

Restoring canals shown as cost-efficient way to reverse wetland loss

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LSU Boyd Professor of Oceanography and Coastal Sciences R. Eugene Turner has determined a cost-effective way to prevent coastal erosion and protect Louisiana's wetlands. Along with LSU alumna and now University of Central Florida Postdoctoral Fellow Giovanna McClenachan, Turner proposes a simple and inexpensive way to fill in canals that were once used for oil and gas mining. Their research was published recently in the journal *PLOS ONE*.

Dredging channels for oil and gas in Louisiana's wetlands creates rows of spoil banks, or excavated dirt and clay, which accumulate alongside the canals. These banks are long enough to cross Louisiana 79 times from east to west and equal three-quarters of the distance around the Earth.

The spoil banks were created by 35,000 permits issued from 1900 to 2017, and 27,000 of those permits are no longer used. Coastal land loss has coincidentally risen and fallen in time and space with this dredging. The land losses can be attributed to the changes in [water flow](#) caused by them that causes wetland collapse.

Filling the canals with remaining spoil banks is a successful restoration technique rarely applied in Louisiana, and is a dramatically cost-effective and proven long-term strategy. Turner estimates that the price of backfilling all canals in the coastal parishes is about \$335 million, or 0.67 percent, of the Louisiana's Coastal Master Plan. This is a fraction of the cost compared to the [economic value](#) gained from extracting oil and gas for the last century.

"The absence of a state or federal backfilling program is a huge missed opportunity to conduct cost-effective restoration at a relatively low cost," Turner said.

More information: R. Eugene Turner et al, Reversing wetland death from 35,000 cuts: Opportunities to restore Louisiana's dredged canals, *PLOS ONE* (2018). [DOI: 10.1371/journal.pone.0207717](https://doi.org/10.1371/journal.pone.0207717)

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