

Virginia's 2015 Wildlife Action Plan

Prepared by the Virginia Department of Game and Inland Fisheries

7870 Villa Park Drive, Suite 400
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September 1, 2015

This effort was funded in part by the U.S. Fish and Wildlife Service's State Wildlife Grants Program, Grant No. VA-T-5-P.

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FOREWORD

My Fellow Virginians;

Looking back upon its first century, the Virginia Department of Game and Inland Fisheries (DGIF) can be proud of many remarkable accomplishments. DGIF worked with partners and landowners to restore white-tailed deer, waterfowl, beavers, trout, turkey, bald eagles, freshwater mussels, grouse, and dozens of other species native to Virginia's rivers and landscapes. Over 203,000 acres have been conserved as Wildlife Management Areas to provide both wildlife habitats and outdoor recreation opportunities. The Department worked with countless private landowners to create and restore critical wildlife habitats that enhance the quality of life that Virginians enjoy. At the beginning of the 21st century, wildlife remains a public priority.

However, in this new century, the challenges facing wildlife are becoming ever greater. Increasing demands are being placed on our habitats. New wildlife diseases and invasive species arrive in Virginia every year to threaten our economy and strain the Commonwealth's wildlife and habitats. These and other challenges require that we remain ever vigilant in protecting the wildlife that we all cherish.

Virginia's Wildlife Action Plan was written to offer strategies for rising to the challenges of the 21st century. This Plan describes opportunities to maintain and improve our natural habitats, allowing us to conserve wildlife in ways that benefit people. This Plan provides common sense alternatives that focus on efforts to restore our rivers, maintain our forests, and prevent species from declining to the point where federal protections are imposed. It uses the best available science to describe practical actions that we can take to help our wildlife and our human communities adapt to changing conditions. Most importantly, this document demonstrates that some of our most critical conservation issues can be addressed in a cost-effective way using proven techniques and technologies.

Virginia's Wildlife Action Plan also challenges us to recognize the issues that threaten the Commonwealth and our wildlife heritage and then act to prevent those problems as we move forward. As Virginia begins our second century of wildlife conservation, it is my hope that this Action Plan will inspire all Virginians to work together to conserve our wildlife and preserve our habitats.

Yours in Conservation,

Bob Duncan
Executive Director
Virginia Department of Game and Inland Fisheries

PREFACE

When I came to Virginia in 2007, there was a genuine expectancy about the Wildlife Action Plan. During 2004 and 2005, thousands of work hours had been dedicated to draft this document which was the first of its kind for the Commonwealth. As Secretary Murphy indicated within the foreword, the first Action Plan worked to weave together a diversity of resources and craft a plan for the entire conservation community. In many ways, Virginia's 2005 Wildlife Action Plan was a raging success. It was nationally recognized for its quality and has been instrumental in implementing important research projects, land acquisitions, habitat restorations, and species reintroductions. Despite those successes, in 2007, there was also a feeling that more could be accomplished and that the Action Plan could play a greater role in the conservation of Virginia's wildlife and habitats.

To orient myself to the situation, I spent the next several months interviewing biologists, administrators, partners, and other conservationists involved with the 2005 effort. During those interviews, several issues became clear. First, in an effort to accommodate all conservation priorities, the first action plan failed to adequately prioritize the various threats impacting wildlife and habitats and the actions that were needed to keep species from becoming endangered. Second, concerns about climate change were increasing and the action plan wasn't prepared to provide significant guidance on that issue. Finally, as local conservationists worked to implement projects, the Action Plan wasn't providing the types of detailed, locally relevant, guidance that they needed. As one person said, "I really like the idea of the action plan, but I don't understand what it is asking me to do." These observations were offered constructively by partners and staff that were dedicated to the action plan's implementation. While these individuals may not remember those conversations, their insights served as the foundation for the 2015 update. The planning team and I have worked hard to learn from the last decade of implementation and create a more robust action plan that is more locally relevant, identifies specific conservation priorities, and describes ways to address the impacts climate change and other issues will have on Virginia's wildlife and habitats.

