

5/16/2014



Some Dam – Hydro News™ And Other Stuff



Quote of Note: *“If it were not for hopes, the heart would break.” - Thomas Fuller*

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“Good wine is a necessity of life.” - -Thomas Jefferson
Ron’s wine pick of the week: 2012 Buena Vista US Red Blend “Legendary Badge”
“No nation was ever drunk when wine was cheap.” - - Thomas Jefferson



Dams:

Press Release - Wanapum Dam (Also see additional attachments!)

(This is a surprise – the miscalculation that is.)

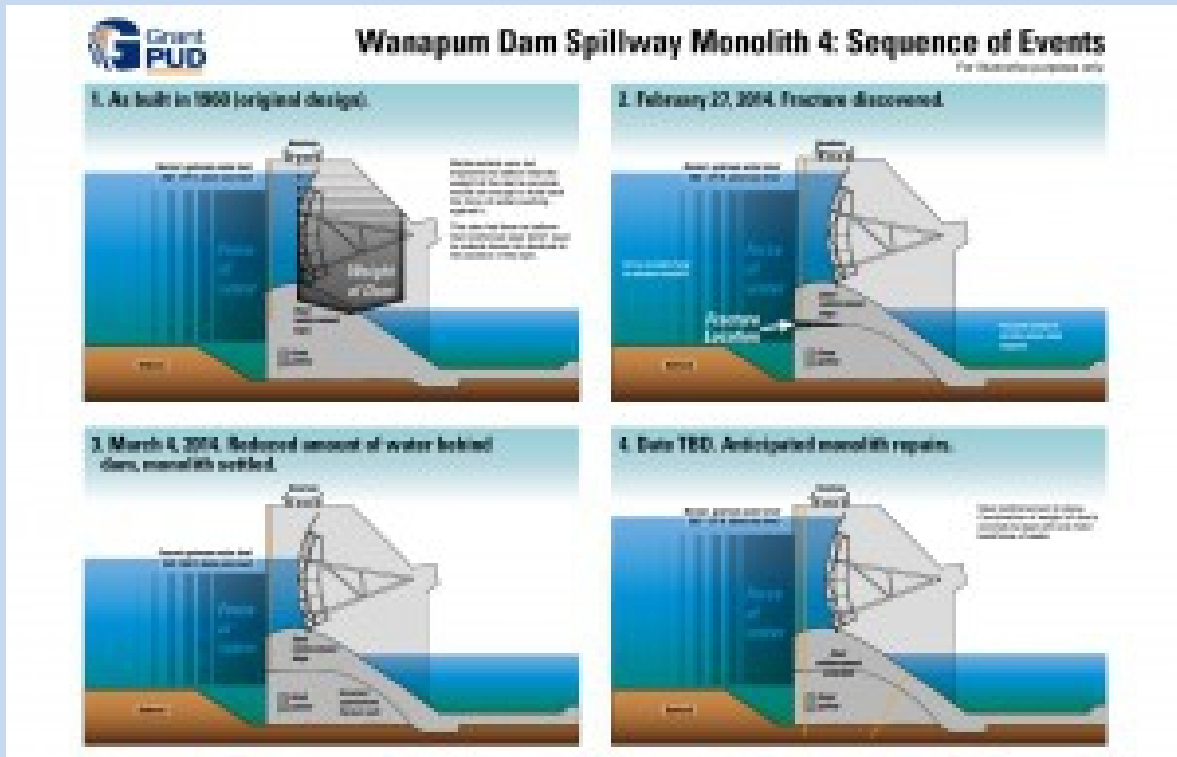
May 13, 2014 Investigation identifies likely cause of Wanapum Dam fracture

Posted on May 13, 2014 by Tom Stredwick

Repairs likely to keep reservoir behind dam low all summer

Beverly, Wash.— Preliminary results of an extensive 11-week investigation by Grant PUD and its consultants has determined that the primary contributing factor to a fracture developing within the dam’s spillway, was a mathematical error during the pre-construction design of Wanapum Dam. The fracture forming on spillway monolith No. 4 may have been exacerbated by a weak construction joint. These results will be submitted to Grant PUD’s Board of Consultants for final review. A team of engineers discovered the mathematical error while examining the original design calculations of the Wanapum Dam spillway. When engineers recalculated the original design formulas they found that additional concrete and/or reinforced steel should have been included in the construction of the monolith. The original designers of the dam miscalculated that the weight of the spillway’s concrete provided enough strength to resist the force of the water pushing against it. Over time this weak point on spillway pier No. 4 succumbed to the force of the

water pushing against it until after approximately 50 years of operation, the fracture formed. Had Grant PUD engineers known of the design miscalculation earlier, the spillway could have been reinforced prior to a fracture forming.



