

# 2009 Annual Report

Noxious Weed Control Program

206-296-0290 [www.kingcounty.gov/weeds](http://www.kingcounty.gov/weeds)

## Top Class A Weeds in King County for 2009

### Garlic Mustard

190 sites



4% sites eradicated  
99% controlled

### Giant Hogweed

816 sites



66% sites eradicated  
98% controlled

### Milk Thistle

74 sites



15% sites eradicated  
100% controlled

### Goatsrue

22 sites



8% sites eradicated  
100% controlled

## Top Class B Weeds in King County for 2009

### Tansy Ragwort

3420 sites



22% sites eradicated  
91% controlled

### Purple Loosestrife

954 sites



16% sites eradicated  
88% controlled

### Spotted Knapweed

571 sites



27% sites eradicated  
96% controlled

### Orange Hawkweed

356 sites



9% sites eradicated  
90% controlled

### Policeman's Helmet

273 sites



27% sites eradicated  
95% controlled

### Sulfur Cinquefoil

258 sites



15% sites eradicated  
97% controlled

### Dalmatian Toadflax

251 sites



21% sites eradicated  
83% controlled

### Yellow Hawkweed

188 sites



2% sites eradicated  
95% controlled

### Garden Loosestrife

158 sites



2% sites eradicated  
80% controlled

### Diffuse Knapweed

152 sites



19% sites eradicated  
98% controlled



**King County**

Department of Natural Resources and Parks  
Water and Land Resources Division

**Noxious Weed Control Program**

201 S. Jackson Street, Ste. 600  
Seattle, WA 98104-3856

## Letter from the Chair

On behalf of the King County Noxious Weed Control Board, I present the 2009 Annual Report. Noxious weeds threaten many of our sensitive natural ecosystems, impose high costs on agricultural industries, reduce recreational value of open space and aquatic areas and endanger public health. The Noxious Weed Control Program produces substantial benefits by preventing or minimizing these serious impacts.

This report summarizes the extensive range of activities undertaken by the program and the benefits these generated in 2009. It is an impressive body of work that is clearly high in proportion to the public funds invested.

Community and landowner education is the most important activity of the program, resulting in informed citizens who participate effectively in the prevention and management of noxious weeds. Once again, landowners, volunteers, community groups, and all levels of government and industry have shown great commitment to implementing weed control activities. Congratulations, this report summarizes your achievement.

Scott Moore

King County Noxious Weed Control Board

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## NOXIOUS WEED CONTROL BOARD

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SCOTT MOORE, CHAIR

GRACE STILLER

## Mission

Provide benefits to the environment, recreation, public health and economic resources of King County by preventing and minimizing harmful impacts of noxious weeds.

## Program Goals

Educate the community about prevention and management of noxious weed infestations and increase participation in noxious weed control activities.

Eradicate existing infestations of Class A noxious weeds.

Control regulated Class B and Class C noxious weed infestations to below levels of significant impact.

Implement early detection and rapid response for infestations of new noxious weeds with limited distributions.

Support the management of widespread noxious weeds and facilitation of more effective, coordinated landscape-scale control efforts.

## Major Results Toward Achieving Program Goals

Prevention is the most cost effective form of weed control. The King County Noxious Weed Control Program strategy is to prevent or rapidly eradicate new priority noxious weed infestations. Weed control costs rise rapidly with increased infestation size. The program has developed clear priorities to ensure that the most threatening weed infestations are targeted efficiently and controlled rapidly.

The most important resource in achieving this is informed and engaged landowners and citizens. As noxious weeds know no boundaries, participation of all landowners, public and private, is essential for effective results. The program strived to engage the community and achieve a comprehensive approach in 2009. Landowner noxious weed control requirements are also mandated by the State Noxious Weed Control Law RCW 17.10.

In 2009, program staff extensively surveyed the county for high priority noxious weeds, identifying new infestations and measuring success in controlling known infested sites. Each weed infestation was monitored to determine progress towards achieving control and eradication goals for that weed species. Citizen reports were also received and verified. Program staff worked with 3,135 landowners and public agencies to achieve the required level of weed control.