This has been a significant undertaking that could only be achieved via the dedication and determination of many. While all efforts are appreciated, the authors would like to extend a special thank you to a number of individuals for their contributions to this action plan. These individuals include:

- The staff and administrators from the Virginia Department of Game and Inland Fisheries' Bureau of Wildlife Resources - Scores of you contributed your time and expertise to help us identify and prioritize the species of greatest conservation need, understand the habitats those species require, describe the threats impacting those species and habitats, and articulate the actions that can be taken to address those threats and help keep species from becoming endangered. Many of you reviewed draft materials, corrected our mistakes, and helped arrange outreach opportunities. Without your efforts and expertise, the updated action plan would not exist as a viable conservation tool.
- Scott Klopfer, Austin Kane, Rebecca Schneider, Ed Laube and other staff at Virginia Tech's Conservation Management Institute - You have been invaluable members of this planning team who have helped craft a viable conservation plan from a series of vague goal statements and general ideas of how things should be done.

- Chris Ludwig, Jason Bullock, and other staff at the Virginia Department of Conservation and Recreation’s Natural Heritage Program - Your generosity and collaborative nature have been greatly appreciated. The data, tools, and analyses you provided were critical in identifying and describing conservation priorities and opportunities.
- Danette Poole and Janit Llewellyn at the Virginia Department of Conservation and Recreation’s Recreation Planning office - The format pioneered within the Virginia Outdoors Plan has made the Wildlife Action Plan much more actionable and relevant to members of Virginia’s conservation community. Your insights and support have been greatly appreciated.
- Dee Blanton and others from the U.S. Fish and Wildlife Service’s Wildlife and Sportfish Restoration Program – Your efforts to help the northeastern states communicate with each other and coordinate with the North Atlantic Landscape Conservation Cooperative have advanced our planning efforts and will enhance our collective ability to address our regional conservation needs.
- Andy Hofmann and colleagues at the U.S. Fish and Wildlife Service’s Eastern Virginia Rivers National Wildlife Refuge Complex and Roberta Hylton and colleagues with the U.S. Fish and Wildlife Service’s Ecological Services Program – Your thoughtful comments, questions, and insights have improved the action plan, in innumerable ways, by helping us consider conservation issues at local, state, national, and international scales.
- Carol Croy and staff from the George Washington and Thomas Jefferson National Forests – Thank you for all the information you provided and your patience in helping us understand how to incorporate your efforts into the new Action Plan
- Dean Cumbia and Rob Farrell and staff and administrators from the Virginia Department of Forestry – Thank you for your insights and assistance in crafting a plan that will implement actions that are good for both wildlife and people.
- Nikki Rovner, Judy Dunscomb, Mark Anderson, Erik Martin and others from TNC – The models, analyses, local insights, and discussions helped us create a more robust action plan that will be relevant at local, state, and regional scales.
- Lastly, the authors would like to thank everyone that reviewed the draft Action Plan and provided comments. We appreciated the words of encouragement as well as the constructive criticisms.

Throughout this planning effort, I have been amazed by the caliber and diversity of conservation efforts being implemented in Virginia. Likewise, I have been humbled by how generous people with been with their time, tools, insights, and information. Although our missions may not be identical, they are most certainly complementary and compatible. As the writing of this Action Plan comes to a close, I am increasingly excited to begin implementing this plan. I can't wait to see what we can accomplish together.

Sincerely,

Thomas C Burkett (Chris)
Wildlife Action Plan Coordinator
Virginia Department of Game and Inland Fisheries
August 31, 2015

EXECUTIVE SUMMARY

Virginia is an incredibly diverse state. While supporting over 8 million people, Virginia's landscape provides hundreds of habitat types that support tens of thousands of wildlife species. Throughout Virginia's history, these wildlife and habitat resources have provided Virginians with subsistence, economic benefits, and recreational opportunities that contribute to community wellbeing and individual quality of life.

Over the last century, Virginia's habitats have become increasingly impaired, impacting both wildlife and people. While Virginia's conservation community has successfully restored many imperiled species, including white-tailed deer, Canada geese, and bald eagles, many habitats and the species they support continue to decline. At the time of this writing, over 130 species have been classified as being either threatened or endangered in Virginia. While this list of species grows, efforts to restore critically imperiled species are becoming more expensive, politically contentious, and biologically challenging. Limited budgets, habitat loss, climate change, and a diverse suite of political and economic interests require Virginia's conservation community to reconsider their work; to become more collaborative and proactive. It is no longer sufficient to ask, "How do we restore endangered species?" Rather, the conservation community must ask, "How do we keep species from becoming endangered?" Virginia's Wildlife Action Plan presents a strategy to help restore critically imperiled species and prevent declining species from becoming endangered, while also providing benefits to Virginia's human communities.