safety work is needed before the weather turns rainy this fall. It's difficult to gradually release water from the dam, and trees growing on it could weaken its structure, particularly if a windstorm uprooted the trees. The dam was used in a fish-farming operation in the 1960s and is now owned by a condominium association and the owners of a mobile home park, the Statesman Journal reported Wednesday. "The dam is not in jeopardy of imminent failure, but immediate action must be taken to bring it into compliance with safety standards," according to a letter sent Monday to 376 Salem residents by the Oregon Department of Water Resources and the City of Salem. The dam holds back 4.1 million gallons of water. Mike Gotterba, a spokesman for the city, said a dam breach could potentially flood about 35 acres. "We will do whatever it takes to make it safe for our neighbors," said Dennie Brooks, a board member of the Cinnamon Lakes Condominium Association. She said the state and city should explore a comprehensive solution for flood mitigation in the area. "To look at this one dam, isn't the answer," Brooks said. Some of the possible fixes include modifying the dam with an overflow spillway, lowering the water level behind the dam, or draining the lake and creating a wetland, said Racquel Rancier, senior policy coordinator with the state agency.

(Don't you just hate it when dam safety becomes a political statement?)

NY Announces \$1.6 Million in Dam Improvement Projects

Joe Gullo, 05/02/2014, mychamplainvalley.com

Albany, N.Y.- New York Governor Andrew Cuomo has announced \$1.6 million in dam improvements at eight New York Works projects to help control flooding and help the state become more resilient to storms. A press release says work includes raising the height of some dams to increase storm water storage capacity, reinforcing and regrading embankments, installing rip rap to control erosion, expanding piping and adding or repairing outlet valves. "Through the NY Works program, we are making critical investments to create jobs and build a stronger and more resilient New York," Governor Cuomo said. "These projects will overhaul existing dams across the State, helping to control water levels, prevent flooding and ultimately ensure safer communities."

Improvements will be made this month to:

- Taylor Pond Dam, Town of Black Brook, Clinton County - \$943,400: Murnane Building Contractors (DEC/OGS). Scope work includes raising the height of the dam to store more storm water, adding seepage drains and installing rip rap. Work is scheduled to begin this month.
- Marcell Rothe Dam, Town of Kent, Putnam County - \$271,443: Arold Construction Company (DEC/OGS). Scope of work includes reconstructing the outlet structure to restore historic water levels, adding additional embankment material to improve dam stability, extending the outlet pipe and providing an overflow auxiliary spillway. Work is scheduled to be completed this month.
- Papish Pond Dam, Town of Cincinnatus, Cortland County - \$221,565: R&S Associates General Contractors Inc. (DEC/DASNY). Scope of work includes replacing the existing outlet structure and placing embankment material to improve dam stability. Work is scheduled to begin this month.

(Major dam safety issues ahead!)

Decisions coming on dam safety New safety ratings possible for Terminus, Success dams

May 3, 2014 | Written by David Castellon,
visaliatimesdelta.com

The drought has depleted the amount of water in Lake Success, but a lifting of water restrictions after the Army Corps of Engineers conducted a years-long safety review of Success Dam means the lake will be able to hold more water. / Army Corps of Engineers. Earlier this month, Tulare County Supervisor Mike Ennis said that during an upcoming lobbying trip to Washington, D.C., with fellow supervisors, he planned to find out what was delaying a safety report on Success Dam. Since late 2006, that dam east of Porterville has been under an order restricting how much water it could hold, due in part to concerns that seepage may have compromised its foundation. In addition, Army Corps of Engineers officials worried that the dam also might sit over a geological fault, and during an earthquake the dam might collapse, sending wall of water down the Valley into Porterville. But last year, Army Corps officials announced that the dam's safety wasn't as dire as originally predicted, thanks to new technology used to study the dam's strength and the geology under it. In fact, expectations were that a the Dam Safety Action Classifications of 2 that the Army Corps gave Success Dam — the second-lowest in a five-level safety rating system — might be upgraded last summer, and the water restrictions lifted. That didn't happen. And after months of delays, Ennis said he planned to confront federal officials to find out when the water restrictions would end. As it turned out, Army Corps officials had an answer for him, said Ennis, recounting that during the trip east,

Dam safety

The Army Corps of Engineers owns and operates 17 dams in the Central Valley, providing flood protection, water storage, hydroelectric power and water-recreation areas.

Each has a Dam Safety Action Classifications rating ranging from 1, 2, 3, 4, and 5.



Lake Success during drought!