Class A weeds receive the highest priority because they are limited in distribution, making eradication possible. There are 39 Class A noxious weeds on the



## 2009 Major Program Activities

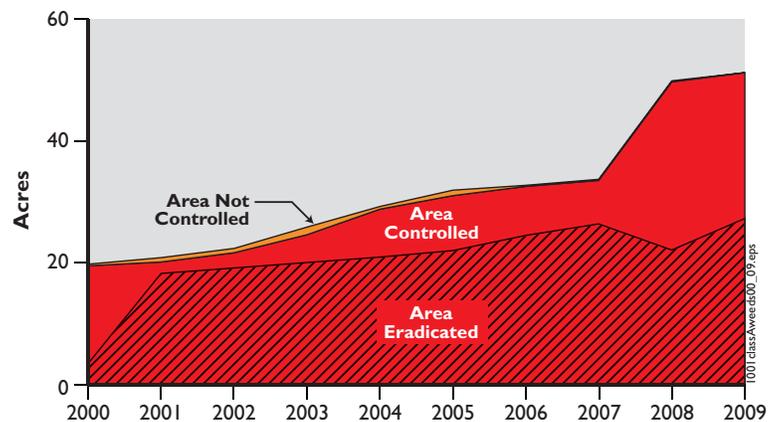
Number of infestations surveyed: **7,849**  
 Number of property owners contacted: **3,135**  
 Number of infestations controlled: **7,250**  
 Number of new infestations found: **654**  
 Acres of weeds controlled by property owners: **159**  
 Acres of weeds controlled by program: **108**  
 Hours spent in the field: **5,965**

Washington State Noxious Weed List, of which 14 have been recorded as growing in some part of the county. The goal for these weeds is eradication of existing infestations and the prevention of new invasions.

Significant progress was made toward the eradication of Class A noxious weeds. The program and property owners have now eradicated 53 percent of the original infestation area identified on parcels in King County. This is an increase from 44 percent achieved in 2008. (See chart.)

Additionally, 56 percent of the known Class A weed sites have had no occurrence of these weeds for three or more years. Of the 1,215 Class A weed sites surveyed in King County in 2009, only 445 had weeds present and 94 of these were new discoveries. Prevention of seeding is crucial to achieving eradication of noxious weeds. The program achieved control (containment and prevention of seed or

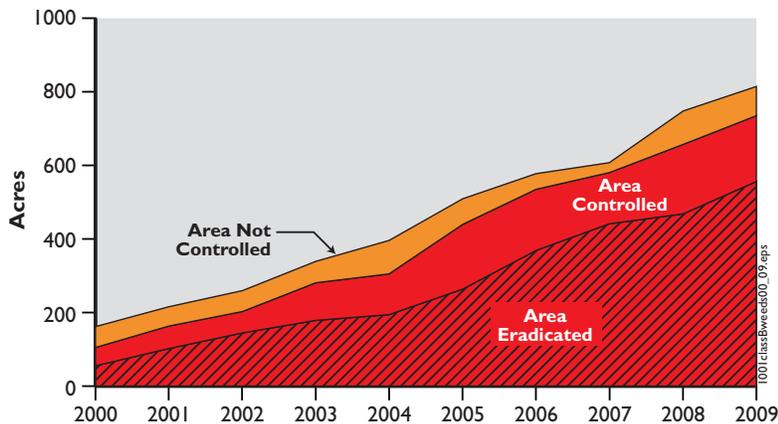
## Eradication of Class A Noxious Weeds



spread) on 99 percent of all Class A weed infestations found in 2009.

In 2009, the program achieved significant overall containment and control of regulated Class B noxious weeds. Program staff surveyed 6,992 parcels and roads with Class B noxious weeds, 439 of which were new discoveries. Overall, control (containment and prevention of seeding or spread) was accomplished on 91 percent of the number of Class B weed infestations and 70 percent of the area of these infestations. This was approximately the same control level attained in 2008. The clear trend from 2000 to 2009 has been an increase in the area controlled and the area eradicated (see chart). The program has now eradicated 62 percent of the original infestation area of Class B noxious weeds.

