 2008. Compounding the problem, there were 1,420 business bankruptcies in Oregon in 2008. Adding insult to injury, viable new businesses cannot get needed start-up capital from banks. Many of these banks took their share of the first Congressional bailout of $750 billion; a bailout which, incidentally, added ~$5,300 in debt to each of the 140 million federal taxpayers, on top of the $350,000 already owed by everyone in the country. I've read the Oregon Legislature expects a budget shortfall of $1.4 billion to maintain the state's current level of programs and services in the 2009-2010 biennium. The Governor and the Legislature, however, are proposing an increase that will cost $1.955 billion more than projected

revenues, so they can increase these programs and services. Rounding up slightly for simplicity, and dividing $2 billion by 3.75 million Oregonians, we see an additional cost for every man, woman, and child in the state of ~$535.

I am not an economist. I am someone who lives within my means. I have provided this graphic peek into our shared financial future not as a financial professional but as someone praying you will understand the perspective of most Americans, and most Oregonians, most especially in these desperately troubling economic times. Most Oregonians do not know the details of this ludicrous and extra-legal proposed dam removal, purported to be for the benefit of fish — fish that are not Gods of the natural world, as some would have us believe — just mere food for humans, animals, insects, and other fish. Since 2003, federal taxpayers alone have paid over $500 billion for Klamath River "restoration" projects of one sort or another. We have received no identifiable, objective benefit, contradicting the "best science" used to demand the money we spent. Salmon are still so abundant throughout their complete range that I paid as little as $1.99/lb. for wild Chinook salmon on multiple trips to a local supermarket in 2008. If we accept without argument or proof reports of historical escapements of Coho and Chinook Salmon in the region — estimates as high as 400,000 for fall run Chinook in the Klamath River (Rankel 1982); 100,000 spring run Chinook in the Klamath and Trinity Rivers (Moyle 2002; and an estimated 500,000 Coho throughout California — the total number of salmon escapements before the Klamath River dams could, possibly, maybe have been one million fish. Let's, for sake of argument, accept one million salmon as the total salmon escapement goal for the Klamath River, sans dams. Then, let's accept FERC's incomplete, and woefully inadequate, cost estimate for dam removal of $4.5 billion. Divide that $4.5 billion by ~1 million salmon; we see a price tag of ~$4,500 per fish — IF AND WHEN total escapement reaches one million. Unless that number is achieved the actual cost will be exponentially higher. This is sheer madness! I, for one, vote to pay $1.99/lb., and I hope you do the same. Thank you for your time and consideration. PLEASE DO NOT PASS SB 76 OUT OF COMMITTEE!

(Of course, the media will always minimize the cost. Sure it may not cost a single power purchaser a huge amount, but when you do the arithmetic it is a large amount of money.)

Klamath River dam removal could increase power bills

by Matthew Preusch, The Oregonian, February 05, 2009

A bill that could increase many Oregonians' electricity bills by $1.50 a month to pay for removing Klamath River dams is scheduled for its second hearing in Salem today. Senate Bill 76 is supported by Gov. Ted Kulongoski, PacifiCorp and most of the power players in the water war weary Klamath Basin, who are behind a larger regional compromise that includes this bill. The text of the bill is here, and you can watch a senate committee's discussion scheduled for 3 p.m. today here. A vote may get pushed back until Tuesday. It would create a fund of up to $180 million from a surcharge on PacifiCorp's Oregon ratepayers to go towards dam removal, which the governor, tribes, fishers, farmers and others say is a necessary step to resolving disputes over water and resources in the basin. But industrial customers of PacifiCorp, which operates in six western states, say the bill unfairly saddles Oregon's PacifiCorp customers with the cost of taking out the four dams, which produce relatively cheap hydroelectric power used by people and business across its service area. "The result of this bill will be to shift an unfair burden on Oregon ratepayers," said Melinda Davison, an attorney representing Industrial Customers of Northwest Utilities.

If the bill passes out of the Senate Environment and Natural Resources committee, which could happen as early as today, and clears other hurdles to become law, the state of California still must create its own dam removal fund. And there are various other federal steps and analyses that would occur before the dams could come out, starting in 2020. "The reality is that most of the benefits of the dam removal are going to go directly in the basin, and that's Oregon and California, so that's why the costs are being spread over those ratepayers," said Sen. Jackie Dingfelder, D-Portland, chair of the committee handling the bill in Salem.

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Some Dam – Hydro News and Other Stuff

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2/20/2008

Quote of Note: *"An economist is an expert who will know tomorrow why the things he predicted yesterday didn't happen today." - - Laurence J. Peter*

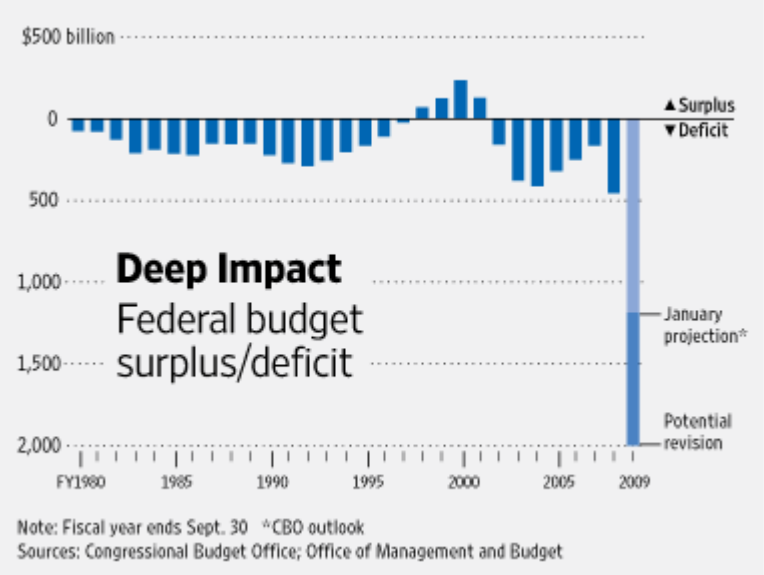
"Good wine is a necessity of life." - -Thomas Jefferson

Ron's wine pick of the week: **Cousino-Macul Antigua Reservas Cabernet Sauvignon, Chile 2006**

Other Stuff:

(The dam's failing)

(Not a pretty picture – don't you wish the chart was flipped over!)

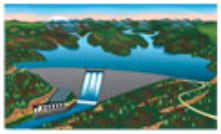


(Gee, 0.79 inches doesn't sound like much. Well, anyway I learned a new word – "thermosteric")

Sea level has risen by 20 mm from 1955-2008

ANI, 17 Feb 2009

Washington, Feb 17 (ANI): In a new research, a scientist has determined that the observed ocean warming has contributed approximately 20 mm to global average sea level for the time period 1955-2008. Based on detailed analysis of ocean vertical temperature profiles for the 1955-2008 period. Sydney Levitus, lead author of the research paper, talks about the change of global average sea level induced by the observed warming of the world ocean during the past 53 years. The warming of the world ocean is consistent with the amount of warming expected as a result of the observed increase in greenhouse gases in earth's atmosphere. The observed ocean warming has contributed approximately 20 mm to global average sea level during this time period. This is simply the phenomenon of salt water expanding when it is warmed. This expansion effect (or contraction if cooling occurs) is known as the "thermosteric component of sea level change." This estimate is similar to previous estimates even after recently identified instrumentals errors are corrected for and additional historical data has been added to the scientists' database. The thermosteric component of sea level change is only one of several phenomena affecting sea level. Others include the melting ofglaciers, the transfer of liquid water between the continents and oceans, and the impoundment of water by dams. In the research paper, Levitus will also describe the changes in global sea level, resulting from changes in the distribution of temperature and freshwater in the world ocean during the same 1955 - 2008 time scale. (ANI)



Dams

Further tests sought on Galesville core samples

The News Review, Roseburg, OR, February 12, 2009

The U.S. Army Corps of Engineers has asked Douglas County to conduct additional testing at Galesville Dam to determine whether the presence of "soft material" inside core samples taken last summer from an isolated section of the dam is any cause for concern. "It looked like some clay material was in the cores when the Corps pulled those out," county Public Works Director Robb Paul told county commissioners Wednesday. "It could have been contamination from equipment, something came off the tires of the rig,

maybe it was in the box when they dumped it. We're not totally sure, but there is some clay material mixed in with that roller-compacted concrete right around the galley area." The area of concern is in a 50-foot portion on the dam's north side. Seven core samples — with individual drillings between five feet and 25 feet deep — were taken in that area, along with seven other samples throughout the rest of the dam. From the initial core samples, with the holes filled back in with concrete, it appears to be isolated within a "pretty small pocket area," Paul said. The Board of Commissioners approved an amendment to an existing contract with the Corps of Engineers to pay for the work. The cap on the addition is $49,142.

