

Some Dam – Hydro News and Other Stuff

5/04/2007

Quote of Note: *“Never get angry. Never make a threat. Reason with people.”* - - Mario Puzo

Other Stuff: (Note the added history piece at the end of this offering.)

(Now, this is a big croc of stuff. China will soon to be the biggest polluter and is unwilling to do anything while it is stealing jobs and growing its economy at astounding rates? India is close behind!)

China says developed countries should act first on greenhouse gasses

The Associated Press, 4/26/07, International Herald Tribune

BEIJING: China, predicted to overtake the United States as the world's biggest source of greenhouse gasses this year, said on Thursday that developed countries must take the lead in dealing with the problem. **China had been forecast to surpass the U.S. in 2010, but its sizzling economic growth has pushed the date forward,** according to the head of the International Energy Agency. The prediction has refocused attention on China's pollution policies and its contribution to global warming.

"China attaches great importance to emissions reduction, and the international community has reached a consensus on the issue while also developing different ideas on how to deal with it," Foreign Ministry spokesman Liu Jianchao said in response to a question on China soon becoming the world's top emitter. **"Our view is that the discharge of greenhouse gas has for some time been coming mainly from developed countries so those developed countries should shoulder the bulk of the responsibility."**

IEA chief economist Fatih Birol was quoted this week as saying in an interview with the Wall Street Journal newspaper that China's economic growth and related coal consumption have grown at unexpected rates. The Paris-based IEA advises developed countries on energy policy. China is a signatory to the Kyoto Protocol on reducing greenhouse gasses, but it is exempt from its restrictions because it is a developing country. Beijing last week said its economy grew by 11.1 percent in the first three months from the same period last year, defying attempts to slow growth and ensure money is invested wisely. China's heavy reliance on highly polluting coal for electricity generation has made it a major contributor to greenhouse gasses, mainly carbon dioxide, which are blamed for damaging the ozone layer and causing global warming. Beijing has made some efforts to boost efficiency, mandating that solar, wind, hydroelectric and other forms of renewable

energy provide 10 percent of all power by 2010 and telling key industries to reduce energy consumption by 20 percent. Chinese Premier Wen Jiabao and Japanese Prime Minister Shinzo Abe also signed an environmental agreement this month that calls for the countries to work on a successor to the Kyoto Protocol.

[\(The deregulation fiasco is revealed again. Without a doubt, deregulation was one of the all time best con jobs for ripping off consumers and no one has been arrested?\)](#)

Electric Rates Favorable in South Dakota

By JOE KAFKA Associated Press, Houston Chronicle, **April 30, 2007**

PIERRE, S.D. — South Dakota has some of the lowest electric rates in the nation, but the era of cheap energy may be coming to an end, state Public Utilities Commission Chairman Dusty Johnson says. Unfortunately, electric rates in South Dakota and elsewhere are entering a time when they may increase substantially because of environment regulations, Johnson said. "Most people believe that Congress will pass some form of carbon regulation in the next few years, and even the most moderate of those proposals would increase the price of power from coal by more than 50 percent," he said. Electric rates also will be pushed up by the growing need to build more power plants and transmission lines, Johnson said.

Residential electric rates in South Dakota averaged 7.9 cents per kilowatt hour last year, Johnson says. The national average was 10.4 cents. Current prices in South Dakota would not be so favorable if state officials had jumped on the electric deregulation bandwagon nearly a decade ago, he said. Sixteen states instituted deregulation, and consumers in those states wound up paying much higher rates for electricity than those who live in states that continued to regulate their power industries. "For deregulation to work, you need to have competition," Johnson says. "Without strong competition you don't have a free market. You have a monopoly. I don't see South Dakota being able to support the two, three or four electric companies that would be needed to have true competition."

Electric rates in South Dakota are the lowest in a decade when adjusted for inflation, decreasing 3.3 percent in real terms since 1996. Johnson says one reason for the low rates is that 22 percent of the power used in the state comes from hydroelectric dams on the Missouri River. "That is inexpensive power, and I wish we could get access to more of it," he says. "Almost 80 percent of the hydropower created at those dams is shipped to other states, and those allocations made by the federal government are extremely unlikely to change." Another reason for less expensive power in South Dakota has been its avoidance of government mandates and taxes that other states have put on utility companies, Johnson says. "The PUC has not attempted to micromanage the operations of the utility companies and instead have allowed them to make smart decisions," he says.

[\(The climate change view from North of the Border is always refreshing!\)](#)

Premiers set to meet on climate change

By COLIN PERKEL, CANOE Networks, 4/30/07

TORONTO (CP) - The roiling climate-change debate and what Canada should do about global warming will dominate the talk as provincial and territorial leaders sit down Tuesday to plot a strategy that could include an internal emissions-trading system. The Council of the Federation meeting comes less than one week after Ottawa announced its new greenhouse-gas action plan, denounced as a "fraud" by former U.S. vice-president Al Gore but steadfastly defended as "tough" by Environment Minister John Baird. Despite the intensity of the climate-change debate, Newfoundland Premier Danny Williams said the meeting is not meant to be a platform for bashing the Conservative government's plans. "We will obviously be discussing the Canadian plan, the new government plan, but it's not intended to be a critique," Williams, who is chairing the Toronto event, said in an interview Monday. "It will all be with a view to coming out with our own plan, with our own suggestions (but) I don't mean that we're going to come out with a competing or conflicting climate-change plan."

Fed bashing and provincial pleas for more cash from Ottawa - staples of previous Federation of the Council meetings - are not on the agenda, Williams said. Instead, Tuesday's working session had its genesis in Banff, Alta., about 18 months ago, when the council decided to collect

information on provincial energy issues and come up with a national energy inventory. Working committees will be presenting draft papers on topics such as climate change, energy transmission and efficiency, renewable energy, and provincial roles in international energy activities. "I believe the federal government is taking some steps in the right direction," said Saskatchewan Prime Minister Lorne Calvert. "At least now we're not denying there's a problem. At least now there's some plan in place that we can actually debate and work with."

New Brunswick Premier Shawn Graham said he believes his province "can be energy leaders and at the same time good stewards for the environment." "We are committed to releasing a climate-change action plan in New Brunswick that is going to be complimentary to the federal plan." Following a caucus meeting in Montmagny, Que., Premier Jean Charest said Quebec will develop its own green plan while continuing to defend the Kyoto protocol to reduce greenhouse-gas emissions. "In my eyes it's fundamental," Charest said.

For his part, Ontario Premier Dalton McGuinty had two things in mind - floating the idea of an inter-provincial emissions-trading system and a national electricity grid to move green hydroelectric power across the country. "The smartest people tell you when it comes to tackling climate change, you've got to begin to put a price on carbon," McGuinty said Monday in Ottawa. "One of the best ways to do that is to have an emission-trading system in place (but) the federal government has chosen not to do that." McGuinty noted that British Columbia is talking to bordering American states about such a system and that Ontario is doing the same thing regionally as well.

Baird said Ottawa is onside with working with the U.S. "If the Americans, at the national level, are ready to move, we'll work with California and those on the West Coast," he said from Vancouver. "(B.C. Premier Gordon) Campbell's involved in a greater initiative with New Mexico and the three coastal states. We're prepared to work with California and the northeastern states." Provincial leaders should also ponder the idea of a national power grid in much the same way as the trans-Canada railway helped knit the country together, McGuinty said. Such a grid would be particularly useful in moving hydroelectricity, which is clean in generation, from provinces such as Quebec or Newfoundland to others that are forced to rely more on coal or nuclear-generated power. "The great thing about hydroelectric capacity is that it's a great renewable resource and it doesn't contribute to climate change," McGuinty said. An election-minded P.E.I. Premier Pat Binns was sending his education minister to the meeting, while Yukon Premier Dennis Fentie was also not expected to attend.



Dams

Senate panel rejects governor's plan to build more dams

The Orange County Register, April 25, 2007

Division follows party lines, with Republican leader Assembly leading vowing to bring issue back during budget talks.

The Associated Press

SACRAMENTO -- Senate Democrats on Tuesday rejected Gov. Arnold Schwarzenegger's \$4.5 billion proposal to build two dams, saying the projects were premature and lacked commitments from local water users to help pay for them. The hearing before the Senate Natural Resources Committee was the first public vetting of the governor's proposal, which both sides acknowledged was likely to resurface during negotiations on the budget later this year. Schwarzenegger in January proposed \$4.5 billion in bonds to

build two dams and groundwater storage as part of the state's response to a growing population and projected water shortages from global warming. Tuesday's 4-3 party line vote was largely expected, with both sides staking out long-held positions about whether the state should build more dams as Republicans favor or pursue other strategies advocated by Democrats such as conservation and water recycling.

"No one here is absolutely rejecting surface storage as part of California's future water strategy," state Sen. Darrell Steinberg, D-Sacramento, said after the hearing. It remains to be seen whether the Democratic-controlled Legislature will again defeat dams, as they did last year during negotiations over a package of infrastructure bonds that was included on the November ballot. Lawmakers instead directed \$4.1 billion to upgrade levees, which voters approved. Assembly Republican leader Mike Villines, R-Clovis, vowed to make dams a central issue of the budget talks between the four legislative leaders and the governor. "If the Legislature isn't willing to deal with one of the most pressing problems in California, it's going to be a part of all discussions," Villines said.

Schwarzenegger said he was not prepared to modify his bond proposal, telling reporters at a press conference Tuesday he was optimistic it would eventually win approval. "I don't think that we will have to scale back," Schwarzenegger said. "I think that the people of California deserve and need more water storage." Lawmakers have been warned by scientists that the state's water supplies are the most vulnerable of the California's natural resources to climate change.

An estimated two-thirds of Californians depend on the Sierra Nevada snowmelt for drinking water while Central Valley growers use it to irrigate their fields. The state Department of Water Resources has said as much as 90 percent of the snowpack could be diminished by the end of the century. Schwarzenegger has said the state, in partnership with local communities, should build more reservoirs to capture water that today is stored through the summer months in the mountain snowpack. The Department of Water Resources is advocating for dams to be built above the existing Friant Dam north of Fresno and another in the grasslands north of Sacramento.

Sen. Dave Cogdill, R-Modesto, who is carrying the governor's proposal in the Legislature, said the dams were the best way to ensure long-term water supplies. "They give us the most opportunity and are the best from a cost-effective standpoint to deal with the needs that we have," Cogdill said. If approved, the bond would go to voters on the November 2008 ballot. Schwarzenegger's plan also includes \$1.5 billion to manage the delta, restore rivers and enhance water conservation.

"We have everything on the table from groundwater to conservation to waste water recycling," said Department of Water Resources director Lester Snow. "We happen to think to deal with the climate change issue, you have to do everything you can." Environmentalists have criticized Schwarzenegger's plans, pointing to what they describe as much more cost-effective ways to meet state water needs. Cogdill said would try to get the bond on the November 2008 ballot through a voter initiative if the Legislature rejects the plan.

Group pushes for ridding Brandywine of dams that block fish

WMDT TV, 4/26/07

GREENVILLE, Del. (AP) -

The Brandywine Conservancy group wants to get rid of dams along the Brandywine so fish can travel freely. Eleven dams were built in the 18th and 19th centuries but now they are in various stages of decline. The conservancy says the dams block American Shad from traveling to the spawning grounds from the Atlantic Ocean. So officials want to remove the dams or add fish ladders. State environmental officials say one dam will be gone by the end of this year. A study estimated the cost of removing all dams between one and 3.5 million dollars.

(I've seen the dead salmon photos before that really depict salmon that have expired after spawning.)

Group wants Buffett to remove dams

BY STEVE JORDON, Omaha World-Herald, 4/26/07

Two years ago Leaf Hillman was a finalist for an American Indian leadership award from Howard and Peter Buffett for his role in a campaign to remove four dams from the Klamath River along the California-Oregon border. Next week he will be among about 40 American Indians, commercial fishermen, environmentalists and others bringing the dam removal campaign to the Buffett brothers' father in Omaha. The reason: Last year Warren Buffett's Berkshire Hathaway Inc. bought PacifiCorp, which owns and operates those Klamath River dams. And an estimated 26,000 Berkshire shareholders will be in Omaha for their annual meeting. The meeting's national attention often attracts groups seeking to publicize their causes, but the Klamath River group may be the largest such delegation yet. "I have been working on this issue for most of my life," Hillman said from Orleans, Calif. "I'm a staunch supporter of dam removal."



PacifiCorp is discussing a settlement and favors investing hundreds of millions of dollars in "fish ladders" and other ways to restore salmon migration to the remote river basin, while continuing to generate electricity from water running through the dams' hydroelectric power plants. Federal agencies recommend the "fishway" improvements.

"The real key issue for us is that it's all about the salmon and the steelhead and trying to come to a solution that allows for reintroduction of these fish up and down the river," said Bill Fehrman, a former Nebraskan who is president of PacifiCorp. "We believe, frankly, that there are ways to that which would allow us to continue to have emission-free energy from the dams." Fehrman said he will be at the Berkshire meeting, too. "They're certainly within their First Amendment rights to come," he said. "It has absolutely no impact on anything that we would do or not do, and really has no impact at all on our negotiations."

Starting today, dam removal advocates plan to hold press events in San Francisco, Sacramento and Salt Lake City on the way to Omaha. Once here, they plan to demonstrate to explain their cause to Berkshire shareholders and hold a ceremonial "brush dance" aimed at healing a river that they say is damaged by the dams. Hillman may even raise a question at the shareholders' May 5 meeting at the Qwest Center

Omaha. The group says the efforts will be non-confrontational. "From what we can tell, Warren Buffett seems like a good guy," said S. Craig Tucker, campaign coordinator for the Karuk Tribe of California. "He seems like a smart businessman. I think we have a very strong case. We're not looking for charity. We're looking for a business deal that works for him and doesn't destroy our river." The four tribes in the Klamath basin - Karuk, Hoopa and Yurok from northern California and the Klamath from southern Oregon - held similar demonstrations in 2004 and 2005 at shareholder meetings of PacifiCorp's former owner, Scottish Power. Hillman and Tucker say the demonstrations were a factor in Scottish Power's decision to sell the company to Berkshire. But officials for PacifiCorp and Scottish Power say there was no connection. Tucker said the group hopes that Buffett and the shareholders will influence PacifiCorp to remove the dams.

"We can't say this is all Warren Buffett's responsibility because he just bought the company," Tucker said. "But what we do want Warren Buffett and the other investors to understand is that their business is behaving in a very socially irresponsible manner." The timing is important because for the first time in decades PacifiCorp is applying to renew its federal and state licenses for the dams and power plants. The oldest of the dams was built in 1917 and the latest in 1962. Tucker and Kelly Catlett of the Friends of the River in

Sacramento say today's wildlife and anti-pollution laws, plus tribal rights agreements with the federal government, should prevent the dams from getting new licenses. The dams shut off migration of salmon, steelhead trout and lamprey eels to the upper reaches of the Klamath basin and have reduced migration below the lowest dam. Last year federal authorities prohibited commercial salmon fishing along a 700-mile stretch of the West Coast because of the low migration numbers. Hillman said the salmon are inseparable from the region's tribal culture: "Our ceremonies are dictated and timed around the migration of the salmon."

Much of the argument is about money. If PacifiCorp invests \$300 million in fish ladders, screens and other improvements, it would be entitled to recoup the money through electricity rates paid by its customers. No one knows who would pay to have the dams removed, or how much, if anything, PacifiCorp would be paid for giving up the dams. Dave Kvamme, a PacifiCorp spokesman, said the company is willing to compromise if its consumers can be assured of reliable sources of electricity and if PacifiCorp is compensated for losing the dams. Catlett, from Sacramento-based Friends of the River, argues that the dams can't qualify for new licenses under current federal and state laws and thus will become a liability, not an asset worthy of compensation. The California Energy Commission said in December that removing the dams would cost less than building the fish ladders. Kvamme disagreed, saying nobody knows the true cost of removing the dams. He said it may cost between \$1.5 billion and \$4.5 billion just to remove and treat the millions of tons of sediment behind the dams.

In addition, he said, state governments on the West Coast are requiring power companies to use more renewable energy sources, and hydroelectric power is the most reliable renewable energy available. Kvamme said the dams generate enough electricity for 70,000 homes. Fehrman, a former Nebraska Public Power District executive who became PacifiCorp president with Berkshire's purchase last year, said protecting the environment is a core value of PacifiCorp. "We'll continue to work with the groups for as long as it's fruitful and there's a chance of an outcome that can meet the needs of the parties," he said. Hillman, the tribal official, said the groups will continue working with PacifiCorp to see the dams removed. "We will see them in Omaha," he said. "If they want to stand with us to make the (dam removal) announcement, we would love that. But if they want to fight, we'll continue to fight."

River flooding raises concerns

SUSAN HUNTER, *Editor*, April 26, 2007, Valley Gazette

SEYMOUR - The rushing Housatonic River that sped past the shoreline and flooded homes in several towns last week was the highest water many had seen since the flooding that occurred in 1984.

People who have lived along the riverbanks are accustomed to high water. But Seymour resident Mike Misiewicz, 45, who has owned a house along the river in Seymour since 1990, said dam operators could do a better job controlling the water. The river seems to rise most often during the night, he said, and firefighters come by to alert residents that they should consider evacuating.

With the storm in 1984, it rained for a week, he said, but the flood did not affect him. The back yard of his parents' property farther along Roosevelt Drive in Oxford collected some standing water. However, during the recent weekend nor'easter, the water flooded the home of his best friend Scott Ames, who lives next door at to Misiewicz's parents. "The flood ruined his house," Misiewicz said. He contends that the river is doing more damage nowadays because dam operators are not letting the water run high before storms hit. "They could have run the water more," he said. "When I was a kid, the river would run high for weeks."

The electric company that owns the dam is more interested in generating electricity than protecting riverfront dwellers downstream, he said. Misiewicz said he fears that acquaintances who recently renovated their cottage in Derby's McConney's Grove near the Seymour-Derby border may not have fared well. About a dozen homes flooded in McConney's Grove, according to information from the Derby mayor's office. A \$30,000 retaining wall a friend put up may have been ruined, Misiewicz said. "I got away lucky," he said. The river water came within an inch of flooding his finished basement. The Yale University crew had its boats out on the river a few days after the storm. Had the boats created waves, water would have come into his house, he said.

Misiewicz said he attended re-licensing meetings the Federal Energy Regulatory Commission (FERC) had for the Stevenson Dam upriver in Oxford. The re-licensing process takes place every 30 years, said Caprice Shaw, water quality director for the Housatonic Valley Association. All hydroelectric plants have to go

through the process. "It's a once-in-a-lifetime opportunity to make changes regarding regulations for water levels," she said.

Managing the river

The relicensing of the Stevenson Dam took place in 2004, said Chuck Burnham, external affairs administrator for FirstLight Power Resources, the company that owns and operates the Stevenson Dam and nine others along the Housatonic River. When FirstLight bought the facility from Northeast Utilities in 2006, it adopted the licensing agreement. FirstLight's flood management includes lowering the water levels of Lake Zoar and Lake Lillinonah as defined by FERC regulations. "They tell us what level we're allowed to lower it to," Burnham said. During high water conditions, as the lake levels decrease, the water is captured at the power station to produce energy and delay the flooding. "We try to capture as much water as we can," he said.

Spillways or radial floodgates alongside the dams are opened during high flow periods to prevent the tops of the dams from being damaged by the rapidly flowing water. "We can only delay flooding," Burnham said. "The dams are more for flood management. We can't stop the flooding - Mother Nature is the only one who can control it. The dams are not flood-control dams." The river level has to remain within a six-inch range, according to a 1987 licensing agreement between the owners of the Derby Dam near the boathouse and the owners of the dams FirstLight owns. People who have homes along the river are living in a flood zone, he pointed out.

