

The Return of the Wapiti?
By: Jennifer Gagnon, Virginia Tech

Wapiti is the Shawnee name for elk meaning ‘white rump’. Elk are members of the deer family. Due to a loss of habitat and unregulated hunting, the Eastern elk (*Cervus elaphus canadensis*), once found in Virginia, became extinct in the late 1800’s; however four other subspecies still remain in the United States, including the Rocky Mountain elk (*C. e. nelsonii*).

Over the years, there have been several unsuccessful attempts to reestablish elk in Virginia. Currently, there are between 50-100 Rocky Mountain elk in the Commonwealth – concentrated in the far southwest. These animals wandered over from Kentucky, the state with the largest elk population east of Montana (about 10,000 animals, the result of successful restoration programs). These animals can be hunted during the regular deer season in Virginia.

Last October, the Board of Game & Inland Fisheries directed the Executive Director of the Department of Game & Inland Fisheries (DGIF) to develop an operational plan for elk restoration and management. This plan has been completed and is available from the DGIF website: www.dgif.virginia.gov. The plan presents five management options. The Elk Plan Committee is recommending the Active Restoration option which would introduce 200 elk over a 3 year period, with the goal of having 1200 elk in 12 years. The counties targeted for reintroduction include Buchanan, Dickenson and Wise, on the Cumberland Plateau in far southwest Virginia. These counties were chosen because of their relatively small acreage dedicated to agriculture, proximity to established herds in Kentucky, and the numerous restored surface coal mine sites, which provide suitable habitat. Private forest lands provide essential habitat for the elk as well.

What impact might elk reintroduction have on forest landowners in these three counties? Regionally, elk can provide significant benefits to local economies from hunting and wildlife viewing activities. Elk are also good at maintaining early successional habitats (think grasslands and shrublands), which have been on the decline in Virginia. However, landowners may have some concerns with having elk on their land. In the summer, an elk cow can eat 15 pounds of vegetation each day. This can have a negative impact on hayfields or pastures, and reforestation efforts. Additionally, the bulls can damage timber by rubbing their antlers on trees. Bulls weigh between 700 - 900 pounds, raising concerns about road safety. Additionally, elk can carry and transmit some diseases, such as Chronic Wasting Disease, bovine tuberculosis, and brucellosis.

Elk are able to adapt to forest management practices. Although an active timber harvesting operation may displace the elk, they will return to the site if suitable habitat is restored. Small clearcuts and selection cuttings can be used to create early successional patches. Additionally, although not currently used much in southwest Virginia, prescribed fire is a widely used tool in elk habitats in the West. Fire helps maintain suitable elk forage.

After 13 years, Kentucky has not reported any significant problems associated with their elk reintroduction program. The Kentucky Department of Fish and Wildlife Resources receives approximately 20 elk calls a year, most of which are not associated with a monetary loss. Annually, approximately 20-25 elk cause auto accidents in Kentucky; however, there have been no human fatalities or serious injuries as a result of these accidents (although vehicle damage has been high). North Carolina, Pennsylvania and Tennessee also have elk reintroduction programs underway.

The Elk restoration plan was presented to the Virginia Board of Game & Inland Fisheries in June. The plan is available for public comment through August 1.

Visit: <http://www.dgif.virginia.gov/wildlife/elk/management-plan> to read and comment on the Draft Operational Plan and: http://www.fws.gov/digitalmedia/cdm4/item_viewer.php?CISOROOT=/natdglib&CISOPTR=9153&CISOBX=1&EC=2 to hear the bugling of a bull elk.

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Photo courtesy of the Virginia Department of Game & Inland Fisheries.

VIRGINIA FOREST LANDOWNER UPDATE

Summer 2010



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 Department of Forest Resources &
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 Virginia Polytechnic Institute and State University
 Blacksburg, Virginia 24061

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VIRGINIA FOREST LANDOWNER EDUCATION PROGRAM

Jennifer L. Gagnon, Editor
 Address all correspondence to: Virginia Forest Landowner Update
 228 Cheatham Hall (0324)
 Blacksburg, VA 24061
 ph: 540/231-6391; fax: 540/231-3330
 e-mail: forester@vt.edu
www.cnr.vt.edu/forestupdate

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Non Timber Forest Products

By: Elizabeth Hiebert and Leslie Neilan, Virginia Tech

As you walk your land do you look up or down?

Many Virginian landowners walk their properties periodically to decide what changes they want to make to improve their productivity. For too long, farmers, landowners, and forest managers have only looked up, calculating how many board feet of timber the land will yield in twenty or thirty years. Especially in these hard economic times, they could be managing their land more intensively by looking down as well. Appalachian forests, like many other forests, are undervalued and under-utilized if only managed for timber yield. Non-Timber Forest Products, or NTFPs, have been an integral part of Virginia’s rich heritage providing subsistence and/or supplemental income to rural households for centuries and they could become an important new source of revenue for traditional landowners.

