



Olympic Peninsula Cooperative Noxious Weed Control 2024 Project Report

A Title II Participating Agreement between
USFS Olympic National Forest
and
Clallam Noxious Weed Control Board

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Cover photo – Kari Williamson (left) and Rachel Smith at Pat’s Prairie, September 18, 2024

**An unabridged copy of this report will be posted to our website at
<https://www.clallamcountywa.gov/821/Noxious-Weed-Control>**

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EXECUTIVE SUMMARY

Project Goal:

The goal of this project is to protect the natural resources of Clallam and east Jefferson Counties from the negative impacts of invasive non-native plants. This goal is implemented by reducing existing weed populations and preventing the establishment of new ones across both counties. Coordinating and standardizing weed control across jurisdictional boundaries maximizes the efficiency of these efforts and minimizes the negative impacts of noxious weeds on natural resource productivity, watershed function, wildlife habitat, human and animal health, and recreational activities.

Project Overview:

This project has been a comprehensive program for noxious weed control on Forest Service (FS) lands across the North Olympic Peninsula (Clallam and east Jefferson Counties). It includes surveying, identifying, and controlling noxious weeds through a work plan coordinated between the Forest Service, local weed control boards and nonprofit partners. This project compliments the efforts of local weed board programs, which include public education, survey and treatment of noxious weed infestations on county owned lands and seeking landowner compliance with RCW 17.10 on non-federal lands. Title II of the Secure Rural Schools Act (SRS), which was designed in part to promote cooperation and collaboration between federal and local governments, funds most of the project. Additional dollars from specific FS funds have augmented additional tasks added to the work plan.

2024 Project Goals:

1. Control weeds on areas scheduled for road decommissioning or forest management.
2. Control weeds in quarries and other rock sources.
3. Revisit previously controlled sites and perform necessary follow-up control work.
4. Control weeds in Botanical Areas and other special "critical area" sites, such as elk habitat.
5. Control weeds in campgrounds, trailheads and other heavily-used sites
6. Identify and treat new populations

2024 Resources:

- Supervisor (up to 40 hours/week, 5 months)
- 1-2 Field crew (up to 40 hours/week, 3 months)

2024 Accomplishments:

- Examined **183.0** acres for invasive species, treated **171.3** weed-infested acres.
- Examined and treated for weeds on **10** county roads adjacent to Forest Service lands, encompassing **48.7** road miles (funding provided by Clallam County Road Department)
- Inspected and treated high priority weeds in **4** FS rock sources; inspected and identified corrective actions for **11** private, **4** state and **25** county rock sources in regard to their potential to spread invasive weeds
- Coordinated with WA Department of Natural Resources to prevent the spread of spotted jewelweed from a timber unit slated for harvest along FS 2850. Coordinated with Jamestown S'Klallam Tribe habitat biologist and stewardship manager about jewelweed infestation and will coordinate surveys in the Jimmy-Come-Lately watershed for 2025.
- Compiled data and completed annual Project Report

Observations and Recommendations:

Weed infestations negatively impact resources both within the Olympic National Forest and on adjacent lands. Restoring diversity and achieving habitat requirements and goals while improving forest productivity and overall ecosystem functioning is the underlying purpose of this invasive plant control project. Since this program started, weed species diversity, infestation size and density are much reduced where treatments have occurred.

Clallam County Noxious Weed Control Board (CCNWCB) was fully staffed in 2024 and we were able to treat within Olympic National Forest for more days than the previous two seasons. The 2024 field season within Olympic National Forest lands was dominated by the discovery of spotted jewelweed (*Impatiens capensis*) in a tributary to the Jimmy-Come-Lately Creek. The program was able to survey and treat the upper 1.1 miles of the tributary, including the wetland, locating the highest known spot where the jewelweed came off the road and into the watershed. We have not found the lowest known infestation and will continue surveys and treatment in 2025.

In 2024, CCNWCB was able to revisit sites and roads not visited in a few years, including roads in the Upper Sol Duc watershed, Pat's Prairie, Snider Work Camp and meadows in the Upper Dungeness watershed. We were able to partner with the Forest Service Crew for a couple of treatments, including Cranberry Bog. We continued to see progress on roadsides in the greater Dungeness watershed where we are treating herb Robert and wild basil savory yearly.

PROJECT SUMMARY

Project Goal:

The goal of this project is to protect the natural resources of Forest Service (FS) lands in Clallam and east Jefferson Counties from the negative impacts of invasive, non-native plants. This goal is implemented by reducing existing weed populations and preventing the establishment of new ones across FS land in both counties. Coordinating and standardizing weed control efforts across jurisdictional boundaries maximizes the efficiency of these efforts and minimizes the negative impacts of noxious weeds on watershed function, wildlife habitat, human and animal health and recreational activities.

Project Overview:

Title II of the Secure Rural Schools Act (SRS) was designed in part to promote cooperation and collaboration between federal and local governments. This project has been a comprehensive program for noxious weed control on the North Olympic Peninsula, including surveying, identifying, and controlling noxious weeds, coordinating action and communication between local, state and federal jurisdictions, and raising public awareness of the impacts of noxious weeds. Additional dollars from specific Forest Service (FS) funds have sometimes augmented additional tasks added to the FS directed work plan for weed board partners.

The project operates on Forest Service lands under a strategy of early detection and rapid response to prevent the establishment of new infestations wherever possible by finding and treating new invaders before they become well established. Initial work focused on surveys to identify weed baselines while performing manual control. After adopting Olympic National Forest's 2008 Environmental Impact Statement, *Beyond Prevention: Site-specific Invasive Plant Treatment*, the focus shifted to treatment using manual and chemical methods, while incorporating prevention and cultural control methods whenever possible. Emphasis has been placed on controlling high priority noxious weeds in areas with high potential to spread, such as rock sources or campgrounds, or in particularly sensitive environments including Biological Areas or special habitat sites. As the awareness of invasive species has increased throughout the agency, additional preventative and cultural practices have been added such as treating weeds prior to road decommissioning and timber management and habitat augmentation activities, conducting private rock source inspections to meet contract standards and seeding previously treated sites with native species.

On lands adjacent to Olympic National Forest, emphasis has been on areas where uncontrolled noxious weed populations on other federal, state, county, and private land are spreading and hindering coordinated control activities. County noxious weed control boards provide the vital link to private and public landowners whose weeds threaten federal lands. Weed board program goals include public education, surveying for new noxious weed infestations, seeking landowner compliance with RCW 17.10 and WAC 16-750, and encouraging and supporting other public agencies in their efforts to control noxious weeds.

Work in the National Forest has typically been accomplished by crews of varying size and expertise, led by different partners to match the need on the ground with available funding. Although the Forest Service has hired contractors for certain large-scale projects, there have been no outside contractor projects for many years. Instead, the Forest Service has engaged the limited use of the Washington Conservation Corps for some larger projects. Additionally, ONF employs an invasive plant program coordinator whose responsibilities include crafting the annual work plan, coordinating weed control activities with weed boards and submitting internal reporting. There is also a small field crew directed by the FS coordinator. Occasionally, other crews are made available through outside entities that have a special interest in a particular watershed. 10,000 Years Institute, a local non-governmental organization, is one such entity that was able to collaborate on projects with the FS where mutual areas of interest overlap such as the coastal portion of the Olympic Peninsula.

2024 Project Description:

This year's work focused on sites designated as high priority by the Forest Service, including roads within areas with timber harvests scheduled in the next 5 years and special botanical areas. This year's team consisted of the weed board coordinator with one or two seasonal technicians who alternated between Forest Service projects and county work including county roadside weed control, over the course of the treatment season. We were also able to partner with the Forest Service crew and Quileute Natural Resources to treat two high-priority areas.

In 2024, treatments on Forest Service lands were prioritized as follows:

1. Control weeds on areas scheduled for road decommissioning or harvest management
2. Control weeds in specific quarries and other rock sources.
3. Control infrequent weed species.
4. Control weeds in Botanical Areas and other special "critical area" sites such as elk habitat
5. Control weeds in campgrounds, trailheads and other heavily-used sites
6. Revisit previously controlled sites and perform necessary follow-up control work.
7. Identify and treat new populations, especially when seen enroute to known sites.

2024 Project Resources and Roles:

The number of staff, the amount of time devoted to this project, and tasks were:

- **CNWCB**

- **Coordinator (up to 30 hours/week, for 5 months, licensed applicator):**

- Supervised and administered the project
- Field treatments
- Provided technical information and support, crew training, and field treatments
- Participated in planning meetings with Forest Service staff
- Reviewed crew FACTS, Monitor, and Inventory forms, submitted to the FS
- Compiled data, prepared end-of-season report and planned for 2024 field season
- Provided non-forest rock source inventory, monitoring and reporting, as requested

- **Field team: 1-2 (with one being a licensed applicator), up to 40 hrs/week over 3 months,**

- Field treatments
- Data collection, completing treatment forms, monitoring

2024 Project Accomplishments:

- Examined **183.0** acres for invasive species, treated **171.3** weed-infested acres.
- Examined and treated for weeds **on 10** county roads adjacent to Forest Service lands, encompassing **48.7** road miles (funding provided by Clallam County Road Department)
- Inspected and treated high priority weeds in **4** FS rock sources; inspected and identified corrective actions for **11** private, **4** state and **23** county rock sources in regard to their potential to spread invasive weeds
- Coordinated with WA Department of Natural Resources to prevent the spread of spotted jewelweed from a timber unit slated for harvest along FS 2850. Coordinated with Jamestown S'Klallam Tribe habitat biologist and stewardship manager about possible jewelweed infestation in the lower watershed and will coordinate surveys in the Jimmy-Come-Lately watershed for 2025.
- Compiled data and completed annual Project Report

2024 Treatments:

Clallam County Noxious Weed Control Board (CCNWCB) was fully staffed in 2024 and we were able to treat within Olympic National Forest for more days than the previous two seasons. As in the previous couple of years, we focused on sites designated as high priority by the Forest Service, including areas scheduled for thinning operations, infrequent high priority species and special botanical areas. Unfortunately, this year we discovered that spotted jewelweed (*Impatiens capensis*) had invaded a larger area than previously known, both on FS lands along FS 2850 and adjacent DNR lands. Jewelweed was also discovered in a tributary to the Jimmy-Come-Lately Creek. Spotted jewelweed can quickly colonize wetlands and streams, excluding native plants and threatening the restoration efforts that have occurred within that watershed. CCNWCB spent 13 days along FS 2850, including 9 days spent in the wetland at MP 5.1 and unnamed tributary that starts in the wetland and flows adjacent to FS 2850, which is now referred colloquially as "Devil's Creek". The program was able to survey and treat the top 1.1 miles of the tributary, including the wetland, finding the highest known location where the jewelweed came off the road and into the watershed. We have not found the lowest known infestation and will continue surveys and treatment in 2025. We also discovered and treated a large infestation of yellow loosestrife at Snider Work Camp, in a wetland that drains directly into the Sol Duc River.

But 2024 did have some weed control success stories! The crew returned to Pat's Prairie for the first time since 2021. While the Canada thistle infestation was relocated, it was relatively small and easy to treat. Infestations of wild basil savory in the Dungeness watershed are responding well to our late summer

treatments of triclopyr and aminopyralid. We were also able to return to the upper Sol Duc watershed and continue herb Robert treatments.

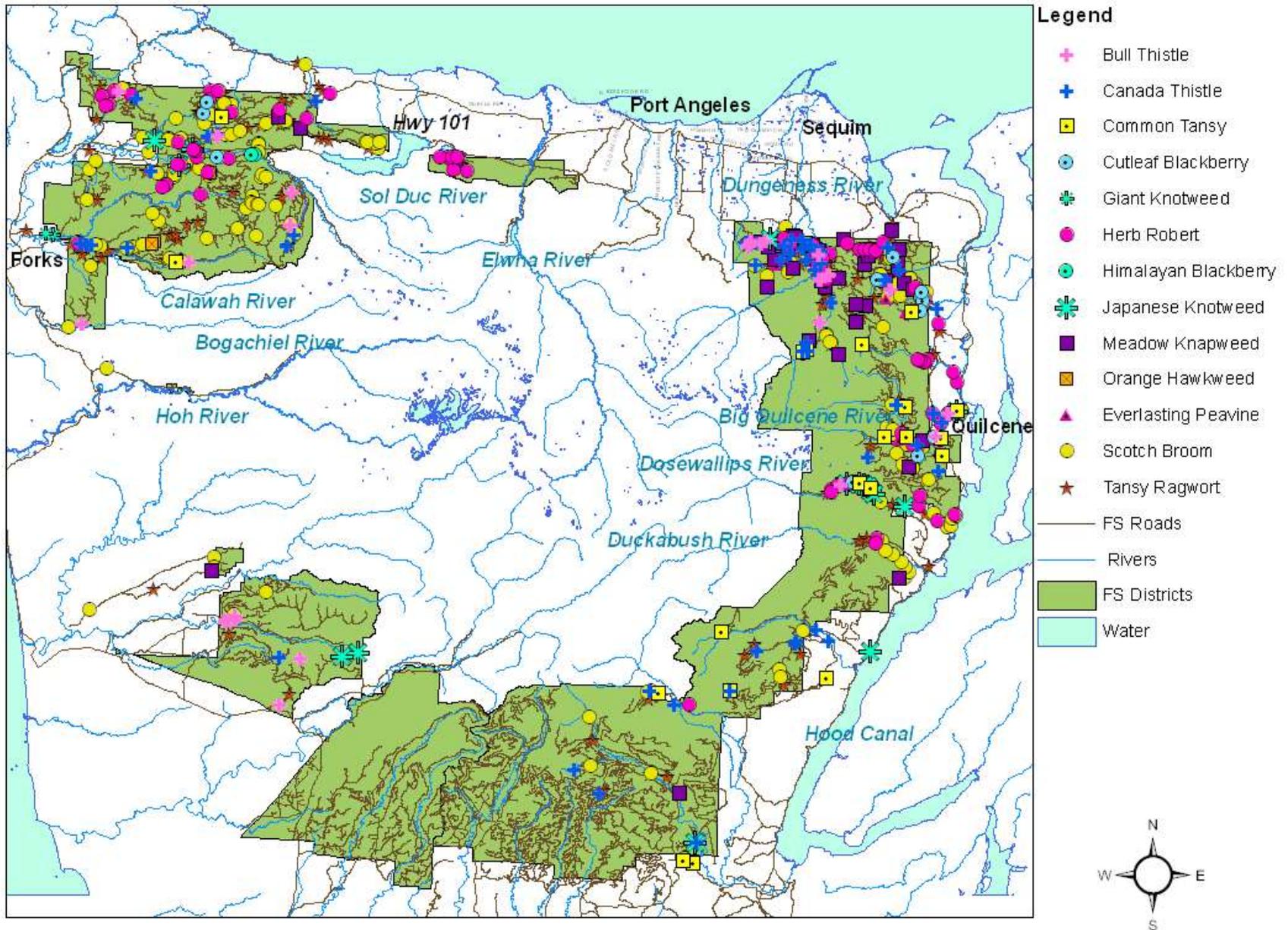
Appendix A provides detailed information about specific 2024 treatments. Ensuring that rock sources meet the Forest Service's "weed free" standard is a significant prevention tool that we have worked hard to encourage. See Appendix B for detail on the current "weed free" suitability of rock sources of which we have knowledge. Under the Clallam County Road Department's Integrated Weed Management (IWM) plan, the Clallam Noxious Weed Control Board (CCNWCB) crew treated county roads connected to ONF lands. This was a coordinated response to our ONF 2024 work plan and is an excellent example of the cross jurisdictional cooperative approach to managing noxious weeds on a landscape scale. As appropriate, these county road treatments are shown on maps in this report. For more background on how this program has adapted over time, please see the end of Appendix D for a brief history of policies and resource levels that have influenced accomplishments in different years.

The 2002-2024 Accomplishment Summary Table in Appendix D provides prospective on 2024 accomplishments by summarizing yearly crew activities since 2002. Yearly comparisons are complex and inconsistent because of changes in focus, crew resources and FS reporting protocols since this program began in 2002. Manual treatments from 2002 and 2006 have been consolidated and acres treated estimated. A focus on surveys corresponded to a number of new discoveries. For more detail see previous reports posted on our website for more information on any specific project season.

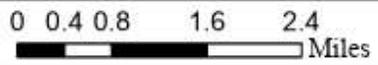
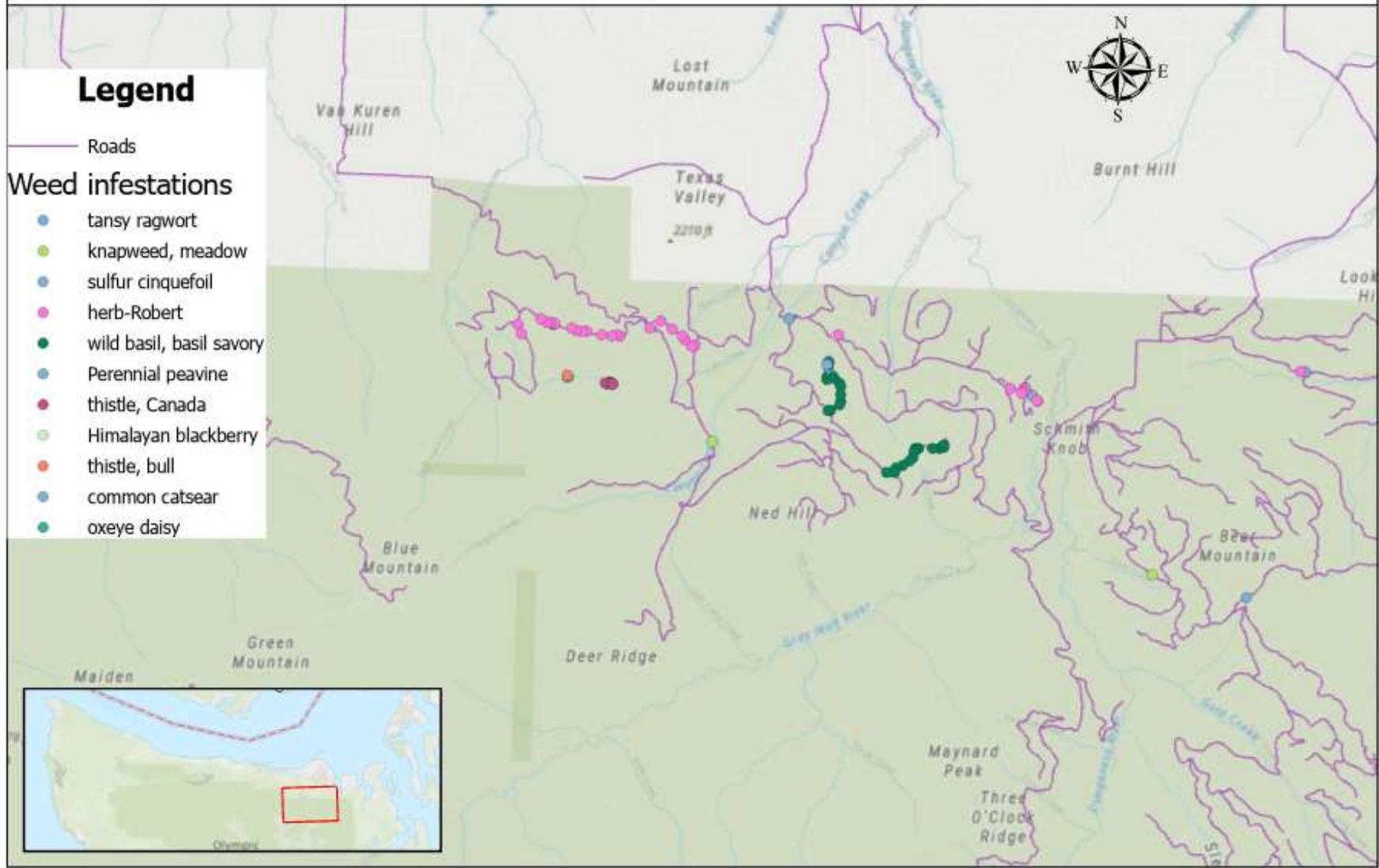
MAPS

- Six maps are shown—
 - An original baseline *Overview of the Olympic National Forest*, documented 2002 – 2005
 - Canyon Creek/Pats Creek Watershed (Hood Canal North) 2024
 - Jimmy-Come-Lately/Snow Creek Watersheds (Hood Canal North) 2024
 - FS 2850 (MP 4.1 to 6.2) Spotted Jewelweed Infestation – inset of the previous map, showing known locations of spotted jewelweed in the Jimmy-Come-Lately watershed
 - East Jefferson County (Hood Canal North) 2024
 - Pacific West Region 2024
- The 2024 activity maps show weed infestations encountered in 2024. Points displayed on the map were collected this year by the field crew, using either a Garmin 78 or a smart phone. Crew used Collector and WSDA's IForm to document treatment of regulated weed species when collecting points on a smart phone. Points gathered this year by either method were collated into the weed layer displayed on the map. Note that points are NOT sized to reflect the size of an infestation.

Olympic National Forest Overview, with Baseline Weed Sites

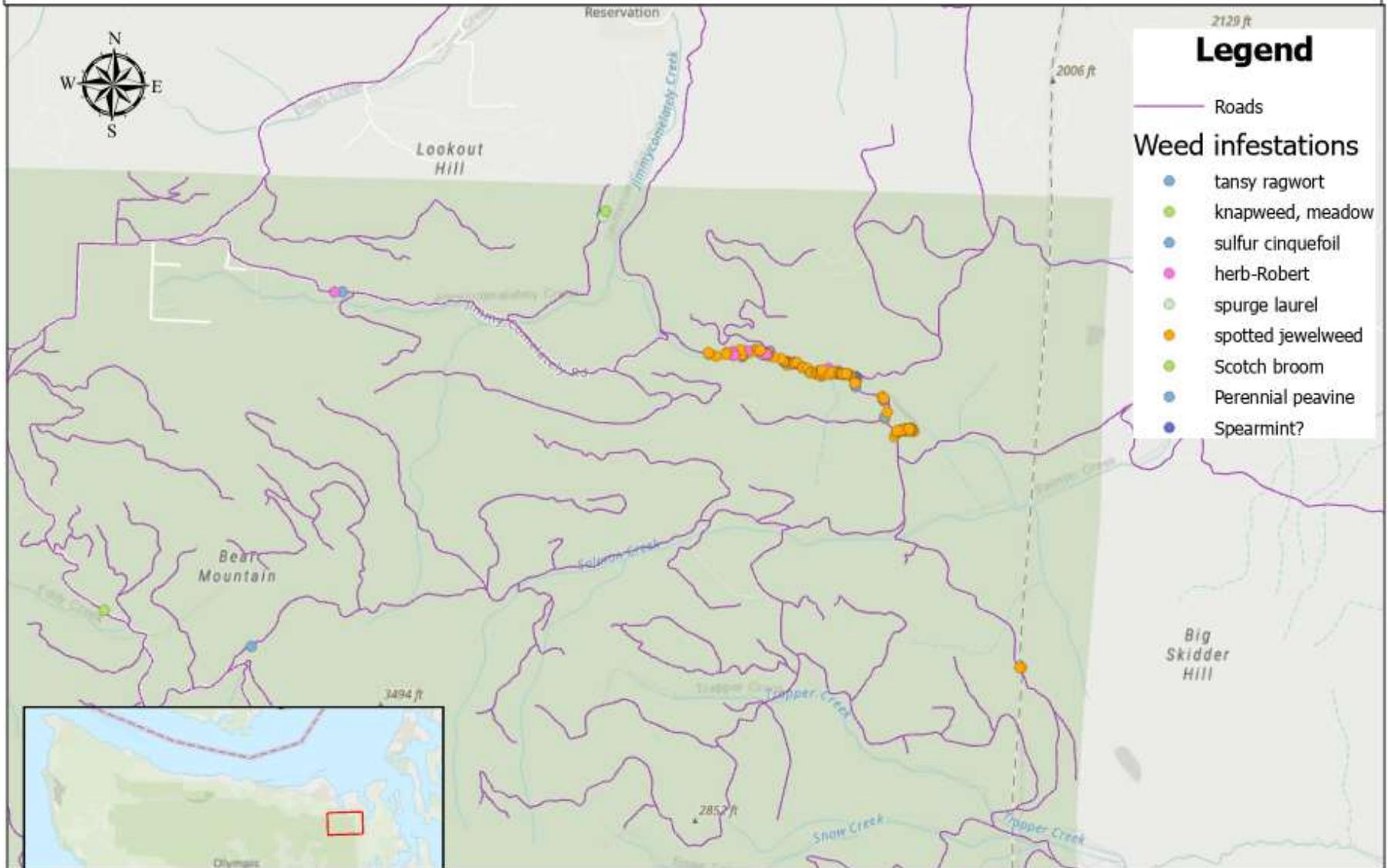


Canyon Creek/Pat's Creek Watershed (Hood Canal North) 2024



Service Layer Credits - Bureau of Land Management, Esri, HERE, Garmin, GeoTechnology, Inc., USGS, EPA, Esri, HERE, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnology, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, National Park Service - Land Resources Division Biodiversity and Trust Data Services - created & updated Dec. 12, 2019. <https://www.arcgis.com/home/group.html?id=0629772077479a1152078c3b6480cc90>, WA State Parks GIS, Esri, TomTom, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS, USFWS, Esri, HERE, Garmin, USGS, EPA, NPS

