Some Dam – Hydro News™
And Other Stuff

Quote of Note: “Energy and persistence conquer all things.” - - Benjámin Franklin.

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“Good wine is a necessity of life.” - - Thomas Jefferson
Ron’s wine pick of the week: 2012 Fess Parker Winery Pinot Noir "Ashley's"
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson

Dams:
(Let’s get it dam straight in CA.)
More dams for California was not backroom deal
July 17, 2015, latimes.com

To the editor: Jacques Leslie advocates the same sort of historic revisionism that recently sparked a populist uproar to hide the Confederate flag from our nation's sensitive eyes. (“How not to fix California's water problems,” op-ed, July 12) He conveniently forgets that Gov. Jerry Brown’s signature campaign issue in 2014 was Proposition 1 (the water bond) and his promise of new storage. Twin bond authorization bills passed by bipartisan votes of 31 to 0 in the state Senate and 60 to 0 in the Assembly. Brown signed them into law. Brown promoted the ballot measure with support from both of California's U.S. senators, the Democratic and Republican parties, urban and rural water users, and seven top environmental groups. The voters approved it 67% to 33%. Leslie claims it was all just a backroom political deal. If Leslie’s memory is so short, why should anyone listen to his stale “now’s not a good time” arguments to shelve dams as practical answers to Southern California’s needs for a reliable water supply?
Aubrey Bettencourt, Hanford, Calif., The writer is executive director of the California Water Alliance.

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
To the editor: Your article on water restrictions for new homes hits a high note of absurdity. In south Orange County, the brown hills are dotted with water tanks to keep the dust down as developers build new homes. Where is the water coming from to build and later to supply those homes? ("To save water, new California homes will have less lawn," July 15) Californians are all exhorted to personally take drastic measures to use less water. But I have to question the government's water management plan when home developments continue to be built. Where will we get the water for these new residents? All over the state, wells are running dry and lake water levels continue to fall. Some towns have no water at all. And yet here in Orange County the building continues as if water is abundant and cheap. Something is very wrong with this picture.

Karen Hamstrom, Mission Viejo

(Oh, oh, this could be a game changer. The amateurs will somehow make the faults active.)

Geologic study shows newly discovered dormant faults near Susitna dam site

By Zaz Hollander, July 17, 2015, adn.com

PALMER -- State geologists studying a 450-square-mile swath of the Talkeetna Mountains last year turned up previously undiscovered faults near the proposed Susitna River dam. But none of the faults appear to have been recently active, the scientists say, indicating a relatively low risk that they would generate major earthquake activity. The Alaska Division of Geological & Geophysical Surveys released the preliminary mapping report Thursday for an area 50 miles east of Talkeetna and about 6 miles south of the dam site.

"The mapping area that we worked in only contained very old faults that are not currently active or have not been active in the last several million years," said division director Steve Masterman, who is based in Fairbanks. "While there are faults out there, there are none that would appear to be of concern for being currently active."

The Susitna-Watana Hydroelectric Project was one of three mega-projects Gov. Bill Walker halted in December amid the state budget crisis. Last week, Walker said he would allow the dam to proceed using $6.6 million in unspent funding. Should the state get the requisite federal permit, the dam is expected to become operational anywhere from 2027 to 2030, according to Emily Ford, energy policy and outreach manager for the Alaska Energy Authority, the state entity behind the dam. Located 90 miles upstream from Talkeetna, the project would include a dam at least 700 feet tall -- making it one of the tallest in the U.S. -- plus a 39-mile-long reservoir and power plant with a road and transmission line connecting to the Alaska Intertie. Supporters say the Susitna dam would provide reliable, low-cost power and could supply about half the Railbelt's electricity needs. Critics say better power sources exist and the project could jeopardize abundant fish and wildlife, including the Susitna's prized salmon. The prospect of destructive earthquakes in the vicinity of the dam is one of many concerns raised by critics. They point to a phenomenon linked to hydro projects known as "induced seismicity:" Water pressure from reservoirs leaking into tiny cracks can lead to minor earthquakes. Dam opponents at the Susitna River Coalition said in an email Friday that seismic risks "remain a serious concern."

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Coalition board member Whitney Wolff said concerns include not only reservoir-induced seismicity, but previously unknown faults and the potential for seismic seiche activity, or the potential for even moderate seismic activity to generate oscillating reservoir waves or landslides. "(A)ll pose a significant threat -- both to downstream communities and the overall public investment," Wolff wrote. Masterman, addressing only the reservoir-induced seismicity question, said the phenomenon is complicated to predict and tends to result in lower magnitude, "not structure-threatening" quakes. “Our surface mapping doesn’t shed much light on that particular issue,” he said, given that earthquakes occur below the surface.

