

Find an old decomposing log. Have your children examine it with their eyes and a magnifier. Here are some questions you can ask them about it:

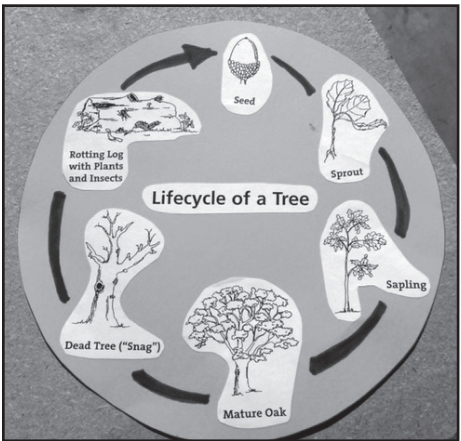
How might the tree have died? Has the tree been dead a long time or a fairly short time? How did you decide this? What kinds of animals live on the bark? Under the bark? Inside the log? Under the log? Where do these animals get the food they need? Do any plants live on the log? How can they live without soil? Why are decomposing logs important to the forest? Have the children make sketches of the plants and animals you found.

As you walk through the forest, have your children collect seeds they find on the ground. They may also want to collect the seed holders, such as cones, balls, or shells. As they collect the seeds, scan the area and see if they can identify which plants they may have come from. Either in the forest or when you get back home, have children sketch each kind of seed. Help them measure the seeds to compare sizes and improve math skills. Discuss how the seed travels to get to a new place to grow (floats on air, flies through the air, floats on water, eaten by animals, bounces or rolls away, stored by an animal, sticks to an animal, thrown by the plant, or released and opened by fire). A great STEM challenge is to create seeds out of random materials from home (Popsicle sticks, cardboard, bubble wrap, coffee filters, construction paper, rubber bands, paper clips, pipe cleaners and whatever else you can dig up).

1. Design a seed that can be thrown a least 5 feet away from its parent plant.
2. Design a seed that floats on water for at least 5 minutes.
3. Design a seed that sticks to an animal and can be carried at least 10 feet.
4. Design a seed that floats in the air for at least 5 feet.
5. Design a seed that an animal unknowingly ingests, then deposits later a distance away from the parent plant (make this one very enticing to the animal in color and smell).

If you come to an opening in the forest that has long grasses and other herbaceous plants, have the children use a seed wand to collect seeds. Have them wave the wand through the grasses and the seeds will stick to the microfiber cloth on the end. Add those to their seed collection.

In fact, as you're walking through the forest, encourage your children to collect small bits of things from the forest that catch their eye so they can make a forest picture: lichen, interesting leaves, sticks, seeds, mosses, small rocks, snake skins, and so on. I recommend using a piece of cardboard as the base for the picture since the objects tend to be too heavy for paper. Tacky Glue or even a wood glue tends to work best, but regular white school glue is fine.



After looking at different stages of tree growth in the woods, have children diagram the lifecycle of a tree. Photo by Page Hutchinson, VDOF.

To help your children understand the lifecycle of a tree, you can identify all the stages of growth in the forest as you're walking. For example, if you find an acorn, you know this will grow a new oak tree. Near where you found the acorn, see if you can find a sprout. Now look for a sapling, a mature oak, a dead oak, or one that appears to be dying, and a rotting log. Children can draw the life cycle of the tree with arrows in between (when the tree is about 1-4 inches in diameter at 4.5 feet from the ground, it is considered a sapling; a mature tree is greater than 4 inches at 4.5 feet.)

There are so many more amazing investigations to do in the forest! Design some of your own. I hope you have fun.

These activities are all adapted from Project Learning Tree's K-8 Environmental Education Activity Guide. Please contact the author with any questions about Project Learning Tree.

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VIRGINIA FOREST LANDOWNER UPDATE

SUMMER 2020



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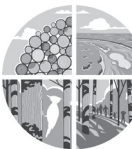
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VIRGINIA FOREST LANDOWNER UPDATE

Events, news, and information promoting the stewardship of Virginia's forest resources.

