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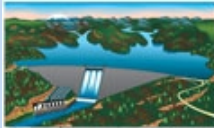
Some Dam – Hydro News™ And Other Stuff



Quote of Note: "Don't be afraid to stand for what you believe in, even if that means standing alone"
- Unknown

*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: 2014 Duckhorn Vineyards Pinot Noir "Decoy"
"No nation was ever drunk when wine was cheap." - - Thomas Jefferson



Dams:

(Great photos.)

Hold down the CTRL key while clicking on the URL or copy and paste the URL into your browser.

<http://www.mnn.com/earth-matters/wilderness-resources/photos/10-americas-grandest-dams/dam-great>

10 of America's grandest dams

By: Matt Hickman, April 22, 2016, mnn.com

Dam great

Reservoir creating. Electricity producing. Flood preventing. To tweak a song title from Rodgers and Hammerstein's "South Pacific," there is **nothing like a dam**. In a country where thousands of man-made structures have been erected to impound rivers and other bodies of water, a select few dams have managed to demand the public's attention. These are game-changing dams, seemingly impossible feats of engineering and innovation that have



inspired, intrigued and, in some cases, infuriated, like the famed Hoover Dam, pictured. These man-made marvels are structures with a myriad of benefits and negative impacts. Just as they are extreme in size and strength, dams can be extreme in their detriment — they are often dangerous, dated and responsible for the destruction of vital natural ecosystems. And dam removal projects — the world's largest to date, the 2012 demolition of Glines Canyon Dam, was carried out as an ecosystem restoration project on the Elwha River within Washington's Olympic National Park — are increasing in number. **Negative impacts aside, we've rounded up the 10 grandest American dams that are remarkable in their scope, size and historical significance.** You've been directly impacted by these dams — whether you realize it or not. These are the dams that keep the lights on, irrigate the crops that we eat and create the massive lakes where we frolic on summer vacation. These are the dams that, for better or worse, have helped to shape America.

[\(It'll take a lot of imagination.\)](#)

Imagine a dam-free downtown Des Moines

By Timothy Meinck, April 23, 2016, desmoinesregister.com

Des Moines has a trophy case of accolades that have cemented themes for its downtown image: young and professional, finance and insurance, even hip and techy. Topics that seldom make that list are natural preservation, outdoor amenities and river recreation — while two of central Iowa's most ubiquitous natural resources meander through the heart of the capital city. **"It's the city of two rivers,"** said Nate Hoogeveen, river programs coordinator with the Iowa Department of Natural Resources. **But there's a disconnect, according to a group of planners and outdoor enthusiasts that formed last year to craft a water trails plan for the Des Moines metro.**



Now they're hailing the masses for an exercise in dream casting:

"What do you want to do throughout the entire river downtown?" Hoogeveen asks.

The caveat for 100 years has been a series of low-head dams, dubbed by some as "drowning machines," that bar access to the downtown stretches of the Des Moines and Raccoon rivers.

But the dams could soon be removed, or mitigated, according to state and local officials.

That would open the floodgates to possibilities, from tubing and whitewater kayaking to power boating, fishing or picnicking on river boulders or jetties. All these activities make an appearance in a set of concepts and drawings released by the Des Moines Area Metropolitan Planning Organization. The illustrations, prepared by Bolton & Menk architects, are designed as a launchpad for public input, which kicks off with the Dam Debate on Tuesday. **"I think the residents of the Des Moines metro want to engage with our rivers.** We just got to give them the opportunity to do so," said Rick Tollakson, CEO of Hubbell Realty Co., who chairs the river trails committee.

Examples in Iowa

The concept could exercise on a grand scale what several smaller Iowa cities have already demonstrated. The Iowa DNR has helped remove or restructure 15 low-head dams since forming a dam mitigation team in 2008. Several other projects are scheduled for completion this year. Charles City in northern Iowa and Manchester in eastern Iowa offer shining examples of how recreational opportunity can replace dams. **Both cities created recreational whitewater parks with shoots and rapids to spur outdoor and economic activity.** Manchester opened its whitewater park last year after a \$2.5 million project. That involved removal of a dam and creating six stair-stepping drops (about 18 inches each) through an 800-foot stretch of the Maquoketa River. The feature became an immediate magnet for tubers, play boaters in kayaks and a few brave souls

who have body-surfed the rapids in a life jacket. “Absolutely, it’s been a success, and I think we’re starting to see some momentum develop as far as businesses and economic impact,” said Wes Schulte, who co-chaired the group launching the whitewater project. Schulte said organizers couldn’t assess the total visitor count for the year, though numerous weekends and special events drew more than 1,000 people to the rapids on a daily basis. Visitors also tended to come from a radius within a three- to five-hour drive.

'900-pound gorilla'

In Des Moines, such a project faces a number of larger hurdles and complexities. But they aren’t insurmountable, according to state officials and local planners. “The 900-pound gorilla is that there are these two dams in that vicinity,” Hoogeveen said. The MPO has targeted a stretch of the Des Moines River between the Interstate 235 bridge and just below the confluence with the Raccoon River near the Principal Park baseball stadium. The span, which covers much of the Principal Riverwalk, includes the Center Street dam beneath the Women of Achievement Bridge and the Scott Street dam on the Raccoon — both owned by the city of Des Moines. Mitigating both structures will require strategic cooperation between numerous entities and a large price tag — unspecified at this time, but likely to exceed \$10 million. The current dam at Center Street measures 15 feet high and was built in 1917. It’s designed to pool upstream water that feeds into Des Moines Water Works intake pipes near Prospect Park. This upstream stretch also serves the Birdland Marina, power boaters and rowing crews. “Maintaining the pool of water is very important,” said Gunnar Olson, spokesperson with MPO. That’s where the potential for recreational features comes into play. Planners say the pool of water could be maintained by replacing the dam with boulders and other river features that would create rapids or chutes. Options range from something like class II or III rapids to a more leisurely lazy river flow — or a combination of the two. There’s also potential for a natural, rugged design or a more urbanized feel with more concrete and polished fixtures. “What can we do to really activate the rivers as part of our lives?” Tollakson said. His interest stems from his passion for cycling, which often sends him along waterways, as well as his work with Hubbell.

The company is developing a 16-acre neighborhood called the Bridge District directly east of the Women of Achievement Bridge. It will cater to empty nesters and retirees who want to live downtown. Tollakson added that safety is a primary driver behind removing Des Moines’ low-head dams, which have taken more than a dozen lives. “The first thing people say is, what are you going to do about those dams, because they kill people.” The issue was a passion topic for former Principal CEO David Hurd, who called the dams “drowning machines.” The downtown resident, and “heroic visionary” according to friends like Principal CEO Dan Houston, made the following plea in a Des Moines Register editorial, written in December 2014, two years before his death. “It’s time to move forward with a vision for our rivers. I would like to see widespread community conversations with many interests represented: anglers, power boaters, paddlers and rowers, community leaders, economic development interests, and those who have lost loved ones in dam tragedies.”