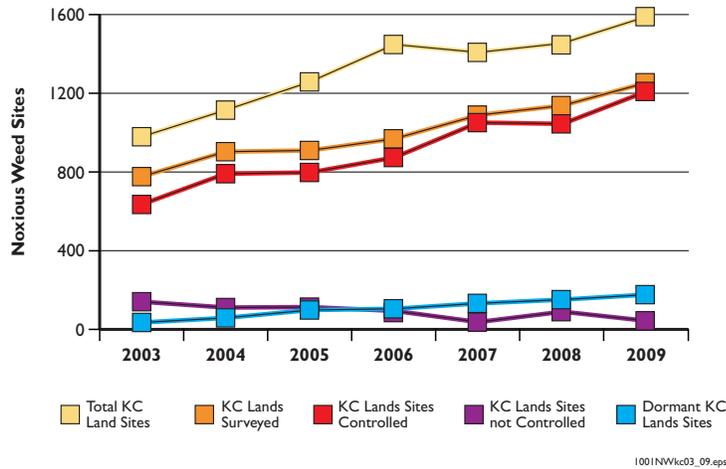
## Control of Class B Noxious Weeds



## King County Lands

King County government is one of the largest landholders in King County tasked with managing roughly 33,470 acres. King County Department of Transportation is also responsible for maintenance on about 1,850 miles of roadway. They also provide vegetation control for the cities of Maple Valley, Covington, and Burien. Noxious weeds were found on lands managed by Parks, Stormwater Services, River and Floodplain Management, Solid Waste, Wastewater, Transit, Facilities Management, and Roads. Program staff maintained an excellent level of survey effort during 2009, and the number of sites controlled by county land managers continued to be high. The most abundant noxious weed found was tansy ragwort, followed by yellow hawkweed. Additional noxious weeds found included spotted and meadow knapweed, orange hawkweed, and sulfur cinquefoil.

### Noxious Weed Sites on King County Lands 2003-2009



Currently, there are 382 known regulated noxious weed sites on county-managed parcels. Staff was able to survey 269 sites and achieved control on 241 (90 percent) of those sites. Staff also surveyed over 400 county roads and identified 982 regulated noxious weed sites along county roads. Control was confirmed on 965 (98 percent) of these sites.

There were five citizen complaints about noxious weed infestations on county property in 2009, the lowest number of complaints recorded by the program since 2002. Noxious weeds were confirmed at all reported sites and responsible land managers controlled the sites prior to any seed dispersal. The complaints involved properties managed by Parks, Roads, and River and Floodplain Management Section.

## State and Federal Lands

The state and federal governments are among the largest landowners in King County with over 3,700 parcels comprising 38 percent of the total area of the county. In 2009, 241 known noxious weed sites were surveyed. Weeds were found and controlled on 212 sites. Continuing surveys for the newest Class A weed, European hawkweed, resulted in four new infested parcels. The Port of Seattle (Seaport) began a new program to control phragmites on Kellogg Island. Also in 2009, initial steps were taken to control the large infestation of orange and yellow hawkweeds at Snoqualmie Summit that is on United States Forest Service land.

Program staff conducted surveys of 18 state highway rights-of-way managed by

### Washington State Department of Transportation (WSDOT) Sites

Year	New Sites	Infested Sites	Controlled Sites	Percent Controlled
2009	31	638	616	96%
2008	55	729	656	90%
2007	46	460	391	85%
2006	58	649	497	77%
2005	118	839	555	67%
2004	87	540	396	74%
2003	88	819	589	72%
2002	100	701	472	67%

the Washington State Department of Transportation (WSDOT) covering 368 linear miles. In 2009, control efforts by WSDOT maintenance crews were responsive and effective, producing timely weed control. Highlights for highway rights-of-way control include continuing success toward eliminating rush skeletonweed on I-90; control of all known sites of the Class A noxious weed European hawkweed on State Route 522, State Route 2, State Route 202, and I-90; and excellent efforts in controlling Dalmatian toadflax on I-90.