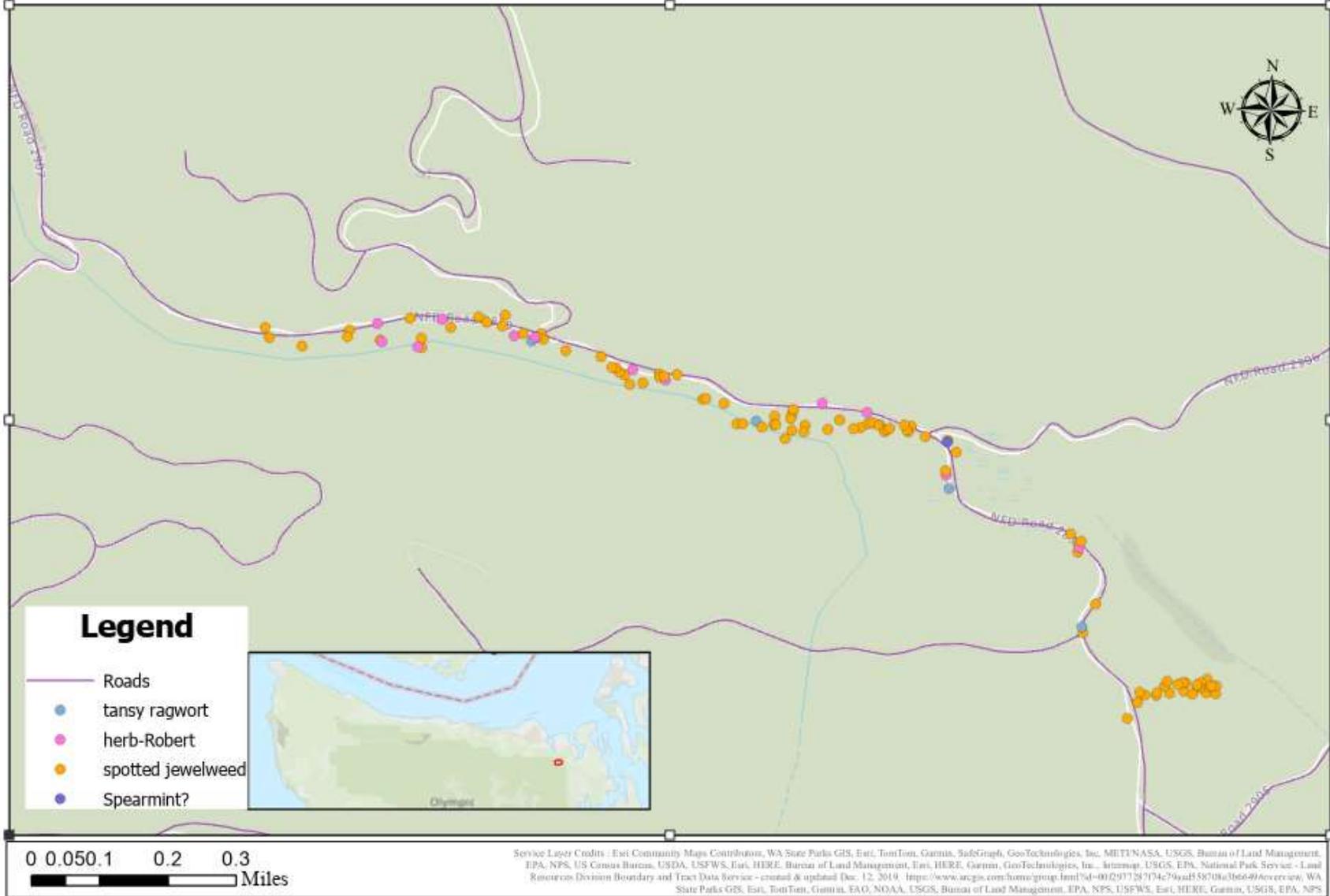
Jimmy-Come-Lately/Snow Creek Watersheds (Hood Canal North) 2024



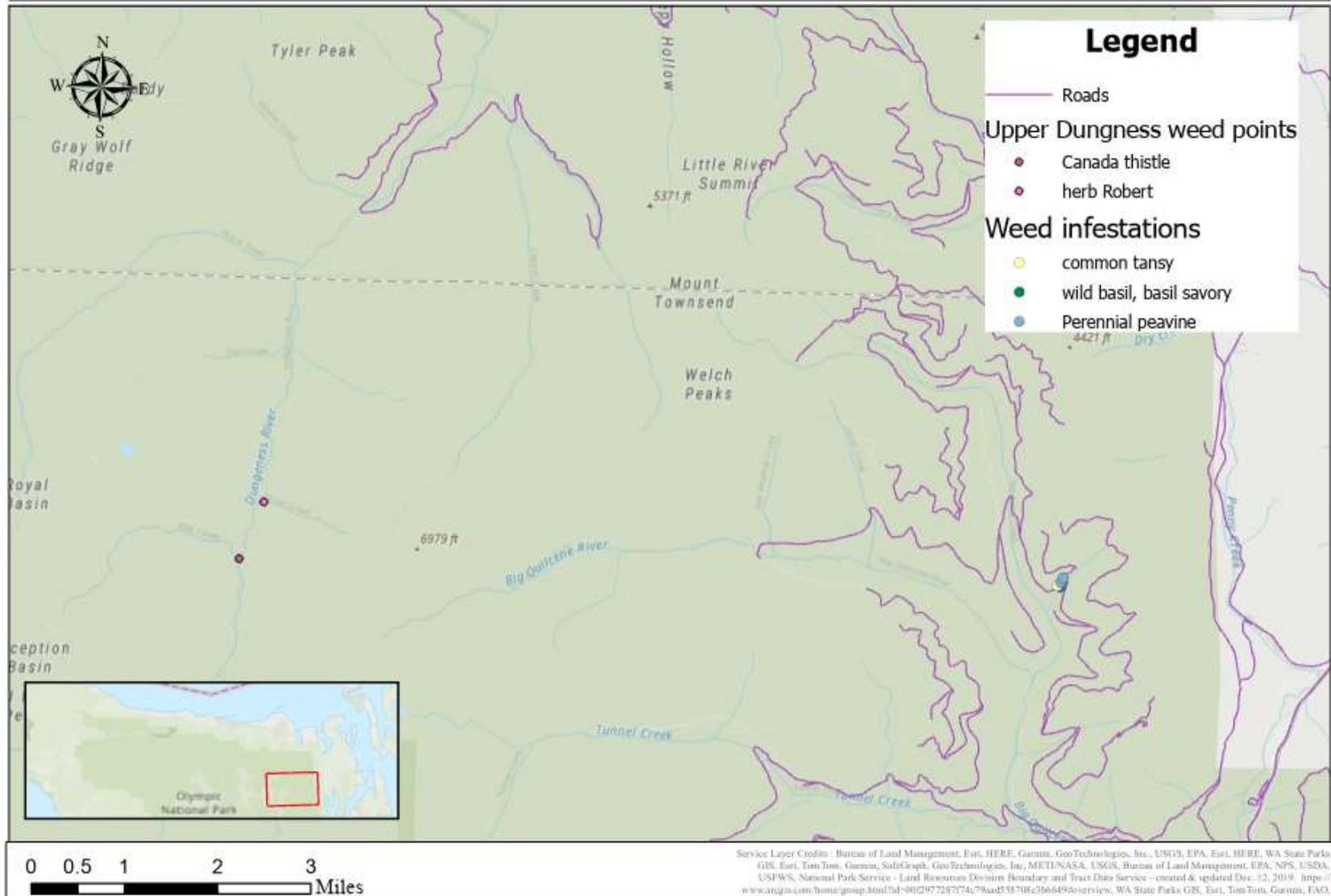
0 0.25 0.5 1 1.5 Miles

Service Layer Credits : Bureau of Land Management, Esri, HERE, Garmin, GeoTechnology, Inc., USGS, EPA, Esri, HERE, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnology, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDO, USFWS, National Park Service - Land Resources Division Boundary and Tract Data Service - created & updated Dec. 12, 2019. <https://www.arcgis.com/home/group.html?id=90297228774c79ad558708c3b6649d0&overview>, WA State Parks GIS, Esri, TomTom, Garmin, FAO.

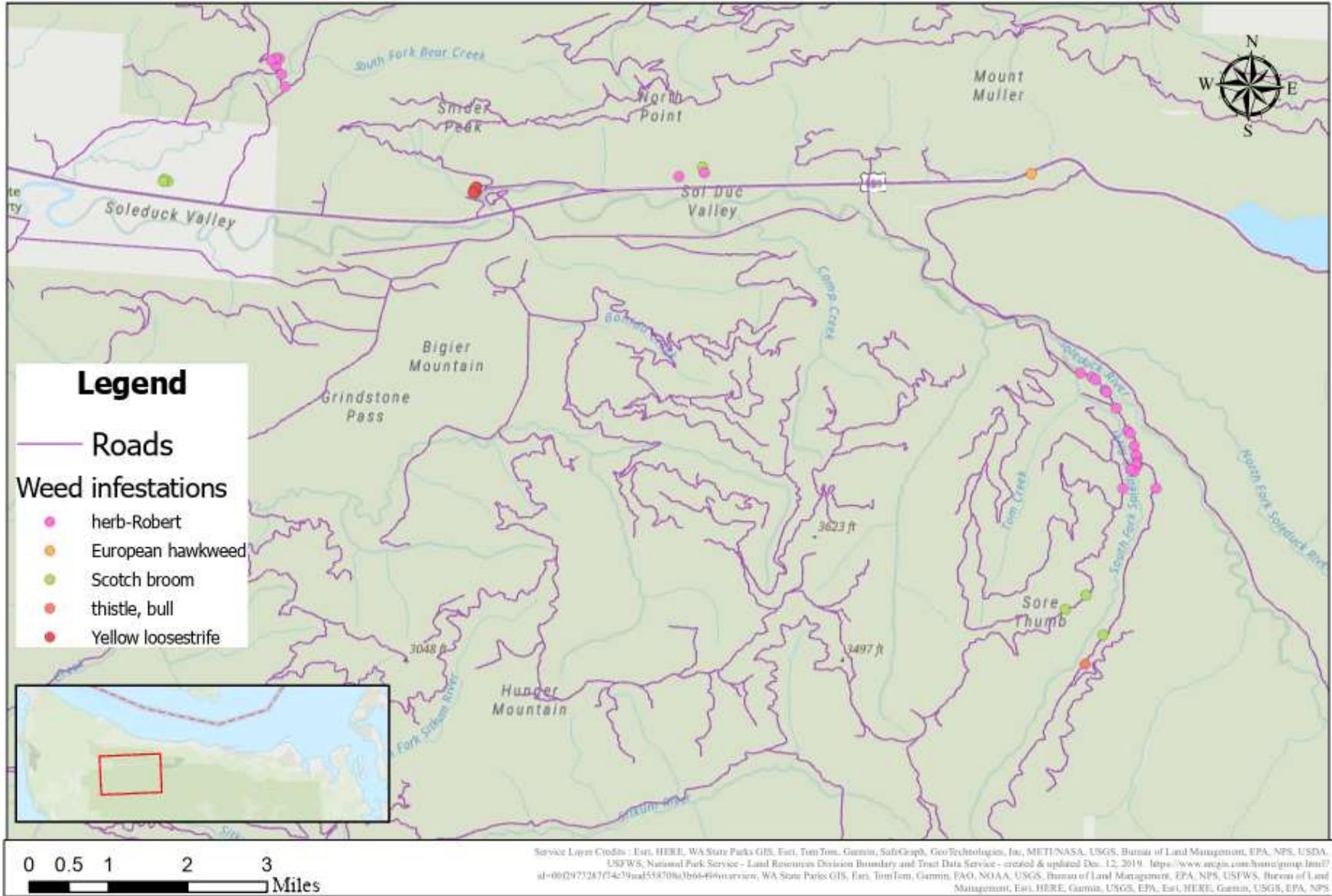
FS 2850 (MP 4.1 to 6.2) Spotted Jewelweed Infestation



East Jefferson County (Hood Canal North) 2024



Pacific West Region 2024



POST SEASON OBSERVATIONS

Nature of the Problem:

Invasive plant infestations threaten the health and diversity of native plant communities both within Olympic National Forest and on adjacent lands. Aggressive, non-native plants can displace native species, interrupting important but sometimes subtle ecosystem functions. Some weeds are toxic to humans and wildlife, and some can adversely affect soil chemistry and/or cause erosion. Many die back in the winter and offer no food or habitat for native wildlife. Others persist or spread quickly, preventing native plant recruitment or forest growth after disturbance.

The Forest Service, in consultation with the local weed boards, creates an annual work plan which identifies high priority sites based on known problems or anticipated needs. This planning includes anticipating the potential for weed invasion during road decommissioning, thinning, or other forest health and maintenance activities. **This year, the Clallam County NWCB crew treated 14 high priority (1A) sites, 7 medium priority (1) sites and 2 lower priority (2) sites, surveyed one high priority (1A) site and found no priority weeds and completed one EDRR site, for a total of 25 projects.**

As has been mentioned previously, our 2024 work was dominated by spotted jewelweed along FS2850 and the unnamed creek (now referred to as “Devil’s Creek”) and wetland that drains into Jimmy-Come-Lately Creek. As this is a relatively new weed that has the potential to cause severe environmental damage within the Jimmy-Come-Lately watershed and eastern Clallam County, we spent a large amount of time surveying and treating this area. While parts of the wetland adjacent to FS2850 at MP 5.1 were heavily infested, other areas were not infested and Devil’s Creek had scattered small populations. Even the parts of the wetland that contain dense infestations of spotted jewelweed still have a healthy native plant community. Based on conversations with King County NWCB, jewelweed will eventually exclude all native understory and wetland species, which leads to the conclusion that the FS 2850 infestation has not been present long enough to kill off existing native vegetation. We are still in the early stages of the infestation and have the potential to stop the spread and eliminate the infestations already present. A special thanks to the CCNWCB crew, especially our seasonal technicians Rachel, Kari and Meg, who spent many hours crawling through spiny shrubs to remove jewelweed. Their dedication was evident, and the season would not have been successful without them!



Spotted jewelweed along “Devil’s Creek” on July 3, 2024.



Kari, one of our seasonal technicians, manually removing spotted jewelweed from the wetland at MP 5.1 of FS 2850.

Another unexpected challenge was the discovery of a large infestation of yellow loosestrife in the wetland behind Snider Work Camp. It appears that it was planted as an ornamental near the old residence and spread downstream into the wetland. In addition to loosestrife, the wetland was also heavily infested with a horticultural mint. The wetland drains right into Snider Creek and the Sol Duc River, giving this an infestation a high chance of spreading into other high priority areas. We were able to quickly put together a work party composed of CCNWCB, FS staff and the Quileute Natural Resources crew and treated the entire area. The CCNWCB used three different mixes – Mix 1 was used in the upper part of the infestation, near the old residence, and contained 1.5% Element 3A, 0.25% Milestone and 1% Competitor; Mix 2 was used in the open field and the edges of the forest and contained 1.5% Aquaneat and 1% Competitor; Mix 3 was used to treat Canada thistle in the meadow and contained 0.25% Milestone and 1% Competitor. The FS and Quileute crews treated the infestations in the wetland. Please see pages 16-18 for pictures. The Element 3A/Milestone mix seemed to work well in the upper portions of the infestation, and the Aquaneat mix seemed to work in the meadow, but the areas treated on the edges and in the wetland did not seem to respond as well to treatment. The plants were at a range of stages, from just beginning to flower in the shade to just ending flowering and going to seed in the meadow. This may have influenced how well the herbicide worked. We'll monitor regrowth in the spring to confirm how well the treatments went.

Our late summer/early fall treatments for wild basil savory still seem to be working, though seedbank germination may be preventing us from seeing a steeper reduction of the species on FS 2878 spurs. In 2024 we continued our treatment of FS 2878-060 and FS 2878-085 using 1.5% triclopyr and 0.25% aminopyralid (an increase from 0.125% aminopyralid used in previous years). On the -060 spur, infestations were still present but much reduced, especially when compared with 2022. The amount of herbicide used to treat the -060 spur was 60% less than the amount used in 2023 and 81% less than the amount used in 2022. The -085 spur was still much cleaner than in 2022, with 74% less herbicide used than in 2022; but when compared to 2023, we used 15% more herbicide in 2024. I have included the photos taken from the same location on 2878-085 in 2022, 2023 and 2024. My suspicion is that this herbicide increase might be related to an interplay with seedbank germination and the aminopyralid residual. There may have also been an increase in herb Robert between 2023 and 2024. But we are still seeing a large reduction in wild basil savory that is flowering and setting seed.



There are massive infestations of herb Robert at Lower Caraco Pit (picture taken July 23, 2024). Even with 4 crew members, we were only able to treat half of the pit.

Herb Robert still continues to be the most treated weed on FS lands. It was treated on 13 of the 24 sites visited. It was also found on Ref #501 portion of FS 2850 and was treated by the FS crew and on the Upper Dungeness Trail (Ref #759), but was not treated as the crew did not have any herbicide mix prepared when it was found. That infestation was recorded and will be treated in 2025. While we seem to be making some progress in areas that have been treated continuously, missing just a year or two of treatment makes a huge difference and allows herb Robert to regain its foothold. Our protocol of very slowly driving down FS roads (at approximately 5 mph) looking for herb Robert seems to be very effective at allowing us to spot individual plants that, left untreated, can quickly create new infestations. Although it limits how many sites we are able to treat, we will be continuing to work this way to ensure that our treatments are effective and we can begin to make progress. In future years, we would love to partner with other crews to treat hot spots, such as pits (please see above picture of Lower Caraco Pit).

In 2024, we were able to continue treatments of special botanical sites within the Forest Service. We partnered with the FS crew and WCC to treat Canada thistle, reed canarygrass and herb Robert at Cranberry Bog. The foliage of the reed

canarygrass seemed to be tough and the plants appeared to be drought stressed and not actively growing during the last two treatments that CCNWCB has participated in. I would recommend treating this location earlier in the season. There is a substantial herb Robert infestation on the southern end of the site, creeping into the trees and brushy areas. I would recommend having at least two applicators bring 3 gallons each of a triclopyr/aminopyralid mix to treat this area. The site is well away from the wet area and these herbicides are known to work well against herb Robert. CCNWCB also returned to Pat's Prairie, which had not been visited since 2021. What a special site! We were able to relocate the Canada thistle infestations in the larger opening, but based on comments from previous years, the infestation is significantly smaller. It's important to continue to revisit these sites to make sure that we don't lose the progress that has been made and allow the weeds to gain a foothold again.

In September, CCNWCB partnered with Tom Mix from Backcountry Horsemen of Washington, Peninsula Chapter, to treat Canada thistle in meadows along the Upper Dungeness Trail, south of Camp Handy. We were able to locate two meadows the contained Canada thistle and have heard of one more meadow along Milk Creek.

While we had some difficulty locating a few of the meadows,

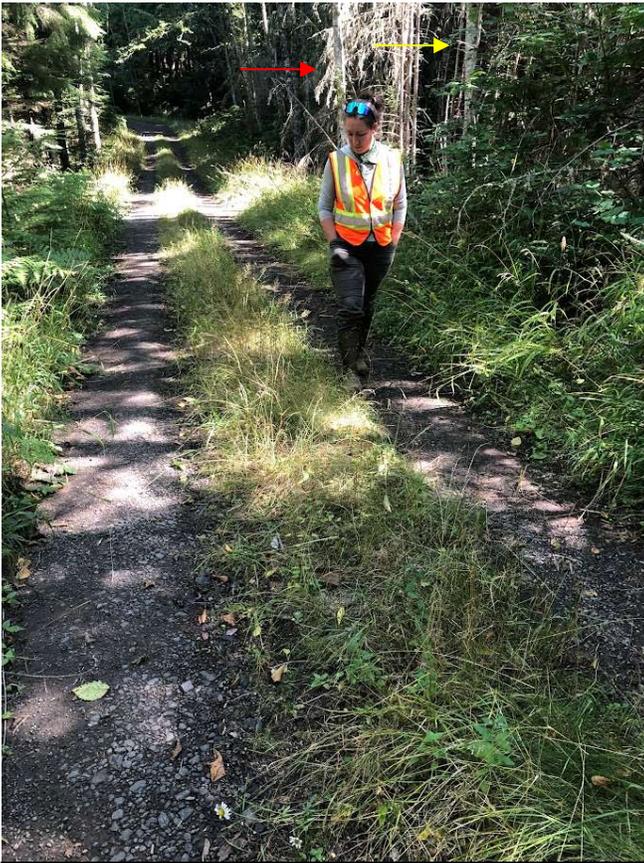
we now know where they are and how to safely access them, allowing our future treatments to be much more effective. We were able to treat a large infestation about 0.25 miles past the main horse camp. The meadow that contains the main horse camp had once been full of Canada thistle; this year we could only find a few remaining stems, which were treated. The meadow now appears to be full of native wildflowers and was a great reminder of why we continue to do this work.



Canada thistle infestation in meadow along the upper reaches of the Dungeness River.



CCNWCB crew (left to right – Dan (volunteer), Rachel, Meg, Sam and Kari) with Tom Mix and pack animals Lester, Dakota and Leftie, preparing to travel into the upper Dungeness River valley.



FS 2878-085 wild basil savory monitoring site; Picture was taken on September 4, 2024. For reference, the red and yellow arrows point to the same trees on each photo.



FS 2878-085 wild basil savory monitoring site; Picture was taken on August 22, 2023.



FS 2878-085 wild basil savory monitoring site; Picture was taken on August 24, 2022.



Yellow loosestrife in a wetland at Snider Work Camp. Picture taken August 6, 2024.



Yellow loosestrife in another portion of the wetland after the August 12 treatment. Picture taken September 19, 2024.



Kari treating yellow loosestrife in the meadow with 1.5% Aquaneat and 1% Competitor (August 12, 2024)



Treatment results (September 19, 2024)



Results of yellow loosestrife treatment of 1.5% Element 3A, 0.25% Milestone and 1% Competitor (September 19, 2024)



Yellow loosestrife treated with 1.5% Aquaneat on the edge of the forest did not seem to respond to treatment (September 19, 2024).

Invasive Weed Populations:

- We treated 23 different invasive plant species. The most commonly recorded invasive species were herb Robert (found at 13 sites), bull thistle (10 sites), Canada thistle (9 sites), tansy ragwort (6 sites) and wild basil savory (5 sites). Purple foxglove was treated on 7 sites but was not targeted.
- Spotted jewelweed is continuing its spread north along FS 2850 into eastern Clallam County.
- Yellow loosestrife was discovered to have spread within Snider Work Camp, leaving the garden behind the old residence and infested 1.5 acres of the wetland and meadow to the southwest of the structures.
- We are still happy with the results of our late summer/early fall treatment of wild basil savory. Research on the seed viability and length of seedbank would be greatly appreciated.
- Treatment of reed canarygrass, Canada thistle and herb Robert at Cranberry Bog may be more effective if performed earlier in the season. I would also recommend that two applicators bring backpacks with a triclopyr/aminopyralid mix to treat the herb Robert infestation in the southern section of the site, which is not near water.
- We surveyed and/or treated 10 county roads (48.7 miles and 117.8 acres surveyed; 45.2 miles and 109.6 acres treated) at major access routes to Forest Service lands. In 2024, wild basil savory is now found on 10 County roads, with new infestations found on four roads. Six of the roads (Chicken Coop Rd, Cooper Ranch Rd, Little River Rd, Olympic Hot Springs Rd, Palo Alto Rd and Woods Rd) either lead directly into Forest Service lands or into Olympic National Park lands adjacent to FS lands. Wild basil savory has also been found along Olympic Hot Springs Rd above the washout, within Olympic National Park.

Survey, Treatment and Monitoring

- Fully staffed and able to spend more days treating than last year.
- The intense focus on spotted jewelweed along FS 2850 prevented us from surveying and treating other roads.
- Our collaboration with the Backcountry Horsemen of Washington was instrumental to treating Canada thistle in the upper Dungeness River valley and we hope to continue those treatments into the future.
- Clallam County NWCB and Jefferson County NWCB began collaborating on treating Jefferson County roads that contain wild chervil, a weed that is rare in Clallam County and has not been found on FS land. In 2024 we were able to treat wild chervil on Eaglemount Rd, Old Eaglemount Rd and Center Rd through this partnership. We are excited to be working together and hope to expand this partnership in the future.
- We partnered with the FS crew and Quileute Natural Resources to treat yellow loosestrife at Snider Work Camp, which made treating such a large infestation much easier, gave the crews the opportunity to learn to identify this new weed and increased collaboration between different programs that will hopefully lead to more projects.
- Collaborated with FS crew and WCC to treat Cranberry Bog, which allowed us to treat a much larger area than in 2023.



The CCNWCB, FS and Quileute Natural Resources crews after treating yellow loosestrife at Snider Work Camp.

Data Collection/Mapping

- The pre-and post-season meetings between the FS and Weed Boards continue to be essential.
- We collected points for all regulated weeds, even if they had been found in previous years. We hope to develop a shared comprehensive digitized map that allows all weed control practitioners to see all sites to better isolate source areas and anticipate possible weed threats nearby regardless of jurisdiction.
- We're getting more familiar with ArcGIS Pro and can make better maps and share more information with different crews.

RECOMMENDATIONS

Future Direction of the Project

Title II funding under the Secure Rural Schools Act has provided the opportunity and impetus to develop a collaborative relationship between the Forest Service and local weed boards to address invasive plant issues. The cross-prioritization strategy between this program and Clallam County's Integrated Weed Management Plan and the general weed control program county-wide amplifies invasive species control efforts and ensures real successes in both jurisdictions.

We hope to focus on preventative surveys, early detection and rapid response, and rehabilitation activities, such as re-seeding with native species where it makes the most sense. A limited supply of non-grass mixes are now available.

The working relationship between the Weed Board and Forest Service has enabled us to refine and improve many elements of this project over the years. The expertise, flexibility, and locality of weed boards make us ideally suited to identify and control new or small infestations and other tasks as needed and directed by the Forest Service Botany program. The planning coordination that occurs because of the Clallam County Weed Board involvement in both FS weed control program and that of the Clallam County Road department is a powerful collaboration that not only improves efficiency and efficacy but greatly increases the likelihood of achieving program goals.

We appreciate the opportunity to provide input on weed control strategy and to help coordinate the Forest Service's weed management plan. Intra-agency invasive species control coordination has not only become increasingly important but also is more likely to occur. This is a direct legacy of the working relationships created on the Olympic Peninsula during the tenure of the Secure Rural School Act.

Specific recommendations for next year are listed below.



Herb Robert along FS 2918

Program Development

- Participate in pre-season planning with other land managers to identify needs, pool resources and formulate more cross boundary invasive plant control projects that protect FS resources.
- Identify other landowners/managers, public, private and tribal, with whom we may need to coordinate weed control
- Create a database available to all participants on best practices for treating different weeds. There has been staff turnover for many of the partner organizations and having a database to reference and add to will help maintain the knowledge base that has accumulated over the years.
- Create a table or database that lists the weeds that have been found on each treatment site. The table in Appendix D of this report could be used as a template. With so much staff turnover, it would be useful to have all that knowledge in one document.
- Identify projects that would benefit from volunteer participation or multiple crews in the beginning of the season.

Survey and Treatment

- Prioritize treatments of spotted jewelweed and visit treated sites multiple times a year.
- Increase surveys and treatments of waterways that have a high probability of being infested with high priority weeds from adjacent roads and that could spread weeds further into Olympic National Forest and on to adjacent lands.

- Prioritize treatments in east Jefferson County and roads that lead between Clallam County and east Jefferson County. Many of these sites are very weedy and are conduits for weeds to get into the backcountry or spread onto the Clallam County road system.
- Continue to prioritize treatment of areas infested with wild basil savory.
- Treat Cranberry Bog earlier in the season
- Update maps to show where known washouts occur and where road conditions are poor.

Documentation

- Work toward a shared infestation map and point collection protocol.
- Work toward sharing treatment efficacy between partner organizations.



Meadow at the horse camp in the upper Dungeness River watershed, about 0.5 miles south of Camp Handy and across the river from where Milk Creek enters the Dungeness River. This meadow had been full of Canada thistle prior to treatments starting 2010. In 2024, only a few stems of Canada thistle were found and treated in this meadow.