The Dam Debate event

The public will have a chance to learn about the possibilities, and provide input, for improved river access and recreation along the Des Moines River in downtown Des Moines. Planners from the Des Moines Area Metropolitan Planning Organization will be on hand to present, listen and take notes. The goal is for the public’s ideas and opinions to help shape the Greater Des Moines Water Trails and Greenways Master Plan. The plan will become the region’s road map for developing a network of recreational corridors along 150 miles of rivers and creeks in Central Iowa. When: Tuesday, noon-2 p.m. Where: Des Moines Central Library meeting room, 1000 Grand Ave., Des Moines Cost: Free, but RSVP for a ticket at tickets.desmoinesregister.com/e/the-dam-debate/preview,

Low-head dams across Iowa

As of last year, about 175 low-head dams existed across Iowa. The structures have no gates or water-control devices, but they allow a constant flow of water to pass over them. Most were built

as "beauty dams," intended to create ambiance on the riverfront, provide water for grain mills and hydroelectric generators or control water levels. Many, including those in the Des Moines River downtown, are owned by local cities, while some are maintained on private properties. Momentum has built in recent years to eliminate the aging and largely useless structures because of the danger they pose to humans. They also inhibit mobility through waterways for recreationalists as well as fish and wildlife. The Iowa Department of Natural Resources has helped facilitate 15 dam mitigation efforts since 2008, when it launched a dam mitigation program. Many of the mitigation efforts are driven by safety concerns from river recreationalists and the rising trend of water parks for paddlers and tubers.

(Gluing an old pile of rubble. Sometimes they fix these old structures.)

Swansea dam problems lead to a dam fix

By Michael Holtzman , Herald News Staff Reporter, Apr 22, 2016, heraldnews.com

SWANSEA, MA — It was late March of 2010 when an 8-inch rainfall followed a 5-inch deluge, flooding Hortonville Road, Lewin Lane and other spots from the adjacent brook and Swansea Dam.

They were called "50-year storms," meaning each was the biggest rainfall one would expect over 50 years. The deep concrete culvert under Main Street next to Case Junior High School was filled within two inches of the top. In addition, the harsh weather two winters ago turned water in the duck pond to ice, and the expansion pulled apart age-worn stones below the spillway.



Those were some recollections shared by town Water Superintendent Robert Marquis, along with Conservation Agent Colleen Brown, as reconstruction of the Swansea Dam reached high gear this week under a tight timetable and sunny skies. "It's all part of the Lewin Brook Pond system. This is the primary dam. The secondary dam is 1,000 feet upstream," Marquis, also the Board of Selectmen chairman, said, as another selectman, Christopher Carreiro, admired the project of slightly more than \$500,000 that began a month ago.

Under a \$459,000 state grant paying for most of the project, it must be completed by June 30.

Swansea Dam motto: Dry and Beautiful Swansea Dam: Men at work Swansea dam reconstruction bid awarded Swansea officials still debating between two bids for dam restoration project as deadli... State energy official tours Swansea Dam, Brayton Point Forget under, this is water around the Swansea Dam After a weekly meeting Thursday at the site, officials said the contractor, Kenefick Corp. in Quincy, headed by Barry McCabe, said the work is moving on schedule. The most visible set-up and construction work includes metal inter-lapping structures covered by long lengths of heavy-gauge, blue and red tarps diverting the pond water over half the dam and spillway on the school side of the structure. "The stone walls have lost their structural integrity," Marquis said. Below this temporary portable dam, the small crew of men have poured a top concrete apron and are reinforcing the thick, intricate wall of stone work below it. Below that, they have removed much of the large shear stone wall the steps will replace. Just beyond that, they've built reinforced footings that on Friday was being filled with concrete along the dry half of the dam where the water was diverted. From the edge of that concrete foundation, which will sit unseen below the water, in the next two weeks they will build a series of five concrete steps with a stone fascia to match the upper stonewall, Marquis said. The steps will replace the sheer face of stones that had been compromised, he said. They will repeat the same process on the other side diverting the water with the portable dam. The other half is larger take more time. That work will ensure no water penetrates the dam's rocks and the stairs, visible on an architectural rendering, will be more stable than the previous dam wall. Another major component, said Brown, who along

with other town officials have monitored the work and taken photos to show the progress, is replacement of the existing dam gate.

Regulating the flow by lifting the gate, a new aluminum slide gate will be pneumatically, or mechanically, controlled at the crest of the dam. That's in contrast to the manual chain and rope system with the old dam. The gate is housed within the metal superstructure that looks like a metal rectangle just upstream of the spillway wall. On the other side, at the base of the spillway, a large 3-foot diameter pipe, called an equalizer pipe that Brown said allows a continuous flow into the stream, now can be seen with removal of the large stones, and is obviously corroded. Repairs will include placing a plastic liner through the pipe, Brown said. At the outset of the project, the crew stabilized the upper parking area between the pond and Hortonville Road. Heading north, the old concrete sheet wall containing the pond was demolished and has been replaced with a segmented block retaining wall. Drainage features to prevent runoff and erosion will be installed, as well as modifying parking to allow for fire truck access to the site, according to a summary description of the project the town's engineering consultant, Pare Corp., submitted this winter to the state Department of Conservation and Recreation.

"Water control is a real delicate balance," Marquis said. After their weekly meeting on Thursday, he said the pond would be lowered "up to two feet" during the ensuing dam work. That would bring the pond height closer to summer levels, Marquis said. The water below the dam flows downstream to the Lees River. Marquis reiterated that ideally the work would have been done during low natural levels during the summer. However, the grant with funds from this year required completion by June 30, which is the end of the fiscal year. Brown said she thought the town was better prepared this year with its grant submission than last year when its application did not win an award. "To see the changes since day 1 is really incredible," said Brown, who along with other officials have been photographing the project's progress. The construction contract is for \$443,000, and there was just \$23,000 separating the lowest of nine bids. The town is also paying \$83,000 for an on-site engineer. With \$600,000 approved at a prior special Town Meeting, the town will not need to tap much of those funds after the grant is used, Marquis and Carreiro said. Marquis emphasized his belief the town's ownership is much preferred of the acreage and series of dams the town acquired a few years ago from the former owners of Montaup in Somerset that once used the waters for cooling the power plant before it closed. The town bought 170 acres and five dams, three of them primary, for \$200,000, Marquis said. He called the amount "a very favorable sum," and about 10 percent of the original sale offer. Of the other two dams, the Upper Milford Dam along Milford Pond is the largest, and a smaller one is off GAR Highway near the Coles River. They will also require reconstruction work, Marquis said. "We're so lucky to be able to secure a \$459,000 grant," Carreiro said. Thinking about the many scenes of people of all ages at the dam over the years — from fishing to feeding ducks to prom, wedding and special-occasion photos -- Carreiro said, "I'm excited about the dam's new look. The Swansea Dam is a staple in our community."

(Show me the money.)

