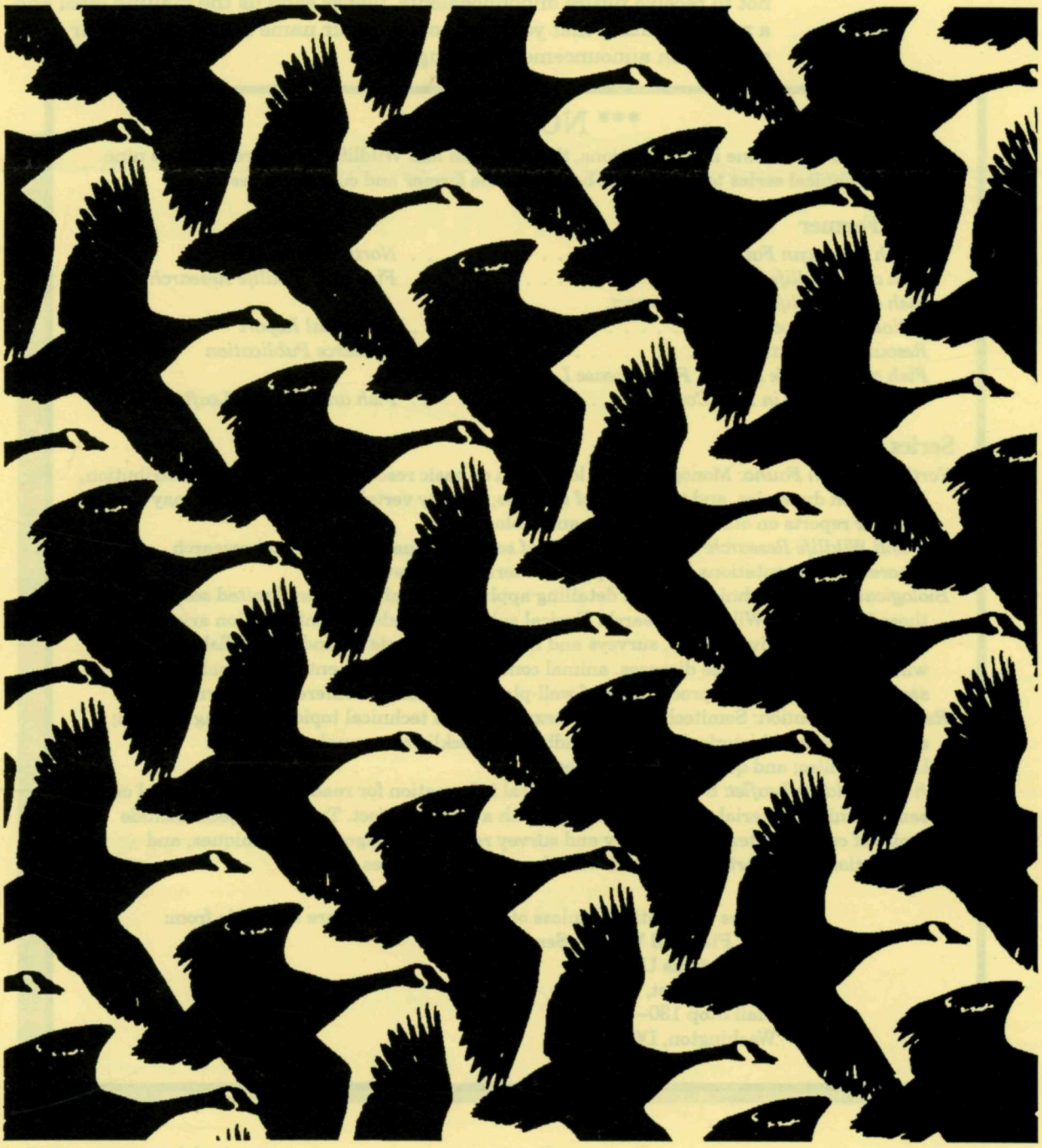
New Publications



U.S. Department of the Interior
Fish and Wildlife Service
Research and Development

March 1992

Foreword

This is the ninth semiannual announcement of recent Research and Development Series publications. This announcement also lists other available U.S. Fish and Wildlife Service publications.

You have been selected to receive this product announcement, either as a result of a request made by you or someone on your office's staff or because of your position in natural resource research or management. If you prefer not to receive future announcements, please send us the mailing label and a note indicating that you wish to have your name removed from our publication announcement mailing list.

*** NOTICE ***

In 1991, to streamline its publications, the U.S. Fish and Wildlife Service reduced its nine in-house technical series to five. Listed below are the former and current series titles.