2024 PROTOCOLS

1. Team and Project Dates

This year's treatments were focused on areas that were going to experience selective thinning within 1 to 5 years within the Jimmy-Come-Lately, Dungeness and headwaters of the Sol Duc River. This allowed us to focus our limited staff on the highest priority areas. Treatments were performed by Clallam County Noxious Weed Control Board staff consisting in various combinations of Christina St John (coordinator), Rachel Smith, Kari Williamson, Meghan Fallon (seasonal field technicians) and Sam Fischbein (weed inspector). Fieldwork began in mid-June and continued through mid-October.

2. Invasive Species Recorded

Treatment and surveys focused on Class A and B-designate weeds on the Washington State Noxious Weed List (see Appendix H), and additional species that are of concern to the Forest Service. In most cases, Class B non-designate, Class C, and other low priority non-native weeds were only documented when an infestation was in a site of particular concern (e.g. a Botanical Area), when the infestation was of notable size, or when a new species was found. Exceptions were made for especially invasive species, such as herb Robert or knotweeds, which threaten undisturbed areas. See Appendix G for a complete listing of species recorded from 2002 to 2024. Treatments and surveys were not intended to target every non-native species.

3. Survey and Treatment (see Appendix A):

The project focused on treatments of known infestations in specific project areas identified by the Forest Service, often including sites that had received treatment in the past. Survey and treatment of new infestations was also a priority, especially if new sites were seen enroute to known sites, or as part of a systematic effort to monitor all Forest Service land through surveys.

- a. Many known sites are along roadsides and are typically surveyed by vehicle but also on foot. The distance surveyed was measured using a vehicle odometer or Garmin GPS unit, and the area surveyed was calculated using the following formula. Crew made a road specific estimation of how many feet on each side of the road were to be included in the formula. The road width was included in the calculation only when weed growth in the road itself (as opposed to shoulder) required treatment.

$$\frac{\text{miles surveyed} \times 5280 \text{ ft/mi} \times \text{roadside width (ft)} \times 2 \text{ roadsides/survey}}{43560 \text{ ft}^2/\text{acre}}$$

- b. Trailheads, campground parking areas, and rock sources were surveyed on foot and area surveyed or treated was estimated by using measurement functions on a Garmin GPS unit or by other predetermined figures.
- c. From 2007 through 2012 miles surveyed were estimated from treatment sites (recorded on FACTS forms) and roads taken to get to those treatment sites. Beginning in 2013, surveyed miles **only includes** a single trip on a road, even though it may have been traveled and surveyed many times during the season. Additionally, **only treated** roads documented on FACTS forms were included, **not** additional roads that were viewed on the way to a project. In 2018, only treated mileage documented on FACT sheets was recorded; surveyed miles were not included.
- d. Small taprooted or bolting weed infestations were often treated manually on rainy days. Seeded plants were dead-headed; heads were bagged and disposed of off-site, (or treated on-site), when encountered.
- e. Herbicide treatments were applied based on guidelines established in the 2008 EIS which allow the use of 10 different herbicides.
- f. A legal notice listing all sites under consideration for herbicide treatment (see Appendix I) was published on the Olympic National Forest website (<https://www.fs.usda.gov/alerts/olympic/alerts-notice>). Herbicide applications by Clallam County NWCB were carried out between June 13th and September 18th.
- g. Backpack sprayers were calibrated prior to use on FS lands per federal NPDES standards. A sample calibration sheet and the calibration methodology can be seen in Appendix K.
- h. Foliar herbicide applications were made using 0.25% Milestone (aminopyralid), 1.5% Element 3A or 1.5% Vastlan (all triclopyr), 1.0% Polaris (imazapyr) and 0.5-1% Competitor (surfactant) and 0.25% Blazon (marker dye).
- i. On-site notices were posted prior to treatments on FS lands and left in place for at least 1 month afterwards. Treatments in high-use areas such as trailheads were avoided during busy times (near weekends or holidays).

4. Data Collection

The Forest Service identified 24 broad "Project Areas" that consolidated individual species sites reported in previous years. Each "Project Area" was subdivided, usually into road segments or spurs. Clearly defined areas such as campgrounds or rock sources became a subunit. Each subunit was given its own unique "Reference Number". Please see previous reports for each year's protocol.

Forest Activity Tracking Sheet (FACTS)

FACT sheets are used to record treatments in each Reference # site. This form has been modified several times since its introduction. A current sample of this form is shown in Appendix J.

Invasive Plant Inventory for Rock Sources

Rock Source Survey, introduced in 2009, is used to track the suitability of quarry material from both public and private sources that can meet FS “weed free standards”. A sample form is included in Appendix J. In 2024, the County’s rock survey form was utilized.

Invasive Plant Treatment Monitoring

The Forest Service is required to ensure monitoring of at least 50% of all treated acreage. Information about type, area, and cover class of each species is copied from the original FACTS form relating to treatments at each project. The percent efficacy of treatment is then recorded based on codes that range from 0-100.

Olympic NF Invasive Plant Inventory Data Collection Form NRIS

This form is used to record information about new weed sites. Data from this form is entered into **Rangeland PC Data** and submitted to the Forest Service for staff to upload into the **NRIS Terra Database**. For specifics of data collection and entry see previous reports. New sites that were found **and** treated this season were recorded on FACTS forms only.

5. Spatial Data Collection and Mapping:

Weed sites were previously mapped in ArcView GIS by county staff so that a real-time map could be available to the field crew. The shape files produced for that map were retained by the Clallam County Noxious Weed Control Board for use in future fieldwork as necessary. Weed Board Protocols for GPS mapping have not been consistent but are improving. As follows:

- a. NWCB crew carries a state-issued iPhone or Garmin 78 pre-loaded with Topo US 24K or a Montana Hunt chip, which identifies landowners.
- b. Meta data is set to NAD83 Harn, State Plane North 4601, statute feet. Newer Garmin units that don’t allow for this projection are set to UTM, statute feet.
- c. Crew is directed to take waypoints on iForm WSDA database app on an state-issued phone or GPS units for significant events or sites, new weed locations, or to document named locations such as quarries.
- d. Individual weed sites are plotted as points.
- e. New layers are produced post-season showing where treatment occurred. Waypoints were downloaded in the office and converted into shape files through the Minnesota DNR public domain software DNRGarmin version 6.1.0.6 or by using ArcGISOnline.

6. Data Reporting

Office staff reviewed FACTS, Monitor, and Rock Source Survey forms and submitted copies to the Forest Service; generally biweekly, during the field season. The originals were retained in the Clallam County Weed Board office. More detailed data is included in the Appendices to this report, as described below.

- a. **Appendix A** is the Project Area list or “annual work plan” supplied by the Forest Service at the start of the season, with details of 2024 treatments by acreage, date and species. It is a comprehensive account of work accomplished by Clallam Noxious Weed Control Board in 2024.
- b. **Appendix B** is summary of current rock source inspections, treatments and readiness.
- c. **Appendix C** shows weed sites recommended for next season’s project area list.
- d. **Appendix D** is a master list of the roads surveyed and treated since the inception of State Rural School Act, Title II funded projects. This list shows the amount of survey completed on each road, and totals for each year, as well as the number of weeds pulled manually for each year up to 2006. It also lists the area of treatment, by road, completed from 2007 through 2024, and weed species treated. The master list is followed by a table summarizing yearly accomplishments by crew since 2002. These summary tables have been revised in 2024 as described in the narrative. Finally, brief annual narratives provide perspective on how the program has responded to changing conditions and resources.
- e. **Appendix E** is a brief summary of weed status and weed board work in Clallam County that complements the work conducted on Forest Service land.
- f. **Appendix F** is a list of all weed species (Common Names, Botanical Names, and associated Plant Codes) reported and subsequently entered into the NRIS Terra database over the lifetime of this project.
- g. **Appendix G** gives control recommendations for each invasive species that has been identified during the course of this project.

- h. **Appendix H** shows the 2024 Washington State Noxious Weed List, which is updated annually according to WAC Chapter 16-750. Under RCW Chapter 17.10 all non-federal landowners (and excluding tribes) in the state are responsible for controlling or eradicating listed noxious weeds on their property. The control threshold is defined by RCW 17.10 and is determined by the class into which each weed is placed. This same law provides for the formation of County Noxious Weed Control Boards. Federal agencies are required to work with local agencies to meet or match local weed control standards under the Federal Noxious Weed Act amended in 1994.
- i. **Appendix I** shows examples of a legal notice regarding herbicide use and an on-site posting notice.
- j. **Appendix J** shows a sample of all forms used in the project and Forest Service established protocols for filling out each form.
- k. **Appendix K** shows a sample record of calibrations performed to comply with federal NPDES requirements. The calibration methodology is also provided.

APPENDIX A: 2024 PROJECT LIST ACTIONS

The following table is based on the Project List developed by the Forest Service, which serves as a prioritized work plan for the Clallam Noxious Weed Control Board (CNWCB). The list has four categories, Priority 1A, 1, 2, or no priority – some sites suitable for survey were identified, but not prioritized. This table only shows sites that were treated. Sites shown in the table as Early Detection Rapid Response (EDRR) were originally listed in the work plan with no priority or were not shown and have been added. Clallam County roads that directly lead to Forest Service land are highly ranked and treated for regulated or high priority weeds under our roadside Integrated Weed Management Plan. County roads adjacent to or directly leading to FS lands and associated weed treatment details have been included at the beginning of the table to show the extent of our coordinated effort. We show a FS priority (1A, 1 or 2) for a county road when it was so designated in the FS annual work plan in our area.

The table is sorted by FS road number; smallest to largest. It shows the acreage treated, each date the Clallam County Noxious Weed Control Board (abbreviated to NWCB in the table) was on site and whether the treatment was manual, chemical or a combination of both. In 2024, the Clallam County Noxious Weed Control Board surveyed **183.0** and treated **171.3 acres**, manually or chemically.

County road treatments that complement weed control efforts on Forest Service lands but were conducted through separate funding provided by Clallam’s Road Department are listed using the FS four-digit road number (when known). Listed below are County-owned roads that intersect with FS roads or provide entry into Olympic National Forest. In 2024, we surveyed **117.8 acres** over **10 county roads** and treated **18 species** over **109.6 acres** on **9 county roads**. An additional **268.3 acres (including retreatments)** within **25 county pits** were also treated (additional details are provided in Appendix B). Weed treatments on County-owned roads underscore our cooperative efforts with ONF staff to protect Forest Service lands from noxious weed invasion.

In the table below, cells in the project’s priority (set by FS) are color coded. Priority 1A sites for CNWCB are **dark yellow**, Priority 1 sites are **orange**, priority 2 sites are **purple**, and non-prioritized or survey are **green**. Sites assigned to FS but worked on by CCNWCB staff are shaded in **blue**. The CNWCB treated a total of **25** projects. We treated **14 Priority 1A** projects, **7 Priority 1** projects and **2 Priority 2** projects. **One EDRR site** was treated and 1 Priority 1 site was surveyed and did not need treatment. CCNWCB partnered with the FS crew to treat 1 Priority 1A site (Cranberry Bog) and 1 Priority 1 site (Snider Work Camp). The table summarizes each visit to a specific project this year. In cases where projects required more than one trip to complete, each treatment is recorded in a separate line.

In the *Species Treated* column, we recorded only those species we found and treated on each site. High priority species have been **bolded** in this column. The *Species Treated* column does not necessarily list species noted by the Weed Board crew or FS in prior years. Our *Comments* column notes high priority species not previously mentioned or not found this year, as well as general weed comments, treatment locations and priority suggestions.

We continue to focus on sites with infrequent, high priority weeds in addition to sites that may be soon decommissioned or are in the planning stages for forestry maintenance or habitat restoration activities. The *2024 Priority* column reflects crew suggestions based on field observations and should be considered in preparing next year’s project list.

2024 Project Activity Summary

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
660 661	NWCB	1A	North Fork Calawah River	2036	Mary Clark Road (county)		08/27/24 09/11/24	18.6	18.6	M/H	83	2.91	HYPE, JAVU, RULA	
120 135 169	NWCB	1A	Middle Sol Duc River North Fork Calawah River Upper Sol Duc River	2065	Cooper Ranch Road (county)		08/27/24	10.2	10.2	M/H	6	0.45	CLVU, GERO, JAVU, RULA	
	NWCB			4177	Blue Mountain Rd (county)		08/26/24 09/04/24	16.96	16.96	M/H	21	4.48	CEMO, CIAR, HYPE, JAVU, LALA, POBO	
	NWCB			3050	Little River Rd (county)		08/28/24	8.48	8.48	H	0	5.82	CEMO, CIVU, CLVU, GERO, JAVU	
	NWCB			3038	Olympic Hot Springs Rd (county)		08/28/24	4.84	4.84	H	0	7.84	ARMI, CEMO, CIAR, CIVU, CLVU, GERO, JAVU, LALA, POBO	
	NWCB			9221	Joyce Piedmont Rd/East Beach (county)		08/21/24	3.39	0.1	M	160	0	TAVU	

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
	NWCB			4360	Lost Mountain Rd (county)		08/26/24 09/30/24	12.6	12.6	M/H	21	6.72	CIAR, CIIN, CIVU, CEMO, DIFU, GERO, JAVU	
	NWCB			5006	Jimmy-Come-Lately Rd (county)		07/24/24	2.9	0		0	0		Survey
	NWCB			5331	Palo Alto Rd (county)		03/05/24 09/18/24	21.19	21.19	M/H	15	5.4	CEMO, CIAR, CLVU, COMA, DACA, JAVU, LEVU, PORE	
	NWCB			5695	Woods Rd (county)		8/19/24	10.18	8.18	M/H	15	45.9	CIAR, CLVU, GERO, HYPE, JAVU, TAVU	
	NWCB			5714	Chicken Coop Rd (county)		07/06/24	8.48	8.48	MU/H	45	1.59	CIAR, CIVU, CLVU, DIFU, JAVU	
				Total Clallam County Rd adj to FS				117.82	109.63		363			

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
			FS Projects											
1041	CCNWCB	1A	Upper Big Quilcene River	2700140		Y	8/14/24	0.5	0.5	H		40.4	CLVU, CYSC, HYPE*, JAVU, LALA, TAVU	MP 0.0 - 0.1; Painfully weedy
107	CCNWCB	2	Middle Dungeness River	2800000		Y	8/20/24	1.5	1.5	M	134	0	CEMO, JAVU	Assigned to FS crew; request for cutting CEMO heads by Cheryl Bartlett
78	CCNWCB	1	Jimmy-Come-Lately Creek	2840000		Y	10/8/24	9.9	9.9	M	55	0	JAVU	Surveyed entire road for spotted jewelweed, manually removed flowering tansy ragwort; no spotted jewelweed found
EDRR			Jimmy-Come-Lately Creek	2840000			10/8/24	3.2	3.2	M	6	0	JAVU	MP 4.1 to 5.4 - entire portion of road surveyed for spotted jewelweed, manually removed flowering JAVU; no spotted jewelweed found
84	CCNWCB	1	Jimmy-Come-Lately Creek	2850000		Y	6/13/24	7.3	7.3	H		20.7	CIAR, CIVU, DIPU, GERO, IMCA, JAVU	4 new IMCA patches, including in creek along road

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
84 (cont)							6/20/24	2.5	2.5	H		0.8	GERO, IMCA, JAVU	IMCA has infested creek west of the road - entire day was in creek, surveyed approx 0.2 miles
							7/3/24	1.9	1.9	H		1	GERO, IMCA, JAVU	Treating in creek adjacent to FS 2850; had to stop survey because creek became too difficult to navigate; have not found furthest downstream infestation, probably originated in wetland where IMCA was discovered in 2021
							8/20/24	3.4	3.4	M	3734	0	CEMO, IMCA, JAVU	MP 5.0 - 6.2 and in creek (approx 0.3 mi)
							8/22/24	1.6	1.6	M	5945	0	IMCA	"Devil's Creek" and some of wetland at MP 5.1
							8/22/24	5.8	5.8	M	44	0	JAVU	MP 5.0 - 7.4; removing flowering tansy ragwort
							8/26/24	0.25	0.25	M	8800	0	IMCA	Wetland at approximately MP 5.0
							9/17/24	0.1	0.1	M	4500	0	IMCA	Wetland at approximately MP 5.0

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
84 (cont)							9/25/24	1	1	M	10200	0	IMCA	Wetland at approximately MP 5.0; were able to remove IMCA from the upper portion of the creek and wetland within about 50 feet of the creek. Found highest IMCA patch in creek/wetland.
							10/8/24	6.8	6.8	M	12	0	IMCA, JAVU	Surveyed entire reference area and checked all spotted jewelweed sites - removed just a few left behind. Removed flowering JAVU
							10/14/24	0.25	0.25	M	563	0	IMCA	Surveyed upper wetland, both sides; found IMCA in upper wetland (west side), in small creek through salmonberry
							10/17/24	1.5	1.2	M	767	0	IMCA	Found highest infestation - south of upper wetland in ditch on side of road, into upper wetland; connected with previous treatments
501	CCNWCB	2	Snow Creek/ Salmon River	2850000		Y	8/21/24	11.1	11.1	M	2210	0	IMCA, JAVU	Rechecking previously treated patches for any missed plants

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
501 (cont)							8/22/24	0.1	0.1	M	82	0	IMCA	Infestation at MP 4.6 only
							8/29/24	2.5	0.1	M	819	0	IMCA	Massive IMCA infestation that goes off FS road at MP 4.4 and into surrounding forest - DNR land; did not finish treating roadside
							10/8/24	11.2	11.2	M	3367	0	IMCA, JAVU	Removed all spotted jewelweed along road and flowering tansy ragwort; created 50' buffer next to road at MP 4.2 - infestation of IMCA that goes into DNR property
63	CCNWCB	1	Jimmy-Come-Lately Creek	2855000		Y	7/24/24	6.54	6.54	H		109.9	CIAR*, CIVU*, CLVU, GERO, HYPE*, JAVU, PORE	Very dense infestations of GERO and CLVU. Only treated on average 30 feet off road edge on both sides.
							8/20/24	6.8	6.8	M	8	0	JAVU	Just removed flowering tansy ragwort along entire road
60	CCNWCB	1	Jimmy-Come-Lately Creek	2855070	Raccoon Pit	Y	7/16/24	1.3	1.3	H		9	Cotoneaster, CYSC, DALA, GERO, JAVU, LALA	
19	CCNWCB	1A	Canyon Creek/Pats Creek	2870000	Lower Caraco Quarry	Y	7/23/24	2.1	2.1	H		37	GERO, RARE*, RUAR	Completed east side and around inside of opening; large infestations of GERO, incidental spray of buttercup

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
32	CCNWCB	1A	Canyon Creek/Pats Creek	2870000	unnamed gravel pit	Y	7/23/24	4.7	4.7	H		13.4	CIAR, CIVU, DIPU, GERO , LALA	GERO infestation in forest on NW side of pit, next to FS 2870
759	CCNWCB	1A	Upper Dungeness River	2870000	Dungeness Trail	Y	9/12/24	8.9	8.9	H		4.5	CIAR	Hiking Upper Dungeness Trail to meadows along Heather Creek Trail. Just treated two meadows. Partnered with Tom Mix (BCHW) and Dan Tye (FS volunteer); CIAR found in two meadows - further meadow had approximately 1 acre of infestation, with one large, dense patch and scattered outliers. 1st meadow had just a few scattered plants.
17	CCNWCB	1A	Canyon Creek/Pats Creek	2870058		Y	7/11/24	1.2	1.2	M/H		10.6	CIVU, GERO	No CLVU! A few large patches of GERO at and after -059 spur
10	CCNWCB	1A	Canyon Creek/Pats Creek	2870059	Cranberry Bog	Y	7/11/24	2	2	H		16.4	CIAR, CIVU, GERO , PHAR	Treatment sheet just for herbicide used by CCNWCB and volunteer; only treated back (NE) section
5	CCNWCB	1A	Canyon Creek/Pats Creek	2875000	Canyon Pit	Y	9/18/24	3.4	3.4	H		1.1	CEMO , CIAR, HYPE, LALA	Trashy

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
98	CCNWCB	1A	McDonald Creek/ Siebert Creek	2877000		Y	6/26/24	6.3	6.3	H		23.6	GERO	Lots of GERO at start; illegally logged cedar at intersection with -040 spur; trash thrown down slope
							7/17/24	3.6	3.6	H		26.8	CIAR, CIVU, GERO	Many large infestation of GERO going downslope from road
							7/31/24	5.1	1.5	H		7.8	DIPU*, GERO	Road blocked at MP 4.0; rain on previous day, so vegetation was wet
99	CCNWCB	1A	McDonald Creek/ Siebert Creek	2877000	Pat's Prairie	Y	9/18/24	3.5	3.5	H		1.8	CIAR, CIVU, HYRA, LEVU	A few patches of CIAR scattered throughout Pat's Prairie. Also treated small area of 2nd meadow.
100	CCNWCB	1A	McDonald Creek/ Siebert Creek	2877100		N	7/31/24	0.7	0.7	H		0.23	DIPU*, LEVU*	
840	CCNWCB	1A	Canyon Creek/Pats Creek	2878000	Slab Camp / Deer Ridge TH	Y	7/31/24	1	0			0		Survey - No priority species found
38	CCNWCB	1A	Canyon Creek/Pats Creek	2878060		Y	9/4/24	0.3	0.3	H		6.2	CLVU, LALA	MP 0.6-0.7; Lots of small peavine and scattered wild basil savory
							9/5/24	3.2	2.9	H		14.6	CIVU, CLVU, GERO, LALA	

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
39	CCNWCB	1A	Canyon Creek/Pats Creek	2878080		Y	9/4/24	1.8	0.1	H		0.02	CLVU	Just one CLVU plant found - surveyed entire road
40	CCNWCB	1A	Canyon Creek/Pats Creek	2878085		Y	9/4/24	1.7	1.7	H		7.2	CIVU, CLVU, GERO, JAVU	Majority of CLVU on back half of road; mostly scattered and in median
54	CCNWCB	1	Headwater Sol Duc River	2918000		Y	6/18/24	4.8	4.8	H		28.1	GERO, CIVU, DIPU*	
							7/1/24	17.9	17.9	M/H		3.4	CIVU, CYSC, DIPU*, GERO	Washout at MP 8.7
55	CCNWCB	1	Headwater Sol Duc River	2920000		Y	7/1/24	4.8	4.8	H		22.4	DIPU*, GERO	Large infestations of GERO between intersection with FS2918 and bridge
							8/5/24	9.9	9.9	M/H		8.4	CYSC, GERO, LEVU*	Road got too rough after MP 4.2. GERO at MP 0.2-0.3&1.4; CYSC at MP 3.2-3.6; LEVU at MP 0.1-4.2
122	CCNWCB	1A	Middle Sol Duc River	3006000		Y	8/6/24	3.6	3.6	H		26.8	CYSC, DIPU*, GERO	Very weedy starting at MP 0.3
							8/12/24	1.5	1.5	H		13.4	GERO, DIPU*	MP 0.5-0.8; Still very weedy, GERO dense along road, but rarely creeping into forest.

Ref #	Crew	2024 Priority	6th Field Watershed Name	FS Road #	Site Name	2025 Priority	Date Treated	Acres Examined	Acres Treated	Method	Manual Plants Removed	Total (oz)	Species	Comments
118	CCNWCB	1	Middle Sol Duc River	3040800	Snider Work Center	Y	8/12/24	2	1.5	H		26.8	CIAR*, LYP U, MESP*	Focused on yellow loosestrife infestation in SW portion of area. Mint- broadcast spray in open area near LYP
							8/29/24	2	0.1	H		0.01	POBO	1 stem of knotweed behind house and old pole barn - slightly upslope and halfway in between
			Total for FS projects					183.04	171.34		41,246			

APPENDIX B: ROCK SOURCE SURVEYS AND TREATMENT

A *suitable* rock source is an increasingly rare and valuable commodity, especially on the Olympic Peninsula. As the Forest Service prepares for future harvest and road building activities that must comply with FS weed management protocols, surveys to locate rock sources and prepare them for use before needed is a significant weed prevention method, and therefore a high priority for this program. We continue to build our inventory of rock sources and their current weed status encompassing as many types of ownership as possible. The summary table below has grown to encompass the status of **90** rock sources or storage locations across Clallam and Jefferson Counties.

In 2024, 3 high priority FS rock sources were inspected and treated by CCNWCB. The focus on spotted jewelweed prevented us from completing inspections and treatments of most pits assigned to us. Dates treated or inspected, treated species, and suitability are shown in the table below, as well as whether the rock source is dormant or how it is currently being used. FS Rock Source Index codes, when available, have been added because they are helpful when locating sites; the type of ownership is shown for non-Forest sources.

To reduce the spread of weeds across jurisdictional boundaries, we have made a concerted effort to ensure that as many non-FS managed quarries in Clallam County as possible meet FS “weed free” standards--see the Rock Source Inventory form in Appendix J for an explanation of each standard. The results of our surveys (or treatments, in the case of county-held rock sources) are summarized in the table below and are intended to be used as a resource for FS personnel gauging the suitability of a wide variety of rock sources. In the private sector, we inspected and identified corrective actions **11 private rock sources**; several pits have mitigation precautions in place. We surveyed and treated **25 county managed rock sources** and storage areas totaling **263.3 acres (including retreatments)**. Some county sources would still need to be used with caution. DNR has begun the long process of bringing their rock sources up to speed in advance of forestry projects – **4 DNR-held pits** were inspected and three were certified this year. DNR’s Tavern Loop pit was only certified weed-free for stored material, not material extracted from the pit. Mary Clark Pit did not receive a weed-free certification due to large amounts of tansy ragwort and Scotch broom on pit floor. Most of the non-Forest rock sources shown in the table are in Clallam County. “*County*” rock source assessments in the following table include only Clallam County. Jefferson County Noxious Weed Control Board has established a weed-free certification. Please reach out to that program for status updates on pits in Jefferson County.

Some color coding has been added to indicate the Forest Service rock source standard, and thus suitability, that each rock source achieved this year. **Green** shading indicates currently suitable, **yellow** indicates some caution should be used, **red** indicates currently not suitable. **Grey** indicates the rock source was included on the project list but slated for treatment by a non-weed board crew and the weed-free certification rating is unknown to us. **Orange** indicates the pit was not inspected this year, but the date of the last inspection and information of past status is provided when known. No color in a cell in the **Name** column indicates it was a specialty survey and was not rated. Two quarries with **red font** have not been located in a number of years.

