

King County Noxious Weed Control Program

2021 ANNUAL REPORT



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.



King County

Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section

Noxious Weed Control Program
206-477-9333
kingcounty.gov/weeds

Letter from the Board

On behalf of the King County Noxious Weed Control Board, I am pleased to present to you our annual report. The benefits described in this report are the result of the important investment by the people of the county through direct participation and through funding provided to the Noxious Weed Control Program.

Despite 2021 being a particularly difficult year, this report shows the value of maintaining the Program's long-term strategy to minimize the harmful impacts of noxious weeds to the environment, recreation, public health, and the economy. The actions taken, the results achieved, and the benefits provided from this strategy are described in this report. Only a comprehensive, coordinated, community-wide effort can be successful in the long run to achieve noxious weed control.

Thank you for your interest and active participation in achieving this in King County.

Grace Stiller, Chair

King County Noxious Weed Control Board

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The bright blooms of Policemen's Helmet, a Class B Noxious Weed. Photo by Allison Bachner.

Special thanks to:

Mattia Boscolo for data analysis.

Roy Brunskill, Tricia MacLaren, Jennifer Andreas, Sayward Glise, Dan Sorensen, and Sasha Shaw for content.

Sasha Shaw and Ashley Shattuck for content, editing, design and production.

For more information:

206-477-9333 or **kingcounty.gov/weeds**

Cover image: Noxious weed control in 2021 – Program staff Erin Martin surveying for garlic mustard along the Cedar River. Photo by Sara Price.

King County Noxious Weed Control Board

The King County Noxious Weed Control Board sets county weed control priorities, adopts the county weed list, and oversees the Noxious Weed Control Program according to the requirements of the State Noxious Weed Law, [RCW 17.10](#). The Board was activated by the King County Council on August 7, 1992, in response to a citizen's petition. The Board produces this Annual Report on the performance and activities of the Noxious Weed Control Program.

The Board is composed of five residents representing the five noxious weed districts within the County. Board members are volunteers appointed by the King County Executive and confirmed by the King County Council. In addition, one staff person from WSU Extension serves as a non-voting member. The following Board Members served on the King County Noxious Weed Control Board in 2021:

Alaine Sommargren, Board District 1
Becky Chaney, Board District 2
John Browne, Board District 3

Grace Stiller, Chair, Board District 4
Eldon Murray, Board District 5
Jennifer Andreas, WSU Extension

Noxious Weed Control Program Staff 2021

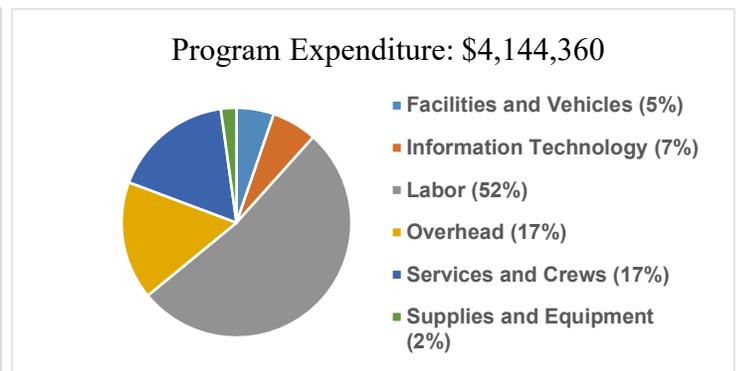
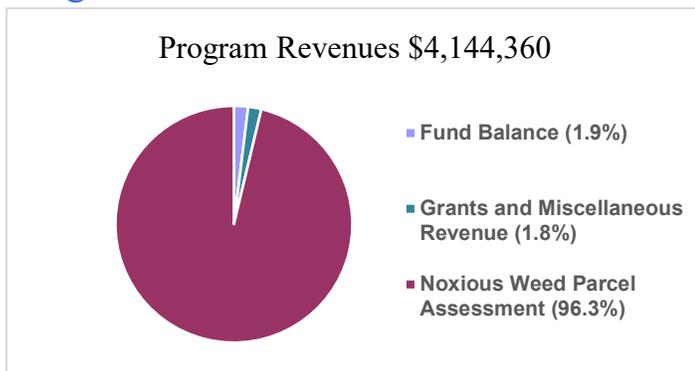
The Noxious Weed Control Program ("Program") works throughout King County to reduce the economic, environmental, and social impacts of noxious weeds. Noxious weeds are defined as non-native and aggressive, but with the potential to be eradicated or controlled in the state. Program staff work with all land managers in the county—public and private-- to achieve this. Staff focus on direct service, efficiency, and technical expertise. The goal is to help everyone find the best control options for noxious weeds on each site and to reduce the overall impact of noxious weeds throughout the county. Program staff focus on all regions of the county, public lands, aquatic weeds, rivers, conservation lands, as well as on education.

Program Manager: Steven Burke
Administration: Denise Liguori
Communications and Education: Sasha Shaw, Marta Olson
County Lands: Roy Brunskill
State and Federal: Tricia MacLaren

Aquatics: Ben Peterson
Healthy Lands: Dan Sorensen
Region Leads: Allison Bachner, Ashlie Arthur, Mattia Boscolo, Tom Erler, Matthew Martin, Minwook Park, Ashley Shattuck, Maria Winkler

Riparian Specialists: Justin Brooks, Casey Fate, Sayward Glise, Erin Haley, Sara Price
Field Technicians: Avery Bowron, Megan Chaplin, Erin Martin, Skye Pelliccia

Program Finance



The Program is funded through a special assessment on property tax bills of \$5.32 a year per parcel plus 38 cents per acre on all properties in the county, with the exception of property classified as forest land and federal and tribal properties. Property classified as forest land is assessed at the rate of 53.2 cents per parcel plus 3.8 cents per acre.