The April 16 nor'easter brought the fifth highest water flow at Stevenson Dam since these types of measures have been recorded, Burnham said. The dam was constructed in 1919. The river flowed at 50,000 cubic feet per second, compared to 64,000 CFS during the Flood of 1955. Stevenson Dam can withstand 372,000 CFS, according to Burnham. The river level rises because of rainfall amounts, he said, as it did on April 16 when FirstLight asked personnel from the local fire departments "to knock on doors" and ask people to leave. During potential flood conditions, the company keeps track of CFS levels, issues flood alerts and warnings, and stays in contact with local fire departments and town officials.

Flooded residents want answers

April 29, 2007, Boston Globe.com

MILFORD, N.H. --Residents of flood-damaged neighborhoods in Merrimack and Milford want to know if allowing water over upstream dams helped flood their homes. Merrimack surveyor John Abagis lost more than 4,500 files to the raging Souhegan River. He and the 10 other homeowners who were flooded in his neighborhood have sent a petition to state Emergency Management Director Christopher Pope asking for an investigation.

Jim Gallagher, chief engineer for the state Dam Bureau, said the bureau already is investigating by having dam operators verify water flow information and develop a timeline for the flooding that began with heavy rains on April 15. "We have far from completed our investigation, although so far we have found no egregious errors, and the floodgates appear to have been opened very early," he told the New Hampshire Union Leader. In Milford, residents also are wondering if the flooding was worsened when dams in Greenville and Wilton released water. "I can't understand why (the river) came up so fast. All of a sudden we got this blast of water; that's what caused the problems," said Bob Courage, a Milford native who ran the town Public Works Department for 35 years. "I've seen many storms over the years that were six inches of rain plus, and we didn't have anywhere near the height of water along the river that we did this year," he told The Telegraph. Milford Town Administrator Guy Scaife is hoping for a state investigation, but is cautious about pointing fingers. "I'd be very careful about looking for a single smoking gun," he said. "This is a very complex set of circumstances."

Weather observers say heavy rain and extra runoff caused by frozen ground and melting snow contributed to faster runoff than in last May's floods. Tributaries flowing into the Souhegan, unaffected by the dams, also were running high. Some residents are questioning the role of the Chamberlain and Otis Falls dams, two privately owned hydropower dams in the center of Greenville. Owner Alden Greenwood pulled the boards that increase the dams' height and storage capacity after discussion with the state Dam Bureau. He said the flashboards were pulled gradually from Sunday afternoon, April 15, through Monday morning, and wouldn't have caused a blast of water downstream.

Officials have said the boards were pulled because water was piling up so fast behind the dams they feared it would flood downtown Greenville and flow over the top of the structures, damaging them. "Ultimately, we don't want the dam to be overtopped and fail," Gallagher said. "Conditions would be so much worse if that happened." Scaife said the rising water also knocked out pressure release gates on a privately owned

hydropower dam near the Wilton-Milford town line. The gates were sheets of wood stretched across 128 feet of the nearly 200-foot-wide dam. They're designed to automatically give way when the dam is in danger. "The dam owner does not know when they released," Scaife said. "There's no measuring device at all. They don't know was it all at once (or) was it gradual."

(Some people still haven't figured out why Taum Sauk failed and they're the people writing the laws.)

Lawmakers should tighten the requirement for state oversight

Inspect more Missouri dams to ensure safety

Editorial, Kansas City Star, Apr. 27, 2007

In late 2005, the collapse of the Taum Sauk Reservoir dam sent more than a billion gallons of water barreling down into the popular Johnson's Shut-Ins State Park. People were nearly killed. This summer, the park in southeastern Missouri will be closed for repairs. But Johnson's Shut-Ins probably will never be the same. The reservoir dam had been subject to federal inspection, yet problems apparently went undetected. Unfortunately, many dams — some of them holding more water than Taum Sauk — aren't checked at all. Many could pose significant danger to nearby residents. In a welcome move, some Missouri lawmakers want to tighten the state's dam safety inspection law to cover more dams. They introduced legislation, endorsed by Gov. Matt Blunt, that would lower the height requirement for state oversight to 25 feet. Unless they are used for agriculture, dams currently must be at least 35 feet high to be subject to state inspection.

The House, unfortunately, wants to keep the current height requirement. That would be short-sighted. The Department of Natural Resources says the original legislation would cover 113 dams in the Kansas City area that are 25 to 35 feet high and pose significant hazards to people, drinking water, highways and other major infrastructure. To better protect the public, lawmakers need to pursue the 25-foot requirement and require regulation of all dams that pose significant dangers to people and property.

(Too often, we see these tragic stories.)

2 Iowa Falls men drown at Alden dam

April 30, 2007, **By Courier Staff**

ALDEN --- Two Hardin County men died Sunday evening after swirling waters beneath a low-head dam apparently pulled their canoe into a troubled area of the Iowa River. Authorities identified the victims as Jonathan Hill, 26, and Drew Goodknight, 22, both of Iowa Falls. A third passenger in the boat, Levi Wendland, 26, also of Iowa Falls, escaped serious injury but was reportedly taken to Ellsworth Municipal Hospital in Iowa Falls. The incident happened shortly before 6 p.m. when the three were paddling on the Iowa River. After reaching the dam at Alden, they carried their canoe around and below the dam, but the vessel was apparently sucked into the churning water. None of the three passengers were wearing life jackets at the time of the incident, according to the Iowa Department of Natural Resources.

The dam has few safety features and a rolling current, which poses several problems for people trying to navigate the river. "It's not a dam you would want to go over by any means," said Tracy Morlan, owner of Rock-N-Row Adventures in Steamboat Rock. Construction on a portage road around the dam was expected to begin this summer as part of a trail along the Iowa River, Morlan added. Higher water caused by recent rains also makes the crossing more dangerous. The Iowa River hasn't come out of its banks yet, Morlan said. But he is warning people who rent equipment from Rock-N-Row to take extreme care on the river.

He said no one can be too cautious. "You really have to know what you're doing," Morlan said. "It looks harmless enough, but Mother Nature, once she gets a hold of you, she doesn't let go." In Cedar Falls, a man went over the dam Sunday afternoon when his personal watercraft quit. He was riding in the impoundment above the dam and stayed on his watercraft as it floated downstream. After trying to hang on to chains above the dam, the man and the watercraft rushed through the middle gate of the dam, according to the

Cedar Falls Fire Department. The man was able to restart the watercraft and then rode it downstream to a take-out point. Several people have drowned over the years at low-head dams across the state.

Nate Hoogeveen, president of the Iowa Whitewater Coalition based in Des Moines, has described the structures --- essentially walls blocking the flow of water --- as dangerous and unnecessary. Iowa has at least 150 low-head dams. Many were built to power mills in the 19th century but serve no purpose today, according to Hoogeveen. Cedar Falls has one low-head dam, Waterloo has two, but kayakers have initiated efforts to reconstruct the obstacles. In Wisconsin, officials and volunteers have removed more than 75 dams since the 1980s. Minnesota in recent years spent \$4 million renovating a low-head dam and turning the Red River into a series of gradual rapids. The DNR has money available to make low-head dams safer, or at least more visible. The agency will reimburse up to \$15,000 per project and pay 100 percent of costs, according to the DNR's Web site. Eligible items the state will pay for include signs, posts, cables, towers, buoys and construction costs for portage trails. The DNR might also pay for "other site-specific features needed to develop clear lines of sight and adequate warning." The Alden Fire Department and the Hardin County Sheriff's Department assisted at the Alden scene. The incident remains under investigation by the DNR.

NE Ohio dams are showing their age

May 01, 2007, by Maggi Martin, The Plain Dealer

The placid water and small beach are an oasis for the residents whose homes encircle Briar Lake. But the aging dam that created the 4.5-acre lake in Solon has become a potential danger to downstream residents. A state inspection revealed crumbling concrete and other flaws that could lead to a dam failure if not repaired. The 75 residents around Briar Lake want the dam repaired, but the \$1 million cost to preserve what only a few can enjoy has prompted heated debate as city and state officials and homeowners grapple with who will pay. Briar Lake is typical of more than 1,700 dams in the state, and one of 261 in Northeast Ohio, that are showing their age, say Ohio Department of Natural Resources officials. Most are small recreational dams at private developments or at golf courses. Others are large water filtration or retention basins like those at the Shaker Lakes in Shaker Heights, which could cause far more destruction if one were to collapse.

"Many of these dams were built before state regulations were imposed in 1963," said Mark Ogden, administrator of dam safety for ODNR. "Many don't meet the standards and are not maintained." There are more than 50,000 dams in Ohio. Most are small and not regulated. But ODNR oversees more than 1,000, including more than 400 that are considered Class 1, or high risk, like Solon's. Dams are classified by their size and the impact they would have on homeowners and property downstream. A Class 4 dam, for example, is one that is small and would cause minor damage, mostly to the dam and its immediate area, if it were breached. Catastrophic dam failures of the past led to stringent regulations in place today, Ogden said. In 1990, the Shadyside, Ohio, dam failed and killed 26 people and destroyed 80 homes. In 1982, a Colorado dam burst, killing three and causing \$21 million damage. New regulations require dam owners to build larger spillways that can accommodate overflow during a major summer storm, like the one that drenched the area last year. Inadequate dams can result in a breach where water flows over the top. That can become a serious concern with a large dam, like the Forest Hill Park dam nestled in a 235-acre park at Lee Road and Forest Hills Boulevard in East Cleveland. Its failure could jeopardize 100 lives and properties downstream, state officials said in their report. The Class 1 dam used for flood control is 37 feet high and 318 feet long and is showing "severe deficiencies," according to an ODNR inspection that noted crumbling concrete.

East Cleveland Mayor Eric Brewer declined to comment until he could discuss the issue with other officials. In an e-mail, he said he had not seen the report. But state officials said East Cleveland has indicated it has no money to pay for repairs. ODNR has authority to demand repairs and can go to court to force them, Ogden said. In the East Cleveland case, he said officials are trying to work out a solution. In the past, others have had to dig deep to pay staggering repair costs. Munroe Falls in Summit County paid \$1.4 million to remove a small dam last year. And at the 3,000-acre lake at Salt Fork State Park in eastern Ohio, ODNR paid \$3.2 million to lower the lake level 5 feet - exposing stumps and trees - to repair the drainage system, and then refill the lake to normal levels.

In Solon, the issue has been batted around at several recent council meetings after ODNR demanded repairs. Concrete is cracking on the Briar Lake dam, and the emergency spillway is improperly designed. The dam's failure could endanger 15 lives as well as several homes downstream.

Some in the city say the homeowners ought to bear the burden and not the city. Bill Mooney, Solon's former public-works director, estimated it would cost \$1.4 million to repair the dam. The city considered one plan to remove it at an estimated cost of \$580,000.

Members of the Briar Lake Association, committed to keeping their lake, have countered with a plan to make concrete repairs and install an inflatable gate. The gate would rise and fall to control the flow of water. Similar gates are used in other states but have not been installed yet in Ohio.

If the Briar Lake dam is repaired, the association will have to obtain more property to enlarge spillways to meet the new code. Laurence Powers, a Briar Lake Association trustee, said members have set aside association fees to help pay for some repairs. One plan would have the association paying \$300,000 with members assessed over 26 years while the city would kick in \$700,000. Powers said the city should help pay for the project because about 240 homes drain their storm water into Briar Lake. "Our lake prevented catastrophic flooding during last summer's flood," Powers said. "If we lose the dam and lake, the city will have to create a retention basin elsewhere and will have to purchase property to do that." Powers said the lake is an attraction that adds to many property values. Most of Solon High School's wrestling teams have splashed in the waters at one time, he said. One of the coaches lives there. "Our lake is beautiful. We do not have sidewalks or streetlights. It's a lake community," said Powers. "Removing it would be a loss for everyone."



Hydro

Borough Council will apply for \$16 million in interest-free bonds to build a hydroelectric plant that would generate about a third of the borough's electricity needs, Borough Manager John Hanosek said.

The Associated Press, NPA News, 4/24/07

To get the Clean Renewable Energy bonds for a 2.9 megawatt-a-day plant at Beltzville Dam, the borough must get approval from the Federal Energy Regulatory Commission. The borough also must determine how many of what kind of fish live in the lake created by the dam, and notify several agencies and groups including the federal Bureau of Indian Affairs, U.S. Army Corps of Engineers, Pennsylvania Fish and Boat Commission and Pennsylvania chapter of the Sierra Club. A hydroelectric plant would help the borough reduce future costs of electricity, which it now buys through a consortium, officials said.

[\(Less hydro production to benefit boaters who pay nothing for the benefits, and they are still not satisfied????\)](#)

Water to stay higher

Apr. 26, 2007, By TIM FLACH, TheState.com

The water level at Lake Murray will remain higher, providing a big boost for boating year-round. The change means many coves no longer will be too shallow for watercraft to sail in for up to six months a year. Lake levels won't fall more than four feet annually, half of the former drop, officials at South Carolina Electric & Gas Co. are telling waterfront groups. In the past, lake levels were lowered as soon as July. Now, the water won't get lower until after Labor Day. The water was lowered to create electricity and to make room for winter rain.

Jim Landreth, executive at the Midlands-based utility that oversees operations of the 77-year-old, man-made lake, made the guarantees. "We're in good shape with that for many years to come," he said. The 47,500-acre lake is used to generate power minimally, he said. Its role now is as a backup in case of massive failure at other power plants. **Reduced reliance on hydropower means lake levels will remain higher.**

The change benefits those who visit the lake, as well as those who live on it, by keeping more areas open to boating. An estimated 250,000 boaters use the lake annually, according to studies. Waterfront groups have sought the change for a decade. "We're happy they've finally heard us," said Dave Landis, president of the Lake Murray Association. **But some shoreline community leaders continue to press to limit the drop to two feet. Doing that, they say, will assure all coves are usable.** The change SCE&G adopted is "definitely a step in the right direction, but we still think a higher minimum is doable," said Bertina Floyd, vice chairwoman of the Lake Murray Homeowners Coalition. "It's nice of them to throw out this carrot out, but it still leaves a lot of people out," said Steve Bell of Lake Watch.

The two groups are asking federal officials to set a two-foot drop as the maximum allowed. Landis also wants to clarify the conditions under which SCE&G could switch back to full-scale hydropower production. "We want to define the parameters on that," he said.

[\(And, here's another way to reduce hydro production.\)](#)

Toledo Bend minimum lake level closer to reality

April 26, 2007, By Vickie Welborn, The Shreveport Times

TOLEDO BEND – Barring any manmade hiccups in the coming weeks or Mother Nature interference beyond that, Toledo Bend Reservoir should hover around 168 feet at its lowest point this year. The Sabine River Authority Board of Commissioners formally moved in that direction today by unanimously approving a resolution amending the power sales contract that's been in place for decades with two electric companies that receive power six months a year from the reservoir's hydroelectric generators. A few more steps stand in the way of final approval, including thumbs up from the Louisiana Public Service Commission that meets Tuesday, the Sabine River Authority of Texas Board of Commissioners, the Texas Public Utilities Commission and U.S. District Judge Maurice Hicks. "I'm optimistic we're there," Executive Director Jim Pratt told commissioners at this afternoon's meeting. "But it's not a done deal until everyone signs."

Getting that many entities and individuals on the same page has been a monumental task, Pratt said, but it's an effort that lakedwellers such as Diane Lampman, of Zwolle, appreciate. Lampman, who was heavily involved in 2002 with a citizens group in campaigning for the 168 feet lake level, was among a dozen people at today's meeting to witness the SRA vote. "I'm very optimistic about what was done. It is the best way to get this resolved," Lampman said. "I hope the PSC agrees ... because I think this is going to be a great thing for this reservoir."

The 168 feet lake level has been a magical number of sorts that many agree is the lowest the 182,000-acre reservoir should fall and still provide adequate recreational opportunities. Much lower, then the reservoir's stumps become a nuisance and public boat launching areas become difficult to navigate. Back-to-back droughts, coupled with continued hydroelectric generation, sunk the lake to 161.24 in October, setting a record low. Winter rains pushed Toledo Bend to 172 feet, which is the top of the power pool, in January, and it's remained around 170 feet or so since then. It measured 171 feet this morning.

The SRA resolution approved today:

- Raises the bottom of the power pool from 162.2 feet to 168 feet.
- Increases from \$21 per megawatt hour to \$38.1 per megawatt hour the rate the utility companies will pay for hydroelectric power delivered May through September. The rate is based on actual costs of operations, maintenance and relicensing fees.

From revenue received, the SRAs of Louisiana and Texas will set up an escrow account to pay for replacement power in case hydroelectric power generation is ceased at 168 feet. Both SRAs are still responsible for providing 65,700 megawatt-hours of electricity for the six-month period. Pratt said a request is before the Legislature this session seeking \$500,000 of "seed money" for Louisiana's share of replacement power if it is needed this year. The public should be aware, Pratt said, that the reservoir might not stay steady at 168 feet. The contract, as does Louisiana's lake level law that became effective in 2004, includes provisions for electrical brownouts and to maintain downstream flow of the Sabine River. "If we're at 168 and a drought hits July 1, it will drop," Pratt said of the reservoir. "But there won't be generation."

[\(Whatever happened to the First Iowa case that says states can't overrule Federal authority?\)](#)

Ruling blocks access to park

Hydroelectric company can't get into the Gorge for environmental tests

By Tracy Wheeler, Beacon Journal, 4/28/07

A federal appeals court has blocked Metro Hydroelectric Co.'s access to the Gorge Metro Park. The Fairlawn company is suing Metro Parks, Serving Summit County, for access to the park to conduct environmental tests for a planned hydroelectric project on the Cuyahoga River between Akron and Cuyahoga Falls. The company had won a ruling in U.S. District Court granted access to the park, located in Cuyahoga Falls. However, the 6th U.S. Circuit Court of Appeals in Cincinnati overturned that ruling this week, blocking the company's access. The appeals court also questioned the merits of the company's federal case, saying that it "appears a likelihood" that Metro Parks will successfully prove that the case belongs in state court, not federal. The ruling was seen as good news by Metro Parks attorney Robert M. Gippin. Though it is not an end to the case, it appears that the federal case may be dismissed, meaning the fight will probably move to state courts if the company chooses to file a new lawsuit.

Company President David Sinclair declined to comment on future legal action, but said that he is "really disappointed that the park authority would choose not to support a renewable energy project in its own backyard, especially with our nation's need for renewable energy sources." The park system has been critical of the project, saying it could require construction of a new road, the destruction of trees, the loss of habitat and the destruction of park views and aesthetics near the 57-foot-high Ohio Edison Co. dam. Sinclair disagrees. "Here's a dam built for this purpose," he said. "The park and (hydroelectric power) have existed side by side for more than 30 years, yet the park refuses to consider having the facility reinstated and won't even allow the environmental studies that would determine whether or not it's an environmentally benign undertaking."

In its lawsuit, Metro Hydroelectric contends that the park district has blocked environmental studies and denied the use of property rights that were transferred from Ohio Edison Co. to the hydroelectric company. Without access to the property, the company says, it cannot conduct the studies required for Federal Energy Regulatory Commission approval. It is claiming an "improper usurpation of federal power." However, the appeals court ruled that any question of federal law "remains speculative and hypothetical" until state courts decide the property rights issues.

Hydro company defends its work

Fort Dodge mayor: Proposal isn't sound

By BILL SHEA, The Messenger, 4/28/07

The company hired to restart the Fort Dodge Hydroelectric Dam remains willing to work with the city, and its leaders are defending their work on the project so far. "Since the climate has changed and for the sake of everyone concerned it is now time to set aside our differences and work toward a common solution," Gary Young, the firm's president, wrote in a letter to city representatives. "FDHD pledges its continued support in that regard," Young added. His letter is a response to the city's recent move to end its contract with the Cedar Rapids-based company. The city is also demanding that \$195,000 already paid to the company be returned.

