

Spokane County Parks, Recreation & Golf



Noxious Weed Control Plan *2014*

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Native Arrowleaf Balsamroot

Introduction

Noxious weeds are plants that have been introduced to an environment they are not native to and often cause costly resource damage by degrading rangeland and impacting ecological functions within a given ecosystem. In some cases, plants were brought from Europe and Asia as ornamentals, but quickly escaped cultivation to take over vast swaths of land once inhabited by diverse native plant communities. Often, these “invasions” take on the appearance of a monoculture, where noxious weed species can out grow, out compete, and sometimes even inhibit competition through chemicals they release into the soil.

Spokane County Parks, Recreation & Golf Department owns and/or manages over 14,000 acres of parkland. These acres vary dramatically from large, mountainous open space areas, to developed community parks, off-road vehicle parks and the Centennial Trail. Each area generally has its unique set of circumstances regarding noxious weeds. Some properties were heavily grazed prior to County purchase and contain extensive patches of noxious weed species. Other properties have been properly managed for years by Spokane County Parks, have received minimum disturbance, and correspondingly have minimum weed issues.

In short, Spokane County Park is obligated to control and eliminate weed species classified by as noxious weeds to protect our economy, our lands, and the local ecosystem.

Legal Basis and Enforcement

Laws mandating the control of noxious weeds have a long history in Washington State, beginning in 1881 to fight the spread of Canadian thistle. In 1969, the Washington State Legislature passed enabling legislations authorizing counties to establish Weed Control Boards, recognizing the need to “... limit economic loss and adverse effects to Washington’s agricultural, natural, and human resources” (RCW 17.10.007). Spokane County’s Weed Control Board was established the following year to address these issues and has filled the local role of issuing lists of noxious weed species to be controlled or limited and facilitating those actions mainly through education and inspection.



Ducks Unlimited successfully removed Reed Canary Grass from 60 acres on McKenzie Conservation Area. 2014.

The state and therefore Spokane County classifies weeds under three categories:

Class A Noxious Weeds

These are generally rare and are relative newcomers to Washington State. Species in this category are required to be completely eradicated to prevent them from gaining a foothold. To this Department’s knowledge, there are no known populations of Class A species on County Parks’ property.

Class B Noxious Weeds

These species are generally widespread throughout the state, but might be absent or rare in other parts. The primary goal with Class B species is to contain and reduce populations. Prime examples of Class B species include Spotted Knapweed (*Centurea stoebe*) and Common Bugloss (*Anchusa officianalis*).

Class C Noxious Weeds

Species in this category are non-native and typically widespread throughout the state. Because of this distribution, the state recognizes that complete eradication is unlikely and therefore recommends that these species be controlled as best they can. Some Class C weeds found on Parks' properties include oxeye daisy (*Leucanthemum vulgare*) and Canada thistle (*Cirsium arvense*).

The Noxious Weed Control Board adopts a list each year, keeping it current and relevant as new invasive species are introduced into the natural environment.

Control Methods

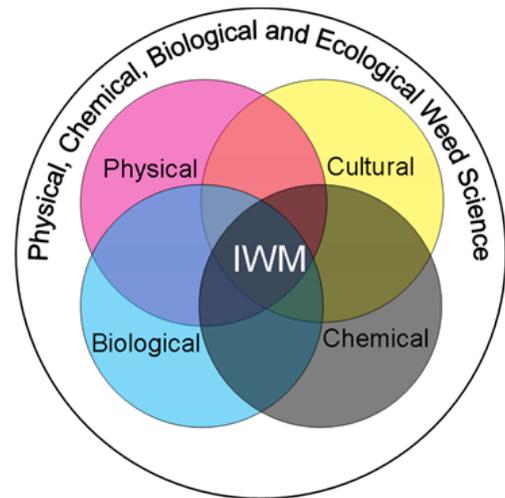
There are several different methods (described below) that can be used to control, reduce, and eliminate noxious weeds. Typically, Spokane County Parks has relied more heavily on chemical control because of its feasibility and results. However, the preferred method is an integrated approach that combines several different control methods that also takes into account maintaining the health of the ecosystem.

In many cases, noxious weeds have found their way into disturbed areas that have impact the health of the soil and native plant community. The presence of noxious weed species is often a symptom a large issues – poor range management and over grazing, managing land for one species only, and past grading/soil disturbance that has spurred erosion and the availability of bare soil.