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Forest Service Quarries									
Armpit Quarry	0.6	28701500	2870-150	586	1A	CIVU, LALA	Treated in 2018	CCNWCB unable to survey and treat this year	
Bockman Pit	2	29020009	2902-000	588	1A	CIVU, CYSC, DIPU, GERO , LEVU, COAR, JAVU		Assigned to Forest Service crew; 2024 Status Unknown	
Bonidu Pit	6.3	290000037	2900-000	165	1A	CIVU, CYSC, DIPU, GERO ,	Treated in 2022	Assigned to Forest Service crew; 2024 Status Unknown	

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
						HYPE, JAVU, RUAR			
Bon Jon Quarry	1.2	260000004	2600-000	194	2	CIVU, LALA, JAVU	Treated in 2016	Assigned to Forest Service crew; 2024 Status Unknown	
Calawah Pit	8.0	290001500	2900-000	152	1A	CYSC, GERO, RULA	Treated in 2020	Assigned to Forest Service crew; 2024 Status Unknown	
Canyon Pit	3.8	287500001.4	2875-000	5	1A	CEMO, CIAR	9/18/2024	Chemical treatment for CEMO, CIAR, LALA and HYPE. Still contains a decent infestation of CEMO.	3.4
Coho Pit	1.0		2840-080	57	1A	CIAR, HYPE, LALA, JAVU	Treated in 2019	Assigned to Forest Service crew; 2024 Status Unknown	
Grindstone Pit	7	292307000.1	2923-070	133	1A	CIVU, DIPU, CYSC	5/17/2023	Assigned to Forest Service crew; 2024 Status Unknown	
Empire Quarry	0.5	21600005.6	2160000	826	1	CYSC, RULA	Treated in 2019	Assigned to Forest Service crew; 2024 Status Unknown	
Littleton Horsecamp stockpile	0.8	307100000.0	3017-000.3	173		CYSC, HYPE, LALA	Treated in 2016	Unknown for 2024; project not assigned for work	
Loop Quarry aka-spur (unnamed) Pit	1.0	284507300.9	2845-073	61	1	DIPU, CIAR, CYSC, JAVU		Assigned to Forest Service crew; 2024 Status Unknown	
Louella Rock Pit	1.0	280036000.4	2800-351	58	2	CEMO, CIAR, CYSC	Treated in 2021	CCNWCB unable to survey and treat this year	
Luella LuLu	0.6	290000360.9	2900-360		2	No weeds found	Inspected 2020	CCNWCB unable to survey and treat this year	
Lost Pit (aka Canine Pit)	4.5	280013000.3	2800-130	101	1A	CIAR, CIVU, CYSC, GERO, LALA, JAVU	Treated 2020	Assigned to Forest Service crew; 2024 Status Unknown	
Lower Caraco Quarry	0.3	287000001.0	2870-000	19	1A	CEMO, CIAR, CIVU, GERO, JAVU, RUAR	7/23/2024	Only treated east side of pit; huge infestations of GERO	2.1
Mt Muller TH Gravel Pile	0.8	307100000.3	3071-000	612		CIVU, HYPE, LALA, RUAR,	Treated 2016	Unknown for 2024; project not assigned for work	
Mystery Pit	N/A	2900200.?			2	POBO	Treated in 2014	Unknown for 2024; project not assigned for work	

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Ned Hill Quarry (aka Sandstone Quarry)	1.0	287812500.5	2878-125	20	1A	CIAR, CIVU, CYSC, LALA,	Treated in 2022	CCNWCB unable to survey and treat this year	
Neptune Quarry	N/A	21900007.7?	2190000	832	1A	RULA, RUAR9, CIVU, LEVU.	Treated in 2015	Assigned to Forest Service crew; 2024 Status Unknown	
Park Pit	3.0	21800110.3	2180-011	611	1A	CYSC, RULA, JAVU	Treated in 2020	Assigned to Forest Service crew; 2024 Status Unknown	
Raccoon Pit	1.5	285507001.3	2855-070	60	1	CIVU, DALA, GERO, LALA, JAVU	7/16/2024	Looked relatively good this year; some GERO in forest next to pit	1.3
Tom Creek Pit	11.0	293100000.2	2931-000	168		CYSC, DIPU, PHAR	Treated in 2020	Unknown for 2024; project not assigned for work	
Unmarked Pit N/A	1	280012001.3	2800-120/ 2800-210			LALA	Treated in 2017	Unknown for 2024; project not assigned for work	
Unnamed Gravel Pit	4.7		Junction 2878 X 2870	32	1A	CIAR, CYSC, GERO, HYPE, LALA	7/23/2024	GERO infestation in forest on NW side of pit, next to FS 2870	4.7
Upper Caraco Pit	1.5		2870-000	21	1A	GERO, LEVU	Treated in 2021	CCNWCB unable to survey and treat this year	
Wolf Quarry 2	0.6	28401200.3	2840-120	62	1A	GERO	Treated in 2022	Assigned to Forest Service crew; 2024 Status Unknown	
Private Quarries									
A & A Rock	44.14	Private	Hwy 101 W			CEMO, CIAR, CYSC, GERO, LALA	Inspected in 2023	NO CERTIFICATION in 2024	
Beaver Falls	approx. 20	Private	Hwy 113 near Beaver Lake			HYPE, JAVU, PHAR, RUAR	9/11/2024	Meets Standard B CERTIFICATION CURRENT	
Black Diamond Quarry (formerly called Holcomb)	19	Private	Black Diamond Rd.			CEMO, CIVU, CYSC, LEVU	6/12/2024	Meets Standard B CERTIFICATION CURRENT	
Blake Sand and Gravel	63	Private	Cays Rd			CIAR, CIVU, TAVU, RUAR	9/30/2024	Meets Standard B CERTIFICATION CURRENT	
Discovery Bay (Scarsella)	41.46	Private	Hwy 101 E, north side			CYSC, GERO	Inspected in 2022	Check with JCNWCB for any certification in 2024	

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Davis Sand and Gravel	47.7	Private	Evans Rd.			CIAR, CIVU, DIFU, RUAR	Inspected in 2021	NO CERTIFICATION in 2024; Spoke with owner and weed treatments are occurring	
Elwha Rock Products		Private	Place Rd.			CYSC, JAVU POBO	Inspected in 2017	NO CERTIFICATION in 2024	
Floe Pit	50.2	Private	Hwy 101, MP 210.5			CYSC, GERO	4/9/2024	GERO needs to be treated on haul road before certification can be given	
Glacier Pit (Also called Herrick Rd pit)	5.1	Private	Glacier Rd.			CYSC, GERO	6/12/2024	Storage, Extraction. Meets Standard B CERTIFICATION CURRENT	
Elwha Gravel Pit	22.5	Private	Lower Elwha River Rd.			CIVU, CYSC, DIPU, LEVU	7/1/2024	Storage, Extraction. Very Clean! Meets Standard B CERTIFICATION CURRENT	
Haller Quarry	94	Private	2 m south on River Rd. gate on left			BUDA, CIAR, DIFU	6/10/2024	Meets Standard B CERTIFICATION CURRENT	
Hanson Pit	29.9	Private	Hwy 101, west of Indian Creek crossing			CIAR, DIPU, LEVU	6/10/2024	Meets Standard B CERTIFICATION CURRENT	
Hecklesville Quarry	5	Private	44 Heckle Rd.			CASE, CIVU, CYSC, DIPU, LALA	Inspected in 2018	NO CERTIFICATION in 2024	
Hoh Pit-Seton	81	Private No commercial rock avail.	Hoh Rd.			CYSC, LALA, RUAR	Inspected in 2021	NO CERTIFICATION in 2024	
Lakeside Place Rd Quarry		Private	Place Rd. on right			CIVU, CYSC, DIPU, HYPE, LALA, JAVU	Inspected in 2016	NO CERTIFICATION in 2024	
Mystery Quillayute Pit		Private, possibly WSDOT	Quillayute Rd.			CYSC, PHAR, JAVU	Inspected in 2016	NO CERTIFICATION in 2024	
Moriarity Rd Pit		Private; unknown	Moriarity Rd.			CYSC, HYPE, PHAR, RUAR, RULA	Inspected in 2016	NO CERTIFICATION in 2024	
Old Smokey (formerly Hillcar-Fletcher Quarry)	105	Private	Hwy 110			CIVU, CYSC, GERO, LAGA, RUAR, JAVU	7/1/2024	Meets Standard B CERTIFICATION CURRENT	

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Penny Creek Pit	approx. 30	Private	Penny Creek			CYSC, GERO, IRPS, LALA, LEDR, POBO, RUAR, PHAR, JAVU, TAVU	Inspected in 2018	Check with JCNWCB for any certification in 2024	
Port Orchard Sand and Gravel (aka Shine Pit)	104	Private	Wahl Lake Rd			BUDA, CYSC, JAVU, LUAR, TUFA	Inspected in 2022	Check with JCNWCB for any certification in 2024	
Princess Pit	59.9	Private	Princess Ln off Place Rd.			CIAR, CYSC, DIPU	6/10/2024	Meets Standard B CERTIFICATION CURRENT	
Rayonier Pit		Private	Bogachiel Way			CYSC, RUAR, RULA	Inspected in 2016	NO CERTIFICATION in 2024	
Sappho-ACP West	40	Private	205055 Hwy 101, Forks WA			CYSC, GERO, LALA, RUAR	7/1/2024	Meets Standard C for current stockpiled material; Certification expired in October 2024	
Schneider Pit	8	Private	1653 Towne Rd			BEIN, CEMO, COMA, DIFU, RUAR	3/4/2024	Storage, waste material. This pit is primarily accepting used material to fill in pit. COMA, BEIN and CEMO scattered across pit, some progress made in treatment.	
E Snider Quarry	23.5	Private	252 E Snider Rd.			CIVU, DIPU, GERO, ILAQ, LEVU	6/3/2024	Storage, Extraction. Pit looks clean! Meets Standard B CERTIFICATION CURRENT	
Thorndyke Pit	Approx 40	Private	Hwy 104, Wahl Rd.			COMA, CYSC, FABO, JAVU	10/9/2023	Check with JCNWCB for any certification in 2024	
West Twin-La Farge	N/A	Private	Hwy 112 approx MP 39			CIVU	Inspected in 2018	NO CERTIFICATION in 2024	
Clallam County Quarries									
Blue Mountain Transfer Station	2.7	Clallam County	Blue Mountain Rd.			CEMO, CIAR, CIVU, CYSC, COMA, PHAR	9/3/2024	Spoils (landfill transfer site)	

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Blyn Pit	18.6	Clallam County	Woods Rd.			BUDA, CEMO, COAR, COMA, CYSC, DIFU, DIPU, GERO, JAVU, LALA, LUAR, RUAR, TAVU, VETH	2/8/2024 5/16/2024 8/7/2024 10/9/2024	Spoils, Storage, some possible extraction. Clean areas for material storage. Manual and chemical treatments	18
Clallam Bay Storage	3.0	Clallam County	Frontier St.			CIVU, DIPU, RUAR		Not surveyed in 2024	
District 1	4.15	Clallam County	Washington St.			CEST, CIVU, RUAR, CIAR, HYPE,	8/6/2024 10/1/2024	Treated for spotted knapweed	4.15
District 2	5.8	Clallam County	Lauridson Blvd.			CIAR, CIVU, CYSC, GERO, RUAR	4/11/2024 5/2/2024	Storage, Manual and Chemical treatments for general weed control	2
Forks Pit	10.0	Clallam County	Pit Ln.			CYSC, JAVU, POBO	6/25/2024 10/25/2024	Large infestation of JAVU removed; need to continue to remove CYSC	5
Herrick Gravel	11.8	Clallam County	Herrick Rd.			CEMO, CIAR, CIVU, CYSC, DIPU, GERO, HYPE, LALA, RUAR	7/22/2024 9/10/2024	Extraction, Spoils, Storage. Chemical treatments. CEMO populations reduced but still present.	11.8
Hogback Pit	1.7	Clallam County	Off Cays Rd. on Hogback Rd.			TAVU	9/10/2024	Dormant. WARNING – ADJACENT TO INFESTATIONS OF ITALIAN THISTLE (CAPY)	1.76
Hoko-Ozette Rd MP 4.5	2.0	Clallam County	Hoko-Ozette Rd. MP 4.5			GERO, CYSC, JAVU	6/6/2024 7/30/2024 12/16/2024	Treated prior to material storage	2.0
Hoko-Ozette Rd MP 10	2.9	Clallam County	Hoko Ozette Rd MP 10			CYSC, GERO, JAVU	6/6/2024	Rarely used	2.85
Hoko-Ozette Rd MP 13	1.5	Clallam County	Hoko-Ozette Rd. MP 13			CYSC, GERO, JAVU	6/6/2024 12/16/2024	Treated prior to material storage	2.98
Hwy 101 Storage Yard	1.2	Clallam County	Intersection Old Olympic Hwy Hwy 101			BRSP, CEMO, CIVU, COMA, CYSC, RUAR	2/12/2024 3/8/2024	Storage	2
Joyce/ Piedmont Pit	5.5	Clallam County	Joyce/Piedmont Rd			CEMO, CIAR, CIVU, CYSC, DIPU, GERO, RUAR, JAVU	5/30/2024 10/24/2024	Storage; Roads Department resculpting pit and entrance	2.6

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Kirner Pit	39.24	Clallam County	Kirner Rd.			ARMI, CEMO CEST, CIIN, CIVU, COMA, CYSC, EULA, LUAR, RUAR, VIMI	2/2/2024 2/12/2024 3/28/2024 8/6/2024 8/7/2024 9/3/2024 9/30/2024 10/28/2024 12/11/2024 12/17/2024	Spoils, Storage, Extraction Manual and chemical treatments. Piles have been kept clean in advance of use. Most weeds along perimeter. Chemical and manual treatments,	37
La Push Ballard Pit	3.0	Clallam County	Ballard Rd.			CIAR, CYSC, JAVU, LALA, RUAR, RULA	3/19/2024 3/21/2024 4/22/2024	Spoils, Storage; Was treated with herbicide this year	3
Lake Creek Pit (Bedrock Pit)	15.1	Clallam County	Hwy 101 (Co. Forks Shop)			CIAR, CIVU CYSC, JAVU RUAR, RULA	5/29/2024 6/25/2024 8/12/2024	Spoils, Storage. Manual and Chemical Treatments. Piles have been cleaned. Clean areas for material storage. JAVU along southern perimeter much improved.	30.0
Little River Pit	1.0	Clallam County	Little River Rd.			CEMO, CIAR	6/18/2024	Treated meadow knapweed this year	0.1
Lower Elwha- Elwha Pit	1.0	Clallam County	Lower Elwha Rd.			ARMI, CIVU, CYSC, RUAR	7/22/2024	Manual removal of tansy ragwort	0.5
McInnes Pit	5.5	Clallam County	Vistas Dr.			ANCA, BRRA, CAPY, CEMO, CIAR, CIIN, CIVU, COMA, CYSC, DIFU, GERO, FOVU, RUAR	2/2/2024 5/15/2024 5/23/2024 6/24/2024 7/9/2024 12/11/2024	Pit has received material from Towne Rd levee and COMA infestations are partially buried. Italian thistle found in 2024	5.5
Morse Creek Pit	33.4	Clallam County	Mt Pleasant Rd.			CEST, CIAR, CIIN, CIVU, COMA CYSC, DIPU, GERO, POBO, PORE, RUAR	2/16/2024 3/25/2024 5/9/2024 7/17/2024 8/12/2024 9/16/2024	Spoils, storage Manual and chemical treatments Piles clean; infestations mostly in back of pit	33
Place Pit	4.9	Clallam County	Place Rd.			CIAR, CIVU, CYSC, DIFU, DIPU, GERO, PHAR, RUAR	8/19/2024	Chemical treatment	4.9
Quillayute Pit	13.5	Clallam County	Quillayute Rd.			CYSC, DIPU, HYPE, JAVU, RUAR	7/2/2024	Spoils, Storage, Extraction. Manual and chemical treatments. Treatments have been successful and much cleaner than previous years	9.8

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Ranger Pit	48.6	Clallam County	Place Rd.			BUDA, CEMO, CIAR CIVU , COAR, CYSC DIFU, GERO, JAVU, LALA, LUAR, PHAR RUAR, RULA, VIMA	5/23/2024 5/30/2024	Spoils, Storage, Extraction Manual and chemical treatments; Storage area clean, beginning treatment on CYSC along back boundary	19.3
Sequim Storage Yard	2.1	Clallam County	Washington St.			BRRR, CEMO, CEST, CIAR, CIIN, CIVU, CYSC, DALA, DIFU, PHAR, RUAR	2/7/2024	Spoils, Storage. Manual and chemical treatments.	2
Umbrella Creek Pit	5.5	Clallam County	Hoko-Ozette Rd.			GERO, JAVU, RUAR, RULA	7/10/2024	Manual removal of tansy ragwort	2
Whitcomb-Diimmel Pit	10.8	Clallam County	Whitcomb-Dimmel Rd			CIVU, CYSC, DIPU, JAVU, HYPE, POBO, RUAR	6/25/2024 8/13/2024	Spoils, Storage. Manuel and chemical treatments.	10.8
State (DNR) Quarries									
Alpaca Quarry	5	DNR	Follow FS Rd 2850, at fork, take left instead of following to FS 2855			BUDA, CIAR, CYSC, GERO, RUAR	Inspected in 2021	Previously met standard A NO CERTIFICATION in 2024	
Baby Bear	156.87 (1.5 open face)	DNR	Hwy 101 near MP 208			CYSC, DIPU	7/2/2024	Storage, Extraction Small amount of CYSC germination Standard B CERTIFICATION CURRENT	
Fitzgerald Pit	Not known	DNR	Norris Rd			CIAR, CYSC, GERO, RUAR	Inspected in 2022	Previously met standard B NO CERTIFICATION in 2024	
Jimmy-Come-Lately Pit	11.3	DNR	On FS Rd 2850, at fork, take left			CIAR, CYSC, DIPU, GERO, JAVU, RUAR		Previously met standard B NO CERTIFICATION in 2024	
Littleton Pit	78.43	DNR	Hwy 101 west of Heckle Rd.			CYSC, GERO, LEVU, ARIT	7/2/2024	Storage, Excavation, Italian arum found on pullout along access road; GERO infestations back along road; Standard C CERTIFICATION CURRENT	
Little River	587.71	DNR	Little River Rd			CEMO (on adj rd), JAVU	Inspected in 2021	NO CERTIFICATION in 2023	

Name	Size (acres)	FS RSI Code or Ownership	Road	Ref. #	Priority	Known Weeds	Date	Use: Treatment Type/Suitability	Acres Treated
Loop Tavern Pit	24.58	DNR	Hwy 101 between Forks and Beaver MP 209.5			CYSC, GERO	7/2/2024	Storage, Excavation Portion of pit to be excavated had contaminated topsoil with CYSC germinating Standard C for material storage, not extraction CERTIFICATION CURRENT	
Mary Clark	170.2	DNR	Mary Clark Rd .5 miles			CYSC, JAVU, PHAR, RUAR,	7/2/2024	Storage, Excavation Lots of JAVU and CYSC on pit floor; Still not gated Standard D CERTIFICATION NOT GIVEN IN 2024	
Place Pit	Not known	DNR	Place Rd			CYSC	Inspected in 2016	Previously known as unsuitable NO CERTIFICATION in 2024	
Pyramid Pit	0.75	DNR	East Beach OL-PA-S-4000			CIVU	Inspected in 2020	NO CERTIFICATION in 2024	
Unnamed Pit	1.5 est.	DNR	Hwy 101 E of Wisen Cr Rd			CIAR, CIVU, CYSC, JAVU, POBO, LALA	Inspected in 2018	NO CERTIFICATION in 2024	
Winfield Pit (north and south)		DNR	Clearwater (Jefferson Co)			CYSC, JAVU	Inspected in 2020	NO CERTIFICATION in 2024	

APPENDIX C: POTENTIAL SURVEY AND TREATMENT SITES

The crew was asked to note whether sites they treated this year should be a priority for the following season. This information has been included in the 2024 Project Action table in Appendix A and can inform the project list for next year. While crew felt many sites needed follow up, this characteristic has been further highlighted in the “Comments” section.

Future work should continue to focus on priority species with limited distribution in the forest. Spotted jewelweed should be prioritized to prevent invasion into east Clallam County. Herb Robert, while common, is one of the most problematic species to completely eradicate and continues to be a top priority because of its ability to rapidly spread into uninfested areas and degrade wildland habitat. Herbicide treatments utilizing aminopyralid are still showing good results for treating present infestations and appears to slow the growth rate of plants the following year. Wild basil savory has demonstrated an ability to spread rapidly and the scope of its range has increased at an alarming rate in just the last couple of years. This species should continue to be a priority wherever it is encountered and experimenting with aminopyralid rates should be continued in 2025. We will continue to document our treatment sites and methods for wild basil savory.

General Recommendations:

- **Herb Robert:** Aminopyralid has been working well in suppressing new germination after mature stands of herb Robert have been treated. In 2023 we saw positive results from the soil residual on FS2740, where a 0.25% solution of aminopyralid was used later in the season. We switched to using a rate of 0.25% for aminopyralid in 2024 and we look forward to observing how this affects infestations in early 2025.
- **Wild basil savory:** We have seen this species spread quickly and was found on 10 County roads in 2024. On multiple roads in east Jefferson County, wild basil savory, along with herb Robert, is leaving the roadsides and spreading into the surrounding forests, especially in areas where slumping has occurred. We saw a lot of progress on wild basil savory control in the past two years due to shifting the treatment time to the late summer/early fall. Patches of wild basil savory have been found on DNR lands and we have noticed that County roads with DNR access tend to have wild basil savory. We should make an effort to encourage and coordinate with DNR to ensure that these infestations are surveyed and treated.
- **Spotted jewelweed:** Eradicating the spotted jewelweed off of FS2850 and within the Jimmy-Come-Lately and Snow Creek watersheds should be the highest priority. We will coordinate with DNR to ensure that all landowners are treating infestations.
- **Botanical Areas/Wetlands/Special sites:** In 2024, we visited Cranberry Bog in July and noticed that the reed canarygrass looked tough and not susceptible to herbicide. We would like to visit this site earlier in the year. There were still infestations of thistle and herb Robert. Pat’s Prairie looked good but should be visited every year to ensure Canada thistle does not increase. Infested meadows in the upper Dungeness watershed should be visited every fall with the Backcountry Horsemen of Washington.
- **Rock Sources:** Keep pits as a priority. Many people camp or dump material in them, so they are prime locations for new weeds to invade. We will attempt to be better at completing pit surveys for all FS pits visited. This will allow us to more accurately monitor the status of these pits over the years and will make it easier for them to be utilized if necessary.
- **Identify high-priority cross-boundary projects:** 2024 was our second year collaborating with Jefferson County treating wild chervil on east Jefferson County roads. We’re excited about this partnership and hope to continue it and expand to treat other high priority species, such as spotted jewelweed and wild basil savory.
- **Surveys:** We did not have any time for surveys in 2024.
- **Specific Roads:** In addition to the sites listed in Appendix A that were recommended as continued priorities, the crew recommended the following roads as priorities for 2025:

Ref #	6th Field Watershed Name	Road #	Site Name	Species	Comments
291	Lower Big Quilcene River	2740000		CLVU, GERO	First 0.4 miles treated in 2023 but not assigned to any crew in 2024; This is a very weedy road and would benefit from multiple crews partnering to treat
	Snow Creek/Salmon River	2840000		JAVU	MP. 4.1 to 5.4 does not appear to be part of any reference site. The proximity to FS 2850 would warrant it as a separate site that should be monitored for IMCA and other weeds

APPENDIX D: HISTORIC SUMMARIES-SITES, SPECIES AND PROGRAM FOCUS

The following table shows where survey and treatment work occurred (by road) and what species were reported since the initiation of the project in 2002. For common name equivalent of Forest Service weed species plant codes, see Appendix F. To make room for new data while preserving this important program history, accomplishments on each road have been grouped and condensed into four year blocks, except the first years of work, when survey and manual control were the primary focus. This table has been reorganized for the years encompassing 2002-2018, noting how many times a road had been surveyed in each time frame. Infestations on adjacent county roads, where known, have been included. Roads that have been closed are highlighted in **yellow**. More roads may have been closed since our last update. **Species newly noted in 2024 were italicized.** Survey miles and acres treated have been generally rounded to the nearest tenth, except where the amount was less than a tenth. Individual year activity can be found in prior reports. Treated roads and other statistics from FS crew treatments have not been included in information contained in the 2020, 2021 and 2022 columns.