The company's letter will be discussed with the City Council and attorneys, according to Mayor Terry Lutz. But Lutz remains convinced that ending the company's contract is the best move. "They have never been able to prove that the project technically works," he said. He said Fort Dodge Hydroelectric Development Co. doesn't have the technical staff or experience to handle the project. He said the company has relied on past reports, dating back to 1992, instead of doing a fresh analysis of the dam. "It just does not make sense," Lutz said. "They've still not come back with any sound technical data." Attorneys for the city government filed documents with the Federal Energy Regulatory Commission early this month, which revealed the move to break the contract and get the money back. A pair of reviews done last year by Stanley Consultants of Des Moines concluded that producing power at the dam again would be a money-losing proposition. Those studies became the basis for trying to cut ties with the company.

Fort Dodge Hydroelectric Development Co. projected that the dam could produce 7,506 megawatt hours of electricity per year. It also estimated that the project would be in the black by \$800,000 over the course of 20 years. Stanley Consultants projected that the dam could produce 5,980 megawatt hours per year. It also calculated that the project would lose \$5.9 million over 20 years. Young wrote that Stanley Consultants significantly understated the production capability of the dam. He wrote that he believes the Des Moines

company owes his firm an apology. "These low values from Stanley Consultants reports present an erroneous picture of the true value for this project to the public," he wrote. The use of different flow gauges on the Des Moines River may have led to the differing figures, according to Young. He said his company based its analysis on data from a gauge two miles upstream from the dam. "We believe that the Stanley report failed to take into consideration" data from that gauge, Young wrote. Stanley Consultants, he wrote, used a gauge that's downstream and then reduced the flow volume by 10 percent to account for water from Lizard Creek. Lizard Creek empties into the Des Moines River downstream from the dam. Young said he never got answers to 16 questions he asked about the Stanley Consultants reports.

According to Lutz, those reports were given to the company, but no reply was ever received. After working with city officials on what Young has repeatedly called a "handshake basis" for about three years, Fort Dodge Hydroelectric Development Co. was hired by the City Council in September 2005. Its job was to obtain a federal license for the dam and manage the process of restoring it to use. The company was to be paid \$795,000. The hydroelectric plan called for installing two 700 kilowatt turbines. Electricity from those turbines would power the John W. Pray Water Facility, the wastewater treatment plant, pumps on the water wells, downtown streetlights and the Municipal Building. "We worked with the city and the staff and all the parties that had an interest," Young said by phone Thursday. "It is a very useful project for the City of Fort Dodge. I still see it that way. All the facts lead you in that direction."

On Dec. 6, 2005, city voters OK'd borrowing up to \$7 million to pay for the equipment and needed repairs to restart the dam. That ballot measure passed by a margin of about 80 percent to 20 percent. The dam was built in 1916. It stopped producing electricity in 1971 because its aging equipment wasn't cost-effective.

Portland to spend US\$42M on relicensing in '07

4/30/07, International Water Power and Dam Construction

Portland General Electric Co (PGE) expects to spend US\$42M on relicensing activities for hydro power plants and facilities this year, it said releasing its first quarter financial results. The US company has a combined installed capacity of 509MW in eight hydro plants, which range in power up to 465MW - which is for the Pelton-Round Butte plants. Pelton-Round Butte, the largest hydro scheme totally within the borders of Oregon state in the Pacific northwest, has won an environmental plaudit from the Low Impact Hydropower Institute (LIHI). The scheme impounds the river Deschutes. The green rating came as a result of a battery of planned environmental protection measures for the project, including a fish passage to start construction in the third quarter and be operating in 2009. The fish passage will reopen significant stretches of river for migration above the reservoir. The plant, which is owned by PGE and the Confederated Tribes of Warm Springs, was relicensed by the Federal Energy Regulatory Commission (FERC) in 2005.



Environment

(Excerpt from article: <http://www.msnbc.msn.com/id/18332282/>)

Europe's move to biofuels threatens rainforest

April 26, 2007, MSNBC

Europe's dash for biofuels could accelerate the destruction of tropical rainforests, the European Commission admitted on Thursday. The EU's executive arm said that the 27-member bloc's decision to increase tenfold its consumption of vehicle fuel made from crops by 2020 to reduce greenhouse gas emissions would increase the pressure on virgin land, especially in Asia. However, it said it was working on laying down minimum standards for sustainable fuels.

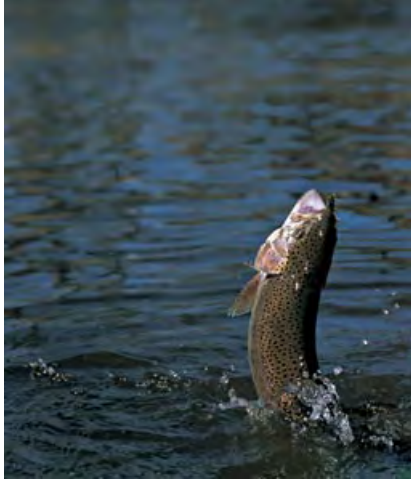
Chris Davies, a British Liberal Member of Parliament whose question elicited the response, cast doubt on the effectiveness of such a policy. He said: "In a bid to solve one problem, we risk creating another, and making things worse. Rainforest destruction is a major contributory factor in global warming and it would be ludicrous to promote this loss to slake our thirst for fuel."

Arkansas Trout On A Missouri River

The Little Missouri River in southwest Arkansas boasts a fine trout fishery. (May 2007)

By Steve Taylor, Arkansas Sportsman

Trout fishing in north Arkansas has a big reputation: Tailwaters gush from hydroelectric dams on reservoirs of 30,000 to 45,000 acres and flow for many miles, producing rainbows that occasionally weigh in the teens and brown trout that snack on fish you'd be happy to put on a stringer. It's



world-class fishing -- but the sheer size of the rivers and the force of their changing water levels can overwhelm and even intimidate anglers.

Fortunately, there's excellent fishing on a smaller scale and a more relaxing pace on the Little Missouri River in southwest Arkansas. Jeff Guerin of Murfreesboro has fished the Little Mo for three decades and is the river's sole full-time guide. He and his customers use fly-fishing gear exclusively, but all anglers can benefit from his detailed observations about the river. And if you happen to be a fly-fishing purist, he delivered an exciting revelation during his interview with Arkansas Sportsman when he declared: "I'm going out on a limb, but I'll say it's the best dry-fly stream in the state!"

Here's your guide to catching the feisty rainbows in southwest Arkansas' scenic jewel, the Little Missouri River.

History:

(A little about the history of the Niagara Project.)

Robert Moses muscled through construction of the Niagara Power Project

Buffalo News, 4/29/07

Robert Moses had built billions of dollars worth of bridges, parks, expressways and public housing highrises in and around New York City, and 50 years ago he wanted to construct what would be North America's largest hydropower plant on the escarpment of the Niagara River. The Power Broker, as he later became known, came to Niagara County promising prosperity. But Moses and the State Power Authority he headed were regarded as interlopers by many local political, business and community leaders. They were skeptical of his promises and fearful of losing local control over the natural resource that was the source of both electricity and property tax revenues for the region. Local authorities fought him all the way from Niagara Falls to Albany to Washington, D.C., with resolutions, legislation and lawsuits. Along the way, outraged Tuscaroras, faced with the loss of much of their reservation in Lewiston, took to shooting up and sabotaging the authority's construction equipment. The Power Broker prevailed, however.

Moses' success is the most striking, but far from the only, example of actions that stripped the region of any claim to the power and profits generated by Western New York's greatest natural resource — Niagara Falls and the river that feeds it. "The Niagara River is a natural resource that is a birthright of the people of Western New York. We have a right to reap the benefits that come from that asset, and that birthright has been systematically stripped from us the past 50 years," said Thomas P. Callahan, a Lockport businessman who has operated small upstate hydropower projects.

The view outside Western New York is different. "There's no place in the country where locals successfully asserted a right to a percentage of the benefits," said Ben Wiles, senior attorney with the Albany-based Public Utility Law Practice. Business, and later government, have been tapping Niagara Falls and the Niagara River to generate hydropower for nearly 300 years, beginning with a saw mill in 1725. Generating plants to serve a range of customers were subsequently built on both the American and Canadian sides of the river in the late 1800s and early 1900s. Electricity could not be transmitted long distances in those days, and these generating plants attracted energy-intensive manufacturers. What's more, those who owned the generating plants lived in the community, in some cases just blocks away from their facilities. "The people

who made the decisions were local people, and decisions were made in a way that favored us because they knew the effect on the community,” said Thomas Yots, the official historian of the City of Niagara Falls.

Niagara Falls became known as the “Power Capital of the World” and saw its population grow sixfold, to 75,000, from the time the first Schoellkopf plant opened in 1881 to the onset of the Great Depression. The first hydropower was transmitted to Buffalo in 1896. It soon became known as the City of Lights. Like Niagara Falls, it, attracted power-hungry industries to become one of the nation’s major manufacturing hubs. “There was a vision at one time that factories would stand, running nonstop, all along the Niagara River from downtown Niagara Falls to downtown Buffalo,” said Yots, a co-author of “The Power Trail: History of Hydroelectricity at Niagara.”

While that turn-of-the-century vision never panned out, it was safe to say the region owned the power — and prospered for it. That changed over the next half-century, however. State politicians, as early as the turn of the last century, were troubled by the prospect of hydropower in private hands, or “water barons” as some called them. In 1931, after nearly three decades of politicking, the Legislature established a state authority to build a hydropower plant on the St. Lawrence River near Massena, which was built in the mid-1950s. By then, the power authority, under the control of Moses, had designs for a second, much-larger plant near Niagara Falls. The stage had been set by a treaty adopted by the United States and Canada in 1950 that allowed for a diversion of a greater portion of the Niagara River’s flow to generate up to six times the hydropower of the existing plants. Tucked into the bill was a provision that gave Congress the authority to decide who would use the increased generating capacity.

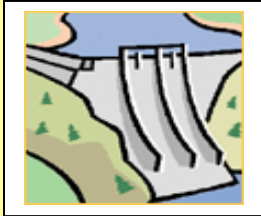
The Legislature followed up the U.S.— Canada agreement in 1951 by passing a bill that broadened the power authority’s jurisdiction to include Niagara, thus setting up a heated debate as to whether private or public interests, be they state or federal, should control power generation along the Niagara River. While state and federal politicians representing the region were divided over who should build and operate a new hydropower plant, many local government, business and labor interests strongly supported keeping hydropower production in private hands. Among the chief reasons: Privately owned plants paid property taxes, while power authority facilities were tax-exempt. One study done in the mid-1950s said public ownership would result in a loss of \$23 million a year in local, state and federal taxes and fees.

There also was the issue of control: The region’s major hydropower plants were owned by local concerns that were perceived as keeping an eye out for community interests. The debate came to a sudden end in June 1956, when a rock slide sent the Schoellkopf plant crashing into the river. The plant’s destruction posed a crisis for industry reliant on its power and provided Moses the opening he needed to press his case for a federal license to build and operate the plant. The authority cut a deal with Niagara Mohawk, which several years earlier had taken ownership of the Schoellkopf and Adams plants from local interests. The company’s license was due to expire in 1971; Moses gave it a contract to receive power for a much longer period of time. He also guaranteed Niagara Mohawk more power than its aged and destroyed plants could potentially generate and a big piece of the business of transmitting electricity generated at the new plant throughout the region and state. At that point, the power authority and many local officials locked horns over what public power would entail.

The Tuscarora Nation objected to his plans to seize a portion of its reservation through eminent domain and fought all the way to the U.S. Supreme Court. Many local government officials pressed to put the plant on the tax rolls. “It is on the question of taxing the power authority that Mr. Moses has invoked the wrath of Niagara-area leaders. Just about every elected official in Niagara County has advocated legislation that makes the authority’s holdings taxable, as private utilities are,” reported the Niagara Falls Gazette in April 1957. Moses responded by lambasting the locals for being blind to the “tremendous boom” that the plant would provide the regional economy. Congress soon gave Moses much of what he wanted. The Niagara Redevelopment Act of 1957 granted the authority a federal license to build and operate the plant. It also dictated how most of its power would be allocated. It was an unusual step for Congress to take. In fact, only the Niagara plant and one in Washington State are required to abide by allocations set by Congress. The federal legislation regarding the Niagara plant was a political compromise. Half went to public interests; the other half of the plant’s guaranteed capacity was earmarked for private interests.

Construction of the plant began in 1958. It began generating power three years later. Resentment lingered much longer. “The pace and circumstances of construction created an enduring sense of injustice among some residents of Niagara County,” according to a 2001 study commissioned by the power authority done by the Center for Development Analysis. — *James Heaney*

ⁱThis compilation of articles and other information is provided at no cost and should not be used for any purpose other than as free information for those interested in hydropower, dams, and water resources issues and development.



Some Dam – Hydro News and Other Stuff

5/11/2007

Quote of Note: *“Age improves with wine.” - - Unknown*

Other Stuff:

(Sometimes, it's good to lead off with an opinion piece by someone who has a view of the big picture.)

Some Reasons to Give a Damn About Dams

By Michael D. Shaw, Contributing Columnist - HealthNewsDigest.com, May 7, 2007

HealthNewsDigest.com) - Is there any sort of massive public work that simultaneously benefits environmentalists, businessmen, and politicians? Yes, there is: Dams.

(Michael D. Shaw, Contributing Columnist - HealthNewsDigest.com)

One of the first examples of man's attempts to control the devastating power of nature, the earliest dam in recorded history is said to have been built on the Nile River at Kosheish around 2900 BC, to supply water to the capital city of Memphis. This was a 49 foot high (14.9 m) masonry structure. Dams are constructed to supply water for human consumption, irrigation, and industrial uses. They are also erected for flood control purposes, to generate clean hydroelectric power, and to increase river depth for better navigation. In some cases, a lake is created, providing recreational opportunities, and quite often an enhanced wildlife habitat results. The larger and more famous dams, such as Hoover Dam, can become tourist attractions in their own right. To those admittedly few critics who condemn dam construction, as they decry any type of meddling with nature, we can counter with the enormous benefits of saving countless lives in areas long prone to damaging floods. But we would be remiss if we did not tout the wonders of hydroelectric power, as well.

Courtesy of dams, hydropower in the United States resulted in the avoidance of 30 million metric tons of carbon emissions in 2002. And don't forget the avoided emissions of nitrogen oxides, sulfur dioxide, mercury, lead, and other fine particulate matter known to cause health problems. In 1999, the Department of Energy identified 21,000 megawatts of unused hydropower potential at existing dams in the U.S. If developed, this potential would meet the yearly energy needs of 6.9 million homes and result in an additional 42 million metric tons of avoided carbon emissions. Of course, there are those who make the ludicrous argument that dams actually do produce carbon emissions because the initial excavation and flooding would have trapped plants that can produce carbon dioxide and methane. While true on its face, it conveniently disregards the same phenomenon caused by far more frequent natural flooding—analagous to the jejune notion that a naturally-induced forest fire cannot cause air pollution, but one set by man does.

Hydropower is the most plentiful and most efficient renewable energy resource, contributing more than 90 percent of all renewable electric energy produced in the United States. The efficiency of a modern hydropower plant exceeds 90 percent, and that's better than twice as efficient as a typical thermal facility. The original hydropower facility, dating back to 1882 in Appleton, Wisconsin, is still operating—at an

efficiency closely matching its modern day cousins. The conventional installed hydropower capacity in the U.S. is about 73,500 megawatts, and is capable of producing over 300 billion kilowatt-hours annually. To generate the equivalent amount of energy from a fossil-fueled generating plant fired by oil, coal, or natural gas would require 520 million barrels of oil, 129 million tons of coal, or 3.16 trillion cubic feet of gas.

On the flood control side, to cite but two examples, in a recent 12-year period, California's Oroville Project saved more than \$1.3 billion in flood damages. In 1997, Corps of Engineers dams on the Missouri River prevented more than \$5 billion in damages, and the large runoff benefited protected birds (principally terns and piping plovers).

To be sure, there can be deleterious environmental effects derived from dams, and these should be—and are—considered in proposed construction projects. It must be remembered, though, that ANY sort of development that might benefit mankind will by definition not leave behind a pristine environment. More to the point, as we are part of the ecosystem, it is purely natural for to change the natural environment; in this case, the same way our friends the beavers do.

Michael D. Shaw
Exec VP
Interscan Corporation

(This is quite a giant step! The question is – how do you deal with the fact that wind and solar are not dependable power resources?)

Renewables seen powering half the nation

Industry report says wind, solar could make big contribution to energy supply by 2025, but only if policies change.

By Steve Hargreaves, CNNMoney.com, May 2 2007

NEW YORK (CNNMoney.com) -- Renewable energy could have the capacity to supply up to half the nation's current electricity demand and 40 percent of its transportation fuel demand by 2025, proponents said Tuesday. In generating electricity, wind energy could play the biggest part, having the capacity to supply nearly 40 percent of the renewable power, according to a report from the American Council On Renewable Energy.

Wind is followed by solar at 26 percent, Geothermal at 16 percent, biomass at 16 percent, and water - including hydro dams, tidal and wave power - at 3.6 percent.

Save the planet - just not on my dime

"We still have elected officials who believe renewable energy cannot power this country, and I think that is incorrect," ACORE president Michael Eckhart said on a conference call. "We can deliver huge amounts of energy in an environmentally sustainable way." It should be noted that capacity is not the same as power produced, as some technologies - like wind and solar - don't produce power all the time. ACORE's projections differ sharply with those of the U.S. government and most major oil companies, who say renewables will continue to account for between 5 to 10 percent of the country's energy use by 2030. Eckhart noted the government's forecasts are made considering only current policies and laws, and highlighting what could be done with laws and policies that encouraged renewable energy use was the whole point of his group's study. "Renewable energy doesn't amount to much unless you change policy," he said.

Eckhart steered clear of endorsing specific policies or candidates, but said government laws and incentives for green power should be long-term in scope to give the industry and investors the stability it needs to grow. He also called for a 10-fold increase in research and development money from the government, and should total at least \$3 or \$4 billion a year.



Dams

(Absurd!)

TAUM SAUK RESERVOIR BREACH | Cleanup languishes, nearly 17 months after accident

Ameren official accuses DNR of playing ‘political football’

The corporation is seeking to settle faults sniping by Missouri’s DNR and attorney general.

By JIM SALTER, The Associated Press, Kansas City Star, May. 03, 2007

ST. LOUIS | An Ameren Corp. official Wednesday accused the Missouri Department of Natural Resources and the state attorney general’s office of playing “political football” with the Taum Sauk reservoir breach. Cleanup of the reservoir languishes, nearly 17 months after the accident. Meanwhile, in Jefferson City, a state senator from southeast Missouri and a school official from near the site of the disaster also criticized the political sniping. Doyle Childers, DNR director, on Wednesday was in St. Louis to deliver another proposal to settle civil allegations against Ameren. He then spoke at a news conference at the entrance to Ameren’s corporate headquarters. At the end of the news conference, Richard Mark, Ameren’s senior vice president for Missouri energy delivery, handed out toy plastic footballs to the media. “This type of silliness has really hurt the taxpayers of Missouri,” Mark said. “We’re tired of being the political football in the middle.” At the news conference, Childers criticized the company’s counterproposal to the DNR’s December plan to settle civil litigation. The chief point of contention: The Ameren plan called for a \$10 million payment to Attorney General Jay Nixon’s office that Nixon could use “as he feels appropriate” toward cleanup, the company said. The company proposal also called for an equal amount to DNR. Childers called the payment to the attorney general’s office a “slush fund” Nixon could “hand out to his political cronies.” Childers was appointed by Gov. Matt Blunt, a Republican. Nixon, a Democrat, is seeking the governor’s office in 2008. Both the DNR and Nixon’s office are seeking to negotiate a settlement. Nixon, in a phone interview, called the DNR news conference a “circus” and “traveling road show.” “I’m doing my job here, and the fact they are trying to make this political and demean the entire process shows a lack of professionalism on their side,” Nixon said.