Integrated Weed Management

As described above, an integrated weed management approach utilizes multiple methods available in a given area to reduce or eliminate a weed species at every stage of its development. An example of this approach is as follows for Canada thistle (*Cirsium arvense*):

1. **First Fall** – Spot spray or broadcast spray thistle plants/rosettes and over seed with competitive native grasses and forbs;
2. **Early Spring** – Spot spray thistle rosettes with a selected herbicide – you can also use a controlled burn to destroy remnant vegetation and seed on soil surface;
3. **Late Spring** – Spot spray;



Integrated weed control managed utilizes physical, cultural, biological, and chemical methods to eliminate weed species.

4. **Summer** – Mow thistle patches prior to seed development and release biological control agents (if necessary); and
5. **Second Fall** – Spot spray remaining thistle plants and rosettes.

Chemical Control

This is the type of control most often used by the Spokane County Parks, Recreation and Golf Department. Size of infestations and site conditions will determine the chemicals applied as well as the equipment to be used in the application process. The Spokane County Noxious Weed Board provides a list of recommended herbicides for specific plants and times of year the chemicals are being applied.

Mechanical Control

Mechanical Control methods physically disrupt weed growth. Tillage, hoeing, hand pulling, blading, grubbing, cultivation, mulching and mowing are examples of mechanical control. Mechanical control is seldom used by the Parks Department due to the need for frequent reapplication of the methods and costs of associated labor. (i.e. *Tillage* works by disturbing the root system. Tillage is not effective on most established noxious weeds since their root system will re-sprout. *Mowing* reduces annual weed growth, but will not prevent seed production because most weeds just flower again closer to the ground. This is especially true with Spotted and Diffuse Knapweed. The knapweed plant will adjust to the level of the mower and will go to seed at only a few inches tall.)

Cultural Control

Cultural weed control methods use practices common to land and water management in helping native vegetation compete against noxious weeds. Planting desirable vegetation, fertilization, irrigation, using goats or livestock as well as having good grazing practices are some cultural control methods. While these control methods have not been utilized much in the past, the Parks Department has been partnering with area universities to develop feasible ways to implement some of these cultural controls.

Biological Control

Biological control is the intentional use of living organisms to try and suppress the population of a pest to an acceptable level. These insects are natural enemies of the targeted weeds that come from the weed's native ecosystem. Once the insects are introduced to an area, it may take several years for them to become established and to reach a density where it will have an impact on the weed. It is important to keep in mind that biological control is a slow process is also important to understand the introduction of non-native insects can create its own set of concerns. The Parks Department has seldom used this method of noxious weed control, however, in recent years has partnered with the United State Department of Agriculture (USDA) to introduce biological agents into the Saltese Uplands Conservation Area, Gateway Regional Park, and Dishman Hills Conservation Area to slow the spread of knapweed.

Inventory

A comprehensive mapped inventory of noxious weeds could not be part of this scope of this project primarily due to the limited staff and financial resources available. However, site visits to each property confirmed the existence of certain weed species. Operations personnel were also consulted to provide additional confirmation as well as an inventory of what was treated in 2014. Below is a summary table providing a concise inventory of weeds on Spokane County Parks' 14,000 acres of owned and managed lands. And while listed, the three Spokane County golf courses were not included in the inventory **below**.