Noxious Weed Control Program – Year in Review and Progress Report

Controlling and monitoring noxious weeds

Surveyed **12,979** infestations of regulated and priority noxious weeds.

Controlled **90** percent of sites (**11,739** of **12,979**), covering **800** acres. Property owners controlled **7,562** sites and program staff controlled **4,177** sites.

Eradicated **48** percent (**9,153** sites out of **19,252**) of all infestations found since 1996. No weeds have been found on those sites for three years or more.

Eradicated **82** percent of the area of regulated noxious weed infestation (**1,549** of **1,892** acres) recorded since 1996.

Reaching out and helping during a pandemic

Contacted and/or assisted **6,142** landowners and public agencies, including **60** landowners who received noxious weed assistance through the Healthy Lands Project.

Alerted agencies about **407** poison-hemlock infestations on public roads and lands, **286** of which were controlled (an increase of **43%** and **55%**, respectively from 2020).

Responded to **1,800** information requests and noxious weed reports from the public and had booths at **5** community events while maintaining public health Covid safety guidelines.

Taught people about noxious weeds at **8** webinars with a total of **814** participants and presented on noxious weeds at over **20** online workshops and meetings held by other organizations.

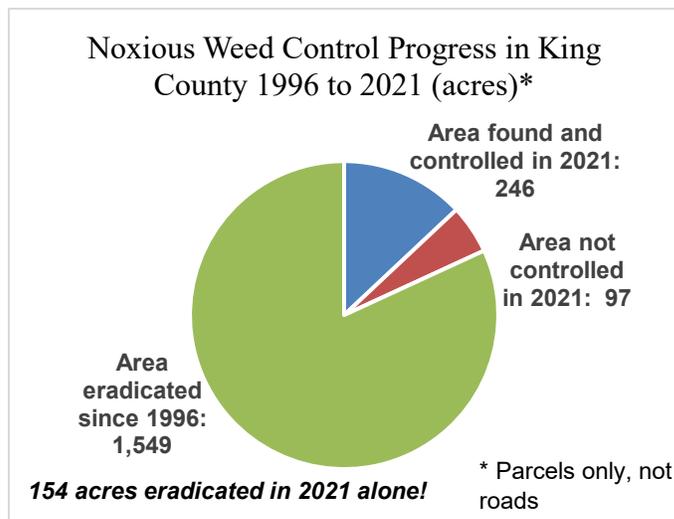
Produced online information reaching **6,542** subscribers, **83,256** blog visitors, and **559,000** unique web page views.

Protecting against new outbreaks and threats

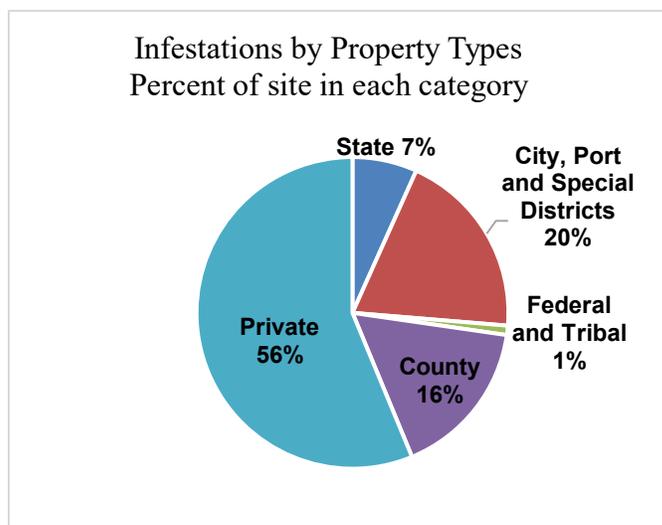
Responded to **636** public reports of noxious weeds.

Located **354** new regulated noxious weed infestations.

Controlled **94** percent of all known Class A noxious weed sites and **88** percent of all known regulated Class B noxious weed sites.



Noxious weed specialist Ashlie Arthur controlling milk thistle in a pasture on the Enumclaw Plateau. Photo by Skye Pelliccia.



Major Noxious Weeds in King County: 2021 Snapshot

Top Class A Weeds in King County⁵

Garlic Mustard
597 active sites²



10% eradicated¹
92% controlled

Giant Hogweed
250 active sites³



88% eradicated¹
98% controlled

Milk Thistle
58 active sites¹



41% eradicated¹
97% controlled

False Brome
37 active sites²



0% eradicated¹
100% controlled

Goatsrue
24 active sites³



44% eradicated⁴
93% controlled

Top 10 Regulated Class B Weeds in King County⁶

Tansy Ragwort
4,750 active sites²



45% eradicated⁴
87% controlled

Purple Loosestrife
1,191 active sites²



26% eradicated¹
91% controlled

Orange Hawkweed
506 active sites³



28% eradicated⁴
95% controlled

Poison-hemlock
422 active sites²



0% eradicated¹
70% controlled

Spotted Knapweed
407 active sites³



64% eradicated⁴
91% controlled

Shiny Geranium
286 active sites²



1% eradicated¹
65% controlled

Sulfur Cinquefoil
235 active sites³



52% eradicated⁴
92% controlled

Yellow Hawkweed
223 active sites³



50% eradicated⁴
93% controlled

Garden Loosestrife
200 active sites¹



10% eradicated¹
90% controlled

Dalmatian Toadflax
188 active sites³



60% eradicated⁴
91% controlled

Definitions (RCW 17.10, WAC 16-750)

Class A:

Eradication required by State Law due to limited distribution in the state and potential significant impact to the state's economy and environment.

