

## Appendix P. Public Comments

This appendix contains comments from the public received via the Virginia Department of Game and Inland Fisheries' Comprehensive Wildlife Conservation Strategy web site ([www.vawildlifestrategies.org](http://www.vawildlifestrategies.org)) and other means during the open comments period (18 July – 26 August 2005). We have carefully considered all of the comments received and have integrated those that we feel are feasible at this time. The comments appear in the order in which they were received. They have been formatted, but not edited in any way.

**Michael E. Welker**

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22 July 2005

Please accept these comments concerning Virginia's CWCS. The biggest threats to Virginia's wildlife and habitats are not even addressed in this document. The biggest threats to wildlife and habitats in Virginia and every state are socioeconomic issues. All of the contents of this CWCS will be ineffective unless the following things are not curtailed or heavily regulated. They are human population growth, habitat destruction, our current economic system, our current views on property and individual rights and climate change among a few others. Virginia's CWCS is necessary for a successful conservation effort but, again, without addressing the socioeconomic issues it will not be nearly enough. The wildlife and natural resource community needs to quit ignoring these realities and we must begin to attack these issues with a vengeance.

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**Robert H. Giles, Jr., Ph.D.**

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24 July 2005

Great Plan - very impressive!

Comments:

I hope that you can provide a shift, maybe just a paragraph, on wildlife as defined, as a resource, not just a bunch of biological entities. The people (and your agency) need to stress the importance and worth, not just existence (or threats).

Specifics:

Provide pdf or other access (links) to the Preface and Governor's comment?

Paragraph 1 – it will be important to know how you plan to link with the other states and their efforts, fulfilling this claim, at least the adjacent states. Be sure you specify wildlife as fauna earlier in the document for you rarely real with plant species even though you indicate the difference with fish. Ok, done later, but even I was wondering at this early point on the document.

Show a map with data (acreages) of existing Department-owned or rented areas and sites and offices

Given: “programs, these resources did not address the continued shortfall of funds available for comprehensive wildlife conservation.” What is the plan to reduce the shortfall? Is this a documentation of desired budget increase or a plan for reducing programs, expanding them, or increasing efficiencies to match the available funding? What is the plan to outcompete other states, seeking the same rumored to be available funds? What if no funds are

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allocated in the war period. Are wildlife a victim of the war too? Show what can be done if 3-5 different levels of funding/gross support are provided. Get help from Federal Aid who once allocated funds to states based on a plan and needs and optional availability of matching funds (Lobdell's and Conlin's PhD and MS work at Tech)

Section 1.2.2 – say “not plants”

Page 5 –Comment on how DoD plans fit in, differ, or are the same as yours.

I may have overlooked it...It seems like the Cooperative Extension Service (wildlife as well as other diverse staff and related functions) should be listed

What are the special wildlife law enforcement cooperators? List them.

Having finished 30 pages, how does a reader easily return to the remainder of the plan?

Page 16 - I hope you will isolate “flat” from “aspect” and specify its limits. It has no slope or aspect and is likely to confound analyses (as in the past)

3253 – Didn't Lou Helfrisch do a paper on springs of Va?

“Chapter 3 – “Forestry” seems mis-used. Your care to define wildlife and other words might suggest care in stating somewhere that "forestry" herein is a collective gross term for logging and putpwood removals and not the comprehensive modern complex management of many resources of lands with trees or their growth predominating

The counties losing people, the need for local staff workers as well as resource users, and the infrastructure to support them and ecotourism (motels, restaurants, etc.), and the increasing costs and low availability of fossil energy suggests critical needs for planning for the energy-short future. Care to comment on these energy plans or options?

Chapt 4 - Care to comment on the effects of overdrafts of groundwater already occurring in Va on spring and well water and stream flows? Plans? Other than 4.6.2.1

What is the implication to you of figure 4.36 and similar ones for other regions. Seems some interpretation would be useful. Why did you create this picture?

Last chapt. Working with a few large land owners may achieve some objectives. Developing a strategy for work with many, many small land owners – the vast and different areas of the state – is a major need.

Thanks for this great work

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**Sue Rice**

No contact information

25 July 2005

You have put a lot of work into this document!! My hat is off to you and the group that has been working on this.

I haven't put the time into review that I need to, but in my first quick scan (I'll try to put more time in before I depart on Monday) I see that CCB is listed for the songbird migration studies (p 10-28). Yes, CCB holds the banding permit (at this time) for the work that is ensuing there. However, I wonder if it might be appropriate to also mention CVWO (Coastal Virginia Wildlife Observatory) somewhere in the document (if you haven't already). They actually hire the folks that are doing the songbird and hawk migration work)

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and coordinate many aspects of the program. It may not be appropriate to mention them, but I throw it out for discussion.

I will look for mention of migrating monarchs later.

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**Peter Easter**

Virginia Association of Marine Industries  
Virginia Game Bird and Hunting Association  
No contact information  
27 July 2005

He said that it was really overwhelming for him to review the entire document and provide comments and that we needed a 3 to 5-page summary report. He did ask that his organizations be added to the report and reminded me that he had represented those organizations at our meeting in Lynchburg.

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**Chuck Wyatt, CCM**

Enterprise Director  
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27 July 2005

Joe Elton circulated your draft CWCS. I only had time to start looking at it...quite an impressive work. I only have a couple of style/typo type of comments on the introductory chapter so far (I hope to be able to read the entire document, but will have to get back to it later.)

1. Under 1.2.2 (Scope of the CWCS): Both DCR-NH and VDACS are mentioned by their acronyms in this section, but I don't think the full titles of the agencies appear until further in the chapter. I think the common practice is to list the full name prior to usage of the acronym.
2. In section 1.3.2, should you mention the Department of Military Affairs? (Don't they manage Fort Picket now?)
3. Typo on page 11 of 30, 6th line of paragraph: the work "is" is used instead of the correct work "in".

Also, one more typo: Section 5.1.2, 1st paragraph, line 5: the word "then" is incorrectly used instead of "than".

By the way, the more I read, the more I am impressed with the work in the plan. What an undertaking.

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**Mark F. Bushing**

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03 August 2005

I am very impressed with what I have read through on your draft document, and no, I haven't read it all. I was wondering what will happen after this document is finalized. This question arises from my dealing with the public, and some of their beliefs that the State spends too much money on projects that do nothing for them. Continued public participation after the document is done would alleviate that concern.

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Has there been any discussion of a field guide with the information on species of greatest conservation need (species photos (if available), the location maps, habitats, space for notes, and phone numbers if something is sighted)? We know how birders love check-off lists, and it could also be used by hunters, hikers, fisherman, bikers, gardeners, State and Federal Agencies personnel when they are out on site visits. Or even "Have You Seen Me" posters of the species.

