LANDSCAPE CONSERVATION COOPERATIVES

Multi-LCC Mississippi River Basin / Gulf Hypoxia Initiative
High Impact Conservation Practices – Fact Sheets

Practice #4 – Lower Floodplain Water Diversion

Updated 18 February 2016 (draft for review)

WHAT IS LOWER FLOODPLAIN WATER DIVERSION?

Coastal wetlands (and coastal lands in general) are quickly disappearing from the lower Mississippi Valley. One way to combat the disappearance of these vital ecosystems is to use large scale diversions from the Mississippi River into adjacent coastal wetlands as a method to slow and even possible reverse the ongoing loss of Louisiana's coastal wetlands. Diversions can generally fall into two categories: sediment diversions and fresh water diversions. Both diversions can be beneficial for wildlife, and in particular they can have direct multiple beneficial impacts on gulf hypoxia and habitat.

WHY WATER DIVERSION?

Fresh water and sediment diversion throughout the lower floodplains has multiple benefits. For starters, it directly impacts the quality of the wetland ecosystems by reducing salinity and increasing nutrient content, which allows wetland vegetation flourish. A side effect of this, however, is that nutrients taken up by wetland flora are nutrients that are not entering the Gulf of Mexico. Like all wetland habitats, these coastal wetlands can help store floodwater and help filter and clean water before it enters the Gulf of Mexico and begins to contribute to the hypoxia problem plaguing the Gulf.

WILDLIFE BENEFITS

Wetland habitats are some of the most ecologically productive on the planet and coastal wetlands are no different. Water and sediment diversion both increases the quality and quantity of these vital wetland ecosystems. These ecosystems in turn provide habitat for a variety of birds, fish, crustaceans, and mollusks that are adapted to gulf coastal wetlands. Specifically, fresh water and sediment diversion can beneficially impact wood ducks, palaemonetes shrimp, gars, and mussels.

INSTALLATION & COSTS

There is a substantial cost difference between sediment diversion and fresh water diversion. Some water diversion mechanisms can deliver significant sediment loads, but dedicated sediment diversion mechanisms are both extremely beneficial in building coastal wetlands and deltas and few in number. Construction of further diversion mechanisms is a capital intensive project that will require significant resources.

MONITORING

TBA

LIMITATIONS/CONSIDERATIONS

One of the key considerations for diversion is adaptive management. Because the gulf coastal wetlands require a precise balance of fresh water and brackish water in order to support native species, careful adaptive management must be undertaken to ensure that this careful balance is struck and maintained throughout the course of diversion activities.

RESEARCH, PROGRAMS, AND MORE INFORMATION

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OPPORTUNITY AREAS

TBA

SOURCES

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