



KING COUNTY NOXIOUS WEED CONTROL PROGRAM

206-296-0290 • www.kingcounty.gov/weeds

2012 annual report



Letter from the Board

Thank you for your interest in noxious weed control in King County. It has again been my pleasure to chair the citizen-based board that oversees noxious weed control activities in the county.



My primary objective in this role has been to ensure that the program is fairly, effectively and efficiently serving the interests of the citizens of King County. In presenting this report to you, I can confidently assure you that this is being done.



This report summarizes the extensive range of activities undertaken by the program and the results achieved in 2012. This is an impressive body of work and the public benefits generated are clearly high in proportion to the funds invested.

A coordinated community-wide noxious weed control effort, sustained over time, is required to produce long-term benefits to the environment, economy and quality of life. I think this report demonstrates that, with your help, we are successfully achieving this in King County.

OUR MISSION

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

Scott Moore,
King County Noxious Weed Control Board

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



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Special Thanks to: *Frances Lucero, Denise Liguori and Edward McFarlin for data analysis; Denise Liguori and Sasha Shaw for managing content and editing; and Megann Devine for layout and design.*

2012 KING COUNTY NOXIOUS WEED CONTROL BOARD

The King County Noxious Weed Control Board is comprised of five volunteer citizens representing five districts within the county. Each member is appointed by the King County Executive and confirmed by the King County Council. One staff person from WSU Extension serves as a non-voting member. The program thanks the following Board Members for serving on the King County Noxious Weed Control Board in 2012:

Jennifer Andreas, WSU

Clint Bostwick

John Browne

Becky Chaney

Scott Moore, Chair

Grace Stiller

The Board oversees activities completed by the King County Noxious Weed Control Program.

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For more information: 206-296-0290 or www.kingcounty.gov/weeds

Top Class A Weeds in King County for 2012

Giant Hogweed
419 sites



77% sites eradicated
100% controlled

Garlic Mustard
311 sites



5% sites eradicated
100% controlled

Milk Thistle
65 sites



24% sites eradicated
100% controlled

Goatsrue
31 sites



26% sites eradicated
100% controlled

Top Class B Weeds in King County for 2012

Tansy Ragwort
5,014 sites



30% sites eradicated
96% controlled

Purple Loosestrife
1,151 sites



20% sites eradicated
93% controlled

Spotted Knapweed
691 sites



37% sites eradicated
94% controlled

Orange Hawkweed
483 sites



15% sites eradicated
96% controlled

Dalmatian Toadflax
338 sites



29% sites eradicated
90% controlled

Yellow Hawkweed
326 sites



10% sites eradicated
92% controlled

Sulfur Cinquefoil
318 sites



26% sites eradicated
97% controlled

Diffuse Knapweed
263 sites



29% sites eradicated
90% controlled

Policeman's Helmet
219 sites



48% sites eradicated
92% controlled

Garden Loosestrife
204 sites



6% sites eradicated
88% controlled

Definitions (RCW 17.10, WAC 16-750)

Control - In a given year, prevent all seed production and prevent the dispersal of all propagative parts capable of forming new plants.

Eradicate - completely eliminate a noxious weed within an area of infestation.

Class A Weeds - Class A weeds are the highest priority in the state due to their significant potential impact and limited distribution. Property owners are required to eradicate all Class A noxious weeds from their property.

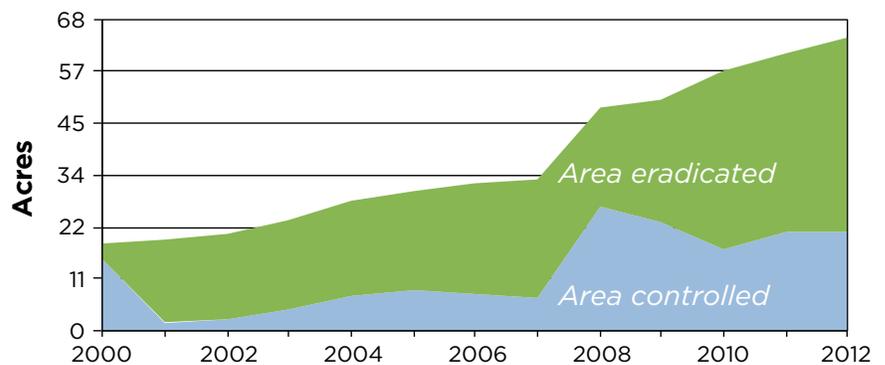
Regulated Class B Weeds - Class B weeds have a split distribution in the state and are regulated where they are limited in distribution or where they are a local priority. Property owners are required to control Class B weeds that have been designated by the State Weed Board or selected by the County Weed Board as priority weeds in their county.