The updated Action Plan identifies 883 species that are either critically imperiled or in decline. Habitat loss is the single greatest challenge impacting these species. The Action Plan identifies strategies to conserve and restore these species. In addition to a statewide overview, the Action Plan describes strategies for 21 multi-county planning regions which are roughly consistent with Virginia's Planning District Commissions. For each planning region, the Action Plan identifies the local wildlife priorities, the habitats those species rely upon, threats impacting these species and habitats, and conservation actions that can be taken to address those threats. The Action Plan identifies: priority places for either conservation or restoration within each planning region, programs working to address threats or define best management practices, and data that could be used to document and evaluate the success of conservation actions. Finally, the updated Action Plan describes climate trends that have been projected for Virginia and identifies actions that can be taken to conserve wildlife under changing climatic conditions.

Virginia's Action Plan was updated with significant input from Virginia's conservation community. Substantial efforts were also made to obtain feedback from the local landuse planning authorities and the general public.

It is hoped that this updated Action Plan will help Virginia's conservation community expand and enhance existing partnerships, develop new partnerships, direct the use of existing conservation resources toward priority areas and problems, and help the Commonwealth acquire or develop new human and financial resources to address these important conservation issues.

1. INTRODUCTION

BACKGROUND

In 1973, President Nixon signed the federal Endangered Species Act (ESA) into law, which declared that preventing species from becoming extinct would be a national priority. With funding provided by the U.S. Fish and Wildlife Service (USFWS), this legislation had a dramatic impact on wildlife conservation in North America. Now, in addition to programs managing game species, resources and personnel were also allocated to address the needs of nongame species. Over the next four decades, the conservation community achieved remarkable successes such as conserving the bald eagle, the American alligator, and the grizzly bear. While enjoying these successes, the conservation community also found itself at the center of intense disputes as efforts to conserve the northern spotted owl and to reintroduce the gray wolf to the northern Rocky Mountains divided communities and enflamed political rhetoric. Lastly, some species, such as the dusky seaside sparrow, became extinct despite of the protections the ESA provided.

Since the 1970's, state wildlife agencies have learned many important lessons. First, working to restore an endangered species can require decades of work and tens of millions of dollars. Second, by the time a species is declared to be endangered, populations have often declined to a point where conservation may not be possible. Third, once endangered, there are likely a limited number of individuals left and regulations put in place to protect the species may also reduce or prevent innovative approaches to restoration. Finally, an endangered species crisis, played out in the media, can require years of effort that do not address the underlying conservation problems in a proactive and collaborative manner. In the early 1990s, the Association of Fish and Wildlife Agencies (AFWA) described the federal ESA as an "emergency room" for species in crisis (Belanger and Kinnane 2002). Further, AFWA indicated this "emergency room" was often needed, but also expensive and stressful for both property owners and conservationists (Belanger and Kinnane 2002).

State agencies have collaborated with AFWA since the 1990s to develop proactive programs to help keep species from becoming endangered. As part of this effort, AFWA and the states worked with Congress, the White House, the USFWS, and thousands of stakeholders to develop a new funding mechanism to support this strategic conservation effort. In 2000, Congress created the State and Tribal Wildlife Grants (SWG) program to help state and tribal wildlife agencies work with at-risk species and prevent endangered species listings. This program currently provides funding to all 50 states, the five U.S. Territories, and the District of Columbia, making the SWG Program an invaluable conservation resource.