Locals press feds for more money to shore up Lake Okeechobee dike

By Eliot Kleinberg - Palm Beach Post Staff Writer, April 24, 2016, mypalmbeachpost.com

BELLE GLADE — Lake Okeechobee's name comes from the Seminole words for "big water." And how. It holds trillions of gallons. And for nearly a century, it's been kept back by a massive mound of gravel, rock, limestone, sand and shell. The people who live around there worry if that will hold. They're not the only ones. Various scenarios have said a failure of the Herbert Hoover Dike could send water as far east as The Acreage and Wellington. On top of that, many in Palm Beach County would suffer from the massive economic loss of flooded crops in the Glades. After 2006, when a state-hired panel of engineering experts warned the leak-prone levee around the lake poses "a grave and imminent danger to the people and the environment of South Florida," the U.S. Army Corps of Engineers shored up a 22-mile stretch fronting Palm Beach County. But it then pivoted to replacing aging giant culverts, which move water into and out of the lake, either to provide water to local areas or to facilitate small lake releases not related to

changing the lake's level. The culverts need to be replaced because of the danger of leaks or even failure. Meanwhile, work on the lake's southern stretch, which the Corps says poses the highest risk for a dramatic, perhaps catastrophic failure, remains undone. Bidding for work on a section in Palm Beach County is due to start in 2017, but the southwest stretch primarily along Hendry and Glades counties is on a long-term wish list. Even if green-lighted, it would be at least a decade before it's done. **Now local leaders are pressuring the feds to speed up all the remaining work. Before something really bad happens.**



"You have a whole lot of people getting frustrated," Palm Beach County Commissioner Melissa McKinlay, whose district includes the western part of the county, said this month. "The Army Corps has taken a focus on improving the culverts, but we need the project completely funded," McKinlay said. "Because if the dike breaks, the water's going to flow somewhere." McKinlay also was in Washington in February to press Florida's congressional delegation that the dike is a top priority.



Among McKinlay's local allies is former Pahokee mayor J.P. Sasser, who is pressing Pahokee, Belle Glade and South Bay to pass resolutions urging the federal government to free up more money for the dike. Sasser told McKinlay in an April 7 email the work is "moving at idle speed due to lack of funding and priorities." McKinlay told Sasser she'll lobby for similar resolutions from the county commission, the Treasure Coast Regional Planning Council and the "16 County Coalition," a group of counties surrounding the lake that next meets in June. **Nothing will happen right**

away. Florida U.S. Sen Bill Nelson's office said this month he has asked for more than last year's \$64.1 million. But an appropriation bill that passed a committee on April 14 "provides only the \$49.5 million that the president had requested in this year's budget request," Nelson spokesman Ryan Brown said. **"So right now Nelson is looking at other possible options to increase funding for the dike."**

Built after the great 1928 hurricane, the dike has been showing its age for more than two decades. It's one of 12 to 15 "dams" around the country that the Corps says are those most likely to fail. **Worries about leaks since the 1990s and gouges that Hurricane Wilma carved in the dike in 2005 were only magnified later that year by the catastrophic failure of New Orleans' levees during Katrina.** Amid growing concern about the 143-mile-long Herbert Hoover Dike's ability to withstand sudden attacks from hurricanes and the slow pressure caused by decades of high water in the lake, the South Florida Water Management District hired experts to study the dike.



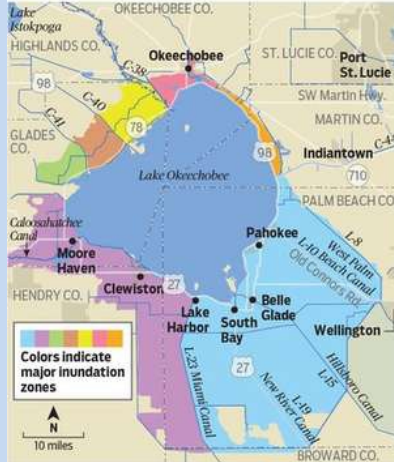
Shoring the dike

The U.S. Army Corps of Engineers is spending some \$800 million in current projects to strengthen the Herbert Hoover Dike around Lake Okeechobee, and it plans to spend \$700 million more if Congress approves. Here's why the dike needs shoring up, what's been done and what's planned.

Areas most at risk



How far flooding could go



Fixes done and planned



Source: U.S. Army Corps of Engineers. ROBERT CALZADA / STAFF

That study concluded in 2006 that the dike had a one-in-six chance of failure during any year and posed a “grave and imminent danger” to the region. In one worst-case scenario, Pahokee, Belle Glade and South Bay would be under 1 to 5 feet of water for weeks, and within days of a breach, floodwater could cross sugar cane fields and reach the edges of Palm Beach County’s western population areas. Then-Gov. Jeb Bush, who had dealt with a half dozen hurricanes hitting the state in the previous few years, urged the Corps to take “immediate action” to fix the dike. By 2007, the Corps drafted plans to strengthen the dike and lower water levels in the lake.

Since 2008, about one in five Corps dollars dedicated to dam safety nationwide has gone to the dike. The Corps estimates it has spent \$800 million on shoring projects, and expects to spend another \$700 million in the next decade. Work mostly has involved installing a “seepage barrier” inside the dike that blocks most percolation but lets in just enough so that the ground doesn’t dry out, which can cause cracks in the dike’s foundation. The federal agency reinforced the first of eight segments, a 22-mile “reach” from around Port Mayaca to just north of Belle Glade. If you see the lake as a misshapen clock, that would be from around 3 to 6. The cost: About \$220 million. The work was finished around 2013. But along the way, the Corps called an audible.

It decided that while working on “Reach 1” it also would pivot toward fixing 26 culverts. They’re giant water control structures — sometimes big pipes, sometimes big concrete boxes. And they’ve eroded over the years; some date to the original construction in the 1930s. Eighteen have been finished or are under construction; the last eight should be completed by 2022. The Corps has spent as much as \$22 million on one but, as the agency gains efficiency, the cost is coming down to about \$12 million to \$15 million each. Fifteen of the 24 culverts are between 3 and 9 on the lake’s clock. That’s where, Corps spokesman John Campbell says, “we’ve seen the majority of problems.” It’s also where most of the population lives. Between them, Pahokee, Belle Glade, South Bay and Clewiston, bunched at the lake’s south end, account for three fourths of the population ringing the lake, and more than 90 percent of the population south of the town of Okeechobee. The culverts “were going to have to be replaced anyway,” Campbell said. He said the work done in the 1930s “certainly does not meet today’s construction standards.”

In the meantime, the Corps is moving forward on reinforcing a 6.6-mile segment from Belle Glade west to John Stretch Park on the Palm Beach-Hendry county line. The Corps expects to award a contract by the summer of 2017 and have the work done by 2020. Local leaders want that timetable sped up, for fear that “2020 could turn into 2022,” McKinlay said. The Corps also is mulling a \$400 million project: reinforcing a 24-mile “cutoff wall” from the Hendry line around the lake to north of Moore Haven, or at about 9 on the clock. That work is the bottom line of a “Dam Safety Modification Study” that the

Corps expects to approve by the summer of 2016 and submit to Congress for a 2019 budget item. If approved, the work would be done by 2024 to 2026.

