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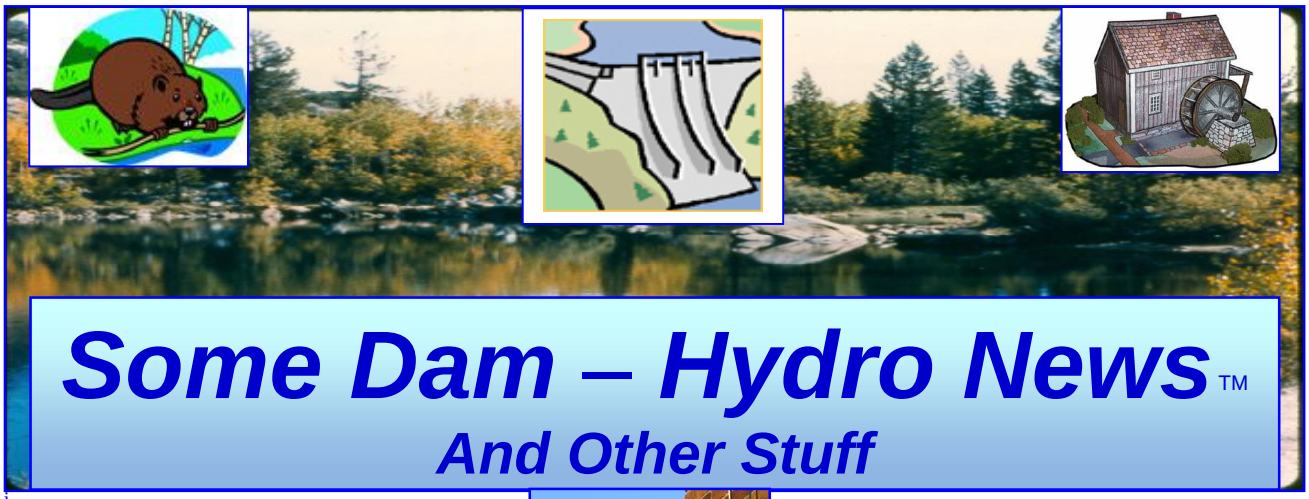


Some Dam – Hydro News™

And Other Stuff

Quote of Note: *"Giving money and power to the government is like giving whiskey and car keys to teenage boys." - P.J. O'Rourke*

***Some Dam - Hydro News* Newsletter Archive for Back Issues and Search** http://npdp.stanford.edu/
Click on Link (Some Dam - Hydro News) Bottom Right - Under Perspectives

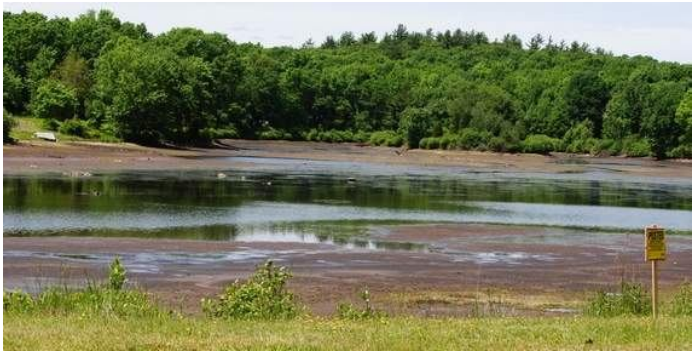
"Good wine is a necessity of life." - -Thomas Jefferson
Ron's wine pick of the week: **2011 Robert Foley Charbono "Napa Valley"**
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson

Dams:

(The fish can't hide from the birds. Small dam, big troubles.)

Lehman Township lake drained because of dam leak

By Beth Brelje, Pocono Record Writer, June 07, 2014, poconorecord.com



A leak in Gorson Dam has prompted the sudden lowering of Sunset Lake at Camp Hidden Falls Girl Scout camp in Lehman Township.
The dam, owned by the Girl Scouts of Eastern Pennsylvania, is near the intersection of Sunset Lake Road and Log and Twig Road.
Related Stories

- Structural issues could be the sunset of more lakes.

Water had been lowered by 3 feet by Monday. On Wednesday, much of the lake bed was visible with a small collection of shallow water in the center and a few large puddles in spots.

A bald eagle, heron and other birds were picking at the lake bed, presumably feasting on fish that didn't make it to a puddle. The dam was deemed unsafe by state Department of Environmental Protection inspectors from Harrisburg last year, because it was beginning to weaken, and there were concerns as to whether or not it would withstand a rainy spring, said DEP spokeswoman Colleen Connolly. The camp was closed in 2012 and is for sale. A maintenance ranger employed by the Girl Scouts noticed seepage and a small leak in the dam. He called the DEP and environmental engineering consultant F.X. Browne, which has been working with the Girl Scouts on the dam. "The DEP told us to start lowering the lake. The ranger started this process. It was in order to make sure it did not turn into an emergency," said Girl Scouts spokeswoman Kim Fraites-Dow. The Pennsylvania Fish and Boat Commission was notified of the draw down. Commission spokesman Eric Levis said this is a private lake, so the commission is not involved in the draw down.