## Aquatic Weed Control

Overall, 87 percent of designated aquatic noxious weed sites were controlled in 2009, of which 95 percent are purple loosestrife or garden loosestrife. Significant new areas of garden loosestrife, purple loosestrife and Brazilian elodea were found and recorded, particularly in the Sammamish River. These infestations require considerable planning and resources to control; consequently, most of the new area was not controlled in 2009.

One hundred percent of existing Class A and high priority Class B weeds were controlled. Staff located and controlled three new patches of the Class A weed reed sweetgrass and controlled all known infestations of parrotfeather, floating primrose-willow, water primrose, and yellow floating-heart. Two Class A weeds, hydrilla and common cordgrass, are dormant and probably extirpated from the county.

Intensive surveying is an important program activity. This facilitates early detection of new infestations and a more rapid, effective control response. In 2009, program staff surveyed 16 small lakes, 40 river miles, five stream corridors, five large wetlands, and the southwest quadrant of Lake Washington. Additionally, 39 volunteer Lake Weed Watchers surveyed 15 small lakes and found no new infestations.



Tracking purple loosestrife infestations.

## Education and Community Programs

The program made significant progress toward developing a knowledgeable and engaged community that actively works to reduce noxious weed impacts in the county.

### Technical Assistance to Landowners, Residents and Public Agencies

Program staff worked directly with over 3,135 private and public landowners and agency staff, answered over 600 public inquiries, and responded to 175 public reports of noxious weed infestations. Information was provided to a broad audience through the program's popular website, brochures and booklets, and the newsletter "KC Weed News," which highlights issues relevant to weed control in King County.

The program also provided 44 workshops, trainings and presentations and had informational booths at 24 public events and fairs throughout the county. Two significant projects in 2009 included workshops on invasive knotweed control for property owners in the Snoqualmie, Skykomish, Cedar, and Green River watersheds in conjunction with the program's knotweed control projects in those watersheds and partnering with WSU Extension to develop a youth training and work program focused on invasive weeds in forests and wilderness areas.



Training volunteers to survey for weeds in wilderness areas.

### Upper Snoqualmie Trails Weed Watcher Program

To increase the detection of invasive weeds in the county's wilderness areas, the program teamed up with the United States Forest Service to train volunteer weed surveyors for the Upper Snoqualmie Invasive Weed Project. Sixteen volunteers surveyed 42.5 miles on nine trails, one segment of the Middle Fork river, and one off-trail area. Data from the surveys was provided to the Mountains to Sound Greenway Trust to control invasive weeds in the Upper Snoqualmie Watershed.

### 2009 Education Activities

Public Outreach Tables	24
Workshops and Events	44
Responses to Public Inquiries and Weed Reports	775
Newsletter Subscribers	1,225
Contacts at Events and Workshops	10,453
Brochures and Bulletins Distributed	29,628
Website Visitor Sessions	189,064

## Special Projects

The King County Noxious Weed Control Program was successful in securing grant funding to implement several large-scale, coordinated weed control projects. These projects targeted high priority weed infestations where significant public resources are threatened. The achievements of some of those projects are outlined below.

The only known infestation of the Class A weed goatsrue in the northwestern United States occurs in Federal Way. As such, all known infestations receive intensive eradication efforts, much of it made possible through special grant funding. Since 2005, there has been a dramatic reduction of total square footage of area infested. Of the 22 sites surveyed in 2009, plants were found only on 15 sites and all were treated. Additionally, the program achieved 100 percent control (suppression of seeding and spread) and 100 percent mortality of vegetative plants at each infestation.

Another Class A weed receiving special attention is milk thistle, found scattered across many acres of pasture lands in southeastern King County. In 2009, 63 sites were surveyed and controlled. Of these, two were new. The program achieved 100 percent suppression of seeding of the known infested areas; additionally, the area was smaller (14.1 acres) than in 2008 (16.3 acres), indicating progress toward the goal of eradication. Weed density was greatly reduced as well in the most severely infested pastures.

