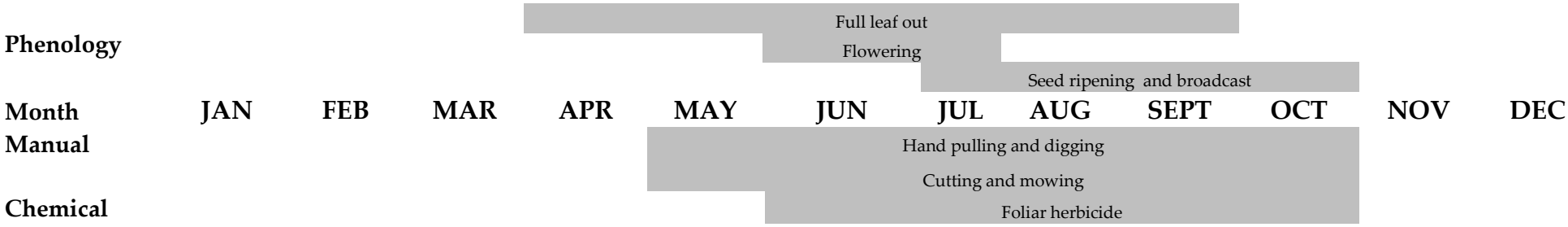
Black swallow-wort, *Cynanchum louiseae*

Species Biology and Phenology:

Habitat: Black swallow-wort is a vine which can grow in fields, woodlands, and in rocky areas such as shores and quarries. It is often associated with heavily disturbed landscapes, particularly landscapes disturbed anthropogenically, but it does not require disturbance to grow. It can tolerate full to partial shade, as well as full sunlight and prefers sunlight for growth and reproduction. Plants growing in shaded area tend to have thinner stems and tendrils, and weaker root systems, and produce fewer flowers. It can grow in a wide array or soil conditions, including shallow and deep soils, and fertile soils. Salt and pH levels do not seem to affect its survival significantly.
Reproductive Strategy: Shoots of black swallow-wort emerge in spring and the plant flowers in June and July. Flowers remain open for 6 to 8 days and smell similar to rotting fruit. The plant forms seed pods in July and early August, sometimes continuing through October. Although the shoots die to the ground each winter, the plant has a very strong, fiberous central rhizome which helps the plant survive the winter. The life span of individual plants is somewhat unknown, but some plants have been reported to live more than 70 years. Seeds also remain viable through the winter. A healthy stand of black swallow-wort can produce between 1000-2000 seeds per square meter per year. Abundance of sunlight promotes earlier and more prolific seed production. Black swallow-work primarily reproduces by seed however cut plants can quickly replace the cut shoot from buds on the rhizome.
Dispersal: Dispersal of black swallow-wort is primarily by wind, which carries and disperses the parachute-shaped seeds.

Species Phenology and Treatment Options:



Treatment Methods:

Category	Method	Method Description	Considerations
MANUAL	• Manual treatment is not typically recommended for treatment of black swallow-wort		
	Hand Pulling	• Pull entire plant by the base of the stem • Be sure to remove entire root system • If feasible and fruit is present, bag and dispose of fruits to prevent seed dispersal • Put all pulled vegetation in plastic garbage bags and let plants fully decompose and dispose of in a landfill	• Effective on small sized plants and small infestations • Most effective if done when soil is wet • Remaining portions of roots system not removed can re-sprout
	Mowing/ Cutting	• Use weed whacker/brush saw or mower to cut the stem as close to the ground as possible • Cut at least 1 times during growing season (mid April-mid October) • Repeat for 3-5 years	• Cutting/mowing can help slow the spread of black swallow-wort but will not eradicate it • Most effective if followed up with foliar herbicide application
CHEMICAL	• Active ingredients commonly used in herbicides: glyphosate or triclopyr		
	Foliar Application	• Foliar spray when plant is fully leafed out but preferably before the plants develop seeds • Spray leaf surfaces with low volume backpack sprayer, or high volume mist blower *If foliar wiping:* • Foliar wipe when plant is fully leafed out • Wear a heavy, chemical resistant rubber glove with a cloth glove over the rubber glove • Apply the herbicide to coat the surface of the leaves	*Low Volume Backpack Sprayer* • Herbicides (active ingredient): glyphosate or triclopyr with surfactant • Used to target plants and minimize drift to desirable species *Foliar Wipe* • Herbicides (active ingredient): tricolpyr or glyphosate with surfactant • Used for infestations that have desirable, native vegetation that will be damaged by drift of a foliar spray or for small infestations