Spokane County Parks & Facilities	Size (Acres)	Current Weed Concerns	Concern Level	2014 Treatment (Location, Type of Treatment)
<i>Community Parks</i>				
Northwoods	4.9	None	Low	2-4-D Treatment
Bidwell	19.3	Spotted Knapweed, Canadian Thistle, Toadflax, Bugloss, Tansy	Moderate	Hit turf with 2-4-D. Utilized Tordon / 2-4-D on undeveloped portion of park
Camelot	9.7	None	Low	None
Camp Caro/Dishman	20.0	Spotted Knapweed around lower parking lot	Low	2-4-D
Gleneden	5.0	Spotted knapweed and tansy in landscaped area	Moderate	Horsepower
Half Moon	25.4	Unknown	Unknown	None
Holmberg	7.4	None	Low	Horsepower
Linwood	7.0	None	Low	2-4-D
Morgan Acres	2.3	None	Low	N/A
Orchard Ave	3.8	None	Low	2-4-D
Pine River	14.5	Unknown	Low	2-4-D
Prarie View	17.6	Spotted knapweed and bugloss	Low	Turf and 2-4-D and Dicamba
Shields	13.0	Unknown	Low	2-4-D and Tordon
Sontag	64.0	Unknown	Low	Horsepower
Valleyford	21.0	Unknown	N/A	N/A
<i>Regional Parks</i>				
Bear Lake	166.0	Spotted Knapweed, thistle	Moderate	Horsepower
Fish Lake	67.5	Spotted knapweed and thistle	Moderate	2-4-D
Gateway	50.0	Spotted Knapweed, Bugloss, Tansy	Moderate	2-4-D
Liberty Lake	2,722.5	Developed park area - none. Backcountry - spotted knapweed along trails, particularly where disturbance has occurred. Also burdock is wetter locations.	Low	Turf and trails 2-4-D
Plante's Ferry	95.0	Unknown	Low	Tramic

Spokane County Parks/Facilities	Size (Acres)	Current Noxious Weed Issues	Severity of Issue	2014 Treatment - Location(s) & Treatment(s)
<i>Open Space</i>				
Natural Areas				
Dishman Hills	534.0	Spotted Knapweed at trail entrances and along some trails	Low	Tordon and 2-4-D
Haggin	9.1	N/A	N/A	N/A
Little Spokane River	811.0	N/A	N/A	N/A
MacKenzie	110.0	Some spotted knapweed and bugloss	Moderate	None
Morrow Park	40.0	Some spotted knapweed in disturbed areas (e.g. old shelter area)	Low	None
Conservation Areas*				
*Acquired through Conservation Futures				
Antoine Peak	1,075.8	Most of the areas of concern are on the south facing slopes along roads. Mainly knapweed and tansy.	Moderate	Tordon and 2-4-D
Cedar Grove	87.0	None	Low	None
Van Horn Edburg Bass	701.0	N/A	N/A	N/A
Feryn Ranch	164.3	Canadian Thistle, mainly on the NE corner of the park, but also in areas adjacent to roads.	High	Tordon and 2-4-D
Gateway	7.0	Knapweed and thistle	Moderate	None
Hauser	170.3	Knapweed and thistle	Low	None
Haynes	97.0	bugloss, toadflax, knapweed, canadian thistle	Moderate	Tordon and 2-4-D
Holmberg	103.4	Spotted knapweed	Low	Tordon and 2-4-D
Dishman Hills C.A. - Iller	966.0	Spotted knapweed, St. Johns wort prevalent on south facing slopes around the Rocks of Sharon.	Moderate	Tordon and 2-4-D
Liberty Lake	455.0	Spotted knapweed and thistle	Low	None
McKenzie	421.0	Mullein present along Newman Lake Road frontage. Some knapweed, toadflax and thistle.	Low	2-4-D and Dicamba
McLellan	380.0	Knapweed	Low	2-4-D
Mica Peak	911.0	Some spotted knapweed along the roads within the C.A.	Low	2-4-D

Spokane County Parks/Facilities	Size (Acres)	Current Noxious Weed Issues	Severity of Issue	2014 Treatment - Location(s) & Treatment(s)
Saltse Uplands	552.0	Spotted knapweed prevalent throughout the site due to past grazing practices by previous private land owner. Many of the areas adjacent to this property are also infested.	High	Treat knapweed patches SE of the trailhead as well as along the SE boundary line using 2-4D. Approximately 15 acres were treated.
Slavin Ranch	628.0	Some spotted knapweed. Thistle, mullein and st. john's wort, oxeye daisy	Low	Tordon and 2-4-D
Dishman Hills C.A. - Glenrose	267.0	Spotted knapweed and St. John's wort are prevalent in the upper slopes of the "Stone Estate" portion as well as on McCollum.	Moderate	None
	6,985.7			
	8,674.8			
Special Use Facilities				
Golf Courses				
Hangman Valley Golf	172.5			
Liberty Lake Golf	123.7			
Meadowood Golf	146.8			
Airway Heights ORV	183.0	Unknown	N/A	N/A
Liberty Lake ORV	327.3	Spotted knapweed prevalent	Moderate	None
Centennial Trail		Spotted knapweed, thistle, bugloss adjacent to the trail	Moderate	2-4-D and Dicamba
	953.3			

Goals & Policies

Goal 1: Control, reduce, and eliminate when possible the prevalence of noxious weeds identified on the Noxious Weed Control Board's adopted list that are found on Parks' managed lands.

