

CAERNARVON OPERATIONAL PLAN 2014

From December through May, the intent is to operate the diversion to maintain the seasonal average salinity at the 15 ppt line illustrated in the map below. A salinity gauge does not currently exist at the 15 ppt isohaline line, though one will be installed as soon as possible to be used for operations (two sites proposed). Until a new gauge is installed, operations will be based on data from the Black Bay gauge specified in the map (Figure 1) and graph below (Figure 2). The structure will be operated when the 30-day moving average salinity is within or above the long term data range for the Black Bay gauge. When the 30-day moving average drops below the lower limit of the range the diversion operations will be ceased until the 30-day average re-enters the range. From June through November, Caernarvon operations will be based on the monthly salinity range at the 5 ppt line specified by the map (Figure 1) and graph (Figure 3) below, utilizing the Crooked Bayou and Cow Bayou gauges.

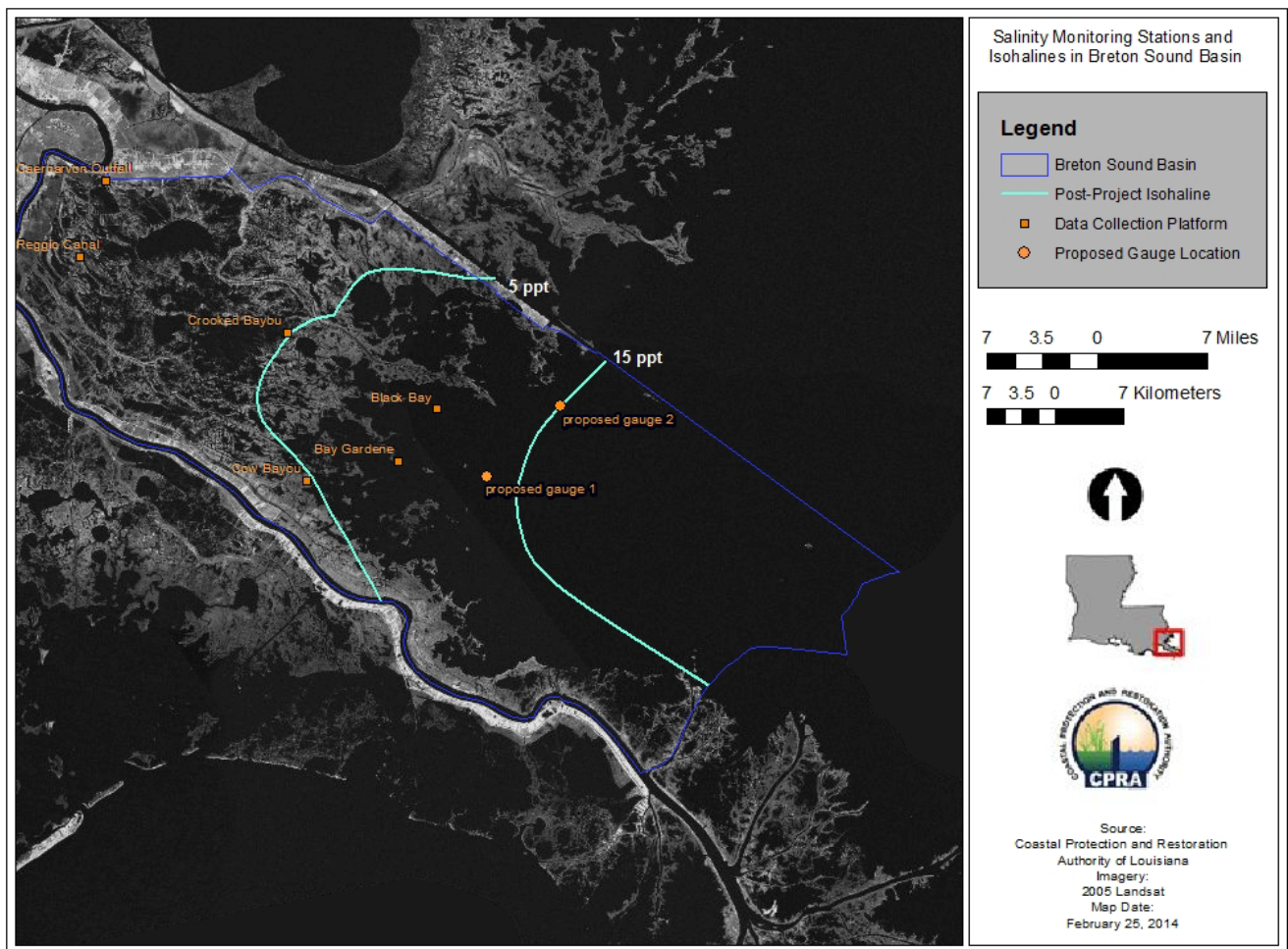


Figure 1. Map of salinity gauges and isohaline lines in Breton Sound basin to be used for operation of the Caernarvon Freshwater Diversion.

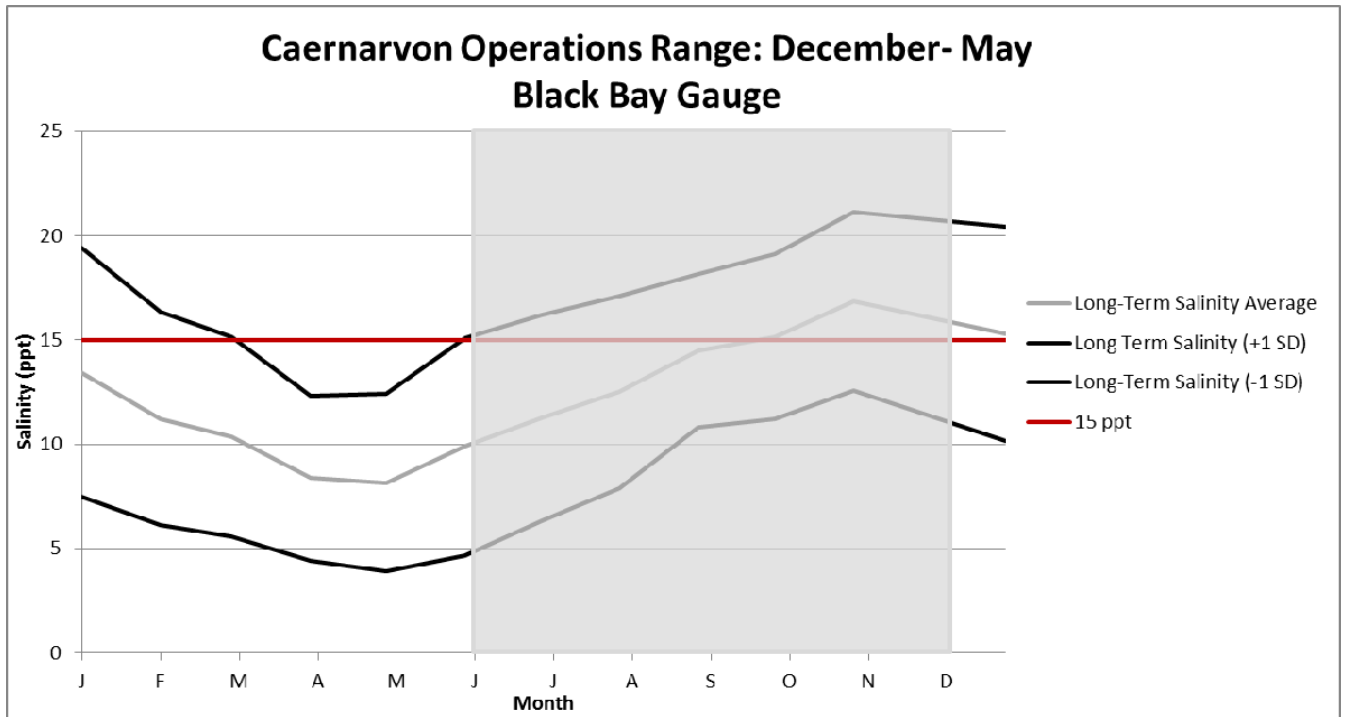


Figure 2. Long term average (+/- 1 standard deviation) salinities from the Black Bay Gauge (USGS site 07374526). From December through May the Caernarvon Freshwater Diversion structure will be operated when the 30-day moving average salinity is within or above the data range. Operations will cease if the 30-day moving average drops below the lower limit of the range. The Black Bay data are temporarily being used to guide operations until a new gauge closer to the 15 ppt isohaline line becomes operational.