Major Results Towards Achieving Program Goals

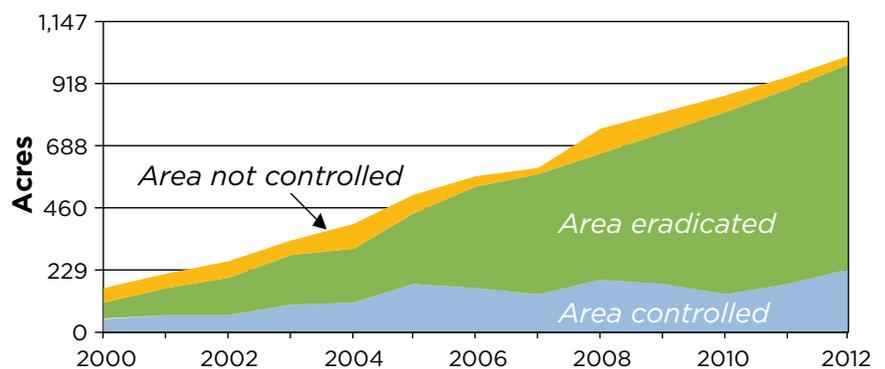
Left uncontrolled, noxious weeds can dominate our forests and natural areas, choke wetlands and waterways and create additional costs to agriculture. The keys to minimizing these impacts are prevention of weed establishment and a rapid response to new infestations once they are discovered. The King County Noxious Weed Control Program (Program) strategy is to apply these tactics to high priority noxious weed infestations identified in the County.

While landowner noxious weed control requirements are mandated by the State Noxious Weed Control Law, the Program works hard to achieve control of noxious weeds through voluntary cooperation and participation of landowners and citizen volunteers. In particular, the Program aims to encourage long-term stewardship of open space and agricultural lands, as noxious weeds often result from neglect. The involvement of all landowners

Control of Class A Noxious Weeds in King County



Control of Class B Noxious Weeds in King County



in a comprehensive approach is important because noxious weeds can rapidly spread across property boundaries.

Each year, program staff actively survey known noxious weed infestation

sites, search for new sites, and check on reports from citizens. Once the presence of regulated noxious weeds is verified, program staff work with landowners to achieve successful control.

To help protect the state's resources, the Washington State Noxious Weed Control Board adopts a statewide noxious weed list each year. Each county Noxious Weed Control Board then adopts a prioritized county noxious weed list that determines which species property owners and public agencies are required to control.

Class A noxious weeds receive the highest priority because they are limited in distribution, making eradication possible. Out of the 41 Class A noxious weed
Continued on next page

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 infestation to below levels of significant impact.
- Implement early detection and rapid response for infestation of new noxious weeds with limited distribution.
- Support the management of widespread noxious weeds and facilitation of more effective, coordinated landscape-scale control efforts.

MAJOR RESULTS TOWARDS ACHIEVING PROGRAM GOALS (continued)

species on the Washington State Noxious Weed List, 18 have been found in King County.

The goal for these weeds is eradication of existing infestations and the prevention of new invasions. The program and property owners have now eradicated 66.4 percent of the original infestation area identified on parcels in the county (an increase from 64.5 percent in 2011). This is another step towards the long-term goal of eradication of Class A noxious weeds (see Class A chart). Prevention of seeding is crucial to achieving eradication of noxious weeds. The program achieved control (containment and prevention of seed or spread) on nearly 100 percent of all Class A weed infestations found in 2012. No new Class A noxious weed species has become established in the County in the last five years.

