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AVIAN COMMUNITIES OF CREATED AND NATURAL WETLANDS: BOTTOMLAND FORESTS IN VIRGINIA

EMILIE C. SNELL-ROOD¹ AND DANIEL A. CRISTOL²

Department of Biology, College of William and Mary, P.O. Box 8795, Williamsburg, VA 23187

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¹Present address: Department of Ecology and Evolutionary Biology, University of Arizona, BioSciences West, Room 310, Tucson, AZ 85721.

²Corresponding author. E-mail: dacris@wm.edu

Abstract. The federal government requires those who destroy wetlands to preserve, restore, or create new ones with the goal of no net loss of wetlands. In the summer of 2000, we tested whether forested wetlands created an average of 8 years earlier had developed avian communities similar to natural wetlands of the same age in southeastern Virginia. We compared six created wetlands to five natural (reference) wetlands that had undergone ecological succession after clearcutting. We also created a trajectory of expected avian community development by comparing 20 reference wetlands, logged 1–25 years earlier, to mature forested wetlands that had not been logged for 50 years or more. Created wetlands had significantly lower avian richness and diversity, and a different community composition, than reference wetlands. These differences were likely due to the fact that created wetlands supported low numbers of the expected passerine species. In addition, natural wetlands supported species of higher conservation concern, as measured by Neotropical migratory status, trophic level, habitat specificity, and wetland dependency. The trajectory of avian community development indicated that the created wetlands were developmentally behind reference wetlands or were following a different developmental trajectory altogether. We hypothesize that the differences between created and reference forested wetlands were due to unnatural patterns of hydrology or retarded vegetation development on created wetlands. It should not be assumed that created forested wetlands can provide full ecosystem replacement for natural forested wetlands.

Key words: created wetland, forested wetland, habitat restoration, wetland construction.