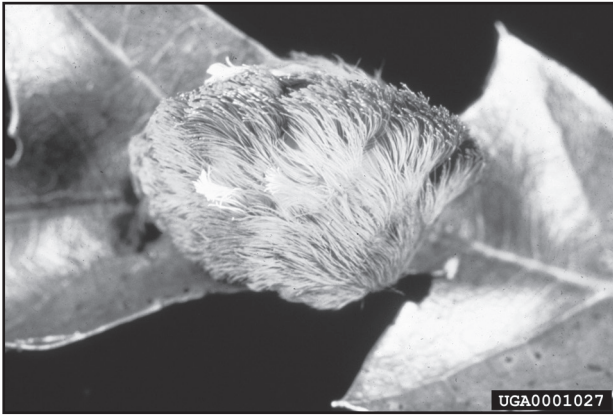
Summer Fun in the Forest By Page Hutchinson, Virginia Department of Forestry

Kids bored? Or driving you nuts? Trying to beat the heat? Getting out in the woods can solve all these problems!

I suggest you take a bucket with you for holding some equipment for investigating. Five-gallon buckets from home improvement stores are a perfect size and are durable. They can be bought for less than \$5. Or recycle a five-gallon bucket from a paint or drywall project. And you can turn it over and use it as a seat.

What might you put in the bucket?

- Field guides – trees, ferns, butterflies, birds, etc. Not too many or the bucket gets too heavy. You might want to choose one or two on which to focus.
- Hand lenses or magnifying glasses.
- Bug boxes or viewers (see resources: https://forestupdate.frec.vt.edu/content/dam/forestupdate_frec_vt_edu/newsletter/archives/2020/summer-2020/HutchinsonResources.pdf).
- Small plastic terrarium for temporarily holding a frog, lizard, or other critter to observe.
- Gardening gloves to protect your hands.
- Small trowel and/or hand rake.
- T-shirt sweep net (see resources).
- Seed collection wands (see resources).
- Tape measure and 12" ruler.
- Tweezers or forceps.
- Scissors or garden shears.
- Small paper bags for collecting.
- Nature journal or clipboard with plain paper
- Pencils and colored pencils



Some things in the woods like this puss moth caterpillar may appear friendly but are actually poisonous. Properly identify unknowns before touching, eating, or collecting them. Photo by James Solomon, USDA Forest Service, Bugwood.org

Children are excellent at finding things to investigate in the woods, but if you'd rather guide them, I'll offer some suggestions. Please begin by talking about safety with your children. It's a good idea NOT to touch any plants or animals unless deemed safe by an adult. Even some cute fuzzy caterpillars can give you a good sting! For example, you may just want to pet the puss moth caterpillar, but don't. Beneath the long hair are numerous short poisonous spines.

To help children focus on their walk, you can start by making a pair of binoculars out of toilet paper rolls. Glue the rolls together and attach a string to go around the neck. Or insert and glue a Popsicle stick in between as a handle so they can be held up to the eye. Have the children decorate their own.

Summer Fun cont. on page 5



A simple, homemade, pair of binoculars, can help your children become actively involved in your woods walk, and help them focus. Photo by Page Hutchinson, VDOF.

EVENTS CALENDAR			For the most complete listing of natural resource education events, visit the online events calendar at https://forestupdate.frec.vt.edu		
Contact	Date	Location	Event	Time	Fee
DCR	July, Aug., Sept.	Virginia's State Parks	A variety of events and activities For a complete list, visit: www.dcr.virginia.gov/parks	Varies	Varies
MP	Year-round	Statewide	Virginia Master Naturalist Volunteer basic training Some Virginia Master Naturalist chapters will be holding fall training courses for new volunteers, if conditions allow. Visit http://www.virginiamasternaturalist.org/chapters-a-map-and-contacts.html for a map of chapters and information on training schedules and application procedures as they become available.	Varies	Varies
SREF	Year-round	Statewide	Forestry Webinar Portal Visit this portal for live and recorded webinars on a variety of forestry topics.	Varies	Free
JG	Every Friday (excluding July 3)	On-line	Fifteen Minutes in the Forest Take a break from your day and join Virginia Tech's Extension Foresters and guests for short videos on woods-related topics.	12:00	Free
JG	Aug. 7-8 Tentative	Galax	SW Virginia Beginning Woodland Owners' Retreat*** This entry-level program covers the basics of keeping your woods and wildlife healthy and productive, while working towards meeting your ownership goals. A combination of classroom, field trip, and hands-on activities are used to explore these concepts of sustainability and will focus on hardwoods.	Aug. 7, 7:30 - 6:00; Aug. 8, 7:30 - 1:00	Individual: No lodging \$55* Lodging \$95** Couple: No lodging \$90* Lodging \$170**
VFA	Aug. 11-14	Harrisonburg	Virginia Forestry Summit: Seeing the Forest Through the Trees Join landowners, loggers, and foresters for three days of forestry education and fellowship.	Varies	Varies
JG	Aug. 14	Harrisonburg	Timber Cruise Workshop*** Learn how volume and value are calculated for stands of timber. This workshop will provide you with hands-on experience creating and implementing a timber cruise on your property.	9 - 3:45	\$25*
MS	Sept. 12	Berryville	New Christmas Tree Growers Workshop This hands-on workshop will cover getting started with Christmas tree production, including seedling selection, planting techniques, farm layout, and shearing. Safe use of pesticides and herbicides will also be covered.	8:45 - 1	\$10
JG	Sept. 25-26 Tentative	Providence Forge	SE Virginia Beginning Woodland Owners' Retreat*** See description of SW Retreat above, with a focus on pine.	Sept. 25, 7:30 - 6:00; Sept. 26, 7:30 - 1:00	Individual: No lodging \$55 Lodging \$95** Couple: No lodging \$90* Lodging \$170**
BRPRISM	Sept. 29 Oct. 7 Oct. 22	Online	Blue Ridge PRISM Invasive Plant Workshop These workshops will enable you to learn how to confidently identify and manage invasive plants.	1 - 4:00	\$10
*meals included; **meals and lodging included; ***Pending COVID 19 developments					

