“Once more upon the waters! Yet once more!
And the waves bound beneath me like a steed
That knows his rider.”

-- Lord Byron, Childe Harolde’s Pilgrimage

IN THIS ISSUE

21:09/01: Dungeness Crabbing Opens in California’s District 10 After Long Wait ...................1
21:09/02: San Joaquin Irrigators Demand Removal of Two Tunnel Plan Hearing Officers .......2
21:09/03: Southeastern States Rally to Oppose Offshore Drilling, and Win ..........................2
21:09/04: Opposition Grows to Lifting Fracking Moratorium ..................................................3
21:09/05: Green Lights Shown to Reduce Turtle Encounters with Fishing Gear ..................3
21:09/06: Private Wetland Restoration Effort Begins .................................................................3
21:09/07: Global Water Crisis Exacting Toll on Industries, Workers .....................................4
21:09/08: Herring Stink Means More Than We May Think .....................................................4

21:09/01. DUNGENESS CRABBING OPENS IN CALIFORNIA’S DISTRICT 10 AFTER LONG WAIT: California’s long-delayed Dungeness crab fishing season is finally set to resume, with a partial opening of the state set for 26 March at 12:01 AM. Crabbers have been allowed to set their gear since 6:01 AM 25 March. Fishing will only be open from the Sonoma/Mendocino County line southward. The northern areas between that line and the Oregon border remain closed pending clean domoic acid tests. The most recent tests (24 March) offered some promise, with Ft. Bragg returning a clean test and Trinidad showing encouraging results.

California’s crab fishermen and consumers alike have been eagerly anticipating this day. The lack of fresh, succulent California Dungeness stymied many a holiday party and has been an incredibly difficult time financially for crabbers. Confirmation by the California Department of Public Health (CDPH) and the Office of Environmental Health Hazard Assessment (OEHHA) that Dungeness are
perfectly safe to eat is a huge relief to a crab fleet that’s been reeling from this closure and last year’s poor salmon season. PCFFA and IFR are encouraging all Californians to support our sustainable fishing fleet by celebrating California Crab on Friday, 1 April. Pick up some local crab from your local fishmonger or restaurant, get together with friends, and crack an Anchor Steam and some shell. Whether you eat it hot or cold, mix up a cioppino, or turn it into dip, California’s crab is safe, delicious, sustainable and finally ready to make is debut.

For more information, see this 24 March Half Moon Bay Review article. Domoic acid sampling results are available at this CDPH webpage.

21:09/02. SAN JOAQUIN IRRIGATORS DEMAND REMOVAL OF TWO TUNNEL PLAN HEARING OFFICERS: The San Luis & Delta-Mendota Water Authority (San Luis) demanded on Monday that two hearing officers overseeing the “Cal Water Fix” change in point of diversion permit hearing be disqualified from hearing the case. San Luis, one of the largest and most powerful irrigation agencies in California, requested that State Water Resources Control Board (State Board) Chair Felicia Marcus, and State Board member and hearing officer Tam Doduc be disqualified or recuse themselves.

San Luis argued that Marcus and Doduc had predetermined their position on how much water would be allowed to flow through the Delta after the Tunnels, which are now formally known as the “Cal Water Fix,” are constructed. In an earlier procedural order authored by Marcus and Doduc, the State Board indicated that Delta flows would “be more stringent” after construction of the tunnels, but made no attempt to quantify those flows or describe how much more stringent they would be. In any case, the very design of the Tunnels is to reduce Delta flows, by removing Sacramento River water before it ever enters the Delta from the North, and piping it underneath the estuary to the South Delta pumping facilities, rather than through the Delta to the pumps.

The dustup over hearing officers comes just a few days before the main Tunnel proponents, the California Department of Water Resources and the U.S. Bureau of Reclamation are set to present their case-in-chief to the hearing officers. PCFFA and IFR are formally protesting the point of diversion change petition, which is a critical precursor to constructing the Tunnels, because the $15 billion project is likely to further damage Central Valley salmon runs that are already in steep decline.