Former	Current
North American Fauna	*North American Fauna*
Fish and Wildlife Research	*Fish and Wildlife Research*
Fish and Wildlife Technical Report, Biological Report	*Biological Report*
Resource Publication	*Resource Publication*
Fish and Wildlife Leaflet, Fish Disease Leaflet, Investigations in Fish Control	*Fish and Wildlife Leaflet*

Series Descriptions

North American Fauna: Monographs on long-term or basic research on life history, distribution, population dynamics, and taxonomy of animals, usually vertebrates. This series may also be used for reports on other fauna, flora, and ecology.

Fish and Wildlife Research: Scientific reports of scholarly quality on original research, theoretical presentations, and interpretive literature reviews.

Biological Report: Technical reports detailing applied research of a more limited scope than those in Fish and Wildlife Research. Typical subjects include new information arising from more comprehensive studies, surveys and inventories, effects of land use on fishes and wildlife, fish and wildlife diseases, animal control, and developments in technology. This series may also include proceedings of well-planned technical conferences or symposia.

Resource Publication: Semitechnical or nonexperimental technical topics including surveys; data, status, and historical reports; handbooks, checklists; manuals; annotated bibliographies; and quality workshop reports.

Fish and Wildlife Leaflet: Summaries of technical information for readers of nontechnical or semitechnical material. Each leaflet deals with a single subject. Typical subjects include topics of current interest, inventory and survey results, management techniques, and descriptions of imported fishes and wildlife and their diseases.

Series publications, unless otherwise indicated, are available from:
U.S. Fish and Wildlife Service
Publications Unit
1849 C Street, N.W.
Mail Stop 130—ARLSQ
Washington, DC 20240

How to Order

After each publication listing is an abbreviation in brackets. This information identifies the organization where that publication is available. A listing of these abbreviations and the associated addresses is given below.

These publications are free (unless otherwise indicated) until the supply is exhausted; then you may purchase needed publications from the National Technical Information Service (NTIS) or the U.S. Government Printing Office.

When ordering a publication, please identify the series name, number, author(s), and title. This will ensure a rapid and accurate response.

Source

NWRC—Slidell
U.S. Fish and Wildlife Service
National Wetlands Research Center
1010 Gause Boulevard
Slidell, LA 70458

Publications Unit
U.S. Fish and Wildlife Service
Publications Unit
1849 C Street, N.W.
Mail Stop 130—ARLSQ
Washington, DC 20240

USGPO
U.S. Fish and Wildlife Service
U.S. Government Printing Office
Superintendent of Documents
Washington, DC 20401

Contents

Birds—Nongame, Colonial Wading Birds, Raptors, Game

Kautz, J. E., and R. A. Malecki. 1990. Effects of harvest on feral rock dove survival, nest success, and population size. U.S. Fish and Wildlife Service, Fish and Wildlife Technical Report 31. 16 pp. [Publications Unit]

Feral rock doves were removed over a 2-year period at four different rates (control; low, 18–26%; medium, 33–34%; high, 39%) from four populations of about 400 birds each to examine the effects intensity of harvest on their population dynamics.

Birds—Waterfowl

Ball, I. J. 1990. Artificial nest structures for Canada geese. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(2.12). 8 pp. [Publications Unit]

Structures described include those built on single posts, platforms, and large bales, in trees and culverts, and as floating structures.

Eldridge, J. 1990. Aquatic invertebrates important for waterfowl production. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(3.3). 7 pp. [Publications Unit]

The purpose of this leaflet is to give managers a quick reference to the important invertebrate groups that prairie-nesting ducks consume.

Fleskes, J. P., and E. E. Klaas. 1992. Dabbling duck recruitment in relation to habitat and predators at Union Slough National Wildlife Refuge, Iowa. U.S. Fish and Wildlife Service, Fish and Wildlife Technical Report 32. 19 pp. [Publications Unit]

The influence of habitat quality and predation on nesting success and recruitment of dabbling ducks (*Anatini*) was studied at Union Slough National Wildlife Refuge in north-central Iowa, 1984–85.

Fredrickson, L. H., and M. E. Heitmeyer. 1991. Life history strategies and habitat needs of the northern pintail. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(1.3). 8 pp. [Publications Unit]

This leaflet describes aspects of pintail life history that may be important for pintail management. It is not intended as a general reference on pintail biology.

Ringelman, J. K. 1990. Managing agricultural foods for waterfowl. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(4.3). 4 pp. [Publications Unit]

This leaflet offers guidelines and information on the quality and quantity of agricultural foods needed by waterfowl and techniques to enhance the availability of these foods.

