

DRAFT Tualatin Basin Weed Management Calendar
 Adapted from King County, WA
 (Version 12/31/08)

Note: This weed management calendar is meant as a summary of general guidelines for use by restoration or vegetation management professionals who are working to limit the impact of invasives on natural area restoration projects. For each species, each row represents one management approach. When using herbicides, always follow the label of the product being used. Herbicide suggestions in this document should not be followed if they contradict the label on the product being used. Make sure to follow all local, state or federal regulations that apply to the particular project site. It is most effective to use an integrated vegetation management strategy. Always make sure that the benefits of the activity outweigh the impacts.

Sorted by Latin Name			MINIMUM TREATMENT DURATION	WINTER			SPRING			SUMMER		FALL				
LATIN NAME	COMMON NAME	PLANT TYPE/ TREATMENT TYPE(S)		December	January	February	March	April	May	June	July	August	September	October	November	
<i>Alliaria petiolata</i>	Garlic Mustard	Herbaceous biennial	Seeds last 7+ years				Rosettes		Bud/Flower	Flower	Flower/Seed	Seed/Rosettes	Rosettes			
		Manual or Mechanical					Pull rosettes if soil is moist		pull and bag flowering stems			Pull rosettes if soil is moist				
		Chemical					Glyphosate, Triclopyr or Aminopyralid									
<i>Buddleia davidii</i>	Butterfly Bush	Tall deciduous shrub					New leaves emerge			Flowering	Flower/Seed					
		Manual		Dig up or weed wrench and get entire root												
		Chemical								Triclopyr foliar spray		Basal or cut stump				
				Glyphosate, foliar or cut stump												
<i>Calystegia sepium</i> or <i>Convolvulus arvensis</i>	Bindweed or Morning Glory	Herbaceous Perennial					Emerge			Flower			Seed			
		Mechanical	>2 years				Cut or pull; remove fragments	Cut or pull; remove fragments	Cut or pull; remove fragments	Cut or pull; remove fragments	Cut or pull; remove fragments	Cut or pull; remove fragments	Cut or pull; remove fragments	Cut or pull; remove fragments	Heavily mulch infested area	
		Shade	3 to 5 years	Cover infested area with landscape fabric or cardboard/woodchips - need to maintain cover so plants get no light over whole population; watch surrounding area for plants												
		Chemical	>2 years	Spray with Aminopyralid (at full bloom to)												
		Mechanical + Chemical		Cut plants and spray/wipe on Glyphosate when regrowth > 12 inches												
<i>Centaurea biebersteinii</i>	Spotted Knapweed	Herbaceous Perennial					Rosettes		Flowers			Flowering/Seed				
		Manual or Mechanical		Dig up; in compacted soils will need to use fork tool or digging knife; most effective when soil is moist												
		Chemical							Triclopyr	Triclopyr or Glyphosate						
<i>Cirsium arvense</i>	Canada Thistle	Herbaceous Perennial					most seeds germinate/ new shoots on existing roots (rosettes)	rosettes	bolting	flower		flower/seeds/ move energy to roots	seeds/move energy to roots	some germination/over-wintering rosettes		
		Manual or Mechanical	>2 years				pull/mow every 3-4 weeks	pull/mow every 3-4 weeks	pull/mow every 3-4 weeks	pull/mow every 3-4 weeks	pull/mow every 3-4 weeks	pull/mow every 3-4 weeks	pull/mow every 3-4 weeks			
		Cultural		Cut and Sheet Mulch												
		Chemical		Foliar spot spray: Triclopyr or Aminopyralid												
		Mechanical + Chemical									cut late July	foliar spot spray: Glyphosate				
											regrowth late August: Glyphosate					
<i>Cirsium vulgare</i>	Bull Thistle	Herbaceous Biennial					Emerge			Flower		Flower/Seed	Seed/Emerge			
		Manual or Mechanical							Cut below crown, mow, or dig up shortly before flowering							
		Chemical					Foliar spot ; Triclopyr ; Glyphosate		Foliar Glyphosate before			Foliar spot ; Triclopyr ; Glyphosate				
<i>Clematis vitalba</i>	Old Man's Beard	Climbing deciduous vine					Emerge			Flowering		Seeds				
		Manual		pull young plants up/cut mature stems at ground; dig up roots												
		Chemical	about 2 years	cut stems and wipe on Glyphosate, Triclopyr or metsulfuron concentrate												