Last Saturday, the stream below the dam was racing and folks downstream noticed. "Nobody was notified. A neighbor came down and told me they were going to drain the lake," said resident Francine Warshany, who is concerned about the fish dying. The stream fed by Sunset Lake trickles down Briscoe Mountain Road and through Pocono Environmental Education Center before emptying into the Delaware River. "We regret having to do this. It is a gorgeous lake. No one wants to have to do this. Wildlife has been using this lake for decades, and neighbors enjoy the lake. The issue is of public safety," Fraites-Dow said. "As stewards of the environment, we will approach this with all environmental sensitivity and work with the local government, the community and the DEP to develop an ecologically responsible solution." Since the draw down started, state Rep. Rosemary Brown, R-189, has received a number of calls from people who live near the lake. "I think the biggest concern is to protect the people below the dam if it is not structurally sound. The biggest issue is to protect the safety of people," Brown said. "These dam situations are happening across the state right now. It is a financial struggle for private ownership to fix the dams."

(Big bucks to remove them, no bucks to build them,)

$1M awarded for dam removal in Warren, Hunterdon counties in wake of Superstorm Sandy

By Sarah Peters | The Express-Times, June 07, 2014, lehighvalleylive.com

The 15-foot-high Hughesville Dam is at the border of Pohatcong and Holland Townships. It's slated for removal in the fall of 2015. Federal officials who want to avoid a repeat of the havoc wreaked by Superstorm Sandy recently awarded a $1.05 million grant for the removal of a dam on the Musconetcong River. Officials deemed the Hughesville Dam project worthy of the U.S. Department of the Interior grant because the structure is at risk for failure, according to Musconetcong Watershed Association Executive Director Beth Styler Barry. The 15-foot-high dam is at the border of Pohatcong and Holland townships. Removing dams tends to be less expensive than repairing them and reduces the drowning risk to fishers and boaters, Barry said. It's also a catalyst for environmental restoration, she said. "These removals help bring back an entire ecosystem, starting from the bottom of the food chain up," Barry said. She hopes to reintroduce American shad into the river -- no easy task since there haven't been any documented sightings. The dam has been in place for 200 years, and those involved in the project aren't expecting a turnaround overnight.

It could take longer than five or even 10 years, Barry said. The actual deconstruction in fall 2015 shouldn't take more than a few weeks, she said. The project isn't one the Musconetcong Watershed Association is attempting alone. The Musconetcong River Restoration Partnership has been working with the association all along, and the project is funded by no fewer than four other entities. Barry updated Pohatcong Township officials on the Hughesville Dam project last month. Mayor James Kern III praised the group's previous efforts on the Finesville Dam removal in 2011 and said he looks forward to its latest endeavor. "It's only going to help the fish and wildlife, as well as the potential for flooding in the future," Kern said. The homes around the Hughesville Dam aren't as close to the water as those in Finesville, but flooding is always a concern for those who live along the Musconetcong, and any little bit helps, Kern said. Some

residents worried about their wells and the appearance of the area before the Finesville Dam removal. Kern said he's personally received "zero complaints" to date. Fishermen are some of the strongest proponents for removing dams, and the project should promote people coming to the township for fishing and tourism, Kern said. "It's an all-around win-win," he said.

(Simple answer: more dams has to be better than more regulation!)

More dams or regulations to alleviate California drought?

By Contributor / June 9, 2014 / By Wayne Lusvardi | Cal Watchdog

American diplomat Dwight Morrow wrote, "Any party which takes credit for the rain must not be surprised if its opponents blame it for the drought." Likewise any policymakers that take credit for restoring rivers for fish and not building dams should not be surprised when they get blamed for water shortages and groundwater overdrafting. On June 1 the Sacramento Bee ran an article by Matt Weiser and Jeremy B. White headlined, "Should California use taxpayer dollars to build more dams?" Effectively answering in the negative, they cited several experts saying new dams would yield little water for too high a cost. Then on June 2 the Bee editorial page itself advocated, "It's high time California Manages [sic] its underground water sources." The Bee saw groundwater regulation, not new water storage, as an urgently needed solution to the overdraft problem.

***Hydro*:**

(Hurrah!)

Value of hydropower in a new era

By Linda Church Ciocci, June 09, 2014, thehill.com

For well over a century, hydropower has been a reliable, low-cost, clean component of America's electricity portfolio. It powered the nation through the Great Depression and helped fuel our war effort during World War II, becoming a mainstay of economic growth and national security. Today, in an era of concern over climate change and emissions, hydropower is an integral part of the solution to address climate issues and increase renewable energy generation. It supplies over half of America's renewable electricity, a critical resource that is responsible for avoiding over 200 million metric tons of carbon pollution each year. Moreover, hydropower provides base load power critical to integrating greater amounts of intermittent renewable energy sources like wind and solar into the electricity grid. And "pumped storage" – energy that is stored by pumping water to a higher elevation reservoir that can be released when energy is needed – constitutes the vast majority of the nation's current energy storage capacity, which is critical in balancing other intermittent renewable resources and ensuring grid reliability. Hydropower facilities can quickly go from zero power to maximum output, making them exceptionally good at meeting rapidly changing demands for electricity throughout the day. Long project lifespans and zero fuel costs provide electricity at low-costs to tens of millions of Americans from coast-to-coast. Requiring nothing more than the flow of moving water, hydropower does not produce air pollution or toxic byproducts. Every state in the country gets electricity from hydropower. While hydropower is certainly a critical resource in the Northwest, states like Alabama, New York, North Carolina, Tennessee, and Arizona are among the top ten hydropower producing states in the nation. For all of these reasons, environmental advocates like the Union of Concerned Scientists and the Nature Conservancy support the further development of environmentally-responsible hydropower. And despite what many think, there's room for hydropower to grow. A 2010 study done by Navigant Consulting found that 60,000 megawatts (MW) of new hydropower capacity could be added in 15 years with the right policies in place. Much of this development would not require the construction of new, large water infrastructure.

