

Project Title - Development of a complete and specific plan to address water quality and sedimentation in East Grand Lake/Flat Lake WMU through modification of water and sediment inputs

Type of Problem – Water Quality and Sedimentation

Nominating Party – By the TAG through requests from stakeholders of the Atchafalaya Basin

Statement of Problem – Aquatic habitat conditions in the East Grand Lake and Flat Lake Water Management Units (WMU) (See Figure 1) vary with the annual flood cycle and have been shown to deteriorate and become unsuitable for the appropriate growth and health of forest and aquatic organisms develop for some period each year. The primary cause of this annual problem limited water flow much of the WMU because spoil deposition from canal construction, dredging for navigation, and flood-driven sediment deposition patterns blocks water movement and causes hypoxia. The artificially maintained hydrology causes the routing of sediment to deep-water fisheries habitat, and results in the filling and loss this habitat. It also starves other areas of valuable sediment that is necessary for proper forest development.

Proposed Work Area - The planning of environmental management will begin in the East Grand Lake and Flat Lake WMUs, with the primary focus of this first iteration in planning to consider these 5 inputs to the WMU: Bayou Sorrel, American Pass, Blue Point Chute, Coon Trap Weir, Indigo Bayou, and the Dog Leg Canal (See figure 2).

Action Description - To develop a plan that outlines specific modifications to the water management unit to realign water flow patterns in the WMU and to strategically redirect sediment in a manner that minimizes the filling of waterways and lakes and benefits forest development.

Proposed Project to Address Problem – The project will not include construction items in this annual plan. The result of the Action Description will be a specific list of construction items to accomplish water and sediment realignment.

Request for Evaluation – This project will be comprised of evaluation and assessment of habitat conditions and processes.

Summary and Analysis - Many scientific studies have been completed in this area and there is a significant knowledge base from which to evaluate environmental conditions and biological processes in this part of the ABFS. Those studies show that open-water areas that provide valuable only low-water refuge for fish are becoming scarce through time. Less than 13% of the entire floodway is now open-water and only a subset of that habitat is capable of providing this type of fisheries refuge. If the current trend in loss of open-water habitat continues, the population stability of some fish species Atchafalaya Basin will diminish. Water distribution into the WMU should be more evenly distributed so that manner. Sediment distribution studies confirm that faster moving water in channels carry sediment farther into the WMU. LIDAR imagery shows the development of higher elevations along the banks of delivery channels sustains current velocity and sediment delivery to interior waterways. Sediment is delivered farther and farther into the interior in the process and eventually interior waterways provide a route for most of the water to bypass the floodplain as it segments the WMU into ever smaller isolated areas.