

2022

Clackamas River Invasive Species Partnership ANNUAL REPORT

Activities and accomplishments of the Clackamas River Invasive Species Partnership to prioritize and manage invasive species and associated restoration efforts in the Clackamas River Basin



Clackamas River Invasive Species Partnership



Contents

AUTHORS AND CONTRIBUTORS	2
REPORT AUTHORS AND EDITORS	2
DATA CONTRIBUTORS AND AUTHORS	2
ACKNOWLEDGEMENTS	2
PARTNER ORGANIZATIONS	2
FUNDING ORGANIZATIONS	3
PARTNER REPRESENTATIVES	3
A LETTER FROM THE CRISP CHAIR	4
CRISP BACKGROUND	5
INVASIVE PLANT PRIORITIZATION	5
FUNDING	6
PARTNER MEETINGS	7
PARTNERSHIP PROJECTS	7
PROJECT AND COLLABORATION HIGHLIGHTS	8
CRISP SUMMARY STATS	8
LEVERAGING COMMUNITY SCIENCE FOR CRISP	9
WILDFIRE RECOVERY EFFORTS	10
HAPPY TRAILS LINDSEY	12
SAFETY CONCERNS IN THE CLACKAMAS	13
PARTICIPATING ORGANIZATION ACTIVITIES	14
4-COUNTY CWMA	15
BUREAU OF LAND MANAGEMENT- NORTHWEST OREGON DISTRICT (BLM)	16
CLACKAMAS COUNTY – PARKS	17
CLACKAMAS RIVER BASIN COUNCIL (CRBC)	18
CLACKAMAS SOIL AND WATER CONSERVATION DISTRICT (CSWCD)	19
CLACKAMAS WATER ENVIRONMENT SERVICES (WES)	20
COLUMBIA LAND TRUST (CLT)	21
METRO	22
NATURAL RESOURCES CONSERVATION SERVICE- CLACKAMAS (NRCS)	23
NORTH CLACKAMAS PARKS AND RECREATION DISTRICT (NCPRD)	24
OREGON DEPARTMENT OF AGRICULTURE (ODA)	25
OREGON PARKS AND RECREATION DEPARTMENT (OPRD)	26
PORTLAND GENERAL ELECTRIC (PGE)	27
UNITED STATES FOREST SERVICE- MT HOOD NATIONAL FOREST	28
THANK YOU	30

Authors and Contributors

Report Authors and Editors

- **Samuel Leininger**, Clackamas Soil and Water Conservation District (CSWCD)
- **Monte Mattsson**, Clackamas Soil and Water Conservation District (CSWCD)

Data Contributors and Authors

- **Sam Gibson**, Oregon Parks and Recreation Department (OPRD)
- **Lindsey Karr**, Clackamas Soil and Water Conservation District (CSWCD)
- **Lin Kyan**, Mt Hood National Forest (MHNF)
- **Samuel Leininger**, Clackamas Soil and Water Conservation District (CSWCD)
- **Emily Matson**, Columbia Land Trust (CLT)
- **Monte Mattsson**, Clackamas Soil and Water Conservation District (CSWCD)
- **Kristina Prosser**, Metro
- **Cory Quesada**, Portland General Electric (PGE)
- **Eric Butler**, Clackamas River Basin Council (CRBC)

Acknowledgements

The Clackamas River Invasive Species Partnership acknowledges the contributions of its partner and funding organizations, and the efforts of dedicated staff. Their collective efforts are making meaningful progress toward protecting the Clackamas River Basin from the spread of invasive weeds. Thank you!

Partner Organizations

- 4-County Cooperative Weed Management Area
- Bureau of Land Management- Northwest Oregon District
- Clackamas County Parks
- Clackamas County Water Environment Services
- Clackamas River Basin Council
- Clackamas Soil and Water Conservation District
- Columbia Land Trust
- Metro
- Natural Resources Conservation Service- Clackamas
- North Clackamas Parks and Recreation District
- Oregon Department of Agriculture- Noxious Weed Program
- Oregon Parks and Recreation Department
- Portland General Electric
- United States Forest Service- Mt. Hood National Forest

Funding Organizations

The following organizations have supplied cash or documented in-kind contributions to support CRISP and implementation of the *Clackamas River Invasive Species Management Plan* in 2022.

- Bureau of Land Management- Northwest Oregon District
- Clackamas River Basin Council
- Clackamas Soil and Water Conservation District
- Columbia Land Trust
- Metro
- Oregon Parks and Recreation Department (OPRD)
- Portland General Electric
- United States Forest Service- Mt. Hood National Forest
- Water Environment Services

Partner Representatives

- **Chad Atwood**, Mt Hood National Forest (MHNF)
- **Noel Bacheller**, Oregon Parks and Recreation Department (OPRD)
- **Lauren Cary**, North Clackamas Parks and Recreation District (NCPRD)
- **Kim Galland**, Natural Resource Conservation Service (NRCS)
- **Courtney Gattuso**, 4-County Cooperative Weed Management Area (CWMA)
- **Sam Gibson**, Oregon Parks and Recreation Department (OPRD)
- **Thomas Gray**, Clackamas County Parks
- **James Hughes**, Bureau of Land Management (BLM)
- **Lindsey Karr**, Clackamas Soil and Water Conservation District (CSWCD)
- **Lin Kyan**, Mt Hood National Forest (MHNF)
- **Samuel Leininger**, Clackamas Soil and Water Conservation District (CSWCD)
- **Emily Matson**, Columbia Land Trust (CLT)
- **Cheryl McGinnis**, Clackamas River Basin Council (CRBC)
- **Beth Myers-Shenai**, Oregon Department of Agriculture (ODA)
- **Kristina Prosser**, Metro
- **Cory Quesada**, Portland General Electric (PGE)
- **Tom Riggs**, Clackamas County Parks
- **Gail Shaloum**, Clackamas County Water Environment Services (WES)
- **Eric Butler**, Clackamas River Basin Council (CRBC)
- **Jonathan Soll**, Metro
- **Brian Vaughn**, Metro
- **Tonia Williamson**, North Clackamas Parks and Recreation District (NCPRD)

A Letter from the CRISP Chair

CRISP members and interested parties,

In the short history of the CRISP, the 2022 calendar year will be one to remember. The start of the year was characterized by a tentative return to “normal” as COVID social distancing ended. The re-opening demonstrated the plurality and complexity of our experiences, as we relearned how to be with each other again. A challenge that we will continue to cope with well into the future. Notably, the CRISP emerged from virtual meetings with our first hybrid meeting since the start of the pandemic. A noteworthy moment!

Like all of us, the field season seemed to struggle with a return to normal. In 2022, we had one of the wettest springs on record, with the wettest April, the 10th wettest May, and the 4th wettest June on record. We also had the latest spring accumulation of snow on April 11-12. This made for a very challenging spring treatment season.

Following the spring deluge we welcomed the heat, with the 4th warmest July, the warmest and driest August, and record heat in September and October, which greatly hindered fall treatment of emergent weeds, when germinating rains come so late in the season.

Unfortunately, it is clear that climate in our region is changing, and our work may leave us feeling like the “canary in the coal mine of climate change”.

As the challenges of the field season came to end, we were faced with even more change. After 6 years of coordinating the Clackamas River Invasive Species Partnership, WeedWise Specialist and CRISP Coordinator, Lindsey Karr accepted a new position with our Metro partners.