Construction of the Galesville Dam, located east of Azalea, began in 1983. It was built by mixing rock with concrete and using a road roller to compact the material in layers. Galesville and the Willow Creek Dam, built a year earlier at Heppner, were two of the nation's first dams engineered using that method, which produces a stair-step effect on the dam face. Each layer of material produces a seam where small amounts of water can seep through, which is considered normal within tolerances. The seams are considered weak points in roller-compacted dams and the Corps of Engineers makes sure they are monitored regularly. Some excess seepage was discovered in 1995. Epoxy was used to fill the holes and less water has come through since then, Paul said. The new core samples, five in total, are expected to be drilled next month, Paul said, with the results provided to the county by June. A consulting engineer will examine the samples and analyze whether enough friction exists between the seams to maintain the safety of the dam, a requirement by the Federal Energy Regulatory Commission to maintain Galesville's status as an electricity generating dam. "I'm sure the report is going to come back that everything is fine," Paul said in answer to a question from Commissioner Susan Morgan. As part of the county's ongoing monitoring of the dam, brass plates on top of the dam are surveyed quarterly to ensure the dam hasn't sunk or the plates have moved out of alignment. Measurements of water seepage are also recorded on a quarterly basis. County employees also keep an eye out for anything out of the ordinary, Paul said, "Someone is out there pretty much every day, either at the powerhouse or the face of the dam," he said.

Pennsylvania DEP Finds No Structural Problems After Re-Inspecting 11 Large Coal Waste Basins

HARRISBURG, Pa., Feb. 12 /PRNewswire-USNewswire/ -- Environmental Protection acting Secretary John Hanger reported today that no structural problems have been discovered after the first round of re-inspections were completed at 11 coal waste impoundments across the state. Hanger ordered the immediate inspection of 41 high-hazard waste impoundments after two coal ash impoundments in Tennessee collapsed in late December. The findings, according to Hanger, should reassure the public that these dams are being operated safely and in compliance with Pennsylvania's dam safety laws.

"Pennsylvania's dam safety and waste management laws strictly regulate the construction and operation of waste impoundments to protect the environment and the lives and property of downstream residents," Hanger said. "DEP inspectors have conducted a thorough inspection of 10 coal ash basins across the state and a chemical sludge basin in western Pennsylvania and have noted that inspection reports are up to date and no structural problems are evident at these impoundments." Under Pennsylvania law, dams and impoundments that could endanger downstream residents in the event of collapse are classified as "high-hazard" dams and must be inspected annually by a professional engineer hired by the owner. These dams are also inspected each year by a DEP dam safety inspector. High hazard dam owners must create and maintain a current emergency action plan that provides a blueprint for the dam operator and local and county emergency management officials to respond to structural or other problems at the dam. Pennsylvania has 11 coal ash slurry basins that are large enough to require dam permits. Five of those basins are classified as "high-hazard" dams. The basins hold ash that is removed from the combustion units of coal-fired power plants and stored prior to reuse or disposal. Hanger has also ordered the re-inspection of 31 other high-hazard waste impoundments, most containing coal slurry, by the end of June. "People living downstream from dams have a right to know that these structures are being monitored and maintained properly and that required inspections are being conducted," Hanger said. DEP regulates approximately 3,200 dams. For more information on coal ash impoundments, visit www.depweb.state.pa.us

(How come dams are like intersections? Why wait until there's an accident to put in a stop light?)

Rahall: Coal-ash dams 'ticking time bomb'

By Ken Ward Jr., February 13, 2009, The Charleston Gazette

CHARLESTON, W.Va. -- Coal-ash impoundments across the nation are a "ticking time bomb" and federal regulations are

needed before another failure like the one two months ago in Tennessee, House Natural Resources Chairman Nick J. Rahall said Thursday. "This issue cannot be ignored," Rahall said. "I believe we have a ticking time bomb on our hands." Rahall made his remarks during a subcommittee hearing on his legislation to force the Interior Department to regulate coal-ash dams, much as it does coal-slurry impoundments, under the federal Surface Mining Control and Reclamation Act. The West Virginia Democrat announced plans for his legislation a week after a Tennessee Valley Authority coal-ash dam collapsed in Tennessee, sending more than 1 billion gallons of toxic ash pouring over homes, fields and streams. Under the bill, Interior's Office of Surface Mining, Reclamation and Enforcement would write rules to require "substantially similar" design, construction and inspection standards for coal-ash dams as those current governing slurry impoundments. Tom FitzGerald of the Kentucky Resources Council praised Rahall's legislation, but said citizen groups also want to see the U.S. Environmental Protection Agency develop a "comprehensive regulatory framework" for management of power-plant wastes. "I know the sponsor shares my belief that regulation of these wastes under SMCRA is not the ideal strategy, and that it is not a surrogate for a comprehensive regulatory framework managing all aspects of this growing and increasingly problematic waste stream," FitzGerald told lawmakers.

Nick Akins, executive vice president of American Electric Power, told subcommittee members the idea of federal oversight or standards has some merit. But, Akins said, industry is worried that OSM might not be the best agency to take on the job, and that federal rules would overlap or duplicate existing state requirements. "We need an effective, but coordinated approach," Akins said. John Craynon, regulatory support chief at OSM, said his agency has not yet developed a position on the legislation, but it worried that a six-month time limit to write new rules would be difficult to meet.

(More of the same – looks like they may be serious.)

Tennessee: Coal ash regulation bill pushed in wake of TVA spill

By: Herman Wang, Chattanooga Times Free Press, Feb. 13, 2009

WASHINGTON — A legislative proposal to establish federal guidelines for coal ash storage and disposal would take significant funding and time to implement, an Interior Department official testified Thursday. “This new program would apply not just to those areas with coal mining activity but also to a new universe of materials and sites beyond active and abandoned coal mine sites,” said John Craynon at a hearing of the House Subcommittee on Energy and Mineral Resources. Mr. Craynon, who’s with the Interior’s Office of Surface Mining Reclamation and Enforcement, noted the agency has not adopted a position on the bill. “As you know, this would be a very significant expansion of OSM’s authority and scope of responsibilities,” he said. “Additionally, we believe the ambitious six-month timeframe allowed for publication of a regulatory program would be difficult to meet.” The hearing focused on a bill sponsored by Rep. Nick Rahall, D-W.V., that would regulate the management of coal combustion waste. Rep. Rahall said the recent coal ash spill in Kingston, Tenn., shows “the issue can’t be ignored.”

On Dec. 22, the dam at an earthen retention pond burst at the Tennessee Valley Authority’s Kingston Fossil Plant, releasing about 1.1 billion gallons of sludge, some containing toxic metals, onto nearby land and into the Emory River. “I believe we have a ticking time bomb on our hands,” Rep. Rahall said. “The electric utility industry generates 131 million tons of coal ash each year. Yet the disposal of this massive amount of material is the subject of a patchwork of state regulation, some very good, some not so good, some bordering on the nonexistent.” But subcommittee ranking member Rep. Doug Lamborn, R-Colo., said the bill amounts to an unfunded mandate and would unnecessarily muddle existing regulations. “My main point is that, under this legislation, the Office of Surface Mining will have to expand into 10 further states,” he said. “And it seems that such expansion will complicate an already complicated (process).” Nick Akins, an executive vice president with American Electric Power, a utility that provides power to 11 states, including Tennessee, voiced support for Rep. Rahall’s bill. “Because different state approaches exist for regulating dam safety, the principle of having some level of federal oversight or standards to provide consistency across the country has merit,” he said.

(Huh, since when is a dam on good bedrock not OK? It’s probably a lean cross-section that’s the problem.)

Columbia dam to be stabilized

Anchors to be installed

By SUSAN W. THURMAN, Feb.14, 2009, The Daily Herald, Maury County, TN

The old Columbia dam on Riverside Drive will be stabilized this spring. The $1.7 million project is being jointly funded by Columbia Power and Water Systems and the Duck River Agency in Shelbyville. A specialty contractor company out of Saxonburg, Penn., will install 22-23 stabilizing anchors in about two months at the site, said Jim Clark, general manager of CPWS. The contracted company is investigating the stability of the concrete and the best place to sink the anchors through the structure and into the bedrock, while project engineers with a company out of South Carolina are providing oversight. The anchors will be drilled 30 feet into the bedrock, creating a reverse spring action that will pull the dam down towards the bedrock, one on-site engineer said. The dam, which has been owned by the city of Columbia/CPWS since 1965, was built in 1925. “Back then, using the standards of the day, it was accepted and permissible to build small low-head dams just sitting on top of the bedrock,” Clark said, adding that this is first stabilization work done to the structure.

