

TUWaterWays

Water News and More from the Tulane Institute on Water Resources Law and Policy
January 31, 2017

[Allow Me to Reintroduce Myself](#)

That's what the Mississippi River could be saying to Barataria Bay in the near future. The proposed [Mid-Barataria river diversion](#), which would reconnect the river with part of the delta it created, has been approved for a streamlined permit review process. Gov. Edwards [announced an agreement](#) with the Army Corps of Engineers to fast-track the permit review. The agreement includes a commitment of \$1.5 million from the state to help speed the environmental review process. The announcement came on January 24, though the federal approval came before Trump took office. Assuming the new administration doesn't rescind the fast-track agreement, it could shave [years off the project development time](#).

River diversions are a key component of the state's efforts to protect and restore coastal Louisiana. The Delta is disappearing in part because it lacks the river sediment that historically built land. Levees channel that sediment away from shallow wetlands like Barataria Bay and deposit it into the deeper water of the Gulf. River diversions create strategic openings in levees to redirect sediment to eroding wetlands. Models project that these reintroductions of sediment to the deltaic plain can stem the tide of coastal erosion.

[Wall of Sound](#)

Tsunamis are devastating natural disasters that are triggered by earthquakes or other seismic events sending high-powered waves towards coasts. The Indian Ocean [tsunami of 2004](#) was one of the deadliest natural disasters in human history. The unpredictability and sheer magnitude of some tsunamis make them hard to plan for and virtually impossible to defend against...until now (theoretically)! Dr. Usama Kadri from Cardiff University's School of Mathematics published a paper on the use of acoustic-gravity waves (AGW) to dissipate tsunami wave energy.

Acoustic Gravity Waves (no, not the [Bose speaker system](#)) are a special type of sound wave that can travel through dense deep ocean water. Dr. Kadri [previously studied AGWs](#) during a post-doc stint at MIT where he published a report on the potential for the sound waves to provide an early warning system for tsunamis and rogue waves. Dr. Kadri's [recent research](#) indicates that human-generated AGWs could be directed at powerful waves to reduce their amplitude and momentum before they make landfall. In practice, however,

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:

[CRCL Coastal Restoration Road Show](#)

Abbeville, Lafitte, Cameron & Lacombe, LA
February & March, 2017

[Tulane Environmental Law & Policy Summit](#)

New Orleans, LA

March 10-11, 2017

Water jobs:

[Senior Analyst/Water Resources](#)

Abt Associates

Cambridge, MA

[AgCenter Assistant/Associate/Extension](#)

[Agent \(Fisheries/Coastal Issues\)](#)

Louisiana State University

Terrebonne Parish, LA

[AgCenter Assistant/Associate Professor](#)

[\(Natural Resource Economics\)](#)

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the amount of energy needed to generate an AGW large enough to undercut a tsunami poses challenges to their use.

Flint Victims Left to Try to Turn Lead into Gold

The quest to transform base materials into precious ones through methods both magical and pseudoscientific was long the province of [Alchemists](#). While none ever succeeded in changing the elemental makeup of metal, their obsession played a role in laying the [groundwork for modern chemistry](#) by encouraging systematic evaluation of the nature of matter. Sometimes, social good can come out of occult pursuits of financial gain.

As reported here before, the origins of the Flint water crisis ([that still isn't over](#)) can be found in budget decisions made by a state-appointed manager looking to [cut city spending](#). The EPA, according to a [lawsuit filed this week](#), exacerbated the situation by “turning a blind eye to the warning signs that a public health crisis of enormous dimensions was emerging.” Plaintiffs, 1,700 Flint residents directly harmed by the EPA’s response, seek \$772 million for damages incurred by prolonged exposure to lead-tainted water. While money could never fully compensate for the impacts to health and property, it could possibly spur the EPA and other agencies to examine their crisis response protocols and improve their ability to prevent these crises in the future.

Something in the Water

Animals (including humans) often assert dominance over one another to establish a pecking order and prioritize access to food, shelter, and especially mates. Evolution has produced a dazzling array of behaviors to display dominance. Frigate birds fill their throats with air and puff it into a [prodigious red orb](#) to impress females. Komodo dragons slam their chests together to best their rivals in [reptilian sumo](#). Bighorn sheep [butt heads](#) and use horn size to establish a group hierarchy. Thanks to scientists at the University of Bern, we can some interesting fish behavior to the list.

Researchers from the Institute of Ecology and Evolution studied [Neolamprologus pulcher](#), a type of cichlid endemic to Lake Tanganyika. [They found](#) that these fish send chemical signals to potential rivals by urinating on or near the perceived threat. Fish reacted more voluminously when separated by glass, when they could see each other but not detect chemical signals. Smaller fish continued to exhibit aggressive behavior indicating that “appropriate agonistic responses appear to be dependent on the availability of such chemical information.”