Lindsey has done a great job of keeping us organized and in advancing the work of CRISP. Her influence is evident throughout the CRISP, and I know that all of the CRISP projects benefited from her dedication and keen attention to detail. We wish Lindsey the best in her new adventures!

As we see the end of era, the CRISP will be looking forward as we recruit for a new CRISP Coordinator to guide us in the coming year and beyond. Cheers to a new year with new beginnings!

Many thanks to all of you that have contributed your time and resources over the last year! You provide hope for the year ahead and for the future success of the Clackamas River Invasive Species Partnership.

Sincerely,



Samuel Leininger

*Clackamas SWCD, WeedWise Manager
CRISP Chair*

CRISP Background

The Clackamas River Invasive Species Partnership (CRISP) was formed in 2014 when the Clackamas River Basin Council, the Clackamas Soil and Water Conservation District, and Metro joined together to respond to the steady expansion of invasive plants within the Clackamas River Basin. In order to improve invasive species management and to support associated restoration efforts, these organizations developed the *Clackamas River Invasive Species Management Plan* in 2015 with the following goals:

- Develop and maintain a coalition of federal, state, regional, and local partners to prioritize and coordinate invasive plant control and revegetation efforts throughout the basin.
- Secure new and sustainable sources of funding to implement and maintain these efforts.
- Align local and regional policies to support implementation of plan goals.
- Promote recognition among public and private landowners within the basin of the need to actively manage invasive plants and enhance natural areas.
- Identify and prioritize sub-watersheds, natural areas, and important habitats for protection and enhancement.
- Develop an invasive plant treatment strategy that identifies and prioritizes specific invasive species management actions through the consolidation of existing efforts and resources.
- Prevent the introduction and spread of new invasive species, reduce the distribution and cover of priority invasive species, and restore priority natural areas currently infested with common, priority, or new invasive species.
- Outline a strategy to use limited resources to accomplish measurable, impactful, and lasting improvements within the basin.

The partnership now includes 14 organizations, and their collaborative approach focuses on working cohesively across property lines and jurisdictional boundaries to reduce gaps in management and focus on weed infestations that pose the greatest threat to the watershed. For more information on the partnership and management plan, see <https://weedwise.conservationsdistrict.org/partnerships/crisp>.

Invasive Plant Prioritization

Since the initial prioritization in 2015, which included 19 plant species, CRISP members have adjusted the priority weed list to its current version, which includes 27 species, listed below:

- *Ailanthus altissima*, tree-of-heaven
- *Alliaria petiolata*, garlic mustard
- *Brachypodium sylvaticum*, slender false brome
- *Carduus pycnocephalus*, Italian thistle
- *Centaurea diffusa*, diffuse knapweed
- *Centaurea solstitialis*, yellow star-thistle
- *Centaurea stoebe*, spotted knapweed
- *Centaurea × moncktonii*, meadow knapweed
- *Daphne laureola*, spurge-laurel
- *Euphorbia oblongata*, oblong spurge
- *Fallopia japonica*, Japanese knotweed
- *Fallopia sachalinensis*, giant knotweed
- *Fallopia × bohémica*, Bohemian knotweed
- *Ulex europaeus*, gorse
- *Galega officinalis*, goatsrue
- *Heracleum mantegazzianum*, giant hogweed
- *Hieracium aurantiacum*, orange hawkweed
- *Hieracium caespitosum*, meadow hawkweed
- *Hieracium pilosella*, mouseear hawkweed
- *Impatiens glandulifera*, policemen's helmet
- *Ludwigia hexapetala*, water primrose
- *Ludwigia peploides*, floating primrose-willow
- *Lythrum salicaria*, purple loosestrife
- *Petasites japonicus*, Japanese butterbur
- *Potentilla recta*, sulfur cinquefoil
- *Silybum marianum*, milk thistle
- *Tribulus terrestris*, puncturevine

Funding

CRISP partners have continued to support weed control efforts in the Clackamas River Basin through investments in time and resources. Significant grant funds from the PGE *Clackamas River Hydroelectric Project Mitigation and Enhancement Fund (Clackamas Fund)* support implementation of CRISP projects. These funds have allowed the CRISP to address gaps in management. CRISP partnering organizations have also invested significant cash and in-kind contributions over the last year. In total, the CRISP partners reported committing and expending \$638,651¹ in weed control and restoration services in 2022. The total estimated CRISP-related personnel services reported by partners in 2022 totaled 2070² hours. In total CRISP partners reported surveying 2066³ acres and 4105⁴ acres of public and private land.

The CRISP funds awarded in 2020 through the PGE administered Clackamas Fund total \$258,192 to fund implementation through 2023. These funds have a carryover of \$95,250 into 2022. In addition to the PGE funds, our CRISP partners contributed an additional \$204,718 to support CRISP projects and personnel. Clackamas SWCD committed \$82,428 through various agreements, Metro committed \$30,000 for coordination, and the Mt Hood National Forest contributed \$68,898 with a significant amount of Burned Area Emergency Response (BAER) funding to support weed control activities in the Riverside and Bull Complex burn areas. BLM also committed \$5000 to support CRISP sponsored projects and an additional \$18,392 in Emergency Stabilization Rehabilitation (ESR) funds to be spent in Riverside fire burn area. This ongoing support has been great to see, but a significant portion of the funding is reserved for implementation in the upper watershed impacted by wildfire.

BUDGET SUMMARY

RESOURCES	2022
Contracted Services	\$216,698
PGE	\$95,250
BLM	\$5,000
BLM Riverside ESR	\$18,392
CSWCD PGE	\$9,158
CSWCD Mt Hood	\$20,000
Mt Hood NF	\$9,990
Mt Hood Riverside BAER	\$33,908
Mt Hood Bull Complex BAER	\$25,000
Coordination Services	\$83,270
Metro	\$30,000
CSWCD PGE	\$52,755
CSWCD	\$515

TOTAL RESOURCES \$299,968

EXPENSES	2022
Contracted Services	\$170,825
CRISP Sponsored Projects	\$128,132
BLM Riverside ESR	\$3,284
Mt Hood Riverside BAER	\$25,867
Mt Hood Bull Complex BAER	\$13,542
Mt Hood Infrastructure	\$0
Mt Hood BAR	\$0
Coordination Services	\$83,270
CRISP Specialist	\$83,270

TOTAL EXPENSES \$254,096

IN-KIND	2022
Contracted Services	\$338,683
CLT Contracted Services	\$2,018
Metro Contracted Services	\$331,665
OPRD Contracted Services	\$5,000
Personnel Services (hrs)	3241
CLT Personnel (hrs)	20
CSWCD Personnel (hrs)	2296
Metro Personnel (hrs)	800
OPRD Personnel (hrs)	50
CRISP Partners (hrs)	75

Documented resources and expenses from CRISP partners in 2022.

¹ Includes in-kind resources reported by: CLT, Metro, OPRD and CRISP-sponsored projects funded by: BLM, CSWCD, Metro, PGE, USFS

² Reporting organizations: CLT, CSWCD, Metro, OPRD

³ Reporting organizations: CLT, CSWCD, Metro

⁴ Reporting organizations: CLT, CSWCD, CRBC, OPRD, Metro, PGE, USFS

Partner Meetings

Every year, the CRISP partners gather in July and December to discuss CRISP partner activities. In 2022, the summer virtual meeting had 11 representatives from 8 partner organizations while the winter 2022 had 14 attendees from 11 organizations. At each meeting, partners shared about their activities in the



CRISP partners met virtually in July before holding our first hybrid meeting in December. Our first in-person meeting opportunity since the COVID lockdown!