The Alaska Energy Authority, as part of the federal hydro permitting process, is conducting geologic and seismic studies within the project area, Ford said. The state mapping and the project study area overlap by about 20 square miles. Studies will help determine the overall risk but also the optimal design for the safest construction of the dam to "withstand the largest possible earthquake in the region," she said. The Alaska Earthquake Information Center is also studying local seismic activity within the last three years. State seismologist Mike West wasn’t available for comment Friday afternoon. The map released this week is a part of the division’s multiyear assessment of the strategic and critical minerals of the western Wrangellia geologic province, an approximately 4,000-square-mile area stretching from Talkeetna to Paxson, according to a news release. The report has yet to undergo peer review. The division is on an quest to map unexplored regions around the state, a process that could take centuries. While detailed geologic maps are available for most of the Lower 48, many areas of Alaska, including the Talkeetna Mountains, have only reconnaissance-scale geologic mapping. This particular area rose to the top, scientists say, because of the platinum, palladium and copper potential in the region. The proximity of the dam site was also a factor. As far as mining interest goes, the researchers found the same kind and age of rock that holds platinum in the Yukon near Kluane Lake, but no evidence of platinum itself, according to report author Evan Twelker.

The report bears the functional title “Geologic map of the Talkeetna Mountains C-4 Quadrangle and adjoining areas, central Alaska.” It’s highly technical and intended for use by geologists and engineers. The cover photo features state geologist Larry Freeman clad in yellow rain gear and a gray pack, looking northeast “across upper Paleozoic to Late Triassic rocks of Wrangellia” as he stands atop a boulder-strewn knoll gazing down a wild valley bisected by a river below, the mountain tops hidden in low clouds. The geologic mapping was funded by the Legislature through the Alaska Airborne Geophysical/Geological Mineral Inventory Program and the Alaska Strategic and Critical Minerals Assessment Capital Improvement Project, according to a news release from the division. Additional funding came through the U.S. Geological Survey’s National Cooperative Geologic Mapping Program STATEMAP component. The map and accompanying booklet may be downloaded from the DGGS website.

(Drilling at the toe of a dam that sprouts water is a BIG problem. If it wasn’t for the proposed hydro project, this may not have been discovered. NOTE: See article below in the Environment Section.)

**DEP drains Cannonsville Reservoir after drilling incident**

By Julia Reischel, 7/20/15 - watershedpost.com

After drilling caused a worrisome gush of muddy water downstream of the Cannonsville dam in Deposit on Wednesday, July 8, the New York City Department of Environmental Protection (DEP) is draining the Cannonsville Reservoir as a precaution while it makes repairs. On July 8, contractors working for the DEP drilled several test borings into a rocky embankment about 50 yards south of the downstream base of the dam where a hydroelectric plant is slated to be built, according to DEP spokesman Adam Bosch and a series of press releases. After a few holes were bored, the workers noticed that muddy water was flowing into the West Branch of the Delaware River downstream of the dam.

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The DEP’s working guess is that the bore holes pierced an artesian aquifer — a layer of groundwater that is under pressure — which began sluicing water and sediment from the bore holes into the river.

The fear is that some of the sediment coming into the river may be coming from the dam itself. “We can’t prove with any degree of certainty that the sediment is coming from the bore holes only,” Bosch said. “We want to make sure that the sediment is not coming from earthen embankment of the dam.” This week, the DEP is drilling relief wells and plugging several newly-made bore holes to stop the flow of turbid discharge.

On Tuesday, July 21, contractors will drill a series of relief wells between the foot of the dam and the source of the muddy water in an attempt to depressurize the aquifer, Bosch said. Then they will plug the bore holes that seemed to cause the problem.

Under pressure
The Cannonsville dam, which is made of earth, clay and rocks, was built in 1964 and is considered one of the safest dams in New York City’s Catskills reservoir system, Bosch said. “We don’t think there’s any imminent concern about dam safety,” Bosch said. Still, the DEP is taking no chances. While the agency investigates the source of the turbid discharge, it is draining much of the water from the reservoir, just in case. “When it comes to usual conditions below dams, we do not mess around,” Bosch said.