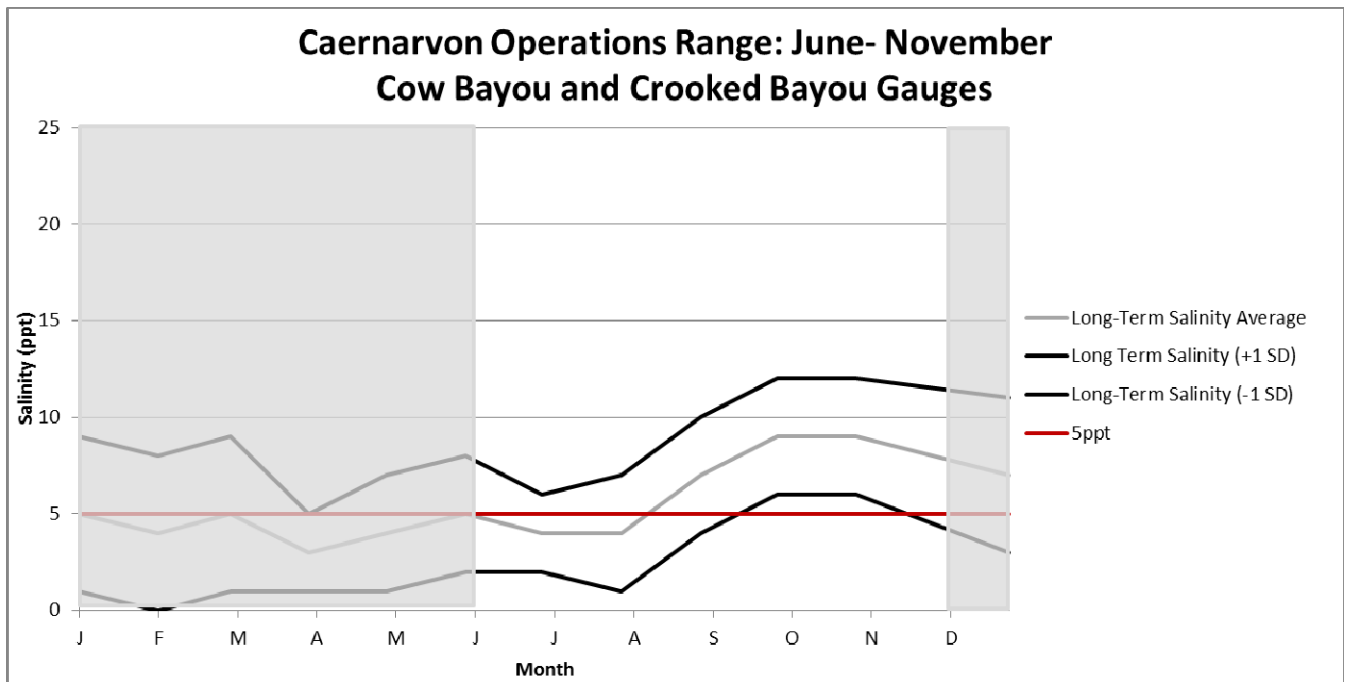


Figure 3. Long term average (+/- 1 standard deviation) salinities from the Crooked Bayou (USGS site 073745257) and Cow Bayou (USGS site 073745258) gauges. From June through November the Caernarvon Freshwater Diversion structure will be operated when the 30-day moving average salinity is within or above the data range. Operations will cease if the 30-day moving average drops below the lower limit of the range.