Regulated Class B:

Control required by State Law. Class B weeds are regulated in areas of the state where they are limited in distribution to prevent further spread.

Eradicate:

Completely eliminate a noxious weed within an area of infestation. No weeds have been found on those sites for three years or more.

Control:

In a given year, prevent seed production and dispersal of parts capable of forming new plants.



Program staff surveying for aquatic noxious weeds. Photo by Allison Bachner.

¹ No change from 2020

² More sites than 2020

³ Fewer sites than 2020

⁴ Percent eradicated up from 2020

⁵ Out of 30 Class A species

⁶ Out of 47 regulated Class B species

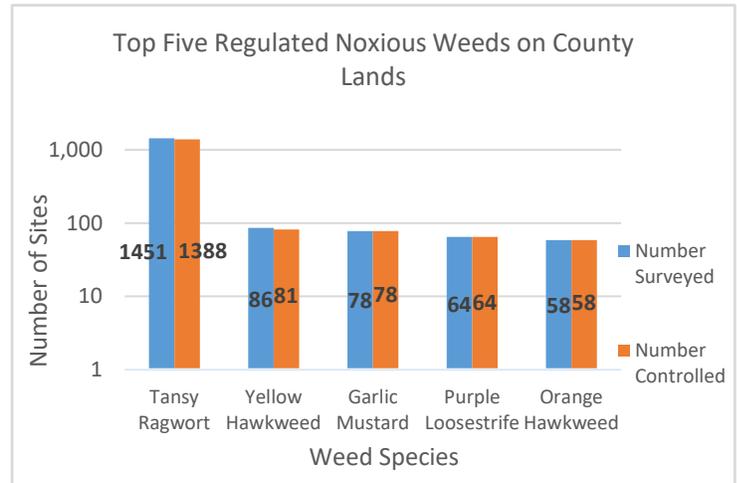
County Lands Weed Control

Even with the continued uncertainties presented by the COVID-19 pandemic, County agencies controlled 95 percent of the 2,003 infestations of regulated noxious weeds located by Program staff in 2021 on King County owned or managed lands.

There were 27 different species of regulated noxious weeds found. The top five species found on county managed properties are tansy ragwort, yellow hawkweed, purple loosestrife, orange hawkweed, and garlic mustard.

In prior years, County agencies might receive numerous complaints from property owners concerned about noxious weeds on county lands that could infest their properties. In 2021, zero complaints were received by the Program about noxious weeds on county lands. King County agencies manage approximately 40,000 acres, 1,500 linear miles of road rights-of-way, and 390 miles of trails. As one of the largest land managers in King County, county agencies were able to control 96 percent of noxious weed sites.

In addition to controlling regulated noxious weeds, the King County Parks and Recreation Division successfully controlled 64 acres of non-regulated noxious weeds and other invasive vegetation on its properties. This work included 34 acres of blackberry, 14 acres of thistle and teasel, 11 acres of knotweed, six acres of butterfly bush, three acres of Scotch broom.



Control of Regulated Noxious Weeds on County-Managed Lands 2021		
Agency	Number of Sites Surveyed	Percent Sites Controlled
Road Services	1677	97
Parks and Open Space	154	96
Stormwater Services	110	73
River and Floodplain Management	49	96
Facilities Management	3	100
Solid Waste	7	100
Metro Transit	2	100
King County Sheriff	1	100



During 2021 surveys a large Class B noxious weed gorse, *Ulex europaeus*, infestation was found in the southeast area of unincorporated King County. The infestation involves multiple property owners including King County Parks. A significant portion of the infestation is on a steep cliff side with difficult access. Currently staff are considering control and management options including biological control. In the spring of 2022, the site will be assessed by the WA State Integrated Weed Control Project to see if the size and the location of the gorse is suitable for a biological control project.

Aerial view of Class A noxious weed gorse (yellow) infestation on a steep cliff in rural King County. Photo by Roy Brunskill.

State, Federal and Tribal Lands Weed Control

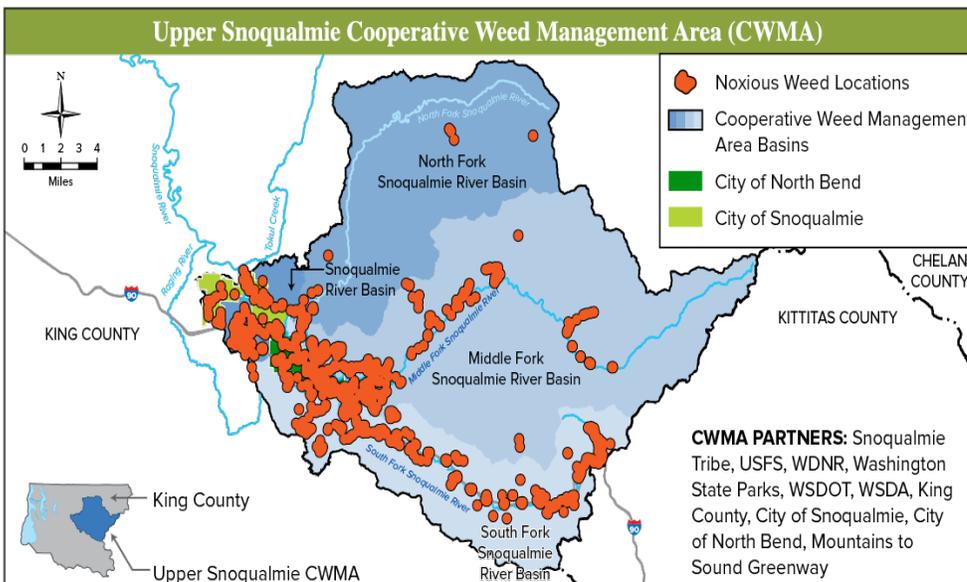
State and federal agencies own more than 3,700 parcels within King County, comprising 38 percent of its area. In 2021, there were 357 active regulated noxious weed sites on state and federal parcels, including five new sites. Staff surveyed 98 percent of the sites and 97 percent of those sites were controlled.