This would be a lot more work, but it may end up as a great return on the investment as an educational tool, and perhaps we can get more information on these species from public sightings. After all, everyone now knows the Ivory-billed Woodpecker, and if there was this type of field guide out in bait and tackle shops, it might have been recognized many years ago.

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**Name : anonymous**

Email : anonymous

Affiliation : anonymous

04 August 2005

Comments : Petition the state to allow hunting on a Sunday (even if just noon until dusk). It would bring an increase in sales of licenses and more opportunities for hunters to alleviate the overabundance of deer in communities.

Hunting in general over the years has waned, as more and more people find themselves not having the time. Kids of today are more interested in Playstation 2 or some video game, than getting out in the woods with their dads. Kids have soccer practice, softball games, etc. on Saturdays and therefore can't partake in the outdoor activities such as hunting.

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05 August 2005

Why no pdf files for the Preface, Governor's Endorsement, Acknowledgements and Table of Contents?

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**Tammy Belinsky**

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24 August 2005

The report is GROSSLY inadequate in its treatment of the Roanoke logperch. A significant threat to the viability of the Raonoke logperch is the proposed construction of an interstate highway, I-73, through and across all known watersheds where the logperch occurs. The October, 2002 study titled, "Potential Impacts of I-73 on Stream Habitat and Biota, with Emphasis on the Federally Endangered Roanoke Logperch", authored by Andrew P. Wheeler, Amanda E. Keiter Rosenberger, and Paul L. Angermeier, explains the threats to the logperch from the construction of this proposed highway. The more recent article by Angermeier, "A Conceptual Framework for Assessing Impacts of Roads on Aquatic Biota", published in Fisheries in December 2004, is highly critical of the Virginia Department of Transportation analysis of the impacts to the logperch and recommends a more thorough method of analysis.

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The report and article noted above provide substantial and credible documentation of the threat to the viability of the Roanoke logperch from the proposed interstate. While you cite Angermeier and Rosenberger's survey work on the logperch, the failure to identify and utilize the rest of these scientists' work is sloppy and unprofessional science, if not downright suspect for its omission of the threat from a state-endorsed interstate construction proposal.

Wheeler et al.'s 2002 study criticized the DEIS and Technical Memorandum for (1) addressing only local impacts in a 600-foot wide study corridor; (2) failing to consider chronic and indirect impacts such as induced urbanization; and (3) relying on unpublished documents instead of the wealth of peer-reviewed scientific studies available on the effects of highways on stream biota.

Central to the report's consideration of I-73's potential impacts to the federally-endangered Roanoke logperch and other stream biota is discussion of effects of urbanization on pristine streams, an impact that is ignored in the DEIS and Technical Memorandum. Wheeler et al. note that by the time a watershed is 10% urbanized, the environmentally sensitive species have been replaced by stress- and pollution-tolerant species. The following impacts are noted by Wheeler et al as having been ignored in the DEIS: loss of riparian vegetation; increase in fine sedimentation; increase in impervious surfaces; hydrologic changes; changes in physical configuration of stream channel; channelization and culverting; pollution from oil and grease; pollution from metals; increased nitrogen and phosphorous nutrients; increased episodes of hazardous materials accidental release; and increased episodes of deicing salts "shock loading".

Wheeler et al. state: "We believe that constructing a new interstate [73] across the Pigg River [in Franklin County, Virginia] will further endanger persistence of Roanoke logperch in this river. The majority of the Roanoke logperch in the Pigg River occur downstream of the [proposed I-73] crossing and would be directly impacted by another chemical spill or effects of construction. Watershed urbanization is also a substantial threat to Roanoke logperch in the Pigg River. Given the proximity of the area to Roanoke [Virginia] and the reduced travel time provided by a new interstate, this area would likely urbanize quickly. Considering that only a small percentage of the Pigg River watershed is urban land, the biota of the Pigg River would be systematically harmed by the onset of urbanization."

They continue, "The population of Roanoke logperch in the Pigg River is highly threatened by this proposed [I-73] corridor. Genetic diversity of Roanoke logperch in the Pigg River may be low due to past bottlenecks caused by habitat destruction and chemical spills. Future population declines could result in additional genetic bottlenecks that would further reduce the adaptive potential of these populations and increase the harmful effects of inbreeding depression."

Wheeler et al conclude, "We believe that the proposed [I-73] corridor represents an imminent and substantial threat to the Roanoke logperch population of the Pigg River."

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**Tammy Belinsky**  
wildlawVA@rev.net  
Affiliation : Non-Profit  
24 August 2005

I am a resident of Floyd County. Your report notes that there are no identified threats to the Buffalo Mountain Mealy Bug. This is not accurate. All of the ecology of Buffalo Mountain is treathened by illegal ATV use in and around the Buffalo Mountain preserve. The illegal ATV use was recently reported in the county weekly newspaper, the Floyd Press. More law enforcement is necessary to protect the natural heritage on Buffalo Mountain.

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**Mandy Duvall**  
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24 August 2005

Hi -

I am having trouble opening the links to the chapters. It says: an error has occurred while trying to open this site.

Thank you,

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**Dr. Carol Hardy Croy**

Forest Wildlife Biologist, George Washington and Jefferson National Forests  
External Committee Member for the Virginia Comprehensive Wildlife Conservation Strategy  
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26 August 2005

**General overall comments:**

What an excellent job VDGIF has done on Virginia's Comprehensive Wildlife Conservation Strategy! The effort your agency has made to compile so much information and receive input from so many different agencies, expert sources, and the general public is clearly shown in the body of this document and my hat is off to the biologists who undertook this challenge and came up with such a stellar product. My hope is that this strategy will be indispensable in helping VDGIF develop partnerships and guide conservation programs on an unprecedented scale, resulting in great strides over the next 10 years towards conserving so many species listed in this document. The rest of my comments will focus on constructive proposals for change to wording in certain sections and some species-specific issues, but overall, I was very impressed and pleased with the scientific vigor of each section and species evaluation. I look forward to using this document often to establish species conservation strategies and goals for terrestrial wildlife species on the George Washington and Jefferson National Forests.

