

# CLALLAM COUNTY ROAD DEPARTMENT Annual Report 2023



Biological



Physical



Chemical



Cultural



Preventative



Pollinator  
Friendly

Prepared by **Clallam County Noxious Weed Control Board**

Available online: <https://www.clallamcountywa.gov/1042/Roadside-Vegetation-Management>

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## EXECUTIVE SUMMARY

### Program Goal:

This program ensures Clallam County complies with noxious weed laws of Washington State. The goal of this project is to shift roadside vegetation to natural, site appropriate plant communities. The goal is to be accomplished by reducing existing weed populations and preventing the establishment of new infestations across the county.

### Program Overview:

The Clallam County Integrated Weed Management Plan was created to help the County efficiently comply with its noxious weed control obligations. Integrated Weed Management (IWM) is a coordinated decision-making process that uses the most appropriate weed management methods and strategies, along with a monitoring and evaluation system, to achieve roadside maintenance goals and objectives in an environmentally and economically sound manner. The project identifies high priority targets to contain the worst infestations and prevent the spread of noxious weeds.

### 2023 Project Overview:

This year we continued to integrate weed management into Road Department activities. We began treatments as early as weather allowed and explored new treatment methods in pits. We performed manual control while doing weed surveys whenever possible. Our roadside treatments were observed to be effective and well received by the public. Where treatments have occurred, overall weed densities are declining. We monitored, maintained, and augmented pollinator-friendly native plantings that began six years ago in 2017; we applied lessons learned, and expanded our plantings at some 2018 and 2019 started sites.

## 2023 PROJECT ACCOMPLISHMENTS:

### Program Development:

- This treatment season we prioritized regulated weeds on Priority 1 roads due to staff shortages during the treatment season. Many Priority 2 roads were surveyed and moved to Priority 3 for 2024 based off of the level of weed infestation.
- At four county pits (McInnes, Kirner, Blyn and Morse Creek), we set up monitoring plots to determine the effectiveness of herbicides applied at different times of the year for treating poison hemlock.
- Expanded pollinator planting and watering program; monitored, maintained, and augmented Deer Park Overpass and Old Olympic Highway/ODT projects. This has created great volunteer opportunities for the public. We acquired multiple water tanks and battery powered pumps to make watering events easier for the volunteers. Clallam County Sheriff's Department has been much appreciated by keeping Deer Park Overpass rest area parking lots safe and welcoming during our volunteer events.

### County Roadside:

- Controlled weeds on a total of **103** County Roads: **62** roads manual only, **19** roads manual/herbicide, and **22** roads herbicide only. **177** roads were surveyed and determined not to need treatment in 2023.
- Controlled **30** species, including **15** regulated species, over a total of **129** miles and **242** acres, including retreatments.
- Performed **139** treatments; **71** complete whole-road treatments and **68** spot/retreatments.
- Herbicide was applied on **41** individual roads with a total of **2.07** gallons applied over **76** miles and **147** acres.
- Manually treated **151 acres** and removed **4038** plants.
- More than **12** individuals interacted with staff during treatments.

### County Rock Sources/Spoil Disposal Sites (Pits):

- Controlled **18** County Pits: **4** pits manual only, **10** pits manual/herbicide, and **4** pits herbicide only. **3** pits were surveyed and determined to not need treatment in 2023.
- Controlled a total of **26** species including **10** regulated species.
- Performed **48** treatments: **18** initial treatments and **33** retreatments, over a total of **300** acres (includes retreatments).
- Herbicide was applied within **14** County Pits, with a total of **1.92** gallons of liquid herbicide applied over **195** acres (includes retreatments).
- Manually treated **192** acres and removed **2722** plants.

#### County Special Sites:

- Controlled **8** Special Sites: **3** manual only, **1** manual/herbicide, and **4** herbicide only.
- Controlled a total of **11** species including **4** regulated species over a total of **10.3** acres (includes retreatments).
- Performed **11** treatments, including **3** retreatments.
- Herbicide was applied on **5** unique sites with a total of **0.51** gallons of liquid herbicide applied over **6.75** acres.
- Manually treated **6.35** acres and removed **1419** plants.

#### Roadside and Pollinator Plantings:

- Monitored, maintained, and/or augmented **four** projects - **Kugel Creek (0.5ac)**, **Old Olympic Hwy/ODT (0.25ac)**, **Sequim-Dungeness Way/ Woodcock (0.1ac)**, and **Deer Park Overpass (2.6ac)**.
- Continued planting at the Deer Park Overpass pollinator enhancement site, adding mainly herbaceous perennials. Planting at this site will extend into January of 2024.
- Incorporated **62** native shrubs and forb species with sequential bloom periods.
- Planted a combined total of **8,569** plants over approximately **3.45** acres between the four sites.
- Coordinated with Clallam Conservation District and Master Gardeners to recruit volunteers; **7** volunteers donated approximately **51** hours to water the pollinator sites over 13 weeks and **13** volunteers donated approximately **42** hours to plant multiple sites over **3** volunteer events in November and December.
- Clallam County Sheriff's Department has been much appreciated by keeping Deer Park Overpass rest area parking lots safe and welcoming during our volunteer events.
- The District 2 Roads crew is also appreciated for disposing of the erosion control cloth after removal on the Deer Park slopes.

#### Program Monitoring, Evaluation and Reporting:

- The Roadside Weed Monitoring Team (RWMT) assessed 29% of roads where herbicide was applied (**9%** of total roadside treatments) and reported **77%** average efficacy and **73%** efficacy for weeds of emphasis treatments. **(See Appendix K)**.
- Overall, herbicide treatments were determined to be **"good"**. Treatments of weeds of emphasis were determined to be **"fair"**.
- No off-target damage was found.

#### **OBSERVATIONS AND RECOMMENDATIONS:**

- Wild Chervil has been found at two new locations in Clallam County in 2023 at the top of Blue Mountain Rd and near Joyce. It was recorded in 2016 off Hwy 101 in Blyn and controlled.
- Kochia was found alongside Highway 101 from milepost 252 to 267. WSDOT was extremely rapid in their control of the infestation and CCNWCB will continue to monitor and support WSDOT in their control efforts. We did not find any infestations on county roadways but will continue to look for plants in the future.
- Wild Basil Savory has been found on multiple new roads in Clallam County; we have been able to treat the current infestations and will continue to survey the locations to ensure eradication.
- European hawkweed is still a concern at the ODT crossing in the Sol Duc. CCNWCB found more infestations of European hawkweed along Hwy 101 (MP 213.58 to MP 218.45).. We will continue to work with WSDOT in limiting the spread of this weed.
- Italian thistle is an aggressive Class A noxious weed whose range and seedbank has been dramatically reduced from a combination of frequent monitoring and treatments. We are continuing to monitor known infestations and surrounding areas.
- For 2023, we reviewed many roads for their 2024 priority category based off their weed population. The program added a large amount of new Priority 2 roads in 2022 without assessing their weed infestation levels. We will evaluate priority categories during the 2024 season to update the IWM plan in 2025.
- Poison hemlock growing in County pits did respond well to early season chemical treatments, but due to multiple germination cycles throughout the year, it will need continued treatments and monitoring all year long. We are also adjusting our treatment methods and timing to be as effective as possible.
- Retreatments on county roads are a good way to monitor our success. Retreatments also provide opportunities for selective treatments that target specific weeds at different times of the year.

- Ensuring clean materials for county projects reduces the potential for spreading noxious weeds and is our most important and effective prevention tool. Weed-Free rock sources continue to keep the county's weed seedbank on the decline.
- Volunteers at the Deer Park Overpass pollinator planting site greatly helped with maintenance obligations. Dedicated long term volunteers and focusing on the most visible and easily accessible sites greatly improved watering efficacy.
- Volunteer opportunities to participate in pollinator habitat enhancement at the Deer Park Overpass and the ODT Berm are a great way to increase awareness of our pollinator program and to expedite plant installation. Clallam County Sheriff's Department has been much appreciated by keeping Deer Park Overpass rest area parking lots safe and welcoming during our volunteer events.
- Our partnership with the Roadside Weed Management Team (RWMT) allowed us to reach out to other agencies to help monitor current weed control practices and help create best management practices for reaching weed goals. In 2022 the RWMT, CCNWC and WSDOT met with PUD staff about Scotch broom mowing treatments on WSDOT Right-of-Way along Highway 101 west of Lake Crescent. RWMT began the first year of inventorying plant communities along that easement. The goal is to recommend increasingly effective management practices that reduce the amount of Scotch broom that goes to seed. This 21 mile long section was vehicle surveyed for significant changes this year, and we will continue to support the research in coming years.

## PROJECT SUMMARY

### Program Goal:

This program ensures Clallam County Public Works properties and Right of Ways are compliant with noxious weed laws of Washington State. The goal of this project is to shift roadside vegetation to, site appropriate plant communities with minimal or nonexistence of noxious weeds. As stewards of county owned land, the Clallam County Noxious Weed Control Board controls noxious and invasive weeds effectively and efficiently in conjunction with the Road Department to reduce existing weed populations and prevent the establishment of new infestations throughout the county. Invasive and noxious weeds negatively impact agricultural and forestry production, property value, as well as water flow and native plant populations. Roadsides are high priorities for control of weed species because they act as conduits for the spread of weeds between many private and public land parcels. County rock sources/soil disposal sites can act as weed sources and are additional high priorities for control.

