



Patuxent Wildlife Research Center Science Brief for Resource Managers

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Science Brief PWRC 2003-31

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Breeding bird surveys at Northeast Creek and Bass Harbor, Acadia NP

Description:

Objectives of the survey are: (1) to determine, the array of avian species breeding within the boundaries of the two study sites (Northeast Creek, Bass Harbor), (2) to determine the number of species breeding within the boundaries of each study site, and (3) to calculate densities of breeding pairs of each species by study site or habitat cover type as appropriate. Although this study will be considered an inventory, sampling stations will be established so that they could be used in subsequent years as monitoring stations (Fancy and Sauer 2000). To meet objectives for determining avian breeding pairs we will use the following techniques: quiet observation (QO) from elevated platforms (Longcore and Ringelman 1980), distance sampling with variable circular-plots (VCP)(Buckland 1993, Fancy 1997, Fancy and Sauer 2000), broadcast calls (BC) for inconspicuous waterbirds (rails, bitterns) (Gibbs and Melvin 1993), and a late winter reconnaissance for raptors. All avian species as detected by the different methods will be entered into the NPSpecies database.

Progress to Date:

Early spring work included several quiet observation sites from elevated stands to observe use of wetlands by migrant avian species, especially waterfowl. The margins of study areas were traversed to locate nesting raptors, but only a few species were noted and no nests were detected. USGS biologists worked with ANP staff to create maps of the 2 study areas and to generate random numbers for plots to serve as sampling stations. Three random point count surveys, and 3 broadcast call surveys were completed. Quiet observation sites to count waterfowl broods, yielded only broods of mallards, black ducks, and 1 blue-winged teal. Surveys continued throughout the summer to record use of wetlands by early migrating shorebirds. The most noteworthy finding was that of

a breeding least bittern at a small beaver flowage associated with the Bass Harbor Marsh. Vegetation types at sampling stations were associated with distribution of breeding bird species heard or seen at those station. Numbers of broods seen on each wetland and numbers of species responding to broadcast calls have been summarized. Maps depicting vegetation types on random and non-random routes were prepared for each wetland along with a general map of the study area.

Management Implications:

Completion of this work will allow park managers to assess the value of these two marshes for breeding and migrating avian species. Data may be useful in supporting or not supporting acquisition of parcels of land around these marshes and in the zone of possible land ownership consolidation by the park.

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