

Project Management - Hemlock Sapling Digging

This document is for the leader of a charitable project approved by the SGH Board to dig saplings for future planting, donation to schools or other nonprofits, or adoption.

Project planning

1. Secure property owner's or land manager's permission to dig and understand any requirements about digging site(s) and number of saplings to be taken.
2. Engage an adequate number of volunteers from SGH membership, Master Gardeners, students seeking service credit hours, and other organizations. Typically a group of 3 volunteers can dig 15 saplings or 30 seedlings in an hour.

When volunteers sign up, SGH will confirm their participation by email and send a copy of the *Project Details*. In addition, for any volunteers who are minors, SGH will send a permission form that must be signed by a parent or guardian and brought to the project.

3. Based on the number of volunteers signed up and saplings to be dug, SGH will ensure an adequate supply of appropriate tools. See *Checklist*.
4. Except for items volunteers will bring, have all project materials, tools, and supplies on site prior to digging project. Be sure tools are clean, in good working condition, and marked with owner's name.
5. Arrange to get fresh water from a hose or faucet if possible or plan to bring gallons of water. If water will be taken from a stream, bring one or more clean containers to use for dipping. Chemical mixing jugs must never be dipped into a waterway.
6. Make copies of the *Release / Waiver of Liability* on which volunteers will sign in as they arrive at the project and *Volunteer Instructions* to use during the digging.

Orientation for volunteers

1. **Welcome volunteers** as they arrive. Ask each participant to sign the *Release / Waiver of Liability* form and fill out and wear a name tag.
2. **Make sure each participant is properly attired** -- Dressed for the weather and terrain with long pants and long sleeved shirt, sturdy shoes/boots with socks, work gloves. Provide work gloves for anyone who doesn't have them.
3. **Explain project significance** to natural and human communities (*adjust depending on audience*):
 - **Aesthetically**, hemlocks contribute greatly to the enjoyment of those who live, work, and play among them, as well as the many people who come to north Georgia for tourism and recreation.
 - **Ecologically**, hemlocks help maintain the health and biodiversity of our forests and provide food and habitat for a diverse population of birds and other animals, shade for native plants, and cool temperatures for trout streams.
 - **Environmentally**, hemlocks are vital for protecting the quality of our waterways and watersheds, preventing soil erosion on mountain slopes and around waterways, and maintaining our air quality.
 - **Economically**, healthy mature trees such as hemlocks support jobs and local tax revenues associated with tourism and recreation and supporting the value of private properties and the community as a whole.
 - **And on a personal note**, hemlocks are the favorite tree of so many people who grew up visiting the woods, taking their children and grandchildren to the woods for memorable family outings, and teaching lessons of respect and personal responsibility, wise use of resources, and environmental stewardship.
 - **But they are under attack** by an invasive insect, Hemlock Woolly Adelgid (HWA), and most will die unless action is taken to prevent it. Even with our efforts to chemically treat as many trees as possible and to support the establishment of biological controls, the overall number of hemlocks in the landscape will be greatly reduced over time.
 - **And that's where we come in**. By digging these saplings that are not designated for treatment by their owner or public land manager, we're rescuing them from almost certain death. And once they're potted and treated for adelgids, they can be used for future replanting, donation to schools and other nonprofits, or offered for adoption. In this way we are helping to ensure there will be a population of healthy hemlocks for future generations.



Project preparation

1. Explain that volunteers will be working in teams of three to locate, dig, and bag a total of ____ saplings. Make team assignments.
2. Ensure that each team has one or two shovels and an adequate number of plastic grocery bags and / or trash bags.
3. Point out the area in which each team will be working and explain the parameters about the number of saplings that can be dug.
4. Explain the digging tasks: choosing the trees, digging and bagging them, bringing bagged trees to the collection or potting station, and repairing the digging site. Demonstrate with one sapling. Then ask if there are any questions, and get started.

Sapling Digging Tasks

Choosing the trees

- Sapling Size: 12 to 36 inches tall is preferable, but 4 to 5 feet is the maximum size that should be dug.
- Condition: healthy, no (or very few) adelgids visible, free of *Rosellinia* needle blight and tip blight
- Shape: straight and well branched, preferably single stems rather than clusters

Digging and bagging trees

1. To cut the lateral anchor roots cleanly, drive the shovel into the soil at a 45° angle to dig a circle around the tree that is as wide as the drip line. The depth of the root ball is based on the height of the tree.
If tree is 1-2' tall, dig 6" deep. If tree is 3-4' tall, dig 8" deep. If tree is 4-5' tall, dig 12" deep.
If the tree is growing on a hill, there are usually more or longer roots on the upside, so try to get as much of them as possible.
2. After making the initial circle around the tree, continue digging around the edges of the circle, pushing the shovel at a shallow angle to get underneath the feeder roots and free them and the rest of the root system from the soil beneath.

With each thrust of the shovel, it's helpful to rock the shovel back and forth to help separate the root ball from the surrounding soil.
3. Once you can feel that the root ball is free, open a bag on the ground next to the tree, ready to receive the root ball.
4. Use both your hands to reach under it and lift it out of the hole, being careful to keep the root ball intact as much as possible. Never pull it by the trunk to prevent tearing the root system.
5. Immediately place the little tree in the bag. You can put as many in a bag as will fit since they should be there only a short time. Tie the handles of the bag around the bottom of the trunk, looping them just one time, to retain moisture. Don't make a square knot that will be difficult to untie later.
6. While you're working, keep the bagged trees in the shade. And if it will be more than an hour before you get them to the potting, replanting, or temporary storage site, add enough water to the bags to keep the roots moist but not soggy. Newly dug saplings should not be kept in the bags more than one day before they're potted or replanted.
7. Also dig some extra native soil from the original site to use in making the soil amendments mix for potting or replanting.
8. The last step is to re-contour the area where the sapling was removed so as not to leave an unsightly or hazardous hole. Replace the needle duff and leaf debris and press it down to restore site to its original appearance

Repairing digging site

1. Leave No Trace: Re-contour and press down the dirt where the native soil and little trees are removed so as not to leave unsightly or hazardous holes.
2. Replace needle duff and leaf debris to restore site to its original appearance.

Bringing bagged trees and native soil to collection / potting station

1. It is best to minimize the time between removing the tree from its original growing site and potting or replanting so as to prevent the roots from drying out.
2. Bring bagged trees and native soil to the collection / potting station once an hour and place them in the shade.
3. If the little trees will not be potted or replanted immediately, moisten the root balls and re-tie the bag.
4. If they are being taken to another site for potting or replanting, it is best to transport them in the cargo area inside vehicle. If transporting them in the open bed of a pickup truck, place them in the truck bed lying down and cover them with a tied-down tarp or landscape cloth to prevent wind burn.
5. At their destination, place them in a shady location to await potting.

At end of sapling rescue project

1. **Collect SGH tools** and other supplies from volunteers and make sure all are accounted for. Tools/equipment should be cleaned on site or bagged and taken home for cleaning. Make note of anything that needs repair or replacement.
2. **Forward original** signed *Release / Waiver of Liability* forms to Donna. Project leader may retain a copy.
3. **Thank volunteers for their good work** and wish them safe travel home.