My understanding is that the CWCS will guide how VDGIF uses funding from the federal program "State Wildlife Grants" to conserve those "species in greatest need" and that this strategy is intended as a "framework for coordination and cooperation between agencies and groups" (CWCS, pgs 1-1, 1-2). To that end, a major recommendation that I have for this strategy is to eliminate wording in conservation strategies that target an agency by name and more or less tells that agency what they should be doing. This type of language is often perceived as inflammatory and could hamper efforts to coordinate and cooperate with those agencies over species conservation strategies. Other agencies have different missions mandated to them by state or federal legislatures. Some of these missions can result in challenges for species identified in this CWCS. The challenge for biologists and managers in these agencies is to minimize effects to such species while still accomplishing the mission set for them by law, for it is very difficult to change an agencies mission. Examples of such language in conservation recommendations in the CWCS include the following:

- "USFS should be engaged in revising forestry practices in areas inhabited by the wood turtle, and they (and NPS) should restrict recreational activities in these areas (Herpetofauna TAC 2004" CWCS, pp. 6-15 and 7-18.
- "Work with USFS to amend forestry practices", pg. 10-3
- "Improve DEQ enforcement of violations", pg. 10-4
- "Enforce existing DOF regulations", pg. 10-4
- "Increased oversight and enforcement by DEQ", pg. I-1
- "DEQ oversight/change of permit limits", pg. I-3
- "Work with USFS and NPS to amend forestry practices and recreational use", pg. I-5.

**Specific comments:**

**All mountain region sections, a table entitled “Deciduous forest species of greatest conservation need”. Cerulean warbler.**

CWCS lists the special habitat needs for the cerulean warbler as “closed canopy mature forest”. Much of the recent research on cerulean habitat (see [http://www.fws.gov/midwest/Endangered/birds/CERW/cerw\\_workshop.html](http://www.fws.gov/midwest/Endangered/birds/CERW/cerw_workshop.html) and [http://www.fws.gov/midwest/Endangered/birds/cerw\\_find.html](http://www.fws.gov/midwest/Endangered/birds/cerw_find.html)) states this species needs “mature forests with canopy gaps and complex canopy structure, and often with very large, tall trees” (Cerulean Warbler 90 day finding Questions and Answers, Fish and Wildlife Service). The wording “closed canopy mature forest” does not convey the complex canopy structure characterized by cerulean warbler habitat. A suggested wording could be “mature forest with canopy gaps and complex canopy structure”.

**Introduction**

Page 1-6: Could you change “In Virginia, there is one National Forest, the George Washington and Jefferson National Forests...” to the following: “In Virginia, there are two National Forests administratively combined, the George Washington and Jefferson National Forests...”

**Blue Ridge Section**

**Pages 6-13 through 6-14. Wood Turtle.**

It is not documented that the wood turtle is found on Forest Service land in the Blue Ridge region. The only Forest Service land in the northern part of the Blue Ridge is located south of the Shenandoah NP on the Glenwood/Pedlar Ranger District, of which all but a very small section is drained by the James River Watershed, not the Potomac. The small part of the Glenwood Pedlar that is drained by the Potomac watershed is a unique biological area consisting of portions of the Big Levels/St. Mary's/Maples Flats area of Augusta County. This area has been intensively surveyed and monitored, with records going back for more than 50 years, and there are no documented occurrences of wood turtles. My recommendation would be to remove conservation strategies specific to the Forest Service until it is documented that wood turtles are present on Forest Service land in the Blue Ridge, since the conservation strategy is specific for wood turtle locations.

**Page 6-43. Cryptic willowfly.**

The CWCS states “habitat destruction from expansion of the recreational facilities at Mount Rogers National Recreation Area is a potential threat to this species” and that “cattle grazing along Lewis Fork are also indicated as a threat”. It is not clear how much of the habitat for cryptic willowfly is in the Mount Rogers National Recreation Area and how much is in private land. Are cattle along the Lewis Fork on private land or on Mt. Rogers NRA?

Under Conservation actions and strategies, CWCS states “Kondratieff and Kirchner (1991) recommend avoiding further development of the watersheds within the distribution of this species”. This is a very broad statement and it is not know how much of this watershed is in public and private ownership. My recommendation would be to make this strategy more specific.

The same recommendation is for the following section containing Cryptic willowfly: pp 6-45 through 6-47.

**Ridge and Valley Section.**

**Pages 7-16 through 7-18. Wood Turtle.** The CWCS states “the main threats to the wood turtle in Virginia are the illegal pet trade and habitat destruction, particularly as related to riparian zones and effects of siltation from construction (Mitchell 1994), forestry (Herpetofauna TAC 2004), and bank stabilization (NESWDTC 2004)” . The conservation strategies listed for this species address the illegal pet trade and

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practices on public land (the Forest Service and Park Service), but does not address conservation actions for these listed threats on private land. On page 7-3 and 7-4, the CWCS states that approximately 25% of the Ridge and Valley is in Conservation Land, most of that with the Forest Service. That means that 75% of the Ridge and Valley is privately owned. The CWCS also states that that 68% of the Ridge and Valley is forested, of which 43% is privately owned, if you assume that the majority of the Forest Service land (25%) is forested, as the CWCS states. With 58 of 83 documented wood turtle locations on private land, 90 percent of the potential reaches of wood turtles on private land, and 6 out of 7 of DCR-NH Conservation Sites with known wood turtle populations on private land (CWCS, pg. 7-17), the future viability of the wood turtle in the Ridge and Valley section will depend on conservation strategies addressing threats on private land. A recommendation would be to add conservation strategies addressing habitat destruction in riparian zones and effects of siltation from construction, forestry practices and bank stabilization on private lands. Such conservation strategies could be the following:

- work with state and county zoning ordinances to provide greater protection for riparian areas in construction zones
- Provide forestry Best Management Practices guidelines for private landowners within the range of the wood turtle.
- work with federal and state private landowner incentive programs to provide guidelines to protect riparian zones, minimize siltation, and minimize damage from bank stabilization activities in the range of the wood turtle.

An additional conservation strategy identified for the wood turtle is that the Forest Service and the NPS restrict recreational activities in known wood turtle locations, yet recreational activities are not listed as a specific threat to this species on table 7.4 and in Appendix H, recreational activities on mountain forest terrestrials are listed as a 2 in scope (scattered (5-15%)) and severity (moderate damage). If indeed recreational activities are serious enough to warrant listing as a conservation strategy, then a recommendation would need to be added to address recreational activities on private land. Such a recommendation could be:

- working with horse back riding, mountain biking, and ATV clubs in the range of the wood turtle to develop “good trail ethics” specific to protecting wood turtle habitat.

Does the National Park Service have land in the Ridge and Valley Section? If not, then the reference of the Park Service in the above conservation strategy should probably be deleted.

The CWCS states on page 3.27 that “Road-related mortality is largely related to reptiles. Snakes and turtles are killed in large numbers on Virginia’s roadways”, yet this threat is not listed for the wood turtle and a conservation strategy does not specifically address road mortality. Gibbs and Shriver (2002) estimated the effects of road mortality on turtle populations and found that “road mortality [is] a component of habitat fragmentation for land turtles and, to a lesser extent, for large-bodied pond turtles, and therefore as a potential contributor to their decline in several regions of the United States”. They further concluded that “land areas with >1 km of roads/km with traffic volumes of > 100 vehicles/lane/day, which characterize many of the eastern and central regions of the country, were predicted to be sufficient to contribute excessively to the annual adult mortality rates of land turtles”. Bowen and Gillingham (2004) lists road mortality as a specific threat to wood turtle viability. Harding (1991), in a 20-year study of wood turtles, states that road building should be set back and not constructed closely parallel to streams.

