Garlic mustard, *Alliaria petiolata*

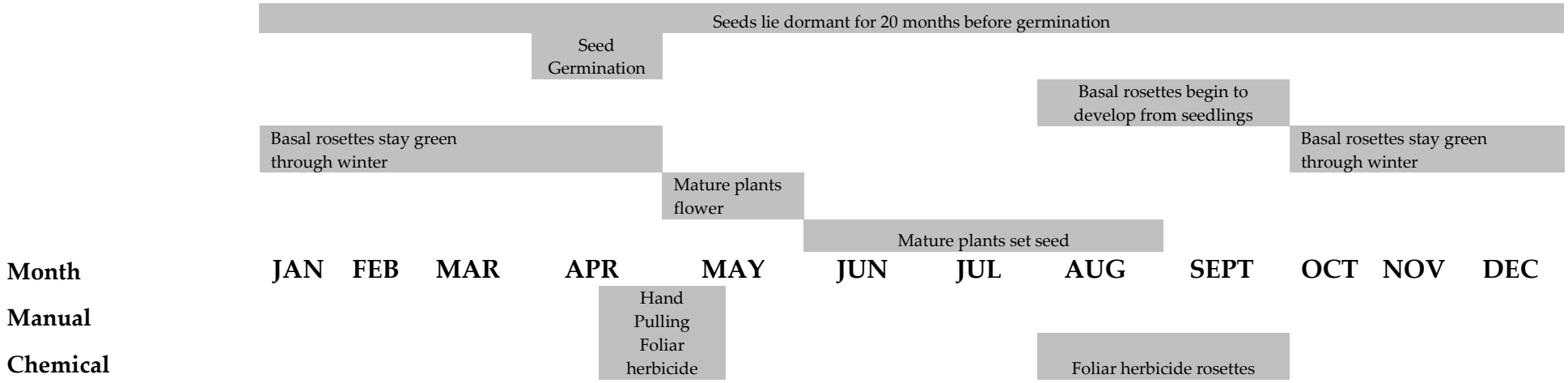
Species Biology and Phenology:

Habitat: Garlic mustard can grow in forests, field edges, roadsides, along trials and very commonly in disturbed areas. It is highly shade tolerant which makes is very competitive against native vegetation. It prefers moist northern climates and does not thrive well in acidic soils.

Reproductive Strategy: Garlic mustard reproduces exclusively by seed, and it is a prolific seeder. Each mature plant can produce hundreds of seeds (average is between 130-300 seeds per plant, although plants have been found to produce as high as 7900 seeds per plant). Seeds are viable for 4 to 7 years. Although the majority of the seeds that are produced are viable, relatively few actually germinate (this is dependant by site conditions). About 40% of seedlings reach adult stage (a mature, flowering plant). Seeds are cast by mature plants in late June, July and August and lie dormant for 18-20 months. Seedlings emerge in the spring and become basal rosettes by the fall. Rosettes stay green through the winter and as a second year plant produce a flower stalk the following spring. Mature plants flower in May and set seed in late June, July or August.

Dispersal: Garlic mustard seeds are dispersed along trails and waterways by human activities (walking through patches, moving infested materials such as gravel or soil) and in the fur of animals such as horses, mice and deer.

Species Phenology and Treatment Options:



Summary of Treatment Methods:

Category	Method	Method Description	Considerations
MANUAL	Manual treatment can be moderately effective for garlic mustard Garlic mustard is a prolific seeder, thus treatment should happen before plants flower (typically in mid May-early June) to avoid the mature plants setting seed		
	Hand Pulling	• Pull entire plant by the base of the stem • Be sure to remove entire root system including the "s" shaped tap root. • Put all pulled vegetation in plastic garbage bags and let plants fully decompose and dispose in a landfill	• Effective on medium-large sized plants and small infestations • A good method for infestations where native vegetation is heavily intermixed • Most effective if done when soil is wet • Remaining portions of roots system not removed can re-sprout • Seeds can stay viable even after plant has been pulled and fragments of the plant can re-sprout. It is essential to dispose of garlic mustard appropriately. Do not compost this plant!
	Flame Weeding	• Use a flame weeder to singe the leaves and the cells of the stem of the plant • Hold the flame about 1 foot away from the stem of the plant • Apply the flame for 3-6 seconds or until the plant material has wilted	• Effective for patches of seedlings or rosettes of garlic mustard • Only use this application method during the spring months when the soil and surrounding vegetation is moist
	Mowing/cutting	• Not recommended as a treatment option for this plant	
	Grazing	• Not recommended as a treatment option for this plant	

CHEMICAL	Common Active Ingredient Herbicides: glyphosate or triclopyr		
	Foliar Application	• Foliar spray when plant when plant first fully leafs out until seeding (M id April-Mid May) or when basal rosettes appear in the fall (August-September) • Spray leaf surfaces with low volume backpack sprayer, or low volume mist blower	*Low Volume Backpack Sprayer* • Herbicides (active ingredient): glyphosate or triclopyr with surfactant • Used to target plants and minimize drift to desirable species • Can be difficult to target garlic mustard interspersed with native vegetation *Low Volume Mist blower* • Herbicides (active ingredient): glyphosate or triclopyr with surfactant • Can be difficult to target garlic mustard interspersed with native vegetation