For years, Ameren generated electricity through its Taum Sauk hydroelectric plant atop Proffitt Mountain in southeast Missouri’s Reynolds County. A breach of the plant’s reservoir on Dec. 14, 2005, spilled 1.3 billion gallons of water that rushed through Johnson’s Shut-Ins State Park. The park superintendent, his wife and their three children were injured. The park was badly damaged, as was a fork of the Black River. The park was open only for sightseeing last year, and the DNR has said it will be closed completely through 2007, though Ameren officials believe the park could be reopened this year. The closure is proving costly to businesses in Reynolds County. Ameren has taken responsibility for the accident and pledged to restore the river and the park. Childers said DNR officials “fired” Nixon from civil negotiations after learning Nixon’s campaign had accepted \$20,000 in donations from Ameren. But Nixon’s office has continued to maintain that it, and not the DNR, should handle the civil case. “If we’re going to reach a settlement, we need to know who we’re going to negotiate with — that’s the bottom line,” Mark said. “Until the state agencies stop fighting with each other, we don’t know who to talk to.”

In an impassioned Senate speech Wednesday, Sen. Kevin Engler, a Farmington Republican, said it was crucial to get the matter settled soon — or the school district in Lesterville, which is near the disaster site, risked having to close because the Ameren plant was a major part of its tax base. Lesterville students and teachers watched from a gallery. “To have (Blunt and Nixon) use these people as pawns in their chess game is unbelievable,” Engler said. “These kids and their school are on the endangered list. At the end of the year because of the inaction of our state, they don’t know if they’ve got enough revenue to keep their school.” Lesterville school Superintendent Earlene Fox said Ameren paid about \$500,000 annually in property taxes, supplying almost half the district’s local tax revenue and a large chunk of its \$3 million budget. Ameren has agreed to continue paying taxes, as if the reservoir still existed, through the end of this year. But unless there is a settlement and reconstruction of the reservoir, the school has no guarantee of continued taxes from Ameren, she said. “It’s very difficult to be trying to budget when you don’t know if you’re going to have the money,” she said. The DNR’s response to Ameren’s counterproposal calls for the

utility to pay \$115 million and give the state use of some of its property. Nixon called the DNR plan inadequate for failing to require the hydroelectric plant to reopen, failing to ensure that Ameren customers won't bear part of the expense, and failing to provide compensation for Reynolds County.

Governor orders review for management of dams

Residents question cause of storm surge

The Associated Press, May 3, 2007, Concord Monitor

After three major floods in 18 months, the state plans to review how its dams are managed, including policies for when to release water. Some residents of Milford, Amherst and Merrimack say a surge of water pushed the Souhegan River to unprecedented levels last month, causing widespread flooding. They are questioning the role of hydropower dams in Greenville and Wilton. Gov. John Lynch ordered the review Tuesday to find answers and look for ways to improve dam management in general. Christopher Pope, state emergency management director, said the review will be conducted. "Concerns that have been expressed about, should dams have been opened, should dams not have been opened? We're committed to examining the timeline of when actions were taken," he said. Two privately owned dams in downtown Greenville lowered barriers April 15 and 16 because of a rapid buildup of water from heavy rains and rapid runoff. Officials feared flooding in Greenville and that the dams would overflow, damaging them. Sometime before 6 a.m. Monday, some or all of the automatic gates blew off the privately owned Wilton dam, releasing millions of gallons of water that had come downstream from Greenville. That apparently contributed to a surge of water that almost spilled over the Veterans Bridge and inundated Milford buildings not affected by previous floods. Pope said he had heard questions about the role of dams in other watersheds, including the Salmon Falls River near the Maine border.

The state Department of Environmental Services manages dams. Lynch expressed "tremendous respect" for the dam bureau, whose officials "do extraordinary work in difficult circumstances." But after three major floods since fall 2005, it's time for a review, he said. "For some communities, the damage caused by the recent floods exceeded that of last year's Mothers Day flooding. For some of these families, this is the second time in less than a year they have been forced from their homes due to severe flooding," he said. Lynch and legislators are writing the state budget for the two years beginning July 1. Lynch has proposed adding two dam safety engineers and filling five vacant dam maintenance positions. The separate capital budget proposes nearly \$2 million for repairs to nine state-owned dams. Meanwhile, to supplement the limited federal aid available to some flood victims, WMUR-TV is holding a telethon Monday to raise money for a relief fund. Lynch plans to kick off the event. He said that aid through the Federal Emergency Management Agency "likely won't be enough for some of the hardest-hit families" and that everyone should consider contributing to the fund. Lynch also urged flood victims to find out if they are eligible for federal assistance.

(For full report of Independent Panel go to:

<http://gordon.house.gov/documents/064120%20Wolf%20Creek%20Dam%20April%2011%202007.pdf>.)

Independent panel studying leaks at Wolf Creek Dam issues report

WMCTV.COM, Memphis, TN, May 3, 2007

LOUISVILLE, Ky. An independent panel studying the leaks at a dam on Lake Cumberland in Kentucky issued a report today. The panel is looking at the ongoing problems at Wolf Creek Dam. That dam holds back the giant lake and is undergoing millions in repairs. The report says the dam was at risk to fail if action wasn't taken. The Army Corps of Engineers says a failure at the dam could flood cities along the Cumberland River into Tennessee. The panel had called for the water line to be lowered by 70 feet from its

summer levels. The corps later decided to lower the lake by about 40 feet. Members of the panel said today that they were in agreement with the higher water line as long as the dam is constantly monitored.

(This article needs a subtitle – “Public safety near dams is your responsibility too”.)

Caution urged as part of Dam Safety Awareness Week

May 4, 2007, Daily Globe

EAU CLAIRE, Wis. -- With boating season arriving and fishing season opening on Saturday, Xcel Energy encourages people to use caution on rivers and near dams. Xcel Energy joins with the Midwest Hydro Users Group in observing Dam Safety Awareness Week through May 5 to promote public safety awareness near dams and prevent accidents throughout the boating season. Xcel offers the following tips:

--Obey all warning signs, barriers and flashing lights, horns and sirens.

--Wear a personal flotation device.

--Leave the boat motor running to provide maneuvering power.

--Stay clear of spillways. Changing currents and "boiling" waves can make boat control difficult near dams.

--Reverse currents occur below dams. They can pull a boat back toward the dam into the spillway and capsize it.

--Never anchor boats below a dam because water levels can change rapidly.

Xcel Energy officials said they want fishermen and boaters to enjoy the many exceptional recreational resources found on rivers and around dams in the region, but everyone is encouraged to respect the facilities and practice safe use of the areas. Xcel Energy operates 24 dams on eight rivers in northern and western Wisconsin.

Dangerous dams could get federal repair boost

May 07, 2007, Times Record-Herald

Blooming Grove — In an effort to repair and stabilize thousands of aging dams, New York and nationwide, a pair of Hudson Valley lawmakers unveiled legislation today that would open the floodgates to public funding. Speaking with reporters and local officials, Sen. Charles Schumer, D-N.Y., and Rep. John Hall, D-Dover Plains, announced they would co-sponsor the Dam Rehabilitation Act and Dam Safety Act of 2007.

The bills would provide grant money for the repair of public-owned dams that are in disrepair. The acts would earmark some \$350 million. In New York alone, there are 384 dams classified as high hazard and unsafe, according to the Association of Dam Safety Officials.



Hydro

[Letter to the Editor:](#)

Hydropower is key to future

May 3, 2007, Rutland Herald

A lot of people in Vermont don't want nuclear power — even if it doesn't emit carbon dioxide and it provides our cheapest reliable electricity — and want it closed in 2012. But if we successfully close Vermont Yankee, both carbon dioxide emissions and electric rates will go up. It is being proposed that industrial wind farms can fill the gap created when the Vermont Yankee contract, which provides a third of our electricity, ends in 2012. Although industrial wind farms have a place in our energy future, wind can never provide for that gap because it doesn't always blow. Instead, Vermont would have to build more natural gas generating units to back up the wind, causing more carbon dioxide to be emitted in Vermont. That seems to conflict with the Legislature's attempt to deal with global warming, the Legislature's interest in protecting Vermont ratepayers, and existing statutes that protect Vermont high-elevation ecosystems.

But there is an answer for Vermont's energy future, with or without nuclear energy, and it would help keep Vermont the number one least polluting state in the country and the number sixth most desirable tourist location in the world. The answer is hydropower. Hydro-Quebec has 35,000 megawatts of hydropower. We need only 1,000 megawatts in Vermont, a drop in a mighty big bucket. It doesn't emit carbon dioxide, it is renewable (as all hydro is regardless of the size), and it is reliable 2-4/7. Industrial wind will not make Vermont energy independent, nor will it keep the money earned by out-of-state developers and their investors in the state. If renewable energy credits are sold out of state, as is proposed, wind farms in Vermont could actually help carbon dioxide emitting facilities in Massachusetts and Connecticut continue to pollute. Industrial wind can be a valuable resource when sited correctly. But it has caused controversy in many of the proposed locations in Vermont because developers do not share the same concerns and dedication to stewardship of the land that many Vermonters do. If we are serious about combating global warming, we need to focus on the causes of carbon dioxide emissions, our heating and transportation, not on an electric system that is already cleaner than anywhere else in the country.

We in the Northeast are fortunate indeed to be able to use water as an electric generating source. There are many important headwaters that supply our rivers and wildlife habitat and begin on our ridgelines. Compromising our protected areas above 2,500 feet for any form of development could be a slippery slope, and a lot of mud can be washed down our mountains if Vermont doesn't get this right. Hydro-Quebec, along with sound efficiency and conservation practices, offers us, right now, our best option for our future electric needs. It would also provide Vermont the time to explore community-based power solutions that are decided by and for Vermonters. And that public discussion, where everyone is invested in the outcome, could be a fertile ground for the discovery of new and better ways to power our electric needs, reduce our heating with new efficiencies, and conserve our energy and natural resources.

SANDY WILBUR

South Londonderry

(Again, existing hydro is not a renewable, but at least they will consider new hydro a renewable!)

Senate panel OKs bill to increase green power

Reuters, May 2, 2007, WashingtonPost.com

WASHINGTON/LOS ANGELES (Reuters) - The U.S. Senate may vote later this month on an energy bill that would by 2020 require that 15 percent of U.S. electricity be produced by renewable sources such as wind and solar. The same bill would require 10 percent of federal power purchases to be produced by "green" methods by 2010. The Senate Energy Committee on Wednesday sent to the full chamber a bill that also targets demand for gasoline -- the biggest chunk of U.S. petroleum use -- by increasing fuel economy and boosting production of non-petroleum fuels like ethanol. For full story, double-click on While much of the bill centers around a plan to cut gasoline consumption by 20 percent by 2017, 35 percent by 2025 and 45 percent by 2030, it also would set goals for "green" power production and authorize \$315 million to study carbon dioxide emission storage at power plants, oil refineries and other industrial plants. This is the fourth time a federal "renewable portfolio standard" for electricity production has been attempted in Congress. Three times before it has passed the Senate, only to be felled by a Republican-controlled House of Representatives. The bill's major co-sponsor and chairman of the Senate energy panel, Sen. Jeff Bingaman, a Democrat from New Mexico, is confident that, with Democrats now controlling the House, a federal standard can be set, his spokesman said on Wednesday. Bingaman said he would try to modify the legislation on the Senate floor to include a requirement that 15 percent of U.S. electricity supplies be generated by solar, wind and other renewable energy sources by 2020.

More than 20 states have established "renewable portfolio standards" requiring green power production. At least 12 of them are at least as stringent as the Senate proposal, and this bill would not trump state-level renewable power efforts. "This is an issue where the states are ahead of the federal government," said Bill Wicker, spokesman for Bingaman and the Senate Energy Committee. "There is no federal preemption of existing state renewable portfolio standards. Existing hydropower projects or any nuclear power plants would not be considered renewable power," Wicker said. New output at hydropower projects would count, he said. Wicker said Bingaman got a letter on Tuesday signed by 50 of the chamber's 100 senators. Add the letter's recipient to the count and a Senate majority "is on the record saying they will support it," Wicker said. Bingaman said Democratic leaders may have the Senate take up the bill this month. If the legislation is

accepted by the Senate, it still must be approved by the House and signed by President George W. Bush before it could become law.

(The outrageous cost of hydro relicensing for the Niagara Project revealed in economic terms – almost one-half Billion dollars. Imagine, the cost of relicensing was substantially more than the cost to upgrade the project equipment. No other energy resource is penalized with this economic burden. The fact that Niagara power is cheap is irrelevant. Similar costs are heaped on all hydro projects.)

NYPA: Price goes up for NYPA's cheapest power

Rate increased due to relicensing and upgrade costs, authority says

May 02, 2007, By Aaron Besecker, Niagara Gazette, The Journal-Register

Starting this week, the price of the New York Power Authority's "penny power" has gone up 5.5 percent for public customers in New York as well as neighboring states who receive Niagara hydropower. Customers in municipal and rural electric cooperatives as well as three upstate utilities who pay the cheapest rates for hydropower are seeing a raise based on upgrade costs and relicensing costs for the authority's two largest upstate hydropower plants, according to a spokesman. Authority trustees approved a plan late last month to increase rates for "preference power" for the period of May 1, 2007, to April 30, 2008. Despite the increase, customers will be charged between 1 and 1.1 cents per kilowatt-hour for the cheap electricity, according to spokesman Michael Saltzman. The price of power on the open electricity market during the first quarter of 2007 were about 5.5 cents, he said. The recent trustee approval also raises preference power rates by 5.9 percent for the period May 1, 2008, until April 30, 2009. The power authority had initially proposed raising rates in the first year by 7.1 percent, but reconsidered "based on the customer comments on the amount of shared services includable in rates," according to an April 24 memo to trustees from President and CEO Timothy Carey. In all, 47 municipal electric systems and four rural electric cooperatives across the states pay the cheapest rate available for power authority electricity, according to the power authority. The preference rate is also what members of the Niagara Power Coalition will pay for the low-cost electricity they will receive under terms of a 2005 settlement agreement with the authority. A coalition representative minimized the effect of the rate hike. "In the overall scheme of things it's a pretty small increase," said power coalition attorney Stanley Widger Jr. The Niagara Frontier Transportation Authority and the Metropolitan Transportation Authority also receive electricity at the cost-based, preference rates.

Authority officials peg the costs of numerous settlement agreements signed in the relicensing of the Niagara project at just more than \$498 million. Last year, the authority finished about \$300 million in facility upgrades at the Niagara plant. Power authority officials last approved a rate increase schedule for preference power in 2003. Three organizations — the Liverpool-based Municipal Electric Utilities Association, the New York Association of Public Power and the Neighboring States Preference Customers — contested the authority's recent proposal prior to its enactment.

(Me thinks that someone confused Gigawatts, Megawatts, and Kilowatt-hours?)

Mt. Hope hydro project back on table

BY MICHAEL DAIGLE, DAILY RECORD, May 4, 2007

ROCKAWAY TWP. -- The owners of a dormant hydroelectric project on the site of the former Mount Hope iron mine have filed another preliminary application with the Federal Emergency Regulatory Commission. The federal agency is accepting comments on the application for the next 60 days. The \$2 billion project, which was first proposed more than 30 years ago, calls for the creation of a hydroelectric power station that would generate electricity by dropping water from the old iron mine through a series of generators build into the mine shafts. The electricity would be sent to the regional power grid by way of a 10-mile transmission line. The permit application says the project would generate 2,080 Gigawatts of electricity annually. In December 2005, FERC terminated the license for the project because the company had taken no steps to

construct the project. Last June, the federal agency denied a preliminary permit for a feasibility study for the same reason.

OPINION

Another voice / Electric power

Stories failed to grasp crucial role of low-cost power

By James Scerra, 05/05/07

The recent series in The Buffalo News pertaining to low-cost hydropower produced at the Niagara Power Project failed to recognize the economic value of the Replacement Power and Expansion Power companies to the local economy. These businesses – approximately 100 of them — are the backbone of the local economy. Most of these companies are in manufacturing, which is critical to Western New York's economy. The series ignored the fact that the manufacturing sector has the largest payroll and that every direct job in manufacturing creates spin-off jobs. Businesses that purchase hydropower from the Niagara Power Project employ more than 40,000 people throughout the eight counties of Western New York. These companies' jobs, along with their contractors', suppliers' and customers' jobs, add up to more than 172,000 jobs in New York State. Most of the jobs — more than 150,000 — are in Erie and Niagara counties. The businesses that purchase hydropower have a total annual payroll of approximately \$2.1 billion. Along with their contractors, suppliers and customers, they add an additional \$8.1 billion of personal income to the state's economy. Most of the impact (\$7.6 billion) is in Western New York.

Among the largest users of low-cost hydropower are the companies that are members of the Power for Economic Prosperity group, including American Axle, Delphi, General Mills and many others. These companies provide significant economic benefits to the region. Many of the PEP member companies signed long-term contracts 50 years ago to purchase Niagara Project power at a time when cheaper power was available. Today these companies pay the New York Power Authority more than it costs to produce the power — approximately twice as much. The authority makes a profit on every kilowatt-hour sold to these companies. The series missed the point when it compared the hydroelectric rates to non-hydroelectric rates. The Replacement Power and Expansion Power companies could not operate in Western New York if they had to purchase power at non-hydroelectric rates. These companies compete with companies in other parts of the country and the world where the cost of doing business is much lower. Without lowcost power, they would not be able to operate in Western New York. Faced with global competition, these businesses have increased productivity through capital investment and technological innovation. They have invested substantial sums to improve efficiency and will continue to do so. This will secure the existing industrial base in the region. In short, retaining the hydropower companies and the positive contributions that they, their employees, suppliers, contractors and customers make to the regional economy is essential to the future of Western New York.

James Scerra is the manufacturing finance manager for FMC Corp. in Tonawanda and is vice chairman of Power for Economic Prosperity.

New Bagnell Dam License Benefits Landowners, Wildlife, Recreation

Kansas City infoZine, Lake Of The Ozarks - infoZine - -May 07, 2007

By **Jim Low** - Conservation officials made sure that natural values received their due in the 40-year license.

State conservation officials say a license recently issued to operate the Osage Hydroelectric Project has benefits for fish and wildlife, for citizens trying to protect their land and for the burgeoning nature-based tourism industry on Lake of the Ozarks. On March 30, The Federal Energy Regulatory Commission issued a license that allows Ameren-UE to continue operating Bagnell Dam on the Osage River in Camden County. The license - the third granted in the hydroelectric plant's history - is the product of more than a year of negotiations between Ameren-UE, citizens along the lower Osage River and Lake of the Ozarks, the U.S. Fish and Wildlife Service, the National Park Service and the Missouri departments of Conservation and Natural Resources. Missourians will get much more than just electricity from Bagnell Dam for the next 40 years.

Union Electric began acquiring land for Bagnell Dam and 50,000-acre Lake of the Ozarks in 1927. Large reservoirs were rare at the time, and streams were plentiful. Planners gave little thought to how the dam and its electricity generating activities would affect people, land and wildlife downstream. Over the following decades, however, the impacts became clear. Although the hydroelectric plant provides only a small part of Missouri's power needs, it plays a key role in meeting peaks in power demand. For example, when air-conditioners are working overtime to cool homes and businesses, Ameren-UE can release water through Bagnell Dam's turbines, quickly adding electricity to avoid having to buy power from more expensive sources. When demand falls off drastically after sunset, the utility can shut off the flow of water until the next peak in power demand. This pattern of use causes rapid rises and drops in the river downstream from Bagnell Dam. Besides being inconvenient for hunters, anglers and recreational boaters, the rapid fluctuations contribute to erosion of stream-side agricultural fields. Changes in the water level on Lake of the Ozarks cause problems for thousands of people who have homes, sea walls and fishing and boat docks at the popular recreational destination. Then there are fish kills. Some fish are sucked into water intakes on the lake side of Bagnell Dam and killed by the violent passage through hydroelectric turbines. Others die in the violent currents created by flood flows through the dam's spillways. Fish and wildlife also suffered from poor water quality caused by the hydroelectric plant. Oxygen-poor water drawn from deep below the surface at the dam to turn turbines fill the river and leave aquatic life gasping for breath.