Clackamas River Basin. This season there was much discussion of the difficulties and strategies of dealing with the 2022 spring implementation season due to the extremely wet weather conditions and high river levels on the Clackamas. The compressed season also resulted in difficulties with contractor coordination and was experienced by all partners.

Partners also discussed an increase in purple loosestrife along the river, and there was discussion about improving the timing of aquatic surveys to better document this noxious weed, and outreach opportunities to increase awareness of purple loosestrife and for interested residents to report sightings through our iNaturalist project. There are also updates about the budget, contractors, reports, and agreements. Aside from these regular meeting topics, both meetings in 2022 included discussions about the response to the Riverside Fire on the Mt Hood National Forest, along with plans to limit the spread of invasive weeds in the burned area. Other important discussion topics in 2022 included outreach and sharing data through the ArcGIS Online platform.

In December, partners joined together to bid a fond farewell to our long time CRISP Specialist, Lindsey Karr. After 6 years of helping to coordinate the partnership, Lindsey has moved on to serve as a GIS Specialist for Metro. So, she will still be working to support the CRISP work in the coming year. At the December meeting, attendees reviewed and approved 14 projects proposed for 2023.

Partnership Projects

In 2022, CRISP partners approved and completed 13 partnership projects. These projects were implemented using the *Clackamas River Hydroelectric Project Mitigation and Enhancement Fund*, as well as funds from other contributing partners. In response to the 2020 Riverside Fire, the USFS also provided CSWCD with funds for surveys and weed work as part of the Burned Area Emergency Response (BAER). The BLM also provided funds to CSWCD, for both the Riverside and Beachie Creek fire areas.

Proposed Project	Sub-Basin	Proposing/Managing Organization	Amount Spent
Contractor Training	All	CSWCD	\$1,468
Barton Park	Rock Creek/Lower Clack	Metro/CSWCD	\$1,835
Calcagno	Rock Creek/Lower Clack	CRBC	\$2,780
Clackamas County Rec Sites	Rock Creek/Lower Clack, Dubois Creek/Clack, Upper Clear	Clackamas County Parks/ CSWCD	\$4,038
Clackamas River Community Co-op	Rock Creek/Lower Clack	CRBC	\$1,414
Deep Creek	Deep Creek	CRBC	\$9,602
Estacada Rock	Dubois Creek/ Clack	CSWCD	\$3,925
Garlic Mustard and EDRR	Rock Creek/Lower Clack, Dubois Creek/Clack, Clack Basin	CSWCD	\$48,976
Knotweed Treatment & Survey	Rock Creek/Lower Clack, Dubois Creek/Clack, Clack Basin	CSWCD	\$39,954
McCormack & McMillan	Dubois Creek/ Clack	CRBC	\$625
McGahan	Dubois Creek/ Clack	Columbia LT	\$2,018
Milo McIver	Dubois Creek/ Clack	OPRD	\$9,996
Skourtes	Rock Creek/Lower Clack	CRBC	\$300
Upper Watershed Treatments	Upper Watershed	CSWCD	\$1,201
Riverside Fire Surveys and Treatments	Upper Watershed	CSWCD/USFS/BLM	\$29,151
			\$157,283

Project and Collaboration Highlights

The 2022 field season marked the sixth full year of implementation of the CRISP Management Plan. The partnership has grown and adapted over the years, but the initial momentum of the partnership continues. The following highlighted projects are only a small portion of the immense amount of work being carried out by CRISP partners in the Clackamas River Basin.

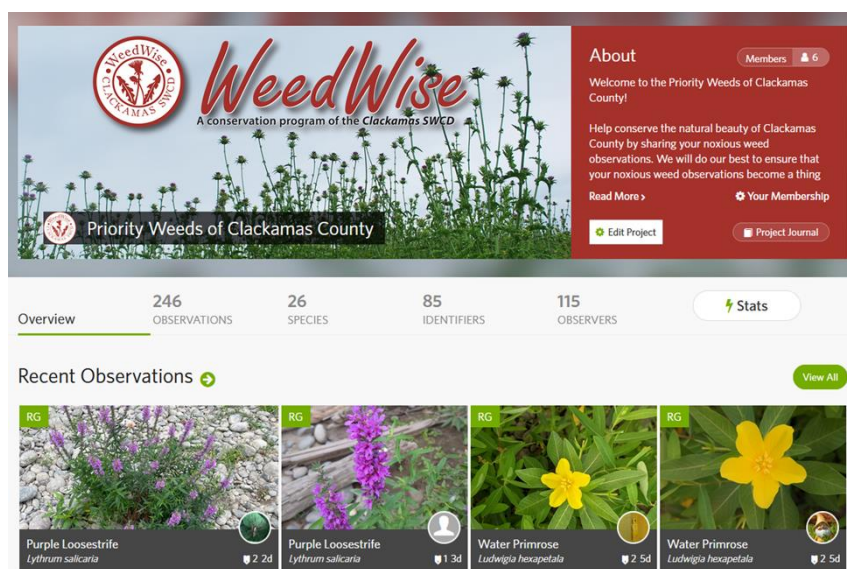
CRISP Summary Stats

Over the last year, the CRISP partners have accomplished a significant amount of weed control and restoration work. Although reported metrics often differ between organizations, we want to demonstrate the collective amount of work accomplished in 2022. Although impressive, the accomplishments listed here only represent a portion of the data reported from our 14 CRISP partners and should be considered conservative estimates.

- Maintained permissions for over 697 public and private properties⁶, representing about 3,620 parcels;⁷
- 44 sites surveyed⁸, 2066 acres surveyed;⁹
- Treated weeds on over 289 sites¹⁰ totaling over 4105 gross acres;¹¹
- Planted 208,741 native plants¹² and 809 lbs. of native seeds¹³ at over 33 project sites;¹⁴
- Spent over 3241 staff hours¹⁵ on CRISP-related work;
- Spent \$338,683 on in-kind contracted weed control and restoration services;¹⁶
- Spent \$170,825 on contracted services for CRISP-sponsored projects.¹⁷

Leveraging Community Science for CRISP

The WeedWise initiated a community science-based project to leverage noxious weed observations in and around the Clackamas River Sub-basin. Since initiation, we have been steadily gathering priority noxious weed observations through our [iNaturalist Priority Weeds of Clackamas County](#) project. In 2022, we received 93 priority weed reports for species such as velvetleaf (*Abutilon*



The Clackamas Priority Weed dashboard on iNaturalist

theophrasti), garlic mustard (*Alliaria petiolata*), false brome (*Brachypodium sylvaticum*), spurge laurel (*Daphne laureola*), oblong spurge (*Euphorbia oblongata*), policeman's helmet (*Impatiens glandulifera*), water primrose (*Ludwigia hexapetala*), purple loosestrife (*Lythrum salicaria*), orange hawkweed

⁶ Reporting organizations: BLM, Clackamas County, CLT, CSWCD, Metro, MHN, NCPRD, OPRD, PGE, WES

⁷ Reporting organizations: BLM, Clackamas County, CLT, CSWCD, Metro, MHN, NCPRD, OPRD, PGE, WES

⁸ Reporting organizations: CLT, Metro, CSWCD

⁹ Reporting organizations: Metro, CSWCD

¹⁰ Reporting organizations: OPRD, CLT, Metro, PGE, CRBC, CSWCD

¹¹ Reporting organizations: OPRD, CLT, Metro, PGE, CSWCD, USFS

¹² Reporting organizations: Metro, USFS

¹³ Reporting organizations: CLT, Metro, PGE, USFS

¹⁴ Reporting organizations: CLT, Metro, PGE, USFS

¹⁵ Reporting organizations: CLT, CSWCD, Metro, OPRD, CRISP Member Reps

¹⁶ Reporting organizations: CLT, Metro, OPRD, USFS

¹⁷ Reporting organizations: BLM, CC Parks, CLT, CRBC, CSWCD, Metro, OPRD, USFS

(*Hieracium aurantiacum*), sulphur cinquefoil (*Potentilla recta*), invasive knotweeds (*Reynoutria* spp.), and milk thistle (*Silybum marianum*), among others.