## Knotweed Control

In 2009, the program managed invasive knotweed control projects on five King County rivers (Green/Duwamish, Cedar, Middle, and South Fork Snoqualmie and South Fork Skykomish) and assisted Mountains to Sound Greenway Trust on two additional projects:

Issaquah Creek and Raging River.

(See summary table for 2009

results.) In all cases, the work focused on the riparian areas where the habitat benefits of knotweed removal would be the greatest. Knotweed control work has been conducted along a total of 59.3 river miles on all seven river systems to date. This weed was significantly reduced in all project areas. For example, the overall footprint of knotweed in the Middle Fork Snoqualmie project area has been reduced by 75 percent since the onset of the project. Infestations were treated using the stem injection method and foliar applications of herbicide. Grant funding for the projects, amounting to \$213,470, was provided by the Washington State Department of Agriculture, Washington State

Department of Ecology, U.S. Fish and Wildlife Service, King Conservation District, and National Fish and Wildlife Foundation Community Salmon Fund. The program provided in-kind contributions to each project.

## Miller/Walker Creek Invasive Plant Removal

The summer of 2009 marked the fourth season of work on the grant awarded by the Port of Seattle to remove a variety of noxious weeds from Miller and Walker creeks in Seatac and Normandy Park. Program staff conducted several miles of surveys on both creeks and accessible tributaries, working with 93 private property owners to access 167 sites. As in the past, Washington Conservation Corps crews and a professional herbicide applicator were hired to assist staff in control work. Targeted weed species for control were policeman's helmet, giant hogweed, purple loosestrife, and Bohemian knotweed. For these species, there has been a 31 percent reduction in infested area and a 61 percent reduction in the density of weeds. Staff noted improved stream habitat and native plant regrowth. With continued monitoring and control from the Port of Seattle and private landowners, this trend should continue.

## Knotweed Control Projects 2009 Results

Project	2009 Treatment Area	Years of Project	Net Acres Treated
Green/Duwamish	Upper and Middle Green River, Soos Creek, Crisp Creek	6	25.15
South Fork Skykomish	Upper SF Skykomish and Tye Rivers	5	4.9
Middle Fork Snoqualmie	All sites on MF Snoqualmie and Roaring Creek	4	1.79
South Fork Snoqualmie	From Olallie State Park to edge of Twin Falls State Park	3	22.40
Cedar River	Upper/Middle Cedar, Landsburg to SR 18	2	30.00
<b>TOTAL</b>			<b>84.24</b>

### Snoqualmie Garden Loosestrife Project

The program received an early infestation grant from the Washington State Department of Ecology to attempt eradication of the Class B noxious weed garden loosestrife on the lower Snoqualmie River over a period of five years, beginning in 2007. Thirty river miles of the Snoqualmie River between Fall City and the King County line were surveyed and all garden loosestrife infestations found were controlled by a contractor and program staff. All landowners with garden loosestrife on their property supported the project. Nine patches on the Raging River were surveyed and controlled by staff; contractors or program staff controlled infestations in five off-channel sloughs, three of them new in 2009. Overall, the area of garden loosestrife in the river corridor is decreasing, but new off-channel infestations continue to be found.

<b>Snoqualmie River (King County)</b>	2007	2008	2009
Total river miles surveyed	27	30	30
Total river sites found	116	132	204
Total area found on river	.57acre	.55acre	.30acre
Total off-channel sites known	1	3	6
Total area found off-channel			1.63
<b>Raging River</b>			
Total river miles surveyed	2	2	2
Total sites found	17	15	9
Total area found	.03acre	.04acre	.03acre
<b>Total Area Treated in the Snoqualmie Valley: 1.96 Acres</b>			

## Future Directions

The current difficult economic climate has seen many property owners reduce spending on even basic costs. The King County Noxious Weed Control Program recognizes the difficult circumstances landowners may face and will make every effort to explore the most cost-effective weed control options available and work with landowners to achieve weed control benefits.