In addition, the Washington State Department of Transportation (WSDOT) maintains 18 state highways that traverse King County, covering 368 linear miles. Program staff surveyed 100 percent of the 581 regulated noxious weed sites on state highways, and 95 percent of those sites were controlled through cooperation between WSDOT and Program staff.

King County is on the traditional land of Coast Salish people, whose descendants are now affiliated with the Duwamish, Muckleshoot, Puyallup, Snoqualmie, Suquamish, and Tulalip Tribes. The Program works cooperatively with the Tribes to reduce the impacts of noxious weeds on their lands and resources

Highlights of the Program’s successful working relationships with state, federal and tribal land managers:

- Facilitated the Upper Snoqualmie Cooperative Weed Management Area to foster collaboration among the Snoqualmie Tribe, federal, state, county, city agencies, and non-governmental organizations to manage noxious and invasive weeds more effectively, protecting the quality habitats of the project area (see map below).



- Worked with the Muckleshoot Tribe to reduce the impacts of Class B noxious weeds spotted knapweed and wild chervil on its lands and natural resources.
- Collaborated with the Snoqualmie Tribe, treating the Class B noxious weeds-- tansy ragwort and knotweed.
- Controlled Class B noxious weeds purple and garden loosestrife on Lake Washington and Portage Bay through collaboration with the U.S. Department of Commerce.
- Collaborated with the U.S. General Services Administration to control the only site of Class B noxious weed musk thistle.
- Partnered with the U.S. Forest Service to survey and control noxious weeds in the Mt. Baker-Snoqualmie National Forest.
- Controlled noxious weeds in state-owned



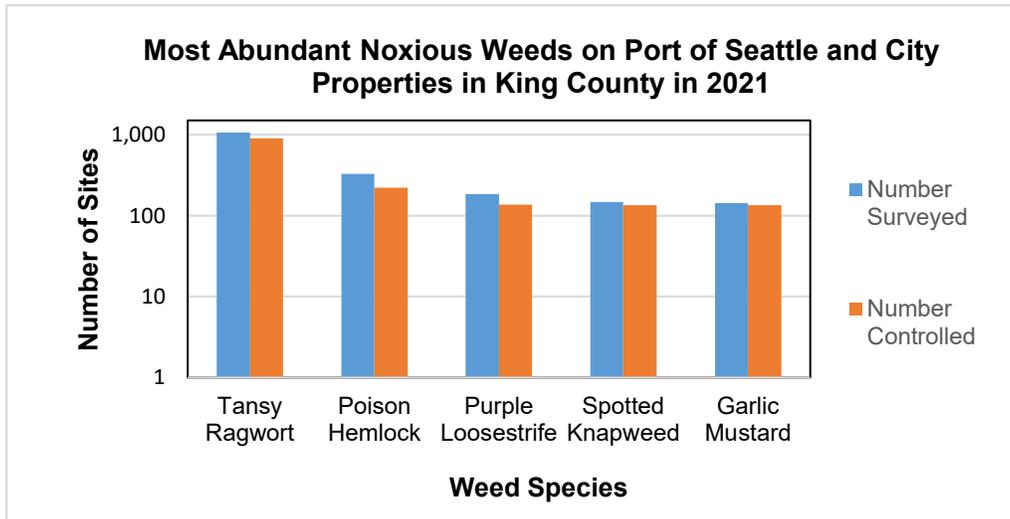
WCC crew member with garden loosestrife at a NOAA property. Photo by Tricia MacLaren.

riparian areas through the Washington State Department of Natural Resources (WDNR) provision of Puget Sound Corps crew time (see Puget Sound Corps Highlights Section).

- Collaborated with the Washington State Parks and Recreation Commission for successful control of noxious weeds within state parks.
- Collaborated with the Bonneville Power Administration for control of noxious weeds on its properties and easements

Cities and Port of Seattle Weed Control

The Noxious Weed Control Program works with the Port of Seattle and all 39 cities and towns within King County to achieve comprehensive, coordinated noxious weed control across all local jurisdictions. In 2021, municipalities and the Port of Seattle continued to face significant challenges due to the continuing pandemic and were able to control most of their regulated noxious weeds. This included 221 poison-hemlock and 894 tansy ragwort infestations. Overall, program staff surveyed 2,450 sites of 37 different regulated noxious weed species and documented control on 82 percent of the sites (2,007 sites) on city and Port properties and roads.



Program staff coordinated with the cities and the Port of Seattle to control purple loosestrife like the one above, at Lake Washington. Photo by Maria Winkler.

Rising to the Challenges of 2021

Throughout the pandemic, Program staff and crews have shown resilience, creativity, flexibility, and focus. Staff have quickly adjusted by developing safe field and office work practices and processes that allowed them to continue their crucial work. When in-person interactions became unsafe, employees pivoted and continued to communicate with landowners and the public by phone, email, mail, and remote meetings. Everyone worked as part of a supportive team to adaptively problem-solve and innovate to maintain effectiveness and safety. Throughout the year, the disruptions were minimized by employees who were flexible and showed initiative in developing new ways to do work and stay strong as a team. In short, everyone wore masks, remained healthy, did their part to protect the community, and they got the work done.