This platform has become an important component to our early detection efforts and routinely yields important observation in real time. The platform is easily accessible to anyone interested in the natural sciences. The iNaturalist phone app allows users to submit observations by snapping a photo. Identification is then assisted by a surprisingly robust AI that leverages the growing number of observations. Submitted reports are then verified with the assistance of iNaturalist volunteers.

iNaturalist has become a fast and efficient way for CRISP partners to rapidly share and document infestations of priority weeds in and around the Clackamas River Sub-basin. In total we received reports from 54 iNaturalist users, including CRISP participants from CRBC, CSWCD, Metro, and NCPRD.

Wildfire Recovery Efforts

The wildfires that have plagued the Clackamas River Sub-basin continue to be a central for CRISP partners. The Riverside, Bull Complex, and Dowty fires have all had a unique impact and CRISP partners are actively working to help with recovery.

CRBC has been planning a side channel reconnection project near Bonnie Lure State Rec Area. CRISP funding has been employed to help with controlling knotweed, garlic mustard, and blackberry at the site for the last few years. The progress realized by CRISP efforts will help with implementation of the planned reconnection project, while also helping the site recover after it was burned in the 2020 Dowty Rd fire.

In the Riverside burn area, control efforts have targeted noxious weeds along road systems, campgrounds, and day use areas, with particular emphasis on areas in which hazard tree removal would occur, as heavy equipment increases the likelihood of accidentally introduction and redistribution of invasive plant propagules.

One notable weed being targeted within the burn area is shining geranium in the campgrounds and day-use areas. These plants spread rapidly following fire and are a priority target. Unfortunately, the 2022 field season proved exceptionally difficult in treating shining geranium. Fall precipitation is needed for shining geranium to germinate, thereby allowing for treatment of emerging plants. The exceptionally dry fall weather greatly compressed the window of opportunity for treating these plants.

In addition to working in the Riverside fire burn area, The Mt Hood NF and CSWCD launched surveys within the 25,000-acre Bull Complex burn area. The goal of these surveys was to identify problematic areas for targeted control efforts. The CSWCD is coordinating the control activities in the Clackamas portion of the Bull Complex, while ODA's Noxious Weed Program is coordinating the Marion County portions of the fire.

The initial Bull Complex surveys revealed a handful of isolated patches of North Africa Grass (*Ventenata dubia*), as well as a handful of patches of spotted knapweed (*Centaurea stoebe*), diffuse knapweed (*Centaurea diffusa*), and false brome (*Brachypodium sylvaticum*).



Clackamas River Side Channel project



A view from Hole in the Wall Day Use Area, Riverside Fire



Shining geranium seedlings emerging in the burn area



One burned out campsite targeted for invasive species removal.



Lindsey preparing to hike to a remote false brome patch

Happy Trails Lindsey



In December, the CRISP said farewell to long-time WeedWise Specialist and CRISP Coordinator, Lindsey Karr. Lindsey served the CRISP for 6 years and spearheaded the WeedWise program efforts in the Clackamas River Sub-basin.

Lindsey joined the WeedWise program in December 2016 as the first coordinator for the Clackamas River Invasive Species Partnership (CRISP). This position focused on invasive weed management and coordination of efforts between CRISP partners working within the Clackamas River watershed.

Prior to joining the WeedWise program, Lindsey worked as the seasonal Invasive Plant Field Coordinator for Friends of Ridgefield National Wildlife Refuge, where she focused on rice field bulrush and other invasive plants. Throughout her career, Lindsey has shared her knowledge and expertise with several organizations in our region as a technician and plant ecologist.

The knowledge and expertise that Lindsey brought to her work were complimented by her love for nature and her passion for hiking and adventure. When she wasn't out in the field managing weeds, she was out on the trail hiking or running!

Lindsey has accepted a new position with Metro Parks and Nature as an Assistant GIS Specialist, where she will continue to support efforts in the Clackamas River and beyond. We are excited for Lindsey and her new adventure. We can't wait to see the positive impacts that she will bring in her new position.

The WeedWise program and CRISP will certainly miss Lindsey and her thoughtful and diligent approach to her work! She has been an outstanding member of our team and will be sorely missed.



Safety Concerns in the Clackamas

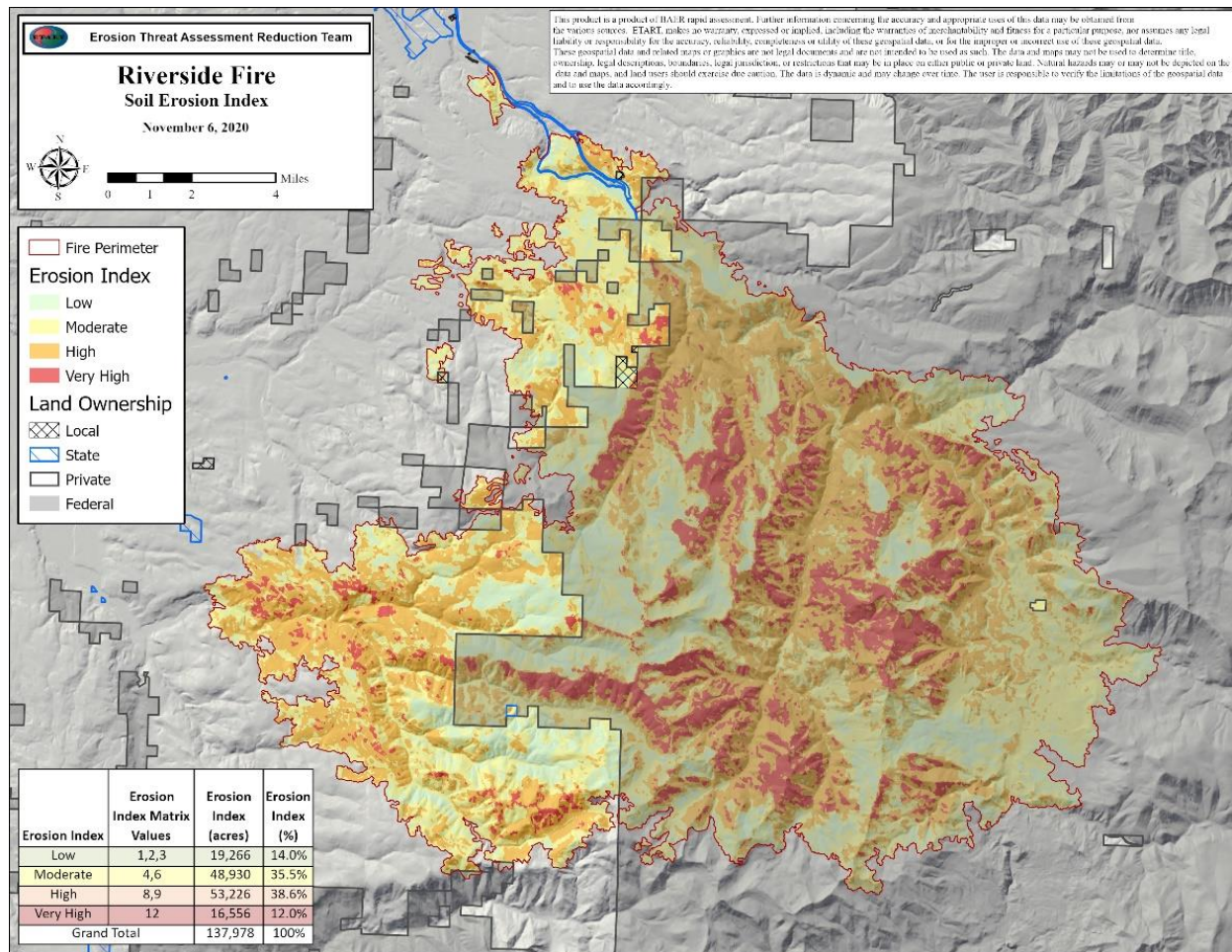
Work in forests and natural areas following wildfire presents a multitude of dangers. The safety of our staff and contractors is paramount to all of the work that we do.