That's 10 years from now. Considering it already has been more than a decade since Florida had a hurricane landfall, people around the lake worry about pushing their luck. While that stretch is not in Palm Beach County, McKinlay said there's no guarantee a failure there wouldn't damage areas in the county. Plus until all the dike work is done, lake communities that can ill afford it potentially face outrageous flood insurance premiums. The Corps says it has not left the Glades twisting in the wind. While it can't immediately control the integrity of the dike, it can manipulate the level of the lake by releasing millions of gallons during high-rain periods to reduce the pressure on the dike. But those releases have caused a whole new set of problems. Businesses and elected officials on both sides of the state say the fresh water releases displace the brackish water of the St. Lucie and Caloosahatchee estuaries, devastating vegetation and animals and causing environmental and economic calamity. Watching all of this is the South Florida Water Management District, responsible for balancing water supply and quality, flood control, and nature across a 16-county area. "It's imperative that the federal government continue to fund the Corps so that they can complete the work on the Herbert Hoover Dike as soon as possible," district spokesman Randy Smith said. "It should stay in the property category to where the federal government continues to fund it without interruption." Todd Bonlarron, who recently was made an assistant administrator for Palm Beach County but continues to serve as the county's legislative lobbyist, said, "We understand that the dike is not going to be completed overnight. We get that. They're moving quickly. We'd love to have it finished as quickly as they can."

(Whenever there's a flood and a dam is upstream, they get sued whether they caused it or not. Some places in Texas got up to a foot of rain.)

Texas, Louisiana residents sue dam operator over flooding

By Associated Press , KHOU, April 25, 2016, wfaa.com

BEAUMONT, Texas - Nearly 240 Texas and Louisiana residents have sued the Sabine River Authority over March flooding that inundated hundreds of homes and closed Interstate 10.



Communities in Southeast Texas and Louisiana were flooded by up to 20 inches of rain last month that forced evacuations along and near the Sabine River, which serves as a long border between the two states. The Beaumont Enterprise reports the lawsuit alleges water released from the Toledo Bend

Reservoir by the river authority to relieve pressure on the reservoir's banks and gates contributed to the flooding of homes and businesses. The reservoir extends through Texas and Louisiana. Ann Galassi, the river authority's assistant general manager in Texas, declined to comment on the lawsuit, which was filed in state court in Orange County, Texas.



Hydro:

(Just studying it and they already have opposition.)

Permit for Feasibility Study Requested for Hydroelectric Facility at Boshers Dam

April 22, 2016 – by Charles Fishburne, ideastations.org

Plans by a Spanish investment company to build a hydroelectric facility at Boshers's Dam on the James River are running into opposition. Energy Resources USA Inc., is seeking permission to study the feasibility of building a powerhouse and four generators at Boshers's Dam nearly on top of a fishway that allows shad, herring and other species to swim upriver to spawn. The City of Richmond is opposing the permit filed with the Federal Energy Regulatory Commission for a feasibility study and the James River Association has concerns. The Richmond Times Dispatch says the commission has issued a notice of application April 6th and opened a 60-day period for comments.



(Lotta reading for such small projects.)

Ohio project takes advantage of untapped hydro potential

Written By Douglas J. Guth, 04/22/2016, midwestenergynews.com

A series of six small hydroelectric projects along the Muskingum River in southeastern Ohio point to hydropower's potential as a robust, if underused, energy source for the state, supporters say. FFP New Hydro LLC, a developer of hydroelectric ventures on existing dams, and its partner group AECOM Capital obtained their last Federal Energy Regulatory Commission (FERC) license in March to convert a half-dozen Muskingum dams to hydropower. The generation facilities will be added to existing lock and dam structures owned and operated by the Ohio Department of Natural Resources.



The projects, rated at 23 megawatts, will produce enough electricity to power 11,500 homes in Muskingum and Morgan counties, for a total cost of \$118 million. Each site will provide anywhere from three to five megawatts, eliminating the need for coal, natural gas or other non-renewable energy generation, said proponents. According to The Public Utilities Commission of Ohio (PUCO), hydropower and other renewable resources currently only provide 1.5 percent of the state's electric generation. The Muskingum effort meets state renewable energy standards presently frozen under Ohio Senate Bill 310. Along with providing emissions-free electricity, the "run-of-river" Muskingum dams will operate below water level, meaning little noise and no additional lighting, officials said. With licensing secure, plan partners are now moving onto engineering analysis and design. Construction is slated to begin in 2017 and will take about 18 months, said Don Lauzon, vice president of regulatory affairs with Rye Development, which is leading the regulatory process for the project. The structures are set to be built in a cluster along the Muskingum, starting with the Philo lock south of Zanesville and ending at Marietta's Devola facility. To change the dams to hydropower, turbines will be housed in newly constructed power stations. The stations will be erected at a low profile to obscure the turbines from view.

"We're not creating any new dams," Lauzon said. "This is water that's flowing over the dam, anyway, so why not take that excess power and create energy?" Direct environmental impacts will be similarly negligible, he said. For example, state and federal regulations are in place to monitor

dissolved oxygen near hydroelectric dams, protecting aquatic life that would otherwise be threatened in under-aerated water. "We have engineering techniques to inject air in the turbines, so there's no impact on fisheries," said Lauzon.

They've got the power

The reconverted dams will bolster Ohio's thin hydroelectric portfolio: A 5-MW hydroelectric plant in the northwest corner of the state has been in and out of use since the early 20th century, while a two-turbine operation near Columbus cranks out another 5 MW. **Hydropower may have a higher capital cost than wind or solar, but it also lasts longer, notes Kevin Maynard, who oversees the electric utility in Hamilton, Ohio.** Hamilton gets much of its electricity from the 105 MW Meldahl plant, based across the Ohio River in Foster, Kentucky. **"The life of a wind or solar project is about 20 to 25 years,"** Maynard said. "Hydro has a long-lasting concrete infrastructure and a turbine connected to a generator. **This is a developed, mature technology.**" Muskingum's forthcoming dams reflect a U.S. hydropower fleet that has grown over the last decade as existing assets are upgraded. Additions to already built projects accounted for 86 percent of a net 1.48-gigawatt hydropower capacity uptick from 2005 to 2013, according to a 2014 Department of Energy (DOE) report.

As of May 2015, hydro provided nearly 7 percent of the nation's electricity supply – enough to power more than 20 million homes. However, hydropower backers believe currently non-powered dams are a beacon of untapped energy potential. The DOE identified 54,000 sites, mostly lock and dam facilities on the Ohio, Mississippi, Alabama, and Arkansas rivers that could tally 12.1 gigawatts upon conversion to hydropower. The National Hydropower Association estimated these projects could serve more than 250,000 households and circumvent two million metric tons of carbon dioxide annually. **"Hydropower isn't going to put coal out of business,"** said Lauzon. "It's augmenting what's going into the grid right now."