### Program Overview:

The Clallam County Integrated Weed Management Plan (IWM) was created to help the County efficiently comply with its noxious weed control obligations. Integrated Weed Management is a coordinated decision-making process that uses the most appropriate weed management methods and strategies, along with a monitoring and evaluation system, to achieve roadside maintenance goals and objectives in an environmentally and economically sound manner. The IWM plan dictates that each weed problem is addressed from the perspective of all available control options and that the selected control options represent the best treatment for the long-term stability of the desired plant community, while always considering the impact to the local community members.

Weed control methods include biological, chemical, cultural, physical, and preventative measures. This project uses the most effective method or a combination of methods within the IWM decision-making framework to achieve greatest roadside service levels at the lowest life-cycle costs. With more than five hundred miles of country roads there are a variety of weed problems as well as control opportunities.

To effectively shift the roadside vegetation to self-sustaining, site-appropriate communities the project identifies high priority targets that contain the worst infestations of noxious weeds and then reduces the population. High priority targets include infestations of regulated noxious weeds and invasive species of special concern on roadsides, and county rock sources and spoil disposal sites (pits) that act as sources for weed dispersal. The project aims to systematically reduce weed abundance and promote desirable vegetation in the future. As the project matures and the number of high priority targets are reduced, the number of chemical and physical treatments will also be reduced and balanced by cultural and preventative methods. We strive to increase the knowledge and ability to identify noxious weeds within Clallam County; from civilian and employee reporters and encourage people to come to us with questions.

Weed control work on the County Right-of-Way and pits is implemented by the Clallam County Noxious Weed Control Board (CCNWCB) and through partnerships with other municipalities, non-governmental agencies, and volunteers. Partnerships include the Clallam County Road Department, WSU Extension office, Clallam Conservation District, Broom Busters, Clallam County Sheriff Department's Clallam Roadside Ecological Workers (C.R.E.W.), Olympic Discovery Trail Volunteers and the 10,000 Years Institute. Partnerships add efficiency and overall value to the project by promoting collaboration and public engagement, recruiting larger work forces, and reducing travel time across the county.

## 2023 Project Description:

In this seventh year of the IWM Program we further integrated weed management into Road Department activities. We facilitated communication between multiple departments and continued implementation of pit plans.

Understaffing, staff turnover, and staff training led to a decrease in treatment productivity. The reduction of our seasonal crew was an obstacle to completing our planned work as well, which reduced resources available to the Noxious Weed Control Board to implement the roadside weed management plan. The RWMT independently reviewed treatments to assess efficacy and potential negative impacts. Their report with the results of their observations can be found in Appendix K. Roadside treatments were observed to be effective and overall public perception of the program was positive.

The Roadside Weed Management Team (RWMT) continues to develop the Strategic Pollinator Assessment map which identifies pollinator corridor potential on County roadsides or managed lands. CCNWCB staff and volunteers expanded plant diversity and physical coverage at two pollinator friendly plantings with locally sourced native plants.

## 2023 PROJECT ACCOMPLISHMENTS:

### Program Development:

- Completed or progressed with most high priority implementation tasks outlined in the Integrated Weed management Plan (IWMP).
- Continue to update pit management plans and associated weed treatment. At four county pits (McInnes, Kirner, Blyn and Morse Creek), we set up monitoring plots to determine the effectiveness of herbicides applied at different times of the year for treating poison hemlock.
- Encourage volunteer outreach through Master Gardeners and Clallam Conservation District.
- Expanded pollinator planting and watering program; monitored, maintained, and augmented Deer Park Overpass and Old Olympic Highway/ODT pollinator enhancement projects.

### Program Implementation

#### County Roadsides:

- Controlled weeds on a total of **103** County roads for a total of **139** treatments; **62** roads manual only, **19** roads manual/herbicide, and **22** roads herbicide treatment only.
- Performed **71** complete whole-road treatments and **68** spot/retreatments.
- **177** roads were surveyed and determined not to need treatment.
- Treated **129** miles (including retreatments/spot treatments) (**241** acres examined).
- Applied **2.07** gallons of herbicide on **41** individual roads (**76** miles, including retreatments/ spot treatments).
- Controlled **30** species – including **15** regulated noxious weed species.
- Manually removed **4038** plants from **151** acres of roadside.
- More than **12** individuals interacted with staff during treatments.

#### County Rock Sources/Spoil Disposal Sites (Pits):

- Controlled weeds on a total of **18** County Pits for a total of **51** treatments; **4** pits manual only, **10** pits manual/herbicide, and **4** pits herbicide only.
- **3** pits were surveyed and determined to not need treatment.
- Treated **300** acres, including retreatments (**462** acres examined).
- Applied a total of **1.92** gallons of liquid herbicide over **195** acres.
- Controlled **26** species including **10** regulated species within **300** acres, both chemically and manually.
- Manually removed **2722** plants from **192** acres.

#### County Special Sites:

- Controlled weeds on **8** County Special Sites for a total of **11** treatments; **3** sites manual only, **4** sites herbicide only and **1** site treated both manually and with herbicide.
- Treated **10.3** acres, including retreatments (**14** acres examined).
- Herbicide was applied on **5** unique sites with a total of **0.51** gallons of liquid herbicide applied over **6.75** acres.
- Controlled **11** species, including **2** regulated species.
- Manually removed **1419** plants from **6.35** acres.

#### Strategic Pollinator Plantings:

- Monitored and maintained **2** sites (**Old Olympic Hwy/ODT**, and the **Deer Park Overpass Pollinator Habitat Enhancement**)
- Continued photo monitoring locations at the Deer Park Overpass site to document plant success and growth over time.
- Established a devoted volunteer group dedicated to water plantings to ensure healthy and growing plants at Deer Park Overpass and the ODT.
- Held volunteer events to assist with pollinator habitat planting. **Nineteen** people attended, contributing approximately **93** hours of time planting and watering.
- Augmented four projects (**Kugel Creek, Old Olympic Hwy/ODT, Sequim-Dungeness Way/ Woodcock, and Deer Park Overpass**).
- Increased the diversity and saturation of the Old Olympic Highway/ODT planting site, adding mainly shrubs and herbaceous perennials.
- Continued plantings at the Deer Park Overpass planting site, adding mainly herbaceous perennials.
- Deer Park Overpass species are being shifted towards high elevation native plants, that should have better success in this nutrient deficient location.
- Planted a combined total of **8,569 plants** over **four** projects. **Fifteen** new species of pollinator plants were added in 2023, with a total of **62** unique species planted at both sites.

#### **Program Monitoring, Evaluation and Reporting**

- The RWMT assessed 29% of roads where herbicide was applied (**9%** of roadside treatments) and reported **77%** average efficacy and **73%** efficacy for weeds of emphasis.
- Overall, herbicide treatments were determined to be **“good”** (See Master Gardener (MG) report in Appendix K).
- Treatments of weeds of emphasis were determined to be **“fair”**.
- **No off-target** damage was found, indicating that spot-spraying was precise and careful.
- The RWMT met with the noxious weed coordinator and one of the County Noxious Weed Board members to discuss the WSDOT Right-of-Way project and goals.

## MAPS: PROJECT AREAS AND TARGET ROADS

**Map 1** shows an overview of all roadside treatment activities completed by Clallam County Noxious Weed Control Board and partners in 2023. **Maps 2 – 8** show treatment activities in focus areas in East, Central and West Clallam County. Roads, pits, and Special Sites that received treatment are listed in Appendixes C-E.

### Map Description:

The top priority of the 2023 IWM Plan was the control of regulated noxious weeds. Regulated weeds are limited in distribution; and control to contain or eradicate infestations is required by state law (RCW 17.10). The maps include data points for all treatment activities to control regulated weeds except those that occurred in county pits. Data points represent discrete infestations but are not representative of scale; a point may represent the treatment of a single plant or more expansive infestations.

Non-regulated weeds, such as Scotch broom and Canada thistle, are more widely distributed across the county. Treatment activities for widespread, non regulated noxious weeds varied by location, species and available resources. The maps generally do not include data points for treatment activities of non-regulated weeds; however, comprehensive tabular data of treatment activities and species treated on each road can be found in Appendix C.

### Legend Description:

The Legend for **Maps 2 – 8** includes symbols only for **Species Treated** on roadsides in the areas encompassed in each specific map. Together, maps 2 – 8 show all treated species with spatial data recorded in 2023. All county pits shown on the map were surveyed in 2023. See Appendix E for which Special Sites received treatment.