In 2022, we had a stark reminder of the inherent danger of working in these areas. Heavy rains led to a significant landslide on the Clackamas River on November 5, 2022 near the Indian Henry campground and Hwy 224. The landslide was documented by Chris Lewis with the City of Estacada and resulted in a significant increase in turbidity in the Clackamas.

The impacted area is a site that CRISP partners have been working on for years. The landslide underscores the risk associated with working in these areas and increasing potential for similar events in the burn areas as the roots from decaying vegetation continues to deteriorate.



Landslide near the Indian Henry Campground and Hwy 224. (photos by Chris Lewis, City of Estacada)



***Predicted Erosion Potential in the Burn Areas:** The soil erosion potential is one of the primary products of the Burned Area Emergency Response (BAER) and the Erosion Threat Assessment & Reduction Team (ETART) post fire response plans. The map above shows erosion potential for the Riverside Fire in the ETART plan.*

Participating Organization Activities

Individual organizations within the CRISP continue to accomplish an immense amount of work within the Clackamas Basin to control invasive weeds and restore degraded habitat. Many of the activities reported below have been undertaken independently of the CRISP planning efforts. They are included to illustrate the breadth and volume of work accomplished by CRISP partners to control and prevent the spread of invasive weeds within the Clackamas Basin. We hope these activity reports will increase awareness and continue to facilitate collaboration among CRISP partners.

4-County CWMA

The 4-County Cooperative Weed Management Area (CWMA) focuses on support and enhancement of weed management across the Portland Metro region, including the Clackamas Basin. Each year, Clackamas County hosts one 4-County CWMA general meeting. On March 9th, 2022, the Clackamas hosted its first general meeting since the onset of COVID. During the general meeting, we were fortunate to hear from Christina Mead about the Burned Area Emergency Response (BAER) planning efforts on the Riverside fire. It was great to learn about the process and better understand the process of post-wildfire planning.

The 4-County CWMA also organizes and hosts the annual “Pull Together,” a large event where weed managers learn the latest news on invasive species management. Many CRISP partners and contractors were part of the over 150 people in attendance for the virtual event. We had 3 co-keynote speakers was Tony Koop, from USDA-APHIS in Virginia, who spoke about their Plant Pest Risk Analysis, Pamela Slaughter, founder of People of Color Outdoors, and Tim Campbell, from Wisconsin Sea Grant, to discuss messaging to improve audience engagement.

The 4-County CWMA Mapping and Data sub-committee provides support to CRISP partners through the development and maintenance of data collection standards. These standards provide guidance for collecting weed observations and treatment data.

The Scientific and Technical review Committee continued refinement of Best Management Practices which outline control methods for 22 invasive weeds and have been made available to CWMA partners for use within their own organizations.

The 4-County CWMA also started the process of planning a major redesign of our website to better serve our member organizations, like those in the CRISP. This effort is slated to jump into full force in 2023, but the education and outreach committee and Steering Committee have been working to develop a scope of work for the redesign and are working to secure a contractor to assist in this effort!



The unofficial notes of the Pull Together illustrated by Jon Wagner, East Multnomah SWCD

Bureau of Land Management- Northwest Oregon District (BLM)

The Bureau of Land Management- Northwest Oregon District has been collaborating with the Clackamas SWCD to treat weeds in the Clackamas Basin for many years. The Labor Day fires of 2020, including the Riverside fire, burned across many BLM-owned parcels in the Clackamas Basin and surrounding areas.

In 2022, the BLM contributed \$9628 of Emergency Stabilization Response (ESR) funds to conduct weed surveys and treatments on BLM land burned by the Riverside Fire. The BLM-managed properties within the Riverside burn area are limited. In coordination with CSWCD, contractors treated roadside weeds on five parcels, and these weeds included diffuse knapweed, common hawkweed, European hawkweed, and meadow hawkweed on the west side of the watershed, and Scotch broom and blackberry along the BLM portion of the 4610 road.

The BLM also continued its support of the CRISP and other regional partnerships with a \$5000 allocation to CRISP through an agreement with the CSWCD to help coordination and noxious weed control efforts within the Clackamas River Sub-basin.



Meadow hawkweed is a high priority invasive weed that can negatively impact open sunny habitats. A new roadside patch was found as a result of 2021 roadside weed surveys and was treated in 2022 as part of the Riverside fire recovery effort.

Clackamas County – Parks

Clackamas County Parks routinely manages weeds as part of their standard park maintenance activities. In managing established parks, Clackamas County Parks serves as the interface between the public and natural areas, providing opportunities to promote outreach and education efforts to the general public. Due to the heavy use of these areas by the public, they are also threatened by the introduction of invasive species through human-mediated dispersal.

In 2022, Clackamas County Parks partnered with the CSWCD carried out several weed control at Clackamas County Recreation sites as part of proposed CRISP projects. From 2014 to 2018, Metro did restoration work and weed treatments at Barton Park, in conjunction with their work at River Island Natural Area. However, their funding for Barton Park ended in 2018. As a result of the CRISP collaboration, partnership, and funding, Metro submitted a CRISP project proposal and CSWCD has been able to continue these weed treatments since 2019 to protect the years of work done by Metro.

At Fisherman's Bend, CSWCD treated garlic mustard to help protect plantings done by CRBC. At Billy Goat Island, a caretaker has been working to clear invasive weeds and revegetate the site, and CSWCD has been contributing to this work through the CRISP, treating both garlic mustard and knotweed. At Metzler Park, where just a few patches of knotweed are growing along the stream, CSWCD treated them, preventing larger infestations downstream. To find the source of the knotweed population, CSWCD conducted outreach to property owners upstream of Metzler Park; they obtained access to a large upstream property, found a huge population of knotweed, and treated it! At Madrone Wall, where rocky bluffs are home to nesting peregrine falcons, CSWCD worked with a contractor to control small patches of sulfur cinquefoil and false brome.



