

# Invasive Species Phenology<sup>1</sup> and Treatment Recommendations<sup>2</sup>

Prepared by Michael Van Clef, Ph.D., Stewardship Director, Friends of Hopewell Valley Open Space

flowering period
period of flowering and fruiting
fruiting period

		See "Species Selection Report" for codes																	
Scientific Name	Common Name	Current Distribution Code	Threat Code	ED/RR Action Code	ED/RR Search Group	January	February	March	April	May	June	July	August	September	October	November	December	Treatment Recommendation Notes <sup>3,4,5</sup>	
<i>Akebia quinata</i>	fiveleaf akebia	Emerging - Stage 1	1	1	C													Options: BB,FS,CS; Species has an extensive root system and pulling is ineffective; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications	
<i>Alnus glutinosa</i>	European alder	Emerging - Stage 1	1	1	E													Options: BB,FS,HS,CS,PU; GI is not recommended due to the potential of re-sprouting; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications	
<i>Ampelopsis brevipedunculata</i>	porcelainberry	Emerging - Stage 2	1	1	C													Options: BB,FS,CS; Species has an extensive root system and pulling is ineffective; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications	
<i>Aralia elata</i>	Japanese angelica tree	Emerging - Stage 3	1	1	D													Options: BB,FS,HS; Species has great potential to re-sprout; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications	
<i>Buddleja davidii</i>	butterfly bush	Emerging - Stage 1	1	1	D													Options: BB, FS,CS,MO,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended	
<i>Cardamine impatiens</i>	narrowleaf bittercress	Emerging - Stage 3	1		B													Options: FS,MU,PU; Glyphosate Recommended	
<i>Clematis terniflora</i>	Japanese clematis	Emerging - Stage 2	1	1	C													Options: FS; Species has an extensive root system and pulling is ineffective; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications	
<i>Cynanchum louiseae</i>	black swallowwort	Emerging - Stage 1	1	1	B													Options: FS,PU; Species has an extensive root system and pulling is difficult; Glyphosate recommended for foliar applications	
<i>Eleutherococcus sieboldianus</i>	fiveleaf aralia	Emerging - Stage 0	1	1	A													Options: BB,FS,MO,PU; CS is impractical due to thinness of stems; Glyphosate recommended for all methods except BB, where triclopyr is recommended	
<i>Frangula alnus</i>	glossy buckthorn	Emerging - Stage 2	1	1	A													Options: BB, FS,CS,MO,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended	
<i>Hedera helix</i>	English ivy	Emerging - Stage 1	1	1	B													Options: FS,MO,PU; Foliar application is most practical; Spraying may occur in non-growing season because species is evergreen; Glyphosate recommended. Cutting climbing stems from trees prevents fruiting.	
<i>Heracleum mantegazzianum</i>	giant hogweed	Emerging - Stage 0	1	1	D													Options: FS, CS; HANDLE WITH CAUTION -- CAUSES SEVERE CONTACT DERMATITIS. Foliar spray recommended early in season before stems reach full height and become difficult to spray. Glyphosate recommended.	