### Map List:

#### **Clallam County**

Map 1. 2023 Clallam County Roadside Treatment Overview

#### **East Clallam County**

Map 2. Blyn – Miller Peninsula Treatment Area

Map 3. Sequim – Dungeness Valley Treatment Area

Map 4. South Sequim Treatment Area

#### **Central Clallam County**

Map 5. Port Angeles Treatment Area

Map 6. Joyce Treatment Area

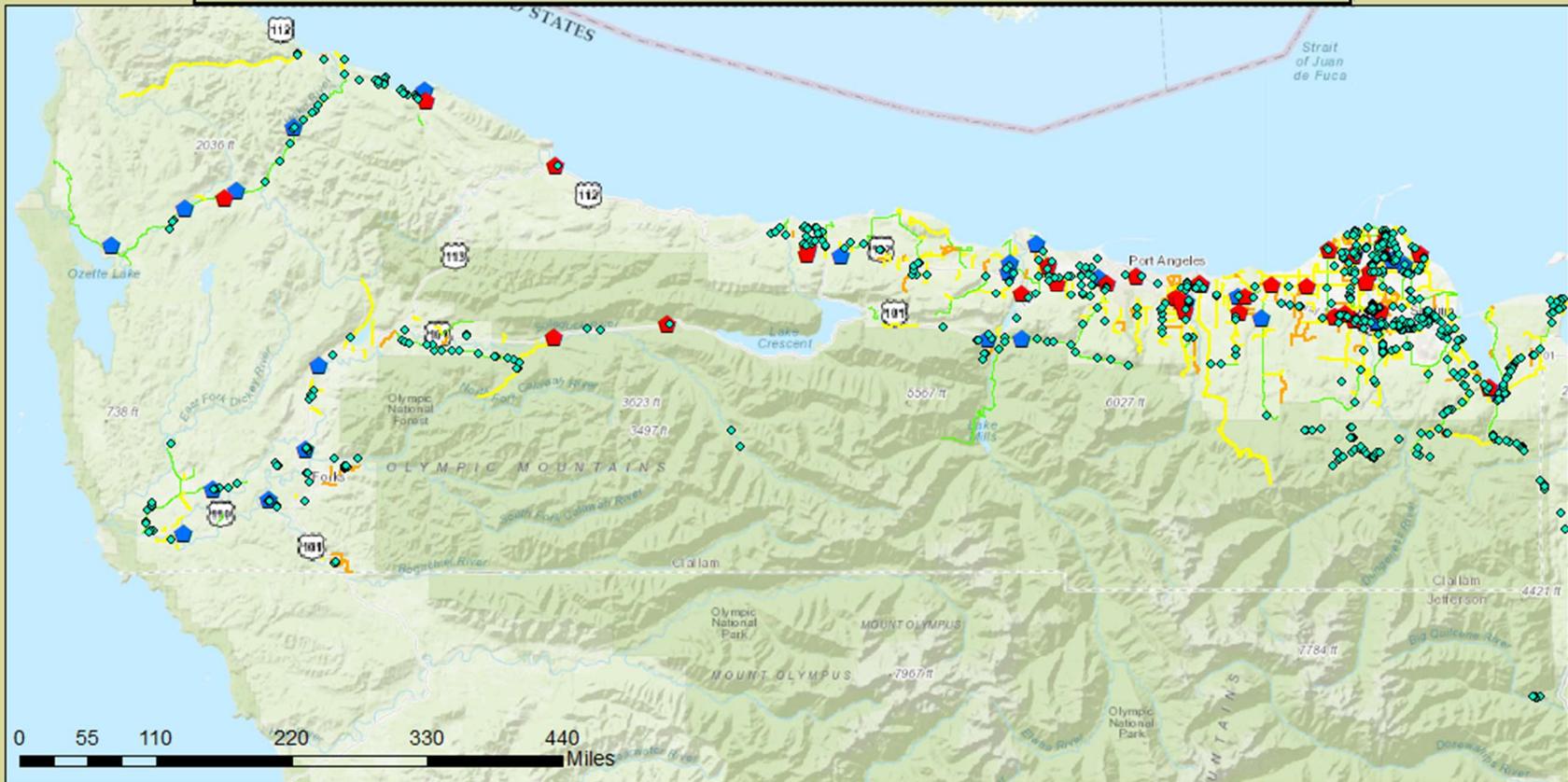
#### **West Clallam County**

Map 7. Hoko – Clallam Bay Treatment Area

Map 8. Forks Treatment Area

# MAP 1. 2023 CLALLAM COUNTY ROADSIDE TREATMENT OVERVIEW

## Clallam County Roads Treatment Overview 2023



**Legend**

- ◆ 2023 Weed Points
- ◆ Special Sites
- ◆ County Pits

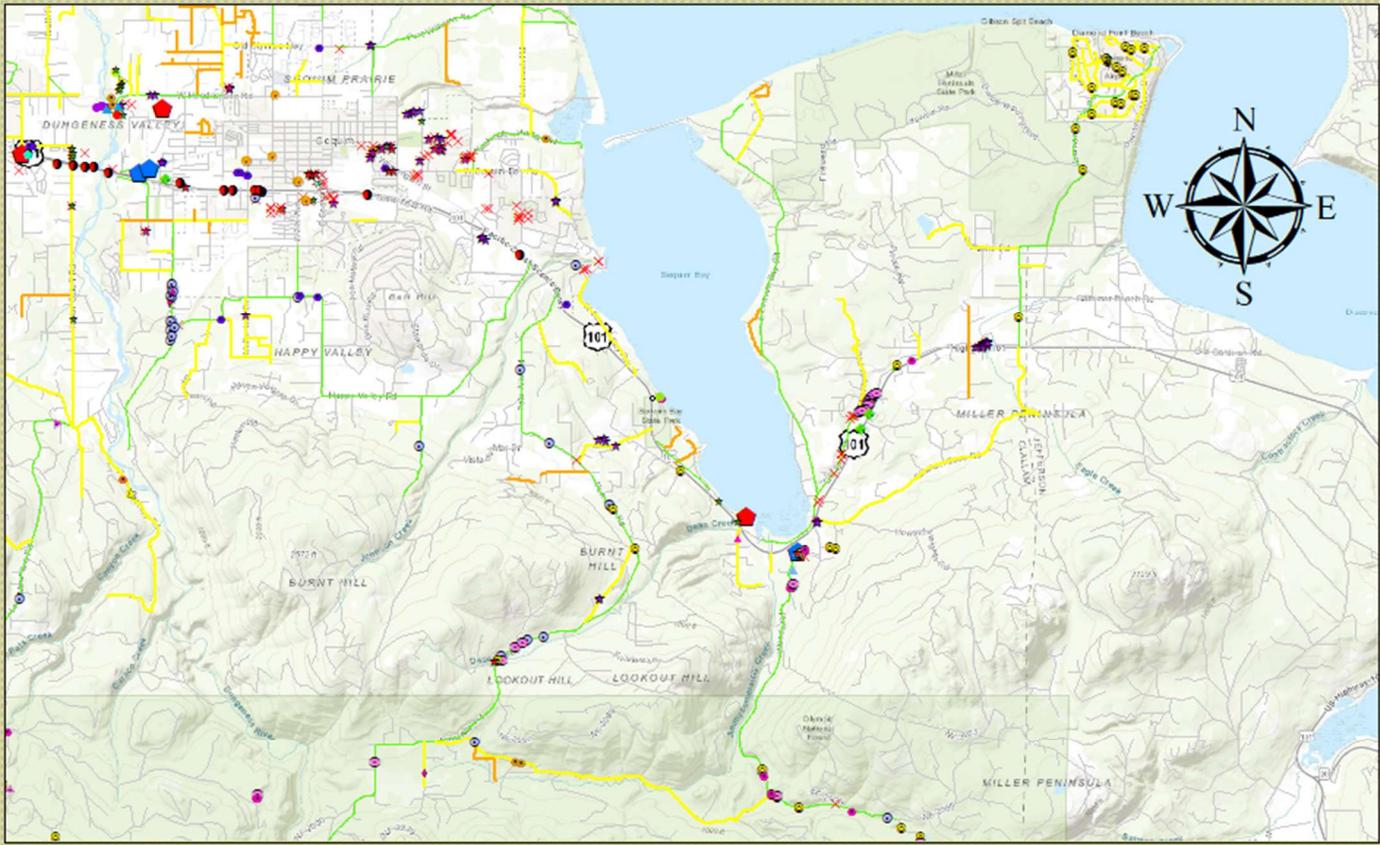
**Priority Roads**

- Priority 1
- Priority 2
- Priority 3



# MAP 2. BLYN – MILLER PENINSULA TREATMENT AREA

## Blyn-Miller Peninsula Treatment 2023



2023 Weed Points	
Common Names	
●	Cherry laurel
●	English holly
●	English ivy
●	European mountain ash
▲	Himalayan blackberry
▲	Mint
▲	Moleplant
▲	Mullen
▲	Mullen
●	Oregano
▲	Perennial peavine
●	Russian thistle
▲	Scotch broom
▲	butterfly bush
●	common fennel
★	common tansy
★	common teasel
★	hairy willow herb
●	herb-Robert
●	hoary alyssum
○	knapweed, meadow
●	knapweed, spotted
●	knotweed, Bohemian
●	knotweed, Himalayan
●	kochia
×	poison hemlock
○	shiny geranium
●	spotted jewelweed
★	spurge laurel
◆	sulfur cinquefoil
●	tansy ragwort
●	wild basil, basil savory
●	yellow archangel