Left: Aquatic Specialist Ben Peterson using a weed rake to inspect for Egeria in a lake. Photo by Sasha Shaw.



Right: Regional Specialist Allison Bachner masked with a flowering giant hogweed plant. Photo by Allison Bachner.

Biological Control Activity Report

The Program partners with Washington State University Extension’s Integrated Weed Control Project (IWCP) to identify weed infestations that can be effectively addressed through biological control, a method that uses natural enemies, usually insects, that only impact the target weed species and are approved by the United States Department of Agriculture. For noxious weeds that have approved biological control agents available, this method can be a cost-effective way to reduce impacts over the long term, especially when infestations are large and/or remote, and where there are insufficient resources available for more costly methods.

In 2021, the Program and IWCP began work to establish a newly approved biocontrol agent for invasive knotweed, the knotweed psyllid (*Aphalara itadori*), and one for creeping thistle, the pathogen *Puccinia punctiformis*. In addition, the use of two Scotch Broom seed pod-targeting species (*Bruchidius villosus* (beetle) and *Exapion fuscirostre* (weevil)) previously released at sites in North Bend and Vashon Island has shown promising positive results.

A survey of past release sites in the Tacoma Watershed found that the stem-mining weevil, *Mecinus janthinus*, was widespread on yellow toadflax near Lester, and that *Cyphocleonus achates* (spotted knapweed root weevil) had established on spotted knapweed near Stampede Pass. In addition, the purple loosestrife root-mining weevil, *Hylobius transversovittatus*, was established after multiple releases at Inglewood Shores. Successful establishment and spread of biocontrol agents provide an additional effective tool in the control of noxious weeds.

Overall, six biocontrol agent species were released at fourteen locations in the county.



Hylobius transversovittatus weevil found in a purple loosestrife root. Photo by Allison Bachner.



Cyphocleonus achates weevils on a spotted knapweed flower. Photo by Ashley Shattuck.

Noxious Weed	Biocontrol Agent(s)	2021 Locations
Hybrid knotweed	<i>Aphalara itadori</i> - Kyushu strain	Kent Parks
Giant knotweed	<i>Aphalara itadori</i> - Hokkaido strain	Maple Valley (2 releases)
Spotted knapweed	<i>Cyphocleonus achates</i> , <i>Larinus obtusus</i>	Auburn near Muckleshoot Casino and along White River
Creeping thistle	<i>Puccinia punctiformis</i>	Three Forks Natural Area
Purple loosestrife	<i>Galerucella</i> spp., <i>Hylobius transversovittatus</i>	Panther Lake in Kent, Lake Washington at Inglewood Shores, May Valley Natural Area, UW Bothell

Aquatic Weed Control

Intensive surveying of aquatic areas is an important program activity that aids in early detection of new infestations followed by rapid, effective control response. In 2021, Program staff surveyed 38 lakes, rivers, and large ponds in King County, including 35 miles of the Snoqualmie River and several areas of Lake Washington, Lake Sammamish, as well as many streams and wetlands.

During 2021, 1,470 (206 more than in 2020) regulated aquatic weed sites were surveyed and controlled, including all the Class A noxious weed infestations. Of the 1,466 Class B aquatic weed sites, --primarily purple and garden loosestrife--86 percent of the area surveyed was controlled either by the landowner (64 percent of the sites) or the Program (36 percent of the sites).

In 2021, 20 people participated in the Lake Weed Watcher volunteer training webinar and learned to survey for high priority aquatic weeds in the lakes of King County. Participants included lake residents, natural resource professionals, and other interested people who went on to use their knowledge throughout the county. Volunteers provided valuable updates on known infestations and detected two new aquatic weed locations.

Notable achievements in aquatic weed control for 2021:

- Supported the City of Black Diamond with their grant funded aquatic weed control project at Lake Sawyer.
- *Egeria* (*Egeria densa*, formerly Brazilian elodea) was mapped at two new sites: Green Lake in Seattle (in partnership with the Friends of Green Lake and Seattle Parks and Recreation) and Lake Rasmussen (in partnership with the City of Duvall).
- Education and outreach on aquatic weeds including nine presentations at meetings, training, conferences, and many consultations and responses to information requests.
- A mail campaign to more than 1,000 Lake Sammamish property owners was carried out as an efficient way to reduce the impact of the Class B noxious weeds purple and garden loosestrife on the lake. Property owners achieved 73 percent control of purple loosestrife and 66 percent control of garden loosestrife as of the mid-August survey date.
- Program staff worked with landowners to control the Class B noxious weed purple loosestrife at additional lakes in King County: Ames, Alice, Bass, Bellevue, Burien, Cottage, Desire, Dolloff, Geneva, Haller, Joy, Kathleen, Killarney, Moss, North, Panther (Kent), Phantom, Pine, Retreat, and Spring.

Percent of Aquatic Weed Sites Controlled in 2021 * = Class A, ** = Class B weeds		
Regulated Aquatic Weed Species	Surveyed Sites 2021 count	Percent of Sites Controlled
Common Reed**	56	84%
Egeria**	2	100%
Floating Primrose-willow*	1	100%
Garden Loosestrife**	192	89%
Parrotfeather**	7	100%
Purple Loosestrife**	1207	91%
Reed Sweetgrass*	2	100%
Ricefield bulrush*	1	100%
Yellow Floating-heart**	2	100%