Clear Creek runs through Metzler Park, which has just a few patches of knotweed. CRISP work has prevented knotweed from spreading and protects this habitat for salmon and other aquatic

Clackamas River Basin Council (CRBC)

CRBC is the watershed council operating in the Clackamas Basin and a founding member of CRISP. They perform activities such as fish habitat restoration, invasive species control, revegetation, erosion and sediment control, outreach, teaching workshops, and more. The watershed council also oversees CRISP projects and maintains relationships with private landowners and other entities, and they are well positioned to do so, because they are not government representatives and can build trust with citizens who might otherwise be discouraged from participating in the CRISP program.

An unusually wet spring complicated CRBC's efforts to treat garlic mustard early in the season; persistent rain through April and May produced a larger than expected flush of weeds and interfered with spray treatments. The upshot was multiple days of hand-pulling with assistance from CSWCD staff and CRISP contractors at two sites along the Clackamas mainstem, as well as successful spray treatments at Cal Farms. CRBC staff also located and hand-pulled four small garlic mustard populations at other sites, three of which had not been previously identified, and will continue monitoring and treating the new locations in coming years.



Freshly sprayed knotweed at a future reforestation site on Rock Creek in Happy Valley, 2022 – Eric Butler

Favorable fall weather facilitated a major push against knotweed at several sites, including 17 properties along Deep Creek, a completed restoration site on upper Rock Creek, and a planned restoration site in Happy Valley.

In 2023, CRBC plans to continue and expand upon these efforts by adding new standalone and reforestation-associated treatment sites, reaching out to additional landowners, and renewing policeman's helmet management along Deep Creek.

Highlights:

- Garlic mustard treatments on 3 properties
- Knotweed treatments on 19 properties
- CRISP treatments in 2022 directly supported 4 CRBC restoration projects in progress

Clackamas Soil and Water Conservation District (CSWCD)

The Clackamas SWCD operates an active weed control program throughout Clackamas County, spearheaded through their WeedWise program. The WeedWise program focuses on landscape scale management of invasive weeds, offering free control of priority invasive weeds as a voluntary service to county residents. The WeedWise program also maintains the Clackamas County priority weed list, found here <https://weedwise.conservationdistrict.org/weeds>. As administrator for the CRISP, the WeedWise program works to build capacity and infrastructure to support CRISP-related activities serving as a hub for CRISP-related information pertaining to the mapping of weed observations, site surveys, treatments, project sites, and priority weed information associated with the *Clackamas River Invasive Species Management Plan*.

2022 had tough conditions for spring treatments. There was a lot of rain that continued late into the season. This increased rain also made the streams and rivers higher than normal, making access to islands and many riparian areas really tough. Despite these hurdles, and with the exception of a few islands where access was deemed unsafe, CSWCD completed all the planned garlic mustard treatments by continuing with treatments much later into the season than normal. This included 114 garlic mustard treatments at 70 different properties.

While the spring had tough conditions for treating weeds, the fall had perfect weather for treating knotweed! One highlight of 2022 was the knotweed treatments on Clear Creek. Lindsey worked with Wild Habitat to treat several large properties upstream of Metzler Park and 211. The crew was able to find the uppermost infestation on the main stem of Clear Creek, and also treat part of the infestation that continues up Little Clear Creek. Future efforts can now be focused on just one branch, and we are getting very close to finding the top!

Other highlights include:

- Completed 435 total treatments at 210 sites
- Treating weeds at 59 locations in the Riverside Fire burn area, including campgrounds, day use areas, trails, and roads
- Having good success with treating oblong spurge with imazapyr
- Completing surveys in the Bull Complex Fire, documenting 110 new weed observations that will inform future treatments



WeedWise CRISP Specialist, Lindsey Karr with a large policeman's helmet plant slated for treatment

Clackamas Water Environment Services (WES)

Clackamas Water Environment Services (WES) conducts weed control efforts in the lower portions of the Clackamas River Basin on the natural areas they own, and on site-specific restoration projects in conjunction with their RiverHealth Stewardship Grant Program. In 2022, WES has RiverHealth projects that are finishing up or starting soon, including 12 projects in FY 21-22, and 12 projects in 22-23.

In 2022, WES continued to maintain Carli Creek, a 15-acre constructed wetland completed in 2019 for storm water treatment. Invasive weed treatments are ongoing and will continue over the coming years to maintain the project after implementation. Mosaic Ecology continues to maintain the Carli Creek site. The site is performing well and we are on track to meet permit requirements. Species being treated: Armenian blackberry (*Rubus armeniacus*), reed canarygrass (*Phalaris arundinacea*), garlic mustard (*Alliaria petiolata*), false-brome (*Brachypodium sylvaticum*) and common teasel (*Dipsacus fullonum*).

With the help of NCPRD, WES also continued ongoing invasive species control on its other natural areas in the Clackamas basin, including the Rock Creek Confluence site (approximately 12 acres), and the Rose Creek Natural Area (approximately 5.6 ac) and properties in the Kellogg-Mt Scott Creek basin.



The Carli Creek site, located on the lower portions of the Clackamas River, is a constructed wetland for storm water treatment. WES has been treating weeds here after completing the planting in 2019.

Columbia Land Trust (CLT)

Columbia Land Trust is a private, non-profit organization working to conserve and care for fish and wildlife habitat in the lower Columbia River region of Oregon and Washington. In the Clackamas Basin, the Land Trust owns a 23-acre forest called the McGahan Natural Area across the Clackamas River from Milo McIver State Park, and the Land Trust holds a conservation easement on a 32-acre private property near Madrone Wall Park. Clackamas SWCD has partnered with the Land Trust to control weeds at the McGahan site for the last two decades, with great success. Since 2017, CRISP funds have supported ongoing weed maintenance. The following CRISP-related work was completed in 2022:

- Land Trust staff controlled false brome, thistle and tansy across 2 acres of the McGahan site in the spring and summer.
- Land Trust staff-controlled vegetation around approximately 100 native trees and shrubs that were planted in previous years to restore disturbed areas.
- In the fall, a contractor crew funded by CRISP controlled false brome, Himalayan blackberry, ivy, and other invasive weeds across the 23 acres of forest and adjacent roads.



Land Trust staff at the boundary of the McGahan Natural Area near the Clackamas River shoreline, where residential development on an adjacent property (at right) is likely to cause new weed infestations

Metro

The Metro Regional Government owns or manages over 18,000 acres of natural areas and parks throughout Clackamas, Multnomah, and Washington counties. Building on the accomplishments of previous years, Metro controlled a variety of invasive weeds across its properties thanks to the continued support of voter approved funding. In the Clackamas Basin, 15 sites were the focus of extensive weed management work. Early detection and rapid response (EDRR) treatments were completed by staff and contractors. In addition, restoration efforts spanned across Metro Natural Areas within the Clackamas Basin including on-going efforts for site preparation, planting, plant maintenance and in-stream restoration efforts.

One project highlighting collaboration with the CRISP partnership was at a newly acquired 32-acre parcel purchased by Metro in January of 2022. The new parcel expands upon Barton Natural Area and sits at the confluence of Deep Creek and the Clackamas River. CRISP staff member Lindsey Karr initiated work on this parcel in 2017 while under private ownership and was able to share weed data with Metro at the time of purchase. Many of the EDRR species had 5 years of previous treatment, meaning Metro could continue work at a maintenance level saving voter dollars and staff time in the restoration of this newly acquired site.

