



Louisiana Coastal Area Amite River Canal Diversion Modification Project - Feasibility Study

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LCA WRDA 2007 TITLE VII PROJECTS



STUDY AUTHORITY

Title VII of the Water Resources Development Act 2007: (Public Law 110-114, 121 STAT. 1270) authorizes the Louisiana Coastal Area (LCA) program. The *Louisiana Coastal Area, Louisiana Ecosystem Restoration Study* was recommended to Congress by a Chief of Engineers report dated January 31, 2005, which called for a coordinated, feasible solution to the identified critical water resource problems and opportunities in coastal Louisiana.

The goal of the LCA Plan is to reverse the current trend of degradation of the coastal ecosystem using restoration strategies that: reintroduce historical flows of river water, nutrients, and sediment to coastal wetlands; restore coastal hydrology to minimize saltwater intrusion; and maintain the structural integrity of the coastal ecosystem.

The Amite River Diversion Canal (ARDC) Modification project was identified in the LCA 2005 report as a critical near-term restoration project.

SIGNIFICANCE TO LOUISIANA

Louisiana contains one of the largest expanses of coastal wetlands in the contiguous United States and accounts for 90 percent of the total coastal wetland loss occurring in the Nation. The Maurepas Swamp complex is the second largest continuous coastal forest in Louisiana, comprised of over 190,000 acres of freshwater swamp habitat. The LCA ARDC study area is a valuable and unique ecosystem since it includes wetland habitats and provides high fish and wildlife value as well as habitat for migratory birds and other aquatic organisms including threatened or endangered species.

PROBLEM

The ARDC was authorized by Congress in 1956 as a component of the Amite River and Tributaries Federal flood control project. The dredged material berms created alongside the ARDC as a result of this project provide interference with natural hydrologic exchange within the LCA ARDC study area.



Degrading Habitat



PROJECT AREA



Spoil Bank Prior to Residential Development



Residential Development on Spoil Bank

RECOMMENDED PLAN



Amite River Diversion Canal



WITHOUT ACTION

Without action, the freshwater swamp habitat would:

- Continue to convert to freshwater marsh and open water/waterbottoms;
- Continue to degrade due to lack of freshwater and nutrient input;
- Continue to be impounded and have decreased hydrologic connectivity;
- Transition from swamp toward marsh habitat eventually open water; and
- Decrease in value to wildlife, fishery, and vegetative resources.

SOLUTION

This project would establish hydrologic connectivity between the ARDC and the western Maurepas Swamp, allowing the swamp to drain during seasonal low-flow conditions in the Amite River and promoting the germination and survival of the seedlings of bald cypress and other trees. This connectivity would also allow nutrients and sediments to be introduced from the ARDC into the swamp during flood events and from runoff during localized rainfall events. Nutrients and sediment delivered to the swamp would improve biological productivity and reduce the chances of further habitat deterioration. Finally, the establishment of hydrologic connectivity would reduce the likelihood of the swamp being converted to marsh or open water.

RECOMMENDED PLAN DETAILS

- Three dredged material bank openings and three bifurcated conveyance channels in the north bank of the ARDC.
- Dredged material from the bank openings and the conveyance channel would be sidecast in alternating berms so sheet flow is not reduced.
- One opening in the railroad grade north of the ARDC to improve sheet flow.
- Vegetative plantings of bottomland hardwood/freshwater swamp tree species on dredged material berms.
- Vegetative plantings of freshwater swamp tree species on the swamp floor.
- Installation of nutria guards on all newly planted trees to protect against tree loss.

SUMMARY

This project would benefit approximately 1,602 acres of swamp habitat, recreate 144 acres of freshwater swamp, create 5.0 acres of bottomland hardwood habitat, establish hydrologic connectivity, promote the germination and survival of the seedlings of bald cypress and other trees, and improve biological productivity.