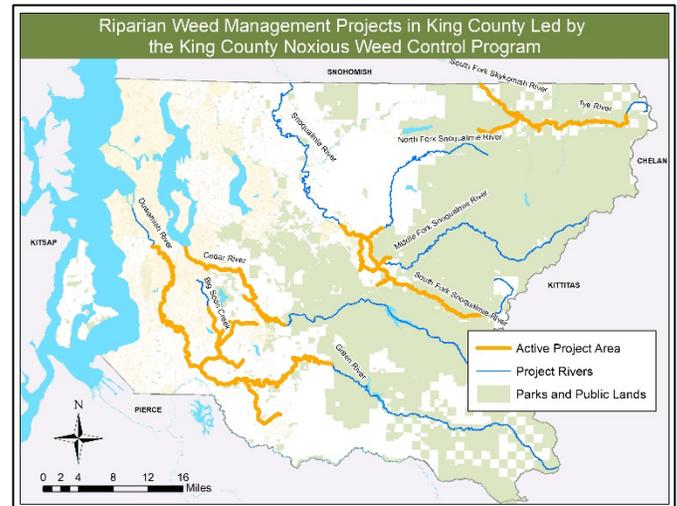


Education Specialist Skye Pelliccia with a bouquet of the Class B Noxious Weed purple loosestrife. Photo by Maria Winkler.

Cooperative Weed Management in Riparian Areas

To protect habitat, improve water quality, and aid salmon recovery efforts, the Program conducts cooperative, multi-jurisdictional, public-private projects to control knotweed and other high priority riparian weeds on King County's major river systems. As knotweed is reduced, the Program focuses on collaborative habitat restoration with project partners.

In 2021, the Program surveyed for knotweed on 109 river miles and controlled 5.5 acres of knotweed over 120 infested acres. Although there were ongoing safety and logistical challenges due to the COVID-19 pandemic, the Program's riparian team refined their strategies to continue compliance with state and county directives while achieving their goals and objectives.



Landowners are vital to the success of the projects. More than 1,600 property owners voluntarily gave permission to allow access and control of knotweed on over 2,700 properties. Additionally, 118 county residents attended two knotweed workshops, held remotely due to COVID-19 restrictions. These workshops educate and empower landowners to control knotweed on areas beyond the Program's grant-funded projects. The Program also lends stem injectors and backpack sprayers to landowners, municipalities, and professionals who want to control knotweed on their properties. Seventy people utilized this equipment loan in 2021.

To ensure sustainable results and long-term stewardship of restored riparian lands, the Program develops partnerships with public and private stakeholders. In 2021, the Program's internal King County partners included the Rivers and Floodplain Management Section (within the Water and Land Resources Division), Road Services Division, and the Parks and Recreation Division. Externally, the Program partnered with the Snoqualmie Tribe, U.S. Forest Service, WDNR, Washington State Department of Agriculture, Seattle Public Utilities, Forterra, Mountains to Sound Greenway Trust, Washington Conservation Corps (WCC), Puget Sound Corps (PSC), EarthCorps, Sound Salmon Solutions, Dirt Corps, Nicoterra Trails, Oxbow Farms and Conservation Center, and the cities of Snoqualmie, North Bend, Auburn, Kent, Covington, Renton, Maple Valley, Tukwila, Seattle, Mercer Island, and Skykomish.

The projects are funded through a combination of competitive grants and internal funding. The National Fish and Wildlife Foundation, Washington State Department of Ecology, King County Wastewater Treatment Division, and the King County Flood Control District provided 2021 grant assistance. PSC crews provided by WDNR allowed for knotweed and blackberry control on 168 acres of riparian area not otherwise funded.

Weeds Controlled in Riparian Management Areas	Net square feet*
Knotweed	239,581
Spotted Knapweed	69,965
Garlic Mustard	21,718
Tansy Ragwort	12,103
Orange Hawkweed	4,938
Purple Loosestrife	3,441
*Net area represents measurement of actual plants controlled	

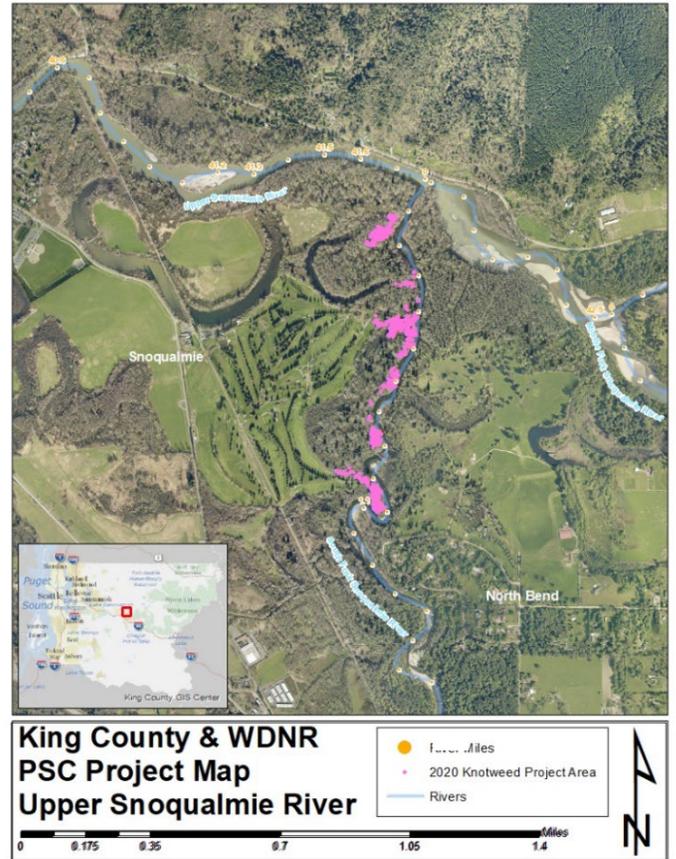


Riparian Specialists surveying for knotweed on the Green River. Photo by Allison Bachner.