EVENT CONTACTS			
Contact	Name/Affiliation	Phone	e-mail/website
DCR	Virginia Department of Conservation & Recreation	804-786-1712	www.dcr.virginia.gov
MP	Michelle Prysby	434-872-4580	www.virginiamasternaturalist.org
SREF	Southern Region Extension Forestry	http://www.forestrywebinars.net/	
JG	Jennifer Gagnon	540-231-6391	jgagnon@vt.edu
VFA	Virginia Forestry Association	804-278-8733	www.veforestyr.org
MS	Mark Sutphin	540-665-5699	mark.sutphin@vt.edu
BRPRISM	Blue Ridge PRISM	434-218-9139	blueridgeprism.org

You Ain’t From Around Here! Exotic Invasive of the Quarter: Japanese Knotweed (*Polygonum cuspidatum*) Part 2

By: Jennifer Gagnon, Virginia Tech

As you may recall from the Spring edition of the Virginia Forest Landowner Update (<https://forestupdate.frec.vt.edu/newsletter/current.html>), Japanese knotweed is an herbaceous bamboo-like perennial native to Japan, China and Korea. This species is infamous for the high levels of ecological and economic damage it causes worldwide.

In Part 1, I mentioned that the range map showing where Japanese knotweed has been identified in Virginia was incomplete. I just submitted a report on a Montgomery County infestation using the MAEDN (Mid Atlantic Early Detection Network) App. This App allows you to upload photos of any invasive species you find, record the location and size of the infestation, and upload it to the EDDMapS (Early Detection and Distribution Mapping System). It was simple and easy to make the report (aside from having to park on the side of a narrow two-lane country road with a speed limit of 55 mph.) I look forward to seeing my report appear on the map. Makes me feel like I’ve done something constructive with my day. You can download the free MAEDN App here: <https://www.eddmaps.org/midatlantic/>. So how did I know I was looking at Japanese knotweed?



How to identify Japanese knotweed

Leaves: The simple, alternate leaves emerge red; as they mature, they turn green with dark red veins. Mature leaves are green and have an abruptly pointed tip and a flat or tapering base. Mature leaves are up to 6” long and 5” wide.

Stems: The stems look like bamboo, with rings and purple speckles. Mature stems are upright, round, hollow with large nodes, but not woody. They can reach heights of 10-13’. Immature stems, or stems that have been mowed, are not hollow and are thinner and shorter. All stems are covered by a fine whitish coating that wipes off easily.

Fruit: The black/brown, shiny, ovoid, 3-winged seeds are about 0.3” long. They are dispersed by wind, water, birds, and insects. Not all seeds are fertile.



Flowers: Small greenish-white flowers are arranged on spikes near the end of the plant’s arching stems. Flowers bloom August through September and are insect-pollinated.

Roots: Japanese knotweed has a deep taproot up to 10’ long and an extensive network of rhizomes that can extend 2-5’ laterally in the soil.

How to control Japanese knotweed:

Japanese knotweed is a very difficult species to control. Older populations have more extensive root systems and seem to be even more difficult to control. Old stems and roots have been known to sprout up to 3 years after being cut, so follow-up on treated sites is required for 3-10 years. A combination of mechanical and chemical controls may be best, although results of effectiveness are inconsistent, probably due to differences in below-ground resources.

