

WATERBIRDS ON WORKING LANDS: LITERATURE REVIEW AND BIBLIOGRAPHY DEVELOPMENT

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SUMMARY

We conducted a systematic review of the scientific literature, focusing on 216 wetland-associated species, and documenting their patterns of use of major row crops in North America (rice, corn, winter wheat, spring wheat, sorghum, soybeans, cotton, peanuts, tobacco), the types of resources available to them in each crop, and the ways in which farming practices affect the value of fields.

Our search process found 550 published papers, of which 350 directly involved waterbird use of crop fields in North America. Most studies were conducted in rice, corn, or wheat, and almost half concerned waterfowl. 120 focal species, including 36 “conservation priority” species, occurred in at least one crop. Rice was used by the most species (105), but corn, wheat, sorghum and soybeans were also each used by at least 30 species. Crops were used primarily for foraging, with most use during nonbreeding periods, but some species also use row crops during the breeding season. Compared to other crops, more species forage in rice fields and more species nest in wheat and rice.

Overall, rice, corn, wheat and sorghum appear to have many potential benefits for waterbirds. Soybean fields have some benefits, especially when flooded for wintering species, but also raise a number of concerns. Cotton, peanuts and tobacco appear to provide very little, if any, value for bird species that use wetland habitats. Even for well studied crops, there are clear gaps in current knowledge, ranging from broad-scale, multi-species data on patterns of crop use, to studies that explicitly link use of crop fields to demographic factors that influence population sizes and dynamics. Moreover, there is a clear need for the research and literature to track changes in agronomic practices such that available information relates to current farming activities.