Jobs available

Including the Muskingum plan, FFP New Hydro has 23 hydropower development build-outs on existing dams in Pennsylvania, West Virginia, Indiana, Kentucky, Mississippi and Louisiana, Lauzon said. For the people on the Muskingum, each site will provide 100 to 150 construction jobs as well as continued staffing and service employment during operations. Employment and supplies will be sourced from area contractors and providers, depending on what the community has available. For instance, regional companies will be called in if concrete and other aggregate materials can be quarried locally. Rye is also meeting with area chambers of commerce to secure work for local inhabitants. **"The idea is to keep those jobs in state, if possible,"** said Lauzon. Hydro jobs are a potential boost for a region hard hit by the recession and stagnant overall growth, said U.S. Rep. Bill Johnson, who represents 18 counties in southeastern and eastern Ohio. Johnson, together with Ohio Sen. Rob Portman and Reps. Pat Tiberi and Steve Stivers, supported FFP New Hydro's project license applications.

In recent months, Johnson discussed hydropower with citizens from Muskingum County. While attendees were interested in the long-term prospect of clean energy, it was hydropower's employment possibilities that truly grabbed their attention, Johnson told Midwest Energy News. "In the near term, they're excited about job creation," he said. **"We're talking about at least 600 jobs in total. That's not insignificant.** Project developers, meanwhile, are heartened by the so far positive response from residents. "We consider these people our stakeholders," Lauzon said. "This project is going to be in their area, so we want to make sure the message is clear: We're not taking out dams or building anything new. What we're trying to do is support renewable energy and contribute less emissions to the environment."

(History lesson.)

Scenes of Yesteryear: From lumber mills to electric power plants

For THE NEWS, by John Russel, 4/24/16

When the giant lumbering firm of the Knapp, Stout and Co. Company, the largest white pine harvesting operation in the nation, closed down its mills in Wisconsin, the company still had ownership of the water wheels of the river dams located in their once-busy company lumber mills in Rice Lake, Prairie Farm, Chetek, Cedar Falls, Downs ville and Menomonie. Power supplied by the rush of water was capable of producing electricity to empower new businesses. That possibility first attracted an Eau Claire gentleman, Mr. A. E. Appleyard, a man whose vision resulted in a successful operation that built a railway line between Chippewa Falls and Eau Claire. It was the introduction of the Chippewa Valley Electric Railway and Light Company that quickly grew under the leadership of the Ingram, Knapp, and Stout families.



Courtesy of Dunn County Historical Society
View of the former site of the Knapp, Stout and Company. The two-story brick building at the center of the photograph, shown here at the junction of the Red Cedar River and Lake Menomin, was the electric power plant. This was built at the location of the huge water mill after the lumbering firm closed down. Please note the electric poles that supported the wires that crossed the lake.

This little paragraph, quoted from Forrest McDonald's interesting book, "Let There Be Light, The Electric Utility Industry in Wisconsin – 1881-1955", goes on to say: "The purchasers were the leading lumbermen of the area...and the new interests built rapidly upon the nucleus Appleyard had organized, with a view toward dominating the production and distribution of electric energy throughout the Chippewa Valley....These men directed their efforts toward hydroelectric power development, but unlike others, they exercised rare good judgment in so doing."

McDonald writes that the Knapp-Stout interests "also owned the small lighting plant in Menomonie and furnished its energy requirements from the hydro plant at their lumber mill there McDonald comments that the Knapp and Stout families "were thoroughly aware of the vagaries of the Chippewa and Red Cedar Rivers, and possessed of conservative spending habits not ordinarily found in lumbermen, they avoided lavish promotional developments. Instead, they developed relatively small hydro sites, one at a time, and built a market for the new power as they proceeded."

Author McDonald was impressed that the Knapp, Stout Company "...began with the Red Cedar River, where the power sites were smaller and the flow was already partially stabilized by small reservoir dams. Organizing a separate company for the purpose, the group in 1906, improved the reservoir system, reconstructed the lumber mill dam at Menomonie into a 1,2000 kilowatt hydroelectric plant, and acquired an old sawmill dam on an 8,000-horsepower dam site at Cedar Falls. By 1909, the power market had so increased that it appeared feasible to develop the latter site, and, after contracting to sell a sizable quantity of power in Red Wing, Minn., the lumbermen rebuilt the Cedar Falls dam into a modern hydroelectric plant. This plant, completed in 1910, produced considerably more power than the promoters were, at the moment, able to sell. "Between 1910 and 1914, they acquired, modernized, and interconnected the small lighting companies in Altoona, Spring Valley, Ellsworth, and Elmwood. They also extended service to the previously unserved communities of Elk Mound and Rusk and sold power at wholesale to the

villages of Cadott and Bloomer.” But by 1914 the company owed its stockholders \$1,773,000! That fact stood in the way of the company’s expansion efforts on the Chippewa River. An offer from an interested promoter offered the Knapp, Stout firm \$5,848,000 for the Chippewa Valley properties. It was an offer too good to refuse. This offer, which the company accepted in the spring of 1914, yielded the Menomonie company a net profit of more than \$3,000,000. John Russell, a local photographer and Dunn County resident, writes a weekly column for The

(They should tell everyone what they know.)



U.S. Fish & Wildlife Service

Economic Analysis for Hydropower Project Relicensing: Guidance and Alternative Methods

Dunn County News. He is curator emeritus of the Dunn County Historical Society.
<https://www.fws.gov/policy/hydroindex.htm>

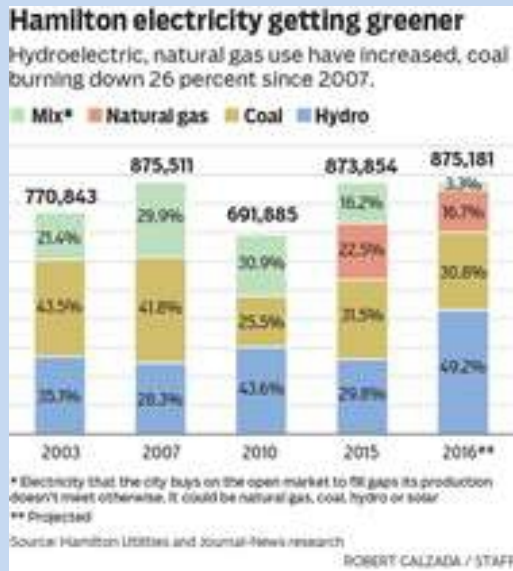
(Another L&D project.)

Hamilton creating energy through power of moving water Full operation of Meldahl plant continues a significant shift toward greener energy production.

HAMILTON, Ohio — The city’s electric utility now creates almost half the energy it produces through the power of moving water, with a new hydroelectric plant in full operation at the Meldahl Locks and Dam on the Ohio River. That continues a significant shift toward greener production of energy by Hamilton since 2003 — on its own, and in cooperation with other cities. In 2003, some 35.1 percent of the power it produced or purchased was hydroelectric, with 43.5 percent coming from burning coal. The remainder that year was purchased from other utilities, and represented a mix of generation types that can’t easily be traced back to the source.