The DEP began draining the reservoir on Wednesday, July 15, diverting about 1.2 billion gallons per day down to the city’s drinking water supply and into the West Branch of the Delaware River. The reservoir’s water level is lowering at a rate of about 8 or 9 inches per day, Bosch said. This is the second time in a decade that the DEP has emptied a reservoir because of safety concerns. After an inspection in 2005 showed that the Gilboa Dam in Schoharie County was in danger of failing, the agency drained the Schoharie Reservoir to allow for emergency repairs. Since announcing the discovery of the mysterious muddy water at the Cannonsville Dam last week, the DEP has hosted a series of meetings in communities downstream of the dam to discuss the dam’s safety. Meetings have already been held in Deposit and Hancock, and are scheduled for

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Narrowsburg on Monday, July 20, for Matamoras, Pennsylvania on Tuesday, July 21, for Eaton, Pennsylvania on Wednesday, July 22 and another for Deposit on Thursday, July 23. The DEP has also released maps that show which areas downstream from the Cannonsville Reservoir would be inundated if the dam failed. According to the maps, all of downtown Deposit and Hancock would be under water if the dam broke.

“Summer coldwater fishery”
The water releases from the Cannonsville have an upside: Fishermen are delighted by the influx of unusually cold water into the Delaware River, which is perfect for trout. The releases “keep the Main Stem cool for trout even in July,” according to fishing guide Tony Ritter, who reported in an email last week that both the Main Stem and the West Branch of the Delaware River are “at least a foot plus higher than normal,” and that the river has “stayed far below 68 degrees by the end of the day due to increased cold water bottom releases.” “NYC has finally created a summer coldwater tailwater fishery without intending to do so,” Ritter wrote.

(If it leaks, you can’t control it!)
Leaking wooden dam at International Falls gets an upgrade
By John Enger, MPR.org/Jul 20, 2015

Over the next few years, Boise Paper in International Falls and the Canadian company H2O Power in neighboring Fort Frances, Ontario, which run the dam, will replace the decades-old wooden gates with steel. The change is needed because the gates are starting to deteriorate and leaking water, said Nolan Baratono, who serves on the water levels committee for the International Rainy-Lake of the Woods Watershed Board. “The leak was significant,” he said. “That can be a problem when we have low water.” In dry seasons the spill gates are closed, forcing the flow of water out of Rainy Lake through power generators in the Boise and H2O facilities. When Rainy Lake floods as it did last year, the wooden gates are raised to allow the lake to drain down the Rainy River toward Lake of the Woods. When the spill gates leak, Baratono said, the dam generates less power. And dam operators are starting to have trouble moving the gates up and down, which could make flooding worse on Rainy Lake, he said.

Lori Lyman, public affairs manager for Boise Paper, said in an email that the gates are reaching the end of their lifespan and need some work. “A specially designed coffer dam is being used to isolate two gates at a time so the gates can be refurbished in a dry and safe environment,” she wrote. Baratono said the spill gates have not been replaced since the dam was built in 1905. International Falls Mayor Bob Anderson, who in 2011 retired from a 51-year career at Boise, said the gates were never replaced during his time at the company Construction to install new steel gates began in early June and will continue through 2017, Lyman said. In preparation for the project, Baratono directed Boise and H2O Power to lower water levels in Rainy Lake about 6 inches below normal. “It was a tough call,” Baratono said. Slim snow pack and spotty rain this spring made for a dry season. Ordinarily Baratono’s water level committee would be trying to conserve water. But Rainy Lake is coming off one of the worst flood years in history. Early last summer, the water level on Rainy Lake reached heights not seen since 1950. Even with the dam gates wide open, the National Guard was called in to help sandbag properties along the lakeshore. With two spill gates at a time now out of commission as they undergo replacement, Baratono said lower water levels this summer are insurance against another flood. Minnesota Public Radio News can be heard in Duluth at 100.5 FM or online at MPRNews.org.

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
Family seeks more warning signs at dams
July 21, 2015, crescent-news.com

UPPER SANDUSKY, Ohio (AP) -- Relatives of two brothers who died while kayaking in a northwest Ohio river are pushing for more signs near low-lying dams to warn of potential dangers.

Billy Zornes, 45, and Lewis Zornes, 46, died June 21 after their kayaks overturned in the Sandusky River near Upper Sandusky, roughly halfway between Columbus and Toledo.

Investigators say one of the Bucyrus men went over a submerged dam, and the other went back into the water to attempt a rescue. Arguing the kayakers didn't have sufficient warning about the dam, their family has started a petition and plans to ask local and state government officials for more warning signs near so-called low-head dams, The (Upper Sandusky) Daily Chief-Union reported. Low-head dams are considered dangerous during high water because they create churning water that can be difficult to escape. Water in the area was high when the brothers' kayaks overturned last month. A Marion man drowned at the same location in 2013. "There is no reason we should not have warning signs above and below any low-head dam," said Lewis Zornes' stepdaughter, Crestline resident Ashley Alberty.

Lewis Zornes' wife was kayaking with the brothers when her husband tried to go through the dam and was pulled under by the current, and she said Billy Zornes was pulled in while trying to help, according to police records recently released to the Daily Chief-Union. She tried to use a tree branch to aid them, then called for emergency help. Initial information indicated Lewis Zornes' blood alcohol content was logged as being above Ohio's legal limit for driving, the Daily Chief-Union reported.