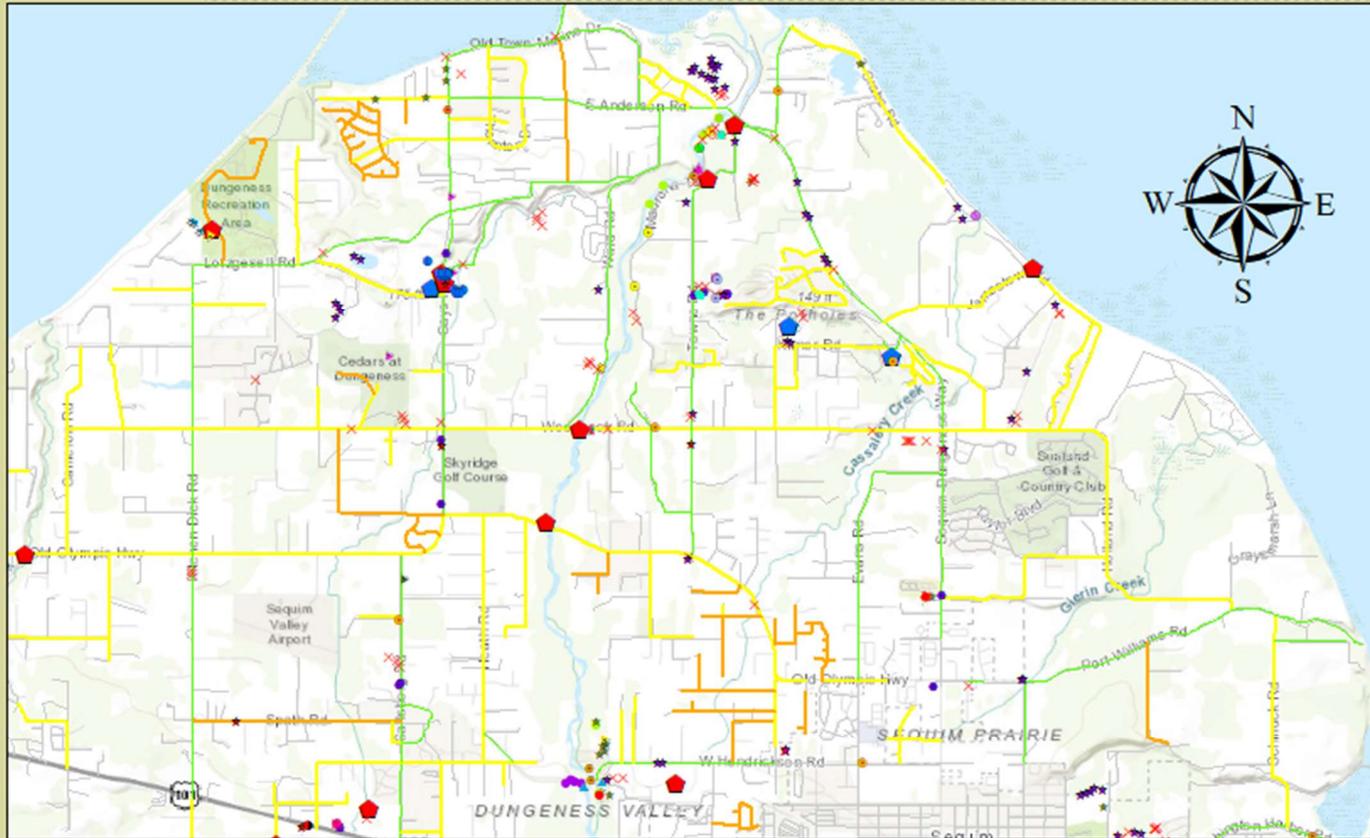
Legend	
◆	Special Sites
◆	County Pits

Priority Roads		
—	Priority 1	—
—	Priority 2	—
—	Priority 3	—



# MAP 3. SEQUIM – DUNGENESS VALLEY TREATMENT AREA

## Sequim-Dungeness Treatment Area 2023

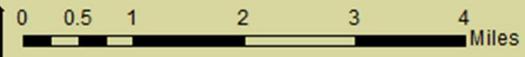


2023 Weed Points	
Common Names	
●	Cherry laurel
●	English holly
●	English ivy
●	European mountain ash
●	Field mustard
●	Himalayan blackberry
●	Italian arum
▲	Mullien
○	Mustard/turnip hybrid
▲	Perennial peavine
▲	Scotch broom
▲	Senecio
▶	bugloss, annual
▶	butterfly bush
○	common fennel
★	common tansy
★	common teasel
★	garlic mustard
★	hairy whitetop
●	hoary alyssum
○	knapweed, meadow
●	knapweed, spotted
●	knotweed, Bohemian
●	knotweed, Himalayan
●	kochia
×	poison hemlock
★	spurge laurel
●	this tie, Canada
●	this tie, Italian
●	this tie, Scotch
●	this tie, bull
○	yellow archangel



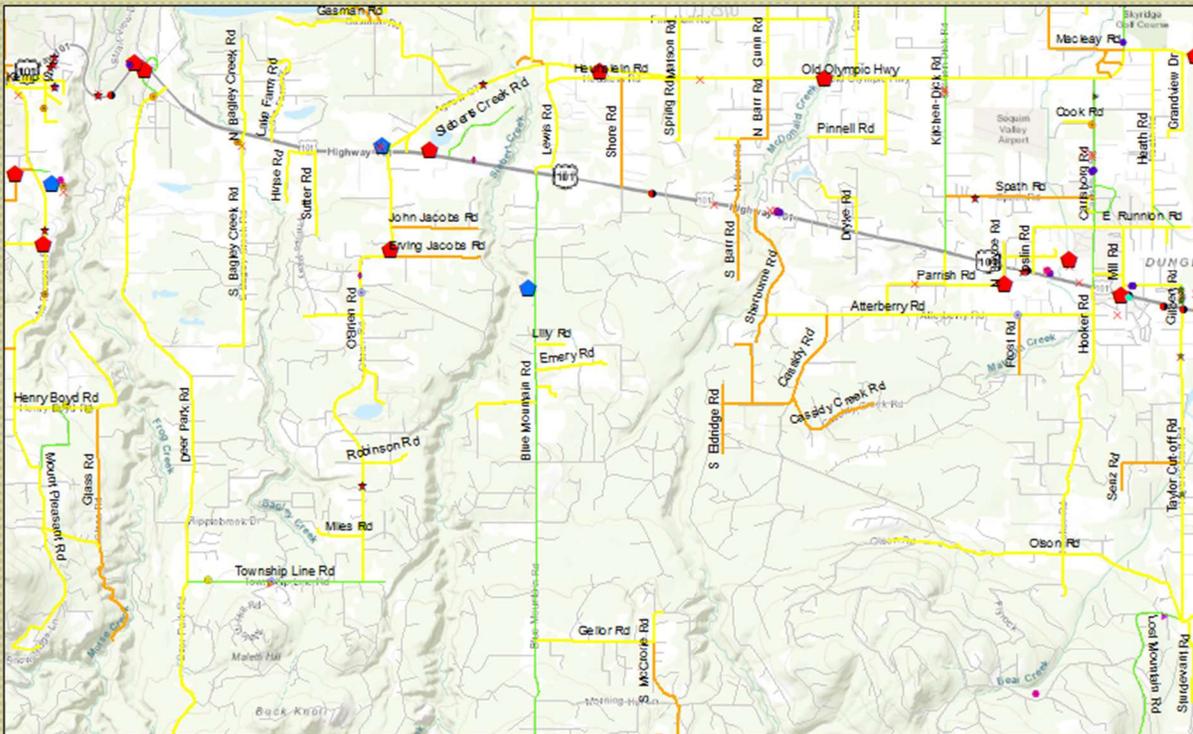
Legend	
●	Special Sites
●	County Pits

Priority Roads		
—	Priority 1	—
—	Priority 2	—
—	Priority 3	—



# MAP 4. SOUTH SEQUIM TREATMENT AREA

## South Sequim Treatment Area 2023



### 2023 Weed Points

**Common Names**

- ▶ bugloss, annual
- ▶ butterfly bush
- ▶ common fennel
- ★ common tansy
- ▶ hawkweeds: All nonnative species and hybrids of the meadow subgenus
- ▶ herb-Robert
- ▶ hoary alyssum
- ▶ knapweed, meadow
- ▶ knapweed, spotted
- ▶ knotweed, Bohemian
- ▶ kochia
- × poison hemlock
- ▶ spurge laurel
- ▶ sulfur cinquefoil
- ▶ tansy ragwort
- ▶ thistle, Scotch