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<i>Humulus japonica</i>	Japanese hops	Emerging - Stage 3	1	1	E													Options: FS,PU; species may behave as an annual or a perennial - recommend spraying before seed set; Glyphosate recommended
<i>Iris pseudacorus</i>	yellow iris	Emerging - Stage 2	1	1	E													Options: FS,PU; PU is only effective for young individuals that have not yet become deeply rooted; Glyphosate recommended
<i>Lythrum salicaria</i>	purple loosestrife	Widespread	1	2	E													Options: FS,PU; PU is only effective for young individuals that have not yet become deeply rooted; Glyphosate recommended
<i>Miscanthus sinensis</i>	Chinese silver grass	Emerging - Stage 1	1	1	D													Options: FS,MO; Species has extensive root system - pulling is ineffective; Glyphosate recommended
<i>Parthenocissus tricuspidata</i>	Boston ivy	Emerging - Stage 1	1	1	C													Options: BB,FS,CS; Species has an extensive root system and pulling is ineffective; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications
<i>Photinia villosa</i>	Oriental photinia	Emerging - Stage 1	1	1	A													Options: BB, FS,CS,MO,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended
<i>Polygonum perfoliatum</i>	mile-a-minute	Emerging - Stage 3	1	1	D													Options: FS, PU; Long-lived seed bank requires 3-5 years of treatments; Pulling is recommended for very small infestations only; Glyphosate recommended for foliar applications
<i>Pueraria montana var. lobata</i>	kudzu	Emerging - Stage 1	1	1	C													Options: BB,FS,CS; Species has an extensive root system and pulling is ineffective; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications
<i>Pyrus calleryana</i>	Callery pear	Emerging - Stage 2	1	1	D													Options: BB,FS,HS,CS,GI,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended
<i>Rhamnus cathartica</i>	common buckthorn	Emerging - Stage 2	1	1	A													Options: BB,FS,HS,CS,PU; GI is not recommended due to the potential of re-sprouting; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications
<i>Rhodotypos scandens</i>	jetbead	Emerging - Stage 2	1	1	A													Options: BB, FS,CS,MO,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended
<i>Rorippa nasturtium-aquaticum</i>	white watercress	Emerging - Stage 2	1	1	E													Options: FS, PU; Species is aquatic and requires special treatments (i.e., harvesting, application of herbicide by trained lake management professionals). Small quantities can easily be removed by hand.

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<i>Trapa natans</i>	water chestnut	Emerging - Stage 1	1	1	E													Options: FS, PU; Species is aquatic and requires special treatments (i.e., harvesting, application of herbicide by trained lake management professionals). Small quantities can easily be removed by hand.
<i>Viburnum dilittatum</i>	linden viburnum	Emerging - Stage 2	1	1	A													Options: BB, FS,CS,MO,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended
<i>Viburnum sieboldii</i>	Siebold's viburnum	Emerging - Stage 2	1	1	A													Options: BB, FS,CS,MO,PU; Glyphosate recommended for all methods except BB, where triclopyr is recommended
<i>Wisteria floribunda</i>	Japanese wisteria	Emerging - Stage 2	1	1	C													Options: BB,FS,CS; Species has an extensive root system and pulling is ineffective; Glyphosate recommended for foliar applications; Triclopyr recommended for non-foliar applications

<sup>1</sup>Phenology information collected from Hough (1983), MOBOT (2007), PFAF (2007) or Brand (2007) and is intended to guide timing of control efforts.

<sup>2</sup>Treatment recommendations from Zerbe et al. (2003), multiple websites, personal experiences of colleagues and author.

<sup>3</sup>Optimal treatment methods vary by size of individual plants and extent of infestation in selected treatment areas. See "Overview of Control Methods" for additional information and treatment codes.

<sup>4</sup>For bark applications, triclopyr should be used in its ester form (e.g., Garlon 4).

<sup>5</sup>See below for a sample of invasive species control and species information websites:

- Plants for a Future <http://www.pfaf.org/index.html>
- Flora of North America [http://www.efloras.org/flora\\_page.aspx?flora\\_id=1](http://www.efloras.org/flora_page.aspx?flora_id=1)
- USDA PLANTS <http://plants.usda.gov/index.html>
- Invasive Plant Atlas of New England <http://www.lib.uconn.edu/webapps/ipane/search.cfm>
- Plant Conservation Alliance - Alien Plant Working Group <http://www.nps.gov/plants/alien/fact.htm>
- Plant Invaders of Mid-Atlantic Natural Areas <http://www.invasive.org/weeds.cfm>
- The Nature Conservancy's Global Invasive Species Initiative <http://tncweeds.ucdavis.edu/control.html>
- National Invasive Species Information Center <http://www.invasivespeciesinfo.gov/plants/control.shtml>