For example, even though most people think "dams" when they first hear "hydropower", the two are not one in the same. Only three percent of the nation's 80,000 dams currently generate electricity. We could increase our generating capacity by over 12,000 MW through the addition of power generation to the nation's non-powered dams, according to a report by the Department of Energy. That's equivalent to constructing about 12 nuclear power plants. Now a new movie called DamNation has begun appearing at environmental film festivals, presenting an unbalanced assessment of hydropower, urging the removal of dams without any sense of context or their many benefits, and in particular, ignoring the important role hydropower plays in reducing carbon emissions. There are certainly dams in the United States that are candidates for removal for varying reasons. But, just as the film admits, it would be "economically foolish" for us to tear down all the dams. Rather, just as we should examine some antiquated dams for removal, we should also work to maximize the public benefit of the many current dams that don't generate hydropower but are needed for other reasons. Policymakers and responsible environmental advocates have in fact been looking to hydropower to meet our nation's energy and environmental challenges by maximizing the public benefit of existing water infrastructure. Last year the Congress unanimously passed, and President Obama signed into law, a bill that seeks to expedite licensing for building hydropower on the nation's non-powered dams. The bill was not only supported by the hydropower industry, but also American Rivers, the nation's leading conservation organization dedicated to protecting and restoring America's rivers. Policymakers recognize that hydropower is a unique solution to the nation's energy and environmental challenges. So does the public. A recent survey found that 81 percent of Americans believe that the existing hydropower fleet should be maintained and 75 percent support expanding hydropower. And more can be done to encourage this type of development. Finding additional efficiencies in the regulatory process, providing certainty to developers through long term extension of tax incentives, and investing in continued research and development which has not only lowered the cost of many hydropower technologies, but also increased their environmental performance, are essential policy initiatives to unlock hydro's untapped potential and to meet our energy and climate challenges. Hydropower has been the backbone of America's renewable energy history, and will be an integral part of our future. After examining its energy, environmental, and economic benefits, it's no wonder hydro has such strong support from the public and policymakers alike as part of a diverse, secure electricity portfolio. *Ciocci is executive director of the National Hydropower Association.*

(Excerpts – hydro comes in different small flavors!)

Rentricity Completes City of Barre In-Pipe Hydro Energy Recovery System

BY PR.COM NEWSWIRE, JUNE 6, 2014, sys-con.com

New York, NY, June 06, 2014 -- (PR.com) -- Rentricity Inc., the in-pipe hydropower clean energy recovery company located in New York City has successfully commissioned a 12 kilowatt system for the City of Barre, Vermont. Rentricity's Flow-to-Wire system captures excess pressure and flow within gravity-fed water distribution pipelines, converting it into clean energy for the electric grid or the customer's onsite use. The site located within the water distribution system of Barre was included as part of an upgrade to a pressure regulator vault and highlights Rentricity's capabilities for managing pressure while recovering energy within pressurized water systems.

"The City of Barre would like to thank the Vermont Clean Energy Fund and our developer Rentricity for working with the City over the past few years in a logical fashion to help make our water system more sustainable," says Steve Mackenzie, City Manager. "Barre hopes this will serve as an example to other Vermont cities and water intensive industries in the state that use gravity-fed water." Rentricity's technology is now available in sizes as small as 5kW for industrial water users like food and beverage processors and large data centers that use cooling water. "Rentricity is proud to have been part of this clean energy project in Vermont which is the Company's first in the state" said Al Spinell, Co-founder and Advisor. " The Company continues to see rising interest in the high capacity and strong paybacks in Rentricity's in-pipe hydro solution which can provide predictable clean electricity to the grid or within buildings," he added/ The installation is also Rentricity's first following the new regulations associated with the

Hydropower Efficiency act of 2013, a law passed last year to streamline regulatory processes for small hydro projects that have zero impact to the environment. The project represents and advanced regulatory structure in New England for in-pipe hydro; a standard that needs to be copied in every state with a Renewable Portfolio Standard. Net-metered in-pipe hydro systems like Barre's represent highly efficient and predicable distributed generation for local grids seeking to be innovative. In addition to the Barre Project, Rentricity will be commissioning a 325kW site in Palos Verdes, California, a 30kW site in Nova Scotia, Canada, and a 12kW site in North Wales, Pennsylvania later this year. ----------.

Films of Early Years of Hydroelectric Power in The Northwest Recovered

Salem-News.com, Jun-06-2014

The Bonneville Power Administration Library has released a new collection of six BPA produced films from the 1930s, '40s and '50s that takes viewers on a cinematic journey into the early years of the Northwest hydroelectric power and transmission systems.

