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1. Introduction

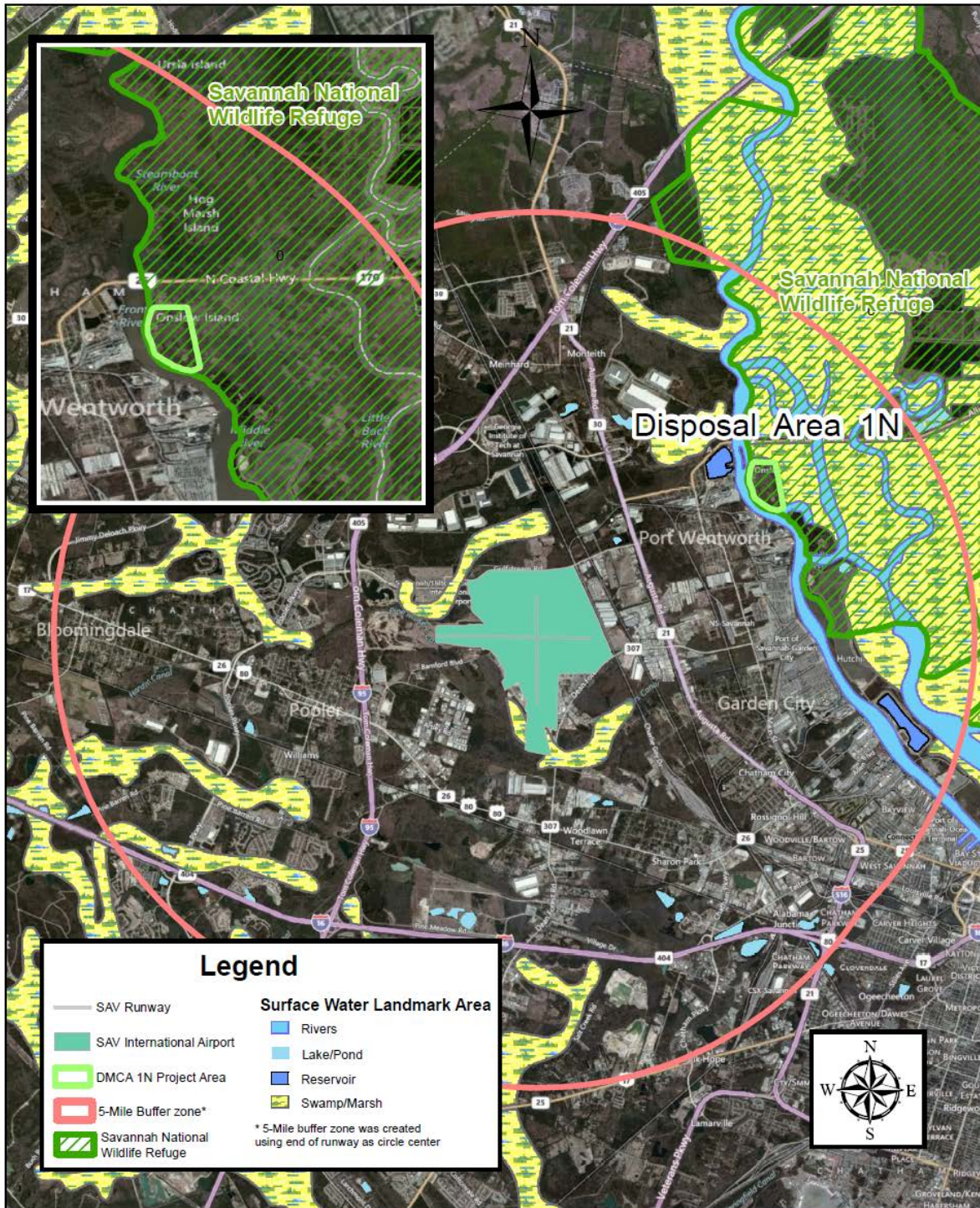
This document was prepared as part of consultation with the Federal Aviation Administration (FAA), the US Department of Agriculture (USDA), and the Savannah Hilton Head International Airport on the potential for wildlife and aviation interactions at Dredged Material Containment Area (DMCA) 1N proposed to be rehabilitated for the purposes of dredged material deposition and potentially creating wildlife habitat.

In accordance with the 2007 FAA advisory circular (AC) number 150/5200-33B and a 2003 Memorandum of Agreement (MOA) between Federal Resource Agencies, including USACE, consultation with the FAA on developments that may pose a potential for wildlife and aircraft interactions shall be conducted in an effort to minimize risk of wildlife aviation interactions and threats to human safety.