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
SR101		18	3		GERO HICA JAVU	8	CYSC POBO POSA CEST JAVU	4	HISA HICA JAVU	3	80		CLVU CYSC HICA HIAU HICE PHAR RUAR JAVU				N/A		
CR5695 Woods Rd		19	3		CIAR CYSC JAVU	8	CEMO CIVU CYSC GERO JAVU	4	CEMO CIVU CYSC GERO JAVU LALA RUAR VIMA	4	5.9	12.46	CIVU CLVU CYSC DIPU GERO HYPE JAVU LALA RUAR	0.8	3.9	CLVU, COAR, DIPU, GERO, JAVU, RUAR	4.2	8.18	CIAR, CLVU, GERO, HYPE, JAVU, TAVU
CR5331 Palo Alto Rd	7.8	19	3		CIAR CIVU CYSC GERO JAVU LALA	8	CEMO CIAR CIVU CYSC GERO JAVU LALA	4	CEMO CIAR CYSC GERO HYPE LALA PHAR PORE JAVU	4	16.5	26.4	BRSY CEMO CEMO2 CIAR CIVU GERO CIIN CYSC HYPE JAVU LALA PHAR RUAR	8.7	15.9	CEMO, CLVU, GERO, JAVU, LALA, TAVU	8.8	21.19	CEMO, CIAR, CLVU, COMA, DACA, JAVU, LEVU, PORE

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
CR4361 Taylor Cut-off Rd	2.6	18	3		CIAR CYSC	8	CYSC	4	BUDA COMA CYSC	3	2.6	5.2	BUDA CYSC				N/A		
CR4360 Lost Mountain Rd	5.1	18	3		CIAR CIVU CYSC JAVU	8	CEMO CIAR CYSC JAVU	4	CEMO CIAR CYSC GERO JAVU	4	10.3	13.7	CEMO CIAR CIIN CYSC GERO HYPE JAVU LALA RUAR	5.2	1.7	CEMO, CYSC, JAVU	5.2	12.6	CEMO, CIAR, CIVU, CIIN, DIFU, GERO, JAVU
CR4177 Blue Mountain Rd	5.4	19	3		CYSC JAVU	8	CYSC JAVU	4	CEMO CYSC JAVU PORE	4	6.4	12.3	CEMO CEMO2 CYSC DIFU HIAU JAVU POBO PORE RAUR	7	0	Survey – no priority weeds found	7	16.96	CEMO, CIAR, HYPE, JAVU, LALA, POBO
CR3050 Little River Rd	6.8	19	3		CEMO	8	CEMO CYSC GERO	4	CEMO CIAR CIVU CYSC GERO HYPE LALA RUAR	4	14	20.6	CEMO CIAR CIVU CYSC GERO HYPE JAVU LALA RUAR	7.2	11.1	CEMO, CLVU, CYSC, HYPE, JAVU, LALA, RUAR	3.5	8.48	CEMO, CIVU, CLVU, GERO, JAVU
CR3038 Olympic Hot Springs Rd	1.5	19	3		CEMO CYSC GERO PORE	8	CEMO CYSC GERO	4	CEMO CYSC GERO RUAR	4	2.5	3	CEMO, CYSC DIPU GERO LALA RUAR	2.2	5.0	CEMO, CLVU, CYSC	2	4.84	ARMI, CEMO, CIAR, CIVU, CLVU, GERO, JAVU, LALA, POBO
CR9221 Joyce/ Piedmont East Beach Rd	4.5	18	3		CEMO CYSC GERO LALA JAVU	8	CEMO CYSC GERO JAVU LALA	4	CEMO CYSC GERO LALA JAVU	4	6	9.2	CEMO CIAR CYSC, DIPU GERO JAVU	1	0	Survey – no priority weeds found	2.8	2.63	ANCA, CYSC, DALA, DIPU, GERO, TAVU

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
CR3057 Big Quilcene River Rd		1	1.9	3	JAVU	2		0		0							N/A		
CR3039 Penny Creek Rd		10	2	4,959	GERO	8	JAVU	3		2							N/A		
CR2515 Rocky Brook Rd	0.4	10	0.4			4		2		2							N/A		
CR2500 Dosewallips Rd		4		35,074	CYSC, GERO	8		0		0							N/A		
CR2274 Duckabush Rd		9	2			4		2		1							N/A		
CR2071 W Snider Rd	0.2	10	2		JAVU	4	CIAR CYSC GERO LALA POBO	2		2	0.02		CYSC				N/A		
CR 2021 Bear Cr Rd	3	6				2		0		4	4.1	6.5	CYSC JAVU	2.1	0	Survey – no priority weeds found	N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
CR2065 Cooper Ranch Rd	5.6	11	2			4		2		4	6.4	13.3	CLVU, CYSC DIPU GERO JAVU POBO RUAR	0.4	1.5	CLVU, CYSC, DIPU, JAVU	4.2	10.2	CLVU, GERO, JAVU, RULA	
CR2036 Mary Clark Rd	7.6	19	3			8	CYSC GERO JAVU POBO	4	CYSC HYPE PHAR JAVU	4	9.5	22.2	CYSC CIAR CIVU DIPU HYPE JAVU RUAR	7.6	11.9	JAVU	7.7	18.6	HYPE, JAVU, RULA	
CR5006 Jimmy Come Lately Rd	0.25	6	1			2		1		3	0.25	.5	CEMO CIAR CIVU CYSC GERO HYPE JAVU LALA POBO PORE RUAR RULA	1.6	2.5	CEMO, POBO	1.2	0		
3116200	5.0	0				0		0		0								N/A		
3116000	5.0	5	3			2	CIAR CIVU CYSC HYPE GERO JAVU RUDI TAVU	0		0								N/A		
3100420		1	1			0		0		0								N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3100400	2.8	1	1			0		0		0							N/A		
3100700	3.3	0	0			0		0		0							N/A		
3100400	2.8	0	0			0		0		0							N/A		
3100300	5.8	6	2			1	GERO	0		3	5.8	14.2	CYSC DIPU GERO HYPE RULA				N/A		
3071015		1	1			0		0		0							N/A		
3071000	0.5	6	2	60	CYSC	3	CIVU CYSC GERO HYPE JAVU LALA	1	CYSC GERO LALA RUAR	00	4	.5	HIAU				N/A		
Mt Muller #882	4	1	0			0		0		2							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3068200	2.4	3	3	815	CYSC	0		0		0							N/A		
3068190	5.6	2	2			0				0							N/A		
3068000	5.6	9	3	521	CEMO CYSC JAVU	4	CIVU CYSC HYPE JAVU	2	CEMO CIVU	0							N/A		
3067000	3.6	3	2	1,402	CYSC JAVU	1	CYSC GERO			0							N/A		
3050150	1.1	1	0			1	GERO CYSC	0		0							N/A		
3050011	1.4	4	1			3	CIVU CYSC GERO HIAU HYPE LEVU	0		0							N/A		
3050000	0.6	5	1	2	JAVU	4	CIAR CIVU CYSC GERO HIAU HYPE ILAQ JAVU LEVU LALA PRLA	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3040900	0.2	2	0			1	CYSC GERO HIAU LEVU	0		1	0.2	0.5	CYSC DIPU GERO PHAR RUAR RULA				N/A		
3040800	0	10	1	54,709	ARMI GERO ILAQ POBO	7	CIAR CIVU CYSC GERO HIAU HYPE ILAQ LALA POBO PRLA RUDI JAVU	0		2	0	2	AEPO CYSC GERO ILAQ LALA POBO RUAR				N/A	1.6	CIAR*, LYPU, MESP*, POBO
3040595	1.9	3	2	373	CIVU JAVU	1	GERO JAVU	0		0							N/A		
3040200	0.3	1	1			1	CIVU GERO ILAQ POBO RUDI	0		0							N/A		
3040115	0.7	3	2	95	GERO	1		0		0							N/A		
3040100	0.6	3	1	8	CYSC JAVU	2	CIVU DIPU HYPE JAVU	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3040025		3	3	1	RUDI	0		0		0							N/A		
3040012	.31	2	1	2	CYSC	1	CIVU DIPU HYPE JAVU	0		0							N/A		
3040011	0.6	2	2			0		0		0							N/A		
3040000 (portions)	21	14	4	35,136	CYSC GERO JAVU	8	CEMO CIAR CIVU CYSC GERO HYPE ILAQ JAVU LALA PHAR RUAR	2	CIAR CIVU CYSC GERO JAVU LALA	0							N/A		
3006300	4.1	1	1			0		0		0							N/A		
3006011	1.2	2	1			1	CEMO CIAR CIVU GERO HYPE ILAQ JAVU LALA PHAR RUDI	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3006000	1.7	3	1			2	CIVU CYSC GERO HYPE JAVU RULA RUAR	0		0						0.9	5.1	CYSC, DIPU* , GERO	
3000800	1.8	1	0			1	GERO	0		0						N/A			
3000591	0.3	2	0			2	CIVU DIPU GERO HYPE JAVU RUDI RULA	0		0						N/A			
3000401		1	1			0		0		0						N/A			
3000400	2.3	1	1			1	CIVU DIPU GERO			0						N/A			
3000395	.2	1	1			0		0		0						N/A			
3000370	.4	2	0			2	CIVU CYSC DIPU GERO JAVU LEVU			0						N/A			

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3000330	1.1	1	0			1	CIVU CYSC JAVU	0		0							N/A		
3000300	3.5	4	1			3	CIVU CYSC GERO JAVU	0		0							N/A		
3000260	0.7	2	1			1	CIVU CYSC JAVU	0		0							N/A		
3000250	6.9	5	1	10	CYSC	4	CIVU CYSC GERO HYPE JAVU LALA			0							N/A		
3000220	2.8	1	1			0		0		0							N/A		
3000215	0.6	5	2			3	CYSC GERO			0							N/A		
3000200	8.46	9	2	6	JAVU	7	CIVU CYSC DIPU GERO JAVU LALA	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3000011		1	1			1	CYSC GERO	0		0							N/A		
3000000		10	3	883,098	CYSC CIVU GERO JAVU RULA	6	CEMO CIAR CIVU CYSC GERO HYPE LALA JAVU RUAR RULA	0		0							N/A		
2978085	1.1	2	2			0		0		0							N/A		
2978040	.3	3	2			1	CIAR CIVU CYSC GERO HYPE LALA RUDI RULA	0		0							N/A		
2978035	.1	2	2			0		0		0							N/A		
2978030	.7	3	2			0		0		1	1	2.4	CYSC JAVU				N/A		
2978025	.3	3	2			0		0		1	08	1.9	CYSC				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2978015	1.6	3	2	18	CYSC	0		0		1	1.4	3.36	CYSC JAVU				N/A		
2978011	0.4	3	2			0		0		1	.4						N/A		
2978000	3	4	2	3,604	CYSC JAVU	1	CYSC	0		1	3	8.16	CYSC				N/A		
2952000	2	1	0			1	CIVU CYSC	0		0							N/A		
2932070	0.9	1	1	12	CYSC	0		0		0							N/A		
2932050	0.3	1	1			1	CIVU CYSC	0		0							N/A		
2932040	0.4	1	1			0		0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2932035	0.2	1	1			0		0		0							N/A		
2932031	0.5	1	1			0		0		0							N/A		
2932030	1.5	3	2			1	CYSC	0		0							N/A		
2932000	11.8	7	3	2,153	LEVU CYSC	3	CIVU CYSC GERO HYPE JAVU LAGA RUAR RULA	0		1	3.7	11.44	CIVU CYSC GERO RUAR RULA				N/A		
2931200	2.5	1	1			0		0		0							N/A		
2931190	1.7	2	1			1	CIVU GERO HYPE JAVU LAGA RUDI RULA	0		0							N/A		
2931000	12	8	1	1	JAVU	5	CEMO CIVU CYSC HYPE LALA PHAR	0		1		1	CYSC DIPU PHAR				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2929070	3.3	7	2	525	CYSC GERO RULA	4	GERO RULA	0		1	3.3	9.1	CIVU CYSC GERO HYPE RUAR RULA				N/A		
2929000	3	9	2			6	CIAR CIVU CYSC GERO HIAU HYPE LALA PHAR	1	CYSC GERO LALA	0							N/A		
2923100	1.5	8	1			1	GERO DIPU HYPE RUDI RULA	2	CIVU CYSC DIFU DIPU GERO	4	3	6.54	CIVU CYSC DIPU DIFU GERO HYPE LEVU SOAC				N/A		
2923095	0.2	1	0			2	CIAR CIVU CYSC DIPU GERO HYRA LALA LEVU PHAR	0		0							N/A		
2923090 opened for logging 2021	1.2	3	0			0		1	DIPU GERO	2	1.2	1	CYSC DIPU GERO				N/A		
2923077	1.4	2	0			2	CYSC HYPE JAVU TAVU	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2923074	0.8	1	0			1	CYSC HYPE JAVU TAVU	0		0							N/A		
2923073	0.8	1	0			1	CYSC HYPE JAVU	0		0							N/A		
2923072	0.8	1	0			1	CIVU	0		0							N/A		
2923070	5.2	11	1	2	JAVU	4	CIAR CIVU CYSC GERO HYPE JAVU LALA PHAR RUDI	2	CIAR CIVU CYSC DIPU HYPE JAVU LALA LEVU PHAR RUAR RULA TAVU	4	10.4	22	CIAR CIVU CYSC DIPU GERO HYPE JAVU LALA LEVU PHAR RULA TAVU				N/A		
2923060	1	4	1			2	CIAR CYSC GERO HYPE	0		1	1.9	0.1	DIPU				N/A		
2923020	0.6	1	0			1	CIVU CYSC PHAR	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2923015	2.7	1	0			1	CIAR CIVU CYSC GERO HYPE JAVU RULA	0		0							N/A		
2923000	4.7	12	2	1,434	CIAR CYSC HIAU JAVU	4	CYSC GERO JAVU	2	CYSC GERO HYPE JAVU LALA PHAR POBO	2	4.7	11.4	CYSC DIPU GERO JAVU LALA				N/A		
2922250	2.6	2	0			2	CEMO CIVU CYSC GERO JAVU	0		0							N/A		
2922240	1.1	2	0			2	CIAR CIVU CYSC GERO HYPE JAVU RULA	0		0							N/A		
2922200	1.43	1	0			1	CIVU CYSC LALA	0		0							N/A		
2922020	0.86	1	0			1		0		0							N/A		
2922000	12.6	4	1			3	CYSC GERO HYPE	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2920210	0.2	2	1			1	GERO	0		0							N/A		
2920020	1.4	2	1			1	GERO	0		0							N/A		
2920000	6	3	1			2	CIAR CIVU CYSC GERO	0		0							4.3	14.7	CYSC, DIPU*, GERO, LEVU*
2918110	1	4	1			3	CIVU CYSC DIPU GERO JAVU LEVU LALA	0		0							N/A		
2918100	3	4	1	0		3	CIAR CIVU CYSC DIFU GERO HYPE LEVU LALA JAVU	0		0							N/A		
2918000	14.5	7	1	2,315	CYSC JAVU	4	CIAR CIVU CYSC DIFU HYPE LEVU LALA PHAR	1	CIVU CYSC GERO	1	4.1	.25	GERO				4.7	22.7	CIVU, CYSC, DIPU*, GERO
2912060	3.5	5	2	3	JAVU	2	CIAR CIVU CYSC GERO HYPE JAVU	1	CIVU CYSC DIPU GERO HYPE JAVU	0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2903040* found in 2021	1		0	0		0		0		1							N/A		
2903000	6.8	6	1	78	CYSC JAVU	0		2	CIAR CIVU CYSC DIPU GERO HYPE JAVU	3	6.8	13.6	CIVU CYSC DIPU GERO JAVU				N/A		
2902375	0.8	4	1			2	CIAR CYSC GERO HYPE	0		1	.8	.3	GERO				N/A		
2902300	0.6	1	1			0		0		0							N/A		
2902000 (portions)	3.4	10	3	4,175	CYSC JAVU	2	CIAR CIVU CYSC JAVU	2	CASE CIAR CIVU CYSC DIPU GERO HIAU HYPE JAVU LEVU RULA RUAR	3	3.4	7.8	CIVU CYSC DIPU GERO HYPE JAVU				N/A		
2900992	0.5	1	0			1	GERO	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
2900990	2	6	2	5,300	CYSC GERO	2	CIVU CYSC GERO ILAQ	1	CIAR CYSC DIPU HYPE LEVU HYPE RULA	1				GERO ILAQ LALA SOAC				N/A		
2900960	0.2	2	1			0		1	GERO LALA SYOF	0								N/A		
2900950	.1	1	1			0		0		0								N/A		
2900810	1.3	1	0			1	CYSC GERO ILAQ	0		0								N/A		
2900800	2	1	0			0		1	CIVU CYSC HYPE JAVU LALA RUAR RULA	0								N/A		
2900700	2.8	1	0			1	CIVU CYSC	0		0								N/A		
2900650	1.2	2	1			1	CIAR CYSC RULA	0		0								N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022			2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2900540	2	1	1			0		0		0						N/A			
2900200	0.7	1	1	54	CYSC JAVU	0		0		0						N/A			
2900070	2.3	1	1			0		0		0						N/A			
2900030	3.6	1	1			0		0		0						N/A			
2900015	0.1	3	1			3	CYSC GERO HYPE JAVU LALA PHAR RUDI	0		0						N/A			
2900000	37.2	11	3	664225	CIAR CYSC GERO HIAU JAVU POSA	5	CIVU CYSC GERO HIAU HYPE JAVU LALA PHAR RUDI TAVU	1	GERO HYPE JAVU	4	8.8	11.1	CIAR DIPU CIVU CYSC GERO HIAU HYPE JAVU LALA RYAR RULA				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
2880050	0	10	2	255,004	GERO	7	CIAR GERO POSA RUDI RULA	1	GERO	0								N/A		
2880000	1.8	8	4	9,923	GERO JAVU	4	CEMO CIAR CIVU CYSC DIPU GERO HIAU HYPE HYRA JAVU LALA LEVU PHAR RULA	0		0								N/A		
2878123	0.2	4	1			3	CIAR CIVU GERO HYPE LALA	0		1	02	1.4	CIAR CIVU CYSC LALA					N/A		
2878120 (portions)	1	9	1	2,170	CYSC	3	CIAR CIVU CYSC GERO HYPE LALA	3	CIVU CYSC GERO LALA	2	1	2.5	CIVU CYSC DIPU GERO JAVU LALA					N/A		
2878110	0.75	6	1			3	CEMO CIAR CIVU CYSC LALA	0		1	.75	2	CIVU LALA					N/A		
2878109	0.25	4	1			1	CIVU CYSC LALA	1	CIVU CYSC LALA	2	.55	.95	CIVU LALA LEVU					N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2878108	0.1	4	1			1	CEMO CIVU CYSC LALA	1	LALA	2	.2	.4	CIVU LALA LEVU	0.1	0.5	LALA, LEVU	N/A		
2878104	0.2	3	0			1	GERO	0		1	.2	.3	GERO LALA				N/A		
2878102	0.4	4	0.4			1	CIVU LALA	1	CIVU LALA	2	.4	1.0	CIVU LALA				N/A		
2878101	0.1	3	0			1	CIVU LALA	1	CIVU LALA	1	.1	.3	LALA				N/A		
2878100	1.5	9	1			4	CIAR CIVU HYPE	2	CIAR CIVU CEMO JAVU LALA	2	1.6	1.2	CIVU GERO JAVU LALA				N/A		
2878085	0.7	4	1			2	CIAR CIVU GERO JAVU	0		2	1.4	3.9	CIAR CIVU CLVU CYSC HYPE JAVU GERO LALA	0.7	3.4	CIAR, CIVU, CLVU, GERO, LEVU	0.7	1.7	CIVU, CLVU, GERO, JAVU
2878080	0.75	5	1			3	CIAR CIVU GERO JAVU LALA	1	CIVU CYSC LALA	2	1.6	4.3	CIVU CIAR CYSC HYPE GERO LALA	0.75	3.0	CIAR, CIVU, CLVU, LEVU	0.75	0.1	CLVU

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2878060	0.75	5	1	127	CYSC	2	CIAR CIVU CYSC JAVU LALA	0		4	1.55	5.2	CEMO CIAR CIVU CLVU CYSC GERO HYPE DIPU LALA	0.75	1.8	CLVU	0.7	3.2	CLVU, CIVU, GERO, LALA
2878050	0.6	4	1			1	CEMO CIAR CIVU GERO HYPE JAVU LALA	2	CIAR CIVU GERO HYPE JAVU LALA	0							N/A		
2878000	4.0	13	2	2,971	CYSC	6	AEPO CEMO CIAR CIVU CYSC GERO HYPE JAVU LALA	3	AEPO CEMO CIAR CIVU GERO JAVU LALA	3	8	15	AEPO CEMO CIAR CIVU CYSC DIPU HYPE GERO JAVU LALA TAVU	4.0	9.7	CEMO, CIAR, CIVU, CYSC, GERO, JAVU, LALA	N/A		
2877160	0.1	1	0			0		0		1	.1	.01	CIVU DIPU				N/A		
2877150	0.2	1	0			0		0		1	.2	.002	CEMO DIPU				N/A		
2877100	0.3	3	1			0		0		2	.3	1.2	CEMO CIAR CIVU LALA LEVU SOAR				0.3	0.7	DIPU*, LEVU*