As a condition for receiving SWG funding, Congress mandated that each state and territory develop Wildlife Actions Plans (Action Plans) by October 2005. The Action Plans were conceived as an effort to guide states in identifying and addressing the needs of a wide array of wildlife and habitats of greatest conservation need. These Action Plans were also used to ensure the effective use of SWG funding. To guide development of these Plans, Congress established Eight Essential Elements that had to be addressed before an Action Plan could be approved by the Director of the USFWS (Public Law 106-291). These Eight Essential elements include:

- 1. Information on the distribution and abundance of species of wildlife, including low and declining populations as the state fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the state's wildlife; and*
- 2. Descriptions of locations and relative condition of key habitats and community types essential to conservation of species identified in (1); and*
- 3. Descriptions of problems which may adversely affect species identified in (1) or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats; and*
- 4. Descriptions of conservation actions determined to be necessary to conserve the identified species and habitats and priorities for implementing such actions; and*
- 5. Proposed plans for monitoring species identified in (1) and their habitats, for monitoring the effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions; and*
- 6. Descriptions of procedures to review the Plan-Strategy at intervals not to exceed ten years; and*
- 7. Plans for coordinating, to the extent feasible, the development, implementation, review, and revision of the Plan-Strategy with federal, state, and local agencies and Indian tribes that manage significant land and water areas within the state or administer programs that significantly affect the conservation of identified species and habitats; and*
- 8. Congress has affirmed through the Wildlife Conservation and Restoration Program and SWG that broad public participation is an essential element of developing and implementing these Plans-Strategies, the projects that are carried out while these Plans-Strategies are developed, and the Species in Greatest Need of Conservation (SGCN) that Congress has indicated such programs and projects are intended to emphasize.*

All states and territories submitted their Action Plans to the USFWS by October 1, 2005. Since being approved, these Action Plans have been a guiding force in wildlife conservation. Virginia's 2005 Wildlife Action Plan represented a strategy to conserve Virginia's wildlife resources. Although DGIF was the lead agency in developing the Action Plan, it was intended to be a strategy for statewide wildlife conservation and a framework for coordination and cooperation between agencies, academics, communities, and private conservation groups. DGIF and partners have used the Action Plan to identify key species and habitats in need of conservation and implement projects and research needed to address those issues on behalf of all Virginians.

Virginia's Action Plan is scheduled to be updated every 10 years. DGIF and partners view this update process as an important opportunity to reevaluate the status of species of greatest conservation need (SGCN) and their habitats, review conservation priorities, and reprioritize conservation actions. Furthermore, this update provides a process to review the conservation efforts, research, and projects implemented during the past decade. It also allows DGIF and partners to consider how the Action Plan and project prioritization might be improved to enhance efforts that keep species from becoming endangered. Based upon discussions with DGIF staff and conservation partners, Virginia's Action Plan

has been modified in several important ways. First, the updated Action Plan adopts a greater emphasis on habitat conservation. While single species efforts may be necessary to conserve the most critically imperiled species, scores of other species can be effectively and efficiently conserved via actions that protect and restore the quality of their habitats. Second, the new Action Plan also adopts the format used by the Virginia Outdoors Plan that communicates priority actions and needs at the local level (multi-county jurisdictions) (DCR 2013). By providing chapters for each of the 21 planning regions in Virginia, which are roughly analogous to Virginia's Planning District Commissions, it is hoped this new Action Plan will be better able to facilitate conservation actions among a diversity of conservation partners. The third major change focuses on enhancing species prioritizations. In addition to describing species' level of imperilment, the new prioritization scheme applies a triage approach to consider what actions can be taken to address threats to a species and its habitats. Finally, the Action Plan will be available in a more accessible format and develop a greater online presence. By enhancing its availability, it is hoped the Action Plan will be used by a greater diversity of land use and conservation partners throughout the Commonwealth.

2005 WILDLIFE ACTION PLAN IMPLEMENTATION

Over the last decade, Virginia's Wildlife Action Plan has become an important conservation resource and significant effort has been expended to address issues identified within its pages. Successful implementation of the Action Plan can be categorized into four main areas of work: species research, active resource management, land acquisition, and support and planning.

Species-specific research efforts have focused on helping Virginia's conservation community better understand the distribution, taxonomy, habitat requirements, and life history of a diverse set of SGCN. These data have been critical in helping biologists develop or improve species management efforts. State Wildlife Grant resources were used to develop a conservation strategy for the canebrake rattlesnake – a critically imperiled species impacted by habitat loss in south east Virginia. Joint research with the National Park Service resulted in a management agreement with Shenandoah National Park to manage the endangered Shenandoah salamander and may allow this amphibian to be removed from the federal list of endangered species. Finally, in a few cases, baseline surveys have identified previously unknown populations, indicating that species like the Dismal Swamp Southeastern Shrew, the southern bog lemming, the spotted margined madtom, the Teays River crayfish, and the stargazing minnow are more secure than previously thought and do not need to be included within Virginia's next Action Plan.