Schultz, R. D. 1990. Economic and legal incentives for waterfowl management on private lands. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(4.2). 5 pp. [Publications Unit]

Despite agency success in acquiring, restoring, and managing public lands for waterfowl and other species, many wildlife populations have declined to the lowest levels ever recorded. This results in part from the historic and ongoing conversion of important wetlands and grasslands to croplands. Although it is not a complete list, this leaflet provides information on an array of economic and legal incentives for waterfowl management.

Contaminants

Eisler, R. 1991. Cyanide hazards to fish, wildlife, and invertebrates: a synoptic review. U.S. Fish and Wildlife Service, Biological Report 85(1.23). 55 pp. [Publications Unit]

Many chemical forms of cyanide are present in the environment. Only free cyanide (i.e., the sum of molecular hydrogen cyanide, HCN, and the cyanide anion, CN^-) is the primary toxic agent, regardless of origin. All available evidence suggests that cyanides are neither mutagenic, teratogenic, nor carcinogenic. Moreover, there are no reports of cyanide biomagnification or cycling in living organisms, probably owing to its rapid detoxification. Cyanide seldom persists in surface waters and soils owing to complexation or sedimentation, microbial metabolism, and loss from volatilization. More data are needed on cyanide distribution and transformation in the atmosphere.

Welte, S., and L. Frink. 1991. Rescue and rehabilitation of oiled birds. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(2.8). 8 pp. [Publications Unit]

Oil contamination of waterfowl and seabirds has been documented as a significant cause of morbidity and mortality in birds for more than 50 years. This leaflet provides the wildlife professional with a basic understanding of the internal and external effects of oil on birds, and the key components of an effective oil spill response. The authors emphasize handling techniques for the rescue and rehabilitation of oiled waterfowl and seabirds.

Endangered and Threatened Species

Bayha, K., and J. Kormendy, (editors). 1991. Sea otter symposium: proceedings of a symposium to evaluate the response effort on behalf of sea otters after the T/V *Exxon Valdez* oil spill into Prince William Sound, Anchorage, Alaska, 17–19 April 1990. U.S. Fish and Wildlife Service, Biological Report 90(12). 485 pp. [Publications Unit]

The T/V *Exxon Valdez* grounded on Bligh Reef in Prince William Sound, Alaska, in the early morning of 24 March 1989, spilling 11 million gallons of toxic crude oil into pristine Prince William Sound. The U.S. Fish and Wildlife Service, with assistance from nearly every sector that participated in the response, evaluated the rescue effort in a symposium held in April 1990. The papers presented and the five concurrent workshop syntheses document the effort, evaluate what was learned, and offer recommendations.

Fritts, S. H., W. J. Paul, L. D. Mech, and D. P. Scott. 1992. Wolf–livestock conflicts in Minnesota: trends and management. U.S. Fish and Wildlife Service, Resource Publication 183. 27 pp. [Publications Unit]

The nature and extent of wolf–livestock conflicts in Minnesota during 1975–86 was studied as part of a wolf depredation control program. The level of wolf (*Canis lupus*) depredation on livestock in Minnesota, as determined from the total number of complaints verified annually during 1975–86, showed a slight upward trend but did not increase significantly.

Environmental Effects

Corn, P. S., W. Stolzenburg, and R. B. Bury. 1989. Acid precipitation studies in Colorado and Wyoming: interim report of surveys of montane amphibians and water chemistry. U.S. Fish and Wildlife Service, Biological Report 80(40.26). 56 pp. [Publications Unit]

Surveys for amphibians were conducted in the Rocky Mountains of northern Colorado and southern Wyoming from 1986 to 1988. Most amphibian species were reduced from historical range. Acid-neutralizing capacity, pH, specific conductivity, and cation concentrations in water at amphibian localities were negatively correlated with elevation. However, in mountain ponds and lakes, pH was rarely less than 6.0 during the amphibian breeding season.

Fish—Salmonids

Nelson, W. R., and J. Bodle. 1991. Ninety years of salmon culture at Little White Salmon National Fish Hatchery. U.S. Fish and Wildlife Service, Biological Report 90(17). 22 pp. [Publications Unit]

The Little White Salmon National Fish Hatchery was built in 1896 to supplement the run of Tule fall chinook salmon. In succeeding years other species of salmon and trout were reared but coho salmon was the only species that established a dependable run. By 1985, the native Tule fall chinook salmon run was so depressed that rearing this stock was abandoned. Although the construction of the Bonneville Dam had a deleterious effect on production and survival, the importation of stocks (which changed their genetic fitness and introduced diseases) and rearing fish longer (which reduced survival in the hatchery) were contributing factors. Efforts are now dedicated to rearing transplanted fall and spring chinook salmon stocks.