- Martis Creek Dam and Lake, 1972 — DSAC 1
 - New Hogan Dam and Lake, 1963 — DSAC 3
 - Farmington Dam and Lake, 1951 — DSAC 3
 - Burns Dam and Reservoir, 1950 — DSAC 4
 - Bear Dam and Reservoir, 1954 — DSAC 4
 - Owens Dam and Reservoir, 1949 — DSAC 3
 - Mariposa Dam and Reservoir, 1948 — DSAC 4
 - Buchanan Dam, 1975 — DSAC 4
 - Pine Flat Dam and Lake, 1954 — DSAC 4
 - Hidden Dam, Hensley Lake, 1974 — DSAC 2
 - Terminus Dam, Lake Kaweah, 1962 — DSAC 2
 - Success Dam and Lake, 1961 — DSAC 2
 - Isabella Dam and Lake, 1953 — DSAC 1
- Source: Army Corps of Engineers

“They told us in D.C. that for this year, they’re going to take all the restrictions off.” “I think it’s going to stick,” he added. Corps officials confirmed that they lifted on April 11 the 65,000-acre-foot water restriction on Lake Success. A single acre-foot is equal to an acre of water one foot deep, or 325,850 gallons. Not that the water limits matter right now. The limit the Corps had on Lake Success at the start of April was more than double the original 29,200 acre-foot limit that it imposed in 2006; however, the lake currently has only about 12,600 acre-feet of water in it now because of the current drought. The restrictions were listed ahead of the expected release in July of the Baseline Risk Assessment report detailing the safety findings for Success Dam, said John Prettyman, a spokesman for the Army Corps in Sacramento. “At that time, we’ll determine if the rating is going to change and if we’re going to go forward with any type of construction” to expand the dam’s capacity, he said. Ennis said he’s happy the dam appears to be in better shape than Corps officials originally thought. He just wishes they had come to their conclusion sooner. Besides providing flood control, Success Dam also stores water, most of which is used by farmers near the Tule River. And in years when winters were wetter, the Army Corps released thousands of acre-feet of water because of the capacity restrictions, rather than storing it for farmers to use later to irrigate crops.

In addition, after the restrictions were imposed, fewer boaters and swimmers came out to Lake Success because the water level had dropped so much, resulting in financial losses to the marina and nearby businesses. Some ended up shutting down, including operators of the marina who pulled out their floating docks and took them to another lake. Before the county supervisors were notified the water restrictions were being lifted, the Army Corps in mid-March issued a request for proposals seeking businesses wanting to install and run a new marina at the lake. The fact that Lake Success isn’t likely to have enough water this summer to support a marina isn’t important, as federal officials aren’t looking to have a marina up and running until summer 2015, assuming next winter is wetter and the lake is full enough. Corps officials also are seeking bids for companies to fill numerous bore holes — some nearly 300 feet deep — through and around Success Dam to collect soil samples and to drop sensors down in to measure whether water seepage was undermining the dam. That risk turned out to be not as significant as originally thought, and research showed a fault under Lake Success isn’t active, said Jack Carroll, a technical specialist for the Army Corps’ Dam Safety Production Center. “There is still concern about the spillway not being able to stop [water] overtopping it,” Ennis said. Once Success Dam’s safety rating is elevated, Ennis said he wants the Corps to begin planning on widening the dam’s spillway which would increase Success Dam’s capacity, allowing for a bigger lake for recreation and more holding capacity to prevent flooding and storage for farms downriver during heavy rain seasons. But Success isn’t the only Tulare County dam undergoing a safety review. By December the Army Corps is expected to release a safety report on Terminus Dam near Three Rivers, which has the same DSAC 2 rating — urgently or compellingly unsafe or potentially unsafe — as Success Dam.

In fact, the two dams are among the lowest-rated for safety of the 17 dams the Army Corps operates in Central California. The dam at Hensley Lake, east of Chowchilla, is the only other DSAC 2-rated dam in the state, while the dams at Lake Isabella in Kern County and Martis Creek Lake near Truckee have the Corps’ lowest rating, DSAC 1 — urgently and compellingly unsafe. Corps officials set the ratings to determine to urgency to repair or upgrade the dams. Concerns about Success Dam prompted federal officials to plan a \$2.5 billion construction project to renovate it and extend its capacity. That didn’t happen, and the dam retrofit portion of the work now appears to be unnecessary. But a retrofit isn’t likely for Terminus Dam, because the concerns about seepage and the risk of an earthquake were never high, Carroll said. Back in 2008, the Army Corps conducted a one-day inspection of Terminus Dam, part of a series of safety review on its dams that looked at their performance histories, ages, construction and the geology around them. Although no history of problems came up at Terminus, questions were raised on whether seepage was an issue and whether any faults in the area could affect it, said Carroll, adding that because of the potential risks to Visalia and other communities if the dam were to fail, Corps officials chose to be extremely conservative by issuing a low safety rating until a more

comprehensive study could be done on the dam. That began in 2012, and even though a “pre-final” report has been completed, “we were asked to do a little more study because of the concerns for the city of Visalia downstream,” which is why the final report may not come until the end of the year, he said. Carroll declined to discuss the initial findings in detail but said it appears Terminus Dam sits on an “a relatively quiet seismic zone” that doesn’t appear to pose a relatively high risk for earthquakes. In addition, seepage in the ground and abutment on the sides of the dam appears to be higher than expected, but that may be the result of a \$56 million expansion completed in 2004 that increased its capacity he said. **If Terminus Dam ends up with a higher safety rating, it wouldn’t change how the dam operates or how much water Lake Kaweah can hold, since no reduced limits were placed on it.**

(Now these some big hankin’ gates!)

