

# Instructions for Removing English Ivy and Discussion of Safety

By Steve Young, Rod Simmons, and Claudia Hamblin-Katnik, April 2012

We greatly appreciate volunteer assistance in the effort to remove English Ivy (*Hedera hibernica*) from parks and natural areas in the City of Alexandria and Arlington County, Virginia. Our parks and stream valleys are being overrun by destructive, unwanted, non-native plants. These plants diminish biological diversity, affect nutrient cycling, alter the delicate natural balance of ecosystems, cause wildlife declines, introduce diseases and parasites, alter regional distinctiveness of flora and fauna, and have a host of other negative effects throughout the landscape. In the City of Alexandria, the Dept. Recreation, Parks, and Cultural Activities, Horticulture and Natural Resources Section; Dept. T&ES, Office of Environmental Quality; and Ford Nature Center have partnered together to maximize the City's efforts in eradicating invasive exotic species.

One of our chief targets is English Ivy. Most people have at least a glancing familiarity with English Ivy. It is an imported woody vine that invades forests, woodlands, and riparian areas. It is introduced as a cultivated indoor or garden plant, but is either deliberately planted or distributed by birds and other wildlife via the berries it produces.

For many years *Hedera helix* was thought to be the invasive English Ivy in North America, but according to Arthur Tucker with the Dept. of Agriculture & Natural Resources at Delaware State University (pers. comm. 2011), it is actually *Hedera hibernica* that is the invasive species here and not *Hedera helix*: "the distinguishing characters are the stellate hairs on the underside of the leaves. On *Hedera hibernica* they are flat and appear like a starfish, but in *H. helix* they are upright and appear like a coral. The cultivars differ significantly in the size and distribution of the trichomes. Unfortunately, the mature, flowering and fruiting specimens have almost no hairs, so it is usually a guess unless an isolated hair can be located. *H. hibernica* is tetraploid and possibly a hybrid of *H. helix* x *H. maderensis*; this is the noxious weed (and the fruit a favorite bird food). *H. helix* is diploid and usually well-behaved (or as much as an ivy can be). Fortunately, most of the named cultivars are *H. helix* (but 'Albany' and 'Deltoidea' at DOV are *H. hibernica*). The nursery industry usually sells *H. hibernica* 'Hibernica' as "English Ivy," but "Atlantic Ivy" is also used by some writers on ivy. Rarely, Baltic Ivy (*H. helix* 'Baltica') is sold at nurseries, sometimes escaped from nearby cultivation, but not really invasive like *H. hibernica*."

We have a few simple guidelines that we ask volunteers to follow when removing ivy. Mainly, we want to make sure that the soil is not disturbed and that native plants, including ferns, wildflowers, seedlings, and saplings, are not trampled or otherwise disturbed when ivy is removed. Therefore, we try to limit ivy removal efforts to fall and winter when most of these plants are dormant. For example, we want to discourage pulling ivy in spring when spring ephemeral wildflowers like Trout Lily, Spring Beauty, Mayapple, etc., have emerged and are intertwined with the ivy, rendering it difficult or impossible to remove the ivy without destroying the native plants (Fig. 5).

In areas smothered by ivy where native flora is not visible or is fairly sparse, removing the ivy is possible throughout the growing season. However, it is always important to protect any existing native plants from damage during ivy removal efforts. Often, native plants such as Virginia Creeper, Greenbriar (*Smilax* spp.), occasional tree seedlings, and Poison Ivy are intermixed with the invasive ivy growth. Also, as much as possible, leave rotting wood where it is and minimize disturbance to it except as necessary to remove ivy. The rotting wood is an important resource for native plants and animals.



Fig. 1. Extensive English Ivy infestation at Melvin Hazen Tributary of Rock Creek Park, Washington, D.C. Seedlings from this colony examined in March 2012 were identified as *Hedera hibernica*. Photo by R.H. Simmons.

Because soil disturbance damages a site and promotes the spread of invasive species, we don't allow digging in the soil when removing invasive exotic plants. Moreover, digging is not necessary in removing English Ivy as it is very effectively removed by hand-pulling. (A trowel, however, is a useful tool for prying or loosening large or stubborn sections of vines from the ground, without digging a hole.) Pulling ivy vines when the soil is moist (preferably not too wet as in just after a heavy rain) is ideal, because the roots will not adhere as much to the soil. When there have been freezing and thawing cycles, winter ivy pulling can be much easier, plus typically there are no active insects, and Poison Ivy is less of an issue. Do not try to pull ivy in the winter if the ground is actually frozen (which is fairly rare in our immediate area, however). Ivy will be hard to pull and vines will frequently break with roots remaining in the ground when the soil is dry and hard during drought periods, or frozen.