With the Meldahl facility, about a 45-minute drive upriver from downtown Cincinnati to Chilo, Ohio, in full operation since April 12, the city estimates hydro power this year will make up 49.2 percent of its energy portfolio, compared with the projection of 30.8 percent from coal, and 16.7 percent from cleaner-burning natural gas. “When you look at the mix of resources, and you’re looking back at let’s say, the 2007-2008 period, our primary resources were the Hamilton power plant, which at that time was a coal-fired generating station, and (the hydroelectric station at) Greenup (Locks and Dam, also on the Ohio River),” said Kevin Maynard, Hamilton’s director of public utilities. “As we look at the resource mix we have today, even with the (coal-burning) Prairie State Energy Campus (near Lively Grove, Ill.), that is one of the cleanest coal-fired generating stations in the United States,” Maynard said.





Meanwhile, Hamilton is part owner, through the American Municipal Power organization, of a natural-gas generating station in Fremont, Ohio; the Prairie State facility (of which AMP owns about 23 percent); and two natural-gas combustion turbine facilities, in Hamilton itself. Coal-burning power plants are a significant creator of ozone gases, which scientists say are leading to global warming and also contribute to such health problems as asthma and cardiovascular problems. Butler, Warren and Preble counties last week received grades of F for the numbers of days they have unsafe ozone levels, in the American Lung Association's 2016 State of the Air report. As part of AMP, Hamilton also buys electricity from the New York Power Authority's hydroelectric plants on the Niagara River and St. Lawrence Seaway. Hamilton since 1963 has also operated a small hydroelectric plant on a canal along the Great Miami River.

AMP spokesman Kent Carson said his organization since 2000 has evolved from one that helped arrange wholesale power purchases for its member communities to an entity that owns its own power-generating plants. That was prompted by energy-cost volatility during the early years of this century, when AMP communities like Hamilton sought to stabilize their energy costs. Wholesale energy-market prices "have been pretty stable the past few years, but there's been some pretty big dips and pretty big spikes during that time," Carson said. "And the problem with being that much exposed to the wholesale market is you can't control your costs over a long term." Increasingly moving into greener energy, AMP is building, or recently finished, three other hydroelectric plants on the Ohio River that Hamilton is not a participant in. AMP also is launching solar-energy-production, Carson said.

(Power from flowing water.)

Hydropower brought to Bristol Bay village of Igiugig

By Emily Russell, KNOM – Nome, Akaska - alaskapublic.org, April 26, 2016

An effort to bring renewable energy to western Alaska was recognized Tuesday by the federal government. The Ocean Renewable Power Company was named the 2016 Outstanding Stewards of America's Waters for its ability to bring hydropower to the Bristol Bay village of Igiugig. The Kvichak River flows out of Lake Iliamna and into Bristol Bay. It helps support the world's largest sockeye salmon run in the world. More recently, it's been helping fuel the nearby village of Igiugig. Randy Alvarez has lived in Igiugig for over thirty years. He was born and raised in Naknek, another small town in Bristol Bay. As a longtime resident, Alvarez is familiar with the fact that fuel is often two or three times as expensive in the bush as it is on the road system. He's also keenly aware because of his job. "I've commercial fished since I was old enough to go in the boat with my father and I still do it. I'm planning on doing it as long as I can," Alvarez said. But it was a big surprise to his fellow fishermen when Alvarez got behind a project that would test an underwater turbine in the Kvichak. "Putting a turbine in the river was a big concern for a lot of fishermen," said Alvarez. But it wasn't going to be the first time the turbine was used in Alaskan



The Power system on station in Kvichak River (Photo courtesy of ORPC)

waters. The first prototype was tested in the Tanana River near Fairbanks. “That river is very silty,” Alvarez said. “Not only is it silty, it has lots of woody debris in it and other challenges.” Monty Worthington is the Ocean Renewable Power Company’s director of project development in Alaska. He says debris did what it does best—it got stuck. Worthington says silt made it so they couldn’t see what else besides water was moving through the underwater blades. So Worthington’s team turned to Bristol Bay’s Kvichak River.

Local contractors and ORPC team members in front of RivGen (Photo courtesy of ORPC) “The Kvichak River is fairly unique in Alaska in that it’s a large, fast-flowing, and clear river,” said Worthington. The turbine, or RivGen, as Worthington calls it, was lowered into the Kvichak for its first test run from August until September of 2014. Randy Alvarez said they placed the turbine very strategically. It was about 20 feet of water where they put it in. They put it in the deepest part of the river so that ice and anything floating downriver on top, or even boats could go over the top of it.” RivGen is outfitted with five underwater cameras. The crew kept a close eye on all the underwater action during its first test run. They didn’t see any salmon getting stuck, so it was put back to work the following summer. Alvarez explains the second test run was from July until September, overlapping with the more than a million sockeye running up the Kvichak. “After two years of studying it, it didn’t have much impact at all, which was a great relief to us,” Alvarez said. “It showed that we can have it and not worry about it chewing up our salmon.” Those results earned the Ocean Renewable Power Company this year’s Outstanding Stewards of America’s Waters Award, but the real reward won’t be known until the next phase of the project, when Worthington begins work on a commercial turbine. Alvarez says a commercial RivGen could cut Igiugig’s energy bill in half, “Forty years ago, it was different. It didn’t cost much money to live in villages. Now, it’s expensive,” said Alvarez. “So we need the jobs and we need cheaper electricity.”

(So, what’s new? It’s been going on since 1920. This is ironic when it was PG&E that pushed for enactment of ECPA.)

Hydroelectric power officials bemoan federal regulations

**At House hearing, officials say permitting process dampens clean generation of electricity
PG&E official claims years of delays, millions of expenses before licenses are granted
A caution: a dam in the wrong place can hurt wildlife, recreation and traditions**

APRIL 27, 2016, By Michael Doyle, kansascity.com

WASHINGTON - Federal burdens dampen California’s hydroelectric power potential, PG&E and Turlock Irrigation District officials told lawmakers Tuesday. They were preaching to the Capitol Hill choir. Summoned by House Republicans who hope to unleash more of what they called a “clean, renewable and domestic energy resource,” the two California utilities’ representatives described a regulatory thicket that can take many years and millions of dollars to navigate. “It’s proving to be lengthy, and a bit frustrating, and expensive,” said Steve Boyd, the Turlock Irrigation District’s director of water resources and regulatory affairs. Debbie Powell, senior director of power generation operations for Pacific Gas and Electric, added that “the processes are overly complex” and “needlessly expensive.” Boyd cited the Don Pedro Project on the Tuolumne River, which is jointly operated with the Modesto Irrigation District. The project’s current license issued by the Federal Energy Regulatory Commission in 1966 expires this Saturday. Though the districts began the renewal process in 2009, and have since spent more than \$20 million on assorted studies, Boyd explained that several



temporary, year-long extensions of the original license will be required before a full renewal is obtained. “We’ve been at this seven years,” Boyd said.