HSI Models, Species Profiles, Community Profiles, Estuarine Profiles

Van Horne, B., and J. A. Wiens. 1991. Forest bird habitat suitability models and the development of general habitat models. U.S. Fish and Wildlife Service, Fish and Wildlife Research 8. 31 pp. [Publications Unit].

Habitat Suitability Index (HSI) models were developed to assess the sensitivity of wildlife to habitat perturbations. Because most models consider a single species, their generality is limited. The authors evaluate the feasibility of combining such models for species occupying similar habitats to create more general models of wildlife–habitat relations. They base their evaluation on an analysis of HSI models for 16 forest bird species.

Wiegert, R. G., and B. J. Freeman. 1990. Tidal salt marshes of the southeast Atlantic coast: a community profile. U.S. Fish and Wildlife Service, Biological Report 85(7.29). 70 pp. [Publications Unit]

This profile considers tidal marshes on the southeastern Atlantic coast, from North Carolina south to northern Florida. Alone among the earth's ecosystems, coastal communities are subject to bidirectional flooding, sometimes occurring twice each day. This flooding affects successional development, species composition, stability, and productivity.

Instream Flows, Water Allocation, Water Resources

Armour, C. L. 1992. Guidance for evaluating and recommending temperature regimes to protect fish. U.S. Fish and Wildlife Service, Biological Report 90(22). 13 pp. [Publications Unit]

Procedures are presented for evaluating temperature regimes for fish. Although examples pertain to spring chinook salmon (*Oncorhynchus tshawytscha*), the principles apply to other species. Basic temperature tolerance relationships for fish are explained and three options are described for comparing alternate temperature regimes. The options are to base comparisons on experimental temperature tolerance results, suitability of a simulated temperature regime for key life stages, or populations statistics and predicted responses to simulated temperatures.

Mammals

Riedman, M. L., and J. A. Estes. 1990. The sea otter (*Enhydra lutris*): behavior, ecology, and natural history. U.S. Fish and Wildlife Service, Biological Report 90(14). 126 pp. [Publications Unit]

This monograph provides a comprehensive review of the biology of the sea otter and includes a summary and synthesis of information on: phylogeny and evolution, systematics, morphology, physiology, habitat, community ecology, foraging behavior, activity, social organization, movements and home range, reproduction, mortality, population dynamics, and reintroductions.

Ringelman, J. K. 1991. Managing beaver to benefit waterfowl. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(4.7). 7 pp. [Publications Unit]

The author reviews some techniques useful for managing beaver populations and enhancing their habitats to benefit waterfowl, and explains the ecological relations and characteristics that cause beaver ponds to be attractive habitats for waterfowl.

Wetlands—Ecology and Management

Fredrickson, L. H. 1991. Strategies for water level manipulations in moist-soil systems. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(4.6). 8 pp. [Publications Unit]

Water level manipulations are one of the most effective tools in wetland management, provided fluctuations are well-timed and controlled. This publication offers information on the timing of drawdowns and their influence on most-soil vegetation and wildlife use. Other information provided are the effects of drawdown rates on moist-soil plant production, invertebrate availability in

relation to drawdowns, spring habitat use by birds, and fall flooding strategies.

Kelley, J. R., Jr., and L. H. Fredrickson. 1991. Chufa biology and management. U.S. Fish and Wildlife Service, Fish and Wildlife Leaflet 13(4.18). 6 pp. [Publications Unit]

Chufa is an emergent perennial sedge that is common in seasonally flooded wetlands. Although chufa is common in many States, it is most abundant in the Southeast, including the Mississippi alluvial valley. Below ground biomass of chufa, especially the tubers, serves as a valuable food source for waterfowl and cranes. This publication provides information on the identification of chufa, its nutritional value, life history, and management techniques.

Kiraly, S. J., F. A. Cross, and J. D. Buffington (editors). 1990. Federal coastal wetland mapping programs. U.S. Fish and Wildlife Service, Biological Report 90(18). 174 pp. [Publications Unit]

A workshop was held in December 1989 to examine the federal effort in mapping the nation's coastal wetlands. The workshop took place at the U.S. Fish and Wildlife Service National Wetlands Research Center, Slidell, La. The papers presented at the workshop and recommendations for improving the federal effort are contained in this publication.

