

Waterfowl Rest Area Program (WRAP) Habitat Monitoring

Relationship to Gulf Coast Joint Venture (GCJV) Habitat Conservation:

Priority Species: Northern pintail (*Anas acuta*)

Planning Objective: To provide disturbance-free sanctuary for northern pintails from November to February at strategically selected sites in rice-producing regions of southwest Louisiana.

Type of Monitoring: Habitat

Monitoring Metric: Acres flooded during November - February on enrolled WRAP sites

Monitoring Objective: Estimate the timing of initial flooding and the acres flooded each month (Nov, Dec, and Jan) on enrolled WRAP sites using Landsat TM imagery. The WRAP Steering Committee uses this information to determine if the site is in compliance.

Brief Methodology: Classification of Landsat TM imagery is used to estimate timing of initial flooding and acres flooded on enrolled WRAP sites (Figure 1) throughout winter.

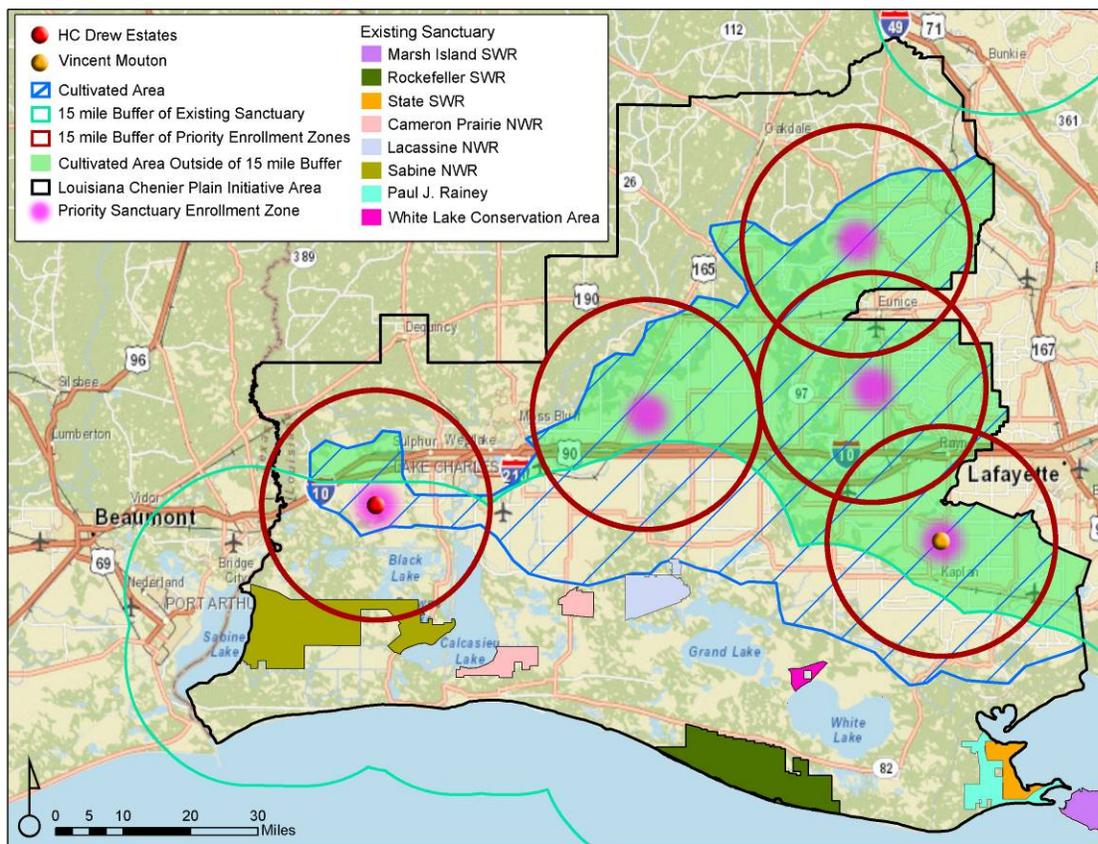


Figure 1. Spatial distribution of priority enrollment zones (pink dots) for the Waterfowl Rest Area Program and locations of sites enrolled during 2011-12 ($n = 2$; red and orange dots).

Monitoring Responsibilities:

Data Collection: Cloud-free, satellite imagery is acquired by the GCJV Remote Sensing and GIS Analyst from the U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center.

Data Compilation and Analysis: Satellite imagery is compiled and classified by the GCJV Remote Sensing and GIS Analyst.

Report Development: An annual report summarizing results from remote sensing is written by the GCJV Monitoring Coordinator. Tables, figures, and graphs are produced by the GCJV Monitoring Coordinator and Remote Sensing and GIS Analyst.

Report Distribution: An annual report is provided to the WRAP Steering Committee. Data, tables, figures, and graphs are made available upon request of the GCJV Monitoring Coordinator. Reports, tables, figures, and graphs may be posted on the GCJV website.

Timing and Frequency:

Data Collection: Cloud-free, satellite imagery is acquired annually for each month, November – January, beginning with the first available cloud-free day after 1 November. Data is acquired by early February.

Data Analysis: Data analysis is conducted annually during February.

Report Development: Data, report, tables, and graphs for GCJV use are updated annually by early March.

Detailed Methodology:

Satellite imagery is acquired annually from the USGS EROS Center by the GCJV Remote Sensing and GIS Analyst for each month, November – January. Preferred imagery for November is the first available cloud-free acquisition date following 1 November. During subsequent months, priority is given to cloud-free images nearest the timing of aerial waterfowl surveys conducted by Louisiana Department of Wildlife and Fisheries and U.S. Fish and Wildlife Service. Images are available 2–3 days following satellite acquisition. Imagery is compiled and processed by the GCJV Remote Sensing and GIS Analyst. Processed imagery is used in concert with shapefiles of individual WRAP sites to estimate the timing of initial flooding and subsequent monthly extent of flooding. Tables, figures, graphs, and the annual report are produced by the GCJV Monitoring Coordinator and Remote Sensing and GIS Analyst.

Data and Report Archival

Y:\Monitor

- Contains a readme.doc file that describes directories and the files within them.

Y:\Monitor\WRAP\Habitat

- Contains compiled data (Excel spreadsheets), reports and tables (Word documents), and graphs relating to WRAP habitat monitoring (i.e., timing of initial flooding and acres flooded on enrolled WRAP sites).

Monitoring Related Issues to Consider:

None