Policy 1.1 Utilize the most feasible control methods that result in the least amount of negative impacts.

Policy 1.2 Utilized an integrated approach to weed control whenever possible to provide the most effective, sustainable outcome.

Policy 1.3 Prioritize the treatment of noxious weed areas that impact the public's enjoyment of a facility followed by areas that may directly impact neighboring properties & economic activities.

Policy 1.4 Change use of herbicide types often to maintain effectiveness.

- Policy 1.5** Focus efforts on a handful of properties on three-year rotations, followed by evaluation of whether to continue efforts on those properties or shift focus onto other areas deemed more of a concern.
- Policy 1.6** Produce an annual weed control calendar (schedule) that will allow the Department to adequately inform residents and customers where and when a property will be treated.
- Policy 1.7** Develop a comprehensive mapped inventory of weed species on Department-managed land to better guide treatment schedules (e.g. create a GIS layer that can be amended every five years).
- Policy 1.8** Provide noxious weed identification training to operations personnel.

Goal 2: Partner and collaborate with universities, non-profit organizations, volunteers, and other agencies to make weed control more effective and efficient.

- Policy 2.1** Develop and foster research projects and relationships with local universities, including Washington State University and Gonzaga University to more effectively and efficiently control noxious weeds.
- Policy 2.2** Develop a weed control volunteer program that provides training, instruction, and facilitates weed control by volunteers when and where practical and feasible.
- Policy 2.3** Seek partnerships with agencies and departments to share costs, equipment and resources that ultimately reduce the overall cost of weed control.

Goal 3: Reduce and avoid conditions that produce noxious weed infestations.

- Policy 3.1** Over-seed with a native grass and forb seed mix (e.g. a seed mix obtained by Clearwater Seed or other specialized local provider) when soil disturbance activities take place.
- Policy 3.2** Where large areas are chemically treated, site should be over-seeded with a native grass-only seed mix.
- Policy 3.3** Land being considered for acquisition through the Conservation Futures Program or other means should be evaluated for noxious weeds prior to acquisition.
- Policy 3.4** Avoid actions that disrupt intact native plant communities when possible.
- Policy 3.5** Avoid utilizing non-native plants in landscaping projects that have been known to escape cultivation and become invasive.

Policy 3.6 Develop and adopt a “noxious weed free” hay (Certified by the Washington Wilderness Hay and Mulch Management Program) policy for equestrian trailhead sites (e.g. install signage at trailheads reinforcing policy).

Funding and Application Schedule

Funding Sources

Funding sources for noxious weed control are limited. The Spokane County Noxious Weed Control does not provide any financial assistance for weed control efforts. There are no known grant funding sources that provide financial assistance for the control of noxious weeds in Washington State. There may be some limited Federal funding available through the United States Department of Agriculture (USDA), but those tend to be specific to the control of certain species.

The Department has three internal funding sources for weed control activities:

General Fund Budget – This funding is extremely limited and has been used exclusively on general-fund managed properties, such as Plante’s Ferry.

Conservation Futures Maintenance & Operations Budget (M&O) – Fifteen percent of the annual Conservation Futures levy revenue is dedicated to the maintenance and operation of property purchased through the Conservation Futures Program. These properties make up nearly 7,000 acres of the Department’s land inventory and vary dramatically in both size and weed control issues. The funding is restricted to use on land purchased with Conservation Futures. Unless the Washington State Legislature successfully amends RCW 84.34.200 to increase the percentage that can be used for M&O, these funds will not be able to keep up with funding needs.

Maintenance Endowments – There are several properties that, when purchased by the Department, were transferred to Spokane County ownership with an attached maintenance endowment. These endowments are typically restricted to specific properties for specific purposes, such as the long-term care and maintenance of a property. These funding sources could provide funding for weed control activities on a limited basis with the approval of the Parks Director.

Together, these resources may not be enough to control and eliminate noxious weeds on Department-managed lands.