(Portland, Ore.) - The Bonneville Power Administration Library has released a new collection of six BPA produced films from the 1930s, '40s and '50s that takes viewers on a cinematic journey into the early years of the Northwest hydroelectric power and transmission systems. The DVD set, titled "BPA Film Collection Volume 1, 1939-1954," is the first compilation of films from the agency's archives ever made available. And it has received a warm reception. "The series forms a composite portrait of the river - a forceful, magnetic, photogenic presence - and of the people who spent their lives attempting to tame it," says Anne Richardson, host of the Oregon Movies, A to Z website. For regional historian and filmmaker Ellie Belew, they are a captivating introduction for those who want to begin to understand the management of the Columbia River Basin. "These DVDs bring to life not only the actual build-out of regional infrastructure, but also the attitudes and assumptions that supported development of publicly owned power utilities in the Pacific Northwest," Belew observes. Since the DVD's release in January, the BPA Library has been flooded with requests. "We handed out 500 copies in the first five days," says librarian Libby Burke, a film archivist with a degree in cinema studies who curated the DVD collection. So far, the BPA Library has mailed more than 1,800 copies to people all over the region.

"We've received requests from as far away as Alna, Maine; Amherst, Massachusetts; and Tempe, Arizona," Burke says. "And we even mailed a copy to the "Big Quonset Hut" at Grand Coulee Dam." While the films chronicle the origins of electric power in the region, it turns out the story behind the collection is also one of discovery. Twenty years ago, BPA transferred its 16-millimeter films to videotape. But last winter when Burke began preparing for a film festival, the original prints were missing from the BPA archives and presumed discarded or even destroyed. But in a rare twist, much to the surprise of Burke, the National Archives and Records Administration discovered eight storage boxes with 50 reels of BPA films in cold storage in Seattle. "We were genuinely shocked," she says. "Every once in a while, a lost film is found, but you don't usually get back an entire collection of original prints. It's like a miracle." And the timing couldn't have been better. With the return of the lost films just weeks before the planned release of the collection, BPA postponed distribution in order to provide clean, digital transfers from the originals of the six films featured in the DVD set. Burke says the condition of the originals was light years better than the 20-year-old videotape transfers. "The new transfers look beautiful," she says. "The improved detail, color and sound complement the true quality and value of these special films."

The new collection includes three of the most notable films made by BPA: "Hydro" (1939), the first film produced by BPA's motion-picture division; "The Columbia: America's Greatest Power Stream" (1949), the most famous BPA-produced film, containing songs Woody Guthrie wrote while employed by BPA; and "Highline" (1950), about the building of the Northwest's high-voltage electric transmission system. It also showcases three films about the Columbia River power

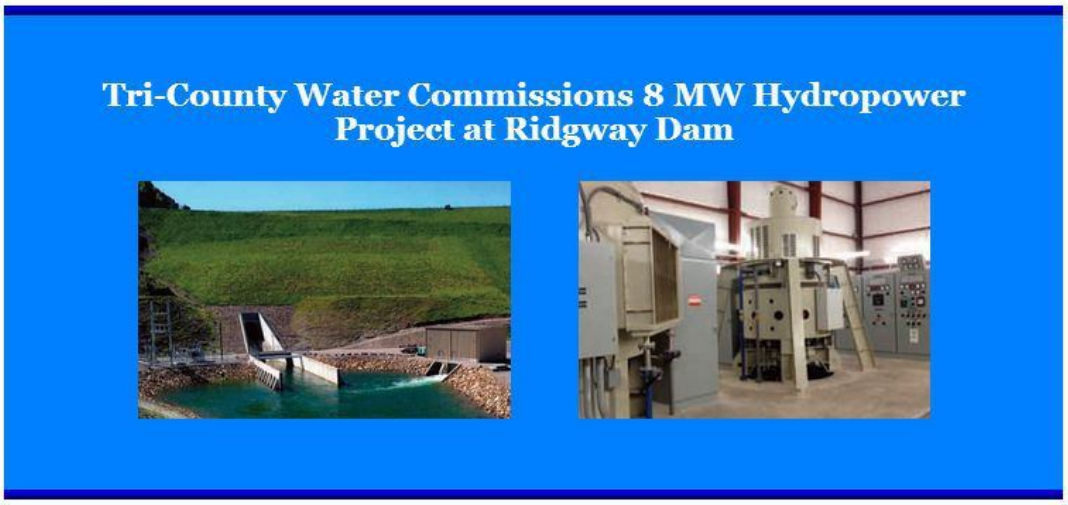
system and the Pacific Northwest in transition: "Power Builds Ships" (1942), about how the ship-building industry in the Northwest helped win World War II; "25,000 Volts Under the Sea" (1952), about the remarkable design, transport and laying of the underwater high-voltage cable that electrified Washington's San Juan Islands; and "Look to the River" (1954), a rather impressionistic color film about the expansion of the dam system, with a score by Oscar-winning composer Ernest Gold. As a bonus, the set includes a booklet of movie posters and photographs, as well as introductions by Burke, who offers insight to the films on each disc.
Viewers should be aware that the films portray the populist perspective of the period, which predates some of the cultural and environmental sensitivities of today. "These films were made at a time when those issues weren't traditionally considered," Burke explains. "The primary considerations were economic development and promoting public power. But with that in mind, we should still appreciate the history and purpose of these films." *Source: BPA*

(Small but has big dividends.)