Hydro:
(More hydro in PA.)

Federal regulators approve Monongahela hydroelectric plant
Jul 17, 2015, Associated Press | dailyitem.com

PITTSBURGH (AP) — A federal regulator has approved plans for a Western Pennsylvania hydroelectric project that backers say will produce power for about 5,250 homes. The Federal Energy Regulatory Commission this week approved Hydro Green Energy's proposal for a 5.25 megawatt plant on the Monongahela River at the Braddock Locks and Dam. The Pittsburgh Tribune-Review reports (http://bit.ly/1ObiOn1) the Dallas-based still needs clearance from the Army Corps of Engineers before commencing construction on the $15 million project. The newspaper says the plant would be the first hydroelectric facility in Allegheny County. The Braddock Locks and Dam are located about 8 miles southeast of downtown Pittsburgh.

Energy Department on Twitter
"Giant batteries" = pumped storage #hydropower plants. Here's why → http://1.usa.gov/1RQzq7h July 16, 2015, twitter.com

Get Pumped about Pumped Storage
Often described as “giant batteries,” pumped storage hydropower (PSH) plants account for the bulk of utility-scale electrical energy storage in the United States and worldwide.

How Colorado’s irrigation system conserves water, produces green energy
Designed to conserve irrigation water, Colorado's project delivers water more precisely to crops using specialized circular sprinkler systems and creates hydropower by pressurizing the flow of agricultural water and capturing energy normally lost as water runs downhill.
The 2014 Farm Bill created Regional Conservation Partnership Program (RCPP) as the newest conservation tool of the United States Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS). RCPP will divvy up a total allotment of US $235 million in federal funds to support projects that encourage joint efforts between multiple partners—including farmers, ranchers, governments, universities, and producers—to “increase the restoration and sustainable use of soil, water, wildlife, and related natural resources on regional or watershed scales.” So far, the USDA has approved 115 proposals nationwide for the second round of funding; the Colorado Pressurized Irrigation Small Hydropower Partnership Project is one of the approved and promising projects. Developed by Colorado’s ACRE³ program, the Pressurized Irrigation Small Hydropower Partnership Project should receive more than US$3 million in funding, US$1.8 million of it from RCPP. An additional US$1.6 million will come from local funding sources such as the nonprofit American Rivers, the governor’s energy office, the Colorado Rural Electric Association, and others. The project will use the money to develop new technology to create a more efficient irrigation system, significantly reducing the water required to sustain agriculture in semi-arid climates, such as Colorado’s. The new system will also produce hydropower, a renewable and clean energy source that can supply energy to a power grid without releasing greenhouse gases. Designed to conserve irrigation water, the project delivers water more precisely to crops using specialized circular sprinkler systems, as opposed to older, water-intensive flood irrigation methods. Additionally, the system will create hydropower by pressurizing the flow of agricultural water and capturing energy normally lost as water runs downhill. Recommended: OPINION Five ways Americans can save water through food choices U.S. Secretary of Agriculture Tom Vilsack is confident the small hydropower project will be a success. “This is not only possible. It is going to happen,” Vilsack told interviewers. “It is going to provide for more efficient irrigation, which is important as we deal with increased scarcity. It also is going to deliver hydropower, a renewable energy resource.”

Blue Gold: tapping existing potential
20 July 2015, waterpowermagazine.com

Each year valuable hydro potential flows away through water pipes at existing infrastructure across the US. The Hydro Research Foundation is calling for policy and technological innovations to recapture this enormous untapped opportunity which has the potential to jump start additional hydropower development. Suzanne Pritchard reports. In 2014, as the single largest source of renewable power in the US, hydropower accounted for more than 50% of all renewable generation - 6.5% of the country's total electric production. However, in sharp contrast to these rousing figures, is the growing realisation that for the past 15 years US hydropower generation has almost flat lined with less than a 2% total increase. With power supplies being affected by fluctuating water supplies, data from the Energy Information Administration shows a 3.7% decrease in conventional hydro generation during 2014. The stark reality is that the amount of hydropower being installed each year is at a minimal level, in spite of the fact that recent legislative reform has helped to improve the efficiency and simplicity of regulatory approvals required for projects. However vast untapped potential does exists for further small hydropower development across the US. The key to this lies within existing infrastructure. While the National Hydropower Association has previously highlighted that only 3% of the US’ 80,000 dams include provision for hydropower, the Department of Energy suggests that an additional 12,000MW of

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
capacity could be sought from existing non-powered dams. Indeed with more than 400B gallons of water flowing through existing agricultural, industrial and power pipelines each year, there is ample of opportunity to recapture excess energy available in the country’s water distribution system. The economic benefits of utilising this surplus power include:

- Helping to lower energy costs for water operators who are ranked among some of the US’ leading consumers of power - they currently account for 5% of national electricity consumption.
- Creating over 60,000 new jobs.
- Developing emissions-free power for more than 4M US homes.