The Conservation Department brought all these concerns to the table when the Osage Hydroelectric Project's previous, 30-year license neared its February 2006 expiration date, and negotiations for the next license began. "The people of Missouri have let Ameren-UE use the Osage River to generate electricity for profit for 70 years," said Conservation Department Assistant Director Denise Brown. "In return for that very valuable privilege, we asked for reasonable accommodations between the needs of wildlife and power generation. We succeeded to a large degree." Brown said some of the accommodations will be made immediately. Others will take several years to develop and implement. The end result will be a better balance of benefits to Missourians, from electricity to recreation and protection of private property. One major accommodation will be increased dissolved-oxygen levels in the river below Bagnell Dam. Ameren-UE will replace two of its existing hydroelectric turbines with more efficient ones that mix more air with water flowing out of the turbines. This will hasten the return of more healthy conditions for fish and other aquatic wildlife after power-generation runs.

Ameren-UE also agreed to double the amount of water it releases to maintain flows in the lower Osage River when it is not generating electricity. While the new minimum flow of 900 cubic feet per second still is small compared to the river's natural flow, it will make a significant difference in the amount and quality of aquatic habitat available to fish and the plants and animals - such as crayfish and insects - that fish rely on for food. Increased minimum flows also will ensure better spawning habitat and make boating more practical in the river downstream from Bagnell Dam. Under the terms of the new license that the Conservation Department helped develop, Ameren-UE is required to develop new measures to prevent fish kills. One is placing a net in front of turbine intakes on the lake side of the dam to keep fish out. The new license also restricts the way and the rate at which Ameren-UE can release water from Bagnell Dam to maintain a stable lake level following heavy rains. In the past, water has been released rapidly and through only a few flood gates. The water was moving so fast that it killed fish below the dam, sometimes ripping the heads off large paddlefish during their spring spawning runs. Under the new license, releases will be spread out over a longer time and will have to be channeled through more gates to reduce the violence of the flows. In the past, rapid changes in the amount of water released after flood events have contributed to erosion by creating unnaturally rapid drops in water level downstream. Earthen banks that became saturated with water during high flows collapsed when the water receded rapidly, because of the weight of the water inside them. The new license requires Ameren-UE to change flows more gradually, allowing water to seep out of stream banks as the water recedes. Again, river boaters will benefit from less drastic water level fluctuations.

Ameren-UE accepts responsibility under the new license for improving habitat for freshwater mussels and other plants and animals that are part of a healthy stream ecosystem. The company also will take responsibility for stocking to replenish fisheries in Lake of the Ozarks and below the dam. The utility will increase water-quality monitoring and expand its analysis of erosion problems in the lower river to find ways to further reduce the impact of its operations. "The requirement to manage lake levels similar to the past few years will result in better spawning conditions for fish," said Fisheries Programs Coordinator Bill Turner, who helped negotiate terms of the license. "It also will keep the lake level more stable. This is a really big win for tourism on Lake of the Ozarks."

DWR displays dam equipment from Hyatt Unit 6

With a huge crane and little fanfare on Thursday, the California Department of Water Resources moved the massive pump/turbine wheel that was previously removed from Hyatt Unit 6 at Oroville Dam to the Upper



Overlook where it was placed for public exhibit. Ultimately, the old wheel will be a part of the interpretive exhibit to be placed at this location, which will be just one of the many improvements to be placed at the site, according to a DWR press release. As a part of the Settlement Agreement for the Oroville Facilities, DWR has committed to making a wide variety of enhancements to recreation facilities throughout the project area. As described in the Recreation Management Plan, enhancements at the Upper-Overlook area will include improvements to the trail leading from the overlook down to the dam, four to five picnic tables, shade ramadas and interpretive panels.

Weighing about 165,000 pounds, the pump/turbine wheel is a massive piece of steel with a diameter of 19 feet. The wheel was installed during the initial construction of the Hyatt Powerplant in Oroville Dam, and was in service from 1968 through 2006, when it was removed. Generating over 132 megawatts of clean, hydroelectric power, the Hyatt Unit 6 is being refurbished to be even more efficient. The wheel replacement is a part of this refurbishment.



Environment

(Interesting! PacifiCorp used to be PacifiCorp, now it's just a subsidiary!)

Tribes, fishermen sue Berkshire subsidiary

Lawsuit, led by Robert F. Kennedy Jr., claims PacifiCorp's two dams are killing fish, harming humans.

May 2 2007, CNNMoney.com

LOS ANGELES (Reuters) -- Environmentalists, commercial fishermen and Native American tribes sued Berkshire Hathaway Inc. subsidiary PacifiCorp in San Francisco Wednesday, claiming that two of its dams on the Klamath River are killing salmon and causing human health hazards. The lawsuit, led by environmentalist Robert F. Kennedy Jr. and the Yurok and Karuk tribes, asks a federal court to force PacifiCorp to clean up toxic algae blooms in the reservoirs behind the Iron Gate and Copco dams in Northern California. Other plaintiffs include river recreation business owners and the Klamath Riverkeeper group.

The annual algae blooms occur because PacifiCorp improperly controls the intake and release of water, allowing it to stagnate as temperatures in the reservoirs rise "well above natural levels," the lawsuit said. The algae generates a deadly liver toxin that threatens the fishery and the health of tribal medicine men who bathe in the river during rituals, said co-counsel Joseph Cotchett of Cotchett Pitre & McCarthy. The dams "are having a devastating impact on the economies and cultures of Native Americans and others who depend on the Klamath River," Kennedy, an attorney for the Natural Resources Defense Council and president of the Waterkeeper Alliance, said in a statement.

PacifiCorp, owned by a subsidiary of Berkshire Hathaway, is pursuing renewals of its licenses to operate the dams with the Federal Energy Regulatory Commission. PacifiCorp has been working with 26 interested parties to find a solution to issues related to the relicensing for at least a couple of years, a company spokeswoman said, but added that the company had no immediate comment on the lawsuit. The U.S. Department of the Interior last year recommended removing the dams or building "ladders" for the spawning fish if PacifiCorp wants to keep them.

The Klamath River salmon population, once one of the West Coast's most robust, has declined during the past two decades as the dams and declining water levels from farm irrigation blocked their spawning routes. Growers have objected to attempts by environmentalists to limit the amount of water they can divert from the river for their crops during dry years.

Buffett says regulators, not PacifiCorp, will decide dams' future

May 6, 2007, KGET.com

OMAHA, Neb. (AP) - Salmon fishermen and American Indian tribes from California and Oregon have failed to win billionaire Warren Buffett's support in their campaign to remove four dams from the Klamath River. Buffett says his holding company, Berkshire Hathaway, won't decide whether the dams its PacifiCorp subsidiary owns on the river should be removed. He says that's a question for state and federal officials. The groups have staged protests in the days leading up to Berkshire's annual meeting on Omaha, Nebraska. They say the salmon population has suffered along the Klamath because of the dams, and fishing in the area was nearly shut down last year.

(Doesn't look as though everyone thinks it will work. Excerpts from a longer article:
http://www.bendbulletin.com/apps/pbcs.dll/article?AID=/20070506/BIZ0102/705060303/1008&nav_category=)

A better fish ladder?

Central Oregon man thinks his invention is a winner, but marketing it isn't easy

By David Fisher / *The Bulletin*, May 06, 2007

Central Oregon inventor Mark Rubbert believes he has designed a miracle for Pacific Northwest fish. He says his design for a huge, floating, flexible, fish-collecting, water-distributing machine - a modification of the \$62 million monster that PGE engineers have already designed for the Round Butte Dam at Lake Billy Chinook - could help millions of little smolts get safely around the region's hydroelectric dams, open hundreds of miles of rivers to salmon and steelhead again and shave millions of dollars in costs from PGE's existing designs. His design, Rubbert is convinced, could affect the lives of millions of people by improving their environment, saving the region's dams and lowering the ultimate cost of their power. Rubbert, a Brothers-area rancher and charter boat captain, has shipped his drawings to the U.S. Patent Office for approval of a patent that he hopes will not just save fish, but make him millions someday. But now he faces the biggest challenge that most inventors face: Who do you sell this thing to? In his case, the market pretty much boils down to people who build or own mega-expensive dams. With fish swimming toward them. If, that is, they're under pressure to save the fish or lose their dam. And if - a big if - Rubbert's design is precisely the tool that's needed to fit the configurations of their dams, and is precisely the tool that's needed to fix the particular problems faced by each river's particular runs of fish. In other words, the ultimate job of an inventor - getting the great idea built - can be a daunting task. Even - and, perhaps, especially - if it's a really BIG idea. "That's one of the hardest parts," Rubbert said Wednesday, hoping that the right people would notice his idea in the newspaper and call him. "Everybody thinks inventing it and patenting it is the tough part. But no. It's marketing it."

Rubbert's design

In Rubbert's case, the marketing hasn't gotten far yet. Rubbert's design is an extensive modification of a project that PGE has already spent millions to develop for the Round Butte Dam, one of a series of dams on the Des-chutes River it owns with the Confederated Tribes of Warm Springs. At Lake Billy Chinook, the reservoir that backs up behind the Round Butte Dam, young salmon and steelhead have a hard time getting around the dam to get back downstream to feed and grow in the ocean. The problem apparently has to do

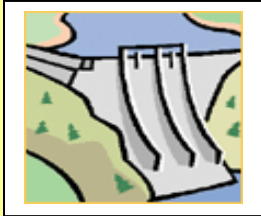
with the water - warmer water, where the fish swim, sits on top of frigid water at the bottom of the reservoir. Young fish tend to swirl aimlessly in the swirling currents at the top, never finding the currents that would take them to safety. And warm water at the top of the dam needs to be mixed with the cold water at the bottom, where the turbine intakes are, to keep temperatures in the river below regulated to fish-friendly levels. Since none of that is happening now, the dams have pretty much killed off salmon and steelhead runs to the Upper Deschutes over the 50 years they have been there. The PGE-Warm Springs project, slated to start construction toward the end of this summer, would mount a floating fish catcher on top of a 270-foot, semi-flexible tube attached to the turbines at the bottom. The tube would draw warm water from the top and cold from the bottom, mixing it to form the right temperatures after the water flows through the dam to produce electricity. The fish catcher, meanwhile, would funnel fish into a sorting facility, where they would be loaded in trucks and driven around the dams to continue their treks downstream. The project has environmentalists excited enough to be launching projects to improve long unused salmon and steelhead habitat above the dams, but Rubbert says he has a better way of doing it that could make the PGE-Warm Springs fish machine adaptable to a lot more dams.

His design would include a more flexible tube, possibly made of heavy-duty corrugated plastic or telescoping tube pieces that would slide inside each piece below, allowing for more sideways movement in the water, better earthquake resistance, and more potential up-and-down movement as the water rises and falls. His fish catcher would be attached with a slip ring, which would allow the dams handlers to point it in a broad range of directions to create the desired currents wherever the fish are. He has designed what he says is an improved housing to connect the tube to the turbines. And he has designed a modular approach to building fish ladders, which he says could make the process of building one much cheaper, whether it's built at Lake Billy Chinook or at some other place. Rubbert sold electrical equipment for a few years for General Electric after he got his master's degree in mechanical engineering in the 1980s. After that, he carved a niche business for himself by harvesting big trees out of yards around the Seattle area, figuring inventive ways to maneuver mostly aging giants around homes and fences before they blew down and crushed something. Life after that brought him to the 9,000-acre ranch he's running today with his wife between Brothers and the Prineville Reservoir.

How it all started

An avid hunter and fisherman, Rubbert said his mind started spinning on the PGE-Warm Springs fish machine after he attended a public meeting a few years ago. So far, he said he has briefly talked with one of PGE's lead engineers about his design, but the talks haven't really gone anywhere. The Bonneville Power Administration's engineers told him they liked it but didn't have much use for it because they believe their fish systems are working OK now. He says he's tried to do some guerrilla marketing: He's tried to contact a National Marine Fisheries biologist to try to sell the biologist on the design's merits in hopes that an NMR staffer would put a bug in a dam owner's ear about buying a fish-moving machine that could be built fairly cheaply and meet federal fish goals, but so far those attempts have stalled in a game of phone tag. And he's tried to contact attorneys and staffers involved in the lawsuits that currently threaten to close at least eight Pacific Northwest dams if their fish movement doesn't improve. So far, those contacts haven't brought him much. PGE, for its part, doesn't seem enthused. "All I can say at this point is we have had preliminary discussions with Mr. Rubbert and those discussions did not lead to us seeking a design from him," PGE spokes-man Mark Fryburg said Thursday. Rubbert, meanwhile, said he has no plans to quit the farm or the charter fishing business he runs to pursue his fish machine dream. But he's not giving up either. The next step, he says, may be to file a Freedom of Information Act on some of the big dam owners to find out who they have used to do their engineering design work in the past, so he can contact those firms to sell his patent - assuming it is finally granted - or license it. "Everybody I can talk to, I will," Rubbert said Wednesday. "You throw enough at the wall and something will stick. Right?"

¹This compilation of articles and other information is provided at no cost and should not be used for any purpose other than as free information for those interested in hydropower, dams, and water resources issues and development.



Some Dam – Hydro News and Other Stuff

5/18/2007

Quote of Note: *“Build your future on high ground.”* - -Unknown - probably good advice if you live near water!

Other Stuff:

Illinois State to offer degree in renewable energy

Associated Press - May 15, 2007

Illinois State University is poised to become first in the state to offer a degree in renewable energy. The only step needed before enrollment begins in the fall is Board of Higher Education Approval. Economics Professor David Loomis says there are two tracks for the degree -- the technical parts of renewable energy generation, and economic-law-and policy studies. **Loomis says the bachelors degree includes an overview of solar, geothermal, and hydroelectric power.** But, there are concentrations in Wind and Ethanol power. Loomis says those two fields are likely to produce the most jobs for graduates. A panel of industry representatives helped ISU develop the program by explaining what renewable energy companies look for in graduates.



Dams

Officials target 4 Dayton-Area Dams For Improvements

WHIOTV.com, May 9, 2007

Dayton, Ohio - Officials in Dayton want to explore ways to make a handful of area dams safer and more suitable for recreational activities. The Miami Conservancy District said they're considering adding bypasses for recreational boats such as kayaks to the four dams. Officials said three of the dams being considered have had drownings or near-drownings in recent years. The district said it has not determined how it will fund the modifications, which could cost millions of dollars. The bypasses could make the rivers prime locations for recreational sports, since they would allow canoes and kayaks to travel the waterways safely.

Flood-control structures saved millions in damage

By Joelyn Hansen/Beatrice Daily Sun staff writer, May 9, 2007



Existing flood-control structures in the Sunland area helped prevent more than \$4 million in damage from this week's flooding, natural resources officials said on Tuesday. According to Arlis Plummer, Natural Resources Conservation Service hydraulic engineer, flood-control structures in Gage, Jefferson, and Saline counties helped prevent more than \$4.2 million in damage during last weekend's storms. "With big rain events like this, we really see the benefit of flood-control structures," he said. "They work together with conservation practices to prevent damage to infrastructure. When things like roads and bridges are spared from damages, then we're talking about a lot of dollars saved."

Despite flood warnings this week on the Big Blue River, Turkey Creek and other area streams, the manager of the Lower Big Blue Natural Resources District said the district's flood-control structures performed well. "The structures did their job," Dave Clabaugh, LBBNRD manager, said. The flood-control structures built along the Big Blue River basin, designed to hold back water and release it slowly, were able to control a majority of the water in the areas they were built, Clabaugh said. There are a total of 253 dams and grade stabilization structures along the Big Blue River basin with the ability to control 97,822 acre feet, or approximately 31.8 billion gallons of water, according to flood control data. A total of 34 percent of the basin's drainage area is controlled by dams. Even with these dams, Clabaugh said it is not possible to control all of the flooding, particularly in areas near the river. But, without the dams, it could have been worse. "Every little bit helps," he said.

Wally Valasek, NRCS district conservationist in the Beatrice field office, has spent the last few days surveying the effects of the recent heavy rainfall. He saw first-hand how the flood-control structures and conservation practices worked together to lessen the damage from the heavy rainfall. "Terraces and waterways worked well to keep water from washing through fields," he said. "You could also really see the difference conservation tillage practices like no-till made in keeping soil from eroding." Beatrice officially received about 5 inches of rain over last weekend, although some Sunland communities reported more. Clabaugh said even with flood-control measures, flooding still occurred due to such an excessive amount of rainfall in a short amount of time in areas above Beatrice, such as in Crete and south of Lincoln, where the number of flood-control structures is minimal. Only 6 percent of total acreage in the Big Blue basin above Beatrice is controlled by dams, Clabaugh said. Out of the total Big Blue basin acreage of 2.9 million acres in Nebraska, 2.4 million acres lie north of Beatrice.

There are currently 180 dams built along the river basin, with 72 dams above Beatrice. These dams are located in Clatonia watershed, eight dams, which controls 11,898 acres; Cub Creek, 17 dams, controlling 40,585 acres; Little Indian Creek, 24 dams, controlling 19,150 acres; Walnut Creek, four dams, controlling 2,925 acres; and Swan Creek, 19 dams, controlling 70,144 acres. Below Beatrice, a total of 108 dams control 212,250 acres. Flood-control dams are at Big Indian watershed, 32 dams; Bear-Pierce-Cedar, 26 dams; Mud Creek, 11 dams; Plum Creek, 25 dams; and Wolf-Wildcat, seven dams. The LBBNRD is continually trying to build flood control dams and/or grade stabilization structures along the river basin where they can.

"We're still working on water control," Clabaugh said. "We do have plans to build seven more dams in the Turkey Creek basin." The NRD has planned the Lower Turkey Creek Project as a flood-control measure. Preliminary plans call for constructing at least two earthen dams a year in the creek's watershed from 2007 to 2009. The creek experienced major floods in 1973, 1984, 1993 and 1999. Flooding of some magnitude occurs along the creek every year. Clabaugh said Lower Turkey Creek remains the last watershed in the Lower Big Blue district without flood-control measures in place. According to a feasibility study the Nebraska Natural Resources Commission authorized in 2003, the project will reduce damages from a 100-year storm by about \$2 million.

In addition to flood control, the project is also designed to improve water quality, reduce sedimentation,

reduce damage to roads and bridges and enhance fish and wildlife habitat. However, Clabaugh said floods will never be eliminated in the Big Blue basin. Such areas as the Big Blue River in Beatrice will likely never have a dam built across because of the cost and environmental impacts, he said.

Dams and development

Opinion

May 10, 2007, The Daily, By Sandley Chou

When the Three Gorges Dam was proposed in China in the mid-1990s, international groups raised their voices in concern. The construction of the world's largest dam would carry heavy environmental concerns. Millions of people would be displaced. Environmentalists asked the Chinese government to construct several smaller dams rather than create one super-dam. The complaints were disregarded, and the enormous dam was constructed and completed by 2006. While the Three Gorges Dam held the attention of the world, many large-scale dam projects constructed and led by developed countries in the developing world in the late '50s to early '80s were largely ignored. Those dams also carried heavy implications, but have been permitted to let failures happen and disappear into obscurity. Dam projects were extremely prolific across the world as a development tool during the 20th century. In fact, the two countries that lead the world in dams are the United States and the United Kingdom.

What makes dams so attractive?