06-06-14 COSHA News: Tri-County Water Commissions 8 MW Hydropower Project at Ridgway Dam…

Posted by Brian Allmer on June 6, 2014, brianallmerradionetwork.wordpress.com

COLORADO SMALL HYDRO ASSOCIATION



(Montrose, Colo.) June 6, 2014 - Tri-County Water Conservancy District officially commissioned its new hydropower project today at Ridgway Dam. The new 8 megawatt hydroelectric plant will produce approximately 24,000 megawatt-hours of electricity in an average water year, enough energy to supply about 2500 average homes. The emissions reduction benefit from the new plant is equivalent to removing approximately 50 million pounds of carbon dioxide from the atmosphere or about 4400 cars from the road each year. “Here in the arid West, reliable drinking and irrigation water to grow our local food necessitates water storage facilities like Ridgway Dam,” said Cary Denison with Trout Unlimited. “It makes sense to develop hydro at Ridgway Dam for the generation of new, emissions-free energy — using an existing, clean energy resource which would otherwise be wasted.” The hydropower plant consists of two turbines and generators — a 0.8-megawatt system and a 7.2- megawatt system. The smaller unit will produce power utilizing winter time flows of 30-60 cubic feet per second (cfs). The larger unit will handle flows of 500 cfs during summer. The project will not significantly change historic operations or flows in the Uncompahgre River.

Construction on Ridgway Dam began in 1978 and lasted until 1987. Ridgway Reservoir was filled by 1990. The dam was constructed to provide irrigation and domestic water to the Uncompahgre Valley. Construction on the hydro project began in November 2012. The dam and reservoir, located between Ridgway and Montrose on Highway 550, are owned by the United States Bureau of Reclamation. The City of Aspen and Tri-State Generation and Transmission are purchasing the power from the new hydro plant. As part of its power purchase agreement, Aspen is buying the Renewable Energy Credits (RECs) created by the project during winter months. The Town of Telluride is purchasing RECs created by the project during summer months. A REC is an environmental commodity that represents the added value and environmental benefits of the electricity produced. Revenues generated from the sale of the electricity and RECs will be used to repay loans on the project for the first 30 years and then will be used to offset Tri-County operating expenses. The hydroelectric project cost about $18 million to construct. Tri-County obtained a 30-year loan from the Colorado Water Conservation Board for $13 million. Another $2 million, 20-year loan was provided by the Colorado Water Resources and Power Development Authority. "Tri-County Water's new hydro project at Ridgway Dam is a great example of development of new hydropower on an existing dam," said COSHA President Kurt Johnson. "Only about 3% of the nation's dams currently include hydropower. There is an enormous untapped opportunity to generate new clean energy using existing infrastructure." Tri-County Water Conservancy District was created on August 19, 1957. The area to be served consisted of the Uncompahgre drainage in Ouray, Montrose and Delta counties. Today, Tri-County serves water to more than 6500 meters through 600 miles of pipeline.

(Another benefit of hydro!)

Study: NY canals generate more than $6B

Associated Press, online.wsj.com

Albany, N.Y. — A new report says New York's canal system generates more than $6.2 billion in non-recreational economic activity, mostly in hydropower and industrial uses. The report was commissioned by the New York State Canal Corp. It found that the canals support more than 26,000 jobs and generates hundreds of millions in tax revenue. Many of the businesses relying on the canals are industrial facilities that use canal water for cooling, rinsing or processing. In addition, 27 hydroelectric facilities along the canals use the water to generate power sufficient to serve 54,000 homes. Earlier studies show the canals also generate economic activity through shipping and tourism. Gov. Andrew Cuomo, whose office released the report on Tuesday, calls the canals a rich part of New York's heritage and an important economic resource.

(Wow, 100 years. Bet they'd make good furniture!)

Spearfish accepts design proposal to replace redwood pipes for hydro plant

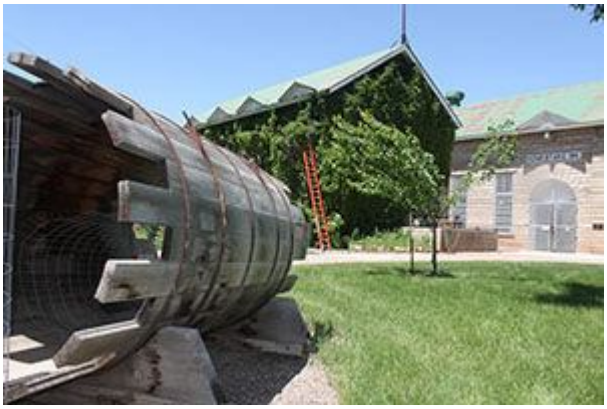
By Kaija Swisher Black Hills Pioneer, June 10, 2014, bhpioneer.com

After more than 100 years in service, the redwood pipes that carry water to Spearfish's hydroelectric plant will need to be replaced. The replacement pipes are expected to cost about $85,000.