**Legend**

- ▶ Special Sites
- ▶ County Pits



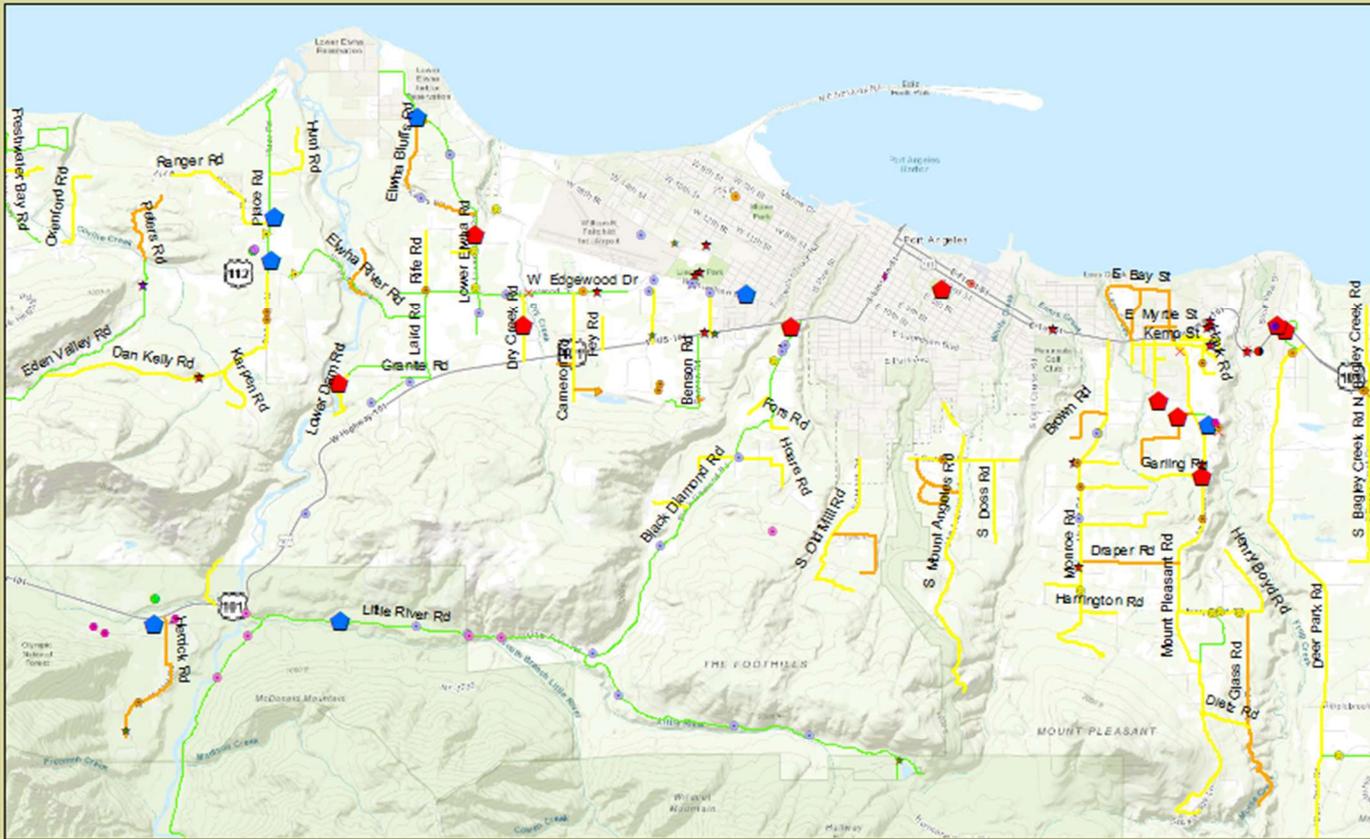
**Priority Roads**

- Priority 1
- Priority 2
- Priority 3



# MAP 5. PORT ANGELES TREATMENT AREA

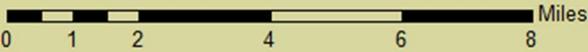
## Port Angeles Treatment Area 2023



2023 Weed Points	
Common Names	
▲	Perennial peavine
●	Scotch broom
○	common fennel
★	common tansy
☆	common teasel
▶	hawkweed, orange
◆	herb-Robert
◊	knapweed, meadow
●	knapweed, spotted
○	knotweed, Bohemian
●	knotweed, Japanese
●	kochia
×	poison hemlock
★	spurge laurel
◆	sulfur cinquefoil
○	tansy ragwort
●	thistle, Canada
●	thistle, bull
◆	wild basil, basil savory
○	yellow archangel



Legend	
●	Special Sites
●	County Pits

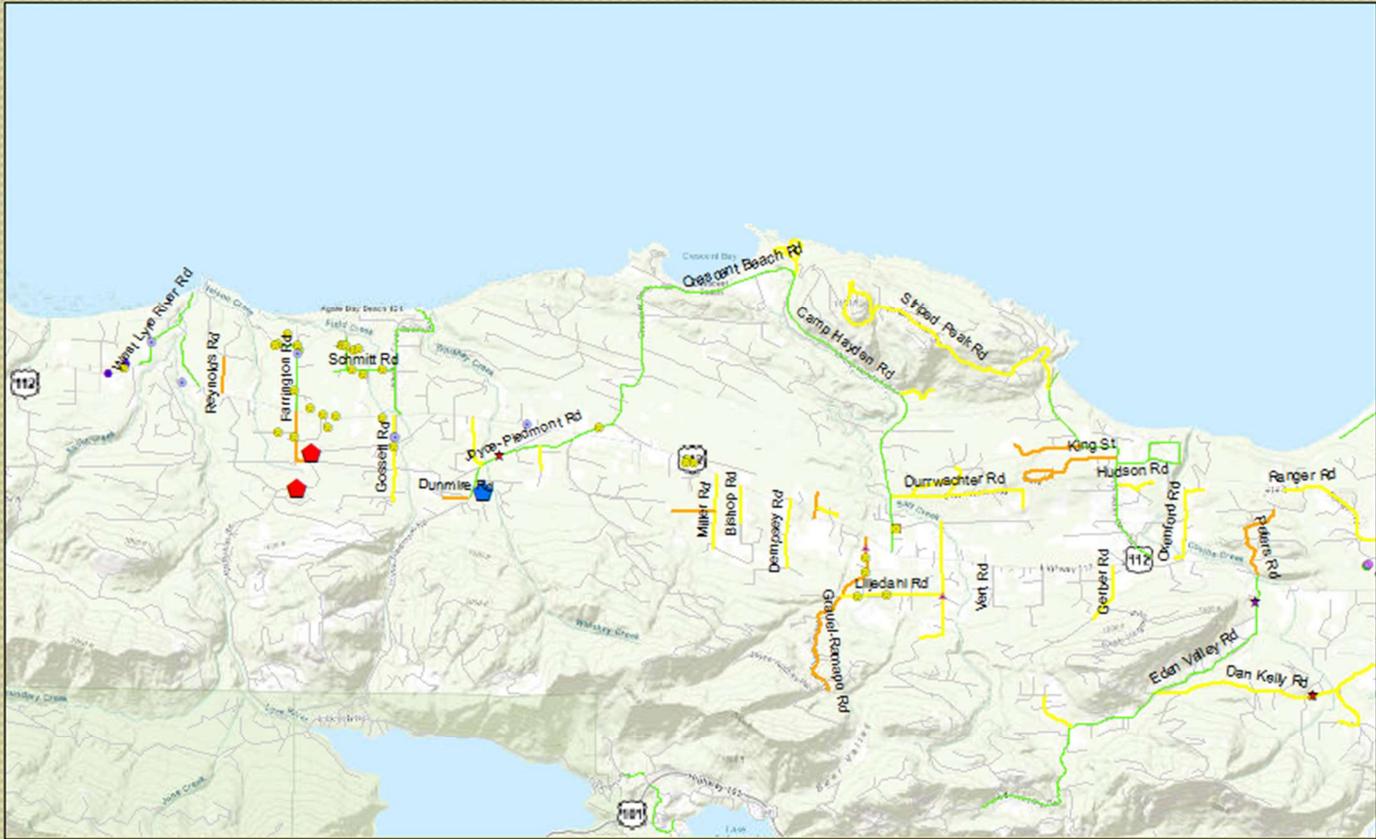


Priority Roads		
—	Priority 1	—
—	Priority 2	—
—	Priority 3	—



# MAP 6. JOYCE TREATMENT AREA

## Joyce Treatment Area 2023



### 2023 Weed Points

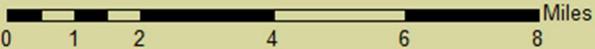
#### Common Names

- ▲ Perennial peavine
- ◆ Scotch broom
- ★ common tansy
- ☆ common teasel
- knapweed, meadow
- knapweed, spotted
- knotweed, Bohemian
- tansy ragwort
- thistle, Canada
- thistle, bull
- ◆ wild chervil
- ◆ yellow archangel



**Legend**

- Special Sites
- County Pits



**Priority Roads**

- Priority 1
- Priority 2
- Priority 3



MAP 7. HOKO – CLALLAM BAY TREATMENT AREA

Hoko-Clallam Bay Treatment Area 2023



2023 Weed Points

Common Names

- ▶ hawkweed, orange
- ⊙ knapweed, meadow
- knotweed, Bohemian
- knotweed, Japanese
- knotweed, giant
- ⊙ tansy ragwort
- ✿ yellow archangel