Bowen, Kenneth D. and James C. Gillingham. 2004. R9 Species Conservation Assessment for Wood Turtle – *Glyptemys insculpta* (LeConte, 1830). Report to the USFS, Eastern Region. Department of Ecology, Evolution, and Organismal Biology, Iowa State University and Department of Biology, Central Michigan University. 39 pp.

Gibbs, James P. and W.G. Shriver. 2002. Estimating the Effects of Road Mortality on Turtle Populations. *Conservation Biology* 16(6): 1647-1652.

Harding, James H. 1991. A twenty year wood turtle study in Michigan: Implications for Conservation. Pp. 31-35 *in* Proceedings of the First International Symposium of Turtles and Tortoises: Conservation and Captive Husbandry.



**Pages 7.26 through 7.28. Appalachian yellow-bellied sapsucker.**

The Appalachian yellow-bellied sapsucker working group describes the range of the Appalachian subspecies of yellow-bellied sapsucker as the following: “An Appalachian subspecies of the Yellow-bellied Sapsucker breeds in the Southern Blue Ridge Province of the Appalachians in the high mountains of southwestern Virginia, eastern Tennessee, western North Carolina and possibly in northern Georgia. Most of the breeding records come from NC and the TN and VA counties bordering NC” (<http://biology.mhc.edu/ybsa/>).

While there is considerable question, due to recent DNA work, as to whether this isolated breeding population is indeed a sub-species, at present the Appalachian yellow-bellied sapsucker working group considers populations of breeding sapsuckers found north of the Mt. Rogers and Grayson Highlands State Park area to be the southern extension of the larger yellow-bellied sapsucker population, not the subspecies. There are confirmed breeding locations of yellow-bellied sapsuckers at Mountain Lake Resort in Giles County (two confirmed nests this year by myself, Peggy Spiegel of VOS, and Aimee Weldon, IBA coordinator for Audubon), and I confirmed two male sapsuckers using playback calls in Highland County at 3, 200 feet and 4,400 feet in June 2005 during a golden-winged warbler blitz organized by myself and Aimee Weldon, IBA coordinator for Audubon.

**Pg. 7-30. Golden winged warbler.**

At a recent range-wide golden-winged warbler workshop, August 10-12, Siren Wisconsin, research was presented by Dr. David Buehler, Univ. of Tennessee, Knoxville, indicating blue-winged warblers are not expanding into suitable habitat much above 2,000 feet in the mid- to southern Appalachians. Based on his research, a recommended strategy for conservation and management for the mid- to southern Appalachians could include management of suitable habitat at and above 2,000 feet for golden-wings to minimize hybridization issues with blue-winged warblers.

**Pg. 10-2 and 10-3. Conservation actions for the top 10 stress/source Combinations**

Out of all of the actions identified, only a few target a particular agency. Under the heading of “habitat destruction and fragmentation from forestry” the CWCS lists as an action “Work with USFS to amend forestry practices”. It is not clear in this statement what this means, or what forestry practices need to be amended. A logical interpretation based on this wording could be that USFS forestry practices contribute towards habitat destruction and fragmentation. If this is the correct interpretation, please consider the following. The George Washington and Jefferson National Forests contains almost 1,800,000 acres. The following table contains the forested age distribution for both forests for the last 16 years. With less than 1 percent in the 0-10 age class and less than 4 % in the 0-20 year age class (from 20 years on, a typical forest exhibits closed canopy characteristics), how can these forests be considered fragmented?

From a threats standpoint, the literature is clear that temporal forest fragmentation is much less of a threat than permanent fragmentation and that early successional woody habitat and old field habitat within the context of a largely forested landscape is vital for a host of species of greatest conservation need, including the following species:

Golden-winged warbler, Appalachian Bewick's wren, Appalachian yellow-bellied sapsucker, wood turtle, American woodcock, Blue-winged warbler, yellow-breasted chat, prairie warbler, whip-poor-will, Chuck-will's-widows, northern pinesnake, yellow-billed cuckoo, gray catbird, wood thrush, gray catbird, winter wren, black-and white warbler, Kirtland's warbler during migration, mountain chorus frog, eastern towhee, eastern spotted skunk, Appalachian cottontail, brown thrasher, Indiana bat (breeding), yellow-billed cuckoo, yellow-throated vireo, eastern box turtle, northern bobwhite, eastern wood-pewee, eastern hog-nosed snake, field sparrow, eastern kingbird, upland sandpiper, regal fritillary, Virginia big-eared bat, smooth green snake, grasshopper sparrow, eastern meadowlark, Appalachian grizzled skipper, (See the entire series of the Wildlife Society Bulletin 2001 29(2): 407-494, and the CWCS descriptions of species of greatest conservation needs, special habitat needs throughout this document).

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I would submit that for these species, within areas of Virginia dominated by National Forest land, active forest management practices such as modified shelterwood, thinning, small group selection, prescribed fire, and restoration of old fields and higher elevation balds that have been allowed to convert to forest through lack of management will need to be *increased* in order to reverse their declining populations.

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**Table 1. GWJNF Age Class Distribution for All Forested Land 1989 and 2005 (changes in last 16 years)**

Age	Jefferson National Forest				George Washington National Forest				Combined GW&JNFs			
	1989	%	2005	%	1989	%	2005	%	1989	%	2005	%
0-10	26269	3.9	4132	0.6	44367	4.3	12094	1.2	70636	4.1	16226	0.9
11-20	25682	3.8	16749	2.4	32524	3.1	25483	2.4	58206	3.4	42232	2.4
21-30	13122	1.9	15489	2.2	22987	2.2	26472	2.5	36109	2.1	41961	2.4
31-40	6967	1.0	25544	3.6	3309	0.3	40647	3.9	10276	0.6	66191	3.8
41-50	29840	4.4	9775	1.4	5490	0.5	6432	0.6	35330	2.1	16007	0.9
51-60	121277	17.9	13138	1.8	31822	3.1	4063	0.4	153099	8.9	17201	1.0
61-70	173584	25.6	59183	8.3	101660	9.8	13186	1.3	275244	16.1	72369	4.1
71-80	115851	17.1	161580	22.6	214257	20.7	55668	5.3	330108	19.3	217248	12.4
81-90	55392	8.3	165051	23.2	218002	21.1	159462	15.3	273394	16.0	324513	18.5
91-100	29911	4.4	94451	13.3	115456	11.2	230465	22.1	145367	8.5	324916	18.5
101-110	43927	6.5	46208	6.5	79291	7.7	184691	17.7	123218	7.2	230899	13.2
111-120	17835	2.6	33925	4.8	63294	6.1	80273	7.7	81129	4.7	114198	6.5
121-130	9499	1.4	38807	5.5	33702	3.3	74343	7.1	43201	2.5	113150	6.5
131-140	4860	0.7	16366	2.3	26012	2.5	48793	4.7	30872	1.8	65159	3.7
141-150+	3149	0.5	10308	1.5	42546	4.1	80927	7.8	45695	2.7	91235	5.2
TOTAL	677165	100	710506	100	1034719	100	1042999	100	1711884	100	1753505	100