Dams are all about water usage and management. Water resources are highly contested because, while water is a necessity of life, it can be easily polluted, people can charge high fees for it, there are sanitation issues and it is susceptible to control at the source. Harnessing the power of water through hydroelectricity also gives incentives to be proactive in the management of water resources. Hydroelectricity is probably the biggest incentive to dam building. By building a dam, energy can be generated relatively pollution-free. In addition, dam building allows unpredictable floods to be controlled. The land opened up by damming can be used as fertile farmland, and they are also useful for irrigation. The Tennessee Valley Authority was launched during the New Deal and still provides electricity to 8.5 million customers. Dozens of dams were constructed simultaneously during the height of the TVA, and the dams helped create jobs, provided electricity, improved navigation, controlled floods and regulated resource distribution.

But dams bring enormous challenges along with their advantages. The two largest issues for dams are displacement of local populations and environmental hazards. And the problems are not simply relegated to the developing world: The United States and the United Kingdom also face these challenges. The locks and dams along the Mississippi were constructed to help an increasingly shallow river remain navigable. However, those locks and dams have placed almost two different types of ecosystems into the river. On one side of the river, where the boats pass, water flows quickly and is fairly deep. The larger fish of the Mississippi stay on this side of the river. On the side that boats do not travel on, however, the water is shallow and murky, and bottom feeders and lotus beds breed uncontrollably. The dual-riparian ecosystem of the Mississippi has created challenges in an ecosystem that used to be highly integrated. The TVA, over the life of its construction, also managed to displace 15,000 people. This created resistance to the construction projects, but the United States muffled the complaints and pushed ahead with the dams.

Today, developing countries facing the same problems as the United States and United Kingdom dam projects are under much greater scrutiny. Not only was the Three Gorges Dam highly criticized by non-governmental organizations and governments, the Narmada dam in India had construction halted because of environmental concerns. But the problems they face only mirror the challenges faced by the United States and the rest of the developing world decades ago. In fact, many of the dams in developing nations before the 1980s were actually constructed by those nations. The changing awareness of the general public toward state affairs and environmental degradation is encouraging. What is even more encouraging is the ability of non-governmental organizations and international agencies holding the power to halt enormous projects, like the Narmada dam, to display an understanding of both the benefits of certain economic projects while reconciling them with the challenges they present. In an increasingly international world with large, industrial projects, awareness from average folks is critical to hold powerful institutions and governments accountable.

State checking for damage after floods

By DAVID BROOKS, Nashua Telegraph, May11, 2007

MILFORD – One of the prettiest views in Milford was right behind him, but Jeff Blaney didn't much care. He was much more interested in a boring clump of dirt. "It looks like the water went down through here," Blaney said, pointing to a small channel alongside a concrete wall on the south end of the McLean Dam. Most people wouldn't have noticed it, but Blaney took a picture. At the north end of the dam, he ignored the glistening waters of the Souhegan River pouring over the spillway with Granite Square in the background – a classic New England scene if there ever was one – and pondered a jumble of boulders. "Those could have been moved by the flooding . . . or it could have been that way for the last 100 years," he said. "Hopefully we'll have photos from earlier inspections, to compare." Or, even better, he'll have Wally Kahler of Brookline, who strolled by for a bit of fishing just as Blaney was finishing up and provided some background. "That has moved," Kahler said, pointing to a 4-foot block of granite in the raceway, which had been shoved aside by the racing water of the April 16 floods. "You used to be able to jump over to it." And the rocks in the middle of the river? "They weren't out there before. It was just a little show out there," he said. Moving rocks and channel cuts interest Blaney, a civil engineer with the New Hampshire Department of Environmental Services, because he was in town determining how much damage was done to the region's dams by the flooding. The McLean dam, about a quarter-mile downstream from the stone bridge next to the Oval, was one of a dozen in and around Milford that Blaney visited Thursday. He was one of 10 engineers with the Department of Environmental Services inspecting dams throughout the state's southern tier – a project that started the week after the floods and will likely continue for at least another week.

"All told, we've got five, six hundred dams to check," said Steve Doyon, administrator of the state's water resources section, which includes dam safety. The dams include privately owned, earthen dams tucked away in the woods, often the only sign left of a long-gone sawmill; state-owned flood-control dams holding back creeks and creating what to the casual eye appears to be a natural pond; and town-owned concrete affairs, 100 feet wide or more, sitting on main roads. All dams judged to present any danger to property or



life if they fail are inspected every two, four or six years, depending on the level of hazard they present, but new inspections have to be done after major floods. Usually such sweeping inspections are rare, but this is the third time in two years they've been required – first after the flooding of fall 2005 and then the Mother's Day floods of 2006. "We've done it so frequently, we're getting more efficient," said Doyon, looking on the bright side. So far, Doyon said, inspections have found some deficiencies – many dams were over-topped – but no problems requiring emergency response.

That was Blaney's experience, too. He has seen lots of signs that water had spilled up and around dams, across roadways and into yards, but no seriously weakened embankments or cracks in concrete spillways hinting at collapse. Good thing, too, for dam owners. "Spillway repair, even on a low-hazard dam, could run you \$100,000. Even regarding an embankment is costly," Blaney noted. For that reason, owners of private dams aren't always happy to see inspectors show up.

On Thursday, Blaney started examining some small private dams in Mont Vernon, then moved down the hill to the Milford-owned Hartshorn Pond dam on Route 13 north, and then traveled to the Oval to visit several dams, including the McLean, which once powered the town's textile mills. His checklists include things to look for: sinkholes or ground settlement that hint at subterranean water flows; seepage that shows water going where it shouldn't; vegetation altered by rivers plunging around dams instead of over them. At Railroad Pond dam, just off Elm Street at the west end of the Oval, he spotted some piles of sand in the grass of Centennial Park, deposited by errant waters. At the Goldman Dam, just below the stone bridge, he raised a little concern about the irregular foundation under the bar area behind the former Milford Diner. And at the McLean Dam, there was that small channel next to Granite Square. Water had washed dirt away from

the edge of the concrete as it found its way back down from the bank into the riverbed. It was nothing big but was something to keep an eye on, he said.

Dam's future remains open

By COLIN HICKEY, May 12, 2007, Kennebec Journal Morning Sentinel

WINSLOW -- The status of Fort Halifax Dam remains uncertain two months after a willing buyer and operator stepped forward to take over the hydroelectric facility. "The real crunch is time," said Barry Flynn, vice president of Essex Hydro Associates, "and the people who want to see something happen have a legitimate complaint that this has been dragged out for years." Essex Hydro is the company that in March announced a willingness to operate the Sebasticook River dam and build a fish lift required by a 1998 agreement. That agreement involved hydro developers, a collection of conservation and fishery groups and state agencies. One of the stipulations of the pact was that the dam owner provide fish passage by either installing a fish lift or breaching the dam.

FPL Energy chose dam removal after concluding the cost of a fish lift -- FPL Energy got an estimate of \$3 to \$4 million -- made the project economically unfeasible. But regulatory procedures and opposition from a grassroots group led by Rep. Kenneth Fletcher, R-Winslow, a landowner on the Fort Halifax impoundment, has stalled the removal process for several years. Essex Hydro operates 10 small hydroelectric dams, including the Benton Falls Dam, which is about five miles downstream from Fort Halifax. Flynn said the close proximity of the two dams makes Fort Halifax a more attractive purchase. "We feel pretty good about the numbers," he said. Flynn said Essex Hydro would be able to run both dams with one crew of workers. "No question about it, this is a personnel issue," he said. "We would not be looking at this as a stand-alone (dam), but because Benton is downstream, it makes some sense to us."

Essex Hydro also got a more affordable price estimate on the fish lift. Flynn said Kleinschmidt Associates, the company that installed fish passage at the Benton Falls Dam, put the cost at just over \$2 million. For now, however, Flynn said he is waiting on responses from the various parties involved with the 1998 agreement. That would include the Kennebec Coalition, a collection of fishery and conservation groups. Nick Bennett, a Kennebec Coalition spokesman, declined to comment on the subject when contacted Friday.

FPL Energy also has yet to make a commitment, Flynn said. "We still don't have anything concrete in writing from (FPL Energy)," he said. FPL Energy spokesman F. Allen Wiley could not be reached for comment Friday. In early March, though, Wiley said his company's position on Fort Halifax remains unchanged. "In order for this to happen," he said, "the interested parties would have to sign off. If that happens, and all other parties are satisfied, then it's something we're willing to move forward on."

On the Snake River, Dam's Natural Allies Seem to Have a Change of Heart

By FELICITY BARRINGER, May 13, 2007, New York Times

LOWER GRANITE DAM, Wash. — The wheat Bryan Jones grows in Eastern Washington begins its journey to Asia on barges along the lower Snake River. The river, once a wild, muscular torrent, was made barge friendly a quarter-century ago by four of the nation's most controversial hydropower dams.



A tame river keeps Mr. Jones's business viable. So why is he spending time with the

guides and fishermen who want to remove the dams? In part, because he feels the tug of environmentalist arguments that the dams will endanger wild salmon that, even more than wheat, are the region's natural bounty.

"I always believed dams were economically too big of a hurdle to attack," said Mr. Jones, who is 52. "But I began to realize that we are potentially losing runs of salmon" along this tributary of the Columbia River. It is still a relatively rare phenomenon, but one becoming more noticeable: some members of the dams' natural constituency, like farmers, are talking to their downriver antagonists about a future that might not include the four lower Snake River dams. There is talk of reconstituting a regional rail system to deliver Mr. Jones's wheat to Portland, Ore. There is talk of a wind farm to replace the electricity — enough to power most of Manhattan — generated by the four dams. The conversations are still in their early stages, and political support for the dams remains strong. Congressional ties to the Bonneville Power Administration, which provides electricity from the dams to regional utilities and businesses, are many, and few politicians want to back an action that could raise electricity bills and cost jobs. At best, wind power is intermittent and expensive; in 2005, regional electricity costs were more than 25 percent less than the national average. But the pressures on the hydro system's traditional operations are accumulating, and conversions like Mr. Jones's have taken on an enhanced significance. As former Gov. John A. Kitzhaber of Oregon said in an interview, "by not talking to each other, not trying to figure out the real economic issues, we're setting up a situation where someone else is going to figure out our future for us." His allusion was clear: he fears that the operations of the Columbia River dams could be determined by a federal judge if federal and local agencies here cannot come up with a plan to successfully protect salmon.

Indeed, Judge James A. Redden of the Federal District Court in Portland, who has presided over the central Endangered Species Act challenge to dam operations and whom the Vancouver Columbian called "the best friend of endangered fish in the Northwest," has been acerbic in his dismissal of the most recent Bush Administration plan. Among other things, the administration argued that the Columbia River dams could not be removed because they were an immutable part of the landscape, having been built before the Endangered Species Act went into effect. It suggested habitat restoration would save the fish population.

The Bush administration appealed Judge Redden's 2005 ruling, and last month the Ninth Circuit Court of Appeals, in San Francisco, forcefully backed him. Under the federal government's theory, the appeals court held, "a listed species could be gradually destroyed, so long as each step on the path to destruction is sufficiently modest. This type of slow slide into oblivion is one of the very ills the Endangered Species Act seeks to prevent." On the lower Snake River, four runs of wild fish are threatened and one of these, sockeye salmon, may be irretrievable. Of the others, the spring and summer Chinook salmon, which have been going upriver for the past few weeks, are of most concern. A new fish-protection plan, called a biological opinion, is due from the National Oceanic and Atmospheric Administration later this year. Judge Redden has warned that if it fails to meet his viability test, he may have to take drastic action — presumably, taking the running of the Columbia River hydropower system into his own hands, as another federal judge, W. Arthur Garrity, did in the 1970s with Boston's schools after the local community could not find a way to desegregate. The Bonneville Power Administration, also known as the B.P.A., is not a named defendant in the endangered-species lawsuit, but because the dams' operators at the [Army Corps of Engineers](#) work closely with Bonneville's engineers, B.P.A. officials are often called on by the courts to help explain corps actions. The Bonneville administrator, Stephen J. Wright, said in an interview in his Portland office that the potential loss of 5 percent of the electricity generated regionally each year would "magnify substantially" the current challenge of feeding the region's growing hunger for power without raising costs.

Mr. Wright and Bob Lohn, who heads the regional office of the [National Marine Fisheries Service](#), argue that dams are hardly the only environmental disturbance harming the salmon runs, and that the bumper salmon year of 2001 demonstrates that salmon and dams can coexist. Judge Redden has deemed their plans for accomplishing the goal of salmon recovery inadequate. Environmentalists say their optimism about coexistence is belied by the steady decline in fish runs. Out here at the Lower Granite Dam, Witt Anderson, the chief of the Columbia River fish management office at the Army Corps of Engineers, said, "We're mining the last few improvements we can get out of the hydro system." But Mr. Anderson argues that dam removal alone would not be a quick fix to what ails the fish. Given the impact of factors including agricultural runoff, culverts, cyclical changes in ocean temperature and the amount and location of ocean-borne food available to salmon, "We would say the solution is a comprehensive plan that addresses the life-cycle of fish, gravel to gravel."

Smaller private dams have been breached around the country, and there are plans to do so at dams on the Elwha and White Salmon Rivers in Washington. The idea of breaching the Klamath River dams in Oregon and California is getting new and serious scrutiny. But the Lower Snake River dams are significantly bigger, in economic terms, than any of these. There is, first of all, the electricity they generate. And the

transportation. And the creation of inland ports, like Lewiston. Given these significant economic interests, the rethinking being done by a farmer like Brian Jones or a Lewiston city councilman like Jim Klauss is startling. "When they created these dams in the 60s and 70s they said we'd have a lot of economic development," a promise that never materialized, said Mr. Klauss, who is 47. Now the sediment trapped behind the Lower Granite dam requires constant dredging just to make a small passage for boats and the levees may need to rise higher to keep the city safe in storms. So, although the City Council is pro-dam, Mr. Klauss said he was dubious. "We're kind of on a yo-yo," he said. "We built these dams and changed everyone's lifestyle, and we can't say we have a lot to show for it. If you take them out you yo-yo back and change everyone's lives again." But, he said, it may be worth it. To the north, in Spokane, Wash., the president of the local chapter of Trout Unlimited sees these small cracks in the dams' natural constituencies as the beginning of a bigger political shift. "This new generation," said Harvey Morrison, who is 64, "has been willing to ask the hard questions."

(As long as we don't end up with overlapping authority as may happen in Missouri. The dam safety community is spread too thin. We don't need overlap that adds nothing!)

Are our dams safe?

By Chris Norwood , 05-13-2007, Daily Home

There are about 2,102 dams in the state of Alabama, according to the Association of State Dam Safety Officials. Of those, 171 are listed "high hazard potential," although none of them would appear to be in Talladega or St. Clair counties. There are a total of 31 dams in Talladega County and 48 in St. Clair, according to Google, and based on the Association report on dams in the state, one might assume that all of them are sound. That's the good news. The bad news is that if many of them were unsound, there is a good chance no one would know about it. As of 2007, Alabama is the only state in the United States that does not have a program to regulate and inspect dams.

At the federal level, the U.S. Army Corps of Engineers inspects dams it has helped build, but according to spokeswoman Marilyn Phipps of the Mobile Corps Office, there are no Corps dams in either Talladega or St. Clair counties. A source at Office of Water Resources, who asked not to be quoted by name, pointed out that some dams, such as Logan Martin, which is licensed through the Federal Energy Regulatory Committee, are inspected regularly, but confirmed there is no state program. "Dams that are licensed by FERC, the Tennessee Valley Authority or the Army Corps of Engineers are inspected regularly," he said. "But there has never been any legislation passed to create a state program, and there is nothing to make sure that other entities are actually doing inspections." The source added that his department "has been trying to support a state program, there just hasn't been any legislation. It is unfortunate that we are the only state without one, though." The Office of Water Resources is part of the Alabama Department of Economic and Commercial Affairs.

Perry Oakes, state conservation engineer for the U.S. Natural Resource Conservation Service, which is part of the U.S. Department of Agricultural, said there have been attempts in the past to create a state dam inspection program, but to date none has passed. "This actually has a long history in Alabama," he said. "It's been proposed several times, but never made it to a floor vote. At first, the catfish farmers were opposed to it as just another layer of red tape they would have to deal with. The most recent attempt a couple of years ago, the Office Water Resources did manage to pull all the different groups together and got a draft finished, but then Trey Glenn left OWR to go to the Alabama Department of Environmental Management, and the draft lost its champion and floundered. The farmers, Alabama Power, the state and federal agencies all agreed it was a good draft, but it never found a legislative sponsor. The OWR was given some authority, but there was never any legislative action that would allow it to actually do anything." Oakes said the state's dam inventory was also seriously out of date, "but I believe they're working on that."

Talladega County

According to Talladega County engineer Tim Markert, the Soil and Water Conservation Office constructed 18 watersheds in the county, which the county agreed to inspect and maintain. The 18 dams used to create the watershed lakes are inspected by the county on an annual basis, and all are currently sound, according to Markert. "We may have a few that might be a little underdesigned for storms, but in general they're in pretty good shape," he said. Dams used to create municipal watersheds are the responsibility of the municipality, he added, but the balance of the county's dams are on private property, and there is no protocol whatsoever for inspection or maintenance of those. "Private dams and reservoirs are the responsibility of the owner," he said. "We don't have any authority over those, and there's no legal way I'm aware of that any government entity could make them do anything anyway."

St. Clair County

The situation in St. Clair County is even more confusing. Dan Dahlke said he is charged with inspecting roads and bridges in the county, but “we don’t have any dams on the list for annual inspection. There’s no program here at all, through us or any other agency, as far as I know.” Sarah Butterworth, watershed coordinator for the Soil and Water Conservation District in Gadsden, which includes St. Clair County, said she was not aware of any inspection program, either. “That’s just not something we would deal with, even indirectly,” she said. St. Clair County Emergency Management Agency executive director Ellen Haynes confirmed there is no dam regulation in the county, which she knows from experience. According to Haynes, as Hurricane Ivan tore up the Gulf Coast and into Alabama in November 2004, an earthen dam holding back a manmade lake collapsed and flooded a subdivision on Katie Lane in the Friendship Fire District in the north end of the county. “I worked with Natural Resources Conservation Services, the Emergency Watershed Program, Alabama Power, the Alabama Office of Water Resources and the Federal Emergency Management Agency, and they were all helpful but ultimately there wasn’t much any of us could do. I know there has been a lot of talk about creating some regulations, but no legislation has ever given anyone any power or authority,” she said. Nevertheless, Haynes said, most of the private dams in St. Clair County she is familiar with are “well maintained, and in pretty good shape, for the most part.”



Hydro

(Here’s an interesting view posted on this Blog.)

Carbon Footprint: Live in the Northwest

Blog, posted May 9, 2007 by Thomas

It’s popular around these parts to try and reduce your carbon footprint. I’ve already commented on [carbon trading](#) and [using public transit](#) as ways to do this. One approach probably slipped your mind: Move to Seattle! According to the born and bred Seattleites, I am not qualified to offer such an invitation. I transplanted 6 years ago. If you want to live somewhere that does not depend on burning stuff to keep your food frozen, Seattle is a good option for you. The Emerald City gets only 6% of all power by direct combustion.

Do you know where your power comes from?

Scott Thomsen of Seattle City Light helped me track down the statistics of how Seattle’s power is generated. [Seattle’s fuel mix](#) as of 2005 is as follows:

Hydro	86.45%
Natural Gas	5.28%
Nuclear	4.23%
Wind	3.06%
Coal	0.89%
Biomass	0.07%
Petroleum	0.02%

Since 2005, total consumption has been augmented with a 1% input from solar power. You can even check to see [which rivers](#) power your water heaters and cell phone chargers. So the Emerald City is really green!

Wait a minute, that depends on who’s definition of green you use. Washington voters may remember the November 2006 initiative to increase the required green power sources to 15%. My assessment of the numbers above puts Seattle (and the rest of the state) already ahead of that. It turns out that Washington’s

standard for green is stricter than almost any other state. If that sounds fishy to you, you're right on! According to state statute, green hydropower only counts if it allows for salmon to navigate past the dam.