Other conservation management efforts have had a more direct and immediate benefit to SGCN and habitats within the state. Virginia was the first state to eradicate a population of non-native invasive zebra mussels that, if left unattended, could have devastated aquatic habitats and freshwater mussel populations. DGIF staff and partners implemented a predator control effort on Virginia's barrier islands that benefited dozens of beach nesting SGCN birds and the northern diamond-backed terrapin. Partnerships with municipalities and landowners focused on removing dams, improving water quality, and restoring riparian habitats along the James, Powell, and Rappahannock rivers. Finally, Virginia is a leader in the propagation of imperiled freshwater mollusks in the Tennessee River and the Atlantic slope watersheds.

Important lands were acquired to conserve SGCN and their habitats. The 750-acre Cavalier Wildlife Management Area (WMA) provides a variety of forested and open habitats utilized by SGCN as diverse as canebrake rattlesnakes and neotropical migrant songbirds. The Cavalier WMA also provides Virginia's

best opportunity for restoring a stand of Atlantic white cedar, a once common but now rare forest type, known to support several SGCN. The 2,500 acre Mattaponi WMA was purchased in cooperation with Fort AP Hill and other partners and provides a diversity of aquatic and terrestrial habitats that support almost 60 SGCN species. While these efforts are expensive, they represent a permanent conservation achievement.

The last category of activities involves a range of support and planning services. The original Action Plan frequently described how devastating the loss or degradation of habitats can be to species. Often these impacts are caused by human activities. DGIF's Environmental Services Section has incorporated the Wildlife Action Plan into their review and commenting process for construction or development projects. Likewise, the Virginia Fish and Wildlife Information Service, Virginia's comprehensive wildlife database, has embraced the Action Plan and works to provide a variety of distribution, habitat, and conservation information about the SGCN. Finally, climate change was identified as a significant threat to several Action Plan species. Since, 2008, Virginia has been a leader in working to develop strategies that address climate change within the updated Action Plan.

Undoubtedly, the original Action Plan has helped Virginia conserve SGCN. However, in discussions with DGIF staff, partners, and members of the public, a variety of concerns were identified as impediments to its full implementation. The updated Action Plan will address the identified weaknesses while allowing the conservation community the opportunity to evaluate this conservation tool and adapt efforts to meet new needs and challenges.

GOALS FOR THE UPDATED WILDLIFE ACTION PLAN

The primary purpose of this updated Action Plan is to identify conservation actions that will benefit a diversity of species and habitats and describe where those conservation actions should be implemented. Based on the extensive work to implement the first Action Plan, several key lessons and concerns emerged to inform the update process. First, the original Wildlife Action Plan was organized by ecoregions. Each ecoregion chapter included background information on the ecoregion and more specific details for a selection of SGCN found within the ecoregion (e.g., species life history, habitat description and status, threats, conservation actions, and research and monitoring needs). The ecoregion sections were informative and included relevant information for some species. Unfortunately, none of Virginia's conservation partners manage resources based upon ecoregion boundaries, making the 2005 Action Plan less "actionable" than was desired.

A second concern involved the prioritization of projects implemented from the Action Plan and how those efforts related to conservation partners. Much of the implementation has focused on single species survey and research efforts. The majority of these efforts focused on species that were already critically imperiled and this prioritization prevented many DGIF divisions and staff from aligning closely with the Action Plan. Likewise, partners that were not specifically focused on threatened and endangered species were less able to identify actions applicable to their work.

Finally, there were concerns over the depth and efficacy of the conservation goals that were identified in the original Action Plan. DGIF recognizes the importance of developing a more robust set of priorities. With the first Action Plan important and necessary actions were outlined but without any specific prioritization. While this strategy provided great management flexibility, it also resulted in a degree of confusion as to which actions should be addressed first.

