



## Coalition To Restore Coastal Louisiana

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### Beneficial Reuse of Dredged Material in Louisiana

In coastal Louisiana dredged material is used broadly for land building. In practice, there are a few ways that this happens. We have many federally maintained waterways in Louisiana. It is the responsibility of the New Orleans District of the U.S. Army Corps of Engineers (Corps) to dredge these waterways to a specified depth to keep them open and operational. When dredged material is disposed of in a manner that has benefits for society or the environment (such as for habitat restoration and creation, beach nourishment, aquaculture, forestry, agriculture, mine reclamation, and industrial and commercial development<sup>1</sup>) it is referred to as beneficial reuse. In Louisiana, sediment is primarily used beneficially through beach nourishment (primarily in barrier island construction) and wetland and marsh restoration and creation.<sup>2</sup>

Beneficial reuse is usually done in conjunction with a dredging maintenance project. Simply put, the Corps must dredge a navigation channel to provide access for ships. The dredge takes the sediment out of the channel and puts it on a wetland, marsh or beach nearby. For decades, this was the most common way that beneficial reuse was done in Louisiana. In recent years, with a greater amount of funding coming into Louisiana for coastal restoration purposes, sediment has been dredged from certain areas purely for restoration purposes and placed beneficially (i.e. there was no need to maintain a channel as a reason for removing sediment). Sediment that must be dredged that is not used beneficially is usually placed in an off-shore disposal management area or upland in a confined disposal facility.

Louisiana is lucky because almost all its sediment is appropriate to use beneficially. Sediment contamination which can be an issue in other areas of the country with a history of heavy industrial activity is generally not an issue here. Dredged sediment is not always appropriate for intended use, however. For instance, sand is preferred for beach placement. Sediment that is composed of fine silts and muds would not usually be desired for beaches. However, this type of sediment could be used for wetland and marsh restoration.

The leveeing of major rivers in Louisiana has disconnected wetlands from their historic sediment sources, causing the widespread loss of land. In delta systems sediment is necessary at a continual input rate in order to retain and build land. The loss of historic sediment sources into Louisiana's wetlands in addition with subsidence and saltwater intrusion has caused widespread land loss in Louisiana. Using sediment beneficially is one of the best opportunities we have to rebuild land.

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<sup>1</sup> [https://www.epa.gov/sites/production/files/2015-](https://www.epa.gov/sites/production/files/2015-08/documents/role_of_the_federal_standard_in_the_beneficial_use_of_dredged_material.pdf)

08/documents/role\_of\_the\_federal\_standard\_in\_the\_beneficial\_use\_of\_dredged\_material.pdf

<sup>2</sup> <https://gim2.aptim.com/RSM/> The USACE considers in-water placement, primarily at Southwest Pass and Calcasieu, as beneficial reuse. It is the largest category of beneficial reuse in Louisiana. As this method provides substantially less environmental benefits than other methods of disposal we will not focus on it here.

Despite the many benefits recognized for using sediment beneficially less than 40% of sediment dredged by the Corps' New Orleans District is used beneficially<sup>3</sup>. The reasons are many. The Corps operates under the principle of the federal standard. The federal standard is a policy that specifies that sediment must be disposed of by the least cost method available. Most of the time, especially in the Mississippi River, this means that sediment is resuspended in the river where it was dredged where, most likely, it will fill the same channel (i.e., shoal in) with sediment sometime in the near future.

Additionally, with the many waterways that Louisiana possesses, the demand for dredging always outstrips the amount of money available to dredge. Because beneficial placement is a cost above and beyond typical dredging operations (most of the time) the decision is usually made to dredge another waterway with extra money rather than putting that money towards beneficial reuse costs. The non-federal cost share sponsor of dredging projects (in most cases the State of Louisiana, typically through CPRA, in other cases, ports and port authorities in Louisiana) may choose to pay the marginal cost above the federal standard to use the dredged sediment beneficially if there are good opportunities for beneficial reuse available.

Costs borne by both USACE and CPRA for beneficial reuse are also dictated by costs for dredging nationally. The dredging industry has for decades blocked attempts by Congress to allocate money to the Corps to purchase new dredges, placing a virtual monopoly on dredging which in turn drives up costs. The dredging industry has also blocked attempts to let non-U.S. dredges perform dredging in the United States. All of this drives up costs.

There have been several recent developments that could decrease dredging costs. The Lowermost Mississippi River Management Program funded through the RESTORE Act as well as studies to be conducted by the Water Institute of the Gulf should provide more information on sediment dynamics in Louisiana and illustrate the sources of sediment that is shoaling in navigation channels. Having better information on where sediment is coming from could help in identifying ways to prevent it from entering navigation channels in the first place, decreasing maintenance dredging needs and allowing more money to be allocated to beneficial reuse. More innovative and forward-thinking budgeting could also help lower costs. For channels that are constantly dredged year after year, it may be a cost savings, in the long term, to create a more expensive project that disposes of material beneficially in one year if it will prevent the need for dredging in future years. Considerations like these, would require a reworking of the Corps' benefit cost ratio.

The Louisiana Coastal Master Plan has a number of marsh creation projects. The natural question then becomes, why can't we use dredged sediment obtained from regular channel maintenance to build these projects? The challenge is mostly related to where channel maintenance dredging is occurring. Most dredging occurs in areas that are not geographically close to where priority projects are located, such as heavy dredging around Baton Rouge, New Orleans, and the Bird's Foot. In the 2017 Coastal Master Plan, for instance, there are no marsh creation projects located anywhere near the Bird's Foot. Moving sediment that was dredged in Baton Rouge or New Orleans to a Coastal Master Plan priority project would require a barge miles down the river then a pipeline through populated communities to where the sediment was needed. It is simply cost infeasible. For these reasons, it is even more critical that, for channel maintenance projects that are in close proximity to priority projects, all of the sediment that is able to be used beneficially is used beneficially. The Louisiana Department of Natural Resources recognizes this; they require all Coastal Use Permit applicants to submit a beneficial

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<sup>3</sup> <https://gim2.aptim.com/RSM/> From 1998-present the Army Corps' New Orleans District used 540,386,143 cy of material for regional sediment management purposes out of a total 1,397,918,256 cy of material dredged. For perspective, 3,725,784 cy of material was used to create 534 acres of marsh in the Lake Hermitage Marsh Creation CWPPRA project.

use of dredged material management plan if they intend to dredge more than 25,000 cy of sediment.<sup>4</sup>

Despite these challenges, beneficial reuse projects are broadly quite successful. Decades of experience among engineers, scientists, and dredging contractors have produced a proven body of knowledge of the best way to construct projects in order to ensure success. CRCL will continue to support these projects as they are a common sense and win-win solution for maintaining navigation channels and increasing habitat in coastal Louisiana.

CRCL supports:

- Increased funding for maintenance dredging in the Corps with incentive funds provided for the innovative use of sediment to be disposed of beneficially
- Multi-year dredging budgets which fully consider the environmental, social and economic benefits of placing sediment beneficially
- Better sediment budgets to understand where sediment is entering the system
- Projects that control sediment at input sites
- Requirements for sediment to be used beneficially when dredging projects are in close proximity to Coastal Master Plan projects

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<sup>4</sup> <http://data.dnr.louisiana.gov/LCP/LCPHANDBOOK/FinalUsersGuide.pdf>