In 2022 Metro implemented the following activities in the CRISP partnership focal area:

- 1,922 acres across 15 sites surveyed and actively managed;
- 34 EDRR & high priority invasive species treated;
- 43,000 native trees/shrubs & 228lbs of native seed planted at 4 of 15 Clackamas River sites;
- Invasive control, site prep, planting & plant maintenance utilizing 9 contract firms, with receipts; totaling over \$330,000 and \$30,000 in Metro CRISP cash match annually.



Left: Oblong Spurge (*Euphorbia oblongata*) next to Poison Hemlock (*Conium maculatum*) located and treated at new 32-acre parcel at Barton NA. Right: Contractors planting – 22,000 native trees and shrubs installed at Clear Creek North NA

Natural Resources Conservation Service- Clackamas (NRCS)

NRCS provides technical and financial assistance to local landowners through their farm bill funded programs. Within the Clackamas River Basin, weed control efforts are typically undertaken in conjunction with other conservation practices on private lands.

Current technical and financial assistance has focused predominantly on the management of common invasive weeds. The NRCS works very closely with the Clackamas SWCD Conservation Planning Program and often refers landowners to the SWCD for weed control activities. These resources are available on an ongoing basis and, where appropriate, should be considered for CRISP-related implementation.

NRCS spends cost-share funds to treat land using the conservation practices of herbaceous weed control and brush management, including forested and crop lands in both Clackamas and Multnomah Counties. NRCS is also developing a Soil Health in Pasture Livestock System Conservation Implementation Strategy (CIS) so they can target grazing and pasture lands. This would help them target livestock-related resource concerns and water quality, which often include an invasive weed control component.



Rare Plant training for prairie and oak species is provided by NRCS to teach practioners how to identify rare, threatened and endangered species during project implementation.

North Clackamas Parks and Recreation District (NCPRD)

North Clackamas Parks and Recreation (NCPRD) is a service district of Clackamas County dedicated to providing exceptional parks and recreation programs, facilities, and services. The District – which serves more than 105,000 residents in a 27-square mile area – includes the city of Milwaukie and a large area of unincorporated Clackamas County. NCPRD serves at the interface between the public and natural areas within urban portions of the Clackamas River Basin. Their properties provide a unique opportunity to promote outreach and education efforts to the public but are also under the greatest threat from the introduction of invasive species through human-induced movement. NCPRD owns and manages approximately 17.5 acres of natural area in the Clackamas watershed spread over four sites. Additionally, NCPRD assists Water Environment Services (WES) in the maintenance of approximately 21 acres on WES-owned property in the watershed.

Thanks to the Retained Receipts Project grant from the Mt Hood National Forest, NCPRD was able to complete work on six sites in 2021. The sites consisted of Rose Creek Trail (Sieben Creek), Rock Creek Confluence (Rock Creek/ Clackamas), WES Verizon Site (Rock Creek), Orchard Summit (tributary of Rock Creek), Forest Creek (Sieben Creek), and Trillium Creek (tributary of Rock Creek) and totaled almost 37 acres. NCPRD and contractors completed initial site prep consisting of weed control and removal in the fall and winter of 2020. Contractors planted 10,670 native plants between the six sites during the early spring of 2021. Circle sprays and additional rounds of weed control were accomplished in May, June, and November of 2021.

NCPRD discovered and treated previously unknown populations of knotweed, false brome, and garlic mustard at the WES Verizon site in addition to the Rock Creek confluence site. The WES Verizon site is located on the main stem of Rock Creek just downstream of Sunnyside Road. NCPRD hopes to continue treating this site on WES's behalf in 2022 and possibly submit it as a CRISP project the following year for both sites on Rock Creek. Overall highlights for NCPRD included:

- Treating 37 acres of weeds over 6 sites
- Planting 10,670 trees and shrubs



*Left: Contractors planted 1060 native plants along the banks of Rock Creek on a 7.5-acre site owned by WES.
Right: Most of these plantings were successful despite the excessive heat.*

Oregon Department of Agriculture (ODA)

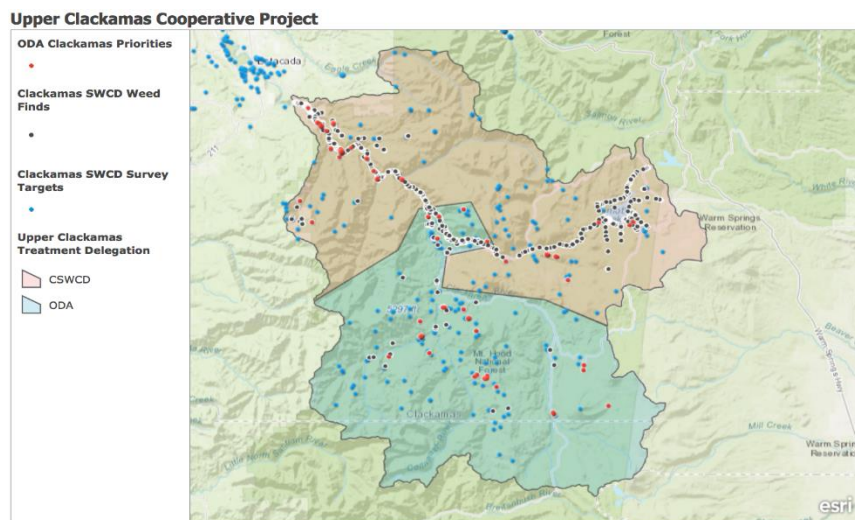
The ODA Noxious Weed Control Program serves a leadership role in managing invasive species at the state level, providing regular guidance related to risk assessment and noxious weed listings to help protect the state from new invasive weeds. In this capacity, they also support an early detection and rapid response effort to contain, control, and eradicate high priority Class A noxious weeds, which can include enforcement of noxious weed laws when applicable. ODA also supports education and outreach efforts associated with noxious weed control through the development of noxious weed brochures, their website, and associated materials.

In addition to their state-level responsibilities, ODA implements weed control within the Clackamas River Basin on behalf of the Mt Hood National Forest. Since 2018, ODA's main focus in the Clackamas Ranger District has been addressing priority weed finds resulting from the intensive survey commissioned by Clackamas SWCD in 2017.

The upper watershed was divided into two sections with ODA staff mainly treating sites in the uppermost section and Clackamas SWCD staff treating slightly lower elevation areas. ODA also monitored and treated previously known sites in the Ranger District as needed, and nearly all these areas have been showing excellent control or were absent of plants. They specifically focused on roadside patches, including the 46 road, 70 road, 4630 road, as well as treating knotweed at the Ripplebrook Job Corps site.

Clackamas Ranger Districts Weed Targets:

- Diffuse Knapweed (*Centaurea diffusa*): B-rated
- False Brome (*Brachypodium sylvaticum*): B-rated
- Japanese Knotweed (*Fallopia japonica*): B-rated
- Spotted Knapweed (*Centaurea stoebe*): B(T)-rated
- Sulfur Cinquefoil (*Potentilla recta*): B-rated



Map showing noxious weed survey locations and results from the Clackamas SWCD 2017 surveys, and the designated priorities for the Oregon Department of Agriculture.

Oregon Parks and Recreation Department (OPRD)

Within the Clackamas River Basin, OPRD has a major focus on the management of invasive weeds at Milo McIver State Park. OPRD has been working for the last several years to map and treat infestations of priority noxious weeds throughout the park system and has developed a management strategy for controlling these invasive weeds. Weeds of greatest focus within the park are garlic mustard (*Alliaria petiolata*), false brome (*Brachypodium sylvaticum*), meadow hawkweed (*Hieracium caespitosum*), and mouse ear hawkweed (*Hieracium pilosella*). Milo McIver State Park has been identified as the upstream-most infestation of both garlic mustard and false brome in the Clackamas River Basin, and therefore, control and management of these weeds are of particular importance.



