

## Appendix E- Project Description

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**Regeneration Harvest/Clearcutting with reserve trees** – Clearcutting with reserve trees is a regeneration harvest method in which almost all trees are harvested to regenerate shade-intolerant tree species. Trees of commercial size, other than a few wildlife reserve trees (3-5 per acre), are harvested and removed. In general, sawtimber trees have diameters greater than 11 inches, and pulpwood trees have diameters greater than 4 inches. In a separate but associated treatment, called manual site preparation, smaller sized and unmerchantable trees not reserved for wildlife would be felled. Snags, or standing dead trees, are cut if they pose a danger to the operator during harvest.

Manual vine treatments would involve cutting all grape and camphor vine stems in the regeneration harvest unit three growing seasons before the timber harvest begins so that shading will keep the stump from sprouting and growing. Normally, this is sufficient to keep large vines from breaking down many new trees after harvest. Grapevines that grow from seeds when the area is regenerated would generally not break down large areas of new trees, but would develop with the trees to produce mast. Grapevine treatment in advance of harvest would be done in every regeneration unit, but in most units this would involve the severing of very few vines.

**Shelterwood harvest** – Shelterwood Shelterwood harvest is a regeneration harvest method that would involve two commercial harvests within a period of time, expected to be between 5 and 7 years. At the time of the first harvest, about one third of the stand density in mostly sawtimber trees would be harvested for timber products. Stocking surveys would be done in the years following harvest to assure that adequate seedlings are present in desirable and acceptable tree species. Then the rest of the stand density, other than a few trees retained for wildlife, would be harvested. Stems too small or unmerchantable would also be felled in the Site Preparation treatment, except for those retained for wildlife. The purpose of the treatment is to increase the regeneration of black cherry within the stand. Due to the presence of a moderate number of beech and striped maple trees, an additional treatment is scheduled for this stand, which would only be accomplished if stocking surveys show that beech and striped maple will dominate the new stand at the expense of acceptable species. This could happen if deer browsing increases in the stand. Acceptable species for this stand would include red and sugar maples and any other tree species. The treatment would be the application of herbicides to beech and striped maple by stem injection and basal spray.

**Thinning harvest** – Commercial thinning is a harvest method that would reduce stand density and increase mast production and tree species diversity by cutting about 1/3 of the stand density in mostly sawtimber trees. Trees to be harvested would be those growing close to better trees, and those with poor form, unhealthy crowns or less mast production potential. In stands thinned using helicopter, trees smaller than 11 inch diameter at breast height would not be cut or removed. Nor would other pulpwood provided by tree tops be removed in the helicopter logging areas. Pulpwood would be removed from conventionally logged areas.

For all harvest units, streamside areas near ephemeral, intermittent and perennial streams would remain uncut, according to Forest Plan standards and guidelines. The map does not display these buffers, but they would be expected to reduce the actual harvest area by 7-10%. In units logged using conventional skidding methods, landings and skid trails would be constructed, in some

cases outside the harvest unit. The Environmental Impact Statement will provide an analysis of these harvest methods. In Helicopter logging areas, landings will be required, but skid trails within and outside the units would not be needed.

### **Non-Native Invasive Plant Control**

Control of garlic mustard, Japanese stiltgrass, and Japanese knotweed will occur at least once prior to the beginning of road and harvest activities. Follow-up monitoring will occur annually during and after road and harvest activities, with follow-up control implemented as needed. Due to the seed-banking nature of garlic mustard and Japanese stiltgrass, it is likely that follow-up control that is similar in extent and intensity to the initial control will be needed for at least two years. Lower intensity follow-up control probably will be needed for at least two additional years. Thus control activities are expected to occur for at least five consecutive years, with the possibility of additional control if monitoring indicates that it is needed. Follow-up monitoring will occur until the treated sites have been free of the target species for three consecutive years, or until the Responsible Official determines that effective control cannot be achieved.

It is likely that most or all initial control activities will occur on or adjacent to disturbed sites such as roadsides, old skid trails, and landings. All currently known infestations occur on or immediately adjacent to such disturbances. New roads, skid trails, landings, harvest units, and other areas disturbed by project activities will be monitored annually by visual inspection to detect any new infestations of high priority invasive species. If any new infestations are detected, control and monitoring will be implemented as described above. While it is likely that most follow-up control efforts will be directed toward roadsides, skid trails and landings, any new infestations anywhere within the harvest units will be controlled also. Such new infestations are likely to be treated while they are still small, so widespread control efforts across the landscape are not anticipated.

### **Garlic Mustard Methods and Locations**

Garlic mustard will be controlled by foliar application of glyphosate (2-3%) at an application rate of up to 7 lbs a.e./ac. During each year that control efforts are conducted, application will occur once in early spring between mid-March and the end of April. Because garlic mustard is a biennial plant that stays green all year, application at this time of year will maximize control by killing second year plants, as well as many newly sprouted first year plants. Also, because glyphosate is non-selective and will harm any plant that is green at the time of application, this timing will minimize effects on many non-target plants that have not yet broken winter dormancy. An aquatic formulation of glyphosate will be used within 100 feet of intermittent and perennial streams. Applications to isolated spot infestations will be made using a backpack sprayer. Continuous infestations that cover roadsides, landings, and skid roads will be sprayed using a truck-mounted or ATV-mounted sprayer. All known infestations occur in these previously disturbed sites, so spraying in the general forest is not anticipated during the pre-harvest application.