An on-site engineer said there were federal guidelines adopted in the 1990s that suggested all older dams be stabilized. Clark says these guidelines were not the impetus for the current project, which was planned back in 2004. “It’s in the community’s best interest to take care of that dam, to prolong the life of the dam until an alternate source of water can be found, Clark said. “If the dam fails no one would be in danger, but the water behind that dam is Columbia’s water supply.” Clark said the installation will not begin for about two months because it is unsafe to work during flood season, but once installation begins, the area will be closed to all vehicle and foot traffic until the work is finished. Clark said he expects the project should be finished by summer, but “we don’t control the weather.

Hydro

Settlement reached on Avista dams dispute

THE ASSOCIATED PRESS, Seattle Post-Intelligencer, February 10, 2009

SPOKANE, Wash. -- A deal has been reached that will lead to relicensing of four dams on the Spokane River operated by Avista Corp. Avista will receive certification from the state Department of Ecology, which was the last hurdle to federal relicensing of the Upper Falls, Monroe Street, Nine Mile and Long Lake dams, utility spokesman Hugh Imhof said. Avista should receive its new 30- to 50-year licenses later this year, officials said. The Sierra Club and the Center for Environmental Law and Policy had appealed DOE's water quality certification, seeking higher summer flows over the Spokane Falls. They agreed to other provisions in the agreement, but will continue to pursue higher summer flows.

(Some hydro history and some new hydro)

Here’s to hydropower

Dedication of Albany’s renovated energy facility draws 70 people

By Cathy Ingalls, Albany Democrat-Herald, Feb. 13, 2009, Albany, OR

About 70 dignitaries, city staff, history buffs and energy agency representatives gathered Friday afternoon at Albany’s renovated hydropower plant to take part in a dedication ceremony. Mayor Sharon Konopa told the group that was wedged into a small work area that high fuel costs make plants such as the one at 300 Vine St. S.W. popular because they use natural resources to provide renewable, green energy. The plant relies on a water gravity feed to generate power, which is in keeping with Oregon’s renewable energy goals. Following short talks by energy officials, everyone moved to the generation room to watch Konopa take giant scissors to cut a red ribbon, which completed the dedication ceremonies. Below the ribbon was a brand new 500-kilowatt turbine generator that replaced one of two turbines installed in 1924. One of the turbines was left in place for comparison to the new one and as a historic artifact. The old turbines were decommissioned in 1991.

The new hydro turbine generator is at the end of the Santiam-Albany Canal, where electricity first was generated in 1888. Albany’s hydropower water right dates to 1874, earlier than its municipal water right. According to information provided by the city, by 1878 at least 14 manufacturing plants in Albany used water

power from the canal. In the mid-1990s, Albany applied for a new hydropower generating license from the Federal Energy Regulatory Commission. A license was issued in 1998. The license required that improvements be made to the 18-mile-long canal dug by hand by Chinese laborers: new hydraulics including a headwork control structure, fish ladders at the Lebanon-Santiam Diversion Dam, and a fish screen to prevent migratory fish from getting into the canal. The new equipment began producing a little power in October 2008. Since then, engineers have fine-tuned the operation and added a protective disconnect switch and controls to feed power safely to the electrical grid. The entire project cost $2.2 million and is expected to generate a profit almost immediately. Energy Trust of Oregon provided a $475,000 grant for the project and Pacific Power's Blue Sky renewable energy program contributed a $25,000 grant. The city also will receive a $580,000 Business Energy Tax Credit from the Oregon Department of Energy. Pacific Power has agreed to buy electricity from the plant for 15 years.

Weatherly hydroelectric plant one step closer to reality

BY JIM DINO, STAFF WRITER, February 16, 2009, standardspeaker.com

The Borough of Weatherly, PA has moved a step closer to building a long-awaited hydroelectric plant along the Lehigh River. Borough Manager Harold Pudliner said the Federal Energy Regulatory Commission has approved a preliminary permit that will allow the borough to conduct a feasibility study for construction of two generating units with the capability of generating 26 gigawatt-hours a year. "We have three years to complete the study," Pudliner said. "How long it takes will depend upon what we find." Pudliner said the study will be done by Utility Engineers PC of Drums. One of the principals in the firm, Norm Baron, had worked on the borough's original hydroelectric project a few decades ago.

"The study itself will take about six months, and the biggest element is the environmental assessment," Baron said. "But it has to be reviewed and approved by several government agencies, and that's what takes so much time." Baron said right now, a search is under way for grants to fund the study, which he estimated between $150,000 and $300,000. Part of the study, Baron said, will determine how the borough will pay for the project, which will cost millions. The borough had a similar permit in the 1980s, but did not act on it because the Army Corps of Engineers was anticipating a project to modify the Francis E. Walter Dam – which would have impacted the hydroelectric project. Whether or not the dam is raised won't impact the hydroelectric project this time. "The generators would be a little further downstream," Pudliner said. "This time, the Army Corps of Engineers did not offer any comment during the public comment period for the application." In fact, the only comment came from the U.S. Department of the Interior. "They were concerned that no endangered species be affected," Pudliner said. "They also gave us an alert to watch out for bald eagles nesting." Baron said moving the location of the hydroelectric plant is just one change from the original project. "There have been technical advancements in the type of generation equipment the plant would have," Baron said. Pudliner also said the technology exists so that if the dam work is done, the project can adjust to it. "I'm not sure what type of generation the plant would have," Baron said. "It would be based on water releases. It could be modified for future elevations of the dam." Baron said the location for the hydroelectric plant was chosen for a reason. "The water storage is there and flows favorable to hydroelectric are there as well," Baron said. "It's close to the Borough of Weatherly, and the electrical facilities are fairly close. Not many dams have these attributes."

George Sauls, the engineer who oversees five dams in Pennsylvania's northern region for the Army Corps of Engineers, said the corps does not oppose the project. "We don't typically oppose projects like this," Sauls said. "I haven't seen this project yet. We have requirements that have to be met in order to have hydroelectric power at a corps facility." Both Baron and Pudliner said that ever since the Walter Dam was built in 1961, the Army Corps has had plans to raise it 29 feet but has never acted to expand it. Sauls said every year since 2005; the Army Corps raises the level of a pool behind the dam, for recreational purposes. But the dam itself has never been raised "The Army Corps has relaxed its position because of green energy," Baron said. "They now look favorably to the borough to do it." Pudliner said the borough would not abandon its present system of purchasing electricity in bulk from PPL, but would sell the electricity generated to PPL. If the plant is built, Baron said it could possibly pay for itself. But that would depend on the dam's production. If the dam work is done – and it is 29 feet higher – it will be enable more power to be generated. Baron estimated that 29 gigawatts (hours?) of power per year could be generated if the dam is higher. Pudliner said the borough uses about 21 gigawatts (hours?) per year. If 26 gigawatts (Hours?) of power was produced, it would be more than the borough uses, so the borough would make money on the deal.

Water

(Some almost good water news)

TVA sees hydrology improve after years of drought

International Water Power and Dam Construction, February 13, 2009

Tennessee Valley Authority (TVA) has reported improved hydrology in recent months in stark contrast to the relative drought conditions suffered over the last three years. TVA said that rainfall in the eastern part of the Tennessee Valley was 96% of normal during the three months to 21 December 2008, which is the first quarter of its 2009 fiscal year. Runoff was two thirds of normal levels during Q1, and consequently the hydroelectric output increased by 1100 GWh compared to the same period in the 2008 fiscal year. The utility said that precipitation and runoff continued to improve last month. Drought conditions over recent years had cut the utility's hydro power output by more than half.

Environment

(Well, we know what's going to happen here. This judge hates dams. It MAY be that the end of the 4 Lower Snake River dams is near.)

Columbia salmon plan goes before judge for third try

Perhaps no person has more control over the fate of Columbia River salmon and dams today than a 79-year-old Red Sox fan who doesn't fish or much care for the taste of salmon. U.S. District Judge James Redden is expected to rule as early as next month in the long-running case over whether dams on the Columbia River system are doing enough to protect endangered fish.

