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Symposium on Double-Crested Cormorants: Population Status and Management Issues in the Midwest

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Chapter authors supplied all the photographs in this book, and each has given permission for the U.S. Department of Agriculture (USDA) to reproduce the images here. *On the front cover,* the aerial shot of catfish ponds came from the Mississippi field station of the USDA, Animal and Plant Health Inspection Service, National Wildlife Research Center. The cover photo of a double-crested cormorant, taken on Mandarte Island, British Columbia, was furnished by Douglas Siegel–Causey, of the National Science Foundation. The image of tree-nesting cormorants with gulls in flight came from Scott Jarvie, of the Toronto and Region Conservation Authority.

The image of tree-nesting cormorants facing the chapter by Tyson et al. was taken by Chris Walker and furnished by Mark Shieldcastle, of the Ohio Division of Widlife. He illustrated his and Larry Martin's chapter with an aerial photo of West Sister Island. Lighter colored trees are dying from the effects of coromorant whitewash.

To illustrate his team's chapter, Sumner Matteson, of the Wisconsin Department of Natural Resources' Bureau of Endangered Resources, supplied the shot of cormorants nesting on the ground on Gull Island in the Apostle Islands group in Lake Superior. Matteson also furnished the image used on the page facing the chapter by Belyea et al.

Robert Ross, of the U.S. Geological Survey, introduced his and James Johnson's chapter with a dramatic photo illustrating just how close together cormorants build their nests when appropriate real estate is in short supply.

Michael Bur, of the U.S. Geological Survey, introduced his team's chapter about cormorant food habits with a lab shot of gizzard shad in a cormorant's stomach. Bur also supplied images used facing the chapters of Trapp et al., Bédard et al., and Weseloh and Lewis.

Scott Jarvie illustrated his team's chapter with a shot of Toronto's skyline showing Tommy Thompson Park in the foreground. He also supplied his coauthor H. Blokpoel's image of cormorants in trees on Little Galloo Island, used to introduce the chapter by Glahn et al. Finally, Jarvie photographed the photographer for the Lake Ontario woodlands shot facing the chapter by Korfanty et al.

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Symposium on Double-Crested Cormorants: Population Status and Management Issues in the Midwest

December 9, 1997
Milwaukee, WI

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Letter of Transmittal

Populations of double-crested cormorants have increased dramatically since the early 1970's, due mainly to a ban on the use of DDT, legal protection afforded by the Migratory Bird Treaty Act, and possibly an increase in prey abundance on both their breeding and wintering grounds. The most dramatic increases have been with cormorant populations that breed in the Great Lakes, the north-central United States, and the prairie provinces of Canada. Today, these burgeoning populations present a growing dilemma to wildlife managers concerned about real and perceived impacts of cormorants on sport and commercial fisheries, vegetation, other colonial waterbirds, and aquaculture operations. Anglers, resort owners, aquaculturists, lake-home owners, politicians, and others are clamoring for a solution to these problems. In response to this, the U.S. Fish and Wildlife Service and the Canadian Wildlife Service convened a 1-day symposium on December 9, 1997, as part of the Midwest Fish and Wildlife Conference in Milwaukee, WI, to review recent research findings dealing with the status and biology of cormorants in the Midwest, and to discuss management issues related to the species.

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services is proud to produce the proceedings from this symposium because it will facilitate interagency and international cooperation in finding acceptable solutions to the various perceived and real problems associated with cormorants. Funding constraints necessarily limit how many books we can print. However, until our supply is exhausted, individual copies are available from the library at the National Wildlife Research Center (NWRC), 4101 LaPorte Avenue, Fort Collins, CO 80521–2154, U.S.A. The U.S. Government Printing Office will make a single copy of this text available to the main library at all of the land-grant colleges and universities in the United States. Softbound copies and a microfiche version of the book will be available for purchase in perpetuity from the U.S. Department of Commerce's National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, U.S.A. Please write directly to NTIS for current pricing and ordering information. And shortly after publication, we will be posting the proceedings on the World Wide Web. Point your Web browser to www.aphis.usda.gov and click on "Publications" to find the text.

For more information about ongoing investigations at the NWRC, you may contact the Director's Office at the Fort Collins address given above.

William H. Clay
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Washington, DC

Acknowledgments

This book is the result of the conference entitled “Double-Crested Cormorants: Population Status and Management Issues in the Midwest” that was convened by the Canadian Wildlife Service and the U.S. Fish and Wildlife Service on December 9, 1997, in Milwaukee, WI. We greatly appreciate the assistance of the Northcentral Section of The Wildlife Society in sponsoring this symposium.

We also acknowledge the excellent work and dedication the conference program planning committee provided, especially Steve Lewis, Chip Weseloh, and the speakers and authors who agreed to make presentations at the symposium and prepare manuscripts for this publication. Special appreciation goes to Susan C. Smith for her help in preparing the proceedings. We also thank APHIS Legislative and Public Affairs personnel Janet Wintermute for editing the text, Mary Ann Hines for preparing the layout, and Anita McGrady for printing the proceedings.

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