



Plant Development Based Manual Control Methods for Natural Areas

Note: Not all species are successfully controlled with manual methods, but keeping vines out of the tree canopy has been proven to be the most efficient use of manual control efforts. A secondary focus should be shallow-rooted annuals. Shrubs and trees may contain bird nests, so use caution during Spring.

NNI Species	Preferred Method	Acceptable Method	Allowable Method	Caution
Bush Honeysuckles	Spring-Summer. Do not leave a trip hazard. Cut the stem off at ground level. Remove flowering branches & root shrub by roots.	Summer-Fall. Do not leave a trip hazard. Cut the stem off at ground level/waist level. Remove fruiting branches.	Cut shrub at waist level. Repeated visits will be required to control re-sprouts.	Do not leave a trip hazard, cut stems flush with the ground/at waist level. Do not remove 100% of understory-if no other shrubs/saplings contact AAWR.
English Ivy	Year around. Cut vines from trees. Do not pull vines off trees-could create dust/may damage tree bark.	Summer-Winter. Remove the ground cover by rolling up the "log" of tangled vines.	Summer-Winter. Set background cover by mowing or removing green leafy material.	Do not tug on overhead vines-could cause tree limbs to snap & fall. Some people are allergic to EI. Avoid removing the ground layer if frozen-stems will break.
Garlic Mustard	Mid-March-late April. Hand-pull & bag flowering plants - important to get every plant in an area.	May-June. Hand-pull & bag seeding & late flowering plants.	Remove first-year rosettes anytime - no need to bag. GM is harder to identify with no flowers. Experimental technique: break the flowering stem of the GM & leave the whole plant in place, but needs more research.	When plants are in "shatter" mode, the disturbance will spread seed; do not leave pulled flowering/fruiting GM on site.
Japanese Barberry	October-March. Hand-pull with a weed wrench/fork tool. Drop-in place/make a brush pile.	April-September. Hand-pull with a weed wrench/fork tool. Drop in place.	Remove berries any time of year.	Avoid working during drought period, stems may break easily.
Japanese Honeysuckle	Year around. Hand pull by roots with/without tools.	Year around. Cut windows in vines on trees.		Do not tug on overhead vines.
Japanese Hops	May-June. Hand pull seedling vines out by roots.	June-early October. Cut vines as close to the root crown as possible.		
Japanese Stilt-grass	June-August. Hand pull/mow to prevent seed development. Leave in place. Work from the edge of the population in.	August-early October. Cut vines as close to the root crown as possible.	August-October. Hand-pull & drop on-site. Drop seeding stilt grass in the existing infestation - do not move material with seed to an un-infested area.	Fall-Spring. After hard frost seeds, drop, but after annual grass dies back - there is no benefit to removal.

Multiflora Rose	March-November. Cut at base 3 times in a growing season.	Year-round, but when soil is damp. Remove by roots with a fork tool (pitch, digging, etc)/weed wrench. Drop in place.	March. Cut stems at ground level. Drop in place.	Do not remove if there is a seedling tree in the middle of the MR. (the MR may be protecting the seedling from deer browse).
Mile-a-minute	June-August (until berries are blue). Hand-pull/mow to prevent seed development. May rake up vines into a ball. Leave in place.	August-October. Hand pull & bag to remove seeds from the site.	August-October. Hand-pull & drop on-site around the existing infestation - do not move material with seeds to an un-infested area.	Fall-Spring. After hard frost seeds drop & annual dies back, there is no benefit to removal. Do not remove areas of weevil release.
Oriental Bittersweet	May-September. Create a "window" in vines crawling up trees. Drop-in place.	Fall-Spring. Create a "window" in vines on trees. Bag & remove.	Hand-pull ground re-sprouts of vines. Only pull the ground layer after OB is controlled in trees; limit soil disturbance.	Avoid hand pulling roots on steep slopes/over great distances - long roots can "unzip" the ground creating an entrance for other NNI.
Periwinkle	Year around. Hand-pull. Remove roots with hand tools. Roots are several feet in the ground.			
Porcelain Berry	May-September. Create a "window" in vines crawling up trees. Drop-in place.	Fall-Spring. Create a "window" in vines on trees. Bag & remove.	Hand-pull ground re-sprouts of vines. Only pull the ground layer after PB is controlled in trees; limit soil disturbance.	Avoid hand pulling roots on steep slopes/over great distance - long roots can "unzip" the ground creating an entrance for other NNI.
Wavyleaf Basket grass	Contact AAWR first.	May-July. Hand-pull & bag plants (they make rhizomes: underground stems); remove the whole plant.	February-May. Monitor site for first sprouts.	August-October. Do not enter the WLB infested area; seeds are sticky & spread easily.
Wineberry	Year around. Hand-pull with/without tools.		July. Remove berries.	Avoid working during a drought period - stems may break
Winged Burning Bush	October-March. Hand-pull with a weed wrench/fork tool. Drop-in place.	April-September. Hand-pull with a weed wrench/fork tool. Drop-in place.	Cut shrub at waist level. Repeated visits are required to control re-sprouts.	Do not leave a trip hazard. Cut stems off with the ground/waist level.
Wintercreeper	Year-round. Hand-pull with/without tools.			