By Warren Cornwall, Seattle Times environment reporter, February 10, 2009

Perhaps no person has more control over the fate of Columbia River salmon and dams today than a 79-year-old Red Sox fan who doesn't fish or much care for the taste of salmon. From his Portland courtroom, U.S. District Judge James Redden has scolded top federal bureaucrats like the coach of a losing football team. He's taken the extraordinary step of seizing partial control of a string of massive government dams, against the wishes of the government. He has even raised the prospect of tearing down dams to make way for endangered fish. Now, in the twilight of a 47-year political and judicial career, Redden is trying to prod, threaten and cajole to solve a conflict that has vexed the Northwest for decades. He's expected to rule on the adequacy of a federal plan meant to operate the dams while simultaneously reviving sickly salmon runs. The case is to be argued in his court in early March. If he deems the plan a failure, he has warned of even more court oversight of dam operations. It's the government's third try with Redden, and — he has warned — their last. At 79, it might be his last chance, too. The stakes are high. His handling of the case will help shape the future of the West's biggest river, which generates power for hundreds of thousands of homes and once boasted jaw-dropping salmon runs. It also will define a career that has taken Redden from the state capital in Salem to the campaign trail for governor to the federal courthouse. "We've been going on with this since 1992. We're running out of time," Redden said at a 2005 hearing about the new version of the plan now in front of him. "This time, we're going to do it."

"A real straight shooter"

It would be easy to imagine Redden as someone bent on saving fish at all costs. But friends, colleagues and legal observers paint a different picture. Redden's not an outdoorsman or angler — he told one reporter he doesn't particularly like eating salmon. Instead, he's described as a pragmatist using his legal skills and political experience to prod everyone toward a solution. "I'm sure people think he's some kind of environmental activist. He's not. I think it's about finding solutions as opposed to saying one group is black and the other is white," said Mark Nelson, a friend and former Redden adviser who lobbies for a group

opposed to the judge's restrictions on the dams. Redden declined to speak for this story, citing the sensitivity of the case right now. His career first crossed with Columbia River salmon three decades ago, before he became a judge. It was 1977, the height of the "fish wars" pitting tribal fishermen against nontribal anglers and their allies, the states of Washington and Oregon. The adversaries had fought to a virtual standstill in the courts over how many fish each could catch in the Columbia River. So Redden, Oregon's newly elected attorney general, tried something different. He offered to sit down with the tribes and negotiate. "He was a real breath of fresh air," recalled Tim Weaver, who represented the Yakama Nation in the case. "He's just a real straight shooter, a fair and honorable man in my opinion." A year later the two sides agreed to a plan to split the salmon.

Humor and pragmatism

Redden was a young trial lawyer from Medford when he was elected as a Democrat to the state House in 1962. The transplant from Springfield, Mass., rose quickly through the ranks and soon became minority leader for House Democrats. He helped broker a deal on one of the state's landmark environmental laws, a fiercely debated 1967 bill cementing public control of beaches along Oregon's coast. "Redden was a vital part of getting that solution," said Roger Martin, a Republican lawmaker at the time. "He had a delightful sense of humor and he could take people who were very angry and joke them out of being angry." Redden went on to be elected state treasurer in 1972. He ran for governor in 1974, losing in a three-way Democratic primary. Two years later he was elected state attorney general. As he finished his term, then-President Carter appointed him to the federal bench. As a judge, Redden earned a reputation for his self-deprecating humor and his willingness to flex judicial muscles. His political background was unusual for a post more often filled by prosecutors and local judges. "He was just very pragmatic. And he liked to deal with, 'What's the problem here? What are the key issues? And what's the right solution,' "said Mike Pierson, a Seattle lawyer who clerked for Redden in the 1980s. Over the years Redden has repeatedly skewered government agencies. He imposed a temporary ban nationwide on a gypsy-moth pesticide, ordered the U.S. Census Bureau to release secret population counts, and halted cattle grazing in parts of southeast Oregon, saying the agency in charge wasn't doing its job. But the salmon case is defining his tenure on the bench. Redden joins the ranks of Northwest federal judges whose rulings transformed the politics surrounding an environmental issue. In the 1960s and '70s, court rulings established Indian treaty rights to half the fish caught in much of the Northwest, giving tribes new clout. In 1991, a Seattle judge temporarily halted old-growth logging in federal forests to protect spotted owls, setting the stage for a political settlement to the old-growth timber wars. "Judge Redden is now the latest of a long series of magnificently independent federal judges," said Bill Rodgers, a University of Washington professor of environmental law.

Much is at stake

On the salmon case, Redden has twice rejected a federal plan issued by the National Marine Fisheries Service for reviving salmon runs spanning 14 federal hydropower dams on the Columbia River system. He's said the plan doesn't do enough for salmon and steelhead protected by the Endangered Species Act. His 2005 ruling forcing the release of water from dams to aid fish sent a jolt through northwest political and legal circles. It effectively put his hands on the levers controlling dams run by the U.S. Army Corps of Engineers and the Bonneville Power Administration. Since then, the dams have missed out on tens of millions of dollars in electricity — $74 million in 2005 alone — that could have been generated had that water been sent through turbines, according to BPA documents. The decision was met with scorn by some politicians, including U.S. Rep. Doc Hastings of Pasco, who said it "flies in the face of common sense and amounts to gambling with the survival of these fish and the checkbooks of Northwest families and job-creating businesses." James Buchal, an attorney representing Eastern Washington irrigators on the case, said Redden and previous judges are misinterpreting the Endangered Species Act to conclude the dams must be run to do everything possible for the fish. "There's this widespread misperception that dams are killing a lot of fish and that's bad and, who cares what the law is, they must do more," said Buchal, who unsuccessfully tried to remove Redden from the case. Salmon advocates, meanwhile, say Redden's spill order has been a boon for fish. They point to unusually strong returns of sockeye in 2008 as evidence of its success. Perhaps more important, the ruling broke through a logjam in which paperwork shuttled back and forth in the courts for years with little substantive change, said Mary Wood, environmental-law professor at the University of Oregon. "He's the first to cut through the agency politics and provide meaningful relief on the river," she said. "He's actually doing what a judge should do, finally."

Momentous decision

Redden has pursued the case with a mixture of encouragement and threats. He has expressed confidence that a solution is in reach. But his patience also appears to have worn thin. He has warned of a broader court takeover of dam operations if the plan again doesn't pass muster. He even has made reference to breaching some Snake River dams to recreate a free-flowing river. " 'Speeching' on the dams will not avoid

breaching the dams," he wrote in a 2005 decision — likely a reference to a vow by then-President George W. Bush to not breach dams. "Cooperation and assistance may." The federal government insists this time it's gotten it right. Officials note that tribes previously fighting them in court now support the salmon plan, after signing a $900 million settlement with the government earlier this year. "We finally have a practical and comprehensive salmon plan," the Yakama, Warm Springs and Umatilla tribes stated in a court filing. "It may not be perfect, but it's based on the best available science." Environmentalists, meanwhile, say it's the same old package with new wrapping. They point out that the Nez Percé Tribe, the only one with fishing rights above the Snake River dams, still opposes the plan. Both sides agree Redden's ruling will be momentous. If he signs off on the plan, it will deprive environmentalists of a major source of leverage in their push to remove the four Lower Snake River dams. If he rejects the federal plan yet again, and expands court control over the dams, environmentalists hope it will pressure Northwest politicians and the Obama administration to agree on a new way to run the river. "His court," said Pat Ford, head of the salmon-advocacy group Save our Wild Salmon, "is very important to how this equation moves."

(Meanwhile, the NPCC goes on)

NW council approves Columbia River management plan

THE ASSOCIATED PRESS, Seattle Post-Intelligencer, February 10, 2009

PORTLAND, Ore. -- The regional agency that oversees Pacific Northwest power development has approved an extensive revision in its $200 million a year fish and wildlife management plan. The Northwest Power and Conservation Council voted Tuesday to adopt a revision of its 2005 Columbia River Basin Fish and Wildlife Program, which tries to mitigate the effects of hydroelectric dams in Oregon, Idaho, Montana and Washington. The council, based in Portland, provides oversight and guidance for conservation measures across the four states with funding provided by electricity ratepayers. The eight council members approved the program unanimously except for the portion that includes recommendations on Columbia and Snake River dam operations. Oregon's two council members voted against that section because it could conflict with the state's position in a federal lawsuit over future dam operations. The fish and wildlife program revision began in November 2007 when the council called for recommendations from fish and wildlife agencies and Columbia River Basin Indian tribes.

Council Chairman Bill Booth said he was proud of the revised plan, which includes changes recommended by scientists, tribes, utility and fishery managers, and environmental groups. But Nicole Cordan, spokeswoman for Save Our Wild Salmon, said she was concerned about a provision that suggests the council is considering removal of the Fish Passage Center, the agency that counts Columbia River salmon and steelhead. The council agreed to changes in the oversight board for the center in 2007 after the 9th U.S. Circuit Court of Appeals ruled the Bonneville Power Administration could not close the center and transfers its operations to other agencies. The proposed closure was part of a dispute over fish numbers used by a federal judge to decide whether Bonneville had to spill more water over Columbia and Snake River dams to increase fish survival - which would reduce the amount of hydropower generated in the summer. Cordan said the provision about the fish center was added to the revised council plan at the last minute, without public review and comment, in an attempt to "weaken the FPC's abilities to give the public unfiltered independent scientific assessment and it is simply wrong."