At the discretion of the Responsible Official, hand-pulling could be substituted for herbicide to control very small spot infestations or infestations in sensitive locations. If hand-pulling is used, it would occur between mid-April and mid-June of each treatment year.

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<b>Location*</b>	<b>Likely Application Method</b>	<b>Linear Distance</b>	<b>Area</b>
FR 429, 734, and 929B	Backpack sprayer	Scattered spots along approximately 10.6 miles of roadside	Up to 5 acres
Old road adjacent to thinning unit 4	Backpack sprayer	Scattered spots along approximately 1,600 ft (0.3 mi) of old road	Approximately 0.1 acre
FR 101/82 between FR 733 and Red Oak Knob gate	Backpack sprayer	Scattered spots along approximately 4.9 miles of roadside	Approximately 1 acre
FR 82/272 between Red Oak Knob gate and CC unit 34; old landings and skid trails near the road	Vehicle mounted sprayer, possibly backpack sprayer for isolated spots	Nearly continuous along approximately 1.9 miles of roadside	Up to 10 acres
FR 82 between CC unit 34 and CC unit 37	Backpack sprayer	Widely scattered spots along approximately 1.0 mile of roadside	Approximately 0.1 acre
FR 82A and 82B	Backpack sprayer	Scattered spots along approximately 1.0 mile of roadside	Approximately 0.5 acre
FR 735 between FR 236 and end of road near CC unit 8	Backpack sprayer	Scattered spots along approximately 3.8 miles of roadside	Up to 1 acre

\*Additional locations may be subject to follow-up control if new infestations occur due to project activities.

**Japanese Stiltgrass Methods and Locations**

Japanese stiltgrass will be controlled by post-emergence foliar application of imazapic. Imazapic is a semi-selective herbicide that controls certain grasses, including Japanese stiltgrass, but also affects certain broadleaved plants. Some desirable species of sedges and legumes are reported to be unaffected by imazapic. During each year that control efforts occur, herbicide application will occur twice between mid-May and the end of August, with the two applications occurring approximately four weeks apart. Research has suggested that one application may not provide adequate control. Imazapic is relatively non-toxic to terrestrial and aquatic life; therefore, buffering around riparian areas is not necessary. Application directly to aquatic habitats will be avoided. Because known stiltgrass infestations are small, it is anticipated that all application will be performed with a backpack sprayer. All known infestations occur on or near previously disturbed sites such as roadsides, skid trails, and landings, so spraying in the general forest is not anticipated during the pre-harvest application.

At the discretion of the Responsible Official, hand-pulling or mowing using a gas-powered string trimmer could be substituted for herbicide to control very small spot infestations or infestations in sensitive locations. If hand pulling is used, it would occur between mid-May and late August of each treatment year. If mowing is used, it would take place once in August of each treatment year.

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<b>Location*</b>	<b>Linear Distance</b>	<b>Area</b>
FR 429 and 734	Widely scattered spots along approximately 10.6 miles of roadside	Approximately 0.5 acre
Old road adjacent to thinning unit 4	Scattered spots along approximately 1,600 ft (0.3 mi) of old road	Approximately 0.1 acre
FR 101/82/272 between FR 733 and CC unit 34	Scattered spots along approximately 7.75 miles of roadside	Approximately 1 acre
FR 82A and 82B	Scattered spots along approximately 1 mile of roadside	Approximately 0.2 acre
CC unit 32		<0.1 acre on an old skid trail
CC unit 36		<0.1 acre on an old skid trail
FR 239	Scattered spots along approximately 2.7 miles of road	Up to 1 acre

\*Additional locations may be subject to follow-up control if new infestations occur due to project activities.

**Japanese Knotweed Methods and Locations**

Japanese knotweed will be controlled using foliar application of 5 percent triclopyr (up to 1 lb a.e. per acre). At typical application rates, triclopyr kills most broadleaf plants, but generally does not harm grasses. If any control needs to occur within 100 feet of a perennial or intermittent stream, 7 percent glyphosate (up to 2 lbs/acre, aquatic formulation only) will be used instead. During each year that control efforts occur, an initial herbicide application will occur when knotweed plants are approximately 3 feet tall. It is anticipated that this application will occur during June. A second application will occur approximately two months later to kill resprouted stems. Additional treatments will occur as needed in subsequent years. Because the one known knotweed infestation that could be affected by project activities is small (estimated at 0.1 acre), it is anticipated that all application will be performed with a backpack sprayer. The known infestation occurs in one spot along FR 787, so spraying in the general forest is not anticipated during the pre-harvest application.