(Source: Continuous Inventory of Stand Conditions (CISC) for GWJNF dataset of 12-1-89 and FSveg Stands Attribute Table of 6-30-05)

## **Page 10-5. “Highest priority conservation Actions for Terrestrial Species”**

Under this heading, there is the following action: “Alter some current forest management regimes (thinning, cuts at high elevations, lower stocking density, uneven-age management)”. This statement needs clarification. Does it mean that these examples need to be included in forest management regimes, increased in forest management regimes, or eliminated from forest management regimes?

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26 August 2005

Thank you for the opportunity to comment on the draft Virginia Comprehensive Wildlife Conservation Strategy (CWCS). As you know, the Southern Environmental Law Center (SELC) is a regional non-profit organization working to conserve natural resources throughout the Southern Appalachians and in the Southeast generally. These comments focus on the draft strategy for species in the mountain regions.

Overall this strategy takes a balanced science-based approach, firmly grasps the key problems facing Virginia’s wildlife, and proposes a number of very positive actions to conserve wildlife. The strategy also is sufficiently detailed to serve as a useful resource and guide as we all work to conserve these species and to counteract the threats they face. We further applaud the agency for considering fauna which often receive less attention, especially herpetofauna, mollusks and other invertebrates.

Our main concern with the CWCS is that the highest priority conservation actions include creating more forest openings. See CWCS at 10-5. This is inconsistent with the CWCS’s finding that almost all of the top ten threats facing Virginia’s terrestrial species relate to habitat destruction or fragmentation. CWCS at 3-27-28. These threats were universally acknowledged throughout the process by the scientists and other experts on the advisory committees and by members of the public.

This skewed recommendation probably happened for two reasons. First, many grassland species and species associated with “early successional” habitats were placed into Tier I, while many species associated with mature forests were placed into the lower-priority tiers. For example, three out of the 15 Tier I birds are associated with “early successional” habitat and two more are associated with grasslands. (According to the CWCS, golden-winged warbler, Appalachian Bewick’s wren and loggerhead shrike are associated with “early successional” habitat and Henslow’s sparrow and upland sandpiper are associated with grasslands.) CWCS at G-8. Yet almost all of the birds which require mature forests are consigned to Tier IV, except for the Cerulean Warbler and the bald eagle, which were placed in Tier II. CWCS at G-9-10.

The Cerulean Warbler should be elevated to Tier I. The Cerulean scored similarly to Tier I birds on the scoring system used for the CWCS, see CWCS at 2-7-8, and also warrants an upgrade to Tier I based on the factors listed on page 2-11. The Cerulean requires large tracts of mature forest, which the CWCS acknowledges are disappearing. Its populations declined by about 70% in the United States between 1966 and 1999, the largest population decline of any warbler species. National Audubon Society, *et al.*, Petition Under The Endangered Species Act to List the Cerulean Warbler, *Dendroica Cerulea*, As A Threatened Species, at 1-2 (Oct. 21, 2000). Like other Tier I species, the Cerulean Warbler is listed on the National Audubon Society’s watch list as a “red” species of global conservation concern. CWCS at 2-8. A coalition of national, regional and local conservation groups, including the National Audubon Society and SELC, petitioned the U.S. Fish and Wildlife Service in 2000 to list the Cerulean Warbler as a threatened species

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under the Endangered Species Act. In 2002, the Fish and Wildlife Service found that the petition “presented substantial information indicating that listing this species may be warranted,” 67 Fed. Reg. 65083 (Oct. 23, 2002). The petition is still pending.

Second, the Virginia Gap Analysis Process (“VA-GAP”) seems to have played a role in tiering terrestrial species and in identifying the most threatened habitats. The VA-GAP sought to identify “gaps,” areas of high species richness which are unprotected. The CWCS then assumed these areas and the species which inhabit them are the most vulnerable. See CWCS at 3-5-6. Problematically, the VA-GAP treated the major National Forest landholdings in western Virginia as conservation or protected lands. CWCS at 3-9. The mountains of western Virginia are very rich in species, especially mammals. CWCS at 3-6-8. Yet it appears that mountain forest species and measures to conserve them were assigned a lower priority because a significant part of this region was erroneously deemed to be already protected.

While National Forest lands certainly are protected from the type of municipal and industrial development seen in other parts of the state, we do not agree that all National Forest lands should be considered “conservation lands.” The original VA-GAP identified protected “stewardship” lands which are “managed for long-term maintenance of biodiversity.” CWCS at 3-5. Yet the “conservation lands” used for this analysis were a “much broader and less selective compilation of protected lands than the VA-GAP stewardship layer.” CWCS at 3-5. It is unclear why this less selective compilation was used for the CWCS.

Further, many National Forest lands are not managed for “the long-term maintenance of biodiversity.” In fact, biodiversity is not a stated goal for the management of National Forest lands and the agency recently deleted the requirement to maintain the viability of all species on our National Forests. Rather, the National Forests are managed for “multiple uses” including logging and other resource extraction. Of the roughly 1.8 million acres of the combined George Washington and Jefferson National Forests, about 609,000 acres (one third) are designated as suitable for timber production and up to 54 million board feet of timber may be cut off those lands every year (summary of the Final EIS and Revised Forest Plan for the Jefferson National Forest, 2004, at 1, 7, *available at* <http://www.fs.fed.us/r8/gwj/forestplan/feischap/summary.pdf>; Summary of the Final EIS and Revised Forest Plan for the George Washington National Forest, 1993, at 5, 18, *available at* <http://www.fs.fed.us/r8/gwj/forestplan/gwplandocs/summary.pdf>). Recently, the Forest Service consented to lease over 70% of the Jefferson National Forest (528,400 ac.) for oil and gas development; some degree of surface occupancy probably would be allowed on more than two-thirds of those available lands (332,500 ac.). JNF Summary at 14. It simply cannot be assumed that species, especially those which need or benefit from mature, unfragmented forests, are secure on National Forest lands in Virginia.

