

BMPs Category Guide:

Sediment Control

Sediment control practices are based on the presumption that storm water will transfer and deposit a certain amount of the particulate matter to receiving waters during runoff.

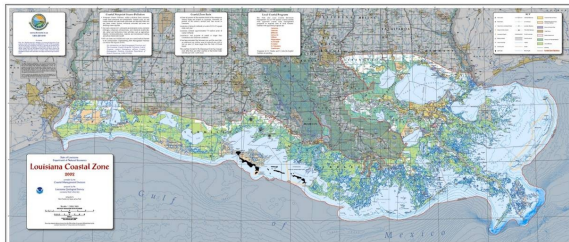
Waterway Protection

Waterway protection practices are meant to protect the integrity of a canal, channel, ditch, lake, river, or other waterway banks and beds. These practices work to prevent erosion by decreasing the impact energy of the water on the bank.

Runoff Conveyance

Storm water runoff that is not evaporated or infiltrated can lead to surface erosion or may transport contaminated runoff and sediment to coastal receiving waters. Therefore, excess runoff needs to be concentrated and directed into channels to prevent erosion and the potential contamination of surface waters.

The Louisiana Coastal Zone:



If you want more information or if you would like to request a copy of our complete 'Best Management Practices (BMPs) for Coastal Louisiana Nonpoint Source Pollution: Hydromodification' manual please contact:

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Photos Provided Courtesy of :
Alabama SWCC
USDA NRCS
and

Providence Engineering and Environmental Group, LLC

BEST MANAGEMENT PRACTICES (BMPs) FOR COASTAL LOUISIANA NONPOINT SOURCE POLLUTION

HYDROMODIFICATION

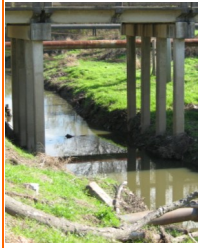


Prepared by:



PROVIDENCE

Minimizing the Coastal Impact from Developmental and Residential Activities



USEPA has recognized suspended solids (sediments) as the #1 impairment of the Nation's surface waters

Hydromodification refers to any activity that is done in or around bodies of water that change natural hydrologic flow, sediment load, or runoff characteristics. Hydromodifications affect our bayous, canals, channels, estuaries, lakes and rivers. Hydromodification nonpoint source impacts to these water bodies result in water quality degradation, accelerated erosion, flooding, increased sedimentation and habitat reduction or elimination. The *Louisiana Coastal Nonpoint Pollution Control Program (CNPCP)* is responsible for implementing management measures that address the control and prevention of nonpoint source (NPS) pollution due to hydromodification activities. The overall goal of CNPCP is to protect, maintain, and sustain Louisiana coastal waters and wetlands. The recommendations provided are based on cost efficiency, effectiveness, relevant usage in other coastal states, and ease of design and construction.

What are we discussing?

Best Management Practices (BMPs) – Educational and procedural activities that can resolve or reduce specific water quality resource problems if followed and implemented according to their established guidelines.

Nonpoint source (NPS) pollution - Diffuse pollution that is generated from an indirect, unspecific source. NPS pollution is commonly a result of storm water runoff and is generally difficult to control.

Hydromodification – Activities performed in or around water bodies that change natural hydrologic flow, sediment load, or runoff characteristics

Common hydromodification activities performed in the Louisiana Coastal Zone:

<i>Bank Stabilization</i>	<i>Flow Regulation Activities</i>
<i>Channel or Shoreline Clearing</i>	<i>Gradient Increases</i>
<i>Channelization</i>	<i>In-Stream Construction</i>
<i>Culvert Installation</i>	<i>Levee Construction</i>
<i>Decreasing Channel Length</i>	<i>Stream or Wetland Fills</i>
<i>Draining or Filling Activities</i>	<i>Waterway Relocation</i>

Sediment Control BMPs

FLOATING TURBIDITY BARRIERS

Temporary silt barriers that are constructed of weighted filter fabric extending down from buoyant tubes. Used to reduce sediment transport to or within bodies of water.

RIPARIAN BUFFER

Vegetated areas of restricted development along a shoreline or wetland. Usually composed of a combination of vegetative types to help provide physical protection of a water body from disturbance or sediment unloading.

VEGETATIVE FILTER STRIPS

Pre-established strips of vegetation that can be used to treat sheet flow, low-velocity runoff and help filter sediment and pollutants.



Filter strips decrease runoff velocities, filter particulate pollutants, promote soil infiltration and groundwater recharge

Waterway Protection BMPs

BANK PROTECTION

The use of vegetative or structural constructions to stabilize the sides of a canal, channel, ditch, or any other waterway to protect the banks from water-induced erosion.

BANK VEGETATIVE BUFFERS

The use of native or established vegetation to form a buffer zone adjacent to a canal, channel, or ditch.

CHANNEL CLEARING

The removal of sediment deposits, snags, drifts, and other obstructions from channels to prevent them from being mobilized in channel debris flows.

CHANNEL STABILIZATION

The implementation of gravel, riprap, rock, grade controls, or concrete to maintain the integrity of natural and artificial channels and to prevent erosion and deterioration.

CHEMICAL STABILIZATION

Chemical adhesive materials, such as vinyl, asphalt, or rubber emulsion, that can be used for quick, easy, and temporary stabilization of soil surfaces.

DIVERSION AND DIVERSION DIKES

Natural or man-made structures, such as gutters or swales with earthen levees, that can collect and divert runoff. Usually used around site perimeters.

EROSION CONTROL BLANKETS

Protective coverings made of environmentally-friendly, biodegradable materials used to provide temporary, maintenance-free stabilization of soils until permanent



Riprap can be used to line channel banks to prevent erosion

vegetation can be established.

RIPRAP CHANNEL LINING

The use of heavy rocks to line the sides or bottoms of waterways and outlets for structural support, to protect erodible soils, and to prevent erosion.

HYDRAULIC MULCH

A mixture of shredded grass, hay, straw, or wood mulch and a soil binding agent that is applied to surfaces with specialized hydro-mulching equipment to stabilize soils and provide erosion protection.

SEDIMENT BASINS/ROCK DAMS

Man-made or natural depressions that are associated with earthen embankments that retain and slowly drain runoff to promote

sediment settling and runoff velocity reduction.

TEMPORARY WATER CROSSING

During construction, transport across waterways should be avoided. When it is necessary for equipment or materials to cross a waterway, a non-permanent bridge, culvert, or ford can provide bank stabilization and minimize sediment loading and the risk of damage to a ditch or channel.

Runoff Conveyance BMPs

SLOPE DRAINS

Flexible conduits that can be used to divert slope runoff to temporary alternative outlets to prevent gully formation of a slope.

SPUR DIKES

Projecting structures that are used in-stream to contract the stream and promote smooth flow of water around a bridge or used independently of abutments to redirect water flow and preserve channel depth.

RIPRAP CHANNEL LINING

The use of heavy rocks to line the sides or bottoms of waterways and outlets for structural support, to protect erodible soils, and to prevent erosion.



Spur dikes can be used to help protect bridges from water-induced erosion and from being damaged by debris.