The 2012 Illinois and Mississippi River Fall Waterbird and Wetland Habitat Report

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INTRODUCTION

The Illinois and Mississippi River Valleys (IRV and CMRV, respectively) are major migration and wintering areas for nearly 30 species of waterfowl in the Mississippi Flyway (Havera 1999). Additionally, these regions provide significant recreational opportunities (e.g., hunting and bird watching). Data from aerial inventories are used to direct waterfowl management, habitat acquisition, ecological research, and for public outreach. There are many important private, state and federal waterfowl areas and refuges within these river floodplains, such as the Mark Twain National Wildlife Refuge (NWR), the Illinois River National Wildlife and Fish Refuges, and Keokuk Pool. The Illinois Natural History Survey (INHS) with support from the Illinois Department of Natural Resources (IDNR) and the Federal Aid to Wildlife Restoration Fund through the U.S. Fish and Wildlife Service (USFWS) has conducted aerial inventories of waterfowl along the Illinois and Mississippi rivers since 1948 (flown each year but 2001). This undertaking represents the longest known inventory of waterfowl, preceding even the USFWS breeding waterfowl counts and mid-winter inventories.

Wetland conditions in backwater lakes along the Mississippi and Illinois rivers influence migration patterns of dabbling ducks – better conditions result in longer stopover durations (O'Neal et al. 2012). Habitat conditions are dependent on many factors, but likely are heavily influenced by abundance of high-quality foods. In the IRV and CMRV, natural moist-soil vegetation composed of mostly annual grasses and broad-leafed plants, submersed and floating-leafed aquatic vegetation, and cereal crops (e.g., corn, sorghum and Japanese millet) are the principle food sources of ducks during fall (Havera et al. 1999:133). Wide-scale production of moist-soil plants is dependent on timing and extent of spring and summer flooding along the river systems; receding water levels during late spring and summer expose mudflats and encourage plant growth. Additionally, temperature, rainfall, and other factors affect farming practices (e.g., fall tillage of corn fields) which influences availability of waste grain for field-feeding ducks. Although submersed and floating-leafed aquatic plants have been largely eliminated from many backwater lakes along the major rivers, some isolated lakes and reservoirs harbor these plant communities as long as sedimentation and eutrophication are not severe.

During aerial inventories each fall, we estimated waterfowl habitat quality based on food abundance. Herein, we describe wetland, lake, and river water levels; apparent food production by aquatic plant communities; and the response by waterbirds during fall 2012.

METHODS

We have estimated the quality of waterfowl foraging habitats (e.g., moist-soil plants and submersed aquatic vegetation) in the IRV and CMRV since the late 1970s using a simple, qualitative index (1–5; 1 – no or poor food production, 2 – fair, 3 – good, 4 – very good, 5 – excellent; O'Neal et al. 2012). During summer/fall, we assessed the extent and maturity of waterfowl plant foods both aerially and from the ground at several backwater wetlands in these rivers and ranked overall food production in the region according to the index.

During fall 2012, we aerially inventoried waterbirds (Table 1) 16 times at 23 locations in the IRV and 16 locations in the CMRV (Fig. 1; INHS 2013). One observer conducted all inventories from a single-engine, fixed-wing aircraft flying at an alti-