Fifteen percent of the annual revenue generated by the Conservation Futures property tax levy is dedicated to maintenance and operations for properties acquired with said funding source.

Application Schedule

An application schedule should be prepared annually by the Operations Manager and presented to the Parks Director for review and approval. Given the unpredictable nature of weed control (weather, new infestations, etc.), this schedule may be adjusted accordingly to take into account realities on the ground. See Appendix A for the Weed Management Schedule Template.

Below is an example of a Weed Control Schedule (partial):

Spokane County Parks & Facilities	2015 Treatment	2016 Recommendation	Long-Term Strategy / Goal
<i>Community Parks</i>			
Northwoods	Monitor	Monitor	Continue to monitor the park and spot spray where necessary
Bidwell	Continue to treat undeveloped portion of park and monitor	Continue to treat undeveloped portion of park and monitor	Develop the remaining portion of Bidwell Park or seed over with native mix to outcompete weeds.
Camelot	Monitor	Monitor	Continue to monitor the park and spot spray where necessary
Camp Caro/Dishman	Continue to spray around lower lot to eliminate knapweed. Monitor developed park area.	Continue to spray around lower lot to eliminate knapweed. Monitor Developed park area.	Eliminate knapweed from lower lot and former public works property.
Gleneden	Continue to treat those areas impacted by weeds.	Continue to treat those areas impacted by weeds.	Re-establish existing native vegetation areas to be more resilient to weeds. May consider replacing native perennials with native shrubs and trees.
Half Moon	Monitor	Monitor	Continue to monitor the park and spot spray where necessary.
Holmberg	Monitor	Monitor	Continue to monitor the park and spot spray where

			necessary
Linwood	Monitor	Monitor	Continue to monitor the park and spot spray where necessary
Morgan Acres	N/A	N/A	N/A
Orchard Ave	Monitor	Monitor	Continue to monitor the park and spot spray where necessary
Pine River	Monitor	Monitor	Continue to monitor the park and spot spray where necessary
Prairie View	Monitor	Monitor	Continue to monitor the park and spot spray where necessary
Shields	Monitor and treat where needed	Monitor and treat where needed	Continue to monitor the park and spot spray where necessary
Sontag	Monitor and treat where needed	Monitor and treat where needed	Continue to monitor the park and spot spray where necessary
Valleyford	N/A	N/A	N/A

Resources

[Spokane County Noxious Weed Control Board](#)

[Washington State Noxious Weed Control Board](#)

[Washington Invasive Species Council](#)



Appendix A – Weed Management Schedule Template

2015 Weed Management Schedule*

Spokane County Parks & Facilities	Planned Treatment	Actual Treatment
Community Parks		
Bidwell	May	
Camelot	May	May 15th
Camp Caro		
Gleneden		
Half Moon	June	
Holmberg		
Linwood		
Morgan Acres		
Northwoods		
Orchard Ave		
Pine River		
Prarie View	May	
Shields	June	
Sontag	Monitor	
Valleyford	Maintained by Freeman School District	Maintained by Freeman School District
Regional Parks		
Bear Lake		
Fish Lake		
Gateway		
Liberty Lake		
Plante's Ferry		
Open Space		
Natural Areas		
Dishman Hills		
Haggin	Not Maintained by County Parks	Not Maintained by County Parks
Freddie's		
Little Spokane River	Maintained by WA Parks	Maintained by WA Parks
MacKenzie		
Morrow Park		
Newman Lake	Monitor	Monitor
Willow Lake		
Conservation Areas* *Acquired through Conservation Futures		
Antoine Peak	July	
Cedar Grove (Liberty Lake)	Monitor	
Dishman Hills C.A. - Iller		
Dishman Hills C.A. - Glenrose		
Feryn Ranch	June	
Gateway	June	
Hauser		
Haynes	May	
Holmberg		
Liberty Lake	Monitor	
McKenzie		
McLellan	May	
Mica Peak	July	
Saltese Uplands	June	
Slavin	June	
Van Horn Edburg Bass	Maintained by WA Parks	Maintained by WA Parks
Special Use Facilities		
Airway Heights ORV		
Centennial Trail		
Liberty Lake ORV		

***This Schedule Is Subject Change As Weather and Unforeseen Conditions May Impact Treatment**