Avoiding or deferring high priority weed control activities, however, is not cost effective in the long run. It results in significantly expanded weed control costs necessary in the future and greatly increased weed impacts. It is a false economy to eliminate or defer noxious weed control budgets.

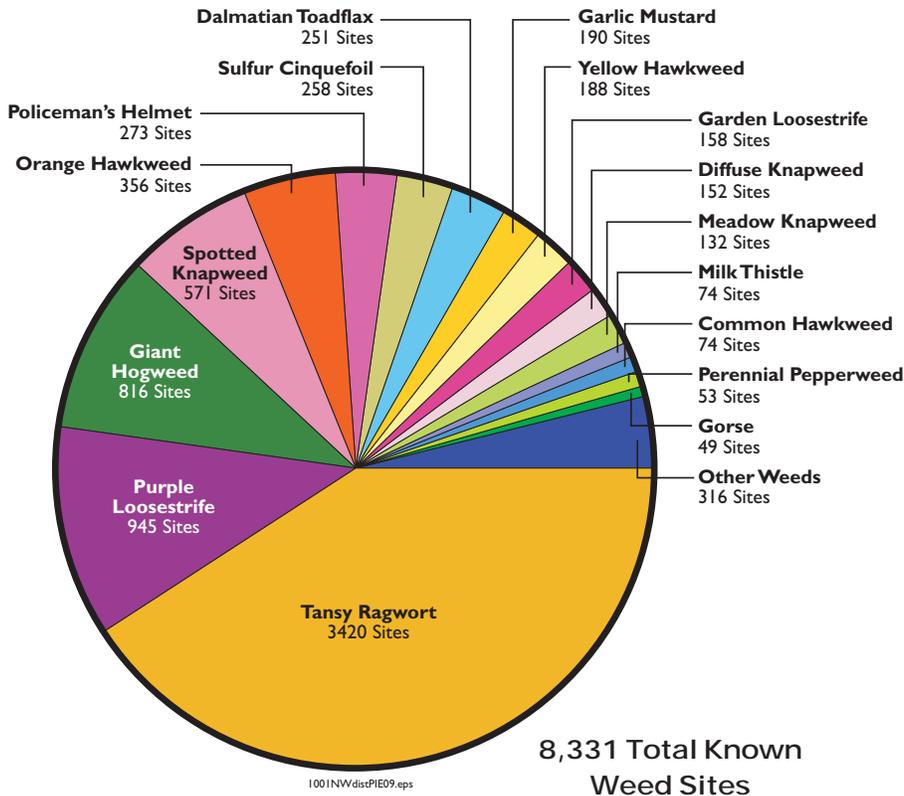
In tough economic times, it is important for land managers to take the long view. Consequently, King County Noxious Weed Control Board has identified the following long-term strategic directions and priorities for the program in 2010 and beyond:

- ◆ Reducing the long-term costs and impacts of noxious weeds through a strategic, well-coordinated weed control effort in the county.
- ◆ Continuing to expand stewardship activities on public lands to build this capacity, including increasing the level of volunteer effort in weed control on public lands, such as the innovative volunteer Weed Watcher program.
- ◆ Increasing the focus on prevention and early detection and rapid response to new and emerging weed threats, including Class A noxious weeds.
- ◆ Expanding efforts to seek external funds to supplement the existing funding available for high priority noxious weed control work.
- ◆ Further funding of biological control research and development through Washington State University to ensure that the cost-effective benefits of biological control of noxious weeds continue to be received.
- ◆ Working with county land managers to develop a more systematic, planned approach to the management of noxious weeds and other invasive plants on county lands, as described in King County Council Motion 12573.



**Department of  
Natural Resources and Parks**  
Water and Land Resources Division  
Noxious Weed Control Program  
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## Noxious Weeds of King County 2009 Distribution



### King County Facts:

- 2,134 square miles
- 1.9 million people
- 775,000 households
- 652,000 acres of parks, trails and forested lands



Alternate formats of this report are available.  
Call 206-296-0290 or TTY Relay: 711

Additional information online at  
[www.kingcounty.gov/weeds](http://www.kingcounty.gov/weeds)