From [HB2349](#) (2006):

Qualified hydropower is defined as the additional energy produced by either (a) modernizations or upgrades that have been made after June 1, 1998, on existing hydropower facilities that do not obstruct the passage of anadromous fish; or (b) new hydropower facilities that operate with a head of twenty meters or less that do not obstruct the passage of anadromous fish.

If you'd like to pay someone to help reduce your carbon footprint, I bet the [Green Up](#) program (or your local utility's equivalent) is a better investment than one of those carbon trading schemes. Utilities are actively pursuing new strategies for reducing carbon output. Here is [part of Seattle's plan](#). Reducing your personal carbon output depends on behavior change, but there also is significant room for improving the power source. Tell your utility that you want your power to be cleaner.

Proposed tax incentives give boost to hydropower development

May 11, 2007

Cantwell act puts hydro on par with other renewables, encourages growth of emerging waterpower technologies

Press Release from National Hydropower Association , WASHINGTON DC

Reaffirming hydropower's vital role in ensuring clean energy for the future, Senator Maria Cantwell (D-Wash.) today introduced legislation that would improve and extend the renewable energy production tax credit and the Clean Renewable Energy Bonds for hydropower facilities and emerging waterpower technologies.

The Clean Energy Investment Assurance Act of 2007 would help unlock the significant hydropower potential in this country. This legislation continues the advancements made by the Energy Policy Act of 2005.

The "Clean Energy Investment Assurance Act of 2007" would provide tax parity for qualifying hydropower resources and provide a long-term extension of the PTC and extension and additional funding of the CREBs program. The legislation also adds new zero carbon-emissions resources to the PTC. This inclusion opens the door for greater development of new waterpower technologies, such as ocean, tidal, and in-stream hydrokinetic systems.

"To transition away from an over reliance on fossil fuels, we must promote investments in clean energy generation using renewable resources and reduce the growth in demand for energy by stressing efficiency," Cantwell said. "The government can play a key role by enabling the market conditions that will take the technology from the laboratory and turn it into fully operational energy producing facilities. This type of federal assistance will support the needed long-term investments that ultimately will drive down the costs of electricity from renewable sources. Once the market for these new technologies is up and running, such facilities will be economically self-sustaining and profitable."

The National Hydropower Association strongly supports the act and praised Senator Cantwell for her leadership on renewable energy issues. NHA also commends Senators Gordon Smith (R-Oregon) and John Kerry (D-Mass.) for co-sponsoring the bill. "The hydropower industry is primed for responsible growth at a time when policymakers are seeking sound solutions to the climate change problem," said Linda Church Ciocci, NHA executive director. "The Clean Energy Investment Assurance Act of 2007 would help unlock the significant hydropower potential in this country. This legislation continues the advancements made by the Energy Policy Act of 2005. "In fact, a recently released report by the Electric Power Research Institute estimates hydropower can add at least another 23,000 megawatts by the year 2025, with a total growth potential of nearly 90,000 megawatts."

The extension of the placed-in-service deadline allows for a reasonable time frame for the development of incremental hydropower (additions of capacity and efficiency improvements at existing facilities) as well as the development of new energy facilities on existing non-powered dams. The association is equally pleased to see the addition of new zero carbon-emissions resources, which include the emerging waterpower

technologies. NHA has more than 30 member companies that compose its Ocean, Tidal, and New Technologies Council - a group that is actively pursuing potential development of waterpower resources. "Incentives such as the production tax credit and the clean renewable energy bonds program are needed to encourage this important growth in domestic renewable energy resources," Church Ciocci said.

The National Hydropower Association is the only trade association in the United States dedicated exclusively to promoting the nation's largest renewable resource and advancing the interests of hydropower energy in North America. NHA, with more than 140 members throughout the industry, works to secure hydropower's place as a climate-friendly, domestic, reliable energy source that serves national environmental and energy policy objectives. NHA recently launched its Ocean, Tidal and New Technologies Council, consisting of 30 of its member companies that are exploring development of ocean, tidal or hydrokinetic projects. Council members include manufacturers, developers, public and investor-owned utilities, and engineering and consulting firms with projects.

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For Further Information

- » [National Hydropower Association](#)

Lynch Signs Renewable Energy Act

May 11, 2007, WMUR TV, NH

CONCORD, N.H. -- Gov. John Lynch signed a proposal on Friday that promotes expanding renewable energy in New Hampshire, a move that's expected to reduce pollution and expand the alternative energy industry. The legislation requires electric utilities to buy a growing percentage of their energy from sources such as wood-fired plants, wind farms and hydropower. The goal is to have 25 percent of the state's electricity coming from renewable sources by 2025. As he signed the bill, Lynch said the plan will help lessen the need for foreign oil and expensive natural gas, build a stronger state economy and protect the environment.

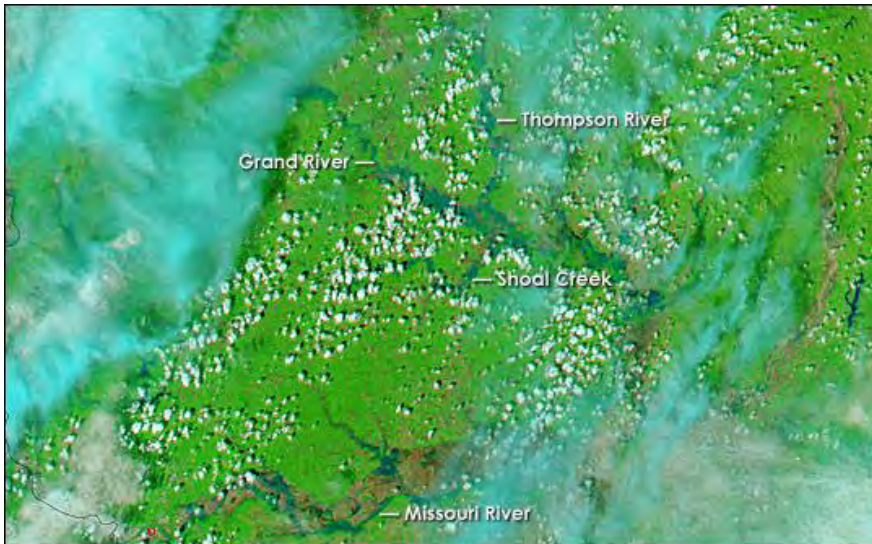


Water

Floods in the Midwestern United States

By NASA

Early May 2007 brought torrential spring rains to the Midwestern United States, and by May 9, the [National Weather Service](#) had recorded flooding at 111 locations from North Dakota to Texas. At 15 locations, many of which were in Missouri, gauges measured major flooding. Thousands of people fled as the Missouri burst through levees in Missouri and Kansas, reported the [Associated Press](#) on May 9. The Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA's [Aqua](#) satellite captured the top image of floods along the Missouri River and its tributaries on May 8. Though clouds still covered much of the Midwest on May 8, a few breaks revealed the flood-swollen Missouri, Grand, and Thompson Rivers. The large image shows additional flooding in Missouri, Iowa, and Kansas. Both this and the lower image, taken on April 29 before the rains began to fall, were made with a combination of visible and infrared light to highlight the presence of water on the ground. In this type of image, clouds are pale blue and white, water is dark blue or black, plant-covered land is green, and bare earth is tan pink. The tan and green speckled appearance of the landscape seen in the lower image is typical of agricultural land. [Daily images](#) of the Midwest are available from the MODIS Rapid Response System.



May 8, 2007



April 29, 2007

NASA images courtesy the [MODIS Rapid Response Team](#) at NASA GSFC.



Environment

(The bogus science on this subject is revealed in two sentences at the end of the article. The hydro industry needs to get on top of this issue because it is being pummeled with media coverage from only one side of the issue. So, what's new about that fact?)

Methane From Dams: Greenhouse Gas to Power Source

Environment News Service

SAO JOSE DOS CAMPOS, Brazil, May 9, 2007 (ENS) - Scientists from Brazil's National Institute for Space Research, INPE, have published a new study showing that large dams contribute to global warming by releasing the greenhouse gas methane into the atmosphere. The authors propose capturing the methane and using it to generate electricity. Dr. Ivan Lima and his colleagues used a theoretical model, bootstrap re-sampling and data provided by the International Commission On Large Dams World register of dams to demonstrate that global large dams annually release about 104 million metric tons of methane to the atmosphere through reservoir surfaces, turbines and spillways. Methane is the principal component of

natural gas. The INPE scientists say engineering technologies now in existence can be implemented to avoid these emissions, and to recover the non-emitted methane for power generation. Under the Clean Development Mechanism of the Kyoto Protocol, they write, such technologies can be recognized as promising alternatives for human adaptations to climate change, particularly in developing nations owning a considerable number of large dams.

Methane is about 21 times more powerful at warming the atmosphere than the most abundant greenhouse gas, carbon dioxide. Methane's relatively short atmospheric lifetime of 12 years, coupled with its potency as a greenhouse gas, makes methane a candidate for mitigating global warming in the short term. Dr. Lima and his co-authors propose capturing methane in reservoirs and using it to fuel power plants in Brazil, China and India. "If we can generate electricity from the huge amounts of methane produced by existing tropical dams we can avoid the need to build new dams with their associated human and environmental costs," Lima said.



The immediate benefits of recovering methane from large dams for renewable energy production is the mitigation of human impacts like the construction of new large dams, avoidance of the actual methane emissions from large dams, and the use of unsustainable fossil fuels and natural gas reserves, the authors explain in their study, published by Springer Netherlands.

The Itaipu hydroelectric power plant is the largest development of its kind in the world. It was built by Brazil and Paraguay from 1975 to 1991 on the Parana River.

Large hydroelectric dams release methane into the atmosphere because trees and other plants settle to the bottom when the reservoir

is first flooded. This plant material decomposes without oxygen and dissolved methane builds up. When water passes through the dam's turbines, this methane is released.

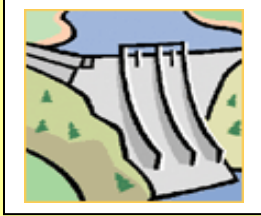
Executive Director of International Rivers Network Patrick McCully said today, "Climate policy makers must address this issue."

From his office in Berkeley, California, McCully said Lima's calculations imply that the world's 52,000 large dams contribute more than four percent of the total warming impact of human activities. They also imply that dam reservoirs are the largest single source of human-caused methane emissions, contributing around a quarter of these emissions, McCully said. The massive amounts of methane produced by hydropower reservoirs in the tropics mean that these dams can have a much higher warming impact than even the dirtiest fossil fuel plants generating similar quantities of electricity, he said.

"It is unfortunate that Lima's study has come too late to be included in the recent reports from the Intergovernmental Panel on Climate Change, IPCC," McCully said. "Partly because of the influence of the hydro industry and its government backers, climate policymakers have largely overlooked the importance of dam-generated methane." Another Brazilian scientist has also made the connection. Philip Fearnside from Brazil's National Institute for Research in the Amazon in Manaus published a study in 2002 showing that the greenhouse effect of emissions from the Curuá-Una dam in Pará, Brazil in 1990, was more than 3.5 times what would have been produced by generating the same amount of electricity from oil.

The International Hydropower Association, IHA, says considering only total greenhouse gases measured at the surface of reservoirs can be misleading; these measurements should be considered as "gross" emissions. "Net" emissions for which dams are responsible must consider the emissions from ecosystems before the creation of a reservoir when the land was in its natural state.

This compilation of articles and other information is provided at no cost and should not be used for any purpose other than as free information for those interested in hydropower, dams, and water resources issues and development.



Some Dam – Hydro News and Other Stuff

and

OF

5/25/2007

Quote of Note: *"Make yourself necessary to somebody."* -- Ralph Waldo Emerson

Other Stuff:

CCEF SUPPORTS MICRO HYDRO PROJECT

BY ALTERNATIVE ENERGY RETAILER, 16 MAY 2007

The Investment Committee of the Connecticut Clean Energy Fund (CCEF), a ratepayer fund administered by Connecticut Innovations Inc. of Rocky Hill, Conn., recently approved a loan of \$557,134 to help support the demonstration of a new 500 kW hydroelectric turbine system. Mansfield, Conn.-headquartered Windham Automated Machines Inc. (WAM), an equipment engineering and manufacturing firm, will develop five micro hydro turbine units. According to the companies, the hydroelectric system can operate under more diverse river flow conditions than other turbines; can be inexpensively produced, installed, operated and maintained in run-of-the-river, low head conditions; and is modular and scalable in design. In addition, the turbines use environmentally friendly parts to create minimal disturbance in the water. "We look forward to seeing how this new state-of-the-art hydroelectric turbine will perform in a real-world setting," says Lise Dondy, CCEF's president. "With a potential of nearly 4,000 small and micro hydro sites in the New England area, hydro is a potentially large renewable energy resource in the region - one that has remained relatively untapped."

The Dam Busters

(Many people may have read about the "Dam Busters" of WW II. This link will get you to a recent article on the subject – too long for this space.)

http://pajamasmedia.com/2007/05/the_dam_busters.php (Note: Press Ctrl key and click on URL.)

This Day on Capitol Hill: May 18

By: Andrew Glass , May 14, 2007, The Politico

Tennessee Valley Authority Created

As the Great Depression of the 1930s took hold, Americans increasingly supported the idea of government ownership of utilities, particularly hydroelectric power plants. During 1932 presidential campaign, Franklin D. Roosevelt claimed that private utilities had "selfish purposes." He asserted, "Never shall the federal government part with its sovereignty or with its control of its power resources while I'm president of the United States." In envisioning the Tennessee Valley Authority, Roosevelt called on Congress to create "a corporation clothed with the power of government but possessed of the flexibility and initiative of a private enterprise." Even by Depression standards, the Tennessee Valley was in bad shape when FDR signed the act creating the TVA on this day in 1933. Malaria remained rampant in some 30 percent of the population.



Household incomes averaged \$640 a year. Much of the land had been farmed too hard for too long, which eroded and depleted the soil.

Over time, the authority modernized the region. TVA-generated electricity attracted industries, which in turn created jobs. Lighting and modern appliances made life easier and farms more productive. The TVA also developed fertilizers. It taught farmers ways to improve crop yields and helped replant forests, control forest fires and improve the habitat for fish and wildlife. Today, the TVA is the nation's largest public power company. It provides electric power to nearly 8.5 million customers. It sells power to 158 retail distributors and 61 industrial and government customers. The power comes from hydroelectric dams, fossil fuel and nuclear plants, as well as combustion and wind turbines.

TVA's Norris Dam in Norris, Tennessee circa November 1934.

(Is this guy right?????????????????????????????????)

Global warming debunked

By ANDREW SWALLOW - The Timaru Herald | Saturday, 19 May 2007

Climate change will be considered a joke in five years time, (New Zealand) meteorologist Augie Auer told the annual meeting of Mid Canterbury Federated Farmers in Ashburton this week.

Man's contribution to the greenhouse gases was so small we couldn't change the climate if we tried, he maintained. "We're all going to survive this. It's all going to be a joke in five years," he said. A combination of misinterpreted and misguided science, media hype, and political spin had created the current hysteria and it was time to put a stop to it.

"It is time to attack the myth of global warming," he said. Water vapor was responsible for 95 per cent of the greenhouse effect, an effect which was vital to keep the world warm, he explained. "If we didn't have the greenhouse effect the planet would be at minus 18 deg C but because we do have the greenhouse effect it is plus 15 deg C, all the time." The other greenhouse gases: carbon dioxide, methane, nitrogen dioxide, and various others including CFCs, contributed only five per cent of the effect, carbon dioxide being by far the greatest contributor at 3.6 per cent. However, carbon dioxide as a result of man's activities was only 3.2 per cent of that, hence only 0.12 per cent of the greenhouse gases in total. Human-related methane, nitrogen dioxide and CFCs etc made similarly minuscule contributions to the effect: 0.066, 0.047 and 0.046 per cent respectively.

"That ought to be the end of the argument, there and then," he said. "We couldn't do it (change the climate) even if we wanted to because water vapor dominates." Yet the Greens continued to use phrases such as "The planet is groaning under the weight of CO2" and Government policies were about to hit industries such as farming, he warned. "The Greens are really going to go after you because you put out 49 per cent of the countries emissions. Does anybody ask 49 per cent of what? Does anybody know how small that number is? "It's become a witch-hunt; a Salem witch-hunt," he said.

<http://www.stuff.co.nz/timaruherald/4064691a6571.html>

Residents' Puget Sound Energy bills set to go up 13 percent

The Olympian, May 22, 2007

Puget Sound Energy is among the hardest hit by a Bonneville Power Administration decision to immediately suspend payment of federal hydropower benefits to seven private utilities in the Pacific Northwest. If allowed to stand, the loss of credit payments to farm and residential customers of Puget Sound Energy could lead to a 13.2 percent increase in monthly electric bills, or about \$10.28 for someone using 1,000 kilowatt-hours per month.

BPA officials said they had no choice but to suspend the payments based on a federal court ruling that called into question the credit arrangement between the federal power marketing agency and the private utilities. The private utilities affected by the loss of some \$25 million a month in revenue are likely to appeal the court decision.



Dams

Drownings a reminder to respect dams

By Dan Simmons/Winona Daily News, May 15, 2007

DRESBACH, Minn. — Dan Book, longtime conservation officer with the Minnesota Department of Natural Resources, had one piece of advice about dams. “Stay as far away from them as possible,” he said Sunday, “except in using the locks to get through them.” The portion of the Mississippi River from St. Paul to Guttenberg, Iowa, is a stairs of sorts comprised of 11 “steps.” Each step is a lock, dam and dike. Locks enable boat traffic to climb or descend these steps. For many anglers, the choppy, turbulent waters below a dam prove irresistible because of their bountiful harvest of most types of freshwater fish. But Saturday’s accident in which a fishing boat capsized just below Lock and Dam No. 7, likely causing the drownings of its four occupants, served as a reminder of their inherent danger, even when you’re following the posted safety limits.

Water flowing quickly over the dams meets an undercurrent below it to create a “vertical whirlpool” that can suck boats and people in, then continually churn them over underwater in a vicious circle. It can be nearly impossible to escape — and the turbulent waters also complicate rescue efforts. “People don’t always realize the strong amount of pull sucking them into the dam,” said D.J. Moser, lockmaster at Lock and Dam No. 7 since 2003. All dams on the Mississippi River have posted warning signs and buoys that remind boaters to keep a distance — at least 600 feet from the top of them and at least 150 feet from the bottom. The “safe distance” below the dams changed from 300 feet in the late 1990s, Moser said.

The four St. Paul anglers were within the legal fishing zone, according to witnesses, but ran into trouble when the boat’s motor wouldn’t start as they were about to return to shore. The current quickly sucked them toward the dam’s gate, and a rescue effort by other boaters may have caused their boat to capsize. It sent them into the dam’s current, known in a Minnesota Department of Natural Resources safety brochure as “The Drowning Machine.” Moser said staff at Lock and Dam No. 7 had in the past week seen a number of boaters violating the 150-foot safety zone below the dam and cautioned them to move back. “As much as you enjoy fishing there, it’s just not worth it,” she said.

Locks and dams improvement closer to reality

By Randy Mudgett, FarmNews, May 17, 2007

Congress moved closer to approving a \$13.9 billion package that will upgrade inland waterway transportation systems nearby making U.S. farmers more competitive in the area of agricultural exports. On Tuesday, Iowa Sen. Charles Grassley said the Water Resources Development Act of 2007 (WRDA) will pass overwhelmingly in the Senate and be sent on to President Bush (the House passed the measure in April). WRDA has been a controversial matter since its last passage in 2000. Congress normally passes a revision of WRDA every two years, mainly reauthorizing Army Corps of Engineer projects across the country. Grassley said passage of WRDA is critical to agriculture in Iowa as much needed improvements to the Mississippi River's locks and dams system is long overdue. "By passing WRDA and its updates to the Mississippi River, we'll preserve the low transportation costs for the two-thirds of the nation's grain and soybean exports that travel along the Mississippi," Grassley said. About 25 percent of the money being spent on WRDA will be centered on the Gulf Coast region, restoring coastal areas and moving forward on a Gulf Coast hurricane protection project, projects that the White House say would cost more than the bill outlines. Iowa Sen. Tom Harkin said if the White House vetoes the measure Congress should have no problem overriding a presidential veto.