The Program, working with landowners, also achieved significant overall containment and control of regulated Class B noxious weeds. Staff surveyed 8,999 parcels and roads with Class B noxious weeds, 584 of which were new discoveries. In 2012, control was accomplished on 93.6 percent of the known Class B weed infestations and 86 percent of the total area infested. From 2001 to 2012, the trend has been a significant increase in the area controlled and the area eradicated (see Control of Class B chart).



Aquatic Weed Control

During 2012, 92 percent of Class A and regulated Class B aquatic noxious weed sites surveyed were controlled. The majority of these infestations are purple and garden loosestrife. Loosestrife infestations on a few large wetlands could not be controlled, so the percent of area controlled is lower than for the number of sites. 96 percent of the garden loosestrife area and 62 percent of the purple loosestrife area were controlled. In addition, the results of garden loosestrife control trial plots, initiated in 2011, suggest that a low concentration of the aquatic herbicide imazapyr applied early in the summer (late June) will improve the effectiveness of this control effort.

One hundred percent of the Class A aquatic weeds and nearly all of the remaining regulated Class B aquatic weeds were controlled. Program staff located and controlled all known infestations of parrotfeather, reed sweetgrass, floating primrose-willow, water primrose, and yellow floating-heart.

Intensive surveying is an important program activity. This facilitates early detection of new infestations and a more rapid, effective control response. In 2012, program staff surveyed 22 small lakes, 35 river miles, several streams and wetlands, and much of the Sammamish River.



County Lands

King County agencies with land management responsibilities are required to control regulated noxious weeds to at least the same standards as other property owners. County agencies are responsible for managing 41,641 acres of land and over 1,500 miles of road right-of-way (ROW). During 2012, noxious weeds were found on areas managed by eight county agencies. In all cases, their staff responded quickly to control the noxious weeds after being notified.

Noxious Weed Control Performance on County Land

Currently, there are 2,411 active regulated noxious weed sites on county-managed lands. In 2012, staff were able to survey 2,303 sites and control was achieved on 2,274 (98.7 percent) of those sites. This continued the overall trend of improved noxious weed control performance by county agencies. In particular, the King County Parks and Recreation Division (Parks) significantly improved its weed control activities and response time. The level of control achieved by all county agencies remained high (98.7 percent of sites controlled) when compared to non-county control (94 percent).

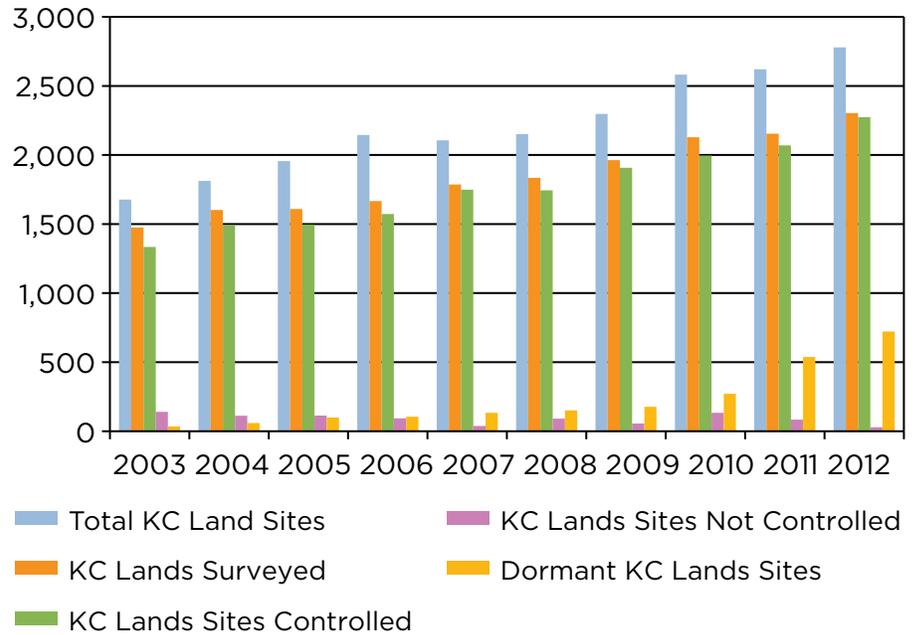
In addition to controlling regulated noxious weeds, county agencies were able to do a significant amount of control on non-regulated noxious weeds. In particular, the Road Services Division of the Department of Transportation was able to control 420 knotweed sites that were identified along county maintained ROW. Parks also controlled a significant amount of non-regulated noxious weeds (Table 1).