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2877090	1.4	1	0			0		1		0				0.3	0.4	CIVU, DIPU, LEVU	N/A		
2877052	0.3	5	1			1	CIAR CIVU GERO JAVU LALA	2	CIVU CIAR CYSC DIPU GERO JAVU LEVU RULA	1	0.3	0.001	CYSC GERO JAVU				N/A		
2877050	2.65	2	1			0		1	CIVU, DIPU	0							N/A		
2877040	2.5	6	1			4	CEMO CIAR CIVU CYSC GERO JAVU RUAR	1	CEMO CIAR CIVU CYSC GERO HICA	0							N/A		
2877000	4.6	12	1			4	CEMO CIAR CIVU CYSC HYPE JAVU LALA	4	CIAR CIVU CYSC DIPU GERO HYPE JAVU LEVU	3	4.6	25.2	CEMO CIAR CIVU CLUV CYSC GERO LALA LEFU	4.6	8	GERO , HYPE, LALA	4	14.9	CIAR, CIVU, DIPU*, GERO
2875090	0.1	2	1			1	CIAR CIVU CYSC GERO JAVU	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
2875070 (as of 2020)	1.8	7	1			2	CIAR CIVU CYSC HYPE JAVU LALA	2	CEMO CIAR CIVU CYSC GERO HYPE JAVU LEVU	2	1.8	3.6	CEMO CIAR CYSC GERO JAVU				N/A			
2875020	0.5	9	1	6	CYSC	4	CEMO CIAR CIVU CYSC JAVU PHAR POBO	3	CEMO CIAR CIVU GERO LALA PHAR POBO	1	.6	1.5	CEMO CIAR CIVU CYSC GERO HYPE LESU				N/A			
2875000	3.6	15	2	268	CEMO	6	CEST CEMO CIAR CIVU GERO JAVU LALA	3	CEMO CIAR CIVU CYSC DIPU GERO HYPE ILAQ JAVU LALA	4	7.2	13.8	CEMO CIVU CIAR SIVU DACA GERO HYPE JAVU LALA				N/A			
2870270	3.5	3	1		CIAR CIVU	2	CEMO CIAR CIVU CYSC HYPE JAVU PHAR	0		0							N/A			
2870250	1	2	0			2	CEMO CEST CIAR CIVU CYSC GERO HYPE JAVU LALA	0		0							N/A			
2870230	4	7	4	3	CIAR CIVU HYPE JAVU	2	CIAR CIVU GERO HYPE	1	CIAR GERO HYPE	0								N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2870150	0.5	6	1			2	CIVU JAVU LALA	2	CIAR CIVU LALA JUVA	1	1.3	3.2	CIAR VICU CLUV JAVU LALA PHAR				N/A		
2870130	1	2	1	1	CYSC	1	CEMO JUVA	0		0							N/A		
2870110	0.5	3	1	729	CYSC	2	CIAR CIVU CYSC LALA	0		0							N/A		
2870059	0.4	11	4	19,529	CEMO CIAR CIVU CYSC GERO JUVA	2	CEMO JUVA	3	CIAR CIVU CYSC GERO	2	0.4	1.5	CIAR CIVU CYSC GERO	0.4	0.6	GERO, HYPE	N/A		
2870058		11	2		CIAR GERO PHAR	4	CIAR CIVU CYSC GERO PHAR	3	CEMO CIAR CIVU GERO	2	0.3	1	CLUV GERO HYPE	0.5	0.7	CLUV, GERO, HYPE	0.5	1.2	CIVU, GERO
2870057	0.2	6	0			5	CIAR CIVU CYSC DACA GERO HYPE JAVU LEVU PHAR	0		1	0.2	0.4	CIAR CYSC GERO				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2870056	0.6	9	3	14	CEMO JAVU	5	CEMO CIAR CIVU CYSC DACA GERO HYPE LEVU JAVU TAVU	0		1	0.6	1.8	CIAR CIVU CLUV GERO				N/A		
2870054	0.7	8	0			6	CEMO CIAR CIVU CYSC GERO JAVU PHAR	0		2	0.7	2.1	CEMO CIAR CIVU CYSC HYPE JAVU				N/A		
2870053	1.5	6	0			4	CEMO CIAR CIVU CYSC DACA GERO HYPE JAVU LEVU TAVU	1	CEMO CIAR CIVU CYSC	1	1.5	3	CEMO CIAR CIVU CYSC JAVU				N/A		
2870052	0.3	4	1			2	CEMO CIAR CIVU CYSC HYPE JAVU LEVU PHAR	0		1	0.3	0.8	CEMO CLUV JAVU				N/A		
2870050	2.8	14	4	110	CEMO CIAR CIVU CYSC GERO HYPE LALA PHAR JAVU	6	CEMO CIAR CIVU GERO HYPE JAVU LALA LEVU PHAR RUDI	2	CEMO CIAR CIVU GERO HYPE LALA	2	2.8	3.5	CEMO CIAR CIVU CLUV GERO HYPE JAVU LALA				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2870030	1.5	9	2	78	CEMO CIAR CIVU CYSC HYPE JAVU	5	CEMO CIAR CIVU CYSC HYPE JAVU	1	CEMO, CIAR, CIVU, HYPE, JAVU	1	1.5	3	CIAR CIVU HYPE JAVU RULA SYOF				N/A		
2870000	21.2	17	4	3,853	CEMO CIAR CIVU CYSC DACA GERO HYPE JAVU LALA LEVU PHAR	7	CEMO CIAR CIVU CYSC DACA GERO HYPE JAVU LALA	3	CEMO CIAR CIVU CYSC DACA GERO HYPE JAVU LALA	4	21.4	29.9	CEMO CIAR CIVU CYSC GERO HYPE LALA PHAR PORE JAVU				N/A		
2860120	1.6	2	1		CEMO CIAR CIVU HYPE JAVU	1	CEMO CIAR CIVU HYPE JAVU	0		0							N/A		
2860011	0.4	2	1	2,708	GERO JAVU	1	CEMO CIAR CIVU CYSC DACA GERO HYPE JAVU LALA PHAR RUDI	0		0							N/A		
2860000	3	2	1	54,000	CIVU GERO	1	GERO RUAR	0		0							N/A		
2855100	1.1	6	1			0		3	CEMO CIAR CIVU CYSC DACA GERO HYPE JAVU LALA	3	2.2	16.4	CIAR CIVU CLUV GERO JAVU LALA				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2855070	1.1	12	3	5,497	CEMO CIAR CYSC GERO JAVU RULA	5	CEMO CEST CIAR CIVU CYSC GERO HYPE JAVU LALA	3	CEST CIAR CIVU CYSC GERO HYPE JAVU LALA RUAR	4	3	7.1	CEST CIAR CIVU CLUV CYSC HYPE DALA GERO JAVU LALA ROCA RUAR				N/A		
2855032	0.8	5	1.6	1	RULA	1	CEMO GERO HYPE JAVU	3	CEMO CIVU CLVU GERO JAVU	0							N/A		
2855030	2.6	5	1	19,200	JAVU	1	CEST CIAR CIVU CYSC GERO HYPE JAVU LALA	3	CEMO CIVU CYSC GERO HYPE RUAR JAVU	0							N/A		
2855000	2.8	11	3	51,947	CEST CEMO CIVU CYSC GERO JAVU	3	CIAR CIVU GERO HYPE JAVU	2	CEMO CIAR CIVU CLVU GERO HYPE JAVU PORE	4	14.1	23.3	CIAR CIVU CLUV GERO HYPE JAVU LALA PORE				3.7	13.34	CIAR*, CIVU*, CLVU, GERO, HYPE*, JAVU, PORE
2852150	1.29	4	1	25	CYSC	1	CIAR CIVU CYSC GERO HYPE JAVU	1	CIVU CYSC GERO JAVU RUAR	1	0.8	3.5	CIAR CIVU GERO JAVU				N/A		
2852090	0.18	3	1	3,362	CIAR CYSC GERO JAVU	0		0		2	0.2	1.5	CLVU GERO JAVU				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022			2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2852000	2.6	3	3	47,605	CEMO CIAR GERO RULA JAVU	0	CEMO	0		0							N/A		
2851090	1	1	1			0		0		0							N/A		
2851080	1.6	2	1	1,660	CYSC JAVU TAVU	1	CEMO CIAR CIVU CYSC GERO HYPE JAVU	0		0							N/A		
2851000	4.1	1	1	10,090	JAVU			0		0							N/A		
2850124	0.2	1	1			0		0		0							N/A		
2850120	2.8	1	1		CYSC	0		0		0							N/A		
2850100		1															N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2850093	0.1	2	1			0		1		0							N/A		
2850090	1.1	3	1			1	CIVU CYSC GERO HYPE JAVU	1	CIAR CIVU GERO	0							N/A		
2850010	1.5	2	1	5,352	RULA JAVU	1	CIVU GERO JAVU	0		0							N/A		
2850000	7.4	12	4	67,334	CYSC GERO RULA JAVU	2	CIAR CIVU CYSC GERO HYPE ILAQ JAVU	3	CIAR CIVU CLVU CYSC GERO HYPE IMCA JAVU	4	10.7	19.3	CIAR CIVU CYSC DIPU GERO IMCA JAVU RUAR LALA VIMI	7.4	27.3	CEMO, CIAR, CIVU, CLVU, DIPU, GERO, IMCA, JAVU	16.8	54.6	CEMO, CIAR, CIVU, DIPU, GERO, IMCA, JAVU
2845200	0.28	4	1			0		2	CIAR JAVU	1	0.3	0.3	JAVU				N/A		
2845150	0.2	4	1			1	CIVU JAVU	2	CIAR CYSC GERO JAVU LALA	0							N/A		
2845120	2	5	1	84	CYSC JAVU	1	CIVU CYSC JAVU	2	CIAR CIVU CLVU GERO HYPE JAVU	2	3.7	5.9	DIPU CIAR CIVU GERO HYPE				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2845090	1	2	1	12	CYSC JAVU	0		1	CIVU GERO JAVU	0							N/A		
2845073	0.9	8	1			2	CIAR CIVU CYSC JAVU LALA	2	CIAR CIVU CLVU CYSC DIPU GERO HYPE JAVU LALA	3	0.9	1.8	CIAR CIVU CLVU CYSC DIPU GERO HYPE JAVU				N/A		
2845070	1.5	8	2	1,860	CYSC	1	CEMO CIAR CIVU CYSC JAVU	2	CEMO CIAR CIVU CLVU CYSC GERO HYPE JAVU	4	2.7	3.3	CIAR CIVU CLVU CYSC DIPU GERO JAVU				N/A		
2845040	0.3	4	1	160	JAVU	1	CEMO CIAR CIVU CYSC DACA DIPU HYPE JAVU	2	CIAR CIVU CLVU GERO HYPE JAVU	0							N/A		
2845000	5.4	9	2	12,378	JAVU	3	CIAR CIVU HYPE JAVU	1	CIAR CIVU CLVU GERO HYPE JAVU	4	15.3	19	CIAR CIVU CYSC DIPY CLVU GERO HYPE JAVU				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2840150	0.6	6	1	1	JAVU	0		2	CEMO CIVU, DIPU GERO HYPE, JAVU	3	0.6	1.8	CIAR CIVU CLVU GERO HYPE JAVU				N/A		
2840130	1.1	4	1			0		1	CYSC	2	1.2	2.2	GERO				N/A		
2840120	0.7	6	1			1	CIVU GERO JAVU	2	CEMO CIVU CLVU GERO HYPE JAVU	3	1.4	3.8	CIAR CLVU GERO JAVU				N/A		
2840084	0.25	2	1			0		0		1							N/A		
2840080	1	6	0.9	1	RULA	1	CIVU GERO HYPE JAVU	3	CIAR, CIVU CYSC GERO HYPE JAVU LALA	1	0	0.5	CIAR HYPE JAVU LALA				N/A		
2840071	2.0	3	1	36	JAVU SYOF	0		1	CEMO CIAR CIVU CYSC GERO JAVU LALA	1	2	9.6	CIAR CIVU CLVU CYSC GERO JAVU LALA PHAR				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2840070	1.7	6	1	5,753	CYSC JAVU	1	CIAR CIVU JAVU LALA	3	CIAR CIVU GERO JAVU	1	1.7	4.08	CEMO CIAR CIVU CLVU CYSC GERO JAVU LALA PHAR				N/A		
2840037		1	0			0		1	CEMO CIAR CIVU JAVU RUAR	0							N/A		
2840036	3.5	3	1			2	CIAR CIVU CYSC GERO HYPE LALA PHAR SYOF	0		0							N/A		
2840035	0.3	2	0			1	CIAR CIVU JAVU	0		1	03	.6	CIAR CIVU JAVU				N/A		
2840034	1.4	7	1			3	CEMO CIAR CIVU GERO JAVU	1	CIAR, CIVU, GERO	3	1.4	4.2	CIAR CIVU CLVU GERO JAVU				N/A		
2840030	3	5	1			2	CEMO CIAR CIVU HYPE JAVU	0		2	3	4	CIAR CLVU CYSC GERO JAVU				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2840000	1.3	13	4	10,010	CIAR CYSC JAVU	2	CEMO CIAR CIVU GERO HYPE JAVU LEVU SYOF	3	CIVU CYSC GERO JAVU LALA	4	1.9	4.5	CIVU CIAR DIPU GERO CYSC JAVU LALA				5.4	13.1	JAVU
2830034	0.2	2	1			1	CEMO CIAR CIVU HYPE JAVU	0		0							N/A		
2830032	1	2	1			1	CIAR CYSC GERO HYPE JAVU LEVU SYOF	0		0							N/A		
2830030	2	1	1			0		0		0							N/A		
2830000	5.3	3	3	1,250	CEST	2	JAVU	0		0							N/A		
2820000	4	6	1	2,274	JAVU	3	CEMO CIAR CIVU GERO HYPE JAVU LALA	1		0							N/A		
2810070	0.61	1	1			0		0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2810000	8	2	1	10,190	CYSC JAVU	1	CEMO CIAR CIVU GERO HYPE JAVU LALA	0		0							N/A		
2800362	0.4	4	0			0		1	CIAR CIVU GERO JAVU	3	0.4	0.8	CIAR CIVU GERO JAVU				N/A		
2800360	2.4	4	0			0		1	CEMO CIAR CIVU DIPU GERO HYPE JAVU RULA	3	2.4	9.6	CIAR CIVU CLVU GERO HICA HYPE JAVU				N/A		
2800353	0.5	5	0			0		2	CEMO, CIVU, HYPE	3	0.5	1	CEMO CIVU				N/A		
2800351	0.8	10	0			5	CEMO CIAR CIVU CYSC HYPE	3	CEMO CIAR, CIVU, HYPE JAVU	2	0.8	0.1	CEMO				N/A		
2800350	0.9	6	0			2	CEMO CIAR CIVU GERO JAVU LALA	2	CEMO CIVU HYPE	2	0.9	0.9	CEMO CIVU CLVU				N/A		
2800325	0.6	4	0			0		1	CIAR CIVU LALA	3	0.6	1.2	CEMO CIAR CIVU JAVU LALA				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
2800321	0.7	5	0	1		0		1	CIVU CIAR GERO LALA	3	0.7	0.9	CIVU GERO LALA				N/A			
2800320	0.9	5	0	1		0		1	CEMO CIAR CIVU CLVU HYPE JAVU LAGA LALA	3	0.9	5.4	CEMO CIAR CIVU CLVU HYPE JAVU LAGA LALA	1.7	6.2	CIVU, CLVU, GERO, HYPE, JAVU, LALA	N/A			
2800310	0.25	5	4	4,655	CYSC	1	CEMO CIAR CIVU GERO HYPE JAVU	0		0							N/A			
2800290	0.3	3		2	CYSC JAVU	1	CEMO CIAR CIVU HYPE JAVU	0		0								N/A		
2800270		1	1	310	CYSC JAVU	0		0		0								N/A		
2800262	0.6	2	1			0		1	CIAR CIVU GERO JAVU	0								N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2800260	1.5	2	1			0		1	CEMO CIAR CIVU DIPU GERO HISA HYPE JAVU RULA	0							N/A		
2800250	1.1	5	3	92	JAVU	0		1	CIAR CIVU GERO JAVU	1	1	1.1	GERO				N/A		
2800240	0.8	1	1			0		0		0							N/A		
2800220	1.2	1	1			0		0		0							N/A		
2800210	0.4	1	1			0		0		0							N/A		
2800145	0.3	1	1			0		0		0							N/A		
2800132	0.6	6	1	463	CEST CEMO	2	CIAR CIVU JAVU	2	CEMO CIAR CIVU JAVU	1	.6	1.4	CIAR CIVU CLVU JAVU				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2800130	0.6	6	0			3	CEMO CEST CIAR CYSC GERO HYPE LALA JAVU	2	CEMO CIAR CIVU CYSC HYPE LALA JAVU	1	0.6	6.4	CEMO CIAR CIVU CLVU CYSC HYPE JAVU LALA				N/A		
2800120	3	2	0			0		1	CIAR CIVU HYPE JAVU LALA	1	3	7.4	CIAR CIVU CLVU JAVU LALA				N/A		
2800060	1.1	1	1			0		0		0							N/A		
2800010	0.5	8	1	10		5	CIAR CIVU GERO HYPE ILAQ JAVU LALA	2	CIAR CIVU GERO ILAQ JAVU RUAR RULA	0							N/A		
2800000	15.6	15	5	70,321	CEMO CIAR CIVU CYSC GERO JAVU	6	CEDE CEMO CEST CIAR CIVU CYSC DIPU GERO HYPE ILAQ JAVU LALA PHAR TAVU	2	CEMO	2	2.8	5.6	CEMO CIAR CIVU JAVU LALA				0.6	1.5	CEMO, JAVU
2760000	5	5	0			2	CIAR CIVU GERO HYPE JAVU PHAR	1	CIAR PHAR	2	0.9	4	CEMO CIVU CYSC DIPU GERO HYPE JAVU LALA				N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2750020	1.5	2	1			1	CIAR CIVU CYSC DIPU HYPE JAVU LALA PHAR	0		0							N/A		
2750000	5	3	1			2	CIAR CIVU CYSC JAVU LALA	0		0							N/A		
2740110	1.5	1	0			1	CEMO CIAR CIVU CYSC JAVU	0		0							N/A		
2740075	0.5	3	1			2	CEMO CIAR CIVU CYSC HYPE JAVU LALA	0		0							N/A		
2740072	0.5	4	3	200	CEST	1	CEMO CIAR CIVU CYSC JAVU	0		0							N/A		
2740070		3	2			1	CEMO CIAR CIVU CYSC JAVU	0		0							N/A		
2740060		4	2	33	CYSC	2	CEMO CIAR CIVU CYSC JAVU	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2740000	12	8	3			2	CEST CEMO CIAR CIVU CYSC JAVU	3	CEMO CIAR CIVU CYSC DACA DIPU GERO HYPE ILAQ JAVU LALA RULA VETH	0				0.4	12.1	CIAR, CLVU, CYSC, DIPU, GERO, HYPE, JAVU, LALA	N/A		
2730300	1	8	2	934	CYSC	5	CIAR CIVU CYSC GERO JAVU LALA PORE RUDI RUAR	1	CIAR CIVU GERO JAVU LALA RULA	0							N/A		
2730200	1	11	4	19,621	CIVU GERO JAVU	5	CEMO CIAR CIVU DIPU GERO HYPE ILAQ JAVU LALA	2	CIVU CLVU GERO HEHE HYPE ILAQ JAVU LEVU RULA	0							N/A		
2730100	0.4	2	1	35	JAVU	1	CYSC GERO HEHE HYPE JAVU LALA PORE RULA			0							N/A		
2730020		2	1			1	CIVU GERO HYPE			0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2730011	1	3	1	51	GERO	2	CIVU GERO JAVU			0							N/A		
2730000		5	4	146,400	CYSC JAVU TAVU	0		1	CIAR CIVU CLVU GERO JAVU LALA RUAR RULA	0							N/A		
2700330	1.4	2	1			1	GERO HYPE ILAQ JAVU	0		0							N/A		
2700281	0.5	2	0			0		1	CIAR CIVU CYSC HISU JAVU	1	0.5	2	CIAR CIVU CLVU HISA JAVU				N/A		
2700280	0.6	2	0			0		1	CEMO CIAR CIVU DIPU HISA HYPE LALA JAVU	1	0.6	1.8	CIAR CIVU CLVU CYSC HISA JAVU				N/A		
2700140	1.2	1	1			0		0		0							0.1	0.5	CLVU, CYSC, HYPE*, JAVU, LALA, TAVU
2700100	4.6	2	1			1	JAVU			0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2700090	2.0	1	1			0		0		0							N/A		
2700080	3	7	0			3	CIAR CIVU CYSC GERO HYPE JAVU LALA	1	CIAR GERO HYPE JAVU LALA	3	1.5	3.5	CLVU GERO				N/A		
2700040	3.7	9	0			4	AEPO ARMI CASE CIAR CIVU CYSC DIPU GERO HEHE HIAU HYPE ILAQ JAVU LALA LAGA PHAR PRLA SYOF VIMI	3	AEPO ARMI CASE CIAR CIVU CYSC DIPU GERO HEHE HIAU HYPE ILAQ JAVU LAGA LALA PHAR PRLA SYOF VIMI VETH	2	3	6.5	AEPO CIAR CIVU CLVU DIFU DIPU GERO HEHE LAGA LALA LEFU JAVU PHAR SYOF VIMI VIMO				N/A		
2700000	17.7	10	5	4,201	JAVU TAVU	3	CEMO CIAR CIVU CYSC GERO HYPE JAVU LALA PHAR POBO VIMI	2	CIAR CIVU CYSC GERO HYPE JAVU LALA RUAR VIMI	0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
2650090	1.7	2	1			1	AEPO CASE CIAR CIVU CYSC DACA GERO HIAU HYPE ILAQ JAVU LAGA LALA SYOF VIMI	0		0							N/A			
2650050	0.9	2	1			1	CEMO CIAR CIVU CYSC GERO HYPE JAVU LALA POSA	0		0								N/A		
2650000	7.5	5	2	2	ARMI	1	CIAR HYPE JAVU	1	CIAR CIVU GERO HYPE ILAQ JAVU PORE RUAR RULA	1	3	1.5	CIAR CLVU JAVU					N/A		
2620060	2.8	1	0			0		0		1	2.8	5	CIAR CLVU HYPE JAVU					N/A		
2620056	0.8	4	2	24	CEMO	1	CIAR CIVU HYPE JAVU	0		1	0.8	1	JAVU					N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2620053	1.9	4	2			1	CIAR CIVU CYSC HYPE JAVU	0		1	1.9	6	CEMO CIAR CLVU CYSC HYPE JAVU				N/A		
2620051 closed at 0.2 2021	0.8	3	1			1	CIVU HYPE JAVU	0		1	02	04	CLVU JAVU				N/A		
2620050	2.7	5	2			0		2	CIAR CIVU CYSC DIPU HYPE JAVU	1	2.7	3.6	CIAR CLVU CYSC JAVU				N/A		
2620043	0.7	1	1			1	HYPE JAVU	0		0							N/A		
2620036	0.6	1	0			1	CIAR CIVU HYPE JAVU	0		0							N/A		
2620035	1.1	1	0			0		0		0							N/A		
2620030	9.7	2	1			1	CIAR CIVU CYSC HYPE JAVU	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2620000	11.6	10	3	39,464	CIVU CYSC GERO JAVU RULA	3	CIAR CIVU CYSC DIPU GERO HYPE JAVU RUAR	2	CIAR CIVU CYSC GERO HYPE ILAQ JAVU PHAR POAR RUAR RULA	3	5.9	23.2	CEMO CIAR CIVU CLVU CIVU CYSC DIPU GERO HYPE JAVU LEMU RULA TAVU				N/A		
2610200	0	10	5	3,676	CYSC GERO HEHE JAVU RUDI	5	CYSC GERO HEHE HYPE JAVU LALA RUAR	0		0							N/A		
2610050	0	3	0			3	CIAR CIVU CYSC GERO HYPE JAVU	0		0							N/A		
2610040	0.6	9	2	3,000	JAVU	5	CIAR CIVU CYSC GERO HYPE JAVU LALA	2	GERO HYPE JAVU	0							N/A		
2610012	2.6	1	1	397	GERO	0		0		0							N/A		
2610010	0.9	3	0			2	COAR GERO HYPE ILAQ JAVU	1	COAR GERO JAVU	0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2610000	5.4	12	5	6,570	CEMO CIAR CIVU CYSC GERO JAVU RULA	4	CIAR CIVU CYSC GERO HYPE POBO JAVU	2	CIAR CIVU GERO HYPE JAVU LALA POBO RUAR	0							N/A		
2530000	10.1	4	2			2	CIVU CYSC GERO HYPE JAVU	0		0							N/A		
2527000	1.2	2	1			1	CIAR CIVU CYSC GERO HYPE JAVU LALA POSA	0		0							N/A		
2510070	6.6	10	3	1,600	GERO	4	CIAR GERO HYPE RUAR JAVU	1	CIAR GERO JAVU	0							N/A		
2510065	0.2	6	1			3	CIAR CIVU GERO HYPE JAVU	1	CIAR CIVU GERO HYPE	2	4	6	CLVU GERO				N/A		
2510060	0.2	2	0			2	CIVU GERO	0		0							N/A		
2510012	1	2	1			1	GERO HYPE JAVU	0		0							N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024			
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	
2510000	21	7	1	53	CEMO CYSC JAVU	5	CIAR CIVU DACA DIPU GERO HYPE JAVU PHAR RUDI RULA	1	CIAR CIVU GERO HYPE JAVU	0								N/A		
2503000	4.3	1	0			0		0		0								N/A		
2500000	7.85	5	1			4	CIAR CIVU CYSC GERO HYPE JAVU LALA POBO	0		0								N/A		
2190220	0.3	2	1	251	COTON POCU	1	GERO HYPE JAVU	0		0								N/A		
2190200	0	3	1		POCU	2	CIVU CYSC DIPU JAVU POBO	0		0								N/A		
2190170	1.6	1	1			0		0		0								N/A		
2190000	12.1	3	1			1		0		1	2.1	5.6	JAVU LAGA					N/A		

ROAD	Road length	Total # Yrs visited	Survey, almost all manual 2002-2006			2007-2014		2015-2018		2019-2022				2023			2024		
			No Yrs. Visited	# of Weeds	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Weed Species	No Yrs. Visited	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2100000	8.24	2	2	50	JAVU	0		0		0							N/A		
2071000		1	0			1	GERO LALA POCU RUDI	0		0							N/A		
TOTALS				2,604,669								422.82	660.153		65.4	127.2		98.25	283.5

This table is based on a table of all roads provided by Olympic National Forest in 2002, but currently contains only Forest Service roads within Clallam and Jefferson Counties. Many roads have since been closed or decommissioned. The lower-numbered roads (<2500), originally included in this table because of surveys conducted in Mason and Gray's Harbor Counties on behalf of Olympic National Forest, have been removed. See reports prior to 2010 for that information. All or a portion of 32 roads have been decommissioned since this list was compiled.

The project focus has shifted each year as the program matures. Scope of accomplishments is directly tied to project funding and Forest Service policies, which have both varied since its inception and affect crew composition and size. Additionally, reporting protocols were modified by the Forest Service, changing how on the ground conditions were reported and how accomplishments were documented. Specific comments are presented after the roads table to add perspective.

*As of 2013 Survey miles recorded for a road only once, retreats or additional visits to complete project, not counted in mileage. Total acres treated may not include areas which were not specifically associated with a road, such as an administrative site. It is not clear whether surveyed miles may have included duplicates in 2014. In 2017, rock sources and additional sites located on a specific road were included in that road's treated acreage and species added to list of those found on a particular road.

Historic Tables: Acres, Treated/New Sites/Total Sites

The amount of work completed in any given year directly correlates with a combination of policy, funding, methods, and crew size. The following tables have been an attempt to document how different elements have impacted work. The tables are followed by a historic perspective to give context to the numbers.

Currently these tables only reflect the activities of the Noxious Weed Control Board crew, which is not an exhaustive reflection of all work occurring in the project area. For these reasons, these tables may not be relevant in future reports and could be removed. It is both informative and useful to maintain data of all crew work in any given year that is readily accessible to us. Such collated information collected over successive years lends itself to analysis to inform progress, efficiencies, or policy revision to improve results.

The table *New sites/Total sites* shows the number of new infestations recorded in any given year. It neatly depicts changes in program focus since its inception. As more emphasis is given to treatments and less to surveys and discoveries, fewer “new” sites are discovered. However, recent changes in point collection protocol has made it a little more difficult to determine what is actually “new”. Further, the total number of sites does not account for some areas where an infestation may have been eradicated since it was first discovered. Since 2018, the number of “new” sites is based on crew’s recollection or notes in the FACT sheets.

The Road Miles and Acres Surveyed table has been removed because of significant protocol changes and focus spanning the program’s lifetime. The table was unwieldy and had become irrelevant at this time. For example, only surveys or manual treatment were allowed for the first several years of the program while later metrics included acres examined and acres treated, regardless of mileage. These differences led to the collection of very different metrics to capture scope of work.

2002-2024 ACCOMPLISHMENT SUMMARY TABLES																		
Acres Treated rounded to the nearest whole number																		
CCNWCB	02-06 ¹ manual/ baseline	2007-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
manual	8.61	55	27	21	33	33	7	10	30	51	30	42*	40	99	110	19	27	65
chemical		131	195	316	286	338	360	248	259	245	162	204	217	303	262	135	75	107
total	8.61 ¹	246 ²	222 ²	337 ²	319	371	367	258	289	296	192	204	217	303	262	135	92	183

Manual treatments were often combined with chemical, so could not be completely separated out

Number of New/Existing Sites Reported Each Year by NWCB Crews																							
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sites/ Total	122	497/ 619	147/ 766	74/ 840	147/ 986	12/ 998	1/ 999	3/ 1,002	29/ 1,031	56/ 1,060	22/ 1,082	63/ 1,145	12/ 1,157	25/ 1,182	52/ 1,287	88/ 1,375	15/ 1,392	23/ 1,415	3/ 1,418	18/ 1,436	4/ 1,440	7/ 1,447	84/ 1,531

PROGRAM HISTORY FROM 2002-2023: A PERSPECTIVE

- **Focus:** In 2002 the focus was almost exclusively on surveying, with a small amount of manual weed removal. From 2003 to 2005 surveying was still the primary focus, and the use of herbicide was limited by policy. Different crews manually removed thousands of weeds each year. In 2006 some herbicide treatments were allowed. With completion of a new EIS, herbicide treatments expanded and the focus shifted from survey to control. Productivity between years with manual control only and a mix of control methods including herbicide is striking. In a single year crews were able to cover in one year what previously took nearly five. With more riparian, restoration, or habitat projects, future productivity in future may vary greatly from year to year depending on the annual plan of work and available funding and resources.
- **Crew Resources:** The County has hired a small field crew each year since the inception of the project, but fluctuations in funding have meant that the crew size has ranged from 2 to 5 members. Some years a WCC crew has been made available to the Counties. From 2007 to 2009 an Olympic Corrections Center (OCC) crew was used, mainly to pull Scotch broom from pits, quarries and roadsides. Clallam County Sheriff's Chain Gang has been funded for mixed purposes, sometimes weed control. Their efforts were not always coordinated with the Weed Control program. When provided, their data has been incorporated into our report. Recently, FS has directly managed a small weed crew based in Olympia.



Herb Robert enjoys growing in the middle of roads (Picture taken on FS2877 on June 26, 2024).

- **Reporting:** Protocols have changed during the life of the project. From 2002 to 2005 we reported miles of roads surveyed and/or treated and number of weeds manually removed. Acres treated and/or surveyed were estimated, based on the road miles.

- In 2006, when herbicide treatments began, reporting was acres treated. However, crews or office staff tracked miles surveyed, for some reporting consistency across project years. Most roads are surveyed multiple times during the year, when different plant species are apparent. Because 2006 was a transition year crews reported manual treatments both as acres treated and number of weeds removed. County crews have not reported number of weeds removed since 2006; the WCC crew made the change in 2005. The Chain Gang reports number of weeds removed but in 2011 they also reported acres treated. Chain Gang reporting in 2012 was chaotic and inconsistent; none has been reported to us since 2014. The Chain Gang's reporting preference was number of weeds pulled, based on an estimated plants pulled/hr.

- Estimating acres treated has always been problematic. In 2007 the OCC crew reported treating 337 acres, which we suspect is an inflated figure, because of confusion about protocol. Still, that figure was retained in the table as reported.

- Most years, some of our documented work is for re-treatments. When compiling acreage figures for each year we record re-treatments and subtract them from the total, however, the work involved should somehow be acknowledged as it shows a new kind of success; time in the season to do needed follow-up work. Re-treatments are a significant factor in effective control of certain species such as herb Robert.

- Changes in the FACTS sheets over the years have made annual comparisons of acreage treated difficult. From 2007 to 2009 we used the "Infested Area Treated" figure from the FACTS sheets to sum up acres treated. In 2010 the forms were changed and "Infested Area Treated" was no longer on the form, so in that year we used the "Application Area" figure from the back of the form. In 2011 this total reverted back and "Infested Area Treated" was again used. Further, in 2010 "Acres Examined for Weeds" was on the FACTS sheet, so that figure was used for "Acres Surveyed" in the table below, rather than extrapolating it from "Miles Surveyed".

- In 2011 we began to break down acres treated chemically and acres treated manually in the summary table.
- In 2012, there was a notable emphasis on restoration, habitat, or prevention projects that are more logistically complicated, and therefore, more labor intensive and expensive. Weed infestations are significantly reduced, re-introduction of native plants has begun, some treatments are now needed only every other year.
- In 2013 there were many changes; monitoring was added as a weed board task, we reseeded some sites, three PSC enabled additional treatment. Chain Gang focus shifted to other tasks, weed work was unfunded. Forest Service created their own two

person invasive crew but there were insufficient resources for some of the larger weed control projects that remain. Coordination, which has become increasingly complicated, is even more essential than before.

- In 2014 we were short staffed and the Jefferson NWCB's coordinator retired but not replaced. We focused heavily on infrequent high priority species and herb Robert sites. Our totals are less for this year than in years with more staffing.
- In 2015 we hired less staff in response to anticipated funding shortages and focused heavily on infrequent high priority species and herb Robert sites.
- In 2016 we hired a two person team, but had a shorter season due to funding limitations and college start dates.
- In 2017 team size was small, limiting number of treatment days and activities. We expanded the use of Milestone (aminopyralid). High priority was given to anticipated road decommissioning, forestry disturbance activities, and low frequency invasive species. Several new invaders were detected.
- In 2018 aminopyralid was the primary herbicide used with only occasional use of triclopyr. A FS-led team treated a number of high priority projects within the scope of our project area. Expanded, coordinated treatments on county roads, performed under a new integrated weed management policy, began protecting adjacent Forest Service lands from weed invasion.
- In 2019 and 2020 remote habitat was a focus. FS-led team treated projects within Clallam and Jefferson County. County roadside treatments and prevention measures are coordinated to maximize protection of Forest Service lands-
- In 2021, there was increased coordination between FS, Clallam NWCB and 10,000 Years Institute enabling multiple treatments in areas with anticipated disturbance during habitat focused forest activities across multiple jurisdictions.
- In 2022 and 2023, we were short-staffed, with only three employees to perform all NWCB responsibilities during the busiest part of the treatment season. We focused on high priority areas that were slated for harvests within the next 5 years.
- In 2024, CCNWCB was fully staffed and spent 30 individual days working on FS lands, with 13 days spent surveying and treating spotted jewelweed along FS 2850 and adjacent streams and wetlands. We were also able to survey and treat some sites not treated in multiple years, such as roads in the Upper Sol Duc, Pat's Prairie and FS 3006. We were also able to return to high priority areas in the Canyon Creek/Pat's Creek watersheds.