Oversized load carrying dam gates to pass through Oregon

By Kasia Hall | oregonian.com, May 05, 2014

An oversized load carrying two gates from a California hydro dam will travel through Oregon Tuesday and Wednesday nights on I-205 and I-5. The load is bound for the Folsom Dam on the American River northeast of Sacramento. The truck and trailer will only travel between 10 p.m. and 5 a.m. **The 173-foot-long truck and trailer will take up two freeway lanes and be accompanied by two cars at the front end and three cars at the rear.** Drivers using those roads should be aware of delays, but the truck and trailer are expected to be traveling at near highway speeds throughout the trip, the Oregon Department of Transportation said. The load will enter Oregon on I-205 over the Glenn Jackson Bridge, heading towards southbound I-5. It will stop at 5 a.m. Wednesday at the Oak Grove rest stop along I-5. The truck will resume its journey at 10 p.m. Wednesday and is expected to reach California before 5 a.m. Thursday. **As many as 10 more loads bound for the Folsom Dam are planned for this spring and summer, but no dates have yet been scheduled, ODOT said.**

(Everybody is entitled to their opinion, even if radical and one-sided. It’s interesting that this article comes out right on the heels of the DOE Study that says you can double the amount of hydropower using existing dams. Maybe, these folks want to hurry up and remove as many as possible to prevent that.)

The Opinion Pages | Op-Ed Contributor

Tear Down ‘Deadbeat’ Dams

By Yvon Chouinardmay, May 7, 2014, nytimes.com

Ventura, Calif. — **OF the more than 80,000 dams listed by the federal government, more than 26,000 pose high or significant safety hazards. Many no longer serve any real purpose. All have limited life spans. Only about 1,750 produce hydropower, according to the National Hydropower Association.** In many cases, the benefits that dams have historically provided — for water use, flood control and electricity — can now be met more effectively without continuing to choke entire watersheds. Dams degrade water quality, block the movement of nutrients and sediment, destroy fish and wildlife habitats, damage coastal estuaries and in some cases rob surrounding forests of nitrogen. Reservoirs can also be significant sources of greenhouse gas emissions. **Put simply, many dams have high environmental costs that outweigh their value. Removing them is the only sensible answer. And taking them down can often make economic sense as well.** The River Alliance of Wisconsin estimates that removing dams in that state is three to five times less expensive than repairing them. The message has been slowly spreading around the country. More and more communities and states have reclaimed rivers lost to jackhammers and concrete. **Last year, 51 dams in 18 states were taken down, restoring more than 500 miles of streams, according to the group American Rivers. Nearly 850 have been removed in the last 20 years, and nearly 1,150 since 1912.** But the work is far from done. I was disappointed to see the Energy Department release a report last week on the potential to develop new “sustainable” hydroelectric dams on rivers and streams across the country. The report follows President Obama’s signing of two laws last year to encourage small hydro projects and revive nonproducing dams.

New dams are a bad idea. We've glorified them for decades, but our pride in building these engineering marvels has often blinded us to the environmental damage they cause. The consequences run the length of the river and beyond. Our many complex attempts to work around these obstacles would make Rube Goldberg proud. Interventions like fish elevators and trap-and-haul programs that truck fish around impoundments don't lead to true recovery for wild fish populations or reverse the other environmental problems caused by blocking a river's flow. But we do know that removing dams brings streams and rivers back to life and replenishes our degraded aquifers.

A case in point is the Elwha River on the Olympic Peninsula in Washington, where two hydroelectric dams built early in the last century exacted huge environmental costs but were no longer important as power generators. Salmon runs that once reached about 400,000 fish a year dropped to fewer than 3,000. A year after the Elwha Dam was removed, Chinook salmon returned to the river in numbers not seen in decades, with three-quarters of them observed spawning upstream of the former dam site. Today, the river runs free from its headwaters in Olympic National Park to the Strait of Juan de Fuca, and a terrible wrong imposed on the salmon-dependent Lower Elwha Klallam tribe has been righted. **President Obama should learn from that example. Most urgently, he should turn his attention to the Snake River in eastern Washington, where four dams along its lower reaches provide marginal (and replaceable) electricity generation that is outweighed by the opportunities for the revival of endangered salmon populations, plus the jobs and communities a healthy salmon fishery would support.** Those deadbeat dams should be taken down and added to the list of dams in the process of being removed along the White Salmon River in Washington, the Penobscot in Maine and the Klamath in southern Oregon. I've been working to take down dams for most of my life. The idea, once considered crazy, is gaining momentum. We should seize it and push for the removal of the many dams with high costs and low or zero value. The environmental impacts are too enormous. Time and again, I've witnessed the celebration that comes with the removal of an unnecessary dam. After a river is restored and the fish have returned you never hear a single person say, "Gee, I wish we had our dam back." *Yvon Chouinard is the founder of Patagonia and executive producer of the new documentary "DamNation."*



Hydro:

(More on the DOE hydro announcement.)

A new energy source?