In an effort to highlight innovative policies required to make this happen, a new report has been released by a partnership between the Hydro Research Foundation and Oak Ridge National Laboratory, supported by the US Department of Energy. This New Hydropower Innovation Collaboration authored Blue Gold: Building New hydropower with Existing Infrastructure which has been championed by both the hydropower and environmental communities. "The nation’s existing infrastructure for storing and transporting water -- including existing dams, canals and pipelines -- presents an enormous, largely-untapped opportunity for development of new hydropower," said the Hydro Research Foundation’s Executive Director Deborah Linke.

Re-iterating the fact that US hydropower has tremendous growth potential, Executive Director of the National Hydropower Association, Linda Church Ciocci, said: "The Blue Gold report recommends common-sense policy reforms to jumpstart the development of additional hydropower on existing infrastructure throughout the nation." Indeed, John Seebach from American Rivers applauded the report’s recommendation for generating clean energy without the need for any new dams or water diversions from existing natural waterways.

Policy recommendations
The consensus policy recommendations from the Blue Gold report were developed during a 2014 meeting convened by the Hydro Research Foundation to discuss policy reforms needed to accelerate the development of hydropower. If state and federal policymakers implemented these the report says that they “can unleash new hydropower development - providing substantial economic and environmental benefits - without building a single new dam or changing any existing diversions from natural waterways”. Proposed action includes:

- Streamlining US Army Corps of Engineers permitting processes for hydro development so projects can complete federal approvals expeditiously - an overlapping of federal review requirements has hindered hydro development as approval is sometimes required by both FERC and the Corps.
- Increasing federal procurement of hydropower by including distributed hydropower as an eligible resource type - new guidance should be issued to alleviate the systematic exclusion of hydropower.
- Excluding small (under 5MW) conduit hydropower projects from having to file with FERC for projects which entail no changes in water diversion from an existing natural waterway.
- Reauthorising sections of the Energy Policy Act of 2005 on the hydro incentive payments programme and provide ongoing appropriations.
- Coordinating Federal and State environmental and permitting processes for hydropower.
- Adding hydropower as an eligible project type to existing state loan and grant programmes for water infrastructure - The 8MW hydro project at Ridgway dam in Colorado was completed in June 2014 and made possible by US$15M in 2% loan funding provided by the Colorado Water Resources and Power Development Authority and the Colorado Water Conservation Board. Such funding in Colorado is reported to have fueled a flurry of new hydro development which includes almost 30MW of new construction recently completed or currently underway.
Earlier in 2015, the New Hydropower Innovation Collaborative published another report entitled New Pathways for Hydropower: Getting Hydropower Built -- What Does It Take?, where 31 technological innovations to accelerate the deployment of new hydropower in the US were outlined. Although the focus of the report is new small hydropower, many of the ideas are said to be applicable to hydropower development in general. The report is described as an ideas book - a compilation of ideas from knowledgeable individuals about which technology approaches, practices and prospective new tools or developments could help bring additional small hydropower projects from the realm of ideas to reality.

The ideas are grouped into eight categories:

- Improved Tools for Siting, Prequalification, and Feasibility Determination
- New and Improved Design Tools -- Guidelines and Standards
- Improved Access to Design-related Information -- Online Toolboxes and Databases
- New Hydropower-Specific Education, Training, and Outreach
- Advanced and Improved Technology, Materials, and Manufacturing
- Standardised and Modular Designs
- New and Improved Electrical Standards and Practices
- Tools for Commissioning, Operation, and Maintenance

“The ideas in this report, if implemented, have the potential to greatly reduce deployment cost and time through efficient designs, manufacturing, permitting and licensing, installation, commissioning, operations, and maintenance,” said Deborah Linke. “This is an exciting compilation of ideas from an experienced group of well-regarded industry professionals with deep knowledge of what it takes to envision and complete a successful project,” she continued.

This article was compiled from the following reports which can be downloaded at www.hydrofoundation.org Blue Gold: Building New Hydropower with Existing Hydropower. Hydro Research Foundation. April 2015. New pathways for Hydropower: Getting Hydropower Built - What Does it Take? Oak Ridge National Laboratory. January 2015.

(This seems to be overblown. He doesn’t want to solve the problem. You make more money when there’s confusion.)