But, what, exactly, are NTFPs? Simply, they are all of the usable parts of a forest (or natural areas) that are not lumber. NTFPs include, but are not limited to, minerals, plants, plant parts, and fungi. The four most common uses for these products are: decorative, florals and seasonal greens, culinary, medicinal and dietary supplements. More importantly though, is how can a landowner benefit from NTFPs?



Goldenseal (circled in photo) is a valuable NTFP landowners in Virginia can grow. Photo by: Matt Yancey, Virginia Tech.

By developing a land management plan that includes the cultivating and harvesting of NTFPs as well as timber, a landowner can increase income between rotations. If land has become damaged by fire or storm, the damaged timber can be used for products such as hardwood charcoals, which is a significant new market. The forest owner can then increase productivity in these areas by planting a greater variety of herbaceous and woody species that would appeal to the medicinal and culinary markets or by farming berries in open areas post-harvest. By implementing a land management program that combines best timber practices with innovative non-timber practices, landowners will reap greater financial rewards from their land as they access new markets for Appalachian native products

Landowners and managers can find out more about these products and practices by contacting local Extension agents, who offer low-cost or free workshops to help farmers get started cultivating NTFPs. Interested landowners can access the latest information about these products and their uses by subscribing to *Small Farm Digest*, contacting the Plant Conservation Alliance, or finding their local Community Sustainable Agriculture group. All Virginians, whether as landowners, harvesters or consumers, can benefit by promoting and selling these valuable crops. We can increase our Appalachian hardwood forest’s sustainability, strengthen the market for local products, and contribute to our community’s bounty and fertility.

- Find your local Extension agent by visiting the Virginia Cooperative Extension website: www.ext.vt.edu
- Subscribe to the *Small Farm Digest* at: <http://www.csrees.usda.gov/newsroom/newsletters/smallfarmdigest/sfd.html>
- Contact the Bureau of Land Management’s Plant Conservation Alliance at: <http://www.nps.gov/plants/>
- Find your local Community Sustainable Agriculture group at: <http://www.vdacs.virginia.gov/vagrown/index.shtml>

Elizabeth Hiebert is a MS. Student in the College of Natural Resources & Environment ehiebert@vt.edu
Leslie Neilan is a Senior Instructor in the English Department lneilan@vt.edu 540/231-9453

Useful Resources

- **E-answers** is a website which will search publications from the 50 U.S. Land Grant Universities. You can find reliable, scientifically sound answers to your agriculture and forestry questions here: <http://e-answers.adec.edu>
- Are you looking to sell or buy farmland? The Virginia Department of Agriculture and Consumer Service’s Office of Farmland Preservation’s **Farm Link Program** database can help match up retiring farmers with aspiring farmers. Visit www.vdacs.virginia.gov/preservation/farmlink.shtml
- The Office of Farmland Preservation also has numerous resources to help you plan for transiting ownership of your farm. Learn about their **Farm Transition Resources** at: www.vdacs.virginia.gov/preservation/planning.shtml

CONTACT OUR SPONSORS AND STATE NATURAL RESOURCE MANAGEMENT AGENCIES:



Virginia Department of Forestry	Virginia Tech Department of Forest Resources & Environmental Conservation & Virginia Cooperative Extension	Virginia Forestry Association	Virginia Tree Farm Committee
900 Natural Resources Drive Ste. 800 Charlottesville, VA 22903 434/977-6555 www.dof.virginia.gov	228 Cheatham Hall 0324 Blacksburg, VA 24061 540/231-6391 www.cnr.vt.edu/forestupdate	3808 Augusta Ave Richmond, VA 23230 804/278-8733 www.vaforestry.org	3808 Augusta Ave Richmond, VA 23230 804/278-8733 www.vaforestry.org/virginia_tree_farm.html