Manual: Whether you attempt manual control via hand-pulling, mowing, digging, tilling, or excavating, these methods alone are not recommended because roots must be completely eliminated and disposed of. With the

extensive root system of Japanese knotweed, this is highly unlikely. Fire is not an effective manual control, as Japanese knotweed is not terribly flammable.

Chemical: Although herbicides with glyphosate as the active ingredient effectively kill the leaves of Japanese knotweed, they are not transported efficiently through the root system, resulting in only top-kill. The roots will re-sprout.

Knotweed Part 2, cont. from page 3

Imazapyr has shown the greatest documented effectiveness. Herbicides with imazapyr as the active ingredient work slowly and affect the root system before the leaves. This provides effective long-term control. However, imazapyr is a non-selective chemical, meaning that it will also kill desirable vegetation it may come into contact with. Also, it stays active in the soil for a long time. The typical recommendation is to reclaim the site, once control is achieved, as soon as possible with natives. But if the site was treated with imazapyr, native species cannot be planted for about a year.

A more targeted approach is to apply an imazapyr-based herbicide directly to leaves or inject it into individual stems after cutting them (a time-consuming approach only really practical for small infestations.)

Biological: The knotweed aphid (*Aphalara itadori*) is an insect in the Psyllidae family (a family of plant-feeding insects that tend to be very host-specific) that feeds on Japanese knotweed. This aphid is the first biological control for a weed has been sanctioned in the European Union. In 2019, the USDA's Animal and Plant Health Inspection Services opened an environmental impact assessment on releasing *A. itadori* in the US for comment.

Don’t spread it: If you do attempt to manually control Japanese knotweed, it is essential to dispose of the plant waste completely and properly. New plants can sprout from fingernail-sized pieces of material, so try not to leave any behind. Plant parts should be disposed of in tied black bags or dried out and burned. And don’t move soil that has had knotweed growing in it.

How to exact revenge using Japanese knotweed

In Part 1, I promised details on using Japanese knotweed to exact revenge on your enemies. To do that, I had to read a book called *A Prisoner of Birth* by Jeffrey Archer. My apologies to any Jeffrey Archer fans out there. Because I hated all 501 pages of this book and its ludicrous plot. I see he’s written many books, including international best sellers, so I know he has fans. I am not one.

From the novel (set in Great Britain), I learned these are the steps you must take to exact revenge on your enemies using Japanese knotweed (recall from Part 1 that real estate transactions must disclose the presence of knotweed on a property):

1. Be wrongfully accused and convicted of killing your best friend.
2. Share a jail cell with someone who could pass as your identical twin and who is being released from prison shortly.
3. When your “twin” is murdered (not by your own doing), assume their identity and their early release date.
4. Upon release from prison, set up a series of weirdly complex schemes to bring your enemies down.
5. One scheme must include getting your enemies to invest heavily in a commercial property in England.
6. On said commercial property, place 71 white pebbles 9 paces apart, and create a small crevice at each one.
7. Return to commercial property by dark of night, right before a rainstorm, remove white pebbles, and insert a small piece of knotweed rhizome into each crevice.
8. Sit back and relax as the knotweed grows and external financing for the commercial site falls through, resulting in the shaming and demotion of your enemies [insert evil laughter].

Easy-peasy.

I do truly love it when exotic invasives make their way into common culture. Japanese knotweed is indeed rampant in British culture. In addition to being featured in *A Prisoner of Birth*, it has been used to described former British Prime Minister Theresa May (the knotweed Prime Minister) and it’s been used as a locker room insult for losing Manchester United players. I haven’t heard any common culture references to knotweed in the US, but it may only be a matter of time. Something I’ll try to get started!

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Virginia Urban Wood Newsletter Debuts!

In late April, the Virginia Urban Wood Group published the first edition of the VA Urban Wood e-Newsletter. The newsletter is distributed every other month and features urban wood and small woodlot management news complete with links to expanded stories. Also included are updates from the Virginia Department of Forestry’s Urban Wood program. This newsletter serves a wide-ranging audience from those who live in municipalities to the thousands of Virginia woodland landowners who own small parcels of forest land. Two nuggets of knowledge for today:

1. Nationwide, there are 130 million acres of urban forests and more wood is removed from our urban areas than from all of the National Forests combined.
2. In Virginia, 70% of woodland owners have tracts 1-10 acres in size. This figure does not include the thousands of landowners owning forest parcels of less than one acre.

April 2020 VA Urban Wood Newsletter: <https://conta.cc/2VTPCgn>.
To subscribe to the VA Urban Wood Newsletter contact: joe.lehnen@dof.virginia.gov