The revised plan:

- Improves fiscal accountability with reporting guidelines.
- Commits to a periodic and systematic exchange of science and policy information.
- Maintains the goal of increasing salmon and steelhead runs to 5 million fish by 2025 and achieving smolt-to-adult return rates of 2 to 6 percent.

(Now, this one really solves everything)

Hydroelectric Dams Cause Salmon Brain Injuries

Dr. Miracle of the Pacific Northwest National Laboratory in Richland, Washington has developed a method of detecting brain injuries in salmon caused by dams by comparing amounts of intact protein to amounts of breakdown protein products in cell walls.

Written by Jennifer Lance, February 13th, 2009, Posted in Environmental & Climate Science, Science

This information is useful for redesigning hydroelectric dams to minimize damage to fish or campaigning for dam removal. According to the *New York Times*: On rivers with flood-control and hydroelectric dams, like many in the Pacific Northwest, the young salmon are buffeted, subject to sharp pressure changes and otherwise knocked around as they pass through spillways, tunnels and power-generating turbines. Dr. Miracle's methods of measuring protein in cell walls could replace the current usage of dummy fish containing accelerometers and embedded sensors in live fish.

(I've never much liked eels ever since my son brought one home and put it in the bathtub when he was about 7 years old. Wow, a 1000 miles for gratification. But, anytime you can build something this cheap – it must be OK.)

Delaware Dam Becomes Eel-Friendly

Environment & Climate News > March 2009, Written By: Krystle Russin, 03/01/2009, Publisher: The Heartland Institute

Migrating American eels will find it much easier to reach freshwater habitats in coming years thanks to a new eelway being installed at a key Delaware dam. The eelway, coming to the Millsboro Dam at a cost of $2,000, eases the first and most imposing chokepoint along one of the nation's most important eel migration routes.

Long Migration

American eels migrate more than 1,000 miles from salt water to fresh water, beginning in the Sargasso Sea in the Atlantic Ocean. Their migration begins soon after birth, when they make the long trek to bodies of fresh water, where they mature. Thereafter, they return to the ocean to spawn. The American eel is of special concern because low numbers make it a candidate for the federal endangered species list. The Atlantic States Marine Fisheries Commission is requiring states to monitor eel populations to help the commission implement an effective management plan. The new eelway will help increase the eel population, allowing eels to take up residence in upstream lakes, streams, and ponds that were rendered off limits by the Millsboro Dam.

Simple Assistance

The new eelway looks much like a rooftop rain gutter. Inside, bumpy pegs allow the eels to climb the dam with relative ease. Eels typically use natural fish ladders to get around such obstacles, according to Sara Grady, watershed ecologist at the North and South Rivers Watershed Association in Norwell, Massachusetts. "In the United States, the technology that's used to help pass eels is to build a ramp that has a rough surface that the eels can use to grip onto. They are pretty good at climbing surfaces that don't even have a lot of water, but they do require something that has some friction, so some [eelways] are built with almost an Astroturf material, and others are built with a series of small pegs," said Grady.

No Negative Consequences

"Fish like herring and chad need a different kind of ladder than fish like eels," Grady added. "They migrate in opposite directions. Essentially a ladder built for eels would not necessarily help all migratory fish. If it wouldn't cause any problems, usually any sort of fish passage structure is a benefit. Anything that helps fish pass obstructions, I would consider to be a good thing." "Fish ladders are a well-established concept, and a lot of times they can be geared towards the needs of specific species," said Paula Rees, director of the Water Resources Research Center at the University of Massachusetts Environmental Institute. "In this case, it doesn't sound like it would be dangerous," Rees said. "Fish ladders in general are very good. If we didn't have fish ladders in the western United States, we wouldn't have any salmon. The same thing is happening with fish migration in the northeastern United States, [as in] Maine."

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Some Dam – Hydro News and Other Stuff

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2/27/2009

Quote of Note: "If all economists were laid end to end, they would not reach a conclusion."~~ George Bernard Shaw

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

Ron's wine pick of the week: **Errazuriz "Wild Ferment" Chardonnay 2007, Chile**

Other Stuff:

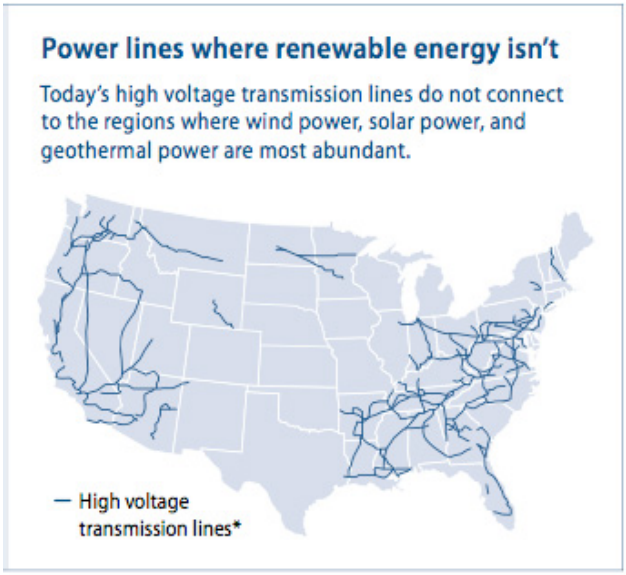
(There's a lot of discussion about the U.S. transmission grid. The article below is a bit long so the link will take you there)

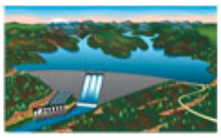
Wired for Progress

Building a National Clean-Energy Smart Grid

Center for American Progress, By Bracken Hendricks | February 23, 2009

http://www.americanprogress.org/issues/2009/02/wired_for_progress.html





Dams

US dam repair needs jump, fed support to states sought

International Water Power and Dam Construction, February 17, 2009

The cost of repairs needed for non-federal dams in the US has increased 39% to US$50B from 2003 estimates, according to the Association of State Dam Safety Officials (ASDSO). ASDSO added that the estimate for repairs needed to non-federal dams with high hazard potential has jumped 60% to US$16B from US$10.1B over the same period. The breakdown of public to private dams is 54% to 46%, respectively. In 2007, ASDSO estimates based on state data, approximately US$700M was invested to rehabilitate about 341 dams. It added that the number of deficient dams has increased by more than a third over the last five years, citing the latest data from the National Inventory of Dams (NID), which is maintained by the US Army Corps of Engineers (ASCE) The Association has called for a federal programme to help fund the rehabilitation of dams, which it said would help encourage parallel funding initiatives by states. It added that it is aware of 272 projects that could begin construction work within the next two to 24 months, at an estimated total cost of US$382M. But to get rid of the historical backlog of work needed to be done on dams, it said that an extra 270 high hazard potential dams alone would need to be fixed annually at additional cost of approximately US$850M per year.

Mt. Morris dam doing the job

By: Ray Levato, 02/17/2009, News10NBC, Rochester, NY

As the snow melted and the rain fell last week, the Mt. Morris Dam in Letchworth State Park stood as a silent sentinel, storing potential flood water and preventing damage down river near Rochester. The U.S. Army Corps of Engineers in Buffalo reports the pool of water behind the dam peaked at 670.75 ft. above sea level just after midnight Monday February 16. The dam's maximum capacity is 760 ft. above sea level. "There was a lot of snow on the Genesee River basin upstream from the dam," said George Cotroneo, chief of the Corps' Lower Great Lakes Hydraulics and Hydrology branch. In fact, the water stored behind the dam this past week was 26-percent of the dam's capacity, and it took only one week to reach that level. Right now, three of the dam's nine gates are open. It will take a couple of weeks to open additional gates and empty the pool behind the dam. "The goal always is get it empty and ready for future events," said Cotroneo.