There were 11 complaints lodged by concerned citizens about noxious weeds growing on county-managed lands. All complaints were checked and noxious weeds were confirmed on all reported sites. All reported sites were controlled prior to seed dispersal.

Non-Regulated Noxious Weed	Number of Parks	Acres Controlled
Blackberry	24	74
English Holly	6	1
English Ivy	9	10
Butterfly Bush	12	10
Yellow Archangel	5	2.5
Old Man's Beard	2	1/2

Table 1: King County Parks Non-Regulated Noxious Weed Control

Noxious Weed Sites on King County Owned Lands 2003-2012



2012 State and Federal Lands



Common reed infestation on the Duwamish River

The state of Washington and the federal government have more than 3,700 parcels within King County, comprising 38 percent of its area. In 2012, 299 previously recorded regulated noxious weed infestations were surveyed on 249 parcels and 208 infestations were found on 145 of these parcels.

Program staff continued to develop successful working relationships with state and federal land managers:

- With funding from the Washington State Department of Natural Resources, the Program achieved control of garden and purple loosestrife in difficult to access state-owned riparian areas.
- The Program established new collaborative working relationships with the Department of Commerce for control of purple and garden loosestrife on Lake Washington and Portage Bay in 2012.

- The Program continued to assist the Port of Seattle in successfully controlling one of the largest infestations of common reed on the Duwamish River. This invasive weed significantly damages habitat in wetlands and riparian areas and has significant potential to dominate many estuarine habitats in Puget Sound.

- Program staff partnered with the U.S. Forest Service in surveying and controlling noxious weeds in the Mt Baker Snoqualmie National Forest in eastern King County.
- Program staff conducted surveys of 18 state highways managed by the Washington State Department of Transportation (WSDOT) covering 368 linear miles. WSDOT crews were effective in most areas, delivering timely and effective weed control.
- Highlights for highway ROW control in 2012 include: continued success controlling the Class A noxious weed European hawkweed on SR 522, SR 2, and I-90; control of rush skeletonweed sites on I-90 and SR 18; and excellent progress in controlling Dalmatian toadflax on I-90, I-5 and SR 599.



Orange hawkweed at Snoqualmie Pass threatens the Alpine Lake Wilderness

Education Activities



The Program continued to progress towards building a knowledgeable and engaged community that actively works to reduce noxious weed impacts in the county.

Technical Assistance

Program staff worked directly with 4,096 landowners and agency staff, answered over 485 public inquiries, and responded to 150 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.

2012 EDUCATION ACTIVITIES

23 information booths, outreach events

58 workshops and presentations

654 responses to public inquiries and weed reports

1,551 newsletter subscribers

8,548 contacts at events

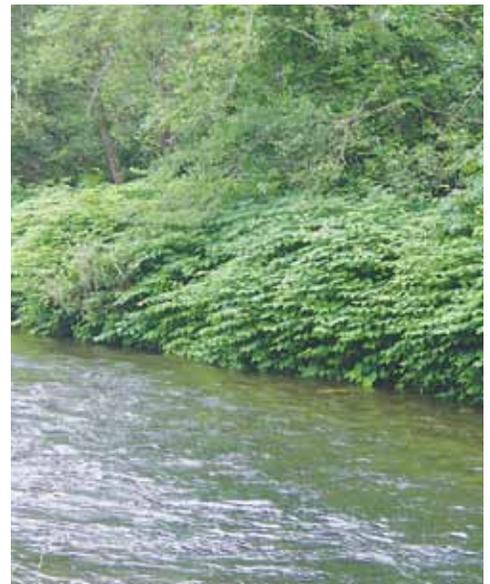
10,245 brochures and bulletins distributed

376,521 website visits

The Program provided 58 workshops and presentations and had information booths at 23 public events and fairs throughout the county, including eight Farmer's Markets and several large events such as the Maple Valley Days, Enumclaw Street Fair, Vashon Strawberry Festival and Issaquah Salmon Days. The popular professional noxious weed workshop series was offered again. The three classes were attended by a total of 200 participants from municipal, county, state, and federal agencies and non-profit and private businesses.

