

First Annual Monitoring Report for the Yellow River Ranch (2007)
ACOE Permit No. SAJ-2000-02363 (IP-CP)

Site Description:

In December, 2005, the NFWFMD acquired the 275-acre Yellow River Ranch parcel for use as mitigation for FDOT wetlands mitigation (Figure 1 and 2). Located on the Yellow River floodplain in Santa Rosa Co., it is 1.5 miles east of SR 87 and is bordered on three sides by extensive forested floodplain wetlands acquired by the District in the 1990's by the NFWFMD. Approximately 155 acres of the Yellow River Ranch consists of 155 acres of in tact forested wetlands (FLUCCS 615 – Bottomland Floodplain Forest), with the remaining 120 acres converted to pasture from (FLUCCS 615 – Bottomland Floodplain Forest), and FLUCCS 625 – Hydric Pine Flatwoods. As mitigation for current CORPS permit associated with SR 87", the NFWFMD has preserved the 155 acres of FLUCCS 615, Bottomland Floodplain Forest and restoring ~ 55 acres of pasture back to forested wetlands. Approximately 65 acres of prior converted wetlands (ie., the pasture) remain available for future restoration and mitigation needs.

Conversion from the high quality forested wetlands to improved pasture was accomplished by the removal of forested vegetation, severe hydrologic alteration from ditching and dike construction, and the establishment of pasture grasses.

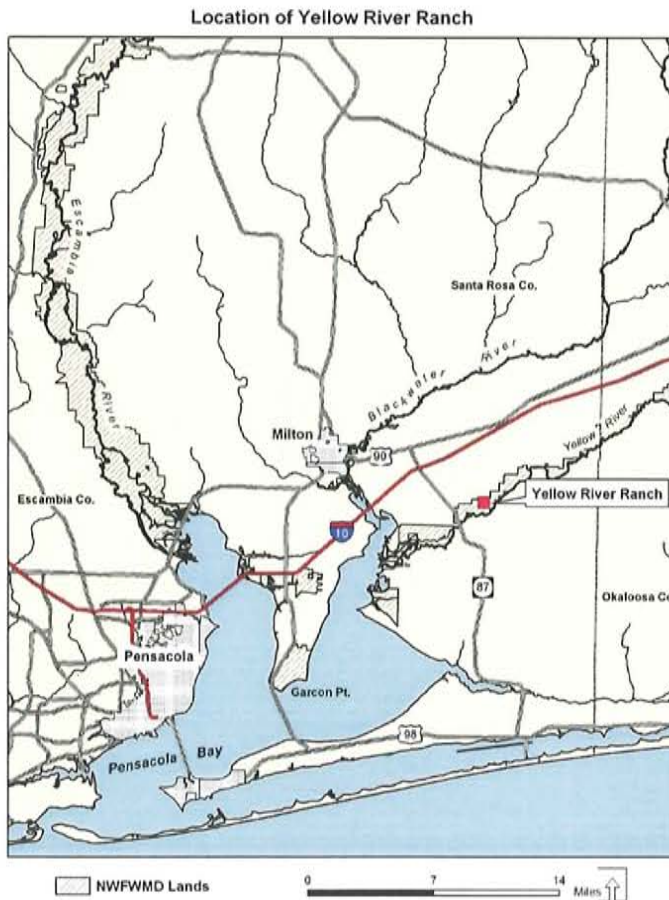


Figure 1. Yellow River Ranch Location Map.

