



State of Louisiana

BOBBY JINDAL
GOVERNOR

USE OF VEGETATIVE DEBRIS FOR COASTAL RESTORATION AND PROTECTION

The potential to use post-storm vegetative debris in coastal Louisiana for coastal restoration and protection purposes is very limited. Several demonstration projects have been attempted; however, they proved not to be economically and ecologically justifiable.

A project to demonstrate the use of woody debris for coastal restoration was funded through the Coastal Wetlands Planning, Protection and Restoration Act in the 1990s (Compost Demonstration CS-26). However, the project was never implemented due to problems and issues that surfaced during the design phase and the project was later deauthorized. Some of the challenges identified were:

1. The need to contain the debris and to prevent it from floating away.
2. Problems with site accessibility and obtaining necessary land rights.
3. Concerns over water quality problems where the debris is deposited.
4. The need for the woody material to be chipped/mulched finely enough to be suitable for growing marsh plants.
5. Logistical challenges involved with stockpiling and double and triple handling of the debris.

Following Hurricane Rita in 2005, the Louisiana Department of Natural Resources implemented a demonstration project using vegetative debris on Rockefeller Wildlife Refuge in southwestern Louisiana. Again, substantial challenges and costs were involved in implementing this small project. Construction costs were high, (approximately \$1.3 million) to create approximately 4 acres of marsh with mulched woody debris mixed with dredged material. This constitutes a unit cost of approximately \$325,000 per acre, whereas small marsh creation projects using only dredged material cost approximately \$39,000 per acre. Other challenges included:

1. Efforts to obtain land rights to construct the project on private land were unsuccessful, necessitating moving the project to the publicly-owned refuge site.
2. Dredged material had to be mixed with the woody debris to ensure that the woody debris would remain in place and support marsh vegetation.
3. Additional costs were incurred from the construction of a containment dike.
4. Debris had to be transported long distances (from Lake Charles to Grand Chenier).
5. The dredged material had to be surveyed to ensure that it was not contaminated and that sufficient material was available.

6. The woody debris had to be inspected and screened to ensure that it met a maximum-size criterion, and that foreign material had been removed (such debris sometimes contains boards, plastic, metal, and other undesirable components).
7. Plans and specifications were required to ensure that the contractor constructed the project as desired, and state and federal permits were required.

A second demonstration project using vegetative debris in southwestern Louisiana was considered by the Louisiana Department of Resources following Hurricane Rita. The landowner initially approved of the project, but later declined to allow the material on the property.

In summary, the state's experience to date with the use of vegetative debris for coastal restoration has demonstrated that it is not economically viable, nor ecologically desirable, because the vegetative material does not provide suitable substrate for wetland creation. Additional challenges associated with vegetative debris projects include environmental concerns over water quality degradation, difficulties in obtaining land rights, and logistical challenges involved with stockpiling and double and triple handling of the debris.

There have been suggestions to use woody debris, such as tree trunks and branches, to reduce coastal erosion as is done with Christmas tree projects. Such projects would likely be economically unjustifiable and include many of the same challenges identified above. Additionally there are logistical issues with the collection and transport of such large materials to project sites, and concerns that the heavier trunks and branches could be re-deposited in deeper waters by storms and other high water events, thus creating a hazard to navigation.



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