Spearfish, SD — The redwood pipes that carry water to the hydroelectric plant have served their purpose for more than a century but now need to be replaced. The Spearfish City Council accepted a design proposal from W.W. Wheeler & Associates for the redwood stave pipe replacement at a cost of $85,000, to be funded from the hydro fund. It was the only proposal received for the engineering services to analyze, design, and assist with specifications of the project, which will replace 1,200 linear feet of 2, 48-inch redwood pipes that carry water to the city's hydroelectric plant near the city campground. Public Work Administrator Cheryl Johnson said that the design portion of the project will allow the city to start the analysis for designing the replacement pipes, and the hope is to bid the project to replace the pipes next summer. However, if the design analysis shows that the needed funds will exceed what the city expected, the timeline may be extended. The main goal, Johnson said, is to stay in compliance with the Federal

Energy Regulatory Commission (FERC), which identified the need for the replacement during the licensing process for the hydroelectric plant. Built in 1910, the hydroelectric plant provided power to the Homestake Mine. To run the plant, water is diverted at the Maurice intake located in Spearfish Canyon, and from there it flows into pipes that deliver the water approximately 4.5 miles to the plant, where it turns twin turbines. The water then exits the plant, flows through Spearfish and to Spearfish Creek's confluence with the Redwater River north of town.

The city purchased the hydroelectric plant for $250,000 in 2004 and discovered that the plant would not be exempt from needing a license for its operation. The city received a 30-year FERC license for the hydroelectric plant in April of 2011, after starting the licensing process in 2007. The pipe replacement project is expected to go through five phases, including initial investigation, analysis, alternatives, design, and assistance with specifications and bids, and Johnson said that now that the proposal for the design services has been accepted, the first phase should begin by the end of this month. Spearfish Mayor Dana Boke asked if there would be an idea of the needed funds by the city budget meetings in October, and Johnson said that they will try to have numbers by then, but if it is necessary to delay the project for a year if the costs exceed what the city's budget can handle for next year, it is possible to delay the work under the FERC requirements, as long as the city can show it is in the process of completing the necessary replacements. Councilman Doug Schmit made a motion to accept the design proposal; Councilman Travis Geppert seconded; and the council unanimously approved it (Councilman Dave Baker was absent from the meeting).

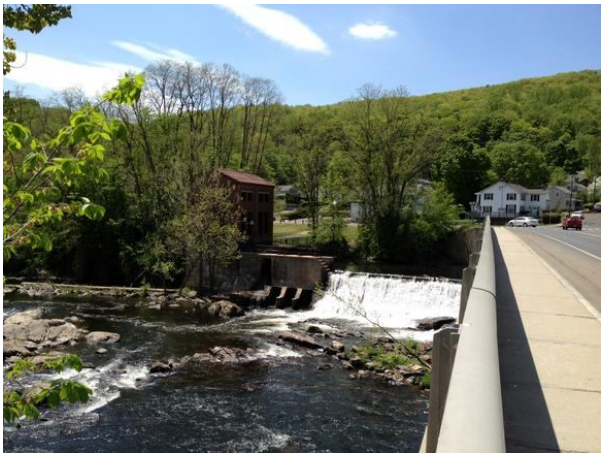


(Things are moving along from last week!)

Company Looks To Partner With Canton On Hydropower Project

By Ken Byron, courant.com, The Hartford Courant, June 12, 2014

Canton, CT — Local officials will negotiate a contract this summer to partner with a private company on the hydropower project that the town has pursued for the past five years. The intent is that Massachusetts-based New England Hydropower Co. will take care of construction and then run the hydropower project. As planned, the dam on the Farmington River in Collinsville and possibly one further downstream in Avon and Burlington would be fitted with equipment to generate electricity. The board of selectmen authorized the negotiations when it met on Wednesday.



It is expected that New England Hydropower would recoup its investment in the project from revenues generated by selling the electricity that the dam produces. A bill is pending before Congress that would revive two expired federal permits to use the dams for hydropower and give them to the town. Town Chief Administrative Officer Robert Skinner said if that bill does not get through Congress New England Hydropower may also have to help get the necessary permits. Town officials have been working on the hydropower project for the past five years but aside from a $50,000 grant for a feasibility study have not been able to get financing for it. Earlier this year, officials concluded that they need help from a private company. Skinner said the hope is that a

contract is ready for approval by the fall. New England Hydropower was one of three companies that responded to a request for proposals from the town. All three were interviewed by town officials earlier this spring and Skinner said they decided that New England Hydropower made the best offer. "I thought they have a more qualified team and submitted a more definitive, better prepared proposal," First Selectman Richard Barlow said on Thursday. Chris Conover, New England Hydropower's chief marketing officer, said company officials first approached the town about getting involved three years ago. "Canton has a history of history of hydropower and a wonderful legacy from the Collins Company," Conover said. "We think there is a lot of potential here." The dams that would be used were built by the former Collins Company to provide electricity for the factory in Collinsville where it produced axes and machetes. The company closed in 1966 and the dams have not been used for hydropower since then.

Environment:

(Rob Peter to pay Paul. Bet they don't charge wind energy as much, even though they kill a lot of birds!)