This year, four separate professional knotweed control workshops were attended by 98 participants. The Program also organized a Puget Sound Knotweed Forum seminar, attended by 40 professionals from around the Puget Sound region.

Homeowner knotweed control outreach included a series of free workshops on knotweed control for property owners. In 2012, 77 people attended these workshops, which were held in Covington, North Bend, Maple Valley, West Seattle, and Newcastle. This effort complements the Program's grant-funded knotweed control projects on major rivers in the county by increasing knotweed control on private and public property in upland areas around the priority river habitat, and generally increases the public interest in reducing the impact of this invasive plant.



Controlling knotweed on the Cedar River

Customer Satisfaction Survey

Outstanding customer service is fundamental to the mission of the Noxious Weed Control Program. To help measure the quality of our service to the citizens of King County, the Program conducted a customer satisfaction survey in the fall of 2012. Surveys were sent to 3,074 people who interacted in some way with the program in 2012.

These customers included: property owners contacted by the program about regulated noxious weeds; property owners who were offered weed control services through special projects; agencies, organizations and volunteers who worked with the Program during the year; and people who attended workshops, requested information, or reported weed infestations. Close to 20 percent of the people receiving survey requests

responded either by mailing in a paper survey (325) or by responding to an online survey (256), for a total of 581 responses.

Survey Results

The majority of people who responded expressed satisfaction with the Program, with 82 percent responding that they were satisfied (30 percent) or very satisfied (52 percent). In contrast, only 7 percent responded that they were dissatisfied or very dissatisfied with the Program overall and 11 percent were neither satisfied nor dissatisfied. People's opinions about Program staff were even more positive, with 87 percent and 88 percent responding that they were satisfied or very satisfied with staff competence and courtesy, respectively. When asked



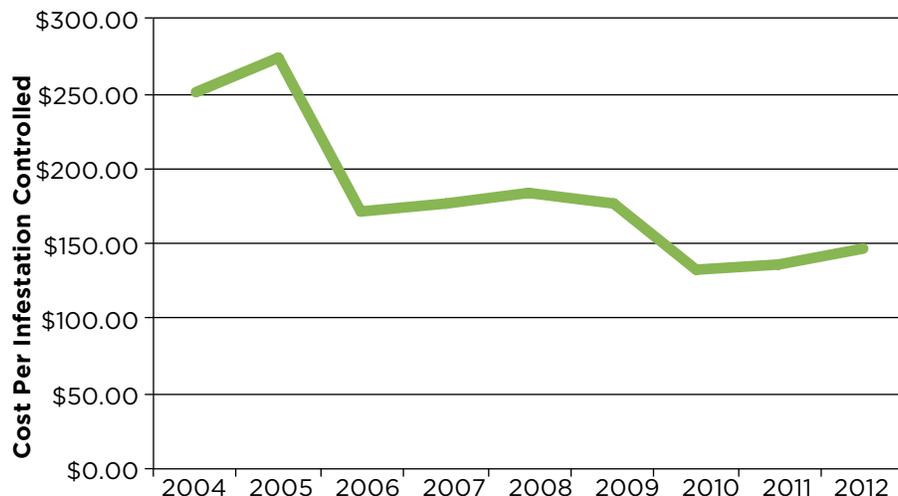
about service provided just in 2012, 86 percent reported they were satisfied or very satisfied and only 5 percent were dissatisfied or very dissatisfied.

In general, high levels of satisfaction were expressed by people from many different parts of the county, from rural to urban and from north to south. Lower levels of satisfaction appear in a few areas, and this feedback will be considered when planning future activities.

Program Efficiency: Cost Per Infestation Controlled

As part of King County's "lean" efficiency initiative, the Program has been aiming for continual improvement in Program efficiency. As a result, Program costs per infestation controlled have been progressively reduced. These improvements have been made by involving staff in the development and use of more efficient work practices, and the use of technology and more efficient communications processes. The Program provides performance measures for efficiency to the county-wide Kingstat performance management system. In 2012,

the Program was one of two selected county-wide to assist in the development of improved performance management systems in King County.