Puget Sound Corps in King County

The Puget Sound Corps (PSC) is a part of the WCC that works on projects to improve water quality and salmon habitat in the Puget Sound basin while providing training and work experience for young people in Washington. In 2021, King County was given an opportunity by WDNR to use twenty PSC crew days for the survey and control of noxious weeds along riparian corridors in the Snohomish River Watershed.

Noxious Weed Control Program staff trained and directed the six-person crews in creating access trails through dense blackberry thickets, then surveying and controlling knotweed on the Snoqualmie River near the cities of Snoqualmie and North Bend. Another crew, directed by Program staff, surveyed and treated knotweed along the Skykomish River. Collectively, these PSC crews surveyed and treated knotweed on 167.7 acres of riparian habitat over 6.8 riverbank miles. These noxious weed infestations were actively degrading the environmental and recreational values of public lands in King County. This contribution from WDNR and the partnership with WCC provided a significant benefit to the county. Partners in the PSC project in 2021 included WDNR, the Snoqualmie Tribe, the City of Snoqualmie, the City of North Bend, the Town of Skykomish, and WCC.



PSC WCC crew member controlling invasive knotweed on Skykomish River. Photo by Tricia MacLaren.



Socially distanced meeting with Riparian Specialist Justin Brooks and the PSC WCC crew. Photo by Tricia MacLaren.

Healthy Lands Project

The Healthy Lands Project (HeLP) was created in 2019 to significantly reduce the impacts of widespread, unregulated noxious weeds and provide long term stewardship in natural areas protected through King County’s Land Conservation Initiative. Stewardship plans are developed with public and private landowners, and crews and other resources are provided for weed control and stewardship work. This work increases ecological benefits provided by these newly protected natural areas, resource lands, and urban open space.

Since beginning operations in 2019 through the end of 2021, the HeLP has controlled nearly 333 acres of invasive weeds on recently protected open space, adjacent lands, and related rights-of-way. From 2019 to 2021, HeLP project staff from the Program surveyed 1,900 acres across 166 sites. In 2021 alone, HeLP staff surveyed 60 sites and mapped 150 acres of invasive weeds across 860 acres surveyed.



Above: Healthy Lands Project Dirt Corps crew removing invasive ivy in North Highline’s new park. Photo by Eli Brownell (KC Parks).

2021 Highlights

- Accomplished initial control of 240 acres of invasive weed species on 40 recently protected open space properties and performed follow-up control on an additional 180 acres of weeds.
- Increased work in Equity Opportunity Areas¹ to include six sites to reduce the impacts of noxious weeds in parts of King County with limited access to greenspace.
- Increased outreach to private landowners, meeting the goal of reaching out to 60 landowners to invite them to participate.
- Hosted a Zoom training for HeLP participants and the public focusing on noxious weed control and management as well as good land stewardship practices.
- Provided weed control tools like weed wrenches to local tool libraries across King County for use by the public.
- Supported Green Jobs through crew contracts with local companies that commit to hiring at least 20 percent of their crew from King County’s Priority Hire ZIP Codes².



Above: Healthy Lands Project Dirt Corps crew installing live willow and dogwood stakes in a former invasive blackberry patch in Tukwila. Photo by Dan Sorensen.



¹ Locations where households lack open space access and simultaneously fall in the bottom third of the census tracts for household income and top third of ZIP Codes for hospitalization rates due to asthma, diabetes, and heart disease.

² Within King County, 43 ZIP Codes that have high concentrations of: people living under 200% below the Federal poverty level, unemployment, and people without a college degree.

Equity and Social Justice Commitment

The Program is dedicated to learning better ways to provide a more inclusive noxious weed educational experience for all county residents. The Program continues to stand in solidarity with those working for racial justice and is committed to reducing inequities related to noxious weed impacts.

To increase inclusivity, the Program began to change the language it uses to describe noxious weeds. Previous information had used terms that have been used in anti-immigrant and racist rhetoric. Changing language means, at a minimum, not using words that have been used negatively to describe groups of people. The Program began using plant names that meet this goal and will transition to all non-nationalistic names where other options exist. In addition, the Program changed its banner design to be bilingual and to stop using language that was similar to anti-immigrant rhetoric.

To protect the health and safety of King County residents, the Program places extra resources toward control of poison-hemlock. Although the health threats of poison-hemlock could impact anyone, poison-hemlock health risks are considered to be higher for some communities. Poison-hemlock commonly occurs in urban areas and poses particularly high risks for children and for people who are growing or foraging their own food. Immigrants and refugees with limited English ability, who may not be familiar with the plant species of King County, are at particular risk. For this reason, the Program has poison-hemlock materials in 10 languages. Steps taken in 2021 included the following:

- Coordinate with agencies to achieve control of poison-hemlock on public lands, including parks, schools, playgrounds, and along road rights-of-way.
- Mailed bilingual poison-hemlock warning postcards to over 1,700 residential sites with poison-hemlock.
- Received and responded to 187 poison-hemlock reports through the King County Connect App and Program's web form.
- Controlled poison-hemlock in areas with priority populations.¹



Booth with multilingual staff and a bilingual banner. Photo by Empath Aperture Photo Co.

Required COVID-19 precautions were briefly lessened in the summer of 2021, allowing the Program to participate in two in-person events reaching underserved and diverse communities, one in South Park and one in Kent. In addition, the Program was able to support residents in underserved and marginalized communities through several other activities as well.

- Controlled 35 noxious weed infestations for property owners who receive tax assistance or who are elderly, disabled, or experiencing economic hardship.
- Reached out to schools in racially diverse and lower-income areas of the county to increase their awareness and use of a free education program on invasive plants.
- Taught about noxious weeds to Partner in Employment Youth Crews, a training and work program for immigrant and refugee youth.



