United States Department of Agriculture

666 – Forest Stand Improvement (Girdling) Implementation Requirements

Producer:		**Project or Contract:**	
Location:		**County:**	
Farm Name:		**Tract Number:**	

Practice Lifespan – 10 years



Practice Purpose(s):

This practice is used to accomplish one or more of the following purposes (check all that apply):

- ☐ Improve and sustain forest health and productivity
- ☐ Improve wildlife and pollinator habitat
- ☐ Restore or maintain natural plant communities
- ☐ Other (specify):

Description of work:

NRCS Review Only

Designed By:		**Date**	
Checked By:		**Date**	
Approved By:		**Date**	

666 – Forest Stand Improvement (Girdling)
Implementation Requirements

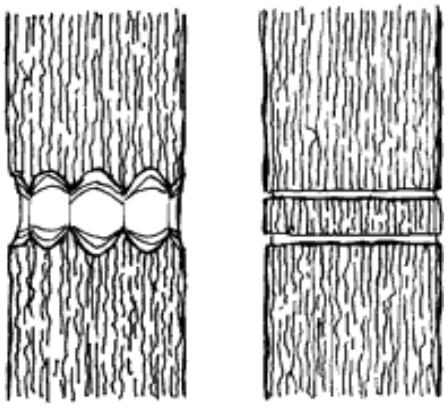
Background Information - Girdling:
Girdling is a commonly used habitat and forest management technique that deadens a tree, without felling it, for a specific purpose. Girdling involves the removal of bark and cambium from the target tree using continuous and connected cuts that completely encircle the entire tree. Girdling destroys the cambium so no growth can occur and disrupts the flow of water and nutrients in the tree. Girdling is a good alternative when a tree cannot be safely felled or where felling a large tree will cause substantial damage to nearby trees or important regeneration.

This technique can be used to provide additional snags for habitat in a forest stand or to release a more desirable tree or trees. The typical situation where girdling is particularly well suited is on old pasture/agricultural land that has reverted to forest. Large branchy trees that had grown in open field conditions may have a thicket of valuable saplings/poles growing beneath them. These scattered old trees, that may be hundreds of years old in the case of sugar maples, are often called “wolf” or “legacy” trees. White pine is another typical old field tree species that can come to dominate a site. When white pine grows with little competition in the open they often have multiple tops (from white pine weevil) and large branches down the bole. These trees are often called “cabbage pine” and have little if any economic value. Felling these large old trees would cause substantial damage to regeneration so girdling is a good alternative. Note that legacy trees such as old maples, often with large cavities, are excellent wildlife habitat. Any planned girdling should weigh the cost and benefits to unique habitats.

Considerations:
Using girdling through 666 Forest Stand Improvement can help to select against defective, diseased or undesirable trees but has a multitude of other benefits as well. Girdling provides a supply of dead and dying trees that provide loose bark for roosting bats, cavities for birds and mammals and feeding sites for a variety of species. When girdled snags fall to the ground, they provide important large woody material that provides cover for salamanders, travel ways for mammals, drumming sites for grouse, feeding sites for black bear (carpenter ants) and builds forest soils and retain moisture.

While girdling has a lot of benefits there are a number of things to keep in mind. The trees will generally die slowly so if the goal is to have an immediate effect then felling may be the way to go. While in many cases the trees die and fall apart slowly, that is not always the case. Girdled trees are considered a hazard and may snap at the girdle, particularly in cases with a very deep girdle cut. Therefore, avoiding trails, roads and other areas frequented by landowners may be wise. In addition, these “snaps” or unplanned tree falls could damage crop trees or desirable regeneration.

How to Girdle Trees:
Clear a safe work space around the tree and cut any low branches that may be a hazard. Most girdling is completed with a chainsaw although an ax may also be used. Girdling cuts are typically done within two to four feet of the ground and involve removing a band of wood and bark all the way around the trunk. Using a chainsaw, make two separate, encircling and connecting cuts to a depth of one to two inches depending upon size of the tree and thickness of the bark. Be sure each individual girdling cut connects and is deep enough to cut about a half to one inch of wood. The two girdling cuts should be about six inches apart. While some trees will be killed by a single girdle with a chainsaw, two girdling cuts will kill nearly all. While ax girdling is uncommon, it can be accomplished by removing about a half to one inch of wood and be about two



Ax/Shave Girdle **Chainsaw Girdle**

inches wide. These criteria would also apply to “shave” girdling with a chainsaw.

It is usually the best practice to girdle large trees 10” DBH and larger and directional fell smaller trees. Smaller trees are more apt to snap during weather events.

Information and Requirements for NRCS EQIP:

- This scenario covers girdling of overstory trees to release more valuable regeneration.
- Girdling or similar treatment should be prescribed by the consulting forester in the forest plan.
- 3 acre+ typical size – 20 or more trees per acre are girdled.
- Double girdling – 2 encircling and continuous cuts to 1-2 inch depth • Caution: deeper cuts may lead to breaking off at girdle.
- Shave girdling is acceptable – at least ½” depth of wood and 2 inches wide • This option may limit breakage at girdle.
- If smaller trees (<10” dbh) are to be culled, consider directional felling as they tend to break later and may damage residual stems.

Operation and Maintenance:

A post-establishment assessment shall be conducted to determine if objectives have been met. Return to the site after two years and do a follow-up treatment. Re-girdle those few trees that were able to overgrow the original girdling cuts.

☐ A map(s) showing all locations planned for Forest Stand Improvement (Girdling) is attached.

If you have questions about this planned **Forest Stand Improvement (Girdling)** practice contact:

Name:		Tel:		Email:	