

VIRGINIA'S COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY

2005

PREPARED BY

THE VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES
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Foreword

My Fellow Virginians:

After his Natural Resources Leadership Summit in 2003, Governor Mark Warner asked the Virginia Department of Game and Inland Fisheries to develop a strategy that would chart a new course for the conservation and management of Virginia's rich and abundant wildlife resources in the 21st century. The results would not simply continue our efforts to recover those animals whose populations are so low that they have been listed as threatened or endangered, nor would they focus solely on managing game wildlife. Rather, the final outcome, presented here, weaves together information about nearly 1,000 wildlife species in need of conservation, the essential habitats that support them, threats to these resources, and priorities for action.

I am particularly pleased with the outcome because it is the result of the efforts of hundreds of Virginians—not just employees of the Department of Game and Inland Fisheries and other agencies in my Secretariat, but also other agencies in state government, as well as members of federal, regional, and local agencies; outdoor and conservation organizations; industry; civic associations; colleges and universities; and interested private citizens. Through this collaborative partnership, we were able to draw upon decades of natural resource conservation efforts that have occurred across the Commonwealth. Through this partnership, we were also able to identify a wide array of needs that we must address if we are to continue our roles as stewards of these resources.

Article XI of the Constitution of Virginia charges state government with the responsibility of protecting natural resources. It reads, in part, as follows:

"To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the commonwealth to conserve, develop, and utilize its natural resources... to protect its atmosphere, lands and waters from pollution, impairment, or destruction, for the benefit, enjoyment and general welfare of the people of the commonwealth."

This strategy presents a challenge to each and every Virginian. We cannot follow this new course or uphold our duty to conserve the Commonwealth's biological diversity without the support of our citizens and the financial assistance of our elected officials. Let us come together, working from the same "blueprint," to direct our time and resources collectively for our natural "common wealth."

Within these pages, I hope that you will find your niche and do your part. Please join me in conserving our splendid natural resources.

Sincerely,

A handwritten signature in black ink that reads "W. Tayloe Murphy, Jr." in a cursive style.

W. Tayloe Murphy, Jr.



COMMONWEALTH of VIRGINIA

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Department of Game and Inland Fisheries

Colonel W. Gerald Massengill
Interim Director

Preface

As the Commonwealth's wildlife agency, the Virginia Department of Game and Inland Fisheries and the Board of Game and Inland Fisheries recognize their important roles as stewards of these natural resources for the citizens of the Commonwealth. The Board and Department are committed to three key focal areas, as outlined in our mission statement:

- To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth;
- To provide opportunity for all to enjoy wildlife, inland fish, boating, and related outdoor recreation; and
- To promote safety for persons and property in connection with boating, hunting, and fishing.

In 2001, state wildlife agencies were presented with an exciting opportunity – millions in new grants to support critically underfunded wildlife conservation programs. In exchange, each state had to commit to the development of a wildlife conservation plan – a new strategy to protect species of greatest conservation need. We all agreed, perhaps not fully appreciating at the time the commitment required of our staffs and ourselves. Operating under requirements from Congress and guidance from the U.S. Fish and Wildlife Service, each state tackled this obligation in its own unique way.

I am particularly proud of our efforts in this initiative. During my tenure as a member and chairman of the Board, I have had few opportunities to participate in projects that have involved such a wide and diverse array of citizens and constituent groups. Every organizational unit in the agency actively participated in the development of this document. With the Wildlife Diversity Division leading this effort under the direction of its director, David Whitehurst, other biologists, game wardens, and specialists from our Fisheries, Wildlife, Law Enforcement, and Administrative Services programs all had key roles in this accomplishment. This is truly a document of the Department.

Importantly, this initiative allowed us to reaffirm and strengthen our relationships with our long-time conservation partners. It also allowed us to meet new friends, who have a vested interest in wildlife, expanding our conservation network. We have all agreed that this "blueprint" will guide us together, sharing our limited resources to address the commonly-identified priority needs.

This document is an important tool in our accomplishment of our mission, along with you, our partners. We thank you for your enthusiastic support of wildlife conservation activities across Virginia and welcome your participation in the implementation of this strategy.

A handwritten signature in cursive script that reads "Sherry Smith Crumley".