More astonishing facts: Cotroneo said the inflow of water passing the river at Portageville into the pool behind the dam was 18,200 cubic feet per second last week, or ten times normal. "If the dam was not there, the Genesee River would have risen to 11 feet over flood stage at Avon," said Cotroneo. "The dam is doing its job, in reducing flooding in areas near Rochester. Without it, there would have been major and widespread flooding from Geneseo to Scottsville, and residential and industrial areas threatened." Water is held back behind the dam when river flows exceed the natural capacity of the downstream channel, including streams and creeks that empty into the Genesee below the dam. Last week's combination of rain and warm weather effectively melted the snow pack. During Tropical Storm Agnes in 1972, water behind the dam came to within four feet of the spillway at 756 ft., and backed up into the gorge 17 miles behind the dam, all the way to the base of the lower falls. At that time, the storage pool behind the dam was 96-percent full. The Mt. Morris Dam was completed in 1952. The dam's maximum height is 230 feet above the river bed. The Mt. Morris Dam can store 302,000 "acre feet" of water, or 302,000 acres of water one foot high. The Corps estimates the dam has prevented $1 billion in flood damage. The Corps says from 1865 to 1950, a major flood ravaged the Genesee River Valley on an average of every seven years.

(Geez! The photo just doesn't show this dam's safety issue very clearly.)

Owner Of Dangerous Dam Ignores AG's Order

Dilapidated Taunton Dam Remains Public Safety Hazard

February 18, 2009, The BostonChannel.com

TAUNTON, Mass. -- The owner of one of the most dangerous dams in Massachusetts has once again ignored a court-ordered deadline to make repairs. The dam is jeopardizing the safety of hundreds of homes and, potentially, all of downtown Taunton. The risk was so high that the Attorney general stepped in to ensure the owners would do the necessary work. But Team 5 Investigates learned Tuesday's court-ordered deadline to remove the gatehouse at Morey's Dam and an illegal cofferdam has come and gone. Jefferson Development, which owns the dam, ignored the preliminary injunction, which has pit those fearing for the safety of their homes against their neighbors, who want to maintain the beautiful water vistas of lake Sabbatia.

"The potential is there for disaster," said Thomas Hoye, Taunton's City councilor. "You don't want to see any unnecessary risk taken. You know it's got to be fixed. That's the bottom line." Jefferson Development is the first dam owner in Massachusetts to ever be sued by the Attorney general. "It's a dangerous situation," said Russell Morris, who lives on the lake. "The city of Taunton is downstream from the dam. If it ever let go, you're going to have a lot of problems." Similar problems occurred just four years ago. The entire city of Taunton held its collective breath, hoping a rotting Whittenton dam, also owned by Jefferson Development, would not give way. That dam has since been torn down. Now the only thing standing between the city and Lake Sabbatia is the dilapidated Morey's dam and a cofferdam just 25 feet away. The water level already is high and more snow and rain is expected. "Well, every inch it falls, it brings the lake up 4 inches in height," said Morris. Despite a two-year warning from the state to fix the dam, the owners claim constant changes to renovation plans have delayed work. In a statement to Team 5 Investigates, they wrote, "We are ready to go over the next week to 10 days, and we are requesting an extension from the state." "Nobody wants to take responsibility, not only for this dam, but dams throughout the state," said Hoye. Owners of the dam face up to $100,000 in fines. Attorney General Martha Coakley said in a statement Wednesday that she is considering all options to hold the owners accountable. But local residents fear that they, not government or the owners, ultimately will be forced to pay the price.

(Impressive numbers - $4.6 billion and 600 anchors)

Corps to host public meetings about Bluestone Dam

February 21, 2009, The Associated Press, Herald-Dispatch.com

HUNTINGTON — The U.S. Army Corps of Engineers will host four public meetings from Feb. 23-26, for residents of Raleigh, Fayette, Putnam and Mason counties. The meeting will provide the latest information about the Bluestone Dam and its effect on the Kanawha River. Bluestone Dam went into operation in 1949, and to date has prevented $4.6 billion in flood damages to those living along the New and Kanawha Rivers. Topics will include construction plans and progress, modifications to the dam's day-to-day operation, and preparations for possible high water events. The meeting schedule is: 6 p.m. Monday, Feb. 23, at the Amtrak Station in Prince, W.Va., 6 p.m. Tuesday, Feb. 24, at the Town of Eleanor Municipal Building, 5 p.m. Wednesday, Feb. 25, at Point Pleasant Jr. /Sr. High Schools and 6 p.m. Thursday, Feb. 26, at Valley High School in Smithers, W.Va.

Ten years ago the Corps first unveiled plans to bring Bluestone Dam up to modern engineering standards. Construction completed so far includes placing 100 high-strength anchors to increase the dam's stability. When the construction is completed, approximately 600 anchors will have been installed. The meeting will include a presentation by Huntington District Commander Col. Dana Hurst, which will be followed by a question-and-answer session.

(All this for 125 acre-feet of storage, but that's better than releasing 2.5 million cubic yards of sediment???)

Cal Am's dam here to stay

Liability, budget issues end demolition plan

By DANIEL LOPEZ, Monterey Herald Staff Writer, CA, 02/22/2009

San Clemente Dam on the upper Carmel River won't be demolished because of a disagreement over project liability and a freeze in state funding. Instead, California American Water, which owns the dam, says it will move forward with a plan for a seismic retrofit of the 106-foot-tall structure. The water company and the California Coastal Conservancy were pursuing an effort to tear down the dam and reroute the river through San Clemente Creek. The plan was necessary to prevent a possible collapse of the dam, and the accompanying release of sediment and flooding, because the dam has been deemed unsafe. Demolishing it became impossible when the Coastal Conservancy said it could not assume liability during demolition or after the dam was removed, Cal Am spokeswoman Catherine Bowie said. Cal Am doesn't want to expose its ratepayers to the burden of lawsuits for problems that could arise from the dam's removal if liability rests on the company, Bowie said. "We have been unable to reach an agreement with (the Coastal Conservancy)," she said. The demolition plan was complicated by the state budget crisis, Bowie said.

The Coastal Conservancy agreed to provide up to $6 million for studies and permits required for the dam's removal, but the funding has been suspended. "That money is all frozen right now," Terri Nevins, Central Coast regional manager of the Coastal Conservancy, said. Since December, the state agency has had to issue stop-work orders to contractors, including those working on the San Clemente project, Nevins said. Removing the dam would have cost about $84 million, with the Coastal Conservancy contributing $34 million. Cal Am agreed to pay $50 million and to deed 928 acres around the dam as park land. The company's share was determined by what it would cost Cal Am to stabilize the dam. A detailed analysis found that removing the dam, when compared to reinforcement, was environmentally equal. Besides placing a steel-reinforced layer of concrete on the dam, Cal Am plans to include a ladder that will allow fish to migrate upstream and spawn, Bowie said. "Strengthening San Clemente Dam will protect the public in the most cost-effective manner without causing environmental damage," Kent Turner, Cal Am's president, stated in a news release. San Clemente Dam was built in 1921 to hold back 2,000 acre-feet of water. Over the years, the reservoir has filled with sediment — now totaling around 2.5 million cubic yards — and now holds only 125 acre-feet of water. In 1992, the dam was declared unsafe by the state's Department of Water Resources' Division of Dam Safety. Officials say there is a risk it could collapse in a magnitude 5.5 earthquake on the Tularcitos Fault, which the dam straddles, or from a magnitude 7 quake on the San Andreas Fault. Conservationists argue that the dam needs to be taken down, saying it blocks upriver spawning of steelhead trout and the downward flow of sediment to replenish the river's bottom. Nevins said the Coastal Conservancy remains interested in pursuing removal of the dam, but it is unknown when money could become available to resume such work. "There's a lot of uncertainty," she said. Cal Am's plan for a seismic retrofit still requires completion of engineering and design work, issuing permits from about 12 federal, state and local agencies, including the Department of Water Resources, and an environmental review under the National Environmental Policy Act. If all requirements are met, work on the dam could begin in 2010 and be finished in about 18 months.

Hydro

(Some hydro history, the original stimulus plan, and a place to get some good southern food)

Lowcountry Proud: The Pinopolis Lock

By BRAD FRANKO, Anchor, February 19, 2009, counton2.com

South Carolina's piece of FDR's New Deal was the Santee Cooper Hydroelectric and Navigation Project. It created Santee Cooper Electric, and Lakes Marion and Moultrie. It also helped pull the state out of the Great Depression. Part of the project meant impounding the power of water, turning into affordable electricity for rural parts of South Carolina. They built the Pinopolis Power Plant (now the Jeffries Hydroelectric Station), and the Pinopolis Lock. According to Willard Strong with Santee Cooper, the original plan was to use the lock for commercial traffic. Allowing barges to move

from Charleston Columbia. That didn't quite pan out, and Strong says the lock is used by recreational boaters more than anything. Another plus from the lock's construction is that it allows migratory fish to pass from the salt water to fresh the fresh waters of the lake.