Herb Robert along FS 3006 (August 6, 2024)



Nice populations of giant helleborine (*Epipactis gigantea*), a native orchid, grow immediately adjacent to FS 3006 (August 12, 2024)

APPENDIX E: COUNTY ACCOMPLISHMENTS-A SNAPSHOT

Note: This is not a complete list of county work, but gives some highlights and focuses on work and issues of relevance to the Forest Service

Clallam County covers 1,112,960 acres on the northwest edge of the Olympic Peninsula, bordering the Strait of Juan de Fuca. Almost half the acreage of the county (46%) is in federal ownership (National Park or National Forest). The major highway, US 101, runs from east to west through most of the county. Multiple county roads lead directly into the National Forest and many go through the Forest into Olympic National Park. The Clallam Noxious Weed Control Board (CCNWCB) has a stable, assessment-funded weed program. The CNWCB implemented its eighth season of an integrated weed management (IWM) plan for Clallam County’s Road department in 2024. CCNWCB surveyed 436 roads and treated 198 county roads (298.4 miles) for a broad array of invasive species (36 different species) which pose a direct threat to adjacent Forest Service land. We also surveyed and treated 25 pits (263.3 acres, including retreatments) as an important weed prevention component of the IWM plan. Similar control plans for other county managed lands such as county parks and restoration projects were created; considerable work was accomplished under these plans as well. This year we continued treatment of the few wild chervil infestations within Clallam and discovered 4 new county roads with wild basil savory. While kochia was still observed along Hwy 101 near Sequim, populations were much smaller than in 2023 and were removed. Two new milk thistle infestations were found in Clallam County, the first since 2003, and were treated. Additionally, with significant help from volunteers, we supplemented pollinator habitat augmentation projects by planting over 8,300 native plants complimentary to and consistent with native plant restoration goals by the Forest Service.

The CCNWCB accomplishes its mission to protect Washington’s natural resources from the degrading impacts of invasive plant species through partnerships with many federal, tribal and state agencies, as well as volunteer groups and non-profits, including the 10,000 Years Institute, Clallam Conservation District, Back Country Horseman of Washington, Master Gardeners, Stream Keepers, Audubon Society, North Olympic Land Trust, Jefferson Land Trust, and North Olympic Salmon Coalition.

The CCNWCB is the de facto leader of the Olympic Invasive Plant Working Group, a loose consortium of government entities, tribes, and non-profits that meets to exchange information and strategize effective weed control on the Peninsula. As part of an informal Cooperative Weed Management Area, we have broadened our focus from knotweed to on an “all invasives” approach as well as anticipating how to take the proactive steps toward healthy invasion resilient landscapes. We continued OIWG meetings in 2024, holding one in May and another in November. The November meeting was one of the largest meetings ever held, with 106 attendees from 32 organizations.

Clallam County 2024 Snapshot	
Number of Known Noxious Weed Species	85
Number of Regulated Noxious Weed Species	55
Most Common Regulated Noxious Weeds	tansy ragwort, poison hemlock, knapweeds
Least Common Regulated Noxious Weeds (bolded species are new this year)	spotted jewelweed, hoary alyssum, hairy willowherb, Italian thistle, purple loosestrife, sulfur cinquefoil, giant hogweed, goatsrue, gorse, perennial sowthistle, rush skeletonweed, Scotch thistle, shiny geranium, wild chervil, kochia, milk thistle
Total Number of Sites (Regulated Species Only)	Approximately 2,500
Number of Landowner Notifications	351
Educational Events	13
Public Contacts (Phone Calls, Walk-Ins, Emails)	2,200
# of Volunteers/Hrs (planting, surveys, research)	20/262
Number of Weeds Manually Controlled by NWCB	27,149

APPENDIX F: WEED SPECIES REPORTED 2002-2024 ON FOREST SERVICE LAND IN CLALLAM OR JEFFERSON COUNTIES

(Other counties may have reported other species). List sorted alphabetically by botanical name. No new species on FS or County lands. Plant Codes come from the USDA Natural Resources Conservation Service PLANTS database when available.

Common Name	Botanical Name	Plant Code
bishop's weed	<i>Aegopodium podgraria</i>	AEPO
common burdock	<i>Arctium minus</i>	ARM12
cheatgrass	<i>Bromus tectorum</i>	BRTE
butterfly bush	<i>Buddleja davidii</i>	BUDA
hedge bindweed	<i>Calystegia sepium</i>	CASE13
meadow knapweed	<i>Centaurea moncktonii (x gerstlauri)</i>	CEMO6
diffuse knapweed	<i>Centaurea diffusa</i>	CEDI
spotted knapweed	<i>Centaurea stoebe</i>	CEST
Canada thistle	<i>Cirsium arvense</i>	CIAR4
bull thistle	<i>Cirsium vulgare</i>	CIVU
wild basil savory	<i>Clinopodium vulgare</i>	CLVU
rockspray cotoneaster	<i>Cotoneaster horizontalis</i>	COHO
poison hemlock	<i>Conium maculatum</i>	COMA
Scotch broom	<i>Cytisus scoparius</i>	CYSC4
spurge laurel	<i>Daphne laureola</i>	DALA11
wild carrot	<i>Daucus carota</i>	DACA6
Fuller's teasel	<i>Dipsacus fullonum</i>	DIFU
herb Robert	<i>Geranium robertianum</i>	GERO
English ivy	<i>Hedera helix</i>	HEHE
orange hawkweed	<i>Hieracium aurantiacum</i>	HIAU
yellow hawkweed	<i>Hieracium caespitosum</i>	HICA10
European hawkweed	<i>Hieracium sabaudum</i>	HISA4
St. Johnswort	<i>Hypericum perforatum</i>	HYPE
English holly	<i>Ilex aquifolium</i>	ILAQ80
spotted jewelweed	<i>Impatiens capensis</i>	IMCA
yellow flag Iris	<i>Iris pseudacorus</i>	IRPS
yellow archangel	<i>Lamium galeobdolon</i>	LAGA
everlasting peavine	<i>Lathrus latifolius</i>	LALA4
oxeye daisy	<i>Leucanthemum vulgare</i>	LEVU
common toadflax	<i>Linaria vulgaris</i>	LIVU2
purple looserstrife	<i>Lythrum salicaria</i>	LYSA2
reed canary grass	<i>Phalaris arundinacea</i>	PHAR3
ribbon grass*	<i>Phalaris arundinacea, variegated</i>	PHAR3
Japanese knotweed	<i>Polygonum cuspidatum</i>	POCU6
giant knotweed	<i>Polygonum sachalinense</i>	POSA4
Bohemian knotweed	<i>Polygonum x bohemicum</i>	POBO10
sulfur cinquefoil	<i>Potentilla recta</i>	PORE
English laurel	<i>Prunus laurocerasus</i>	PRLA
dog rose	<i>Rosa canina</i>	ROCA3
Himalayan blackberry	<i>Rubus armeniacus</i>	RUAR9
cutleaf blackberry	<i>Rubus laciniatus</i>	RULA
tansy ragwort	<i>Jacobaea vulgaris</i>	JAVU
comfrey	<i>Symphytum officinale</i>	SYOF
common tansy	<i>Tanacetum vulgare</i>	TAVU
common mullein	<i>Verbascum thapsus</i>	VETH
periwinkle	<i>Vinca minor</i>	VIMI

High-Risk Species in Clallam and Jefferson Counties, Not Yet Detected within FS Lands

wild chervil	<i>Anthriscus sylvestris</i>	ANSY
bur chervil	<i>Anthriscus caucalis</i>	ANCA
giant reed	<i>Arundo donax</i>	ARDO
hoary alyssum	<i>Berteroa incana</i>	BEIN
Italian thistle	<i>Carduus pycnocephalus</i>	CAPY
rush skeletonweed	<i>Chondrilla juncea</i>	CHJU
English hawthorn	<i>Crataegus monogyna</i>	CRMO
hairy willowherb	<i>Epilobium hirsutum</i>	EPHI
goatsrue	<i>Galega officinalis</i>	GAOF
shiny geranium	<i>Geranium lucida</i>	GELU
European hawkweeds	<i>Hieracium lachenalia/ Hieracium sabaudum</i>	HILA/HISA
hairy whitetop	<i>Lepidium appelianum</i>	LEAP
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	MYSP
Scotch thistle	<i>Onopordum acanthium</i>	ONAC
common reed	<i>Phragmites australis</i>	PHAU

lawnweed	<i>Soliva sessilis</i>	SOSE
milk thistle	<i>Silybum narianum</i>	SIMA
gorse	<i>Ulex europaeus</i>	ULEU
kochia	<i>Bassia scoparia</i>	BASC

APPENDIX G: CONTROL RECOMMENDATIONS BY WEED SPECIES

Specific treatment recommendations for each species encountered are given in the table below. General recommendations based on plant lifecycle are listed below.

- Annuals like herb Robert, especially at campgrounds, should be treated as early in the season as possible. With herb Robert in particular, multiple treatments within the season are preferable. Preliminary studies suggest good herb Robert germination control with Milestone (aminopyralid); subsequently this herbicide may be considered for roadside herb Robert populations in the future. Esplanade may also be an option.
- Early blooming perennials, such as orange and yellow hawkweed should be treated as early as possible.
- Biennials like tansy ragwort are often difficult to treat effectively with either chemical or manual treatment alone; once plants have bolted it may be most effective to pull and deadhead flowering stalks, then spray first year rosettes.
- Scotch broom and other invasive woody shrubs can be effectively pulled early in the season before seed set and while the ground is damp. Manual control is best utilized when labor is not an issue, or for small infestations. Cut stump is best used on plant stems greater than ½ inch, cutting plant as low to the ground as possible; dry, hot weather improves efficacy. Herbicide treatments can be made early, but are still effective later in the summer.
- Later blooming perennials like reed canarygrass, Canada thistle, everlasting peavine, knotweeds, knapweeds, common tansy and common toadflax may be effectively treated from midsummer until fall, depending on the species and the location (altitude, aspect, etc).

Plant Code	Common Name	Botanical Name	Control Recommendation
AEPO	bishop's weed	<i>Aegopodium podgraria</i>	Foliar application of imazapyr, or triclopyr
ANSY	wild chervil	<i>Anthriscus sylvestris</i>	Manual removal; spot herbicide application
ARM12	common burdock	<i>Arctium minus</i>	Where minimal occurrence, manual removal; spot herbicide application to rosettes by early spring; or to second year growth, before budding
BUDA	butterfly bush	<i>Buddleja davidii</i>	Manual removal small plants, or cut-stump/foliar treat with triclopyr, or glyphosate,
CESTM	spotted knapweed	<i>Centaurea stoebe</i>	Manual removal very small sites; spot application with selective herbicide - clopyralid preferred
CASE13	hedge bindweed	<i>Calystigia sepium</i>	Herbicide application combined with manual removal. Very difficult to eradicate.
CEMO6	meadow knapweed	<i>Centaurea x moncktonii</i>	Foliar herbicide application with selective herbicide, late season - clopyralid preferred
CEDI3	diffuse knapweed	<i>Centaurea diffusa</i>	Manual removal for very small sites; foliar herbicide application - clopyralid preferred
CIAR4	Canada thistle	<i>Cirsium arvense</i>	Manual removal has limited effectiveness, for only very early infestations; spot herbicide application with glyphosate at bud to full bloom; fall or foliar application of a selective herbicide throughout the summer, fall. Clopyralid has worked well and will be emphasized in future treatments.
CIVU	bull thistle	<i>Cirsium vulgare</i>	Where minimal occurrence, manual removal; spot herbicide application to rosettes by early spring or to second year growth, before budding. Remove seeded heads.
CLVU	wild basil savory	<i>Clinopodium vulgare</i>	Foliar application necessary, late summer treatment has best results. A mixture of triclopyr (1.5%) and aminopyralid (0.125%) has produced the best results, but more study is needed.
COMA	Poison hemlock	<i>Conium maculatum</i>	Manual removal very small sites; spot application with triclopyr
COTON	rockspray cotoneaster	<i>Cotoneaster horizontalis</i>	Manual removal; herbicide treatment only if size of infestation increases
CYSC4	Scotch broom	<i>Cytisus scoparius</i>	Manual removal for small infestations; cut stump treatments preferred for very large infestations, foliar herbicide applications possible, newer herbicides such as aminopyralid would be useful.
DACA6	wild carrot	<i>Daucus carota</i>	Manual removal; spot herbicide application triclopyr
DALA11	spurge laurel	<i>Daphne laureolus</i>	Foliar application; it is unclear at this time which herbicide is most effective, although it is unlikely that aminopyralid alone will be effective.

Plant Code	Common Name	Botanical Name	Control Recommendation
DIFU2	Fuller's teasel	<i>Dipsacum fullonum</i>	Manual removal before full bloom (after full bloom, flower heads need to be removed and disposed of or sprayed onsite after removal, when large quantities); selective herbicide application in first year or pre-bloom in 2 nd year. May require triclopyr or imazapyr.
GERO	herb Robert	<i>Geranium robertianum</i>	Manual removal for small infestations; spot herbicide application where feasible; multiple treatments per season preferred. Prevention measures a must. Low rates of aminopyralid may be effective and reduce seed germination. Imazapyr or sulfometuron ethyl may be considered-where off-target loss is more tolerated, such as roadside- for fall treatments after rain has induced seed germination. Herbicide effects on late stages of plant lifecycle may be too slow to stop seed production.
HEHE	English ivy	<i>Hedera helix</i>	Manual removal; cut stump or foliar herbicide application. Higher end surfactant rates may be needed.
HIAU HICA HISA	orange hawkweed	<i>Hieracium aurantiacum</i> <i>Hieracium caespitosum</i> <i>Hieracium sabatum</i>	Spot spray with selective herbicide in late spring or summer; - clopyralid preferred - possible manual removal for very small infestation. Aminopyralid is likely effective.
HYPE	St. Johnswort	<i>Hypericum perforatum</i>	Pervasive. Preventative control should be incorporated into restoration and maintenance projects. Possible candidate for biocontrol releases where infestations are heavy. Herbicide control options are available should this species otherwise become a resource management issue.
ILAQ80	English holly	<i>Ilex aquifolium</i>	Manual removal; cut stump or foliar herbicide treatment. May be best treated with imazapyr.
IMCA	spotted jewelweed	<i>Impatiens capensis</i>	Manual removal; early foliar herbicide when there are many plants.
IRPS	yellow flag Iris	<i>Iris pseudacorus</i>	Manual removal for small infestations, foliar herbicide, imazapyr may be preferred
LAGA2	yellow archangel	<i>Lamium galeobdolon</i>	Foliar herbicide application –triclopyr, glyphosate, or a combination
LALA4	everlasting peavine	<i>Lathyrus latifolius</i>	Foliar herbicide application - clopyralid preferred
LEVU	oxeye daisy	<i>Leucanthemum vulgare</i>	Pervasive. Preventative control should be incorporated into restoration and maintenance projects. Herbicide control options are available should this species otherwise become a resource management issue.
LIVU2	common toadflax	<i>Linaria vulgaris</i>	Spot herbicide application, triclopyr or aminopyralid are likely effective.
LYSA2	purple loosestrife	<i>Lythrum salicaria</i>	There is only one known site: manual removal should be possible, however herbicide application is available (potential aquatic application)
PHAR3	reed canary grass, ribbon grass	<i>Phalaris arundinacea</i>	Glyphosate or imazapyr in mid-June and mid-Sept. Imazapyr may provide superior control.
POBO10 POSA or POCU	knotweed species	<i>Polygonum spp.</i>	Foliar application of glyphosate or imazapyr; can inject with glyphosate
PORE	sulfur cinquefoil	<i>Potentilla recta</i>	Selective herbicides preferred. Will need several years of re-treatment. Small, but long-time plants may need to be dug; plant surface may be insufficient to fully control large root system by herbicide alone.
RUAR9	Himalayan blackberry	<i>Rubus armeniacus</i>	Cut stump with glyphosate or triclopyr or foliar application as appropriate to site. Triclopyr preferred
RULA	evergreen blackberry	<i>Rubus laciniatus</i>	Cut stump or foliar herbicide application - triclopyr preferred
JAVU	tansy ragwort	<i>Jacobaea vulgaris</i>	Will require <u>systematic</u> removal from roadsides and follow-up; manual removal before full bloom (after full bloom, flower heads need to be removed and disposed of); selective herbicide application in first year or pre-bloom in 2 nd year. When collecting large quantities of seed heads, we have found spraying pile of heads onsite is effective and is less burdensome than clipping and disposing bags of heads.
SYOF	common comfrey	<i>Symphytum officinale</i>	Minimal occurrence, but expanding; spot herbicide application-may require triclopyr/ aminopyralid mix, glyphosate or imazapyr.
TAVU	common tansy	<i>Tanacetum vulgare</i>	Spot herbicide application-may require triclopyr or imazapyr.
VIMA VIMI12	bigleaf periwinkle common periwinkle	<i>Vinca major</i> <i>Vinca minor</i>	Thorough spot herbicide application, triclopyr or imazapyr recommended

APPENDIX H: 2024 CLALLAM COUNTY WEED LIST

What are noxious weeds?

Washington's noxious weeds are invasive, exotic introductions. None of them are native to Washington. Noxious weeds create public health hazards, decrease agricultural productivity, lower property values, degrade wildlife habitat and reduce enjoyment of recreational areas. In essence, noxious weeds are everybody's problem – the homeowner, the farmer, the environmentalist, the recreational visitor, the public land manager, and the elected official.

Who is responsible for controlling weeds under the state noxious weed control laws, RCW 17.10 and WAC 16-750?

All **landowners**, including, city, county, and state governments, are required to eradicate all Class A, control and prevent the spread of any Class B designate, and selected Class B or C species on their property. There are many ways to control noxious weeds; state law does not dictate method. For Class A species, prevention and eradication is the goal, while for Class B designates and selected weeds, containment and eventual reduction is the objective. The type of control selected by the landowner should take into consideration the weed, its life cycle, distribution (extent of the problem) and its location.

Clallam County Noxious Weed Control Board

The state weed law allows counties to focus noxious weed control authority and activity at the local level through noxious weed control boards which are responsive to local needs, concerns, and conditions. In 1997 the Clallam County Commissioners authorized the activation of the Clallam Noxious Weed Control Board. The five voting members of this board are volunteer residents appointed by the Board of County Commissioners. The noxious weed control board is responsible for assuring the control of noxious weeds within the county. They typically accomplish this by employing a weed coordinator who educates and informs the public about noxious weeds, conducts on-going early detection surveys for noxious weeds, and assists landowners in developing control strategies. If landowners refuse to control the noxious weeds on their property, noxious weed control boards can have the control work done and bill the landowner, or issue civil infractions.

County noxious weed control boards provide many benefits to their community, including:

- Local decision making and regulatory authority
- Prevention of noxious weed infestations through education, county wide early-detection surveys, quarantines, and other programs
- Technical assistance for all landowners such as on-site plant surveys, weed identification, control recommendations and cost/share assistance
- Cooperative action from state and federal land management agencies
- Assurance that all landowners will control noxious weeds on their property
- Influence on state noxious weed control policy decisions

YOU CAN HELP! Contact your local weed board if you see or know of noxious weed infestations. For more information about weed control contact:

Clallam Noxious Weed Control Board
223 East Fourth Street, Suite 15
Port Angeles, WA 98362-0149
(360) 417-2442 or
Web_weed@clallamcountywa.gov

Check out our website at:
www.clallamcountywa.gov/821/Noxious-Weed-Control

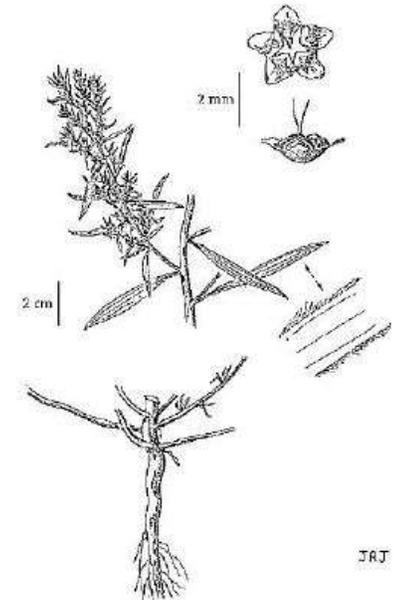
For additional information, contact:

Washington State Noxious Weed Control Board
P.O. Box 42560, Olympia, WA 98504
(360) 725-5764

Washington State Department of Agriculture
(509) 249-6973

PLEASE! Help protect Washington's economy and environment from noxious weeds!

2024 CLALLAM COUNTY NOXIOUS WEED LIST



Drawing reproduced from *Illustrated Flora of British Columbia*

In 2023, kochia (*Bassia scoparia*) was recorded for the first time in Clallam County. Kochia is a summer annual that invades agricultural fields, pastures and rights-of-way and can quickly form monocultures. It has been designated for control in Clallam County.

2024

CLALLAM COUNTY WEED LIST

The Clallam County Weed List is updated annually and consists of all state listed Class A and Class B designate and county select noxious weeds. State law requires eradication or control, containment, and preventing spread of these weeds. To date, at least 82 state listed noxious weeds have been present in Clallam County; these plants are shown in bold in each category.

Class A Weeds are non-native species with a limited distribution in Washington. Preventing new infestations and eradicating existing infestations is required by law.

amaranth, Palmer	<i>Amaranthus palmeri</i>
broom, French	<i>Genista monspessulana</i>
broom, Spanish	<i>Spartium junceum</i>
cordgrass, common	<i>Spartina anglica</i>
cordgrass, denseflower	<i>Spartina densiflora</i>
cordgrass, salt meadow	<i>Spartina patens</i>
cordgrass, smooth	<i>Spartina alterniflora</i>
crupina, common	<i>Crupina vulgaris</i>
dyer's woad	<i>Isatis tinctoria</i>
eggleaf spurge	<i>Euphorbia oblongata</i>
false brome*	<i>Brachypodium sylvaticum</i>
floating primrose-willow	<i>Ludwigia peploides</i>
flowering rush	<i>Butomus umbellatus</i>
garlic mustard	<i>Alliaria petiolata</i>
giant hogweed	<i>Heracleum mantegazzianum</i>
goatsrue	<i>Galega officinalis</i>
hydrilla	<i>Hydrilla verticillata</i>
Johnsongrass	<i>Sorghum halepense</i>
knapweed, bighead	<i>Centaurea macrocephala</i>
knapweed, Vochin	<i>Centaurea nigrescens</i>
kudzu	<i>Pueraria montana</i> var. <i>lobata</i>
meadow clary	<i>Salvia pratensis</i>
oriental clematis	<i>Clematis orientalis</i>
reed sweetgrass	<i>Glyceria maxima</i>
ricefield bulrush	<i>Schoenoplectus mucronatus</i>
sage, clary	<i>Salvia sclarea</i>
sage, Mediterranean	<i>Salvia aethiops</i>
silverleaf nightshade	<i>Solanum elaeagnifolium</i>
small flowered jewelweed	<i>Impatiens parviflora</i>
South American spongeplant	<i>Limnobiium laevigatum</i>
Syrian bean-caper	<i>Zygophyllum fabago</i>
starthistle, purple	<i>Centaurea calcitrapa</i>
Texas blueweed	<i>Helianthus ciliaris</i>
thistle, Italian	<i>Carduus pycnocephalus</i>
thistle, milk	<i>Silybum marianum</i>
thistle, slenderflower	<i>Carduus tenuiflorus</i>
thistle, Turkish	<i>Carduus cinereus</i>
variable-leaf milfoil and hybrids	<i>Myriophyllum heterophyllum</i> , <i>M. heterophyllum</i> x <i>M. hippuroides</i>
wild four o'clock	<i>Mirabilis nyctaginea</i>

*unconfirmed sighting, controlled at time

Class B-designate Weeds Class B weeds are non-native species that are presently limited to portions of the state. The following Class B species are designated for control in Clallam County where they are not yet widespread. Controlling infestations and preventing spread of all propagules is required by law.

blueweed	<i>Echium vulgare</i>
Brazilian elodea	<i>Egeria densa</i>
bugloss, annual	<i>Lycopsis arvensis</i>
bugloss, common	<i>Anchusa officinalis</i>
camelthorn	<i>Alhagi maurorum</i>
common fennel (not bulbing)	<i>Foeniculum vulgare</i> (not var. azoricum)
common reed	<i>Phragmites australis</i>
common tansy	<i>Tanacetum vulgare</i>
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
European coltsfoot	<i>Tussilago farfara</i>
fanwort	<i>Cabomba caroliniana</i>
gorse	<i>Ulex europaeus</i>
flax, spurge	<i>Thymelaea passerina</i>
grass-leaved arrowhead	<i>Sagittaria graminea</i>
hairy willow-herb	<i>Epilobium hirsutum</i>
hanging sedge	<i>Carex pendula</i>
hawkweed, all nonnative species	<i>Hieracium</i> subgenus <i>Hieracium</i>, <i>Hieracium</i> subgenus <i>Pilosella</i>
hawkweed, orange	<i>Hieracium aurantiacum</i>
hoary alyssum	<i>Berteroa incana</i>
houndstongue	<i>Cynoglossum officinale</i>
indigobush	<i>Amorpha fruticosa</i>
knapweed, black	<i>Centaurea nigra</i>
knapweed, brown	<i>Centaurea jacea</i>
knapweed, diffuse	<i>Centaurea diffusa</i>
knapweed, meadow	<i>Centaurea x gerslaueri</i>
knapweed, Russian	<i>Rhaponticum repens</i>
knapweed, spotted	<i>Centaurea stoebe</i>
knotweed, Himalayan	<i>Persicaria wallichii</i>
kochia	<i>Bassia scoparia</i>
leafy spurge	<i>Euphorbia virgata</i>
lesser celandine	<i>Ficaria verna</i>
loosestrife, garden	<i>Lysimachia vulgaris</i>
loosestrife, purple	<i>Lythrum salicaria</i>
loosestrife, wand	<i>Lythrum virgatum</i>
ortongue, hawkweed	<i>Picris hieracioides</i>
parrotfeather	<i>Myriophyllum aquaticum</i>
perennial pepperweed	<i>Lepidium latifolium</i>
poison hemlock	<i>Conium maculatum</i>
policeman's helmet	<i>Impatiens glandulifera</i>
puncturevine	<i>Tribulus terrestris</i>
rough chervil	<i>Chaerophyllum temulum</i>
rush skeletonweed	<i>Chondrilla juncea</i>
saltcedar	<i>Tamarix ramosissima</i>
shiny geranium	<i>Geranium lucidum</i>
starthistle, Malta	<i>Centaurea melitensis</i>
starthistle, yellow	<i>Centaurea solstitialis</i>
sulfur cinquefoil	<i>Potentilla recta</i>
thistle, musk	<i>Carduus nutans</i>
thistle, plumeless	<i>Carduus acanthoides</i>
thistle, Scotch	<i>Onopordum acanthium</i>
toadflax, Dalmatian	<i>Linaria dalmatica</i> ssp. <i>dalmatica</i>
velvetleaf	<i>Abutilon theophrasti</i>

Class B-designates	continued
water primrose	<i>Ludwigia hexapetala</i>
white bryonia	<i>Bryonia alba</i>
wild basil savory	<i>Clinopodium vulgare</i>
wild chervil	<i>Anthriscus sylvestris</i>
yellow archangel	<i>Lamium galeobdolon</i>
yellow floating heart	<i>Nymphoides peltata</i>
yellow nutsedge	<i>Cyperus esculentus</i>

Selected Weeds

RCW 17.10.090 State Noxious Weed Law allows counties to select weeds from the B or the C list that must be controlled. Preventing spread of all propagules is required.

broom, Scotch¹	<i>Cytisus scoparius</i>
common teasel	<i>Dipsacus fullonum</i>
herb Robert^{1,2}	<i>Geranium robertianum</i>
lawweed	<i>Soliva sessilis</i>
knotweed^{1,3}, Japanese	<i>Fallopia japonica</i>, x <i>bohemica</i>, <i>sachalinensis</i>
Bohemian, giant	<i>x bohemica</i>, <i>sachalinensis</i>
perennial sowthistle	<i>Sonchus arvensis</i> ssp. <i>arvensis</i>
spotted jewelweed	<i>Impatiens capensis</i>
spurge laurel	<i>Daphne laureola</i>
tansy ragwort	<i>Jacobaea vulgaris</i>

¹Control in and 100 ft around any soil, mulch or mineral mining (pit)/storage areas

²Control along roadsides leading to areas with active treatment program

³Control within riparian and flood zones of Big, Clallam, Ennis, Hoko, & Sekiu Rivers and their tributaries; roadsides, soil, mulch or mineral mining (pit)/storage areas.