Sherry Smith Crumley
Chairman, Board of Game and Inland Fisheries
August 18, 2005

Executive Summary

The authority and responsibility for fish and wildlife conservation in Virginia is vested with Virginia Department of Game and Inland Fisheries (DGIF) and the Virginia Marine Resources Commission (VMRC). These agencies have partnered with the U.S. Fish and Wildlife Service (USFWS) to manage harvested and endangered species under many federal programs. As a result, populations of many of these species have rebounded.

However, DGIF is also charged with managing all other wildlife in the Commonwealth. This responsibility has presented numerous challenges, primarily because of a lack of adequate funding. In 2000, the Virginia General Assembly recognized the importance and value of a broader “user pay, user benefit” approach and directed a portion of the state sales tax collected on wildlife-related outdoor recreation equipment to DGIF. While this additional revenue has enabled the agency to continue conservation and management programs, these resources do not address the continued shortfall of funds available for comprehensive wildlife conservation.

Congress began to provide annual funding to supplement existing state fish and wildlife conservation programs in 2001. Along with this funding came the responsibility of each state and territory to develop a Comprehensive Wildlife Conservation Strategy (CWCS) by October 1, 2005. In 2003, DGIF was also charged with the development of a similar strategy as a result of Governor Warner’s Natural Resources Leadership Summit. This task was also to be completed by October 1, 2005. This document, the resulting Strategy, is intended to fulfill both Congressional and Virginia state requirements.

Key to the successful development of this document was input from numerous partners, stakeholders, and citizens. The development of this CWCS has provided an unprecedented opportunity to develop important partnerships. This initiative has also provided a foundation from which all parties interested in wildlife conservation in the Commonwealth may work towards common conservation goals. It is a wildlife conservation strategy for the Commonwealth, not just DGIF.

Results are reported by six ecoregions across Virginia: the Coastal Plain, Piedmont, Blue Ridge, Ridge and Valley, and the Northern and Southern Cumberlands. This format provides a natural regional framework, allowing groups to focus conservation efforts at the appropriate level.

The Strategy includes an evaluation of the location and relative abundance of wildlife and the habitats required to support these species; an assessment of problems facing these species and habitats; recommended conservation actions to address these problems; research and survey needs; and monitoring programs and needs.

The Virginia CWCS identifies 925 species of greatest conservation need, 70% of which are invertebrates. These species are grouped into four tiers of relative conservation need: *critical*, *very high*, *high*, and *moderate* conservation need. These tiers allow for prioritization of threats facing species and of conservation actions addressing those threats.

Evaluation of the problems facing these species and actions needed to address those problems are presented in summary at the statewide level, as well as in more detail for each of six ecoregions. One approach taken was the distillation of the “Top 10” threats faced by terrestrial and aquatic wildlife. For terrestrial species, seven of the top 10 threats were related to habitat destruction or fragmentation from various sources, including development and some agricultural and forestry practices. Eight of the top 10 aquatic threats related to water quality, including pollution and sedimentation, are from such sources as development, industrial activities and some agricultural and forestry practices.

Priority conservation actions were developed statewide, and include detailed recommendations for coordination, education, enforcement, habitat management, land conservation, planning, regulations and policies, and species management.

VIRGINIA'S COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY
Executive Summary

Some of the most comprehensive and widespread issues identified in the development of this Strategy include:

- (a) *A need for greater coordination between conservation partners.* The partnerships formed and renewed during this process will help to facilitate conservation projects statewide.
- (b) *Unprecedented fragmentation and development of habitat.* This is one of the most frequently identified problems facing wildlife. To address it, those responsible for land planning will need to be more fully engaged in wildlife conservation efforts.
- (c) *Invasive exotic plants and animals negatively impacting native wildlife and habitats.* Even though they are already widespread, the prevalence of invasive species is increasing in both aquatic and terrestrial communities. From exotic common reed (*Phragmites*) in coastal marshes to crayfish introduced through the bait trade, this is a crucial statewide conservation issue.
- (d) *Existing data gaps that impede effective conservation planning and implementation.* For many species of greatest conservation need, basic life history and distribution information are not known. These gaps are critical to address, especially for Tier I species, in projects funded by the State Wildlife Grants program or by other conservation programs and partners.
- (e) *A chronic shortfall in funding of conservation programs.* This issue was identified by both our partners and the public. Land acquisition and protection, research, and habitat management are expensive, and many species of greatest conservation need have historically been a low priority for the limited funding that does exist.

The next step of this process is implementation of the CWCS. The group of partners we have worked with to this point is being expanded to form Implementation Working Groups, with representation from a remarkably diverse group of organizations and interests.