Based upon these lessons, the five primary goals for the next Action Plan include:

- *Using a habitat approach to address threats and conservation issues* – The revised Action Plan focuses conservation efforts at the habitat level in order to address threats and conservation issues for a broader array of SGCN.
- *Being relevant at a more local geographic scale* – The updated Action Plan is written to provide resource managers with information about priority species, habitats, threats, and conservation actions in their area of focus and influence.
- *Prioritizing species and actions* – The updated version of the Action Plan places a focus on prioritizing both SGCN and conservation actions at a local level. In this way, conservation within Virginia can be carried out in areas in the most need of action or areas where efforts are most likely be successful/ beneficial.
- *Representing an array of partners* – The contents of this Action Plan focus on SGCN and habitats that are managed by a diversity of federal, state, and local agencies as well as private organizations and individuals that implement conservation efforts throughout Virginia. Whenever possible, relevant tools and priorities developed by these partners have been incorporated into the Action Plan.
- *Emphasizing effectiveness* – The Action Plan includes specific procedures that will allow DGIF and others to measure the effectiveness of conservation actions implemented from the Action Plan.

VALUE OF AN UPDATED ACTION PLAN

Virginia has a vast array of biodiversity and habitats from the coast to the mountains. Natural resource conservation in Virginia, as in most states, is tackled by government agencies, non-governmental organizations, private institutions, and public citizens. This conservation community collaborates across the Commonwealth to maximize the opportunities for conserving wildlife and habitats. Virginia's Action Plan provides a statewide and local blueprint for conservation actions needed to keep species from becoming endangered. Information regarding these resources is provided at multiple levels, ranging from single species needs to habitats and watersheds. The Action Plan is designed to help all conservation actors understand species and habitats priorities at a state and local levels and the types of actions needed within their area of responsibility or even backyard. The Action Plan includes 883 SGCN; it covers over 13 habitat types; and it is divided into 21 individual Local Action Plan Summaries that include priority SGCN and threats and conservation actions by habitat.

The process of updating this Action Plan allowed federal, state, and local agencies as well as nonprofit organizations, academic institutions, and other entities to identify common goals and actions that will help all players work more efficiently at achieving conservation success. This Action Plan is meant to build upon existing partnerships, enhance and prioritize programs, build support for the identified priorities, and lay the foundation for effectively and efficiently implementing conservation actions throughout the Commonwealth.

UPDATED PLAN STRUCTURE

The updated Action Plan has two main sections – the introductory and statewide materials followed by a series of multi-county Local Action Plan Summaries, with the latter forming the bulk of the document. This format is a significant departure from Virginia’s first Action Plan’s structure. After vetting this new model with DGIF staff and administrators, staff from state and federal agencies, partner organizations, and a handful of municipalities, this new structure was created to better facilitate the implementation of conservation actions. The Eight Essential Elements required of every Wildlife Action Plan are addressed within various sections as indicated below:

- *Introduction* provides background information and an overview of the Wildlife Action Plan.
 - Purpose of Wildlife Action Plan
 - Implementation of 2005 Action Plan
 - 2015 Wildlife Action Plan Goals
 - Wildlife Action Plan Value
 - Plan Structure
- *Methods and Approach* (Elements 5, 6, 7, and 8)
 - Overall approach to updating the Action Plan
 - Revision of the SGCN List
 - Habitat Approach
 - Local Action Plan Summaries
 - Prioritization of Conservation Actions and Focus Areas
 - Stakeholder and Public Input (Element 7 and Element 8)
 - Plan Revision (Element 6)
 - Monitoring (Element 5)
 - Effectiveness measures (Element 5)
- *Statewide Threats, Actions, and Priorities* (Elements 1, 2, 3, 4)
 - Summary information on the SGCN (Element 1)
 - Habitat descriptions and status (Element 2)
 - Statewide threats to species and habitats, including climate change (Element 3)
 - Statewide conservation actions (Element 4)
 - Research needs (Element 3)
- *Local Action Plan Summaries* (Elements 1-5)
 - Overview of planning region
 - Priority SGCN and habitats in the planning region
 - Planning region threats by habitat type
 - Planning region priority conservation actions by habitat type
 - Examples of suitable effectiveness measures
- *Appendices*
 - SGCN List (Elements 1 and 2)