**Legend**

- ◆ Special Sites
- ◆ County Pits



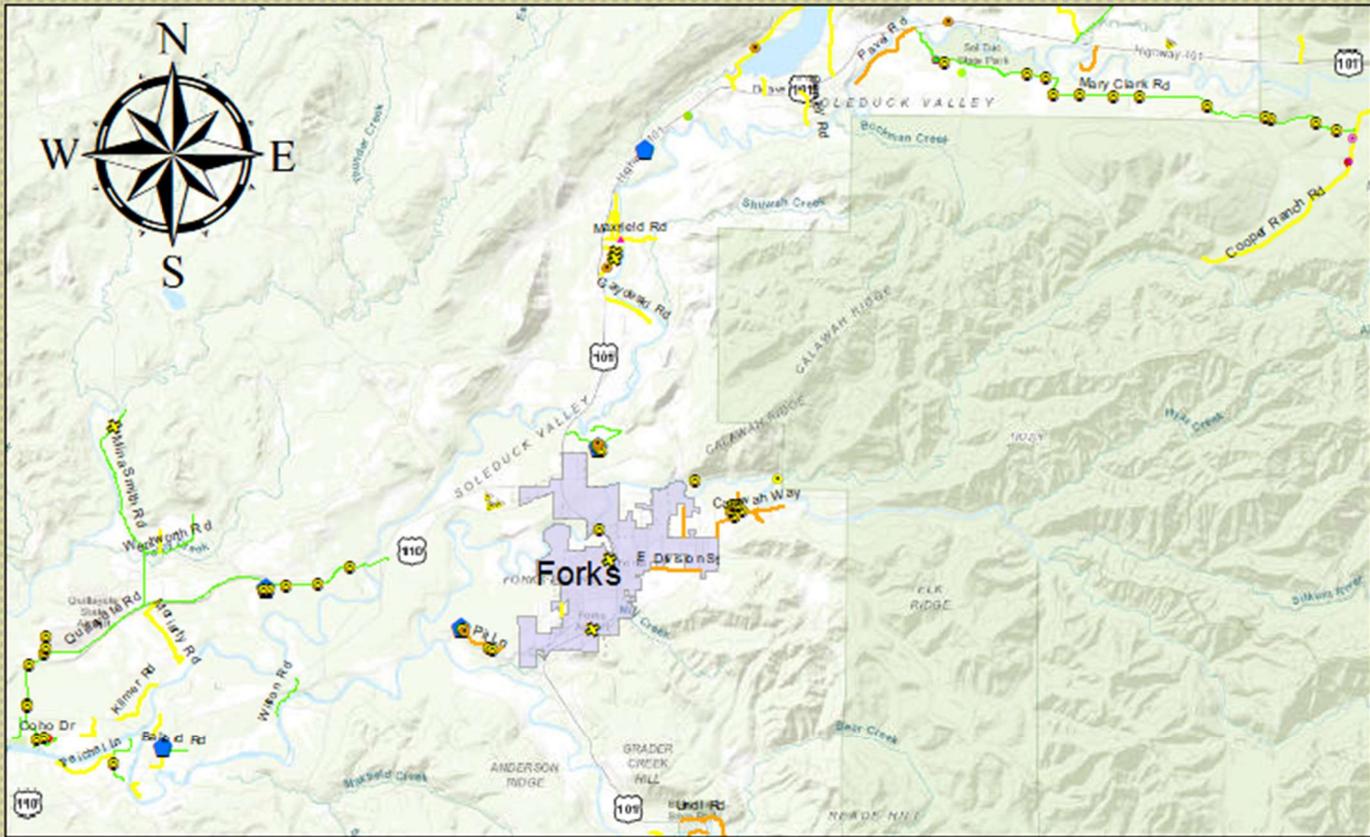
**Priority Roads**

- Priority 1
- Priority 2
- Priority 3



# MAP 8. FORKS TREATMENT AREA

## Forks Treatment Area 2023



**Legend**

- ◆ Special Sites
- ◆ County Pits

**Priority Roads**

- Priority 1
- Priority 2
- Priority 3

### 2023 Weed Points Common Names

- Cherry laurel
- English holly
- English ivy - four cultivars only
- ◆ Himalayan blackberry
- ▲ Lawnweed? Solvia spp.
- ▶ Scotch broom
- ▶ hawkweeds: All nonnative species and hybrids of the meadow subgenus
- ◆ herb-Robert
- knotweed, Bohemian
- knotweed, giant
- ◆ reed canarygrass
- tansy ragwort
- ◆ wild basil, basil savory
- ✱ yellow archangel

## POST SEASON OBSERVATIONS:

Roadside weed management is a dynamic process and the IWM Plan is intended to be evaluated and adapted over time based on our observations, technical updates and input from partners and the public. The 2023 IWM Plan was designed to continue our prior work, adapt to the observed efficacy, and further specific weed management goals. The successful implementation of the IWM Plan is dependent on the effective execution of its methodology. The CCNWCB reviewed the existing IWM Plan, forms and procedures developed previously and revised as needed for 2023. The IWM Plan is a unique part of the Clallam County Road Department's maintenance program. To be successful, weed control activities are incorporated into the general maintenance activities by coordinating with District Supervisors for appropriate timing of application. Weed control treatments on Clallam County Right-of-Ways are applied to fit Road Department's maintenance needs and minimize their expense of labor and equipment.

Each spring, prior to the start of treatment; the program coordinator and weed specialist meet with all three district supervisors, the environmental coordinator, transportation program manager and head road engineer to discuss the current IWM Plan, new pit plans and any new special considerations on Clallam County properties. We also take this opportunity to get feedback from the prior year and understand the department's goals for this year for each district. This year we had requests for control of Himalayan Blackberry on multiple specific Right-of Way locations and pits across all districts. We continued to communicate with the supervisors all year long and worked with them to control any concerns they brought to us. On some occasions their concerns were native plants and we educated them about mechanical ways they could control them without eliminating the plants entirely, such as mowing or weed eating native blackberries encroaching into roadside hardware.

Work was initially set for known infestations on all County properties that had critical timing treatment needs. Work was then focused on Priority 1 roads; surveying and treating weeds as they were found. Many roads were added to the 2023 IWM Plan as Priority 2 roads in 2022, many of which were surveyed in 2023 and will be reduced to Priority 3 for the 2024 IWM plan due to lack of weed population, landowners taking very good care of the Right-of-Way and average traffic use. Weed surveys and control within county pits began very early in the spring and continued throughout the entire season, with the methods of control changing as the season progressed and plants growth cycles warranted. During the growing season, we also spent time watering and maintaining pollinator plantings from previous years, so as not to lose our progress establishing native plants in areas of high priority and visibility. Our volunteer group was very helpful in this endeavor to preserve this community development project.

The weed specialist position, which is funded through the MOU between the Roads Department and WSU Extension to implement the IWM Plan, was filled midway through the treatment season. The program coordinator and inspector took on all the early spring workload. Our crew was still able to survey and treat **57% (280 of 489)** of the county roads listed in our IWM Plan. In 2023, we were able to spend more time surveying and treating Priority 2 roads. Based on the results of our surveys, many will be reduced to Priority 3 in 2024. This reclassification of roads will allow us to focus on more immediate concerns and establish an adequate rotation for monitoring Priority 3 and 4 roads on alternating years. These classifications are reviewed every year and can be modified, either because of new weed infestations, eradication of known weeds, or at a landowner's request. Additionally, we surveyed **21** county pits and treated **18** pits for noxious weeds. Our work priorities in 2024 will focus on retreating regulated weeds on roads. This ensures the County roads are compliant with noxious weed laws and are not a source for regulated weeds onto adjoining lands. Subsequent treatments will follow the hierarchy of Priority 1,2,3 and 4 roads.

Poison hemlock continues to be a high priority species for control, especially the historically large populations found in some of our eastern Clallam County pits. The persistent seed bank, early growth habits and growth within dense pasture grass and Himalayan blackberry makes poison hemlock a challenge to control. We would like to increase our understanding of the way this plant responds to specific treatments at different times of the year. We have experimented with destruction of bolted plants; mowing alone still leaves the tap root in soil and the plant can still re-bolt and flower in the same season. We have manually removed all foliage and 90% of the stalk of this bolted plant and applied herbicide directly into the hollow stalk left standing above ground. This method completely stopped regrowth and eliminated the risk of propagation. Many times, attempting to dig the taproot can sever the taproot and leave viable root systems in the

ground. Additionally, this plant is often not noticed until it is fully flowering and has become too far progressed for typical foliar herbicide treatment to be effective in controlling seed production. The county pits provide an excellent space to safely experiment and document treatments and efficacy that could potentially be used throughout the county.

The program also continues to maintain and supplement our pollinator enhancement areas, located at the Deer Park Overpass in east Port Angeles and along the Olympic Discovery Trail, adjacent to Old Olympic Highway in Agnew. This is now our seventh year of planting native vegetation for pollinator habitat. These plantings serve not only as native pollinator forage and habitat but a way of increasing the resilience of public areas against noxious weed encroachment. These pollinator projects are also a great way to educate the public on the many environmental benefits that native plants provide. Our pollinator sites are located at areas that are fully exposed and composed primarily of fill material, which makes plant survival and growth difficult. We have found that weekly waterings have greatly increased the survival and growth of our plants. Through our partnership with the Clallam Conservation District, we recruited **7** volunteers that donated approximately **51** hours to water the pollinator sites over **13** weeks and **13** volunteers donated approximately **42** hours to plant multiple sites over **3** volunteer events in November and December. Our pollinator enhancement sites would not be successful without the support we get through the Master Gardeners and our volunteers through the Clallam Conservation District, and we look forward to continuing these partnerships. Clallam County Sheriff's Department has been much appreciated by keeping Deer Park Overpass rest area parking lots safe and welcoming during our volunteer events.

## SPECIFIC OBSERVATIONS:

### Program Development:

- “Adopt-a-patch” and “Owner Will Control” applications are published online; we received **1** Owner Will Control application that was granted for 2023.
- We added **2** locations to our “Special Sites” list, which will help us track the long-term changes of these county-owned parcels.
- We surveyed many roads with “N/A” listed under “Target Weed Species for Control” and made notes for the 2024 IWM Plan. Our goal is to survey all listed county roads. This will allow us to better assign categories and priorities.
- Volunteer events improved our public relationships and engaged people in meaningful work for the county. Events included: **3** planting days, and weekly watering between late June and the end of September. **16** people volunteered for planting and watering, donating **42** hours planting and **51** hours watering.
- The Clallam Conservation District and Master Gardeners were fantastic organizations for generating volunteer activity. Many of the volunteers are repeat investors.
- Stockpile areas and spoils areas were monitored and controlled. This control improved the likelihood of achieving the goal of “weed free material” in all county pits.
- The Roadside Vegetation Management Team (RWMT) continued the project started in 2022: surveying PUD vegetation management on WSDOT Right-of-Way within a 21 mile stretch of Highway 101, west of Fairholme.
- The RWMT provided us with valuable in-season control updates and notified us of areas in need of retreatment.
- The RWMT is an invaluable asset to the program and provided excellent feedback for every project they undertook this season. (See their reports in Appendix K).