Fish & Boat Commission To Receive $800,000 From Muddy Run Hydro Plant Certification

By Feed: PA Environment Digest, June 6, 2014, northcentralpa.com

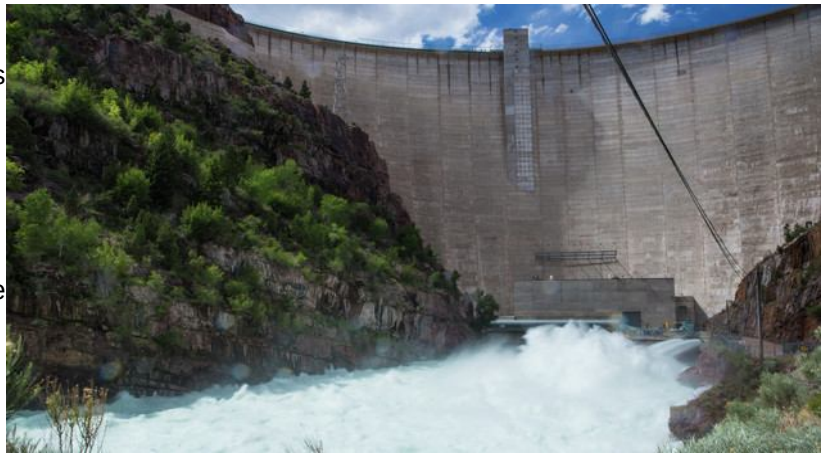
The Fish and Boat Commission Friday said the $800,000 it will receive as a result of a water quality certification of Exelon's Muddy Run hydroelectric plant in Lancaster County will be used specifically to remove small dams within York and Lancaster counties. The Department of Environmental Protection announced on June 3 that it had issued a 401 Water Quality Certification for the continued operation of Exelon's hydroelectric project on the Susquehanna River in Martic and Drumore townships, Lancaster County. The company must renew its operating license with the Federal Energy Regulatory Commission by the end of 2014. The DEP certification is part of the renewal application. " Along with DEP, the PFBC and others have been negotiating with Exelon for several years leading up to the relicensing to ensure that fish and aquatic resources are protected," said PFBC Executive Director John Arway. "We thank DEP for their years of hard work and leadership in developing a water quality certification which allows Exelon to continue to responsibly operate the Muddy Run facility. We also want to thank the Exelon Corporation for their cooperation in working with the resource agencies to get to this point." "This certification and the anticipated FERC license renewal will provide protection, conservation and appropriate mitigation for American shad, American eels, and resident fish," he added. "It also will lead to beneficial small dam removals on tributaries to the Susquehanna River and provide for water quality improvements in York and Lancaster counties. "The PFBC estimates that there are several hundred dams in the two counties. The agreement calls for Exelon to pay the PFBC $50,000 annually from 2014 to 2030, for a total of $800,000. Also, Exelon will pay $450,000 per year total to the Lancaster and York County conservation districts to help fund projects that will help Pennsylvania achieve commitments to protect the Chesapeake Bay. Pennsylvania is a national leader in the removal of small dams, which hurt aquatic resources by blocking fish passage and by slowing the natural flow of rivers and creeks, which in turn creates stagnant, nutrient-deficient and oxygen-poor water. Removing the dams improves water quality, restores the ecosystem and results in a more robust fishery. The DEP certification also provides for a plan to protect and improve the American eel population by trapping eels below the Conowingo Dam in Maryland and transporting them upstream annually to various locations in the Susquehanna watershed. It is anticipated that 1 million juvenile eels will be moved upstream per year. The plan remains in effect from 2014 until 2030. "The effort to restore eels to the Susquehanna River in Pennsylvania will provide ecological benefits not only to the eels themselves and the species that prey upon them, but also the eastern elliptio freshwater mussel, whose primary host is the American eel," said Andy Shiels, PFBC Deputy Director of Operations.

"As eel numbers have declined in the Susquehanna River, so have the elliptio mussels, as they cannot reproduce successfully in the absence of eels which serve to transport the mussel larvae throughout the watershed." Muddy Run, owned and operated by Exelon, is an existing 800 megawatt hydroelectric project located on the eastern shore of the Conowingo Pond on the Susquehanna River in Lancaster County. The project has operated since 1966.

(This is about fish, not flooding! Great dam photo.)

Flaming Gorge dam water releases at capacity, causes flooding

By Kyle Spencer and Dave Cawley, June 8th, 2014, ksl.com



Flaming Gorge, Daggett County — The Bureau of Reclamation opened bypass tubes at Flaming Gorge Dam on Friday, catching some weekend boaters by surprise. The increased outflow caused minor flooding to rural areas downstream. Sections of the Little Hole National Scenic Trail, commonly used by anglers on the riverside, are currently under water. The U.S. Forest Service closed the trail between the Spillway Road and Little Hole on June 5.