Noxious weed table at World Relief Seattle's 2021 Summer Garden Celebration of the Paradise Parking Plots for refugee and immigrant families. Photo by Empath Aperture Photo Co.

¹Communities of Color, Native and Indigenous communities, immigrants and refugees, limited-English communities, LGBTQ communities, low-income populations, and people with disabilities.

Invasive Plant Education in the Classroom

Through a partnership with Nature Vision, the Noxious Weed Control Program provides free education on invasive plants to schools in King County. The classroom program, called Right Plant, Right Place, provides age-appropriate and engaging content. Through classroom teaching and interactive activities, the students begin to understand the interactions of native and non-native plant species with each other and the environment as well as the roles they play in local ecosystems. There are versions for elementary, middle school, and high school, each designed to meet grade-level requirements and state standards.

Nature Vision's highly trained environmental educators provide the program in classrooms upon request by teachers and it is available for free to any school in King County through the sponsorship of the Program. For the 2020/21 school year, the Program and Nature Vision reached out to additional schools in priority populations of the county to ensure teachers in those districts were aware of the opportunity.¹

In 2021, under Program sponsorship, Nature Vision taught 31 Right Plant Right Place remote programs for 657 students in 7 school districts. They also completed development of the remote curriculum for Right Plant, Right Place for grade 3-12.



Naturalist program in the classroom. Photo courtesy of Nature Vision.

¹Communities of Color, Native and Indigenous communities, immigrants and refugees, limited-English communities, LGBTQ communities, low-income populations, and people with disabilities.

"Right Plant Right Place" Remote Classroom Programs in 2021

School	City	School District	Grade	Number of Classes	Number of Students
Arbor Heights Elementary	Seattle	Seattle Public Schools	4	2	38
Arrowhead Elementary	Kenmore	Northshore School District	3 & 4	3	60
Glenridge Elementary	Kent	Kent School District	6	3	69
Jing Mei Elementary	Bellevue	Bellevue School District	3	3	48
John Rogers Elementary	Seattle	Seattle Public Schools	4	1	22
Martin Luther King Jr Elementary	Seattle	Seattle Public Schools	4	1	22
North Bend Elementary	North Bend	Snoqualmie Valley School District	3	1	21
Ridgewood Elementary	Renton	Kent School District	5	1	28
Sand Point Elementary	Seattle	Seattle Public Schools	1	1	30
Sunrise Elementary - Kent	Kent	Kent School District	1 & 6	7	159
Terminal Park Elementary	Auburn	Auburn School District	4	1	25
Thorndyke Elementary	Seattle	Seattle Public Schools	5	1	23
West Mercer Elementary	Mercer Island	Mercer Island School District	1	1	14
West Woodland Elementary	Seattle	Seattle Public Schools	1 & 3	3	56
Wing Luke Elementary	Seattle	Seattle Public Schools	3	1	22
Woodin Elementary	Bothell	Northshore School District	2	1	20

Lake Rasmussen Egeria Control Work

The Program took quick action on an early detection of an aquatic weed in Duvall. In the fall of 2020, the aquatic weed egeria was found in the Snoqualmie River watershed for the first time. This Class B weed that is native to the Amazon River basin, was found in Lake Rasmussen by a young, second grade, citizen scientist and her mom. Lake Rasmussen, where Maggie found the egeria plants, is a short 2.5 miles upstream of the Snoqualmie river. If established in the Snoqualmie River, egeria could have a devastating impact on fish habitat by displacing native plants, reducing oxygen, and potentially leading to increased water temperatures. When the Program was alerted to the presence of the plant, staff knew they had to act fast to avoid drastic impacts to the river habitat.

Program staff collaborated with City of Duvall staff to survey the lake and outlet stream. Program staff coordinated control work strategy with other county, state, tribal and non-governmental agencies. Surveys in the fall of 2020 and spring of 2021 showed the plant scattered around the five-acre lake, mixing with several species of native aquatic plants. Luckily no plants or viable plant fragments were found in the outlet stream that drains the lake to the nearby Snoqualmie River. The lake is owned by the City of Duvall and one private landowner.

Through consultation with Ecology, the City of Duvall, and other project partner, Program staff decided that an aquatic herbicide treatment would be the most effective way to target the egeria plants.

Diquat, a contact aquatic herbicide, was chosen because Egeria, with shallow roots, is particularly susceptible to the chemical compared to more deep-rooted native plants. The Ecology-approved herbicide is quick-acting, with plants dying within days. The quick dieback of plants has the potential to cause a sudden lack of dissolved oxygen in the water. Because of this, the herbicide treatment was divided into two phases to allow fish to move to the more oxygenated part of the lake while one half of the lake was treated.

A community open house was held at the lake in July to share control plans and answer any questions. The two herbicide treatments occurred two weeks apart in August 2021. The diquat treatments were conducted by an experienced, licensed, and permitted contractor. The City of Duvall and the Program shared the cost of the contractor's services. One month following the herbicide treatment, Program staff surveyed and found five species of native plants growing well in the lake but no Egeria. Staff carefully looked on the lake shore for dead fish and did not find any. Additionally, the water in the lake was markedly clearer. Program staff will continue to check the lake every three months to see if the plants have regrown and tailor any needed control work to what is found.



Maggie holding an Egeria plant at Lake Rasmussen. Photo by Regan Carosino.



Noxious Weed Specialist Matt Martin inspecting the Rasmussen stream outlet for Egeria. Photo by Ben Peterson.



King County

Department of
Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section

Noxious Weed Control Program

206-477-9333

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