Habitat destruction and fragmentation from municipal development, agriculture and forestry comprise six of the top 10 threats to terrestrial species and are related to other serious threats, such as exotic and invasive species. CWCS at 3-27-28. Many of the proposed “conservation actions” to counteract those threats are positive and well-founded. We wholeheartedly agree that increased enforcement and prosecution of existing environmental laws is critical to conserving these species and their habitats, and that tightening those laws to better protect wildlife and their habitats would be highly beneficial. See CWCS at 10-1-2. Without attempting to list every action we support, the suggestions to curb habitat destruction and fragmentation by development, to reduce sprawl, to expand conservation easements and purchase of development rights, and to improve conservation and land use planning at the local level would be beneficial. See CWCS at 10-2-3.

Regarding the measures to address habitat destruction and fragmentation from forestry, we especially support the suggestions to “maintain large habitat patches” (mentioned twice), “link patchy habitats,” and to “conserve existing mature stands.” CWCS at 10-3. Acquiring and restoring habitat and promoting conservation easements also are positive suggestions. CWCS at 10-3. On private lands, increasing uneven-aged management and implementation of forestry BMPs, CWCS at 10-3, and working with timber companies and other private landowners to protect large forest tracts, CWCS at 10-8, could help mitigate the impact of private forestry. Steps to address sedimentation from logging activities also could help mitigate these impacts, especially investigating the effectiveness of forestry BMPs. See CWCS at 10-4.

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However, on public lands further protection is warranted. The suggestions to “work with USFS to amend forestry practices,” to “develop cooperative conservation agreements with USFS” and to “review USFS National Forest plans,” CWCS at 10-3, 10-12, are good ones but should be fleshed out. The strategy should make clear what is meant by “amending” forestry practices. There is a tremendous opportunity to secure large tracts of mature mountain forests on National Forest lands. This is one of the few remaining opportunities to secure habitat at this scale and should be identified as a target for conservation. See CWCS at 10-25-26. (The Clinch River was identified as an area where there are extraordinary conservation opportunities because of the many Tier I aquatic species in roughly the same location. CWCS at 10-25-26. We fully support conservation efforts there.)

For these reasons, it is especially important to protect the 387,000 acres of inventoried roadless areas in the National Forests in Virginia. During the federal rulemakings regarding roadless areas, 45,000 Virginians filed comments supporting roadless area protection. Last fall, Governor Warner urged full protection for roadless areas, recognizing these areas are “critical” for their clean water, wildlife habitat and natural heritage, among other values. Letter from Governor Warner to Secretary Veneman, July 30, 2004. At the same time, VDGIF “urge[d] full and permanent protection of the roadless areas in Virginia.” Email from Andrew Zadnik, VDGIF, to Charles Ellis, DEQ, Oct. 15, 2004. Now, the Commonwealth has the opportunity to petition the U.S. Secretary of Agriculture to protect roadless areas in Virginia. Such protection would help to meet the need, recognized in the CWCS, to maintain and conserve large patches of mature forests. CWCS at 10-3.

When conservation actions were prioritized based on the tier of the species a particular action would benefit, the highest priority actions included this concerning suggestion: “Alter some current forest management regimes (thinning, cuts at high elevations, lower stocking density, uneven-aged management).” CWCS at 10-5; see also CWCS at 10-12 (“maintain current forestry practices for early successional habitat”). We disagree that logging to create more forest openings belongs among the dozen highest priority actions to conserve terrestrial species. Creating more forest openings would occur at the expense of species which need mature, unfragmented forests, CWCS at 7-31, and seems likely to exacerbate the top threats to terrestrial species. This action seems to have been afforded such high priority because of the skewed species tiers and VA-GAP explained above.

Further, the CWCS should identify how much of this “early successional” habitat exists elsewhere. For example, power-line corridors run extensively through public and private lands at various elevations. These corridors might be managed to provide high-quality habitat for the golden-winged warbler and others. Openings will also be created through storms, natural tree falls and canopy gaps, and other natural processes, particularly if more forests are allowed to reach old growth conditions. (The Southern Appalachian Assessment discussed several studies showing that canopy gaps in Southern Appalachian old growth forests form consistently and naturally at rates of 3-5% annually and may form at rates of 14% or more in high-disturbance years. See *The Southern Appalachian Man and the Biosphere (SAMAB) Cooperative, Southern Appalachian Assessment, Terrestrial Resources Technical Report at 94 (1996), available at <http://samab.org/saa/reports/terrestrial/chapter5.pdf>.)*

Moreover, it is important to consider historic populations of these “early successional” species before concluding they are in great need of conservation. Prior to European settlement and subsequent logging, mining and farming, the Southern Appalachian forest was an uneven-aged, largely old growth forest. As evidenced by the Forest Service’s own records, the forest generally regenerated through small canopy gaps and through lightning-ignited fires limited in extent to ridges and dry slopes. This forest supported a thriving, diverse assemblage of species, but populations of species which benefit from large openings were probably smaller than the populations seen after most of the forest was cleared. For example, the CWCS recognizes that the Appalachian Bewick’s wren reached peak populations following unsustainable logging and natural resource extraction in the region around the turn of the 20th century. See CWCS at 7-28. Perhaps populations of this and similar species simply are returning to more historically appropriate and ecologically sustainable levels. Additionally, the drop in population of some early successional species, such as the loggerhead shrike, may be due more to the loss of pastureland to development and other uses than to some lack of shrubby “early successional” forest openings. See CWCS at 7-24.

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Regarding other highest priority actions, we do agree that it is critical to “Conserve, maintain and improve existing habitat patches (large patches, link habitat islands,” CWCS at 10-5, and we encourage the CWCS to focus on this proposal. As mentioned above, supporting the protection of roadless areas would help to achieve this goal.

In conclusion, we hope that the priority actions may be adjusted to more squarely address the worst threats and that additional deserving species may be added to Tier I, so that this highest priority tier is more balanced and so that species which require mature, unfragmented forests receive needed consideration and conservation. Thank you for considering these comments.

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**M. Rupert Cutler**

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28 August 2005

Congratulations to you, Rebecca Wajda, and all others involved in the preparation of the new Virginia Comprehensive Wildlife Conservation Strategy. It is a landmark document in the history of the management of the biota of the Commonwealth of Virginia. It is comprehensive (an understatement) and of high quality. You found that Virginia has lost 42 percent of its wetland habitat and that some 925 species in Virginia are “of greatest conservation need.” Its message is clear: Virginia’s wildlife legacy is in trouble. What follows is my personal response to your report. The challenge now will be to take advantage of the information it contains, and thereby protect the state’s fish and wildlife resources, by breaking the findings and recommendations in the report into “bite-sized pieces” for various partner agencies and organizations to implement as promptly as they can. Perhaps one follow-on project would be to assemble experts in legislative and ordinance drafting to produce model language for the General Assembly, county boards, city councils, and the boards of non-government organizations to consider, to translate your findings into policy direction. For example, the staffs of the Virginia Municipal League and the Virginia Association of Counties may be willing to consider translating the recommendations that apply to cities and counties into amending language for their committees to add to annual policy statements and legislative agendas. Specific draft language to amend zoning, animal control, and other local ordinances to implement this report’s findings would help local governments take action.