When pulling ivy runners that have spread out horizontally across the ground, pull one vine at a time, making sure that all major pieces of the vine are removed (particularly the small roots that have a tendency to break off from the runner). In most cases, the ivy will be shallowly-rooted towards the recent growth at the end of the runner and more deeply-rooted along the thicker, older growth of the vine. Sometimes the ivy is so dense that different vines almost seem knotted together and are very hard or even almost impossible to pull. In these cases, Landscape Architect Kathleen Kust recommends hedge shears or pruners for cutting and separating masses of knotted vines that are too tangled for easy pulling. Cutting can be very helpful; just be safe with sharp tools and wear protective clothing. If you see that a



small root still in the ground has pulled off even a tiny section of vine stem (which usually will be light-colored), that stem fragment can still resprout. Pull it up or use a tool to cut off the stem piece. Tiny rootlets with no stem attached will not resprout.

In cases where ivy has spread from the ground up to the base of a tree and is growing vertically up the tree trunk, it is especially important to make sure that all the ivy roots are removed so they can't resprout. Where it is attached to the trunk, ivy can be carefully pulled off lower areas as long it doesn't remove sections of bark or otherwise damage the tree. One doesn't have to try to pull all sections of vine off the tree, just removing a foot or so of ivy from around the base is all that is necessary to kill the vines up the trunk. A trowel or large screwdriver comes in handy for gently prying or loosening (not digging) the vines from the trunk.

Often, ivy growing up trees and getting more sunlight matures into the adult stage that flowers and sets fruit. Birds spread the seeds when they eat the toxic fruit, and new ivy seedlings spread. So ivy that shows signs of flowering and fruiting is an especially high-priority target.



Fig. 2. Fruiting branches of English Ivy at Alexandria National Cemetery. Photo by R.H. Simmons.

Try to clear ivy at least a foot away from the tree trunk and any exposed roots or buttresses. Dense ivy creates a moist, shady microclimate that promotes infection of the tree by pathogenic bacteria and fungi. The tree needs air, especially at its base. In cases where ivy vines are very old and thick and have rooted into the tree bark, hand-pulling is not recommended. Instead, the treatment would be to carefully (without cutting into the bark) sever the vines with a pruner or small saw by removing an at-least several-inch segment of the vine. This will kill the vine from the point of cut up the tree. Later, professional staff can treat these vines with herbicide.

Ivy vines can be piled in areas where they won't smother native vegetation or bagged. They usually will not resprout so long as they are not mixed with soil. UPDATE: When the season has been extremely

wet, some resprouting may be observed. If so, monitor the piles and pull up the resprouting foliage and pile it higher in the pile. Avoid mixing any dirt in the piles. Try to go up vertically with piles to minimize surface area in contact with the ground and promote drying air flow.

Be careful not to come in contact with Poison Ivy (*Toxicodendron radicans*) vines or vertical shoots that often grow amidst the English Ivy patches. Poison Ivy is often a nuisance to humans but is extremely valuable for wildlife and therefore is not targeted for removal. It is not uncommon to find Poison Ivy and English Ivy vines growing up the same tree. Typically, the Poison Ivy vines are covered with fine, reddish clinging roots. Avoid them; do not cut them. Poison Ivy sap is very toxic.



Fig. 3. Marty Nielson and ancient Winter Grape (*Vitis vulpina*) vine in old-growth section of Chapman Forest, Charles County, Maryland. Native grapes (*Vitis* spp.) are common and important components of many natural communities throughout our region. All too often, however, they are mistakenly confused with invasive exotic vines and unnecessarily cut. Photo by R.H. Simmons.

You will sometimes find other vines mixed in with English Ivy. If you notice a vine that seems different, examine whether it has the English Ivy leaves. If it doesn't, it may be a native Poison Ivy or Virginia Creeper vine, or if it has spines, a *Smilax* (Greenbriar) vine – all valuable native plants! Try not to harm these and other important native vines, like Wild Grape species. Remember that not every vine is bad. Some other vines may be non-native, invasive Wisteria, Asian Bittersweet, or Porcelainberry. When you have learned to identify these, they can be pulled if possible, or cut.

No matter how thorough you are, inevitably some English Ivy will be missed. Plan to come back a few times over the next 1-2 years to catch what was missed before. It is best to come back every 2-3 months if possible. Each time, there will be less ivy to address, and soon it will all be gone in your target patch.



