**THE ROLE OF APALACHICOLA BARRIER ISLAND ECOSYSTEMS IN SUPPORTING MIGRATORY PASSERINE CONCENTRATION SITES**

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Barrier islands are among the most significant natural features of coastal systems. One of NOAA’s primary missions is “to preserve and protect coastal ecosystems and their resources”. The barrier islands along the Gulf Coast serve as the first landfall for millions of northbound songbirds after they cross the gulf from Central and South America on their way to the United States and Canada. Thus, barrier island migratory bird concentration sites are an internationally important coastal resource and the support of these sites is considered among the most significant ecosystem services provided by Gulf Coast barrier islands. Because NOAA is charged with preserving and protecting “coastal ecosystems and their resources”, it is critical that we obtain quantitative data on the role of barrier island ecosystems in supporting migratory birds. We used stable isotope analyses to assess avian use of barrier Islands in Apalachicola Bay, Florida. We show that birds rely on these barrier islands to gain fat and muscle to complete their migration to northern breeding grounds. We also show that a stopover along the Gulf Coast allows birds to shift or maintain a diet in response to available resources in North America. Our study sheds light on the ecological function of these islands, provides data useful for the mitigation of impending sea level rise, and provides data for management, preservation, and protection. This study highlights the importance of barrier islands in maintaining this resource and supports Presidential Executive Order 13168 that requires NOAA to consider migratory birds a conservation priority.