TUWaterWays

Water News and More from the Tulane Institute on Water Resources Law & Policy
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Who Likes Mardi Gras Beads as much as "First Timers?" Microbes!

Now that it's Carnival Time, Professor Mark Benfield of the LSU Department of Oceanography and Coastal Sciences is preparing to fly a camera-equipped drone over the Mississippi River to search for Mardi Gras debris rolling on the river. He is conducting local surveys looking for large floating plastic pollution in the hopes of getting a representative look at pollution. Professor Benfield explained that, while Mardi Gras debris is just "a drop in the bucket" of plastic pollution, the beads and glitter are problematic because they appear to fish as "something pretty good to eat." When fish eat plastic, it can block their digestive system; give the fish a false sense of fullness; and make its way up the food chain to humans who consume the fish. Another member of LSU's Department of Oceanography and Coastal Sciences, Stephen Midway, is collaborating with states that drain into the Mississippi River. Local agencies send him dead fish specimens, and he examines their stomach contents to see where plastic is entering the food chain. He explained that chemicals known as persistent organic pollutants cling to bits of plastic pollution, essentially creating poison pellets. Additionally, a team of researchers at the National University of Singapore recently published a study describing the discovery of a diverse array of bacteria, including some that are pathogenic, living on microplastics collected from Singapore's beaches and coastal areas. Microplastics are great habitats for the bacteria because they are prevalent, buoyant, and virtually immortal.

Considering the dismal information above, as well as the other problems caused by Mardi Gras beads (e.g., 46 tons of beads were found in clogged catch basins in New Orleans last year), another LSU scientist is thinking outside the box and creating beads made out of algae. The beads biodegrade in soil after a year or two, but cost remains an issue. In the first batch of beads, each necklace is expected to cost $13, but Professor Naohiro Kato remains optimistic that costs will decrease to $1 or less in subsequent production runs. When that day comes, surely everyone will Go to the Mardi Gras and perform a Mardi Gras Mambo in celebration!

Coastal Restoration is for the Birds. No, really!

According to a new report, the National Audubon Society has concluded that four of Louisiana's coastal restoration projects are key to protecting and restoring bird populations along the Gulf Coast. The projects are the Mid-Barataria Sediment Diversion, restorations of Queen Bess Island near Grand Isle and Chandeleur Island off the St. Bernard Parish coast, and marsh creation in Freshwater Bayou in Vermilion Parish. The report lists 26 other projects from Texas to Florida that the Audubon Society says could bolster bird populations

The **Tulane Institute on Water Resources Law and Policy** is a program of the Tulane University Law School.

The Institute is dedicated to fostering a greater appreciation and understanding of the vital role that water plays in our society and of the importance of the legal and policy framework that shapes the uses and stewardship of water.

Coming up:

Coastal Law CLE
March 14-15, 2019
New Orleans, LA

Tulane Environmental Law Summit
March 22 & 23, 2019
New Orleans, LA

Water jobs:

Associate Attorney
Earthjustice
Washington, DC

Associate Staff Attorney
Riverkeeper, Inc.
Ossining, NY

Climate Change Programme Director
Ethical Tea Partnership
Home Based/Remote

Tulane Institute on Water Resources Law & Policy
6325 Freret Street, 1st Floor
New Orleans, LA 70118
504-865-5982
tulanewater.org
TWITTER: @TulaneWaterLaw

in the Gulf Coast region. Kara Lankford, director of Gulf Coast restoration at the Audubon Society, pointed out that bird colonies along the Gulf Coast have been threatened in recent years by oil spills, hurricanes, coastal land loss, and the demands of human recreational use. Lankford explained that the "Gulf of Mexico is a vitally important ecosystem" for native bird species and non-native species that use it as a layover on long migrations between North and South America. Well, b-b-b-bird is the word when it comes to coastal restoration.

Quiz Time: Does Oil Production Yield More Oil or Water?

Water! Two to five barrels of water for every barrel of fracked oil to be exact. Produced water, as the industry calls it, is a hypersaline brine that includes chemicals used during fracking, as well as trace minerals and radioactive elements. Unsurprisingly, given the previous description, produced water cannot be thrown out just anywhere, and disposing of produced water is one of the largest operating costs for an oil well. The practice of reusing produced water (as opposed to injecting the produced water underground, which might trigger earthquake problems) has been growing in recent years. More and more oil companies are using lightly treated produced water as a replacement for fresh water in fracking operations, and Texas A&M University has even tested the use of produced water in agricultural irrigation.

In the arid, oil-producing Permian Basin, produced water is plentiful, and disposal regulations are tightening. Investors see an opportunity to consolidate water disposal into cohesive units that resemble the pipeline networks that transport oil and gas from the wellhead to refineries. The goal is to make the reuse of produced water easier. That is, pipelines can move the produced water in a cheaper and less disruptive manner than trucks, and the use of produced water via pipelines avoids overburdening local water sources. As Kerry Harpole, who is a water management technical adviser for Marathon Oil, stated, "We make water where we don't want it, and we want water where we don't have it." As a result, the basin and its abundance of produced water are attracting hundreds of millions of dollars in capital. Gabriel Collins, an energy fellow at Rice University's Baker Institute, expects that the market for produced water could climb to at least $10 billion in the near future as the volume of produced water continues to grow. He forecasts that the Permian Basin could yield an additional 4 million barrels of water a day by August 2021 (on top of current 10-12 million barrels a day). However, produced water spills, which might not garner as much attention as oil spills (see below), are nonetheless extremely damaging to soil and groundwater. For example, a site known as the "Texon Scar" is a 2,000-acre patch of dead earth in the southeast portion of the Permian Basin that resulted from the dumping of oilfield wastewater in the 1920s. So, if anyone has a passion for disposing of dangerous water or just wants to break into the burgeoning field to make the big bucks, head to the Permian Basin, but please, please, please do not spill any of that nasty water.

This Is the Spill that Doesn't End. Yes, It Goes On and On My Friend.

As discussed in previous editions of TUWW, a Taylor Energy platform has been leaking oil into the Gulf of Mexico since 2004. According to new research presented at the Gulf of Mexico Oil Spill and Ecosystem Conference, between 2,100 and 71,400 gallons of oil are spilling from the site each day. The researcher who presented the findings based his assessment on more than a decade's worth of satellite imagery of the Taylor site and surrounding area. That means the Taylor leak could total 375 million gallons, which is more than the 2010 BP disaster by more than 241 million gallons.

Unlike the BP spill, oil from the Taylor leak appears to flow away from the coast because of its proximity to the Mississippi River. That is, the Mississippi River pushes the Taylor oil out to sea, whereas the BP oil gushed at a much faster rate over a shorter period of time and devastated the coastlines of Louisiana, Mississippi, Alabama, and west Florida. Unsurprisingly, Taylor disputes the new research and rejects comparisons with the infamous BP disaster. A Taylor spokesman pointed out that their leak has been gradual over years rather than weeks and that there has been no "discernible environmental harm to marine life or any land area." Takeaways: 1) despite what the Taylor spokesman says, it remains unclear how much ecological and economic damage has occurred due to the Taylor leak; and 2) having to explain an oil spill that has been occurring for 14+ years that has now outlived the well owner might be a job that never ends.