Stewardship Highlights 2012

The King County Noxious Weed Control Program works in partnership with landowners, volunteers, public agencies and non-profits to achieve improved land stewardship. Working together, the Program achieves effective weed detection and coordinated weed control over a large number of connected properties.

Major stewardship projects include:

1 Trail Weed Watchers

- 71 volunteers were trained as weed watchers by the Program and The Mountaineers.
- The volunteers contributed 750 hours and surveyed 69 different trails, covering 238 miles.
- Over 400 locations of invasive plants were recorded and 41 invasive plant species were reported.
- Primary project partners include the Mountains to Sound Greenway, The Mountaineers, the Mt. Baker Snoqualmie National Forest, the Washington State Department of Natural Resources, and King County Parks.
- Program project areas include the Middle Fork Snoqualmie Valley, the Upper South Fork Snoqualmie Watershed, the Alpine Lakes Wilderness and the Upper Snoqualmie Watershed.

2 Snoqualmie River Aquatic Weed Control

- Approximately 100 landowners worked together to control garden loosestrife and other regulated noxious weeds along 33 miles of the Snoqualmie River and adjacent wetlands.
- Primary project partners are the Washington State Department of Natural Resources and adjacent landowners.

3 Lake Desire Aquatic Weed Control

- Over 100 volunteer hours have been contributed to the project by lake property owners.
- Control of purple loosestrife, fragrant water lily and Eurasian water milfoil.
- Primary project partners include the Washington State Department of Ecology, King County Department of Natural Resources and Parks (DNRP), and Lake Desire residents.

4 Miller and Walker Creeks Weed Control and Restoration

- 6.5 miles of creek and wetland surveyed multiple times.
- Approximately two acres of giant hogweed, policeman's helmet, purple and garden loosestrife, and invasive knotweeds were controlled on properties adjacent to Miller and Walker Creeks, and Lake Burien.



- 130 volunteers contributed 670 hours of work removing noxious weeds and invasive plants and planting over 500 native plants.
 - Program partners include the National Fish and Wildlife Foundation and creek and lake property owners.
- ### 5 Invasive knotweed species control on the Green, Cedar, Skykomish and Snoqualmie Rivers
- 42 acres of invasive knotweed species were controlled along riparian corridors and wetlands.
 - Worked in collaboration 702 landowners.
 - Project partners include the US Fish and Wildlife Service, King Conservation District, Environmental Protection Agency, National Fish and Wildlife Foundation, Friends of the Cedar River Watershed, Forterra, Washington State Department of Ecology, and private landowners.
 - The project also encourages control beyond the immediate riparian corridor through knotweed control workshops, equipment loan, and technical support.

STEWARDSHIP HIGHLIGHTS 2012 (continued from page 7)