### Weed Control:

- The effectiveness of the CCNWCB program continues to create a correlation between higher acres examined and lower acreage needing to be treated. In 2022, **63%** of examined acreage needed treatment (**176** treated of **278 acres** examined); in 2023 **37%** of examined acreage needed treatment (**242** treated of **655** acres examined).
- Compared to last year we treated **31%** fewer road miles in 2023 (**186** miles in 2022, and **129** miles in 2023) with **3%** fewer treatment days (**67** treatment days in 2022 and **65** treatment days in 2023). We were able to treat **17%** more roads (**88** roads in 2022 and **103** roads in 2023) as well as more acreage this year. **135%** more acres were examined (**278** acres in 2022 and **655** acres in 2023), and **37%** more acres were treated in 2023 than in 2022 (**176** acres in 2022 and **242** acres treated in 2023).
- Because of the extensive seedbank and flexibility to constantly germinate, sites with poison hemlock and knapweed species required multiple visits and treatments.
- Retreatments increased our ability to control plants that are difficult to identify at different growth stages, as well as verifying the efficacy of previous treatments, potentially leading to more accurate treatment windows.
- All chemical treatments were entirely non-mechanized and carefully targeted spot spray applications, allowing us to maximize the protection of native or desirable vegetation.
- In the County pits Total Examined Acres was up **21%** (**390** acres in 2022 and **473** acres in 2023) and Total Acres Treated was down **19%** (**367** acres in 2022 and **298** acres in 2023) this year versus last year; while “Solid Chemical Acres Treated” was down due to a **68%** decrease in herbicide use in 2023 (**9.7** acres in 2022 and **3.06** acres in 2023). In 2022 we treated **233** acres and used **1885** oz liquid herbicide and **337** grams solid herbicide; 2023 we treated **290** acres and used a total of **246** oz liquid herbicide. Manual treatments and a focus on regulated species are the cause of this decrease.

### Plantings:

- In 2023, the RWMT (Master Gardeners) continued to monitor the pollinator habitat enhancement project at Deer Park Overpass intersection with Highway 101. A series of photo-points were established, and pictures taken three times during the year by a member of the Master Gardeners. These photos are a great time-lapse series that allows us to see how the site is evolving and the survival and growth of our plantings.

- The partnership between Clallam County and Shore Road Nursery provides locally sourced native plants that are crucial to our planting successes every year. They were a flexible, knowledgeable local resource that provided us with healthy plants according to our desired species and size as well as continued technical advice.
- The 2022 planting at Dry Creek Rd was delayed due to large amount of Himalayan blackberry overtaking the planting slope. We met with a Roads Department engineer and the environmental coordinator onsite and determined that no revegetation was required or feasible.
- Our program assisted the environmental coordinator in planting roadside revegetation sites. These sites included a second year of planting at the Kugel Creek culvert replacement and at the Sequim-Dungeness Way/Woodcock Rd roundabout, as well as the Deer Park Overpass site.
- The Deer Park Overpass site is comprised of a couple of different “habitats”, such as the flat areas on the top of the slopes and the different slope aspects. Most of the site is composed of fill material and the slopes are notably steep and inhospitable. This year’s plantings are the 5<sup>th</sup> year of a multi-year project.
- The wet spring allowed us to wait until late June to start watering, and we continued through early October due to the hot and dry early fall weather.
- Volunteer watering at the Deer Park pollinator site focused on the flat areas on top of the slopes, which are the safest and most easily accessible spots on site. CCNWCB staff watered the slopes with the use of the truck mounted water tank and electric pump. Watering is having a noticeably positive effect, increasing the survival and growth rates of the plants.
- In 2023, we purchased native grass seed from BFI Seeds that will be spread over approximately 3 acres of the slopes in 2024. We also obtained additional forb seeds from Shore Road Nursery. We hope that the use of native grass and forb seeds will allow us to revegetate the slopes more quickly and effectively.
- The planting at the Old Olympic Highway/ODT site was watered twice a month during the dry season. The top of the berm needs to be treated for weeds in 2024 to get an accurate survey of shrub survival.
- We had 7 volunteers, recruited through the Clallam Conservation District, who donated time to water at the Deer Park pollinator planting sites.
- The planting season this fall has gone exceptionally well with help from 13 volunteers and the Road Department’s environmental coordinator. Planting will continue into January 2024.
- Clallam County Sheriff’s Department has been much appreciated by keeping Deer Park Overpass rest area parking lots safe and welcoming during our volunteer events.
- The District 2 Roads crew is also appreciated for disposing of the erosion control cloth after removal on the Deer Park slopes.

### Crew and Equipment:

- The published 2023 IWM Plan was a valuable guide for crew and a helpful reference for the public.
- The weed specialist position was filled mid treatment season. The IWM Plan was implemented as early as feasible by the program coordinator and inspector, but the entire plan was not carried out this year. **Fifty-seven percent, 280** of the **489** roads, on the IWM Plan were surveyed or treated and **18** of **26** county pits were treated. **3** county pits were surveyed and did not need any treatment this year. The 2024 season will start with surveying, and treating if warranted, the **5** pits not surveyed in 2023: Blue Mountain Transfer Station, District 1 Shop, Hoko-Ozette Rd MP10 pit and Place pit.
- Only one seasonal employee joined us this season. Even though our program funding allotted for two seasonal workers, the help was exceptional, they were very quick to understand and became an asset with minimal instruction. They were proficient and pivotal in the creation of this report and in the field. Hopefully this employee will be returning for the 2024 season.
- Mobile phone apps Field Maps and WSDA iForm provided the crew access to spatial databases in the field and increased crew ability to identify adjacent ownership and boundary lines and to coordinate treatments with wider landscape goals.

## RECOMMENDATIONS:

The Clallam County Integrated Weed Management Plan is intended to be annually evaluated and adapted over time in response to changing conditions and needs. Input and technical updates from federal and state agencies, tribes, universities, stakeholders, and local partners are essential. For that reason, the results of control activities are monitored, evaluated and the program activities adjusted as necessary.

### **Program Development:**

- Continue to identify all county-owned parcels and inventory for noxious weeds.
- Focus on planting species that have known success on the Deer Park Overpass pollinator enhancement project. We also want to start incorporating more high elevation and rocky outcrop species that thrive in exposed, low nutrient sites.
- Begin seeding the steep slopes of Deer Park Overpass with genetically appropriate grass and forb seeds. This should lead to better establishment of native cover on the slopes.
- Add mulch around many of our plantings at the Deer Park Overpass and Old Olympic Highway/ODT pollinator sites. We hope this will decrease watering needs and increase moisture retention, leading to increased survival.
- Low nutrient levels in the fill material that both sites are composed of is suspected to be a cause of high mortality and low growth rates. The program has purchased Osmocote 12-7-18 slow release fertilizer that will be applied to plants at the Deer Park Overpass site in the spring of 2024.
- Continued outreach with volunteer organizations will help Deer Park Overpass and the Old Olympic Highway/ODT planting sites; greatly helping survivorship of plants, minimizing maintenance for program staff and allowing the public to actively participate in increasing pollinator habitat in the county. Keeping plant groups marked with flagged stakes also helps keep the community aware of the saturation of plants on these sites as they drive by, as well as aiding volunteers when watering.
- Clallam County Sheriff's Department has been much appreciated by keeping Deer Park Overpass rest area parking lots safe and welcoming during our volunteer events.
- Develop and expand pollinator forage and habitat enhancement projects and coordinate with Road Department, WSU Extension, and other partners.
- Publicizing program efforts on our pollinator enhancement sites, our Scotch Broom pulling events, and RWMT activity can create more public engagement while highlighting road department efforts at environmental stewardship. Examples include linking in with the mailing list of active organizations such as the Clallam Conservation District, Broom Busters, Peninsula Trails Coalition, and the social media arm of the WSU Master Gardeners.
- Add regular updates to the website on what roads we are treating and when.
- "Owner Will Control Agreements" (Appendix O) have been submitted annually by one property owner and none the 20 "Adopt a Patch" (Appendix P-R) locations have yet to be adopted. We need to reevaluate the value of these programs. "Owner Will Control" agreements may need to be highlighted on our website more and in a brochure for the courthouse. "Adopt a Patch" agreements could be augmented with direct mailers to landowners along each "Adopt a Patch" location or potentially be replaced in favor of volunteer events alongside CCNWCB with specific dates and locations. Currently some of the "Adopt a Patch" locations are avoided by Road Maintenance crews and CCNWCB crews in attempt to preserve positive public perception and crew safety.
- Continue to support coordination and communication between the Noxious Weed Control Board, Road Department, Clallam Conservation District, WSU Extension, and other partners.
- Collaborate with Road Department maintenance staff, Clallam PUD and WSDOT to identify landscape goals and harmonize maintenance techniques wherever possible.
- Continue to support local native plant material availability. Coordinate and plan better for the private property "native plant enhancement" option with our "owner will control" contracts.
- Evaluate and revise pit plans annually, with input from district supervisors and engineers.