Delays in the relicensing process serve only to delay . . . needed improvements and add costs, which are ultimately borne by the energy consumer. Debbie Powell, PG&E In a similar vein, Powell reported that PG&E’s last 10 hydroelectric license renewals took between seven and 28 years and racked up associated costs from \$2 million to over \$20 million. “Something’s got to be wrong with that part of the process,” said Rep. Jim Costa, D-Fresno. The roughly 90-minute hearing before the House water, power and oceans subcommittee was largely a one-sided affair, with three of the four witnesses representing utilities and with no government agencies represented. Traditional environmental perspectives were vastly outnumbered, though not absent altogether. “When hydropower is improperly sited or operated, it can have major impacts,” cautioned Rep. Jared Huffman, D-San Rafael. “It can cause major harm to fish and wildlife, water quality, recreational opportunities and tribal lands.”

California is currently home to some 287 hydroelectric projects, operated by the state or federal governments or by utilities like PG&E or the Sacramento Municipal Utility District. In 2014, hydropower accounted for 6 percent of in-state electricity production, down from 12 percent in 2013.

Relicensing is a hassle, witnesses agreed. A study of 16 hydropower licenses issued in 2011 by FERC found that the average time from filing to licensing was 3.6 years, with the longest wait lasting eight 8 years. “What does this licensing process get us?” Rep. Tom McClintock, R-Elk Grove, asked, rhetorically. It’s unclear, though, what Congress might do about it. In 2013, President Barack Obama signed into law two bills intended to streamline the approval process for small hydroelectric projects. While a number of hydropower-related bills have been introduced since 2015, many deal with extending construction deadlines for specific projects in states including Virginia, Montana and North Carolina. With a broader brush, California water bills offered by Rep. David Valadao, R-Hanford, in the House and Democratic Sen. Dianne Feinstein in the Senate could affect some hydropower operations, though the bills’ long-term prospects remain in question. The most sweeping revisions could come as part of a broader energy bill, a version of which the Republican-controlled House passed on largely a party line vote last December. Costa was one of only nine Democrats to vote for it. The White House’s Office of Management and Budget has threatened a presidential veto, contending that the revisions “would undermine” FERC’s ability to protect “safety, fish and wildlife, water quality and conservation, and a range of additional natural resources and cultural values.”

(At this rate, pretty soon they’ll own all of them.)

AMP Deal Will Finance Purchase of Hydroelectric Facility

By Nora Colomer, April 27, 2016, bondbuyer.com

DALLAS — Ohio-based American Municipal Power Inc. plans to use a portion of the proceeds from its upcoming sale of \$137.5 million in tax-exempt project revenue bonds to finance the purchase of an ownership interest in the Greenup Hydroelectric Facility. AMP will acquire 48.6% of the Greenup facility from the city of Hamilton, Ohio. Greenup is an a 70.2 megawatt run-of-the-river hydroelectric facility located at the Greenup Lock and Dam on the Ohio River that’s been in operation since 1982. The facility has been owned and operated by the city since 1988. “Unlike many projects where the financing happens prior to construction here we are buying into an already operating



facility,” John Bentine, AMP’s senior vice president and general counsel, said during an investor presentation.

Moody’s Investors Service rated the bonds A1. Fitch Ratings assigned an A-minus and Standard & Poor’s rated the bonds A. All assign a stable outlook. The deal is scheduled to price on May 4. Bank of America Merrill Lynch is the senior manager. Huntington Investment Co., JP Morgan, Key Bank Capital Markets, Morgan Stanley, RBC Capital Markets, US Bancorp, and Wells Fargo Securities are co-managers. Some of the bond proceeds will fund AMP’s share of capital expenses for Greenup, repay an interim line of credit, fund capitalized interest, cover a deposit into the debt service reserves, and pay issuance costs. AMP has energy partnerships involving 133 member municipal electric systems; 47 participate in the Greenup Project. The bonds are secured by the net revenues and other income received from AMP’s 48.6% ownership interest in Greenup, including payments made by the participants under the power sales contracts. The power sales contracts with the 47 participating members have terms that extend throughout the life of the bonds. Take-or-pay power sales contracts obligate the members to pay for their respective shares of all project costs, including debt service on the bonds, whether or not the project is operating or any power is delivered.



Water:

(They always put the stoplight at the intersection after the accident.)

Project Brays, flood control projects could be fast tracked

By Adam Bennett, KHOU, April 22, 2016, khou.com

The floods of the last week have rekindled interest in Project Brays, an effort that’s been in the works for more than 15 years to widen the channel. On Friday afternoon, local U.S. Congressmen Al Green and Gene Green announced they’ve introduced a bill that would appropriate \$311 million to fully fund all of the Houston area Army Corps flood control construction projects that have been authorized but not completed. The representatives say while the money will not completely prevent flooding, they hope it will reduce its frequency and severity.

One of the projects that would receive money is Project Brays, which would widen 18 miles of Brays Bayou between the mouth of the bayou and Fondren Road, deepen three miles of the bayou from Old Westheimer to State Highway 6, replace or modify 30 bridges to allow more water to flow through and build four storm water detention basins to hold excess water.

Mayor Turner joins Congressmen Al Green Gene Green to announce 2016 Tax Day Floods Supplemental Funding Act pic.twitter.com/9YYr0k7SYx. Project Brays has been delayed for years because of difficulties getting funding. Congressman Al Green says the project currently has a \$34 million shortfall, despite receiving \$212 million in funding. Meyerland residents who have been flooded twice in the last year are hopeful the money could speed up efforts to protect their homes from any more damage.



&

Project Brays would provide needed improvements to Brays Bayou to prevent future flooding. (Photo: KHOU)

“It’s too raw, too traumatic,” said Lisa Askenazy Felix, whose home just a few hundred feet from Brays Bayou was flooded during both the Memorial Day and Tax Day floods. “We’ll look at our options. I hope there are options. I hope that help is coming through this congressional action.

Congressman Al Green said Congress could approve the funds as early as next week. An official with the Harris County Flood Control District says once the money comes through, it could take several years to finish Project Brays in its entirety. **If approved**, the money would be available until 2026 and would also cover projects in White Oak, Greens and Hunting Bayous, along with Clear Creek and its tributaries. **Officials say the construction would create an estimated 6,220 jobs.**



Environment:

(Bugs gotta have water too.)

Dam management plan aims to boost native fish, bugs

By EMERY COWAN Sun Staff Reporter, 4/26/16, azdailysun.com

The Bureau of Reclamation is proposing new strategies to manage trout numbers, boost native humpback chub and promote insect populations on the Colorado River downstream from Glen Canyon Dam. The agency in December released its draft plan for managing operations at the dam over the next 20 years and is accepting public comments until May 9. The Bureau of Reclamation's proposed management options include expanded opportunities for high flow dam releases aimed at building up sandbars as well as new experiments with flow volume to better manage ecosystems downstream. Many other actions outlined in the document build on dam operations that are currently in place, said Scott Vanderkooi, chief of the Grand Canyon Monitoring and Research Center in Flagstaff, which contributed scientific data and review of the document.