On May 29, the Bureau listed releases from Flaming Gorge at 814 cubic feet per second. By June 7, that number climbed to 8,444 cfs. That indicates flow into the Green River below the dam is now more than 10 times greater than it was less than two weeks ago. As a result, the National Weather Service office in Grand Junction posted a flood advisory for Daggett County, Utah and Moffatt County, Colorado lasting until Monday at 12:30 p.m. The bypass tubes allow water to circumvent hydropower generators inside the dam. Combined releases from both the generators and bypass tubes reach an approximate maximum at 8,600 cfs. Emergency releases can be made through the dam's spillway, though that's not being done currently. The Bureau anticipated the increases in late May, noting scientists had detected the presence of larval razorback sucker along the Green River. The razorback sucker is an endangered species that was once abundant in Colorado River drainage system. The increased outflows simulate spring run-off conditions that would have existed prior to the dam's construction. The goal, according to a news release, is to reach combined flows at or above 18,600 cfs below the confluence of the Green and the Yampa rivers in Dinosaur National Monument. That would transport razorback sucker larvae into nursery habitat in the river's floodplain wetlands. The Yampa flows out of Colorado's Rocky Mountains and, unlike the Green, is not dam-regulated. Its spring run-off flows started tapering earlier than expected, prompting the spike in releases from Flaming Gorge. Lake Powell also stands to benefit. Even before the bypass tubes opened at Flaming Gorge, Lake Powell was rising roughly a foot per day. The Bureau's website currently says the elevated "releases will remain at bypass capacity until further notice."

(Fixing the dam will probably be the best thing for the fish.)

June 9, 2014 Fish passage from Priest Rapids, Wanapum and Rock Island dams going well

Press Release, Posted on June 10, 2014 by Tom Stredwick, grantpud.org

Efforts to install extended fish ladders for adult spring Chinook, steelhead and lamprey show positive results

Modifications to fish ladders at both Wanapum and Rock Island dams are showing positive results for the spring run of adult Chinook salmon. Grant PUD completed installation of temporary pumps, weir boxes and exit flumes at its two fish ladders in mid-April. At Rock Island Dam, Chelan PUD installed two 80-foot denil baffled extensions on the Chelan County side of the dam to provide fish access to the ladders when low river flows occur in late summer. A third ladder extension on the Douglas County side will be completed in mid-June in time for the anticipated record return of sockeye and summer Chinook. "Fish passage has been a priority for us since we realized that the Wanapum fracture would impact fish passage. Without the cooperation of the tribes, agencies and other hydro operators this positive outcome would have not been possible," said Grant PUD Director of Natural Resources Jeff Grizzel.

"This has been a collaborative effort from the start," said Keith Truscott, Chelan PUD Natural Resources director. "We have been working closely with our colleagues at Grant PUD and with federal, state and tribal entities to ensure the safe passage of fish this season. It's nothing short of miraculous how this work was pulled together to complete the fish ladder extensions in time for the spring run." Spring river flows are mirroring expected normal runoff resulting in near-normal water levels for fish ladder operations at Rock Island Dam. The monitoring and evaluation of returning adults at Rock Island agrees with the findings at Wanapum Dam demonstrating to biologists the success of spring Chinook migrating upstream past Wanapum and Rock Island dams. A sample of hatchery origin spring Chinook adults was monitored using acoustic tags to evaluate upstream passage from Priest Rapids Dam to Rock Island Dam. Results of this monitoring effort revealed that 100 percent of the acoustic-tagged fish successfully migrated past Wanapum and Rock Island dams this spring. The spring Chinook adult count at Rock Island surpassed 20,000 fish on June 3, which comparatively is 164 percent of the 10-year average for spring Chinook by this date.

Colonial-Era Dams May Have Triggered Evolutionary Changes in Two Fish Species

Jun 11, 2014, by Jaleesa Baulkman, UniversityHerald Reporter, universityherald.com, VA Tech.

Dams set up by colonial era settlers may have triggered sudden and parallel evolutionary changes in two species of fish living in Connecticut waterways, according to a recent study. Previous studies documented the decrease in size and changes in gill structure of members of the alewife species cut off from access to the sea in newly dammed lakes. Researchers from Yale University found similar changes in feeding habits of the bluegill, which also showed greater ability to feed on smaller zooplankton found in landlocked lakes the species shared with the alewife. "Rapid evolution not only occurs, but runs across the food web in ways we are only now starting to understand," David Post, senior author of the paper and professor of ecology and evolutionary biology, said in a statement.

In its natural state, the small herring-like alewife swarms into Connecticut lakes, devours insects and all large zooplankton growing unmolested for most of the year, and then heads back out to sea, where itself becomes the main course of many of the ocean's fishes. However, this species underwent fundamental changes when lakes were dammed in Connecticut during the colonial era nearly 300 years ago. The landlocked alewife became smaller, eliminated all large zooplankton in the lakes, and underwent changes in its gill structure that enabled it to eat the smaller zooplankton that grew there. Magnus Huss, a postdoctoral fellow in Post's lab, now at the Swedish University of Agricultural Sciences, wanted to see if the strong effects of landlocked alewives on the zooplankton community would lead to similar changes in bluegills. They found

that bluegills in lakes with ocean access did not feed well on small zooplankton, but bluegills living in lakes isolated from the ocean with the landlocked alewives did just fine on a diet of smaller fare. Post said these studies show that conservation efforts must take into account the entire food network when dealing with environmental changes such as dam construction or the introduction of new species into environments. "Any time we have invasive species evolving rapidly, we can expect to see changes in competitors as well," Post said. *The findings were recently published in the journal Proceedings of the Royal Society B.*