States, tribes lose big in federal hydro ‘power grab’
By John Seebach, July 20, 2015, thehill.com

The hydropower industry is attempting a stunning power grab that would make it difficult— if not impossible— to ensure fish passage and other modern improvements to dams, and would eliminate the authority of states and tribes to negotiate for changes to dam licenses that benefit their communities and local waterways. These changes would upset nearly a century's worth of balance between the competing users of our nation's waterways. Make no mistake: if the hydropower industry is successful, Congress will enact new legislation that would upend the balance that currently exists between dam owners and state and community stakeholders. Instead, hydropower dam owners get primacy over our nation’s rivers. In addition, the legislation being considered by the House Energy and Commerce Committee and Senate Energy and Natural Resources Committee would give tremendous new powers to the Federal Energy Regulatory Commission (FERC), a federal energy-permitting agency. In effect, Congress would take power away from state and local agencies that are directly accountable to the public, and give it to an agency that isn’t. States and tribes should take note. The legislation also creates loopholes that allow hydropower dam operators to avoid having to comply with the Clean Water Act and Endangered Species Act, leaving downstream communities to bear the costs of resulting environmental damage, including pollution cleanup costs. Our rivers and river communities will be hurt by this legislation, which would strip states of their power to hold dam owners accountable for pollution and damage to local rivers and economies.

Existing law allows states, natural resource agencies, and tribes to advocate for the needs of local communities and waterways during the dam relicensing process. This proposed legislation weakens or eliminates those authorities, which is why states from Maryland to California oppose it. The legislation is also opposed by the Association of State Fish and Wildlife Agencies, which
represents the interests of all 50 states. **Existing law requires FERC staff to follow strict rules when communicating with dam owners.** This legislation would allow dam owners to have backroom, off-the-record conversations with FERC officials with minimal disclosure and public notice only after the conversation has taken place.

**Existing law allows states and federal natural resource agencies to put license conditions on dams that protect local communities and wildlife.** This legislation would allow dam owners to petition FERC to reopen licenses they’ve previously agreed to in order to retroactively alter or cancel conditions requested by states to protect local communities. It places FERC’s judgment about how to protect commercial fishing stocks ahead of that of the National Marine Fisheries Service, and it puts FERC’s judgment about how to protect national parks ahead of that of the National Park Service. Local voices and the needs of local communities have been at the center of water resource decisions since Americans first started negotiating water rights centuries ago. This legislation upends nearly four centuries of water law and precedent by placing FERC’s authority above local communities and states when it comes to protecting water quality.

**Existing law is effective in promoting transparency and ensuring balance between stakeholders.** In fact, the hydropower industry hasn’t demonstrated or provided any evidence that changes to the law will do anything but consolidate power over the nation’s rivers and streams into their hands, giving them priority over anglers, farmers, boaters, and the families and businesses that depend on healthy rivers and clean water. Healthy rivers are essential to the health and well-being of our communities. Hydropower dams have major impacts on river health, clean water, and wildlife. For more than 90 years, we’ve been able to achieve balance between healthy rivers and hydropower production because local stakeholders, including states and tribes, have had seats at the decision-making table. The public’s right to enjoy their rivers for recreation, drinking water, agriculture, and their natural beauty is absolutely compatible with responsible electricity production, but balance cannot be achieved unless states, tribes, natural resource agencies, and local communities keep their seats at the table. Congress should act on the bipartisan concerns of states across the nation, and join with the more than 100 conservation and recreation groups in opposing this reckless legislation. **Seebach is the chair of the Hydropower Reform Coalition, a diverse consortium of more than 160 national, regional, and local organizations comprised of conservation, recreation, and homeowner groups. More information on the coalition and its membership can be found at www.hydreform.org**

(The more hydro, the merrier!)

**Carlsbad launches hydroelectric project**

**Renewable energy plant is a first for the city**

By Phil Diehl | July 21, 2015, sandiegouniontribune.com

CARLSBAD, CA — Electricity created by flowing water may not be the first conservation idea that leaps to mind in drought-stricken Southern California, but it’s happening in several places in San Diego County.

Carlsbad opened its first hydroelectric power project earlier this year at the Maerkle Reservoir, a man-made water storage site near the border of Vista and Carlsbad. And the Sweetwater Authority — a water district that serves about 132,000 people in National City, Bonita and part of Chula Vista — started work on a similar project last year that it expects to finish in late 2016.