6 Alpine Noxious Weeds

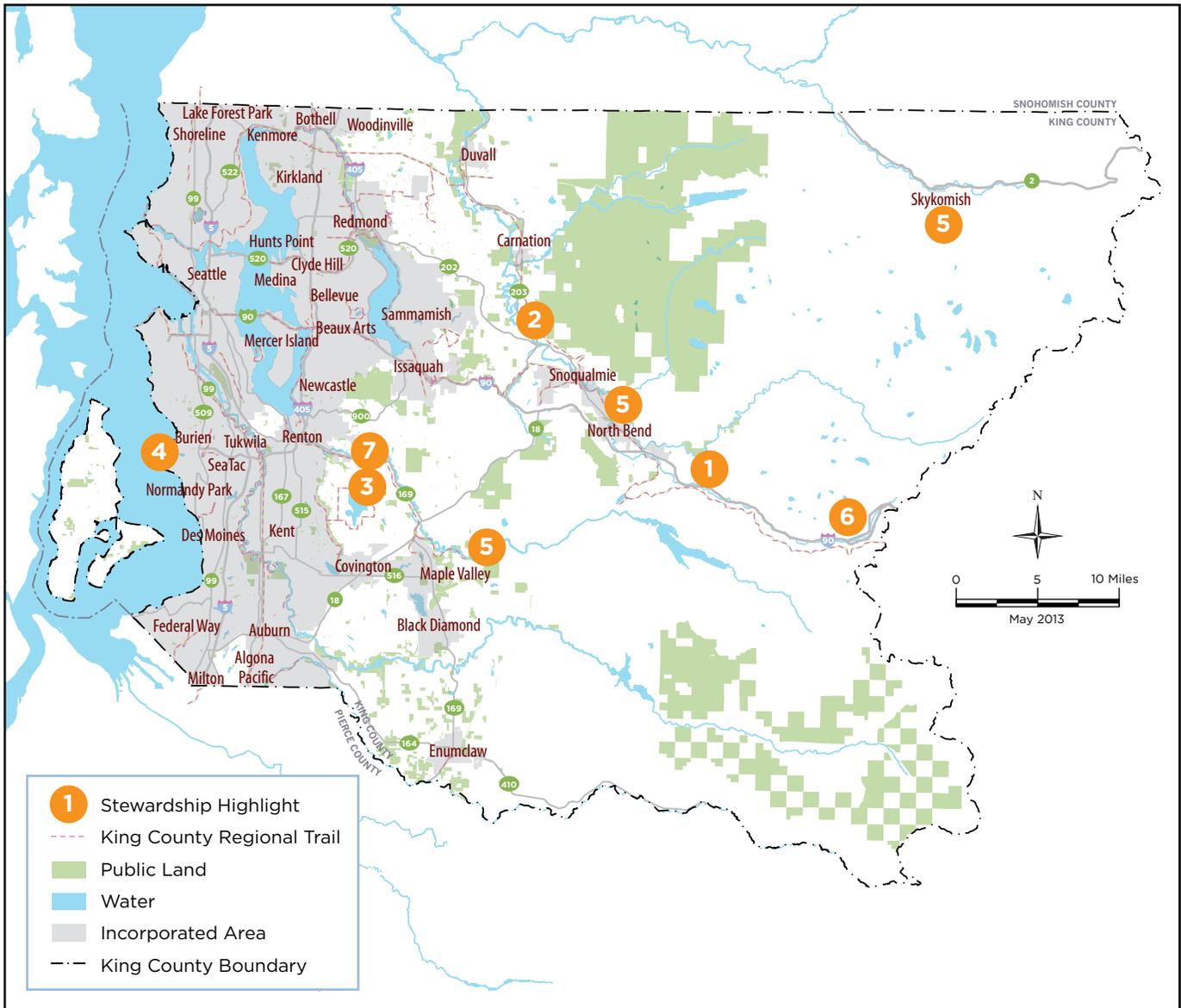
- Control of European, orange and yellow hawkweeds, spotted, diffuse and meadow knapweeds, sulfur cinquefoil, tansy ragwort, Scotch broom and absinth wormwood at approximately 360 locations.
- This project spans the Cascade crest into adjacent Kittitas County and the Okanogan-Wenatchee National Forest.

- Stakeholders include the United States Forest Service, Washington State Department of Transportation, Washington State Parks, Washington State Department of Agriculture, Washington State University Extension Service, Kittitas County Noxious Weed Control Board, Bonneville Power Administration, Puget Sound Energy, Mountains to Sound Greenway, The Summit at Snoqualmie, numerous private landowners in the Alpental Village Homeowners

Association and landowners in the towns of Skykomish and Baring.

7 Garlic Mustard Control

- 311 sites controlled in collaboration with: City of Seattle, City of Bellevue, King County Parks, King County Water and Land Resources Division, King County Flood Control District, Seattle Public Utilities, Washington State Department of Natural Resources, City of Black Diamond, Lions Club of Renton and private property owners.





ABOUT KING COUNTY

2,131
square miles

850,000
acres of parks and
forested lands

175
miles of
trails

2012 MAJOR PROGRAM ACTIVITIES

11,391 infestations
surveyed

4,096 property
owners contacted

10,009 infestations
controlled

680 new infestations
found

197 acres of weeds
controlled by property
owners

114 acres of weeds
controlled by program

7,620 hours spent in
the field by staff

1.9 million
people



King County

Department of Natural Resources and Parks
Water and Land Resources Division

Noxious Weed Control Program

**For more information: 206-296-0290 or
www.kingcounty.gov/weeds**

Alternative formats available

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