Additional Noxious Weeds

The following Class B and C weeds are found in our county and in many parts of the state. Control is encouraged. (Class is indicated with B or C)

absinth wormwood (C)	<i>Artemisia absinthium</i>
babysbreath (C)	<i>Gypsophila paniculata</i>
blackberry, evergreen (C)	<i>Rubus laciniatus</i>
blackberry, Himalayan (C)	<i>Rubus bifrons (armenicus)</i>
buffalobur (C)	<i>Solanum rostratum</i>
butterfly bush (B)	<i>Buddleia davidii</i>
common catsear (C)	<i>Hypochaeris radicata</i>
common groundsel (C)	<i>Senecio vulgaris</i>
curly-leaf pondweed (C)	<i>Potamogeton crispus</i>
English hawthorn (C)	<i>Crataegus monogyna</i>
English ivy (C) specific varieties	<i>Hedera helix</i> , <i>H. hibernica</i>
field bindweed (C)	<i>Convolvulus arvensis</i>
fragrant water lily (C)	<i>Nymphaea odorata</i>
green alkanet (C)	<i>Pentaglottis sempervirens</i>
hairy white top (C)	<i>Lepidium appelianum</i>
Italian arum (C)	<i>Arum italicum</i>
myrtle spurge (B)	<i>Euphorbia myrsinites</i>
old man's beard (C)	<i>Clematis vitalba</i>
oxeye daisy (C)	<i>Leucanthemum vulgare</i>
pampas & jubata grass (C)	<i>Cortaderia selloana</i> , <i>C. jubata</i>
reed canarygrass (C)	<i>Phalaris arundinacea</i>
St Johnswort, common (C)	<i>Hypericum perforatum</i>
thistle, bull (C)	<i>Cirsium vulgare</i>
thistle, Canada (C)	<i>Cirsium arvense</i>
tree-of-heaven (C)	<i>Ailanthus altissima</i>
toadflax, yellow (C)	<i>Linaria vulgaris</i>
white cockle (C)	<i>Silene latifolia</i>
wild carrot (C)	<i>Daucus carota</i>
yellow flag iris (C)	<i>Iris pseudacorus</i>

APPENDIX I: SAMPLES OF HERBICIDE NOTIFICATION—LEGAL AD AND ON-SITE POSTING

A legal notice preceding herbicide application on the Olympic National Forest was published on the Olympic National Forest website (<https://www.fs.usda.gov/alerts/olympic/alerts-notice>). The text of the legal notice read as follows:

 An official website of the United States government [Here's how you know](#) ▼



[Forest Service Home](#) | [About](#)

[Home](#) | [Visit Us](#) ▼ | [Managing the Land](#) ▼ | [Learn](#) ▼ | [Working With Us](#) ▼ | [About Us](#) ▼

Herbicide application on Olympic National Forest

Alert

Date(s): Apr 18, 2024 - Apr 25, 2025

Herbicide application - The Olympic National Forest may be applying the herbicides glyphosate, clopyralid, triclopyr, aminopyralid, sulfometuron methyl, or imazapyr to noxious weeds or other invasive plant species from May 13, 2024 to November 22, 2024. Limited injection or cut stump treatments may be conducted from November 22, 2024 to April 25, 2025.

Please see the following [spreadsheet and maps](#) for a more detail about treatment areas.

Applications will be conducted as planned in the Final EIS-Olympic National Forest Site Specific Invasive Plant Treatment Project, which was finalized in 2008. Notices indicating that the formulation of the herbicide to be applied will be posted at entrances to the target road systems and/or individual sites. For questions about applications contact Nick Jarvis, Invasive Plant Program Coordinator at (360) 956-2319.

[All Alerts](#)

Onsite Posting Sample: Information about date of application, locations, and targeted weed species are generally filled in onsite.

NOTICE

The herbicide(s) aminopyralid, clopyralid, glyphosate, imazapyr, sulfometuron methyl and/or triclopyr may be applied to the following roads and surrounding area any time between

_____, 2024 to control weeds, which threaten native vegetation and habitat in this area:

Specific areas to be targeted include roadsides, forested areas, vegetated openings and rock pits.

Targeted Weed Species include, but are not limited to:

Avoid contact with treated vegetation until after it has dried; it will take approximately 1 hour to dry after application.

FOR MORE INFORMATION CONTACT:

Nick Jarvis
Forest Botanist and Invasive Plant Program Coordinator
Olympic National Forest
1835 Black Lake Blvd., SW Suite A
Olympia, WA 98512
nicholas.jarvis@usda.gov 360-956-2319

This sign can be removed one month after listed treatment dates.

APPENDIX J: PROJECT FORMS
FACTS Manual/Herbicide Treatment Data Form-front side

2024 FACTS Invasive Plant Treatment Data Form
General Activity Fields

Ref #: 17

Document only one area represented by one Ref # per FACTS form.

Region	Forest	District (circle one) *	6 th Field Watershed Name	Owner	Workforce** (and Number of People in Crew)
06	09	PAC-N (05) <u>HC-N (02)</u> PAC-S (03) HC-S (01)	Canyon Creek / Pat's Creek	FS	PCN/WCB (2) # people
Method Code	Equipment Code:	Job Code:	Treatment Location and Comments:		
<u>700</u> Herbicide	(circle one) 711 hand sprayer	Title II	If you are treating a road, record Road number w/ BMP & EMP If you are not treating a road (ex. a campground, rock pit, etc.) record Site Name -Record this information as it appears on the spreadsheet. -		
	712 backpack sprayer		Comments: NO CLUV! A few large patches of GERO at and after -059 spur		
100 Manual	716 injector 721 mobile ground sprayer 751 Cut stump 000 other		FS 2870-058 Was entire area represented by the Ref# treated for weeds? <u>Yes</u> / No → If no, describe what part was treated above.		

*District Codes: Pacific North (05) = PAC-N; Pacific South (03) = PAC-S; Hood Canal North (02) = HC-N; Hood Canal South (01) = HC-S

Should this area be a high priority for follow-up treatments next year? Yes / No (circle one)
Is this area a good candidate for post-treatment seeding? Yes / No (circle one)

Site/Inventory Fields

Date of Treatment	Acres examined	Application Site (circle one)	Licensed Applicator: Name and License #
7-11-24	1.2	<u>Road edge/ROW</u> Forest Admin Site Riparian Rock Source Other:	C. St John #104740
Total Manual Infested Area Treated: Do not lump plants together.			0.1 acres

Weeds Treated (Use PLANTS code; include common name too if uncommon weed)	Infested Area Treated (IAT)	% cover in IAT (Use cover classes 1 - 9 listed below)	Comments
GERO	1.2 acres	2	entire
CLUV	0.1 acres	1	1 pulled

Cover Classes: 1 = Trace, 2 = 1 - 3%, 3 = 3 - 5%, 4 = 5 - 10%, 5 = 10 - 25%, 6 = 25 - 50%, 7 = 50 - 75%, 8 = 75 - 95%, 9 = 95 - 100%
Note: Cover classes are meant to be *approximations only*. DO NOT spend more than a few moments determining cover class.

Daily Log

Reminder: Review buffers prior to spraying, they are sometimes different than what's on the label. In particular, DO NOT use any triclopyr formulations (including aquatic) within 15 ft of water.

Tank Mix 1

Application Date	Time Start	Time Stop	Temp (F)	Wind Speed (MPH)	Wind Direction	Cloud Cover	Comments:			
7-11-24	2:15	4:15	72	1-3	NW	clear				
Total Volume of Mix Applied	UOM	Mix (ounces herbicide per 1 gallon water)		Dilutant	Applicators Names					
4.75	Gallons	1. 1.92 oz/gal	2. 0.32 oz/gal	Water	C. St John R. Smith					
Herbicide Product Name	Amount of this herbicide product that was applied		Percent Solution	Adjuvant Product Name	Amount of this adjuvant that was applied	Percent Solution	Total Application Area (Acres):			
Milestone - Vastlan - Element 3A 1. Aquaneat - Aquamaster - Transline - Stinger - Oust - Polaris Other:	9.1 oz		1.5 %	Agridex - <u>Competitor</u> Other:	6.1 oz	1.0 %	1.2			
<u>Milestone</u> - Vastlan - Element 3A 2. Aquaneat - Aquamaster - Transline - Stinger - Oust - Polaris Other:	1.5 oz		0.25 %	<u>Highlight Blue</u> - Blazon Blue Other:	1.5 oz	0.25 %	Area treated in Riparian Reserves: <input checked="" type="checkbox"/>			
	oz		%		oz	%	Area Treated within 5 feet of Standing Water: <input checked="" type="checkbox"/>			

Tank Mix 2 (For use when more than one tank mix is used to treat the infestation).

Total Volume of Mix Applied	UOM	Mix (ounces herbicide per 1 gallon water)		Dilutant	Applicators Names					
	Gallons	1. oz/gal	2. oz/gal	Water						
Herbicide Product Name	Amount of this herbicide product that was applied		Percent Solution	Adjuvant Product Name	Amount of this adjuvant that was applied	Percent Solution	Total Application Area (Acres):			
Milestone - Vastlan - Element 3A 1. Aquaneat - Aquamaster - Transline - Stinger - Oust - Polaris Other:	oz		%	Agridex - Competitor Other:	oz	%				
Milestone - Vastlan - Element 3A 2. Aquaneat - Aquamaster - Transline - Stinger - Oust - Polaris Other:	oz		%	Highlight Blue Other:	oz	%	Area treated in Riparian Reserves: <input type="checkbox"/>			
	oz		%		oz	%	Area Treated within 5 feet of Standing Water: <input type="checkbox"/>			

(From front page) Ref #: 17

Notes:

2023 FACTS Invasive Plant Treatment Data Form Page 2 of 2

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EPA #s for commonly used herbicides: Milestone: 62719-519
Aquaneat: 228-365 Aquamaster: 534-343 Polaris: 228-534
Vastlan: 62719-687 Stinger: 62719-73 Transline: 62719-259

Rock Source Inspection Record for Invasive Plants

Valid one year from date of inspection. Expiration date: __

Rock Source Information:

Name of Rock Source:	Parcel Number (s):	Acres:
Address of Rock Source:		
Closest town:		
Phone Number:		
Name and Title of Rock Source Contact Person:		
Narrative of location of rock source:		

Inspection Information:

Agency Conducting Inspection: Clallam Noxious Weed Control Board	
Name and Title of Inspector:	
Contact Information of Inspector: (360)417-2442, 223 E Fourth St, Suite 15, Port Angeles, WA. 98362	
Signature of Inspector:	Date of Inspection:
Does this Rock Source meet "Weed-free" standards (indicate option): Clallam County RD: __ Environmental: __ Olympic National Forest: __ Olympic National Park: __ <small>-(subject to proj specs)</small>	
Does this Rock Source have mitigation requirements? __	
Description:	
Treatment/Management priorities:	
1. Access roads:	

2. Active pit area:	

3. Perimeter of property:	

4. Vehicle parking & wash areas:	

5. Stock piles:	

6. Additional areas:	

Pit description and primary uses:

Weeds of Concern Found During Inspection (treatments should focus on these species):

Common Name	Plant Code	Summary of Recommendations

Name of Rock Source:

Date of Inspection:
Document valid 1 year after inspection.

Does This Rock Source Meet Forest Service and/or Clallam County Requirements for Use?

The Inspector will circle or highlight the option that best describes this quarry. **This rating is not an endorsement.**

Option A	<p>This rock source exceeds requirements. <i>Invasive plants are rare to absent in quarry. Use of materials would almost certainly not contribute to the spread of invasive plants.</i></p>
Option B	<p>This rock source meets requirements. <i>Invasive plants are uncommon in quarry, and easily isolated.</i></p> <ul style="list-style-type: none"> • Invasive plants that are present – even those that are easily isolated - are not listed as high priority or regulated species and/or are not species of particular concern. • Non-regulated or lower priority species may be present, but are not pervasive. They may be present in small, isolated patches within or near the rock source, but can be isolated by simple precautionary measures. • Typically, less than 10% of the pit either has weeds growing on it or potentially could contain weed seed or other propagules, and these areas are easily isolated from rock source materials. • Treatment of weeds is recommended, but use of materials from this source as found on the day of inspection would most likely not contribute to the spread of invasive plants on Forest Service lands if simple precautionary measures are followed. County road or restoration projects may require additional mitigation.
Option C	<p>This rock source meets minimum requirements, but will only be used if no other source is available. <i>Invasive plants are common in quarry; precautionary measures will need to be followed carefully to prevent spread.</i></p> <ul style="list-style-type: none"> • Any regulated or species listed as priority 1 by Olympic NF or species of particular concern are absent in or around rock source*. • Non-regulated or species listed as priority 2 by Olympic NF are present in patches, but some portions of the rock source are relatively free of weeds, are most likely are not contaminated with a significant amount of propagules (seeds, roots, etc.) from these species, and may be an acceptable rock source for FS lands. • Typically, between 10 – 50% of the pit will have priority 2 weeds growing on it and/or potentially could contain seed or other propagules from these species, and these areas are easily isolated from rock source materials. • Treatment of weeds is highly recommended, and may be required as a condition of use by the Forest Service or County projects. Distribution of materials from this rock source may contribute to the spread of noxious weeds if precautionary measures are not followed carefully. County road or restoration projects may require additional mitigation. <p><small>*In limited circumstances, as determined by the Inspector, this box may be checked when species listed as Priority 1 and/or of particular concern are present in very small, easily isolated patches.</small></p>
Option D	<p>This rock fails to meet minimum requirements for use on Forest Service lands or Clallam County Projects. <i>Distribution of materials from this rock source would likely contribute to the spread of noxious weeds.</i></p> <ul style="list-style-type: none"> • Regulated or weed species listed as priority 1 and/or species of particular concern are present in or around this rock source, OR weed species listed as priority 2 by the Forest Service are present to the extent that plants and/or propagules (seeds, roots, etc.) are present in significant portions (greater than half) of the rock source and/or cannot be isolated by simple precautionary measures. • Treatment of weeds followed by subsequent inspections will be required as a condition of use.

Additional space for map, comments and/or recommendations:

Name of Rock Source:

Date of Inspection:

Document valid 1 year after inspection.

Weed List: 2022*

Species	Code	Common Name	Scientific Name	Abundance (circle one – use comments section to
VIMA		bigleaf periwinkle	<i>Vinca major</i>	Widespread / Scattered / Rare
AEPO		Bishop's weed, goutweed	<i>Aegopodium podagraria</i>	Widespread / Scattered / Rare
SILAA3		bladder campion (C)	<i>Silene latifolia</i> ssp. <i>alba</i>	Widespread / Scattered / Rare
POBO10		Bohemian knotweed (B _s)	<i>Polygonum x bohemicum</i>	Widespread / Scattered / Rare
BUDA2		butterfly bush (B)	<i>Buddleja davidii</i>	Widespread / Scattered / Rare
BRTE		cheatgrass	<i>Bromus tectorum</i>	Widespread / Scattered / Rare
BOOF		common borage	<i>Borago officinalis</i>	Widespread / Scattered / Rare
SYOF		common comfrey	<i>Symphytum officinale</i>	Widespread / Scattered / Rare
VETH		common mullein	<i>Verbascum thapsus</i>	Widespread / Scattered / Rare
VIMI2		common periwinkle	<i>Vinca minor</i>	Widespread / Scattered / Rare
TAVU		common tansy (B ₊)	<i>Tanacetum vulgare</i>	Widespread / Scattered / Rare
HEMA3		dames rocket	<i>Hesperis matronalis</i>	Widespread / Scattered / Rare
CEI3		diffuse knapweed (B ₊)	<i>Centaurea diffusa</i>	Widespread / Scattered / Rare
HISA4		European hawkweed (B ₊)	<i>Hieracium sabaudum</i>	Widespread / Scattered / Rare
TUFA		European coltsfoot (B ₊)	<i>Tussilago farfara</i>	Widespread / Scattered / Rare
BRSY		false brome (A)	<i>Brachypodium sylvaticum</i>	Widespread / Scattered / Rare
DIFU2		Fuller's teasel (B _s)	<i>Dipsacus fullonum</i>	Widespread / Scattered / Rare
LYVU		garden yellow loosestrife (B ₊)	<i>Lysimachia vulgaris</i>	Widespread / Scattered / Rare
POSA4		giant knotweed (B _s)	<i>Polygonum sachalinense</i>	Widespread / Scattered / Rare
GERO		herb Robert, stinky Bob (B _s)	<i>Geranium robertianum</i>	Widespread / Scattered / Rare
POPOS		Himalayan knotweed (B _s)	<i>Polygonum polystachyum</i>	Widespread / Scattered / Rare
POCU6		Japanese knotweed (B _s)	<i>Polygonum cuspidatum</i>	Widespread / Scattered / Rare
LYPU2		large yellow loosestrife	<i>Lysimachia punctata</i>	Widespread / Scattered / Rare
ARM12		lesser burdock	<i>Arctium minus</i>	Widespread / Scattered / Rare
HICA10		meadow (yellow) hawkweed (B ₊)	<i>Hieracium cespitosum</i>	Widespread / Scattered / Rare
CEDES		meadow knapweed (B ₊)	<i>Centaurea debeauxii</i>	Widespread / Scattered / Rare
HIAU		orange hawkweed (B ₊)	<i>Hieracium aurantiacum</i>	Widespread / Scattered / Rare
ORVU		oregano	<i>Origanum vulgare</i>	Widespread / Scattered / Rare
MEP		peppermint	<i>Mentha X piperita</i>	Widespread / Scattered / Rare
COMA		poison hemlock (B ₊)	<i>Conium maculatum</i>	Widespread / Scattered / Rare
CYSC4		Scot's broom (B _s)	<i>Cytisus scoparius</i>	Widespread / Scattered / Rare
CESTM		spotted knapweed (B ₊)	<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	Widespread / Scattered / Rare
PORES		sulfur cinquefoil (B ₊)	<i>Potentilla recta</i>	Widespread / Scattered / Rare
SEJA		tansy ragwort (B _s)	<i>Senecio jacobaea</i>	Widespread / Scattered / Rare
LAGA2		yellow archangel (B ₊)	<i>Lamiostrum galeobdolon</i>	Widespread / Scattered / Rare
CLVU		wild basil savory (B ₊)	<i>Clinopodium vulgare</i>	Widespread / Scattered / Rare
CIVU		bull thistle (C)	<i>Cirsium vulgare</i>	Widespread / Scattered / Rare
CIAR4		Canada thistle (C)	<i>Cirsium arvense</i>	Widespread / Scattered / Rare
HYPE		common St. Johnswort (C)	<i>Hypericum perforatum</i>	Widespread / Scattered / Rare
RULA		cutleaf blackberry (C)	<i>Rubus laciniatus</i>	Widespread / Scattered / Rare
ILAQB0		English holly	<i>Ilex aquifolium</i>	Widespread / Scattered / Rare
HEHE		English ivy (C)	<i>Hedera helix</i>	Widespread / Scattered / Rare
PRLA5		English laurel	<i>Prunus laurocerasus</i>	Widespread / Scattered / Rare
LALA4		everlasting peavine	<i>Lathyrus latifolius</i>	Widespread / Scattered / Rare
COAR4		field bindweed (C)	<i>Convolvulus arvensis</i>	Widespread / Scattered / Rare
LASY		flat pea	<i>Lathyrus sylvestris</i>	Widespread / Scattered / Rare
RUAR9		Himalayan blackberry (C)	<i>Rubus armeniacus</i>	Widespread / Scattered / Rare
DACA6		wild carrot (B)	<i>Daucus carota</i>	Widespread / Scattered / Rare
PHAR3		reed canarygrass (including ribbon grass) (C)	<i>Phalaris arundinacea</i>	Widespread / Scattered / Rare
DIFU		purple foxglove	<i>Digitalis purpurea</i>	Widespread / Scattered / Rare
HYRA3		hairy catsear (B)	<i>Hypochaeris radicata</i>	Widespread / Scattered / Rare
LEVU		oxeye daisy (B)	<i>Leucanthemum vulgare</i>	Widespread / Scattered / Rare
		other noxious weeds		Widespread / Scattered / Rare
		agricultural weeds		Widespread / Scattered / Rare
		undesirable ornamental plants		Widespread / Scattered / Rare
		other non-native weeds		Widespread / Scattered / Rare

*List incomplete; may include any ONF plant species of concern, noxious or non listed undesirable invasive ornamental, agricultural or other weedy species.

Widespread = Common in rock source and would be difficult to avoid, even with preventive measures. **Scattered** = Present to varying degrees in rock source, but can be isolated and avoided with preventive measures. **Rare** = One or very few individuals or small patches that are easily isolated and avoided with very simple or no preventive measures.

A, B, B select, B designate, C refer to state or county weed list designations-**bolded shows control is mandated by WA state law.**

Name of Rock Source:

Date of Inspection:

Document valid 1 year after inspection.



Clallam County, Washington

BACKPACK CALIBRATION FORM

DATE:

1 MEASURE AREA OF TEST COURSE

LENGTH =
 WIDTH =

LENGTH X WIDTH = SQ FT

2 MEASURE AMOUNT OF MATERIAL APPLIED OVER TEST AREA

a. TIME TO COVER ENTIRE AREA SECONDS

b. NOZZLE OUTPUT (catch can time-same as test area time) OUNCES

$\frac{\text{OUNCES}}{128} = \frac{\text{42}}{128} = \text{0.328}$ GALLONS APPLIED

3 CALCULATE CALIBRATION RATE:

$\frac{\text{GALLONS APPLIED}}{\text{SQUARE FEET}} = \frac{\text{0.328}}{\text{342.3}} \times 1000 = \text{0.959}$ GALLONS PER 1,000 SQUARE FEET (GPK)

GALLONS PER ACRE = X 43.56 = (GPA)

DATA RECORD

TESTED BY:

NOZZLE:
 SPRAYER:
 OTHER:

APPENDIX K: CALIBRATION METHODOLOGY

Followed Method 2

Method 1-Hand Sprayer Calibration Method

It is just as important to calibrate manual sprayers as it is to calibrate power sprayers. Generally, these sprayers are calibrated by determining the amount of liquid required to adequately cover the intended target.

Step 1: Area Measurement Measure and mark off an area 20 feet by 50 feet (1,000 square feet). Practice spraying the area with water. Spray the area twice for a uniform application. Walk in one direction, swinging the nozzle back and forth.

When you finish, go over the area again, this time walking at a right angle to the direction you walked before. For example, walk from north to south for the first application, and from east to west for the second.

Step 2: Liquid Measurement Using water, fill the sprayer to a known mark and spray the area. Refill the sprayer, measuring the amount of water required to fill to the original level. The amount of water needed to refill the tank is the amount used per 1,000 square feet.

Example: One gallon of water was put in a 1-gallon hand-operated sprayer. After spraying a 100- square-foot test area, it was determined that 8 ounces of water were needed to refill the tank to the 1 gallon mark. At this application rate, how many square feet of carpet could be treated with 1 gallon?

$$\begin{aligned} \text{spray used} &= 8 \text{ oz. on } 100 \text{ sq. ft. } 1 \text{ gal. water} = 128 \text{ oz. } 128 \text{ oz.} \div 8 \text{ oz.} = 16. \\ &16 \times 100 \text{ sq. ft.} = 1,600 \text{ sq. ft.} \end{aligned}$$

Thus, 1,600 square feet of carpet could be treated with 1 gallon of liquid.

Change Delivery Rate

If your sprayer is delivering less than or more than enough spray, you can change the rate by using one of three methods:

- Change the pump pressure. Lower pressure pushes less spray out of the nozzle; higher pressure pushes more spray out. This is not the best method because a pressure change will change the nozzle pattern.
- Change the speed of the sprayer. Slower speed leaves more spray along the target area; faster speed means less spray is left behind. Doubling the speed you move cuts the application rate in half. Changing the speed is practical for small adjustments of the application rate.
- Adjust each nozzle's hole size by changing the nozzle's disk or change the entire nozzle. This is the preferred method of adjusting the application rate. By increasing the size of the hole in the disk or nozzle, you increase the application rate.

Method 2-Calibration of Small Volume & Hand Held Sprayers

The procedure for calibrating a hand-held or backpack sprayer is simple. Just follow these steps: 1. Measure out an 18- x 18- foot strip in the area similar to the one you will be spraying.

2. Add water to your tank and in a uniform manner, spray this area with water and record the amount of seconds it takes. Do this 2 or 3 times making sure that you keep your pattern and pressure constant. Take the average.

3. Measure the amount of water delivered to this strip by spraying into a bucket for the same amount of time as in step #2. Also keep your pressure the same as when you sprayed the strip.

4. The amount of water collected in fluid ounces equals the output or GPA. (Ounces = GPA)

This method works because of the relationship between a square that is 128th of an acre and the fact that there are 128 ounces in a gallon.