Yellow River Ranch - 2004 DOQ

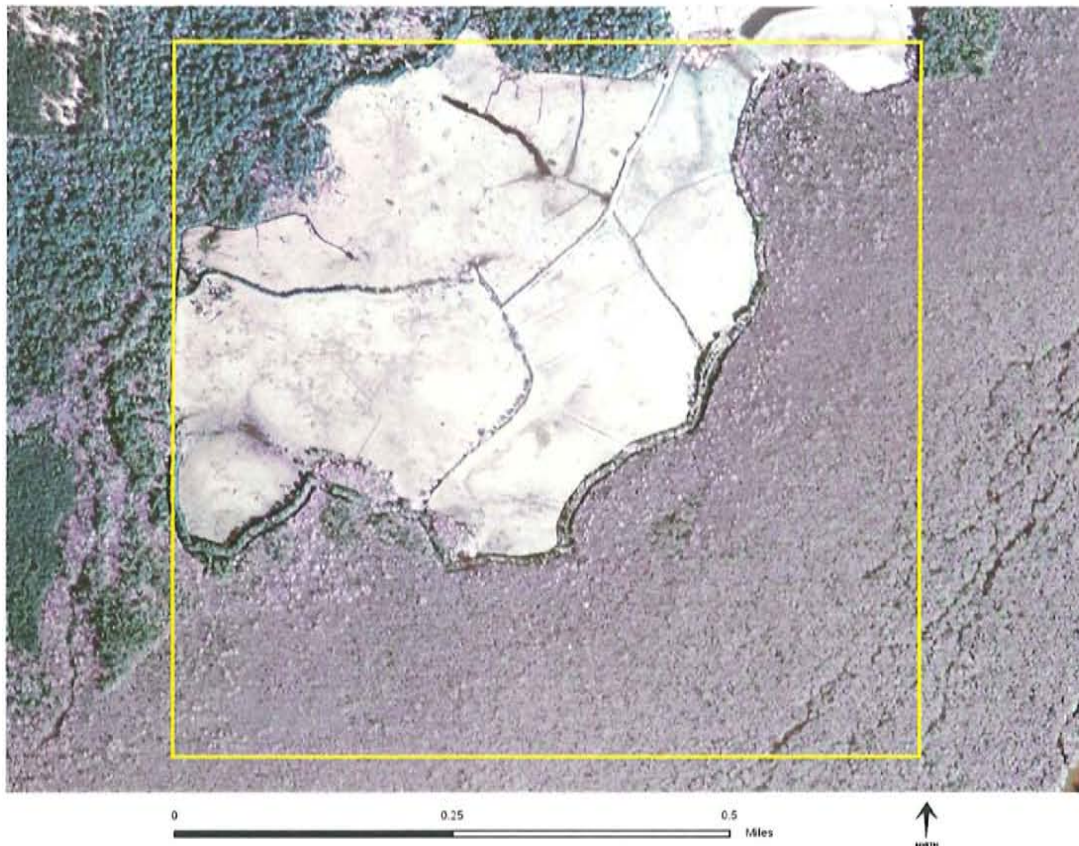


Figure 2. Yellow River Ranch Restoration Site Map.

Restoration activities will be consistent within the entire 120 acres and will be accomplished concurrently. Prior to implementation of a hydrologic restoration plan. In 2006 Light Detecting and Ranging (LIDAR) analysis was conducted for the Yellow River Ranch Site. In 2007, NFWMD staff performed a detailed hydrologic study of the site with recommendations to implement the hydrologic restoration. Numbers and placement of breaches and ditch plugs were included in the results.

Functional wetland lift will be derived from 1) filling in or blocking of drainage ditches, breaching of the dike, 3) eradication of non-native pasture grasses including Bahia grass and other nuisance exotic species, 4) re-vegetation with bottomland hardwood forest and hydric pine flatwood species including the appropriate ground cover, 5) implementation of a growing –season fire regime with the restored flatwoods area, and 6) long term management including control of nuisance and exotic species.

The pasture will be restored as a mixture of bottomland floodplain forest (FLUCCS 615) and, where appropriate, hydric pine flatwoods (FLUCCS 625). For the portion of the pasture to be restored to bottomland hardwood forest, vegetation to be planted includes a mixture of Atlantic White Cedar, possum haw, black gum, laurel oak, cypress and

American elm. Areas targeted for hydric pine flatwoods restoration will be planted with species such as slash pine, cypress, myrtle leaf holly, understory will be planted with appropriate groundcover seed and potentially wire grass tublings.

Sequence of Restoration Activities-

- Cessation of Cattle operations – **Completed 2005**
- Hydrologic Study – **Completed 2007**
- Hydrologic restoration – **Initiated in April 2008**
- Eradication of exotic pasture grasses and other nuisance and exotic species such as Chinese Tallow – **Will be initiated in May 2008**
- Re-vegetation of forested wetland and flatwood species
- Re-introduction of fire within the wet flatwoods
- Implementations of long term management

Success Criteria:

- Nuisance vegetation less than 5% cover over the site;
- Exotic vegetation less than 1% cover over the site;
- Tree density of 352-440 trees per acre in bottomland hardwood and 88-110 trees per acre in hydric pine flatwoods;
- Native ground cover and shrub layer species appropriate for natural community type trending toward increase in diversity and coverage.

The first monitoring report serves as a baseline for the site and representative photos have been included (Figures 3 – 8). The MRT and NFWMD staff determined that a hydrologic analysis was critical for the restoration of the site and placement of ditch plugs. LIDAR data had recently been flown for the site but took almost a year to process for the County. Once processed a hydrologic study was undertaken by District staff. The results of the study indicated that the site was flooded through several breaches in the berm though duration of flooding was reduced due to extensive ditching. The placement of ditch plugs and additional breaches to the surrounding berm were determined through the LIDAR hydrologic analysis. Earthmoving including additional ditch breaches and placement of ditch plugs will occur in the late spring and portions of the summer of 2008. Simultaneously, pasture grass and popcorn tree (*Sapium sebiferum*) eradication will occur starting in May of 2008 and continue until the pasture grass has been killed. Vegetation planting will take place once pasture grass cover is less than 1%.



Figure 3. Bottomland hardwood floodplain forest



Figure 4. Edge of burn showing pasture grass and cypress



Figure 5. Top of berm surrounding the pasture



Figure 6. Pasture grasses in the interior of the property



Figure 7. Perimeter ditch and pasture



Figure 8. Bottomland floodplain forest under evaluation by MRT