Monitoring during the implementation phase of the Strategy will be an important evaluation tool: It will provide the framework necessary to modify and update the CWCS as new data are acquired and as conservation successes are realized.

The Comprehensive Wildlife Conservation Strategy provides a blueprint and vision for effective and efficient wildlife conservation in the Commonwealth. It draws on the strengths of existing efforts and partnerships, while recognizing that there is work to be done to ensure healthy wildlife populations in Virginia. In the decade between now and formal revision of the plan in 2015, we hope to accomplish much of that work.

“To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands, and its historical sites and buildings. Further, it shall be the Commonwealth’s policy to protect its atmosphere, lands and waters from pollution, impairment, or destruction, for the benefit, enjoyment and general welfare of the people of the commonwealth.”

Article XI, Section 1, of the Constitution of Virginia

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List of abbreviations and acronyms used throughout the CWCS.

Abbreviation	Full Name
AFS	American Fisheries Society
AIFRB	American Institute of Fishery Research Biologists
ASIH	American Society of Ichthyologists and Herpetologists
BBS	Breeding Bird Survey
BCR	Bird Conservation Region
BLM	Bureau of Land Management
BMP	Best management practice
BOVA	Biota of Virginia database
CBC	Christmas Bird Count
CCB	Center for Conservation Biology at the College of William and Mary
CISC	Continuous Inventory of Stand Condition
CITES	Convention on International Trade in Endangered Species of Flora and Fauna
CMI	Conservation Management Institute at Virginia Tech
CNU	Christopher Newport University
CRP	Conservation Reserve Program
CWCS	Comprehensive Wildlife Conservation Strategy
DCR	Virginia Department of Conservation and Recreation
DCR-NH	Division of Natural Heritage, Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
DGIF	Virginia Department of Game and Inland Fisheries
DMME	Virginia Department of Mines, Minerals, and Energy
DOF	Virginia Department of Forestry
EDU	Ecoregional Drainage Unit
EO	Element Occurrence
ESA	Endangered Species Act of 1973
ESRI	Environmental Systems Research Institute
FE	Federally Endangered
FERC	Federal Energy Regulatory Commission
FGDC	Federal Geographic Data Committee
FIA	Forest Inventory Analysis
GIS	Geographic Information Systems
GMU	George Mason University
IAFWA	International Association of Fish and Wildlife Agencies
IUCN	International Union for Nature and Natural Resources
JPA	Joint Permit Application
MAPS	Monitoring Avian Productivity and Survivorship
MBTA	Migratory Bird Treaty Act of 1940
NABCI	North American Bird Conservation Initiative
NASA	National Aeronautical and Space Administration
NED	National Elevation Dataset
NESWDTC	Northeastern Endangered Species and Wildlife Diversity Technical Committee
NGO	Non-governmental organization
NLCD	National Landcover Dataset
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRI	Natural Resources Inventory
NSF	National Science Foundation
NWBD	National Watershed Boundary Dataset
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
ODU	Old Dominion University
OFWIM	Organization of Fish and Wildlife Information Managers
OSM	Office of Surface Mining

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List of Abbreviations and Acronyms

PARC	Partners in Amphibian and Reptile Conservation
PDC	Planning District Commission
PIF	Partners in Flight
ppt	Parts per thousand
RPI	Relative Phenological Index
SAA	Southern Appalachian Assessment
SAV	Submerged aquatic vegetation
SCU	Stream Conservation Unit
SE	State Endangered
SGCN	Species of Greatest Conservation Need
ST	State Threatened
SWG	State Wildlife Grants
TAC	Taxonomic Advisory Committee
TED	Turtle Excluder Device (see Glossary)
TMI	Topographic Moisture Index
TNC	The Nature Conservancy
TVA	Tennessee Valley Authority
UR	University of Richmond
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UVA	University of Virginia
VA-GAP	Virginia Gap Analysis Project
VBMP	Virginia Base Mapping Program
VBWT	Virginia Birding and Wildlife Trail
VCFWRU	Virginia Cooperative Fish and Wildlife Research Unit, USGS
VCU	Virginia Commonwealth University
VDH	Virginia Department of Health
VIMS	Virginia Institute of Marine Science
VMNH	Virginia Museum of Natural History
VMRC	Virginia Marine Resources Commission
VPI&SU	Virginia Polytechnic Institute and State University (Virginia Tech)
VSO	Virginia Society of Ornithology
WMA	Wildlife Management Area
YOY	Young of the year

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