For more information, see this 22 March Sacramento Bee article.

21:09/03. SOUTHEASTERN STATES RALLY TO OPPOSE OFFSHORE DRILLING, AND WIN: On 14 March, officials with the Department of the Interior and the Bureau of Ocean Energy Management recognized broad public opposition to offshore fossil fuel extraction in South Carolina and other Atlantic coastal states by cancelling a proposal to allow the exploration for oil and natural gas deposits, preparatory to their extraction. Over the past year, the people of coastal South Carolina, through their elected town and county councils, and support of two Congressmen, successfully campaigned against offshore drilling. Local jurisdictions from Hilton Head to North Myrtle Beach joined the campaign with virtually every community, large and small, joining in.

The federal decision means that the long-standing moratorium on offshore oil drilling along the coasts of South Carolina, North Carolina, Georgia and Virginia will continue, despite
the best efforts of the oil industry to force a change. A spokesman for the American Petroleum Institute declared that the Administration's decision "appeases extremists who seek to stop oil and natural gas production which would increase the cost of energy for American consumers and close the door for years to creating new jobs, new investments and boosting energy security."

For more information, see this 15 March Post & Courier article.

21:09/04. OPPOSITION GROWS TO LIFTING FRACKING MORATORIUM: A startling 200-plus active oil fracking wells off Southern California's coast were revealed in the summer of 2013, after an investigation by the Associated Press under the Freedom of Information Act. This surprising discovery angered and propelled fishing groups, indigenous organizations, and environmental groups to push for a fracking ban on the California coast. The Obama and Gov. Jerry Brown's Administrations supported the expansion of fracking and other oil drilling techniques in the area. A fracking moratorium ensued after a legal settlement with the Center for Biological Diversity and Environmental Defense Center. However, in February 2016, the federal government drafted a proposal to lift the moratorium. Fierce opposition is building rapidly. 23 March ends the public-comment period on ending the moratorium.

On March 22, 2016, a letter signed by ocean and climate scientists urged the Bureau of Ocean Energy Management (BOEM) and Bureau of Safety and Environmental Enforcement (BSEE) to conduct a comprehensive environmental review of the risks associated with fracking and "continue the moratorium until scientific studies demonstrate fracking and acidizing (sic) do not threaten wildlife, the marine environment, coastal communities, and the climate." A second letter on March 22, authored by 128 health, environmental, indigenous, labor and business organizations, requested a federal government ban on fracking. "Given the known environmental and health hazards of fracking, as well as the information gaps of offshore fracking, we ask you to prohibit oil companies from fracking and acidizing (sic) wells off the California coast." PCFFA and IFR also signed on to this second letter.

Offshore fracking threatens fish, marine mammals, invertebrates and the entire marine ecosystem by blasting volumes of water mixed with toxic chemicals under the seafloor, at high pressures, to fracture rocks. The wastewater, mixed with fracturing chemicals, is then "disposed of" by dumping it in the ocean.

For more information, see this 23 March Fish Sniffer article.

21:09/05. GREEN LIGHTS SHOWN TO REDUCE TURTLE ENCOUNTERS WITH FISHING GEAR: A new study has shown that illuminating fishing gear with green lights can reduce turtle entanglements by 64%. The green LEDS, which cost about $2.00/each, could be a step forward in reducing interactions between gillnets and turtles, and could open up fishing opportunities that are currently restricted so as to prevent bycatch. The study took place in Peru, where university researchers from the U.K. and the U.S. National Oceanic & Atmospheric Administration (NOAA) made the lights available to the small-scale gillnet fishery. A control group fishing without the lights caught 125 turtles, while the study group caught only 62, but the target fish species for both groups was caught at the same rate.

For more information, see this 23 March phys.org article.