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LATIN NAME				December			March			June			September				
		Mechanical+ Chemical					Apply herbicide to regrowth in spring						Cut stems in fall				
<i>Conium maculatum</i>	Poison-hemlock	Herbaceous Biennial		germinate			rosettes		bolting	flowering		seed set	germinate				
		Manual		pull plants by hand or dig up roots when soil is moist					Cut to below crown (1-3 inches)								
		Mechanical					mow to 3-4 inches (early in month)	mow to 3-4 inches									
		Chemical					spray before flowering (Aminopyralid, Triclopyr, Glyphosate)										
<i>Cytisus scoparius</i>	Scotch Broom	Large shrub; deciduous leaves, evergreen stems			veg growth		buds/leafing out	Flowers		Seeds			veg growth				
		Manual		pull small plants; weed wrench large plants									pull small plants, weed wrench large plants				
		Mechanical								Cut mature stands with saws or other tools							
		Chemical					Foliar spray (Triclopyr, Aminopyralid, Glyphosate)										
<i>Geranium robertianum</i>	Herb Robert	Herbaceous Annual		rosettes		seedlings/rosettes		flowering/seedlings		seedlings		rosettes					
		Manual			pull plants and mulch bare areas		pull plants and mulch bare areas		pull plants and mulch bare areas	pull plants and mulch bare areas	pull plants and mulch bare areas	pull plants and mulch bare areas	pull plants and mulch bare areas		pull plants and mulch bare areas		
		Chemical			Glyphosate on large patches of small seedlings					Glyphosate on large patches of small seedlings				Glyphosate on large patches of small seedlings			
<i>Hedera hibernica, H. helix</i>	English Ivy	Evergreen woody vine	2 years	Berry/Seed		Vegetative		Flower		Berry/Seed							
		Manual or Mechanical		Dig up or pull up roots of accessible plants; Cut off vines (girdle) from base of trees													
		Cultural		Mulch to depth of 8 inches													
		Chemical (winter/fall)		Glyphosate or mix of Glyphosate and Triclopyr on sunny day, temp >50				Glyphosate on young plants with 2-4 newly expanded				hand pull or spray regrowth with Glyphosate					
		Chemical (Triclopyr)		Triclopyr & surfactant; more effective right after string trimming													
		Chemical (Aminopyralid)										Aminopyralid foliar	Aminopyralid on regrowth				
<i>Hieracium sp.</i>	Hawkweed	Herbaceous Perennial							Bud/Flower	Flower/Seed							
		Manual or Mechanical		Dig up including roots and runners													
		Shading		Remove and discard flowers													
		Chemical		cover with landscape fabric or				Foliar - before flowers open (Triclopyr)									
<i>Ilex aquifolium</i>	English Holly	Evergreen shrub or tree; often multi- stemmed			New growth				Flowering			Berries/Seed					
		Manual		Pull or dig up small plants; use weed wrench on large plants													
		Mechanical + Chemical		Cut trunk as close to the ground as possible and apply concentrated Triclopyr or Glyphosate within 20-30 seconds. On large trunks only the outer edge needs to be cut and treated.													
<i>Impatiens glandulifera</i>	Policeman's Helmet	Herbaceous Annual					Emerge		Flower	Flower/Seed							

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		Manual or Mechanical								Pull or weed whack before seeds mature; compost on tarps						
		Chemical							If infest is too large too pull,							
<i>Lepidium latifolium</i>	Perennial pepperweed	Herbaceous Perennial						Emerge	Flower	Flower/Seed						
		Manual							Pull or dig plants growing in sand or loose soil							
		Mechanical + Chemical							Mowing followed by applications of Glyphosate with appropriate surfactants to resprouts							
		Chemical						Up through bloom stage (Chlorsulfuron with surfactant)					Chlorsulfuron with surfactant- Fall treatment			
<i>Lysimachia vulgaris</i>	Garden Loosestrife	Herbaceous Perennial							Emerge	Flower	Flower/Seed					
		Manual or Mechanical							Cut at base/dig up where possible							
		Chemical							Foliar: Triclopyr or Glyphosate, aquatic formulation with suitable surfactant (need							
<i>Lythrum salicaria</i>	Purple Loosestrife	Herbaceous Perennial							Emerges	Flower	Flower/Seed	Seed				
		Manual or Mechanical	over 5 years							Pull small plants; Cut large plants at base						
		Chemical	2-3 years							Foliar spray: Glyphosate or Triclopyr , aquatic formulation (need						
		Biocontrol	Up to 5 years before significant decrease in plant density						Release galerucella beetles on large stands							
<i>Phalaris arundinacea</i>	Reed Canary Grass	Perennial grass						shoots emerge from seeds or rhizomes	flowers start forming	flower stage; peak of veg. growth	flowers/seeds	seeds; veg. growth slows down; stems collapse (2nd vegetative growth following rains in September/October)				
		Manual	at least 5 yrs					hand pull/dig over whole population		hand pull/dig over whole population		hand pull/dig over whole population				
		Mechanical	5 to 10 years					mow	mow	mow	mow					
		Mechanical + Shade	at least 1 year					mow and cover with a combination of several layers of cardboard covered with 4-6 inches woodchips								
		Flooding	1 to 3 yrs					Inundation for whole growing season								
		Mechanical + Chemical	1 to 2 years								mow fields before seeds mature	spray Glyphosate when regrowth is 1 ft tall; wait 2 weeks; mow; spray again				
		Chemical	1 year for small patches; 2 or more years for large infestations					spray Glyphosate on young shoots (less damage to native grasses)			foliar spray Glyphosate (before summer dormancy)	foliar spray regrowth with Glyphosate (till 2-3 weeks after spray for improved control)				
<i>Polygonum cuspidatum, P. bohemicum, P. sachalinense</i>	Knotweed	Tall rhizomatous perennial						plants emerge	rapid growth		Flower	Seed		Canes die back		