QUICK FACTS: - *Courtesy Santee Cooper*

- The Pinopolis Lock at Santee Cooper's Jefferies Hydroelectric Station was the highest single-lift lock in the world at the time of its construction.
- Santee Cooper Hydroelectric and Navigation Project created 156,000 acres of freshwater lakes (Lake Marion/Lake Moultrie).
- The project put 13,000 men to work for 30 months.
- Lakes Marion and Moultrie yield everything from record-size striped bass and catfish, to bluegill and bream.

Agencies seek to preserve water behind Calif. dams

By SAMANTHA YOUNG, The Associated Press, February 17, 2009, Press-Enterprise

SACRAMENTO - With California's major reservoirs at woefully low levels, state and federal water agencies on Tuesday made a pitch to keep more water behind their dams this month. The U.S. Bureau of Reclamation and state Department of Water Resources said they need to store as much water as they can to ensure enough for salmon, cities and farmers later this year. Keeping that water, though, means the agencies must be granted an emergency petition that allows weakened water-quality standards in the Sacramento-San Joaquin Delta. The state is supposed to release water from reservoirs each February to improve delta water quality, although it has fallen short of its mandate so far this month. "California is in the third straight year of below-average rainfall and snowmelt runoff," Cathy Crothers, DWR's assistant chief counsel testified during an emergency hearing before the State Water Resources Control Board. "Dry conditions and low storage have resulted in significant reductions in water supplies throughout the state."

At issue is the amount state and federal water agencies are legally required to release each February from dams that feed into the Sacramento and San Joaquin rivers. The reservoirs are critical to the water supply of two-thirds of the state's residents and millions of acres of farmland. Their dams also block migrating salmon from colder northern waters. Despite that, they do have one benefit to the salmon: storing the cold water the fish need later in the year when river temperatures rise and threaten to kill them when they spawn. It's that cool water the agencies are looking to preserve in the reservoirs for later in the year. It wasn't clear when the Water Resources Control Board would issue a decision about the request to hold water back, but the hearing was scheduled to continue Wednesday. Critics of the agencies' plan say water managers are sacrificing delta fish such as the longfin smelt that are dependent on the mid-winter freshwater releases. "Pitting one species of fish against the other epitomizes the absolute failed water policies of the state," said Barbara Barrigan-Parrilla, executive director of Restore the Delta, a grassroots group based in Stockton. Delta water users also questioned whether the agencies need relaxed standards to carry them through the rest of the month after storms over the holiday weekend and into this week boosted river flows. Federal and state wildlife agencies agreed with water managers that storing additional water in California's reservoirs would outweigh the risks to delta fish. "We feel if we hold some water now, it will help us," said Perry Herrgesell, the Bay Delta Water Policy Coordinator at the state Department of Fish and Game. California's reservoirs are running low after two dry winters. Shasta and Oroville are less than half as full as they should be for this time of year, and the snowpack was well below average during the last official measurement. The state has said it will deliver just 15 percent of its water contracts this year because of the low reservoir levels and court-ordered pumping restrictions, which are designed to protect a threatened fish in the Sacramento-San Joaquin Delta. The U.S. Bureau of Reclamation intends to release its annual water-delivery estimates on Friday.

(The County was hoping for a 50-year license, but the FERC matched the expiration with other licenses recently issued)

Chelan Co. PUD gets license for Rocky Reach Dam

February 19, 2009, Seattle Post-Intelligencer, THE ASSOCIATED PRESS

WENATCHEE, Wash. -- Federal regulators have issued a new 43-year license to the Chelan County Public Utility District to operate Rocky Reach Dam near Wenatchee. The license approved Thursday allows the utility to continue operations and requires it to follow environmental measures. The dam on the Columbia River produces about 6 million megawatt-hours of electricity a year.

FERC Issues License For Hydropower Project In Washington State

News release, *SOURCE: The Federal Energy Regulatory Commission,* February 20, 2009

The Federal Energy Regulatory Commission (FERC) recently approved the issuance of a new license to Public Utility District No. 1 Chelan County, Washington, for the Rocky Reach Hydroelectric Project on the mid-Columbia River. The license ensures the continued operation of the project, which provides an annual net energy production in excess of 6 million megawatt-hours of electric energy to the Pacific Northwest region of the United States. "Having driven past this dam many times and even having had the pleasure of visiting it, I am delighted we are approving the relicensing of the Rocky Reach Project in my home state of Washington," FERC Commissioner Philip Moeller said. "This decision is made all the more gratifying by Chelan PUD's implementation of the Habitat Conservation Plan – a plan negotiated with federal, state, tribal and environmental representatives. I applaud everyone for their innovative and collaborative approach to managing our hydropower resources while protecting the salmon and steelhead that migrate through the project."

The license contains environmental mitigation measures to protect resources in the vicinity of the project, including plans to protect shoreline erosion, water quality, white sturgeon, bull trout, Pacific lamprey, historic properties and cultural resources. The license also provides for wildlife and recreation management plans. The environmental measures included in the license were determined after a complete review of all of the issues and numerous public input. "We conclude that the project's power, low cost, displacement of nonrenewable fossil-fueled generation and contributions to the region's diversified generation mix will help meet a need for power in the region," FERC said in its relicensing order. Under the new license, the Rocky Reach Project has an installed capacity of 865.76 megawatts. Recent license includes provisions of a settlement agreement and is for a 43-year term. The original license for the project was issued in 1957 and expired on June 30, 2006. The project has been operating since then under an annual license.

Senate endorses giving dams renewable status

Associated Press - February 23, 2009, KPAX.com

HELENA, Mont. (AP) - The Montana Senate advocates allowing hydroelectric dams' upgrades to qualify for credits that power companies want to accrue as evidence they support renewable energy. Senate Bill 257 passed on a vote of 38-11 vote Monday and faces one more round of Senate voting before it may move to the House. Under the bill, upgrades to increase dam capacity would qualify for the same renewable credits as investments in wind and other renewables. The governor's office is concerned the change could undermine efforts to develop renewable energy in the state. But proponents say capacity increases should be rewarded. A 2005 law requires Montana power companies to buy some of their energy from renewable sources. Companies may meet the requirement by purchasing renewable credits.

Environment

State files suit against yoga center for dam failure

FEBRUARY 18, 2009, FREEP.COM

State officials are seeking compensation in court for the massive fish kill and stream damage that occurred to a prized northern Michigan trout stream when a dam at the Song of the Morning ranch failed June 22. A lawsuit seeking unspecified monetary damages and the permanent removal of the dam on the Pigeon River, TN was filed Tuesday in Otsego County Circuit Court, said Robert McCann, spokesman for the Department of Environmental Quality. Last year's dam failure and fish kill was the third such incident at Song of the Morning, a yoga center near Vanderbilt in the heart of the wildest section of the Lower Peninsula. Litigation following the last, in 1984, resulted in the ranch paying $90,000 in penalties and spending $400,000 to repair the dam. But McCann said it has become clear the only way to prevent future catastrophes is to remove the dam altogether.

(The price of the economic mess. Sometimes a little moderation instead of overkill would have helped then and now.)

As U.S. Tightens Environmental Rules, Cash-Strapped States Loosen Them

By Josh Harkinson | February 19, 2009, MotherJones.com

The stimulus package is an environmental boon, the EPA will probably regulate carbon, and Sen. Harry Reid wants to take a green pen to the Energy Bill. It looks like the best week in years for environmentalists--until, that is, you step out of the Beltway. To help close massive budget deficits, states across the country are weakening environmental rules. Exhibit A is California, where today legislators closed a $41 billion budget gap in part by nixing air pollution rules that would have cost the housing industry millions. The measure delays requirements for builders to retrofit diesel construction equipment, slashing by 17 percent the emissions savings that the state had hoped to achieve by 2014. The move will probably prevent Los Angeles, the San Joaquin Valley, and other highly polluted regions from meeting federal air quality deadlines. It will also reduce the "green jobs" the state had hoped to create by retrofitting old equipment. The Sierra Club's California director told the LA Times: "With the magnitude of the forces at play here, the environmental issues have taken a back seat to taxes." California's move follows on the heels of other states. In Oklahoma: State agencies that protect public water supplies, manage the state's flood plains and protect Oklahomans from the dangers of hazardous waste would bear some of the biggest cuts under Gov. Brad Henry's proposed state budget for the upcoming year. The Oklahoma Department of Environmental Quality, which monitors the state's air and water quality as well as solid, hazardous and low-level radioactive waste, lost almost $2 million in appropriations from its current $9.7 million budget, a reduction of 20 percent.