21:09/06. PRIVATE WETLAND RESTORATION EFFORT BEGINS: Do you ever remember driving by an uncultivated, wet, marshy piece of property; looking; casually thinking, "worthless wasteland"- and kept driving? Was it a Wasteland or a misunderstood Wetland?
Chances are it was a valuable estuary, a wetland, allowing juvenile salmon to safely transition from fresh water on their way to the briny ocean. These murky pathways are critical for endangered salmon, where they are protected from predators like the Blue Heron or Bald Eagle, who can't see them.

Estuaries, waterfowl and endangered salmon are all in serious decline. To help counter the disappearing habitats, successful Sunol businessman, Paul Bonderson, Jr. is trying to change this. By investing in his own land, and starting a crusade to raise $1 billion, Bonderson wants to benefit wetlands for waterfowl and wildlife. He converted 1,500 of his 2,500 acre ranch from rice fields to wetlands. As national President of Ducks Unlimited, Bonderson’s primary goal is to protect wetlands habitat that provides safe havens for endangered and wildlife species and more than 200 species of birds. Salmon should enjoy many ancillary benefits as a result of this important restoration work, which could be a model for private conservation philanthropy.

For more information: see this 14 March San Francisco Chronicle article.

GLOBAL WATER CRISIS EXACTING TOLL ON INDUSTRIES, WORKERS:

The global water crisis is threatening business and jobs growth. Half the world's workers, 1.5 billion people, are employed in industries heavily dependent on water, most of which are in farming, fisheries and forestry. "Countries are not getting the economic benefits of their working population because people are spending so much of their money on water," said Fleur Anderson, global head of campaigns at the charity Water Aid.

"Demand for water is expected to increase by 2050 as the world's population is forecast to grow by one-third to more than 9 billion," according to a 2016 U.N. World Water Development Report. "This, in turn, will lead to a 70 percent increase in demand for food, putting more pressure on water through farming, which is already the biggest." The United Nations estimates that rising sea levels and extreme weather will result in 1 in 4 people living in a country with water shortages by 2050. It is "important to focus on expanding rainwater harvesting and recycling wastewater." In the United States, every $1 million invested in the country's water supply and treatment infrastructure generates between 10 and 20 additional jobs, according to the report.

For additional information, see this 21 March Christian Science Monitor article.

HERRING STINK MEANS MORE THAN WE MAY THINK:

All fish communicate in some form. Surprisingly, the tiny Pacific Northwest herring "fart" to communicate, wrote researchers Ben Wilson, Robert S. Batty and Lawrence M. Dill. "Depending on the species and situation, fish can use sound, motion, color, chemical signals, and electric impulses to sense their environment and communicate with each other," noted Eleni Petrou in her research at the University of Washington. Apparently that also means farting as well.

Petrou is studying why the once abundant miniscule silver pelagic herring are decreasing. For over 10,000 years, people in the Pacific Northwest depended on the tiny silver fish for sustenance. Since the early 20th century, this important forage fish provided food for families in Washington's San Juan Islands. The herring population, like many ocean species, are diminishing and no one knows why. "Given how little we know....we
need to investigate whether they are being intercepted by fisheries outside Washington State, and continue researching what effects pollution might have on herring larval development and survival," continued Petrou.

For more information, see this [21 March Islands’ Weekly article](#).

**YOUR NEWS, COMMENTS, CORRECTIONS:** Submit your news items, comments or any corrections to Editor at: tsloane@ifrfish.org, or call the IFR/PCFFA office with the news and a source at either: (415) 561-FISH (Southwest Office) or (541) 689-2000 (Northwest Office). If you have any trouble subscribing or unsubscribing, contact IFR/PCFFA directly at: tsloane@ifrfish.org. **Sublegals** is a weekly fisheries news bulletin service of Fishlink. “Fishlink” and “Sublegals” are registered trademarks of the Institute for Fisheries Resources. All rights to the use of these trademarks are reserved to IFR. All photos are by IFR unless otherwise accredited. This publication, however, may be freely reproduced and circulated without copyright restriction. Articles taken from Fishlink Sublegals may be freely reposted or reprinted with attribution to “Fishlink Sublegals.” If you are receiving this as a subscriber, please feel free to pass it on to your colleagues.

#####