Associated Press, 05/04/2014, berkshireeagle.com

The Grand Canyon was once targeted as a major dam site by the federal government, a project eventually scuttled after widespread protest. Nobody is revisiting the idea of a dam there, but a new U.S. Department of Energy report shows that the Grand Canyon and other major gorges and rivers across the U.S. may be ideal for hydropower development. The DOE study suggests America's rivers are troves of



vast untapped hydropower potential and developing many of them could help combat climate change by using renewable energy to reduce reliance on coal-fired power plants that emit climate-changing greenhouse gases.

In all, undeveloped rivers and streams in the U.S. have 84.7 GW (gigawatts) hydropower capacity, enough to generate 460 terawatt hours of electricity annually. Subtracting protected areas such as the Grand Canyon, the U.S. has 65 GW of untapped hydropower capacity, if all the streams with hydropower potential were eventually developed, according to the DOE study. One gigawatt of hydropower can provide electricity for more than 700,000 homes. Currently, hydropower totals 7 percent of total U.S. electric power production, and a full build-out of all the sites would total 65 GW of capacity nearly doubling total U.S. hydropower generation, according to the DOE.

In 2011, the U.S. had 79 gigawatts of hydropower generating capacity, according to U.S. Energy Information Administration data, roughly enough capacity to generate electricity for more than 59 million homes. Hydropower generation is variable, however. In 1984, the Hoover Dam on the Colorado River generated enough power on its own to provide electricity for 700,000 homes because the water level of Lake Mead behind the dam was at its highest point on record. But since 1999, water levels have dropped significantly, and Hoover Dam produces electricity for only about 350,000 homes. While it is highly unlikely that the U.S. would ever fully build out its full hydropower potential because of high regulatory hurdles and the environmental consequences of damming or diverting water from rivers or expanding existing hydropower facilities, the DOE is suggesting that at least some development will help reduce reliance on fossil fuels for electric power generation. States with the greatest hydropower generating potential include Colorado, Idaho, Montana, Oregon and Washington, each of which have at least 3,300 megawatts of hydropower capacity. Delaware, New Jersey and Rhode Island are among the states with the least hydropower potential, each with 61 or fewer megawatts of untapped capacity.

"The United States has tremendous untapped clean energy resources, and responsible development will help pave the way to a cleaner, more sustainable and diverse energy portfolio," U.S. Energy Secretary Ernest Moniz said in a statement. The study is intended to make data available to utilities, project developers and local communities so they can do a site-specific analysis using data on power-producing potential of streams and accompanying environmental factors so they can move ahead with development in an environmentally sustainable manner, DOE spokeswoman Nikita Kumar said.

The DOE's website about the study says the agency isn't recommending any new hydropower development at any specific location. National parks were excluded from the final tally of U.S. hydropower generating potential. In figuring out how much untapped hydropower potential exists in the U.S., researchers at the DOE's Oak Ridge National Laboratory in Tennessee analyzed the topography, hydrology and other stream characteristics to determine electricity generating potential for all undeveloped stretches of rivers and streams throughout the country. Some of the streams and rivers the DOE analyzed include some of the West's largest, including major portions of the Rio Grande, Snake, Columbia, Colorado, Arkansas, Missouri, and North and South Platte rivers, among many others. Water availability and water flow in certain rivers in the future is a difficult thing to predict, and the hydropower generating capability of a river depends a great deal on stream flow. "We should expect a fair amount of temporal variability in power generation in much of the U.S., and particularly in the Northwest, from season to season and from year to year," said Alison Cullen, an energy researcher at the University of Washington's School of Public Affairs in Seattle. "For our region, this is due to our seasonal precipitation and flow situation." More hydropower is generated during the spring and early summer when melting mountain snowpack swells rivers far below, and that's directly affected by climate change, she said. "Warming in our region in the wintertime would lead to less storage of precipitation in the snowpack and more water entering the river system directly," she said. "The form in which our precipitation falls and the exact timing has a huge impact on hydropower potential regardless of the development of the resource." Additionally, developing hydropower along rivers where no development exists is often controversial because of its environmental impact, just as damming the Grand Canyon was 50 years ago. "Capturing more virgin waterways is likely going to be quite a political, economic and regulatory challenge," Ronald Stork, senior policy advocate for Friends of the River, a river

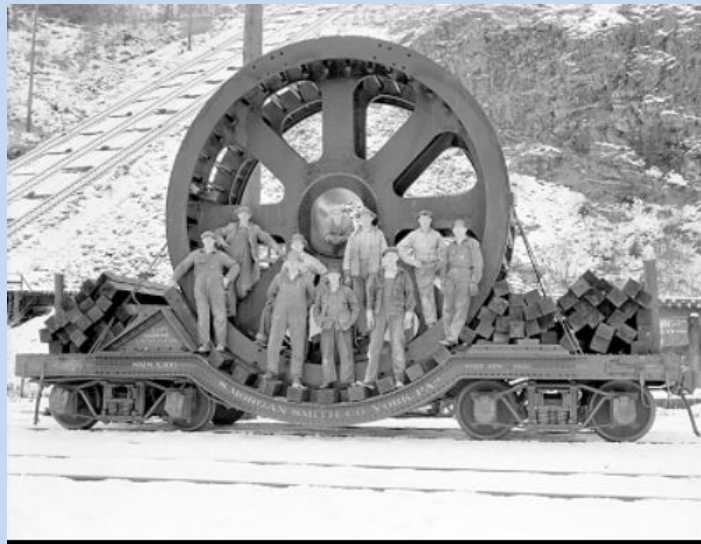
advocacy group based in Sacramento, Calif., said in an email, adding that new hydropower will likely be used to supplement other renewables such as wind and solar.