I received a copy of the 25 July 2005 draft of the “Virginia’s Comprehensive Wildlife Conservation Strategy” via CD and printed much of it—several hundred pages—for review. I have these specific comments, some minor in nature:

Not being as familiar as the authors are with all of the sets of capitalized initials used as shortcuts for spelling out the names of agencies, programs, statutes, etc., the frequent use of these initials left me in the dark. For the layperson, please spell out these names more frequently.

1.3.2. State Agencies. A glaring omission is the Virginia Outdoors Foundation, a state agency that holds conservation easements on 386,000 acres of mostly privately owned open space (habitat) in the Commonwealth. Its standard easement language requires the protection of a riparian buffer or corridor and the use of forestry Best Management Practices. Some of its easements have been entered into explicitly for wildlife conservation purposes including some on Eastern Shore, Chesapeake Bay shore, and Tidewater river habitat tracts. See its website, <http://www.virginiaoutdoorsfoundation.org/> or contact its Executive Director, Bob Lee, for more information. Thank you for including in your listings the private land trusts that also hold conservation easements, including the Roanoke-based Western Virginia Land Trust. Conservation easements are an excellent way to address the “gaps” in the habitat reserve network (3.2.2 Terrestrial GAP Analysis).

1.3.4. Commissions and Task Forces. Consider adding, either in this category or elsewhere, the Virginia Water Monitoring Council. It assists those involved in conducting water quality monitoring statewide and provides educational material for schools. See its website, <http://www.vwrrc.vt.edu/vwmc/News.asp> or

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contact its administrator, Jane Walker, at Virginia Tech janewalk@vt.edu. This group should be mentioned at page 2-40 under 2.5.6. Aquatic Habitat Status and Trends Assessment in connection with the Chesapeake Bay Citizen Monitoring and the Izaak Walton League's Save Our Stream program.

One finding of water quality monitoring, according to your report, is that over 64 percent of the Roanoke River is unfit for swimming. You also report, under the heading "Aquatic Habitat Impediments--Stream Channel and Stream Bed Alteration," that the Virginia Department of Environmental Quality and the US Army Corps of Engineers authorized some 85,000 linear feet of stream channelization and streambed alteration in 2004 alone. Such channel work is about to begin in the Roanoke River within the City of Roanoke.

You noted, "Forested areas in the mountains of western Virginia are species rich." This underscores the need to protect not only the national forest and park lands in federal government ownership but private and municipal forest lands (through conservation easements). Examples of such potential protected forest habitat are the 1,100-acre Mill Mountain Park (City of Roanoke) and the 11,000-acre Carvins Cove Natural Reserve owned by the City of Roanoke in Roanoke and Botetourt counties.

Under 3.3 Statewide Threats, you note that municipal development including dams and culverts is one of the top ten sources of habitat destruction and fragmentation. Can you provide alternative ways to handle storm water runoff that do not harm habitat?

Under 3.4.1, What is Working Well and Keys to Success, you list local watershed plans and development standards requiring buffer zones, catch basins, and other water quality protection measures. Under 2.4.2. What Needs Improvement, you recommend, "Partner with local governments and provide technical assistance." Please pursue this. Again, lands trusts and the Virginia Outdoors Foundation can assist with the recommendation, "Provide incentives for voluntary easements and preservation of unfragmented open space.

In 10.1 Conservation Action, your report recommends, among other things:

- \* Encourage all levels of government to include wildlife and wildlife issues in land use planning.
- \* Educate and provide information to local planners and developers regarding wildlife and their role in its conservation.
- \* Review land use changes and predict future changes to prioritize areas for conservation.
- \* Protect and restore riparian buffers.
- \* Restore natural stream channel.
- \* Reclaim floodplain.
- \* Control predators (including feral cat).

The City of Roanoke planners works with developers on the redevelopment of land in the City and can increase their attention to impacts on wildlife and potential benefits to wildlife of development with habitat needs in mind.

If, as the report proposes at page 10-25, the Department of Game and Inland Fisheries hires an "implementation coordinator" to move these recommendations forward, partners that coordinator can work with will include staff members of the Virginia Municipal League (perhaps the knowledgeable Denise Thompson) and the Virginia Association of Counties.

As the report concludes, "The effectiveness of this document will be measured by the frequency and degree of use and integration of action items into the programs and operations of the DGIF and its partners and stakeholders." From my experience on committees of the Virginia Municipal League and the National League of Cities as well as from working with City of Roanoke and Western Virginia Water Authority officials and professional staff members, I am optimistic that local government will be an enthusiastic partner with the VDGIF in the protection of our wildlife resource, an important component of our over-all quality of life. Thank you for your good work.



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**Defenders of Wildlife**  
29 August 2005

Thank you for the opportunity to comment on Virginia's Comprehensive Wildlife Conservation Plan. Overall the draft is very polished, well organized and complete. We appreciate the emphasis on presenting data spatially and hope to see more detailed maps in the future as data become available. We do have a few comments and observations which we have organized into three categories: Assessment (i.e. species, habitat and threat assessments), Strategy (i.e. prioritized conservations actions) and Implementation (i.e. next steps for moving the plan forward and monitoring through an adaptive management process).

#### **I. Assessment**

The overall structure of the plan is clear and well organized. We appreciated seeing both the statewide overview including major problems for different habitat types and the individual ecoregion sections. The draft shows particular attention to detail, especially in the methodology sections.

One element that is lacking, although not required by Congress, is some articulation of goals. We believe that having clear, measurable goals helps focus the plan, instigate implementation, and assists with concrete monitoring efforts. South Dakota has proposed maintaining at least 10% of the historic acreage for each habitat type as a goal for their plan. Nebraska also calculated a goal for the number of protected patches for each habitat type. These kinds of specific numerical goals can be difficult to determine initially, but act as a guide and a measure for monitoring purposes. Many other states, specifically North Carolina and Hawaii, have included more wide ranging, general goals that could serve as good models.

The methodology for identifying species of greatest conservation need is clearly presented and utilizes numerous credible sources. The tiering process should help to guide actions in the coming years. We did not note any significant omissions in the species lists.

