

Engineering With Nature

Project Fact Sheet



Management of Savannah Harbor Dredged Material Containment Areas Background

The USACE Savannah District conducted bimonthly bird surveys from 1994 to 2012 on six dredged material containment areas (DMCAs) located on the South Carolina side of the Savannah Harbor. The DMCAs are included in a long-term management strategy (LTMS) to enhance habitat for waterbirds. Some DMCAs received dredged material on a 3-year rotation, while other DMCAs were dried for 3-years. Two islands have been constructed in each DMCA to create nesting habitat for state-listed threatened and endangered birds, plus other birds listed as sensitive or of concern. During this period, the District has acted to ensure approximately 505 acres of inundated habitat and 659 acres of wetland habitat are maintained each year.



Fig. 1. The Savannah Harbor DMCAs.

Objectives

The first objective is to statistically test if the DMCAs have improved habitat for targeted waterbirds, which would be revealed through significant increases in abundance or diversity of the bird community during the monitoring period. A second objective is to test seasonal habitat relationships to determine if engineered management actions provide benefits to the bird communities. If successful, our efforts will further justify this management approach, and therefore, offer an example for how to manage other confined disposal facilities with respect to breeding, wintering, and migratory waterbirds in other regions.



Fig. 2. A DMCA in the Savannah Harbor that is not receiving dredged material.

Approach

Mean counts and species diversity metrics from monthly monitoring data will be input into 2-weeks blocks seasonally and trends will be assessed annually during the duration of the study. Population trends will be assessed for species group and several species with high-abundance counts. This analysis will indicate whether bird populations have experienced increases or decreases over the monitoring period. Mean counts will be correlated with habitat availability and models describing habitat relationships will be assessed using Akaike's Information Criterion (AIC_c).

Outcomes

FY16 – Technical Report: Birds of the Savannah Harbor Navigation Project, Dredged Material Disposal Areas, 1994-2012.

EWN Web site: https://ewn.el.erdc.dren.mil/Action_Projects.html

FY17 - PIANC EWN Certification: Savannah Harbor DCMA Management Plan

FY18 – DOER/EWN Technical Report: Effects of Engineered Management Actions on Seasonal Bird Populations on the Savannah Harbor Dredged Material Disposal Areas, 1994-2012.

EFY18 - Technical Note: EWN: Engineering Approaches on Confined Disposal Facilities to Enhance Seasonal Waterbird Populations

FY18 - *Journal Article:* Effects of CDF Management on Seasonal Waterbird Communities.

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