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EVENTS CALENDAR			For the most complete listing of natural resource education events, visit the on-line events calendar at www.cnr.vt.edu/forestupdate		
Contact	Date	Location	Event	Time	Fee
DCR	July, Aug. & Sept.	Virginia State Parks	A variety of events and activities. For a complete list, visit: www.dcr.virginia.gov/parks	Varies	Varies
BW	July 26-29	Norton	Trees-to-Products Summer Teachers' Program This program is designed to provide teachers with factual and credible information about Virginia's hardwood forests. Concepts are linked to Virginia's SOLs and include training in Project Learning Tree activities. Qualifies for 30 hours of professional development.	All day	\$25 ¹
BEF	July 28	Boyce	Herbs & Edible Flowers Learn how to grow and use herbs from Billie Clifton, a full-time herb grower and nursery operator of Sunflower Cottage Herb Farm.	1 - 2:30	\$10
RCD	July 31	Kilmarnock	Attacking Invasive Species	9 - 2	\$15 ¹
JG	August 14	Madison	On-line Woodland Options Hands-on Field Trip Practice compass and pacing, use forestry equipment, identify trees, see forest management practices in action.	9 - 4	Free ¹³
JM	Aug. 20-22	Appomattox	Mother-Daughter Outdoors Weekend Provides an excellent opportunity for anyone at least 9 years of age to learn outdoor skills useful in a variety of outdoor pursuits.	All day	\$90
SL	Aug. 23 & 30	Warrenton	Focusing on Land Transfer to Generation 'NEXT' Using a curriculum based on Oregon's State's Ties to the Land Program, learn how to plan for the transition of your land.	12:30 - 7:00	\$50 ¹²
SL	Sept. 4	Madison	Real Charcoal Make it Yourself Demonstration Join Virginia Cooperative Extension at the farmer's market for demonstrations on making charcoal out of hardwoods.	8 - 12	Free
AD	Sept. 16-17	Front Royal	Good Green/Bad Green: Invasive Plant Control for Habitat Restoration This conference focuses on invasive issues in the Mid-Atlantic. You will learn identification of invasive species, integrated pest management techniques, strategies for conducting site triage, herbicide safety and see examples of restoration successes and challenges.	All day	
IWL	Oct. 2	Leesburg	Women Exploring Loudoun Outdoors An all-day event for women (ages 14 years and up), offering introductory outdoor activities: archery, fishing, kayaking, and more...	7 - 6:30	\$50 ¹
JG	October	Virginia	34th Annual Fall Forestry & Wildlife Field Tours Check out the Fall 2010 Edition of the VFLU in September for details on these tours which showcase forestry and wildlife management activities on private, public and industry owned lands.	All day	TBA

¹ Includes meal(s)

² Registration fee covers up to two people from the same family; each additional family member is \$25

³ Free for students currently enrolled in On-line Woodland Options; \$20 for others.

EVENT CONTACTS			
Contact	Name/Affiliation	Phone	e-mail/website
DCR	Department of Conservation & Recreation	804/786-1712	www.dcr.virginia.gov
BW	Bill Worrell	276/889-8056	bworrell@vt.edu
BEF	Blandy Experimental Farm	540/837-1758	fosaevents@virginia.edu
RCD	Tidewater RC&D Council	804/443-1118	info@tidewaterccd.org
JM	Jimmy Mootz	804/367-0656	jimmy.mootz@dgif.virginia.gov
SL	Sandy Lillard	540/948-6881	slillard@vt.edu
AD	Adam Downing	540/948-6881	adowning@vt.edu
IWL	Isaac Walton League	540/535-8891	lcciwla_welo@hotmail.com
JG	Jennifer Gagnon	540/231-6391	jgagnon@vt.edu

You Ain't From Around Here! Exotic Invasive of the Quarter: Non-native Wisterias by: Jennifer Gagnon, Virginia Tech

The first time I saw a wisteria pod was while I was doing field work for my graduate project in the Apalachicola National Forest in the Florida Panhandle. While out on a walk one 100 degree afternoon, I found lovely fuzzy green pea-pod shaped fruits. Thinking I had identified a new species, I rushed back to the house to show my roommate, who informed me that they were wisteria pods, quickly dashing my hopes of having a plant given the species name *gagnonii*. But I still thought the pods were interesting, and kept them.

Thanks to these seed pods, one warm summer night I learned about a reproductive strategy called explosive dispersal. As the pods dry, pressure builds up inside, eventually causing them to burst open with a "pop", flinging the seeds inside up to 80'. A rather confusing and heart-pounding way to be woken up, mind you, but interesting. Explosive dispersal helps the vine spread its seeds far and wide, ensuring the parent plant won't get chocked out by its offspring. Very clever. Other species which use this strategy include lupines, impatiens, and pansies.

The two most common exotic wisteria species in Virginia are Chinese (*Wisteria sinensis*) and Japanese (*W. floribunda*). Introduced in the 1800's, these climbing vines, with their prolific fragrant blooms, have been widely planted as ornamentals across the U.S. In fact, wisteria is well intertwined (pardon the pun) with American culture. For example, you can take a tour of historic wisteria vines in New York City; or perhaps attend the Sierra Madre Wisteria Festival and view the largest flowering plant in the world (a Chinese wisteria which covers an acre and weighs approximately 250 tons; it is listed as one of the seven horticultural wonders of the world). And, of course, Wisteria Lane is home to some well-known, albeit desperate, housewives.