The habitat assessment is complicated but presented clearly. We recommend defining all habitat variables, such as "relative phenological index," in a table at the beginning of this section so that non-expert users are not lost during the methods discussion. However, it is not exactly clear how this analysis fits in with the plan as a whole. Most of the detailed information about threats and actions are tied to the individual species accounts rather than to habitat types. Does the habitat assessment mostly provide background information on the state, or is it meant to identify unique habitat types that species will depend on? Additional "habitat groupings" that follow more traditional habitat categories, e.g. deciduous or coniferous forest, are also listed. Because there is so much information in the document overall, clearly identifying the purpose for these sections will help readers.

We are particularly interested in the maps included in the State plans as we believe that spatial presentation facilitates the assessment and prioritization of threats and actions. We were therefore pleased to see that Virginia has included a wide variety of extremely useful reference maps including information on landcover, human population growth and density, and species richness.

The discussion of targeting areas for conservation in section 10.1.4 and the associated statewide map in Figure 10.1 are extremely useful. This map could be even more useful if it is combined with the land use, species richness, and human demographics maps to create a single map of priority conservation areas for the State. The map of unprotected species richness in Figure 3.8 could be especially important in this effort. Combining these maps with a protected areas map would clarify locations of high species richness that are inadequately protected. Massachusetts has created a map showing priority core, buffer, and corridor habitat using very similar data sets. Their project is called Biomap and more information can be found at: <http://www.mass.gov/dfwele/dfw/nhosp/nhbiomap.htm>. They have now started producing maps for individual townships derived from the statewide maps. A priority conservation areas map will greatly facilitate your actions to inform and work with transportation and land use planners to avoid sensitive areas early on in the planning process.

The plan includes a thorough discussion and prioritization of threats. The categorization criteria, including stress-source, stress-no source and source-no stress, is somewhat confusing or at least unfamiliar to most readers. It would be beneficial to expand the explanation of these terms on page 3-27.

The stress tables, starting on page 3-27, are extremely useful. It would also be useful to see what the relative magnitudes of these identified threats are in different geographic regions of the State. The ecoregional sections present a great deal of detailed information about land use already. We recommend using this background information to identify the major threats to each ecoregion. It would be even more useful to perform threats analysis on smaller units, for example the Ecological Drainage Units presented on page 2-19. These drainages could be listed in their respective ecoregion section with information about land use and Tier I species presence which would then lead to a more finely tailored threats list. For example, some drainages are severely threatened by development, others are primarily agricultural or even forested. As a result, the priority actions for each of these areas should be very different. This type of informational organization will also allow identification of the most “threatened” areas of the State. We believe that a more finely tuned analysis of which areas are important and which are most threatened will lead to a more effective strategic approach to conservation. If it is not possible to complete such an analysis before September 30, it should be a priority action for the State in the next few years.

We were concerned that the bulk of the presentation of threats and actions were tied to individual species. We believe that it is more effective and efficient to target threats and actions assessments at particular habitats or areas that support many species. Species specific information is often limited and most actions will naturally help many species at the same time if implemented properly. The species accounts are valuable, but should be accompanied by additional geographic analysis of threats and actions. As discussed above, these areas could be drainages, habitat types, the priority conservation areas identified by the species occurrences data, or even, at this late point, ecoregions.

## **II. Strategy**

We appreciate the attempt at prioritization of actions in section 10.1.1, but, even with the exercise, the resulting list of conservation actions is quite long. We are concerned that these many actions will be difficult to implement if they are not further prioritized and tied to geographic locations. Therefore we recommend trying to apply these lists to specific areas as we recommended with the threats above. We also recommend adding a statewide actions section to Chapter 3 that would accompany the statewide threats discussion in 3.3. The discussion of the input from the community meetings is interesting and includes some keys to success that can be built into actions, but it is not a listing of the needed statewide actions to address the statewide threats. Section 10.1.1 provides much of this information.

All together we were very pleased to see a wide variety of actions ranging from land protection to interagency coordination and land owner incentives. In particular, the Planning actions are very good. Informing land use planners early in the process about important habitat areas should be helpful. Coordination with VDOT on planning and mitigation should be expanded beyond just stormwater runoff. Coordination with your transportation agency planners should include the design and alignment of new roads and the maintenance or retrofitting of existing roads to avoid important habitat areas even for species that are not federally or state listed. Transportation mitigation dollars may be a useful source of funding for

wildlife projects and restoring native vegetation. Generally, coordination with any of these agencies will be more effective when it is built around focal conservation areas providing guidance on areas that can or cannot be developed.

### **III. Implementation**

There are a few elements that we believe are crucial in order to smoothly transition from planning to implementation. These include clearly defined leadership roles, some assessment of funding possibilities and limitations, and a complete monitoring plan. We were very pleased to see that Virginia plans to hire an implementation coordinator to help facilitate this process and to continue to involve the steering committee. This kind of continued involvement is critical to successful implementation. The kick-off implementation meeting is a very good idea. It might help to clarify if there is a clear desire to have the working group or some other group meet and work together on implementation.

Lack of funding is a major barrier to conservation in any State. A clear presentation of available funds or potentially available funds can help clarify the need for strict prioritization of actions and focal areas. It is also important to identify creative additional funding sources such as the Farm Bill, transportation mitigation dollars, ballot initiatives, and Federal invasive species control grants (<http://invasivespecies.gov/toolkit/grants.shtml>). Iowa included an excellent description of existing and needed future funds in their plan. We recommend using it as a model.

Virginia's monitoring plan is extremely detailed and includes monitoring species, habitat condition and the effectiveness of conservation actions. We were very pleased to see the emphasis on more than just species monitoring. Here again, having clear goals will make monitoring actions much easier and more meaningful. Defenders and other partners have identified some additional key components of a comprehensive monitoring strategy:

- Track and map actions of multiple groups in a registry of conservation actions
- Track long term land use changes relative to habitat priorities at a statewide and/or ecoregional scale
- Form a statewide, interagency and private sector monitoring group to facilitate coordinated monitoring
- Involve citizens in some elements of monitoring programs for practical and educational purposes

Here's a link to the full report: <http://www.biodiversitypartners.org/infomanage/monitoring/01.shtml>

The proposed additions to the existing Habitat Affinities Database (pg. 10-39) could form the basis of a state conservation registry. We recommend the locations you include for actions to be more than just point locations, but polygons so that acres can be tracked as well. We would be happy to discuss the creation of a conservation registry with you more.

Finally, the plan has done an excellent job of presenting the input and comments of its technical committees and the general public.

### **Concluding Remarks**

Overall, we were very impressed with Virginia's plan. The plan is clearly the product of an immense amount of work and presents an enormous quantity of information about Virginia's wildlife. We believe that you have the data and ability to perform some detailed analysis of priority conservation areas. By shifting the emphasis from individual species to geographic areas we believe the plan could be truly outstanding and very useful in addressing the main threats to wildlife habitat. If there is a role we can play to help move your agency forward in the policy arena or with specific habitat conservation projects or if you have questions regarding these comments please let us know.

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