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		Mechanical alone	at least 5 years, not very effective on established patches					cut twice	cut twice	cut twice	cut twice	cut twice	cut once	cut once; then cover area with cardboard and deep mulch	
		Mechanical + Shade	5 years; can plant in area after 3 years									cut to ground and cover with landscape fabric; stake down and monitor for growth at the edges			
		Mechanical + Chemical									cut once	spray when about 3ft: Glyphosate, Triclopyr or			
		Chemical alone	at least 2 years									inject stems >1/2 inch with Glyphosate; foliar spray or wipe on smaller plants and large upland patches			
<i>Prunus laurocerasus</i>	English Laurel	Evergreen shrub or small tree							Flowers			Seeds			
		Manual		Pull or dig up small plants; use weed wrench on large plants									Pull or dig up small plants; use weed		
		Mechanical + Chemical		Cut trunk as close to the ground as possible and apply concentrated Triclopyr or Glyphosate within 20-30 seconds											
<i>Rubus armeniacus, R. discolor, R. laciniatus</i>	Blackberry (Himalayan and Cutleaf)	Cane-producing shrub; roots at nodes				New growth			Flowers			Berries/Seeds			
		Manual/Mechanical	at least 2 yrs	Cut canes/grub out crowns when soil is moist					Dig or cut regrowth			Grub out roots when soil is moist			
		Mechanical alone	> 2 years			clear mechanically			clear mechanically (if only once: when flowers form)			clear mechanically			
		Mechanical + Chemical							clear mechanically			foliar spray regrowth: Triclopyr, Aminopyralid or Glyphosate			
		Chemical: cut stump							Cut large canes and spot spray Glyphosate or Triclopyr immediately after cutting			Check area and repeat if necessary			
		Cultural										Mulch area after blackberries are cleared to prevent erosion and re-			
		Chemical							Foliar spray Triclopyr when plants are actively growing			Foliar spray Glyphosate when canes are actively growing and after berries are formed; NOTE: post sprayed areas or control access to sprayed bushes		Clear dead canes, stabilize area to prevent possible erosion	
<i>Senecio jacobaea</i>	Tansy Ragwort	Herbaceous biennial					Rosettes	Bud/Flower	Flower		Flower/Seed	Seed/Rosettes	Rosettes		
		Manual or Mechanical		Dig up rosettes if soil is moist				pull and bag flowering stems				Dig up rosettes if soil is moist			
		Chemical					Triclopyr or Aminopyralid on rosettes	Triclopyr or Aminopyralid or Triclopyr			Triclopyr or Aminopyralid or Triclopyr on rosettes				
<i>Solanum dulcamara</i>	Bittersweet Nightshade	Semi-woody vine							Flower			Seed			
		Manual or Mechanical		Dig up plants in winter when possible to avoid damaging other plants				Dig, cut, pull or mow several times / season							
		Chemical							Information limited. Spray or wipe on, late bud to early flower (Glyphosate, Triclopyr or Aminopyralid); plan to spray any regrowth						
<i>Sonchus arvensis</i>	Perennial Sowthistle	Herbaceous Perennial						seedlings/rosettes		Flower		Seed			

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		Manual or Mechanical						Dig up including roots and runners							
		Shading Chemical						Remove and discard flowers cover with landscape fabric or Foliar - Actively growing plants before bud							
<i>Tanacetum vulgare</i>	Common Tansy	Herbaceous Perennial					Emerge			Flower		Flower/Seed			
		Manual				Dig up						dig up, cut & bag seed head			
		Mechanical						mow/cut before bud stage		cut regrowth		cut regrowth		cut regrowth	
		Chemical	>1 yr					Spot spray metsulfuron or wipe (chemical?) on actively growing plants			Wipe on Glyphosate during flower/seed set (not as effective as metsulfuron) - cut & bag				