Kirby, R. E., S. J. Lewis, and T. N. Sexson. 1988. Fire in North American wetland ecosystems and fire-wildlife relations: an annotated bibliography. U.S. Fish and Wildlife Service, Biological Report 88(1). 146 pp. [Publications Unit]

This publication fills two important voids in the libraries of many wildlife biologists—an annotated bibliography on fire in North American wetland ecosystems and a subject index of all fire-related literature that has appeared in *Wildlife Review*. This bibliography is intended to provide access to literature on fire-wetlands relations and to provide initial guidance in preparation of fire management planning documents on U.S. Fish and Wildlife Service lands. A total of 1,261 citations are provided, of which 319 are annotated.

Schneller-McDonald, K., L. S. Ischinger, and G. T. Auble. 1990. Wetland creation and restoration: description and summary of the literature. U.S. Fish and Wildlife Service, Biological Report 90(3). 198 pp. [Publications Unit]

This publication provides bibliographic information contained in the Wetland Creation and Restoration data base. A total of 1,100 records are included. Each represents one article, report, or other publication dealing with the creation or restoration of wetlands. Information contained in the data base is introduced in a description of all fields and keywords and summarized in terms of findings in a set of graphs and tables. The data are accessible through an index cross-referenced by location, plant genus, wetland type, and subject.

Segelquist, C. A., W. L. Slauson, M. L. Scott, and G. T. Auble. 1991. Synthesis of soil-plant correspondence data from twelve wetland studies throughout the United States. U.S. Fish and Wildlife Service, Biological Report 90(19). 24 pp. [Publications Unit]

This publication synthesizes the information collected for the U.S. Fish and Wildlife Service in a series of 12 studies designed to describe the relation between soils and vegetation and wetlands located in 11 States throughout the United States.

Excess Publications

Duffy, W. G., and D. Clark. 1989. Marsh management in coastal Louisiana: effects and issues—proceedings of a symposium. U.S. Fish and Wildlife Service, Biological Report 89(22). 378 pp. [NWRC—Slidell]

This proceedings is from a symposium, "Marsh Management in Louisiana: Effects and Issues" held in Baton Rouge, La., in June 1988. It provides an overview of issues and strategies surrounding the management of fresh, brackish, and salt marshes in coastal Louisiana to control wetland loss.

Gosselink, J. 1984. The ecology of the delta marshes of coastal Louisiana: a community profile. U.S. Fish and Wildlife Service, FWS/OBS-84/09. 134 pp. [NWRC—Slidell]

This document reviews and synthesizes ecological information and data on the extensive marshes of the Mississippi River deltaic plain.

Haynes, R. J., J. A. Allen, and E. C. Pendleton. 1988. Reestablishment of bottomland hardwood forests on disturbed sites: an annotated bibliography. U.S. Fish and Wildlife Service, Biological Report 88(42). 104 pp. [NWRC—Slidell]

This bibliography was prepared to assist environmental planners, managers, and others who are interested in reestablishing bottomland hardwood forests on disturbed sites. Emphasis is on the southeastern United States. There are 111 annotated entries, 259 non-annotated entries, and two appendixes—(A) common and scientific names and (B) flooding and shade tolerances and reproductive characteristics of common bottomland hardwood forest species. The entries are cross-referenced by species and subject.

Odum, W. E., C. C. McIvor, and T. J. Smith III. 1982. The ecology of the mangroves of south Florida: a community profile. U.S. Fish and Wildlife Service, FWS/OBS-81/24. 154 pp. [NWRC—Slidell]

A detailed description is given of the community structure and ecosystem processes of the mangrove forests of south Florida. This description is based upon a compilation of data and hypotheses from published and unpublished sources. Information covered ranges from details of mangrove distribution, primary production, diseases, reproduction, biomass partitioning, and adaptations to stress.

Simons, R. W., S. W. Vince, and S. R. Humphrey. 1989. Hydric hammocks: a guide to management. U.S. Fish and Wildlife Service, Biological Report 85(7.26 Supplement). 89 pp. [NWRC—Slidell]

This publication explains how the nature and functioning of the hydric hammock community determines its best management. Numerous activities and their effects on hydric hammocks are described. Various management strategies are outlined as the basis for rational decisions that will both protect the inherent values of hydric hammock and provide for human use of this community.

Wolfe, S. H., and R. D. Drew, editors. 1990. An ecological characterization of the Tampa Bay watershed. U.S. Fish and Wildlife Service, Biological Report 90(20). 334 pp. [NWRC—Slidell]

This report is an extensive review and synthesis of literature on the ecology of the Tampa Bay drainage basin. In contrast to conventional literature reviews and syntheses, the report deliberately crosses disciplinary boundaries to focus on the manner in which the drainage basin functions as an integrated ecological system.