Study Area:

DMCA 1N is located northeast of and approximately 2.8 miles from the Savannah Hilton Head International Airport. Figure 1 shows the general project location in relation to the airport.

Appendix C- Wildlife Hazard Management Plan
 Savannah Harbor Navigation Project
 Dredged Material Containment Area 1N (Onslow Island)
 Chatham County, Georgia



Dredge Material Containment Area 1N Airport Buffer Zone 2.5 1.25 0 2.5 Miles

Figure 1. Location of DMCA 1N in relation to the airport.

2. Background

The 1996 Savannah Harbor Long Term Management Strategy Environmental Impact Statement (LTMS EIS) identified nine sites in the inner harbor where dredged material would be deposited: Areas 12A, 12B, 13A, 13B, 14A, 14B, Jones/Oysterbed Island, 2A, and 1N. DMCA 1N and portions of DMCA 2A are located in Georgia and are owned by the USFWS and are part of the Savannah National Wildlife Refuge (SNWR). The remaining areas are located in South Carolina and are owned by the Georgia Department of Transportation. A portion of the Jones/Oysterbed Island DMCA is also owned by the USFWS and is part of the Tybee National Wildlife Refuge.

Environmental approvals and impacts resulting from disposal area activities are addressed in the LTMS EIS. Some of those actions (including the diking of a new area) would cause environmental impacts and the LTMS EIS contains a mitigation plan to compensate for those impacts. One of the mitigation features was the creation and maintenance of wildlife habitat within the DMCAs. The habitats included bare ground islands for use by colonial nesting birds, as well as shallow water areas for foraging/roosting by waterfowl and shorebirds. The LTMS identified these activities as being performed in seven of the DMCAs. DMCAs 1N and 2A were not included in the LTMS wildlife mitigation plan. These areas were identified as only receiving deposited dredged material.

Since the late 1990s, the Corps has not regularly used DMCA 1N for sediment placement. The site has become overgrown, the dikes and weirs have fallen into disrepair.

3 Proposed Action

The Corps is proposing to (A) rehabilitate DMCA 1N to deposit dredged material, and (B) create and maintain wildlife habitats within the site that would count as wildlife mitigation in the same manner as at the other DMCAs identified in the LTMS EIS.

The proposed project design for DMCA 1N would affect approximately 120 acres covering the interior of the area and the surrounding dikes. The perimeter dike would be raised to an elevation of 26 feet above Mean Lower Low Water (MLLW). The access road from Georgia Highway 25 would be improved and three pipe ramps would be repaired. The existing discharge weir structures would be replaced and remain in their present locations. The weir design is similar to that at the other DMCAs (12A-14B) consisting of high-density polyethylene half-pipe and galvanized steel risers, fiberglass grated steel catwalks, and composite or pressure treated weir boards. This alternative may also include construction of a cross-dike in the middle of the site to allow better long term water management options. The cross-dike would include weirs to allow the ponding and release of water to the other side after sufficient settling has occurred. A 2-acre island would be constructed to provide habitat for colonial nesting birds such as least terns, Wilson's plovers, sandwich terns, and gull-billed terns. These are relatively small

shorebirds. This island would be kept in a bare ground state to mimic isolated beach nesting sites which have become rare due to development. The island is intended to be surrounded by water during the nesting season (1 April to 30 September) to reduce predation.

The SNWR staff is in favor of the proposed rehabilitation project.

4. Issue of Concern

DMCA 1N would be located within the FAA's 5-mile buffer zone for the Savannah Hilton Head International Airport. Using the closest end of Runway 27, the 5-mile distance would include the entire DMCA. The concern is that any structure located within the buffer zone would pose a potential safety risk to aircraft calling at the airport. In this case, the concern is that birds that may use DMCA 1N would interact with passing aircraft, thereby jeopardizing human safety. Since DMCA 1N is located within the 5-mile buffer zone, the concern is for large birds that soar high above the site could cross into an aircraft's flight path and place the plane at risk. According to FAA guidelines, aircraft approaching Runway 27 should be 2,000 feet from the ground at a distance of 5.9 nautical miles from the end of the runway. At a 3 percent glide slope, aircraft should be 950 feet from the ground when they are 2.8 miles from the runway, the location of DMCA 1N. Therefore, normal bird transits -- which occur within 500 feet of the ground -- would not present a risk to aircraft that may pass overhead. Migrating birds fly at higher altitudes, but those flights occur across a wide general area and would not concentrate over this DMCA. The main concern would be from large birds that soar high above the ground and may enter an aircraft's flight path. The 2-acre nesting island would be constructed to provide seasonal habitat for relatively small shorebirds, such as least terns, Wilson's plovers, sandwich terns and gull-billed terns. Vultures sometimes soar at high altitudes. Pelicans are large birds found in the general area, but they are not found this far from the coast. Seagulls can frequent areas away from the coast when a specific site provides some desirable habitat quality.