"That's an important contribution to CO2 emission reduction in the electricity sector which should not be discounted. But doubling hydropower production the old-fashioned way, I don't think so," he said.

(This picture is as old as me!)

Diablo Dam powerhouse construction crew, 1936

The project is in WA I believe!



(Wow, a dozen contractors! Life is complicated. We need more PS!)

Planning Begins on Northern California Pumped-Storage Hydroelectric Project

GEI to provide owner's engineer services for the SMUD Iowa Hill Pumped-Storage Development Project

PR Newswire, digitaljournal.com

Sacramento, Calif., May 6, 2014 - GEI Consultants, Inc., one of the nation's leading geotechnical, environmental, water resources, and ecological science and engineering firms, announced today that it is providing certain Owner's Engineer services for the proposed Sacramento Municipal Utility District (SMUD) Iowa Hill Pumped-Storage Development project. GEI is pleased to be a member of the Jacobs Associates team for the project. SMUD recently awarded the Jacobs Associates team the Owner's Engineer services contract for preliminary design and construction

services on their proposed Iowa Hill Pumped-Storage Project. If constructed, Iowa Hill would be a 400 megawatt pumped storage hydroelectric facility. GEI will lead the design of the 6,400 acre-foot upper reservoir, a lined impoundment that will be formed by an earth- and rock-fill dam with a maximum height of more than 200 feet and a crest length of 5,900 feet. The design of the dam and reservoir will be under the regulatory authority of the Federal Energy Regulatory Commission (FERC) and the California Division of Safety of Dams (DSOD).

The project would utilize an existing reservoir on the American River, from which water would be pumped up to a new 6,400 acre-foot capacity upper reservoir, where the water would be stored. During peak electrical demand periods, water would flow from the upper reservoir to the lower reservoir via a 1,000-foot-deep (305 m) shaft through 3,500 feet (1,067 m) of water tunnels. The electricity generated would connect the existing transmission line that connects SMUD's existing Upper American River hydroelectric project with the District's customers. The team consists of Jacobs Associates (prime), GEI Consultants, HDR Engineering, AF-Consult of Switzerland, Carlton Engineering, AMEC, IEC Corporation, Northwest Hydraulic Consultants, Stillwater Sciences, Ascent Environmental, Crux Subsurface, and Foxfire Constructors.

(Don't you wish you knew the right answer?)

Report: Climate Change Likely To Reduce Hydropower In The Northwest

By Cassandra Profita, EarthFix, May 6, 2014 12:35 pm

A national report released Tuesday says climate change will make it increasingly difficult for the Northwest to generate hydropower and protect salmon at the same time. A national report released Tuesday says climate change will make it increasingly difficult for the Northwest to generate hydropower and protect salmon at the same time. The Northwest gets 75 percent of its electricity from dams. As climate change reduces summer stream flows, the Northwest Climate Assessment report says the result will likely be less hydropower production from those dams with reductions of up to 20 percent by 2080. The reductions would be necessary to preserve stream flows for threatened and endangered fish, according to Amy Snover, director of the Climate Impacts Group and co-lead author of the Northwest report. Snover says with climate change leaving less water in rivers during the summer, what's left will have to be divided between storage for hydropower and flows for fish. "It will be increasingly difficult to meet the two goals of producing summer and fall hydropower and maintaining sufficient flows in the river for protected and endangered fish," she said. "You can reduce some of the negative impacts on hydropower production but you can't do that and maintain the fish flows." Snover says her report's projections are based on the way the Northwest operates hydroelectric dams right now. But that could change. Regional power managers say climate change is leading them to reconsider how they will operate dams in the future.