OPRD continues to work with Clackamas SWCD, CRBC, and Integrated Resource Management to manage weeds in addition to weed work that is done by in-house staff. OPRD obtained CRISP funding to support this work, complementing the OPRD funding and staff time dedicated to weed management. OPRD continued efforts in-house and with partners in 2022 to target false brome, garlic mustard and Meadow Hawkweed within the park, working the outlying patches, trailheads, trails, riparian floodplain.

Milo McIver State Park has one of the few known locations of meadow hawkweed in the Clackamas Basin and its containment remains a very high priority. In 2022 the park was able to treat a majority of the worst infestation in the Vortex Meadow with CRISP Funds. Between park staff and contracted services approximately 175 acres were treated for Garlic Mustard and False Brome. The Vortex meadow received an early and late season treatment for meadow hawkweed and over 200 lbs. of native seed was



spread in the park. Park staff and Volunteers also assisted with hand pulling of Scotch Broom, Tansey Ragwort and Thistle.

OPRD serves at the interface between the public and natural areas within the Clackamas River Basin. They have a genuine opportunity to promote outreach and education efforts to the public. OPRD staff also keep a lookout for CRISP priority weed species in its Clackamas basin properties.

Portland General Electric (PGE)

PGE's 2022 activities within the Clackamas River Basin included implementation of the Clackamas Hydro Project's Vegetation Management Plan (VMP) in accordance with the Federal Energy Regulatory Commission (FERC) license. The VMP includes three interrelated programs: Vegetation Maintenance, Invasive Non-native Plant Species Prevention and Control, and Revegetation.

Non-Native Invasive Plant Prevention and Control

PGE staff conducted manual control of small invasive non-native plant infestations and employed a licensed contractor to conduct herbicide treatments of larger infestations at multiple locations in portions of the Clackamas Hydro Project license boundary within the Mt. Hood National Forest (MHNH). Approximately 30 acres were treated on the MHNH during 2022, focusing on sulfur cinquefoil, meadow and spotted knapweed, reed canary grass, and scotch broom. PGE also conducted routine invasive non-native plant control work on 20 acres at PGE facilities near Estacada, at PGE's River Mill rock quarry, and Promontory Park Campground. Priority species included garlic mustard, herb Robert, shiny geranium, false brome, caper spurge, and meadow knapweed. More common invasive non-native species, including Scotch broom, English ivy, tansy ragwort, Canada thistle, bull thistle, reed canary grass, and Himalayan blackberry were also treated.

PGE Revegetation and Vegetation Management

PGE applied over 300 lbs of native seed on disturbed sites located on the MHNH in 2022. The largest project was restoration of the 10-acre Three Lynx townsite. Demolition work started in 2021 included removal of all structures and roads. In 2022, the site was amended with soils, wood strands, and biochar



in select areas. A native seed mix consisting of California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), pearly everlasting (*Anaphalis margaritacea*), broadleaf lupine (*Lupinus latifolius*), canada goldenrod (*Solidago canadensis*), and Western yarrow (*Achillea millefolium*) was applied to disturbed areas using a hydroseed tanker. PGE will begin planting the site with native conifer seedlings in 2023 to meet restoration goals.

Restoration work completed at the PGE Three Lynx townsite.

United States Forest Service- Mt Hood National Forest

The U.S. Forest Service works in cooperation with over 10 partners to carry out a variety of invasive plant management activities, which is a high priority for Mt. Hood National Forest (MHNF). In 2022, the Mt Hood National Forest spent an estimated \$69,005 on the invasive plant management program. These funds were mostly from the Burned Area Emergency Response (BAER) program. Additional post-fire funding is anticipated next year from the [Burned Area Rehabilitation \(BAR\) Program](#) and the [Bipartisan Infrastructure Law](#). The remaining BAER funds from Riverside and Bull Complex fires will support continuing invasive plant management projects in the future.

Priority exotic plant control activities on the National Forest are carried out in cooperation with the Oregon Department of Agriculture - Noxious Weed Control Program, Portland Water Bureau, Portland General Electric, Clackamas County, Clackamas SWCD, Wasco County, Hood River County, Walama Restoration Project, Oregon Department of Transportation, and Timber Lake Job Corps. In 2022, these treatments equated to over 764 net acres of noxious weed control forest wide, 149 of which were in the Clackamas River Basin. These acres in the basin were treated by CRISP partners (CSWCD, ODA, and PGE) and a private contractor.

Infestations identified within the fire scar from 2020 and 2021 wildfires were successfully suppressed thanks to EDRR efforts from our partners. The second-year treatments not only reduced population sizes but also eliminated its occurrence at certain instances. During the 2022 field season, new infestations were mapped and swiftly treated preventing further spread.

Clackamas River Ranger District opened several forest roads after a two-year closure on August 19th soon after Highway 224 opened on Memorial Day weekend. However, several roads remain closed to the public until danger trees are mitigated. The work our partners have done to control nonnative plant expansion will help reduce weed seed spread during campground cleaning and road clearing.

Habitat restoration work started in late winter-early spring thanks to committed professionals, stakeholders, and partner agencies. Ash Creek Forest Management planted 165,741 seedlings in riparian habitats (red osier dogwood, black cottonwood, white bark raspberry, Pacific willow, Scouler's willow, Sitka willow, rose spirea, common snowberry) within 547 acres. With the support of Mt. Hood NF fisheries staff and Oregon Department of Fish and Wildlife staff, Trout Unlimited acquired Columbia Helicopters to deliver 387 fish logs along 2.6 miles of Berry Creek and upper Cub Creek. Mt. Hood NF silviculture staff utilized a private company called DroneSeed to drop 81 pounds of conifer seed (Douglas fir, western hemlock, western red cedar, western white pine) on 47 acres using remotely controlled drones near Fish Creek.

Finally, students from Timber Lake Job Corps supported the botany program by pulling nonnative plants along forest road 46 near Ripplebrook and the helicopter base. The students studying at the center learn from different trades such as automotive, carpentry, culinary arts, and forestry. These hands-on opportunities foster the next generation of natural resource professionals; particularly weed warriors!



Timber Lake Job Corps students, instructor, and FS staff taking a lunch break. (Photo by Lin Kyan)



Timber Lake Job Corps students pulling invasive plants near Riverside Campground on NFS road 46. (Photo by Lin Kyan)



A helicopter and logs staged for placement at Queen Quarry adjacent to the Berry Creek confluence with Cub Creek and two logs transported to lower Berry Creek. (Photos by Bruce Zoellick)



Thank You

Reflecting on the many accomplishments of the Clackamas River Invasive Species Partnership, it is clear there has been an immense amount of support to help stop the spread of invasive species within the Clackamas River Basin.

We would like to thank all of the participating organizations for their many contributions. The success of the CRISP reflects the commitment of these participating organizations to the long-term health of the Clackamas River Basin.

We would especially like to thank the staff of our participating organizations who have contributed their passion, expertise, and dedication to this partnership. We would also like to thank our many funders for ensuring the viability of the CRISP and for investing in the future of the Clackamas River Basin. Thank you!