That is, so long as you are diligent. You can do it!

## SAFETY

Volunteer safety is important. We want people to have fun and feel a sense of accomplishment. We don't want anyone to get hurt. Working outside on invasive plants does pose some risks. You can do things to minimize those risks. (Please note these comments are tailored for the eastern U.S., mid-Atlantic region.)

### Clothing

It is best to wear long pants and long-sleeved shirts or jackets, even when the weather is warm or hot. We recommend wearing old clothes that can take abuse. Wear work gloves; rugged leather work gloves are better than thin cotton ones. Rugged footwear like hiking or work boots is recommended. Avoid sandals, flip flops, or anything else that exposes your feet to thorns and other hazards. A hat, especially a broad-brimmed hat, is a good idea. Eye protection is recommended. Avoid shorts, tee shirts, and sandals.

### Water and Food

Stay hydrated and alert. Bring some water, preferably in a reusable container, and snacks are a good idea.

### Sun protection

A long time in the sun can result in dehydration and sunburn, and possible increase in skin cancer risk. Cover yourself and use sun screen on exposed areas.

### Music

Listening to music while working is not recommended. You may miss warning sounds you can hear when your ears are wide open, like the buzz of angry insects or the crack of a tree branch about to fall. It is better and safer to listen to the sounds of nature around you that otherwise you may rarely hear.

### Insects

In warmer weather, we may encounter mosquitoes and stinging insects like Yellow-jackets. Protective clothing helps. Insect repellent can help keep mosquitoes away. If we encounter Yellow-jackets, we need to leave the area. If they begin to sting, they release a chemical compound that is an attack signal, and we will need to totally vacate that area immediately.

### Potential hazards

The following is an incomplete list of hazards you may encounter. This is not intended to scare you, but rather to help you be prepared for what you may encounter.

### Toxic plants

Assume you may encounter Poison Ivy and learn to recognize it and avoid it.

### Stinging and biting insects

Be prepared for possible encounters with stinging insects like Yellow-jackets, and biting insects like

mosquitoes, ticks, and chiggers, in warmer weather.

#### Dangerous animals

It is highly unlikely, but it is possible to encounter a poisonous snake like a Copperhead or a rabid animal like a Raccoon while out in the field.



Fig. 4. Volunteers hoist heavy pile of hand-pulled English Ivy from edge of trail. This project is one of many ongoing invasive exotic plant removal efforts in the City of Alexandria sponsored by the City and its partners, including the Northern Virginia Conservation Trust; Arlington Regional Master Naturalists; National Park Service; T.C. Williams High School; Episcopal High School; various civic groups, neighborhood associations, and residents; and others. Photo by R.H. Simmons.

#### Slopes

When working on slopes, especially steeper ones, remember gravity can be your enemy. Be careful not to fall. Watch for others below you. Also remember gravity can be your friend. When pulling vines, be conscious of trying to let gravity work for you instead of against you. It is easier to pull downhill, with gravity, than pull uphill, against gravity.

#### Tripping, Poking Sticks, and other dangers



A reason to wear rugged boots with ankle support is the potential to trip on hidden obstacles like rocks or logs, or on vines in the path. Also, it is possible to get poked in the eye by branches and other objects. Dead branches or trees may fall down from above. Some vegetation is thorny and can cause injuries; for example, non-native Multiflora Rose and native Greenbriar species. Some work areas may involve steep slopes, rocky stream crossings, fallen trees, and other obstacles and challenges.

### Falling Tree Branches

There is a slight risk of trees or branches falling on you from above. Listen for the crack of a breaking tree or branch, look, and duck and cover if you can't get away.

### Weather

Don't be out in high winds or lightning! It can be fun working in light rain or even snow, but it's your call. Remember that wet or icy slopes, vegetation whether alive or dead, leaves, and rocks can be very slippery.

### Tools and Other volunteers

If you are using any tools, be careful! With sharp objects like saws, make sure to stay clear of other volunteers. And if other volunteers are using tools, keep clear of them. Keep sharp surfaces pointed away from you and never cut toward your body. Maintain situational awareness and protect yourself and warn others around you if you notice a possible hazard. The "buddy system" is ALWAYS recommended -- have someone who is keeping an eye on you and can get help if something happens.



Fig. 5. Undisturbed, healthy forest floor carpeted with Mayapples and other spring-blooming native plants at Fort Stanton Park, Washington, D.C. Photo by R.H. Simmons.

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