In addition to taking over large plots of land, the twisting vines grow tightly around the trees and shrubs they use for support - eventually cutting through the bark and into the phloem, interrupting the flow of nutrients from the crown to the roots (called girdling). The vines can also take over the crowns of their support trees, eventually shading them out. As the wisteria kills off overstory trees in forested areas, more light reaches the forest floor. While this is good for the growth of some desirable native species, it is also good for the growth of wisteria...which eventually takes over, ultimately reducing biodiversity. Common areas of infestation include roadsides, forest edges, ditches and right-of-ways - and these are usually a result of escaped landscape plantings. In Virginia, Chinese wisteria is listed as moderately invasive and Japanese wisteria is listed as occasionally invasive. Both are found throughout the Commonwealth.



An odd, pinnately compound wisteria leaf. Photo by: James Miller, USDA Forest Service.

How to identify wisteria

Growth: Deciduous woody vines; up to 70' long. Form dense infestations on wet to dry sites. Vines climb by twining around trees and shrubs (Chinese twines clockwise; Japanese twines counter clockwise) and by root runners.

Older bark: Tight and dark gray-brown with light dots (Chinese); white (Japanese).

Leaves: Alternately arranged; odd pinnately compound (i.e., odd number of leaflets), 4 to 16" long with 7 to 13 leaflets (Chinese) or 13 to 19 leaflets (Japanese). Leaflets are oval to elliptical with tapering pointed tips and wavy edges.

Flowers: Blooms between March and May; the pea-like flowers are lavender to white, fragrant, and grow on dangling showy clusters 4 to 20" long. All flowers open at the same time (Chinese) or gradually from the base (Japanese).

Seeds: Mature from July to November. The flattened oblong legume pods are 2.5 to 6" long and 0.8 to 1.2" wide; velvety greenish to golden brown. Pods contain 1 to 8 flat brown seeds 0.5 to 1" in diameter. These large, poisonous seeds are not generally dispersed by animals. The most common means of reproduction is by root runners.

Note: there is a native American wisteria (*W. frutescens*) which tends not to form dense infestations and occurs in wet forests. The pods are of American wisteria are hairless and the older vines are slender compared to the exotic species.

How to control wisteria:

Mechanical: For small infestations, plants can be hand pulled and roots grubbed out; if the plants have seed pods on them, bag the pulled plants and dispose of them.

Climbing vines can be controlled by repeatedly cutting them back, which will help deplete their resources, decreasing growth and preventing flowering; however, the sites will need to be monitored and re-cut regularly.

Chemical: For foliar applications, thoroughly wet all leaves with the recommended herbicide concentration (see table below) mixed in water with a surfactant. For basal bark applications, remove several branches and apply herbicide to exposed cambium. On cut stump applications, cut the vines about 2" from the ground and immediately apply herbicide solution to cut surface using a paint brush or spray bottle. In all cases, monitor the sites regularly and retreat as needed.

Manufacturer	Product Name	Active ingredient (ai)	Percent ai	Application Method*
Dow Agrosciences	Accord	glyphosate	2%, 25%	F, C
Dow Agrosciences	Garlon 3A	triclopyr	20%, 25%	B,C
Dow Agrosciences	Garlon 4	triclopyr	4%, 20%, 25%	F,B,C
Dow Agrosciences	Glypro	glyphosate	2%, 25%	F, C
Dow Agrosciences	Rodeo	glyphosate	2%, 25%	F,C
Dow AgroSciences	Tordon 101	picloram	3%	F
Dow AgroSciences	Tordon K	picloram	2%	F
Dow AgroSciences	Transline	clopyralid	0.5%	F

*F: foliar B: basal bark, C: cut stump

Disclaimer: Commercial products are named in this publication for informational purposes only. Virginia Cooperative Extension does not endorse these products and does not intend discrimination against other products which also may be suitable. Always follow all instructions on the product Label. The Label is the law.

Jennifer Gagnon is an Extension Associate in the Department of Forest Resources & Environmental Conservation; 540/231-6391 jgagnon@vt.edu.

For more information on exotic invasive species and using herbicides:

- July 31, Kilmarnock - **Attacking Invasive Species** (see Events Calendar)
- Sept. 16-17, Front Royal - **Good Green/Bad Green** (see Events Calendar)
- Nonnative Invasive Plants of Southern Forests** - available from USDA Forest Service (an updated version is being published later this year): <http://www.treesearch.fs.fed.us/pubs/5424>
- Invasive.org** - <http://www.invasive.org/>
- E-answers:** <http://e-answers.adec.edu/>
- USDA PLANTS Database:** <http://plants.usda.gov/>
- Virginia's Natural Heritage Program:** http://www.dcr.virginia.gov/natural_heritage/



Close ups of wisteria's clustered blooms (L) and pods with seeds (R). Photos by: Ted Bodner, Southern Weed Society and Chris Evans, River to River CWMA.



VFLP Coordinator, Jennifer Gagnon, presents Virginia Governor Bob McDonnell with a hardhat, courtesy of Virginia Tech Forestry Extension, at Expo Richmond 2010.