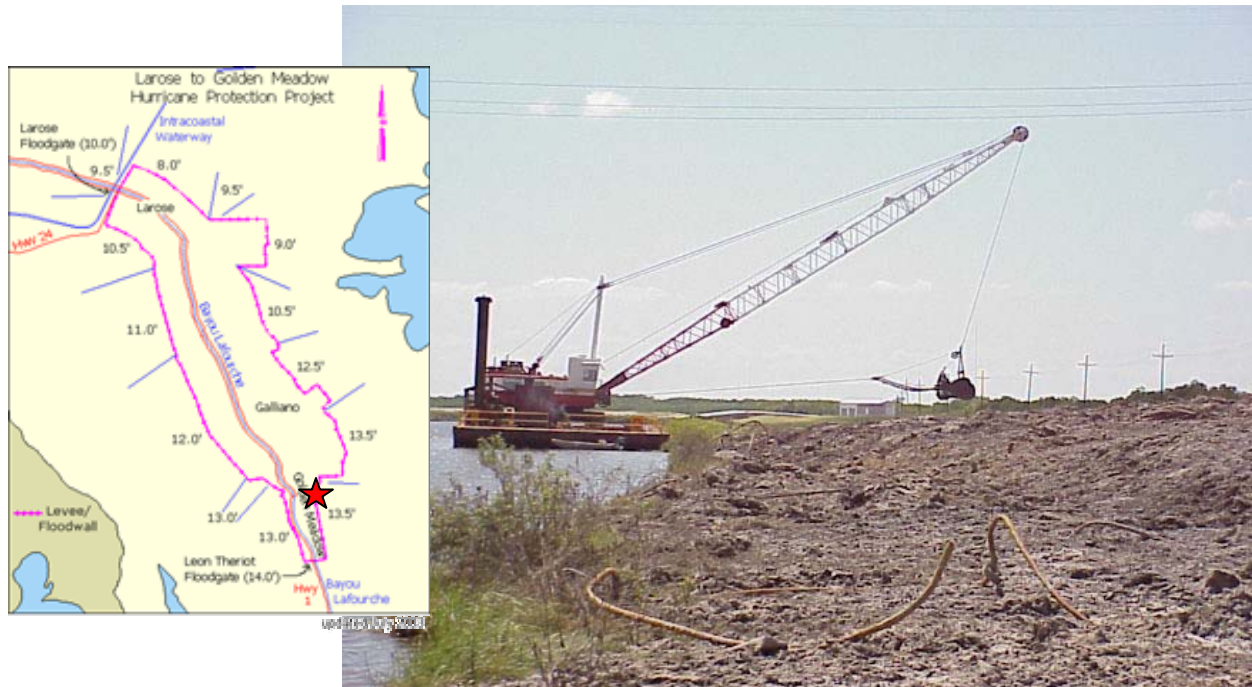




A Picture is Worth a Thousand Words: Packing It On: The Width of Levees

Sometimes scientists must use their power of observation to help solve problems and answer questions. Observations, coupled with research, can help answer many important questions and solve many problems.

In the photograph below, you see a dredge barge in the process of dumping scoops of clay and sand from the waterway immediately in front of the Golden Meadow Hurricane Protection Levee that will be featured in *Estuary LIVE 2003*. The photo was taken in May 2001. Adding additional material to the top of the levee was necessary because the height of the levee prior to the “recapping” was not high enough to protect the residents on the other side of the levee from hurricane storm surges.



- What are some things that you can observe about the recapped levee in this photo? (shape, size, plants, etc.)
- The above photo was taken between the cities of Galliano and Golden Meadow, on the east side of the Hurricane Protection Levee system. Find this location on the map of the Larose to Golden Meadow Hurricane Protection Project (red star on map at upper right). What is the height of the levee system at this location?

Levee engineers use a formula to determine how wide a levee needs to be built based on the height the levee needs to be. The formula is

$$\text{Levee Height} \times 7 = \text{Width of Levee Base.}$$

Based on this height of the Golden Meadow Levee information you have from the map, what should the width of the levee be at this point? _____

- Why do you suppose the levee must be so much wider than it is tall?

Reference:

U.S. Army Corps of Engineers, *Larose to Golden Meadow Hurricane Protection Project Map*, accessed August 6, 2003, <http://www.mvn.usace.army.mil/pao/response/Larose.asp>.