(It's clear that the inmates run the asylum in MO to even think of criminal charges is bazaar at best. The article also has made a mess of the facts.)

No Charges in Mo. Reservoir Collapse

By Associated Press, May 18, 2007, Newsday.com

ST. LOUIS -- Missouri's attorney general said he will not bring criminal charges against an electric utility over a 2005 reservoir collapse in the Ozarks that seriously injured a family of five. The collapse of the stone retaining wall around Ameren Corp.'s Taum Sauk reservoir spilled more than 1 billion gallons of water across a state park. A park superintendent and his family were hurt. Attorney General Jay Nixon said the Missouri Highway Patrol "found no suspects to charge criminally in its investigation." But he added: "It is clear that Ameren repeatedly put profit over safety. For this they will be held accountable." Nixon and the state Department of Natural Resources are pursuing a civil settlement with Ameren, which has accepted responsibility for the disaster. In a statement, Ameren said: "We have said all along we did not believe there was criminal liability. Now that this issue has been resolved, we are optimistic that this will lead to a unified settlement proposal from the state." **Federal investigators blamed the breach on the failure of safety devices and found that Ameren delayed repairs.** The reservoir feeds water to a hydroelectric plant.

(How about the address for this paper?)

Spring rains show need for flood control dam repair

High Plains Journal 1500 E. Wyatt Earp Blvd., P.O. Box 760, Dodge City, KS 67801, May 20, 2007

Almost 200 Oklahoma flood control dams in need of repair; another 1,300 dams will be past their life-span in ten years.

Oklahoma

Recent spring rains in Oklahoma have once again helped show the importance of Oklahoma's upstream flood control dams, many of which are in desperate need of repair said Scotty Herriman, president of the Oklahoma Association of Conservation Districts. "The sudden change from record drought to a deluge of rain this spring shows the need to maintain our flood control structures," Herriman said. "Oklahoma has more flood control structures built under the USDA watershed program than any other state in the union, many of which were built in the 1940s, '50s and '60s with a 50-year lifespan, so you can do the math and see we have a big problem. It is imperative that the state invest in repairing these structures now." Designed to stop the dangerous flash floods of the past, Herriman said that these dams, in both rural and urban settings, have for over 50 years protected Oklahomans from the ravages of out of control water, saving countless lives and billions of dollars. Now, however, Herriman said that the time has come to repair what he calls the state's "silent sentinels." "Each year the state of Oklahoma is saved over \$70 million in damage that doesn't happen because these dams are in place," Herriman said. "If we want this protection to continue and if we want to avoid the catastrophe of a dam failure, we need to act now to repair these structures."

Herriman said that Congress has taken a major step by appropriating over \$13 million for dam rehabilitation in Oklahoma. This money must be matched by the state of Oklahoma at a rate of one state dollar for every two federal dollars for it to be accessed by the Conservation Commission for rehabilitation. If the state doesn't match these funds this year, they will be returned to the federal treasury. "It would be a huge mistake not to match these federal dollars," Herriman said. "Our congressional delegation has fought hard to get these resources to the state to address this serious problem. I hope our legislative leaders will do their part to ensure the protection these dams have provided for the last 50 years is maintained into the future."

Newest recovery plan dismays salmon advocates

Columbia River - The blueprint is no different from earlier ones, tribes and environmentalists say

May 23, 2007, The Oregonian

The federal government this week outlined how it hopes to restore troubled Columbia River salmon, but fishermen and environmental groups said the new plan is no better than earlier ones that judges threw out. Even tribes, whom the government worked with on the plan, said they were disappointed. The Nez Perce Tribe of Idaho said the blueprint does not correct the operations of hydroelectric dams that do the most harm to salmon. It does not consider breaching dams on the Lower Snake River to help salmon get past, a move that salmon advocates want but President Bush pledged would not happen. Instead, the government approach relies heavily on earlier strategies such as barging young fish past dams so they don't swim through turbines that often kill them. It promises more control of predators such as sea lions and terns and more money to restore fish habitat along rivers and streams.

The real test of the new proposal will come from U.S. District Judge James Redden of Portland, who rejected the government's last attempt, hammering federal agencies for failing to do enough to help protected salmon. He ordered the agencies to go back and redo it and said he will not tolerate another botched attempt. He has hinted at severe limits on dam operations if the government fails again. Redden has his next meeting with lawyers in the case June 20, although he is unlikely to pass immediate judgment on the proposal.

Wild salmon have declined to about 5 percent of their historic numbers in the Northwest, with some stocks nearing extinction. A panel of scientists said separately this week that global warming will eliminate about 40 percent of salmon habitat in Oregon by 2090 because the water will turn too hot for the fish to survive. The government's new proposal, posted at www.salmonrecovery.gov, calls for manipulating dam operations to more closely mimic the natural river systems salmon evolved with. It also promises steps to make sure salmon raised at fish hatcheries do not interfere with the recovery of wild fish and aims to focus fishing pressure on hatchery salmon rather than imperiled wild salmon. The government said it's working on new equipment at dams so that at least 95 percent of young salmon survive as they migrate past in the spring, along with 93 percent of summer salmon.

But fish advocates said they have heard similar promises before. "We are on a stay-the-course plan when I think everybody was expecting a change in direction," said Todd True of Earthjustice, an attorney representing environmental and fishing groups. The decline of salmon has economic consequences, said Liz Hamilton of the Northwest Sportfishing Industry Association. Fishing seasons have been cut back to protect wild salmon, hurting the business of fishing guides and equipment suppliers. Anglers made 175,000 trips in pursuit of spring chinook on the Columbia River in 2001 but only 70,000 this year, she said.



Hydro

(Now, we're talking real renewable energy to power an automobile – hydro to hydrogen! Where is everyone on this subject – it's the way to go?)

Chevrolet Sequel - History In The Making

Truck Trend, May 17, 2007

Chevy Sequel Hydrogen Fuel Cell Vehicle Goes 300 Miles!



There are new hybrid technologies popping up around every corner as manufactures are pushed to give consumers what they want in a hybrid vehicle. The Chevrolet Sequel became the first hydrogen fuel cell vehicle to achieve its first 300 mile urban trek on the streets of New York while producing zero emissions on one tank of hydrogen. "With this drive, General Motors has reached another important milestone toward the commercialization of our fuel cell vehicles, by achieving the range expected by today's consumers," said Larry Burns, GM vice president, research & development and

strategic planning. "And we did it while producing zero emissions, as a hydrogen fuel cell vehicle only emits water. In addition, the hydrogen produced at Niagara Falls, used to fuel Sequel, was derived from hydropower - a clean, renewable resource. This means that the entire process - from the creation The Sequel first made its appearance at the 2005 North American International Auto Show in Detroit. It is the first vehicle to integrate a hydrogen fuel cell propulsion system that meets the needs of the average consumer's real-world driving range while using hydrogen as a fuel and emits a byproduct water vapor.

Power authority accepts new federal license for Niagara Power Project

By Aaron Besecker, Greater Niagara Newspapers, May 22, 2007

LEWISTON — The New York Power Authority Board of Trustees formally accepted a new 50-year operating license for the Niagara Power Project from federal regulators during a meeting at the project on Tuesday. The move follows a March 15 order by the Federal Energy Regulatory Commission granting a new license. The authority received its first federal operating license in 1957. The project, which is the state's largest hydropower facility, saw its first power produced in 1961. Last week, regulators extended its review period for concerns raised by three groups who believe they deserve compensation from the power authority before it's granted a new license.



Water
Press Release

RMS Study Reveals That Repeat of 1927 Great Mississippi Flood Could Cost Up to \$160 Billion

May 18, 2007

NEWARK, Calif., May 18 /PRNewswire/ -- A repeat of the 1927 Great Mississippi Flood - the largest flood disaster in U.S. history - could cost up to \$160 billion in economic damages if it were to recur today, according to Risk Management Solutions (RMS), the world's largest catastrophe risk analysis company. A new study by RMS, published on the 80th anniversary of the Mississippi Flood, shows that in a repeat of this flood today, the losses would be between \$130 and \$160 billion. Almost two-thirds of this total would be a result of residential damage, with another third from damage to commercial and industrial properties. While there would be some damage to all the states along the lower Mississippi River, Louisiana would sustain

nearly 40% of the total loss. Although the extreme river flows that led to the 1927 flood are rare events, research suggests that climate change and global warming are already increasing the potential for exceptional flows on great river basins such as the Mississippi. This has an impact on how flood risk should be managed and how levees need to be maintained and strengthened.

"Levees have been built stronger and higher since 1927, but the bed of the Mississippi River has also risen in many places," commented Dr. Robert Muir-Wood, chief research officer at RMS. "With stronger levees there should be fewer failures, but as we saw in New Orleans after Hurricane Katrina, relatively short sections of levee failure can have truly catastrophic consequences - the taller the levee, the greater the speed and force of the flooding." In contrast to the 1927 flood, where no compensation was available for those who lost homes and businesses within the flood extent, the National Flood Insurance Program (NFIP) would cover a portion of the loss if it were to recur today. "Based on the existing level of NFIP take-up, around 80-85% of the loss would be uninsured," noted Dr. Patricia Grossi, senior researcher at RMS. "This is a higher uninsured loss than resulted from Hurricane Katrina." Consequently, it is likely that private insurers would face significant pressure to pay part of the flood loss under the terms of fire insurance coverage, and they could be confronted with lawsuits claiming that damage was caused by levee failure, debris damage, or contamination rather than simply flood inundation. There would also be significant political fallout from a disaster of this magnitude in the lower Midwestern states, with the majority of the people in the affected area being forced to relocate or live in temporary accommodations. The 1927 flood, which inundated parts of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, killed some 250 people and caused approximately \$250 to \$350 million in loss at the time. "With the economic and social changes that have occurred along the Mississippi River since 1927, a modern-day event would not just be a regional economic catastrophe but a national disaster," said Dr. Grossi.

Download the full report at
http://www.rms.com/Publications/1927_MississippiFlood.pdf

Focus on drought-related issues

May 20, 2007, By BILLY HOUSTON and JERRY SAILORS, Press-Register

According to the U.S. Drought Monitor, most areas of our region are experiencing "abnormally dry" weather and the outlook is grim for the rest of the summer. On March 29, the National Weather Service declared "severe drought" status for Alabama. Forecasters are predicting continued rainfall deficits over the next month, making this the worst drought in the Southeast in half a century. These drought conditions are already affecting farming, recreational boating, hydropower generation and navigation, and they are to blame for wildfires across much of central and southwestern Georgia. Stream flows in many of our waterways are well below any previously recorded levels for this time of year.

Indeed, Alabama Power Co. recently announced it has reduced hydropower generation in the Alabama-Coosa-Tallapoosa river basin to save water normally used to generate electricity. During the hotter months, hydropower is used to meet peak demands for electricity; but without adequate rainfall, lower levels in lakes and reservoirs will limit hydropower operations. In addition, Alabama Power recently suspended recreational water release at Jordan Dam on the Coosa River.

The power company is not alone. Businesses all across Alabama and Georgia are facing similar dilemmas because of limited water resources brought on by the drought. When water levels dip this low, the situation calls for action on the part of our government agencies. In forming the Southeast Water Alliance, we have brought together concerned citizens from Alabama, Georgia and Florida to work toward our common goals when it benefits our waterways. Stream flows and reservoir levels in the region's rivers support navigation, economic development, power generation, recreation, flood control and municipal and industrial water supply, all of which are adversely feeling the effects of the present drought. We recognize that any continued decrease in water availability and flows will have a detrimental effect on the region's overall well-being. The drought is already further compromising the effects of pre-existing water shortages on our waterways. We must support our state and local leaders who are working to implement plans to navigate us through continued drought conditions. Accordingly, we urge the region's governors to make protection of our water resources a top priority. As co-chairmen of the Southeast Water Alliance, we are committed to working as a unified voice to help find solutions to the challenges facing our region's water supply. We are also dedicated to helping educate the public and our elected officials about the need for continued investment in our water systems. While we cannot control the weather, we can work together to find ways minimize the effects of the drought on our commerce, recreation and general livelihood in the Southeast.



Environment

(Another case that doesn't mention the First Iowa case and Federal pre-emption.)

State Supreme Court hears Candlewood Lake case

Danbury News-Times Media, 5/17/07

Who controls land use in the strip of land around Candlewood Lake? The two sides in a case with national implications made their arguments in front of the state Supreme Court today. Attorney Scott McCarthy represented the town of New Milford, arguing that town zoning laws can be enforced on shoreline property. In opposition was attorney Peter Hunt, representing Gerard's Marina in New Milford. He told the court that because the land is part of a hydroelectric power system that's under the control of the Federal Energy Regulatory Commission local zoning regulations have no say on the land. Last August, Superior Court Judge John Pickard agreed with Hunt's arguments, saying the town has no say over a deck Gerard's built at its marina because the marina had obtained all the permission it needed — a building permit from Northeast Generating Systems which then owned the lake, the Rocky River hydroelectric plant powered by Candlewood Lake's waters and the strip of land around the lake. On Thursday, McCarthy said that argument was neither "logically contemplated or legally correct." Because there is no other body able to regulate land use around the lake, McCarthy said, local zoning must apply. Otherwise, he said, "there are no checks, no balances." It could be several weeks before a decision on the case is made.

Final Environmental Impact Statement for the Oroville Facilities (P-2100-052)

Issued: May 18, 2007

Commission staff prepared a Final Environmental Impact Statement (EIS) for California Department of Water Resource's (DWR's) Oroville Facilities. The 762-megawatt project is located on the Feather River in Butte County, California and occupies 1,620 acres of federal lands managed by the U.S. Department of Agriculture, Forest Service within the Plumas and Lassen National Forests and 4,620 acres managed by the U.S. Bureau of Land Management. DWR followed the alternative licensing process to prepare their application and filed a license application with the Commission for a major new license on January 26, 2005. The 2005 application included a preliminary draft environmental assessment. DWR's license application outlined its proposal to continue operating the Oroville Facilities in accordance with certain existing and interim operational and environmental measures. DWR filed a comprehensive Offer of Settlement (Settlement Agreement) with the Commission on March 24, 2006, which replaces the Proposed Action outlined in the license application. The terms of the Settlement Agreement include a wide range of measures described in Proposed Articles A100 through A135. The agreement also includes a set of measures that DWR proposes to implement outside of the project license.

Under the Proposed Action, DWR would implement six programs designed to enhance habitats for coldwater fisheries to benefit the threatened and endangered Central Valley spring-run Chinook salmon and Central Valley steelhead in the Feather River, and warm water fisheries in Lake Oroville. The Proposed Action includes a comprehensive program to monitor water quality and bacteria levels at project waters for the benefit of both fisheries and visitors using the project's swimming areas. Wildlife would be enhanced through proposed measures to manage the Oroville Wildlife Area. The substantial recreational opportunities of the Oroville Facilities would be enhanced and expanded through the implementation of the Recreation Management Plan, which includes upgrades to existing facilities, construction of new facilities, and comprehensive monitoring of recreation use over the term of any license issued for the project. Finally, the

Proposed Action includes the implementation of a Historic Properties Management Plan and specific measures to address conflicts between recreation use and the protection of cultural resources. Staff has revised some of the applicant-proposed project-related environmental measures to increase monitoring activities or accelerate the implementation schedules. We recommend including measures that would address concerns and recommendations made by the U.S. Department of Agriculture, Forest Service, Butte County, Native American Tribes, and visitors who use the extensive project-related trails. Overall, the measures proposed by DWR under the terms of the Settlement Agreement, along with additional staff-recommended and revised measures, would protect and enhance existing water use, water quality, fish and wildlife, land use, aesthetics, recreational, and cultural resources. In addition, the project would continue to provide a large portion of the electricity needed to pump water through the California State Water Project at a lower cost than potential replacement power sources.

(Here's the issue again. Now, it's in India in addition to Brazil. The unknown here is whether reservoirs are cleared before inundation and whether these studies factor in methane production from the reservoir areas before the dams were built and whether this is a net number or not.

19 per cent of India's global warming emissions from large dams, says study

Gargi Parsai, The Hindu, May 19, 2007

Globally large dams contribute to 24 per cent of methane emissions

- In a year, emissions from India's large dams could be around 33.5 million tonnes
- The study has come too late to be included in the recent reports from the IPCC

NEW DELHI: Latest scientific estimates show that large dams in India are responsible for about a fifth of the countries' total global warming impact. The estimates also reveal that Indian dams are the largest global warming contributors compared to all other nations. Brazil comes second with the emission of methane from its reservoirs being 21.8 million tonnes per annum, which is 18.13 per cent of the global figure. This estimate by Ivan Lima and colleagues from Brazil's National Institute for Space Research (INPE) was recently published in a peer-reviewed journal, according to the South Asia Network on Dams, Rivers and People. The study titled, "Methane emission from Indian Large Dams" estimates that total emissions from India's large dams could be around 33.5 million tonnes per annum, including those from reservoirs (1.1 mt), spillways (13.2 mt) and turbines of hydropower dams (19.2 mt). Total generation of methane from India's reservoirs could be 45.8 mt.

Oxidation

"The difference between the figures of methane generation and emission is due to the oxidation of methane as it rises from the bottom of a reservoir to its surface," says the report. The study estimates that emission of methane from all the reservoirs of the world could be around 120 mt per annum. This means that of the total global emissions of methane due to all human activities, contribution from large dams alone could be around 24 per cent. The study does not include the emission of nitrous oxide and carbon dioxide from large dams. If all these were included, the global warming impact of large reservoirs would go up further. The methane emission from India's dams is estimated at 27.86 per cent of the methane emission from all the large dams of the world, which is more than the share of any other country of the world.

Not mandated

"It is unfortunate that Lima's study has come too late to be included in the recent reports from the Intergovernmental Panel on Climate Change (IPCC)," said Patrick McCully, Director of the International Rivers Network. Emission of carbon dioxide from reservoirs is already part of the mandatory reporting formats of IPCC. Reporting of methane emissions is suggested, but not mandated.

Hydropower myth

This latest round of studies help shatter the myth that power from large hydropower projects was "clean." Indian hydropower projects are already known for their serious social and environmental impact on the communities and environment. The fact that these projects also emit global warming gases in such significant proportion should further destroy the myth, pointed out Himanshu Thakkar of the South Asia Network on Dams, Rivers and People. "The Indian Government has been blind to this issue so far, even though it has been known for more than a decade now that reservoirs in tropical climate are significant

source of global warming gases. Neither the Central Water Commission, nor the Central Electricity Authority, has assessed the global warming impact of India's large dams and implications there of," he said. The study had to make a number of assumptions in arriving at these estimates, as no measurements of the methane concentration or emission have been made for reservoirs in India. (Most measurements of methane emission from reservoirs have been done in Canada, Brazil and French Guyana.) Large dams have been known to be emitters of greenhouse gases like methane, carbon dioxide and nitrous oxide for over a decade now. The "fuel" for these gases is the rotting of the vegetation and soils flooded by reservoirs, and of the organic matter (plants, plankton, algae, etc.). Methane is produced at the bottom of the reservoirs in the anaerobic conditions prevailing there, over the lifespan of the reservoirs. The gases are released at the reservoir surface, at turbines (of hydropower projects) and spillways, and downstream of the dam.

¹This compilation of articles and other information is provided at no cost and should not be used for any purpose other than as free information for those interested in hydropower, dams, and water resources issues and development.