The Oklahoma Water Resources Board, responsible for setting water quality standards, enforcing dam safety regulations and managing Oklahoma's flood plains, lost more than $1.1 million from its $4.6 million budget, a 25 percent reduction. And that's not all: Pennsylvania's proposed budget reduces funding for three state environmental agencies by 1.5 to 9 percent. The state of Washington's panel that tracks pesticide exposure was axed. And the budget for New York State's Environmental Protection Fund, which buys open space, parks, and clean water projects, is being slashed from $300 million to $205 million. As things get worse, Republican state legislators are likely to push for even deeper cuts. After all, enviro regs cost businesses money and slow down "shovel ready" projects. In Florida yesterday the St. Petersburg Times reported: Florida legislative leaders want to make it easier to get permits to destroy wetlands, tap the water supply and wipe out endangered species habitat, all in the interest of building houses, stores and offices. They say streamlining the permitting process will get the economy moving again. All of this should be a sobering counterpoint to optimism about the stimulus bill and the new green tone in Washington. Without more direct aid to cash-strapped states, it will be hard to fix things faster than the provinces burn through the green.

(Some environmental orgs see a bright light and have an overly optimistic view.)

Economic Recovery Act Is Good News For Clean Water And Rivers

by Rebecca Wodder, American Rivers, Treehugger.com, 02.19.09

The US economic recovery package is great news for clean water and healthy rivers, and communities across the country will reap the benefits. The plan contains over $6 billion -- an unprecedented amount of money for clean water, drinking water, water efficiency, green infrastructure and river restoration. The funds will transform the way our country manages water – our country's most vital resource – while creating good jobs, improving public health and safety, and creating more attractive, livable communities.

The final version of the recovery plan includes:

- $4 billion for clean water under the Clean Water State Revolving Fund programs
- $2 billion for drinking water under the Drinking Water State Revolving Fund, with $1.2 billion set aside from both the clean water and drinking water programs for green infrastructure and water and energy efficiency projects
- $830 million for the National Oceanic & Atmospheric Administration, a portion of which will be used for river restoration projects

Clean water is the lifeblood of our communities, yet our nation's water infrastructure — our drinking water and wastewater systems, dams and levees — are seriously outdated. Fortunately, the economic recovery plan is a big step towards bringing our water infrastructure into the 21st century. Green infrastructure means planting trees and installing green roofs, rather than enlarging sewers or building a costly new treatment plant (the rainwater captured on a green roof can be used for building cooling systems and toilet-flushing). It means restoring floodplains and wetlands instead of building taller and taller levees (one wetland acre can absorb 1-1.5 million gallons of floodwater). And it means retrofitting buildings and homes with water-efficient plumbing instead of constructing an expensive water supply dam (per gallon, water supply dams can cost up to 8,500 times more than water efficiency investments). By optimizing traditional infrastructure and maximizing green infrastructure, communities can meet their water needs and protect public health and safety. Green infrastructure also saves money and creates good jobs. For example, an economic analysis conducted by the Alliance for Water Efficiency estimates that a direct investment of $1 billion in water efficiency programs can boost U.S. employment by 15,000 to 22,000 jobs. And, green solutions bring the added benefits of fish and wildlife habitat, and an overall higher quality of life. These provisions in the plan truly are a down payment on a better future and will improve the lives of all Americans.

(They will beat this drum until the dams are gone and once gone – gone forever! They are banking on the politics being on their side, but we will see. Taking out the 4 dams is a monumental decision that no one will take lightly.)

Washington century: Salmon

SEATTLE POST-INTELLIGENCER EDITORIAL BOARD, February 21, 2009

At the end of this century, will the Pacific Northwest's salmon still be an icon? Or will the Chinooks, silvers and other migrating fish of the great runs be a mere memory? It's up to us. The start of President Barack Obama's administration is a hopeful time for environmental policy, nationally and in this region. Obama will bring better judgment to such Northwest issues as forests, roadless areas and energy. But even with sustained, widespread progress on the environment generally, saving salmon will require a wide variety of aggressive measures. Ideas for urban growth controls and dam removals might even be considered radical. But after eight years of an administration with a stunted vision for the health of the nation's environment, the need for bolder salmon measures is at a peak, all along the Pacific Coast. Neither the 20th century nor the last half of the 19th was kind to salmon runs. The Pacific salmon are far healthier than Atlantic Coast runs, but overfishing, degradation of habitat and the building of the Columbia River system dams all helped devastate the salmon and the human and natural ecosystems.

As an excellent report in Oregon State University's *Terra magazine* puts it, salmon can rebound if the public and policymakers are willing to take strong enough measures. But, U.S. Geological Service scientist Carl Schreck told Terra, "We need to get going now. There isn't a lot of time to waste." We think one starting point for the Obama administration is an honest assessment of whether to tear down four Snake River dams. The Bush administration turned science, the law and facts on their heads to avoid even considering removal of the dams. U.S. District Judge James Redden, who has attacked unscientific federal decisions, will *hold a hearing next month* on a federal salmon plan that could lead to him assuming significant control over dam operations. Recreation and fishing business leaders are writing to Obama echoing Save Our Wild Salmon's calls for bringing together stakeholders, including farmers and businesses, to consider the best scientific and economic information on the dams. The business leaders write, "A comprehensive, commonsense salmon recovery effort that replaces the lower Snake River dams with cost-effective, modern alternatives will create family-wage jobs, restore salmon and recreation, expand clean energy opportunities, and protect our outdoor way of life. With science leading the way, the hope of real salmon abundance ... can be realized." Save Our Wild Salmon has advanced another smart idea that would help Puget Sound: appointing a White House Council on Environmental Quality director of salmon. Oregon State and an Environmental Protection Agency lab have taken leading roles in the Salmon 2100 Project. The study suggested that population growth and development will contribute to further reductions in salmon numbers along the Pacific Coast this century. Even so, the study concluded, society could put in enough environmental protections to save salmon. Schreck told Terra, "We can plan for growth, make wise resource allocations, handle water and sewage requirements and limit our urban footprint." The fate of salmon

depends on whether humans can make better informed, wiser choices this century than over the past 150 years.

(If this ends in a settlement and the dams remain, it will be considered a defeat by some)

Barker: Salmon judge sets stage for settlement

Rocky Barker, Idaho Statesman, 02/23/09

U.S. District Judge James Redden seems to be asking federal dam managers, fish managers, tribes, states, environmentalists and anglers to consider a settlement of the salmon and dams lawsuit that will determine the fate of the economy of the Columbia River Basin and the future of salmon and steelhead in the Columbia and Snake rivers. Redden sent a letter to all of the parties telling them the questions he will ask at a hearing March 6 in Portland on whether he should approve the plan for dam operation and salmon management called the 2008 Biological Opinion, or BiOP. Redden's questions show he still has serious scientific and legal problems with the document written by federal agencies under the guidance of the Bush Administration. But salmon advocates shouldn't feel comfortable they are going to get what they want. "Federal Defendants and the sovereigns have worked very hard on this biological opinion and it shows we have come a long way from the 2004 BiOp," Redden said.

But he expressed concerns with the idea that the agencies could decide the dams are not jeopardizing the survival of the endangered salmon and steelhead if the species are "trending towards recovery." Is there no jeopardy if the numbers are below 100 fish like Snake River sockeye? He asked. The biological opinion states that the salmon are not jeopardized if it's is carried out. And Redden wonders how the federal dam managers can justify eliminating the spilling of water over dams to aid salmon migration which costs millions in lost hydroelectric revenues, despite an independent science panel's assertion that it's beneficial. Finally, Redden continues to question the guarantees federal agencies have made that the habitat improvements laid out in the plan will actually happen. He notes that, for instance, the plan commits to increasing spring Chinook numbers in Idaho's Pasimeroi River by 41 percent without a list of the projects that would make that happen. "My goal is to have enough time at oral argument to discuss how to resolve this matter if the 2008 BiOp fails," Redden wrote.

Would the federal government, for instance, include a contingency plan in the biological opinion, to commit to seek congressional authority to breach the lower Snake River dams in Washington if the mitigation plans failed? "Why not begin analyzing the scientific and technical feasibility of such an option now?" he asked. But he doesn't let the environmentalists, the fishermen, Oregon and the Nez Perce tribe who are suing off the hook either. "Would Plaintiffs be satisfied if Federal Defendants agreed to implement some or all of the measures in the proposed preliminary injunction?" Redden asks lawyers whose stated goal is to bring a train wreck to the region so it can force it to make the painful changes necessary to save the fish. "Would Plaintiffs endorse such a BiOp?" Then he turns back to the federal government now headed by President Barack Obama: "Are Federal Defendants willing to amend the BiOp to include some or all of those measures (e.g., spill) as part of a settlement agreement?" Is Redden ready for a train wreck, or is the train finally leaving the station? The March 6 hearing in Portland will be dramatic.

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