"In a sense it's fine tuning a number of the things we have been doing, learning from high-flow experiments we've done to date and experimental approaches that have been implemented downstream," Vanderkooi said. **In addition to spring and fall releases that have been allowed under current operations, the proposed plan expands opportunities for spring high flow releases and fall releases that last up to 10 days.** So far, the higher flows have proved positive for sandbar health and longevity downstream of the dam, said Joe Hazel a research associate at Northern Arizona University who has studied Grand Canyon's sandbars for 25 years. The rush of water from the floods acts to sweep up sand that has settled on the bed of the river and elevate it onto the banks. **"I'm a big believer in the high flow protocol and floods and I also believe science shows that if we don't do floods that sediment is just going to Lake Mead," Hazel said.**

FISH AND BUG FLOWS

Lower summertime flows to help chub numbers, weekend low flows for the benefit of invertebrate production and trout management flows are all new experiments proposed in the Bureau of Reclamation's draft management plan, spokesman Marlon Duke wrote in an email. **Flows to manage nonnative trout near Glen Canyon Dam work by holding water discharges from the dam at a moderately high level for a certain number of days to lure young fish to the shallow edges of the river.** Then dam releases are severely restricted to quickly drop water levels and leave those fish, just a few inches in length, stranded, Vanderkooi said. **The goal is to stabilize trout populations so they are less boom and bust and also keep significant numbers of trout from moving downstream and affecting native humpback chub populations, which has happened during high population years, Vanderkooi said.** Another experimental strategy aims to promote the growth of insect populations by holding the river's water level steady at a minimum level on the weekends during the summer months. It was research by Ted Kennedy with the Grand Canyon

Monitoring and Research Center that showed fish populations in the canyon are limited by the abundance and diversity of invertebrate prey like mayflies, stoneflies, and caddisflies. Because insects cement their eggs to rocks and vegetation along the river's edge, the hypothesis is that the varying flows either dry out or drown the eggs before they have a chance to hatch, Kennedy said. The steady flows would help create better egg-laying conditions and doing so on the weekends when the cost of electricity drops makes it a more cost effective way to buffer aquatic insects against the dam's artificial flows, Kennedy said. Kennedy said he's unaware of any other dam regulated system where these "bug flows" have been tried. He also acknowledged there is some skepticism about whether the strategy will work considering the many other stressors on the ecosystem in Grand Canyon. Improving conditions for humpback chub is the idea behind a proposal to lower flows from the dam in June, July and August to create the warmer water conditions important for chub spawning and growth. Lower water levels allow the river to warm up by the time it gets to the Little Colorado River confluence, where chub are concentrated. Joe Shannon a research professor in NAU's biology department, took a more skeptical view of the Bureau of Reclamations proposal for dam operations. No matter how flow releases are tweaked, the reality remains that this is an engineered system with conflicting demands, Shannon said. "There are a huge number of objectives they're trying to reach and essentially it's impossible. They can't bring back native fish populations by just twisting the valve," he said. Dam releases can't be managed to mimic pre-dam conditions, which is in some ways what the long-term management plan is trying to do. "The whole concept is impossible," he said. "You can't go back in time."

(America's symbol.)

2 Baby Bald Eagles Get New Names _ Freedom and Liberty

By THE ASSOCIATED PRESS, APRIL 26, 2016, nytimes.com.

WASHINGTON, DC — Two baby bald eagles at the U.S. National Arboretum in Washington have been officially named "Freedom and Liberty" following a "Name the Nestlings" social media campaign. News media outlets quote the American Eagle Foundation as saying that more than 36,000 people voted on five different name pairings selected on the Friends of the National Arboretum Facebook page: Stars and Stripes, Freedom and Liberty, Anacostia and Potomac, Honor and Glory, and Cherry and Blossom. Voting was held from April 19 through April 24. Following the vote, eagle experts with several private groups and government agencies picked the names and made the announcement Tuesday. The foundation and arboretum launched the live streaming DC Eagle Cam after the parents — nicknamed "Mr. President" and "The First Lady" — laid two eggs in February.



Other Stuff:

(Mother Nature's beasts can sometimes be nasty, so use a telephoto lens.)

Man Tries to Take Photo of Beaver; It Kills Him

Animal's bite severs artery in man's thigh

By Evann Gastaldo, Newser Staff, Apr 14, 2013, newser.com

(NEWSER) – Forget sharks: It's beavers that are truly terrifying. A fisherman in Belarus was bitten to death by one, and all he was doing was trying to



take its picture, Sky News reports. The man spotted the beaver while fishing with friends at Lake Shestakov, but as he approached to take a photograph, the beaver bit him on the thigh. The animal managed to sever an artery, and his friends couldn't stop the blood flow. Sky News helpfully reminds us that beavers can, of course, bite through trees. Beaver attacks are rare, though, and when they do occur, rabid beavers are generally to blame (as in this 2012 attack in upstate New York). But just this week, a video was posted on YouTube showing a beaver going after a Russian man, reports the Telegraph, and two girls were seriously injured after being mauled by a beaver in Virginia last year. In similar news with a happier ending, the AFP reports that a Komodo dragon "sunk its teeth into" an 83-year-old Indonesian woman on Tuesday—but she was able to fend it off.

(Why isn't one enough?)

America Is Getting Another National Animal

Bald eagles, make way for the bison

By Arden Dier, Newser Staff, Apr 28, 2016, newser.com

(NEWSER) – The bald eagle's 234-year reign as the sole symbolic animal of the US is about to come to an end. The National Bison Legacy Act passed by Congress—and expected to pass the Senate next week, per CNN—denotes the bison as America's national mammal and a "historical symbol of the United States," joining the bald eagle as the national animal, the oak as the national tree, and the rose as the national flower,

reports the Guardian. Though the move will come with no additional protections for bison, a rep for the Wildlife Conservation Society says it's a

"milestone in a long journey ... to prevent the bison from going extinct and to recognize the bison's ecological, cultural, historical, and economic importance." It's also fitting since the bison "is as strong as the oak, fearless as the bald eagle, and inspiring as a rose."

"No other indigenous species tells America's story better," says Rep. William Lacy Clay, D-Missouri, who was among those to write and sponsor the bipartisan bill. It's "an enduring symbol of strength, Native American culture, and the boundless Western wildness." The animal—already the state mammal of Wyoming and state animal of Oklahoma and Kansas, a WCS rep writes at the Huffington Post—"has had a special place in the lives of tribal people since time immemorial and played important roles in our culture, religion and lifestyle," adds a rep for the Inter Tribal Buffalo Council, which led the effort on behalf of some 60 tribes, groups, and businesses. Pushed to the brink of extinction in the late 19th century, bison now number 400,000 in commercial herds across the country, with another 30,000 in the wild.



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