The $1.2 million Carlsbad project was approved by the city in 2009 as part of a long-range plan to create enough renewable energy sources to power all city-owned facilities. Officials initially hoped the Maerkle project would supply enough electricity to operate Carlsbad’s water system, plus 25
percent beyond that. The finished product — which opened in April — was smaller than envisioned, but should pay for itself within 10 years, then start pouring power savings into city coffers, officials said. The hydroelectric system capitalizes on the weight of water flowing downhill toward Carlsbad’s reservoir through pipes owned by the San Diego County Water Authority. Pressure builds from the heavy flow and must be released before it can safely connect to the city’s water system. The city previously used a system of three valves to release the pressure. Now, a turbine in the pipe allows Carlsbad to both ease the pressure and capture energy to generate electricity. “It’s a first of its kind in Carlsbad,” water operations supervisor Eric Sanders said recently during a visit to the Maerkle Reservoir. Sweetwater Authority also has its eye on the economics of hydroelectric power. The agency is in the design stages on a $2.5 million hydroelectric plant at its Perdue Water Treatment Plant in Spring Valley. “It’s got a great payback period on it,” said Scott McClelland, Sweetwater’s director of water quality. The money spent on construction is expected to be recovered through reduced electricity bills in 10 or 12 years. The turbine has an estimated life span of 25 years. Sweetwater first looked into installing a hydroelectric turbine in 2003, McClelland said, but the economics didn’t pencil out at the time. Since then, permits have become cheaper and easier to get, and turbine technology has improved. Also, he said, there’s “no ecological downside” to installing a turbine on pipes that already exist. Like Carlsbad, Sweetwater receives its imported water at a high pressure — from 135 to 140 pounds per square inch.

“We’re in a portion of the (county’s distribution) pipeline that’s closer to sea level than some other districts,” McClelland said. “It’s kind of a stroke of luck on our part.” Most of Carlsbad’s incoming water goes into the lined, covered reservoir at the eastern edge of the city near Vista and Oceanside. Created by an earthen dam in the 1950s and named for key city official from that era, Maerkle is the city’s largest reservoir. From there the water can reach almost any point in the city. The hydroelectric project has been on Carlsbad’s drawing board for at least 30 years. Water officials cautiously approved a small hydroelectric plant at the Maerkle in 1985, but it was never built for reasons now not clear. In 2009 the idea surfaced again, and the City Council, acting as the city’s water board, voted unanimously to seek construction proposals for a hydroelectric project with three turbines that were expected to provide enough electricity to run the entire water department. At the time, the city estimated the project would pay for itself in about seven years and generate about a $3 million gain over the equipment’s estimated 20-year life span. Sanders said the project has been scaled back a bit since then, and there’s only one turbine, not three. Still, it saves money and makes the city’s water distribution system more energy-efficient. It probably will take about 10 years to recover the city’s $1.2 million in construction costs at the present rate, Sanders said, but residents will continue to benefit long after that. Water Authority officials also operate two hydroelectric facilities in the county, one at Lake Hodges and one in Rancho Peñasquitos. Lake Hodges has two 20-megawatt turbines powered by water flowing downhill from the Olivenhain Reservoir that together can meet the electricity needs of 26,000 homes. The Rancho Peñasquitos project is much smaller, producing 4.5 megawatts from water that flows downhill through the distribution system. Together the two projects generated $3.9 million in revenue for the Water Authority in 2014, which was about $2 million above the goal for the year.

Water: (Excerpts from Wikipedia.)
California’s interconnected water system serves over 30 million people and irrigates over 5,680,000 acres (2,300,000 ha) of farmland. As the world’s largest, most productive, and most controversial water system, it manages over 40,000,000 acre feet (49 km3) of water per year.[2]
California's limited water supply comes from two main sources: surface water, or water that travels or gathers on the ground, like rivers, streams, and lakes; and groundwater, which is water that is pumped out from the ground. California has also begun producing a small amount of desalinated water, water that was once sea water, but has been purified.

Groundwater is a critical element of the California water supply. During a normal year, 30% of the state’s water supply comes from groundwater (underground water). In times of intense drought, groundwater consumption can rise to 60% or more. Over 850,000 acre feet (1.05 km³) of water is stored in California's 450 known groundwater reservoirs. However, not all the water is usable. Over half of the groundwater is unavailable due to poor quality and the high cost of pumping the water from the ground. While surface water is concentrated mostly in the northern part of the state, groundwater is more evenly distributed.

California has ten major drainage basins defined for convenience of water management. These basins are divided from one another by the crests of mountains. From north to south the basins are: North Coast, Sacramento River, North Lahontan, San Francisco Bay, San Joaquin River, Central Coast, Tulare Lake, South Lahontan, South Coast, and Colorado River regions. Each region incorporates watersheds from many rivers of similar clime.

