Abstract

Interest in marsh birds has increased in recent years due to their role as indicator species of wetland health, which is exacerbated by their declining numbers. Marsh birds are secretive, hiding in thick marsh vegetation and infrequently emitting sound, making it hard to locate their habitat and determine their distribution and numbers. Previous studies to monitor marsh birds have been conducted to determine effective conservation and management methods. The North American Marsh Bird Monitoring Program (NAMBMP) estimates changes in breeding marsh bird abundance at different temporal and spatial scales across the country. Consistent with this approach, a pilot program, including a survey sampling scheme, database, and mobile application was developed using biological and environmental data specific to the state of Maine. This was achieved using the Esri Catalog of GIS Applications and the Blue Marble Geographics GIS Application: Global Mapper and projection management tool: the Geographic Calculator. Biogeographical data were captured, stored, and analyzed. A two-stage cluster sampling approach was used to identify potential breeding habitat for secretive marsh birds from which sites to survey were identified. These data were converted via taxonomies and unit conversions to correlate to the regional and national scale standards of the NAMBMP. Twenty of the survey sites were selected and field surveys were conducted to verify the accuracy of the points. In 2018, the Maine Department of Inland Fisheries and Wildlife (MDIFW) will use the resulting database and mobile application to complete the Maine section of the NAMBMP.