John Fazio, an analyst with the Northwest Power and Conservation Council, says climate change is going to shift demand for electricity in the region, too. Winters will be warmer, so people will need less power than before at a time of year when there's lots of water in the rivers. And as summers get hotter, there will be more need for power to cool people off at a time of year when there's less water available to generate hydropower. Fazio has been thinking about the best way to manage the hydro system under these climate change scenarios. He's suggested using other sources of power in the winter to make sure the system's reservoirs are full of water by summertime. "My suggestion would be during the summer we could pull more water from reservoirs to make up for decrease in summer flows and then going into the winter, use generation from other sources to meet our (power) loads and let the reservoirs refill," he said. Fazio's ideas are outlined the council's latest 20-year plan for meeting the region's demand for power. "It would call for a change in the whole approach to how we operate the hydro system," Fazio said. "So far it hasn't gotten any traction anywhere. It's a complicated issue, but we're trying to tackle it." Bonneville Power Administration, which manages 31 dams in the Columbia River Basin and distributes most of the electricity in the Northwest, has been pondering the issue of

climate change as well. It's developed a road map for adapting to climate change and launched pilot projects to model the effects of climate change on stream flows in the Columbia River Basin. *This story originally appeared through the EarthFix public media collaboration.*



Water:

(Is this a declaration of war?)

Mike Dunbar: Get ready for a water war in the Valley

By Mike Dunbar, modbee.com, May 3, 2014

The Turlock Irrigation District allows a farmer to pump thousands of gallons of groundwater per minute into a TID canal near the district's Taylor Substation off Taylor Road in Denair earlier this year.

In the name of helping endangered fish, the state takes 40 percent of the water flowing down the Tuolumne, Stanislaus and Merced rivers and sends it to the Sacramento-San Joaquin Delta, leaving a third less for irrigation. Farmers start pumping more groundwater for their trees and vines. After a couple of droughts, there isn't enough groundwater left, and the trees and vines begin dying. Everyone loses. Meanwhile, south valley farmers get guaranteed water deliveries from the new gigantic tunnels near Sacramento. With this reliable supply, their trees and vines flourish; their land prices rise and they make huge profits when there's no competition from nut farmers to the north.



Oh, did I mention that this is someone else's best-case scenario? It's a nightmare for everyone from Merced to Manteca.

Many will label this a conspiracy theory and send me a tin hat. Conspiracy or not, the outcome is plausible. The critical point is that mismanagement of Northern California water has created a zero-sum game. Without more storage, there's only so much water to go around – and a lot less during droughts. Those south valley farmers are demanding “more reliable” state water deliveries. More reliable deliveries south is a “co-equal goal” with saving the Delta in the state's Bay-Delta plan. To make those reliable deliveries, the governor wants to build twin tunnels to send Sacramento River water beneath the Delta, then south. Building such a huge project has political costs. To finesse that, Gov. Jerry Brown is promising to also “save” the Delta, hoping it will make the tunnel project more palatable than his peripheral canal in 1982. But how do you “save” a watery environment by diverting most of its water supply? By getting the water from somewhere else. That's where we come in. Our irrigation districts are under enormous pressure to provide more water for fish – which is reasonable. But how much more water is needed? The Modesto and Turlock irrigation districts now provide 10 percent of unimpaired flows for the environment. But the State Water Resources Control Board is considering a demand for four times that amount.

At the mid-April groundwater forum in Turlock, board member Dorene D'Adamo said the state will request 35 percent of unimpaired flows. Later, she upped it to 40 percent. Requiring 40 percent would mean roughly a third of the water now used for agriculture and other purposes would flow to something else. If you want to see what that looks like, check out a brimming Stanislaus River right now.

But Turlock and Modesto water rights go back 135 years. How could anyone get away with such an outrageous grab? By getting a bigger brother to grab it for them. The Federal Energy Regulatory Commission is considering re-licensing requests for Don Pedro and Exchequer dams. The state gets to "recommend" a flow, which D'Adamo signaled will be 35 percent to 40 percent. And where will that water flow? Into the Delta – which the governor has promised to save. Convenient. Stanislaus Farm Bureau executive director Wayne Zipser estimates that having a third less water would have meant following 100,000 acres this year. Esteemed hydrologist Vance Kennedy said bluntly: "That's going to ruin agriculture."

What's to be done?

First, follow Merced's lead and increase irrigation fees to \$100 per acre-foot. Set aside that money for infrastructure – including new dams.

Second, recommend a surcharge on irrigation water; consider it ammunition for fighting this battle in the courts, media and Legislature.

Third, enlist allies. With apologies to the Gallo, Franzia and Cortopassi families, San Francisco and 28 Bay Area cities rely on the Tuolumne River. Linking arms with Delta residents already fighting the tunnels will help.

Finally, work for additional storage before tunnels are built – and dedicate most of that water to environmental use.

Our best-case scenario? The tunnel plan collapses and new dams provide more water for everyone to share, even in the driest droughts.

(Some places don't have enough rain, others have too much!)

Heavy rain threatens irrigation pumps on the Willamette River, its tributaries, officials say

By Stuart Tomlinson | oregonian.com, May 08, 2014

Forecasters say significant rainfall Thursday and Friday—along with full flood control reservoirs in the Willamette River basin—could threaten electric pumps along the river and its tributaries.