(Ouch!) California proposes historic $1.5M fine for taking water
Associated Press, 7/20/15, msn.com

SACRAMENTO, Calif. — California regulators on Monday proposed a first-of-its-kind, $1.5 million fine for a group of Central Valley farmers accused of illegally taking water during the drought. It would be the first such fine for holders of California's oldest claims to water. The State Water Resources Control Board said the Byron-Bethany Irrigation District in Tracy illegally took water from a pumping plant even after it was warned there wasn't enough water legally available. The move by the board was the first against an individual or district with claims to water that are more than a century-old, known as senior water rights holders. The action reflects the rising severity of California's four-year drought that has prompted the state to demand cutbacks from those historically sheltered from mandatory conservation. © Provided by Business Insider California drought Lake San Antonio The Byron-Bethany district serves farmers in three counties in the agriculture-rich Central Valley and a residential community of 12,000 people relying on water rights dating to 1914. District general manager Rick Gilmore said he did not know a penalty was coming and wasn't aware of the details. "Perhaps the state water resources control board is not taking into account we purchased supplemental supplies," he said. The district has sued the state over the board's June warning to immediately stop taking water because the watershed was running too dry to meet demand. The board has sent out more than 9,000 notices across parched California warning there wasn't enough water entitled under rights. The water board issued a cease-and-desist order last week against the West Side Irrigation District, also in Tracy, to immediately stop taking water. That district also had filed a lawsuit challenging the board's cuts, but the state denies it's retaliating against the agency.

Copy obtained from the National Performance of Dams Program: http://npdp.stanford.edu
Courts have not yet settled the question of whether the board has authority to demand cutbacks from farmers, cities and individuals with California's oldest claims to water.

**Environment:**

(You've gotta be kidding me! The concern is a possible dam failure. Do what you can, but dam safety comes first!)

**Lowering reservoir could be 'catastrophic'**

**Businesses, fishermen worry about Delaware**

By Andrew Beam, Times Herald-Record, Jul. 21, 2015, recordonline.com

NARROWSBURG, NY - Local fishermen and business owners are concerned that drawing down the Cannonsville Reservoir in Deposit could cause a financial blow to businesses along the Delaware River.

The New York City Department of Environmental Protection is currently lowering the reservoir because of a leak in its dam, releasing cold water beneath the surface that eventually reaches the West Branch of the Delaware River. But many who depend on the river for sport and business are worried that once the cold water runs out, the warm water on the surface that follows could devastate the trout habitat.

"This is a big deal," said Dan Plummer, chairman of the board of directors for the Friends of the Upper Delaware River. "The river is the lifeblood of these communities." Trout fishing brings in some $12 million annually in Sullivan County, according to the Sullivan County Visitors Association.

Ken Tutalo, owner of the Baxter House in Roscoe - which offers lodging and guided fly fishing tours on the river, says if there is no rainfall between now and when the cold water is gone, the results could be "catastrophic." "People are nervous because of the potential of complete economic loss and loss of actual fishery," Tutalo said. The DEP was forced to drain the reservoir earlier this month after workers building a 14-megawatt hydroelectric facility drilled boring holes into a rock embankment of the dam. They pulled out a casing already in place during the process. It forced ground water - including sediment - that was under natural pressure several dozen feet below the surface to flow into the West Branch. According to DEP Bureau of Water Supply Deputy Commissioner Paul Rush, about 43.6 billion gallons of the water in the reservoir - or about half of it - could be gone by Aug. 18. This would cause the warm water to start flowing from the reservoir and into the river. But DEP spokesman Adam Bosch says the agency is hoping to release a blend of cold and warm water for the drinking water supply to preserve enough cold water for the river. But it will need permission from the Federal Energy Regulatory Commission. The hope, according to Bosch, is the dam can be fixed by the time the reservoir is 40 to 50 percent full. Bosch said most fishermen understand the need to fix the dam and have praised DEP for acting so quickly. "The fishermen we're talking to actually really do understand that dam safety trumps everything else," Bosch said.

(Montana officials say dam, bypass best for imperiled fish)

By Matthew Brown, Associated Press, trib.com, 7/22/15

(A dam for fish too.)

**Montana officials say dam, bypass best for imperiled fish**

Copy obtained from the National Performance of Dams Program: [http://npdp.stanford.edu](http://npdp.stanford.edu)
BILLINGS, Mont. — A $59 million dam and fish bypass proposed on the Yellowstone River offers the best chance to save an endangered fish population that's long been blocked from its spawning grounds, a senior Montana official said Wednesday. Despite some uncertainties over whether the bypass will work, it offers the only near-term option to help the pallid sturgeon recover, said John Tubbs, director of the Montana Department of Natural Resources and Conservation. Dinosaur-like pallid sturgeon can reach five feet in length and have been trapped for decades downstream of an existing rock weir at the dam site northeast of Glendive.
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