5. Potential Additional Measures

1. Monitoring of DMCA 1N after construction.

A variety of low-cost motion sensor cameras are available so that wildlife use of the site could be monitored remotely. Review of these recordings could allow one to document trends in wildlife use over time. However, since the cameras would likely be aimed at the surface of the DMCA, they would not provide information directly related to the issue at hand – potential interactions of wildlife with aircraft passing >950 feet overhead. Thus, they are likely to be ineffective in addressing the issue at hand.

Wildlife use of the DMCA could also be monitored in person. Such monitoring could identify the types and numbers of birds using the DMCA. When performed over a period of time, the information would allow one to document trends in wildlife use over time. The observers could

also identify and document birds flying over the DMCA that had the potential for interacting with aircraft passing >950 feet overhead.

2. Development of an Emergency Response Plan. One could develop a plan of action that could be implemented in the event there is a potential hazard observed at the DMCA. This plan could include a list of contacts at the various organizations that have an interest and ability to address issues of wildlife interactions at this site with aircraft.

3. Continued coordination between FAA, USDA, and Savannah Hilton Head International Airport. The present design and siting of the DMCA leads one to believe that the DMCA will serve as a wildlife attractant. However, it is located within the expansive SNWR and observance of overall wildlife usage at SNWR is expected to remain constant. In the event that DMCA 1N does attract substantial numbers of wildlife, a Wildlife Hazard Assessment should be considered.

6. Additional Measures That Will Be Taken

Monitoring after construction. Since one cannot completely know the level of wildlife use of the DMCA until after it is constructed, USACE and/or SNWR staff will monitor wildlife use in person after the DMCA is rehabilitated and placed into service. USACE/SNWR will monitor bird use of the site one day in each of the first four seasons to document the types and numbers of birds using the DMCA, as well as those flying overhead. At the conclusion of the monitoring, USACE will prepare a report that documents the findings and make a recommendation on the need for additional monitoring and the need for preparation of a Wildlife Hazard Assessment. The report will be provided to the FAA, and the Savannah Hilton Head International Airport.

7. Conclusion

USACE believes that enhancement of DMCA 1N will not increase the risk of wildlife hazards to aircraft calling at the Savannah Hilton Head International Airport. There are many extensive wetted areas in the local area that are intended to attract wildlife, specifically the SNWR, which includes DMCA 1N. The small size of the DMCA in relation to much larger sites for birds in the local area, make the DMCA a small portion of a historical habitat for waterfowl and shorebirds. The 2-acre island would be constructed to provide habitat for colonial nesting birds such as least terns, Wilson's plovers, sandwich terns, and gull-billed terns (these are relatively small shorebirds and pose a lower threat to aircraft). To ensure the DMCA does not attract wildlife, specifically large birds, in numbers exceeding those of the neighboring areas of the SNWR, USACE will monitor bird use of the DMCA each season during the first year after the enhancements are completed. If mitigation credits are approved, bird monitoring will occur in

accordance with the USACE mitigation plan which calls for two monthly monitoring events outside of nesting season and weekly monitoring during nesting season (1 April – 31 August).

The normal flight path for Runway 27 does not pass near DMCA 1N. In addition, the FAA also requests that pilots maintain a minimum altitude of 2,000 feet above the surface of National Wildlife Refuges (FAA, Mar 2013). This normal flight path and the FAA request for pilots also reduces the risk of wildlife hazards to aircraft calling at the Savannah Hilton Head International Airport.

FAA provided comments on the proposed action in a letter dated 2 August 2013 (Appendix B). The letter recommended development of a long-term management plan to address potential hazards to aircraft that may arise and that a depredation permit is obtained to respond to any immediate hazards that may result. In addition, a USDA-WS biologist will be conducting a site visit to assess potential hazards and make design recommendations as appropriate, on ways to reduce attracting the most hazardous species.

8. References

Federal Aviation Administration, AIM0704, Section 4, Bird Hazards and Flight Over National Refuges, Parks and Forests, Mar 2013.

Federal Aviation Administration letter response to 1N draft EA, August 2013.

USACE, Savannah District, Draft Environmental Assessment, Rehabilitation of Dredged Material Containment Area 1N (Onslow Island), Savannah Harbor Navigation Project, June 2013.

USACE, Savannah District, Appendix D, Wildlife Hazard Management Plan, Savannah Harbor Navigation Project, July 2013.