Although rivers will stay below flood stage, water held in a series of 13 reservoirs in the basin operated by the U.S. Army Corps of Engineers are full of spring rain and snowmelt. Additional runoff from rainfall will be passed downstream, the National Weather Service said in a special statement Thursday. According to the Army Corps website, during the rainy season from October through May, "potentially disastrous flooding is controlled by storing water in the reservoirs behind the dams. During the summer, water levels in the reservoirs are maintained as high as possible to provide water-related recreation opportunities. In the drier summer and fall months when rivers are at low levels, stored water is released from the dams to improve water quality and conditions for fish." The weather service is advising farmers and irrigators with river pumps in place on the mainstem of the Willamette River and its tributaries like the Santiam River, to take precautions to protect those pumps.

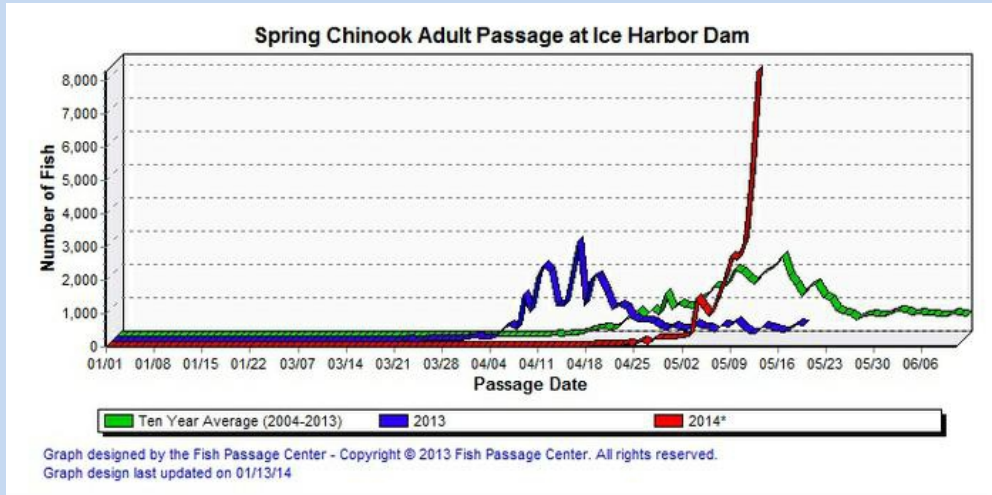


Environment:

(Get out your hook and worm)

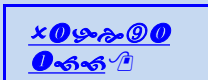
Spring chinook marching up Snake River

By Rich Landers, spokesman.com, May 9, 2014



Fishing — Angling success for spring chinook picked up at Ice Harbor and Little Goose dams, the first fisheries the salmon encounter as they head up the Snake River. The big spike of springers over Bonneville Dam last week is entering the Snake system, with 8,200 coming over Ice Harbor on Wednesday, according to counts from the Fish Passage Center. Glen Mendel, Washington Fish and Wildlife Department fisheries biologist says the number of fish allotted for Snake River fishermen could go quickly if fish managers don't increase the quotas. "No harvest has been documented at Clarkston area yet, but numbers of fish are just beginning to really pick up in that area and angler effort has therefore been light," Mendel said. "The total Snake River harvest allotment based on the preseason prediction is 1,309 hatchery adults (904 prior to the preseason update, and 405 after), but by Tuesday next week, we may have an updated run prediction (that might be higher than originally predicted). We will all have to wait for that run prediction update to see how it affects the Snake River fisheries. "We are predicting approximately 300 fish will be harvested at IHR during May 11-13, and approximately another 200 fish at LGO during the May 8-10 period, which could put us at nearly 1,000 adult salmon harvested in those two zones by the end of May 13.

"So, this is a heads up that we will be considering closing those areas, possibly sometime next week."



Other Stuff:

(Don't want to get political! The photo is a little extreme.)

The Obama Bird Genocide Is Out of Control

By: Andrew Stiles // May 6, 2014

The Obama administration has opened up a new front in its war on America's eagles. For years, the president has relied on wind turbines to orchestrate his eco-



genocide. Biologists estimate that wind farms kill as many as 328,000 birds each year by chopping them out of the sky. The administration's successful weaponization of solar farms will only accelerate the death rate. Studies indicate that the Ivanpah Solar Electric Generating System in California has proved to be an especially efficient apparatus for eagle extermination. The facility, which was financed in part by a \$1.6 billion taxpayer-backed loan from the Department of Energy, has been incinerating innocent birds with heat lasers created by its massive array of 350,000 garage door-sized mirrors.

National Journal reports:

First, insects are drawn to the reflective light of the solar mirrors. That draws small, insect-eating birds, which in turn draw larger predatory birds. The rays of the mirrors' reflected light produces temperatures from 800 degrees to 1,000 degrees Fahrenheit. Any animal caught in the intense glare of the mirror's rays may catch fire and plummet toward the ground, or spontaneously combust altogether.

Bloomberg notes that the birds are either "incinerated in flight; their feathers are singed, causing them to fall to their deaths; or they are too injured to fly and are killed on the ground by predators." Birds that ignite after passing into the Ivanpah kill zone are known as "streamers." Reports estimate that 141 birds have died at the Ivanpah facility, which opened in February.



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