### **Crew, Equipment, and Data:**

- Evaluate the need to create weed point/layers of our data for the Avenza App. This could potentially make it easier for the RWMT and Noxious Weed Board to navigate to past sites that are outside of reception area and access the maps on more types of electronic devices.
- In 2023 we set up multiple mobile water tanks, electric pumps and batteries for volunteers to use at the Deer Park Overpass and Old Olympic Highway/ODT pollinator planting sites. The returning volunteers felt that this system works better than the previous method of watering. We are continuing to streamline and improve the ergonomics of this watering system.
- Continue communicating with RWMT to determine the best data collecting procedures that facilitate accurate monitoring of locations that are specific, but not easily relayed via written text.
- Recruit and train seasonal crew earlier in 2024
- Coordinate with Clallam County GIS department to support and utilize all technical upgrades for data collection and post season map generation.

### **Weed Control:**

- Focus on treating regulated weeds on Priority 1 and 2 roads and treating all noxious weeds and weeds of concern as a secondary action while on these roads.
- Survey Priority 3 and 4 roads that have not been surveyed or treated in the last growing season. Establish a rotational cycle to track which Priority 3 and 4 roads are up for surveys.
- “Special Sites” will continue to be a high priority for next year. Revegetation projects for road sites have become a larger part of our obligations and monitoring these sites and treating noxious weeds while populations are still small is crucial for the success of the projects.
- Continue inventorying Scotch broom patches for future potential volunteer events. Projects must be in low traffic areas, optimally on the Olympic Discovery Trail or other county lands, where work parties can safely operate.
- Himalayan blackberry is a species of high concern along roadways and the Olympic Discovery Trail. We need to continue developing best management practices for treating infestations that are destroying infrastructure or posing a risk to safety, and also recognize public harvesting of berries. Explore treatment methods and seasonal timing that are effective and maintain positive public interactions; this may include basal herbicide and cut stump treatments. The Road Department is in the process of purchasing a tractor mounted offset mower for trail maintenance that will allow removal of older stands of Himalayan Blackberry, clearing the path for us to treat the non-fruiting regrowth without older fruiting plants in the vicinity.
- Continue to assess the importance of all roads and adjust their priority ranking as warranted. Revising Priority 1 roads to a lesser importance can allow the CCNWCB to focus on spot treatments of known regulated weed infestations.
- 
- Develop strategies to determine treatments of non-priority category 2 species.
- Continue to diligently map and record all new infestations of high priority, category 1 species.
- Begin to reassess the priority rankings for roads that have been treated for multiple years that have smaller, sporadic infestations.
- Increase communication with Olympic Discovery Trail Volunteers and Coordinator to find and transition areas from weed landscapes to more native vegetation corridors.

## General 2024 Treatment Recommendations:

1. Treat category 1, priority weeds on roadsides.
  - a. Repeat treatment of roads in 2023 IWM Plan as necessary; identify roads to begin a 4-year maintenance cycle.
  - b. Survey known or suspected infestation areas on foot as time and resources allow.
  - c. Control noxious weeds on intersecting or adjacent roads to 2023 treatments as necessary.
2. Treat category 1 and category 2 weeds in County pits as determined by pit plans.
3. Treat species and locations with most impact to local agriculture.
  - a. Continue outreach with local farmers to identify priorities and potential concerns.
4. Treat species and locations with the most impact to local forestry
  - a. Continue outreach to identify priorities and potential concerns.
5. Treat non-native weeds at Road Department identified special sites.
  - a. Consult with environmental coordinator, shop supervisors, and engineers to identify priorities.
  - b. Consult with the Olympic Discovery Trail maintenance crew and identify their priorities.
6. Coordinate roadside treatments to support weed management goals adjacent to County land.

## APPENDIX A: 2023 IWM TASK TABLE

The table below lists the tasks included in the IWM Work Plan and highlights the balanced approach to weed management. The specific tasks represent the best mix of control options chosen to address specific weed problems. The tasks are categorized by the weed management strategies: **Biological, Physical, Cultural, Preventative, and Chemical**. We completed or made substantial progress on all tasks listed below. The integral principle of the IWM Work Plan is that all treatment methods are potentially available for the County's management of noxious weeds. The table lists the task in **bold** and a description of 2023 activities; blue check marks indicate completed tasks, orange check marks indicate partially completed tasks, red check marks indicate not completed.

Task Status	Biological
	<b>Identify and release at appropriate sites throughout the County:</b> We did not release any new biological control agents in 2023. We saw many Cinnabar Moth caterpillars on tansy ragwort plants, removed before disposal and left them in the field.
	<b>Coordinate with WSU Extension and Noxious Weed Control Board for releases as they become available:</b> No releases were scheduled. The program coordinator was in contact with WSU Extension about the availability of biological agents.
	<b>Assist with research projects where possible:</b> The RWMT met with the noxious weed program coordinator and a County Noxious Weed Control Board member about the WSDOT/PUD Scotch broom control project along Hwy 101. PUD maintenance along this corridor has made it difficult for the RWMT to monitor vegetation. We will be in contact with WSDOT's landscape architect about ways to reduce the spread of Scotch broom on this ROW.
	<b>Educate public about what Biological measures are in the area and how to identify and encourage them:</b> We interacted with private landowners and showed what the Cinnabar Moth caterpillar looks like and damage inflicted on tansy ragwort.
	Physical
	<b>Update contact list to be shared between departments:</b> Shared contact between Road Department Superintendents, Environmental Coordinator and ODT Volunteer Coordinator.
	<b>Promote desirable native vegetation wherever possible:</b> Coordinated Planting projects and helped develop native species list for road projects.
	<b>Clearly mark treatment areas:</b> All treatment sections were posted with Herbicide Notice during and after treatments for at least 24 hours.
	<b>Schedule and oversee C.R.E.W for control projects:</b> We did not use C.R.E.W this year.
	<b>Collaborate with Roads Department and Clallam PUD to identify landscape goals and harmonize maintenance techniques:</b> We have routine interactions with Roads Department Supervisors and crews, they are great help by letting us know of infestations. There was minimal interaction with Clallam PUD in 2023.
	<b>Create Adopt-A-Patch opportunities and develop the program to encourage more public interest:</b> Posted online and always had materials available. No new relationships this year, and in 2024 we will review the program and hope to improve interactions with the community.
	<b>Review public involvement opportunities to ensure the available material meets program goals and is readily accessible online:</b> Partnerships with the Master Gardeners and the Clallam Conservation District contributed to both the planting and watering of the native pollinator projects this year.

	Cultural
✓	<b>Identify opportunities to use native plantings in the early stages of projects in the county's transport plan:</b> Provided assistance in augmenting revegetation sites for county lands and provided technical expertise about which native species to utilize.
✓	<b>Further develop Strategic Pollinator friendly plantings and coordinate with Road Department and the WSU Extension to incorporate existing volunteer members:</b> Evaluating what species are successful on the sites and adding new species to plant order that have the potential to do well. The Deer Park / HWY 101 interchange pollinator plantings and the Old Olympic Highway ODT pollinator plantings have been a wonderful source of volunteer projects for the Master Gardeners and Clallam Conservation District.
✓	<b>Seek grant opportunities to implement specialty research projects:</b> No special research grants were sought this year; there may be projects in the future that we seek grant funding for.
✓	<b>Foster relationships with partners that can provide locally sourced native plants. Update native plants list and program as necessary:</b> We are currently working with Shore Road Nursery to obtain locally sourced native plants. Lists of appropriate species are updated to reflect use on each individual site.
✓	<b>Partner with experts from local, state and federal agencies and entities including but not limited to: Clallam County Parks, Washington State University Extension, WSU Master Gardeners, local chapter of bee keepers, the native plant and Audubon societies, the Nature Conservancy, conservation districts, Olympic National Park, Olympic National Forest, USFW Marine Refuge System, Makah, Quileute, Lower Elwha Klallam, and Jamestown S'Klallam tribes, and others who have an interest in developing local native seed and plant resources for use in government projects:</b> Our partnerships with the WSU Extension Office, the WSU Master Gardeners, Olympic National Forest and Jamestown S'Klallam Tribe are ongoing and continue to be a necessity to our public operations. CCNWCB restarted the Olympic Invasives Working Group meetings that allowed us to bring together many of the weed control agencies on the Peninsula.
✓	<b>Encourage landowners with "Owner Will Control" agreements to undertake adjacent roadside enhancement consistent with developing a low maintenance, self-sustaining plant community to prevent weed invasion:</b> This information is available online and available to the public for any interested parties.
✓	<b>Identify and compile a list of sites for revegetation opportunities:</b> The CCNWCB crew is always looking at new planting sites that would ultimately be successful; considering accessibility, environmental habitat, and potential for positive engagement of the surrounding community.
✓	<b>Develop native seed mix for Road Department projects where bare ground is necessary:</b> We have worked closely with Shore Road Nursery and BFI Seeds to purchase native seed for use on the Deer Park Overpass slopes.
	Preventative
✓	<b>Update rock and gravel source weed management protocols:</b> All protocols are current and up to date and we routinely interact with and seek feedback from private rock sources as well as Road Department supervisors and their crews. The CCNWCB is assisting the Jefferson County Noxious Weed Board with implementing their own "Weed Free" certification for rock sources.
✓	<b>Increase awareness of light mow maintenance techniques through our website and mowing personnel:</b> This information is available on our website and the county staff met at the beginning of the season for training and continuing education.
✓	<b>Inventory, develop and implement weed management plans for all county quarries, storage areas, and spoil disposal sites (pits); update as needed as County use requirements change:</b> We surveyed 3 county pits for noxious weeds that

	did not need treatment and treated <b>18</b> pits for weeds. There are <b>26</b> county pits in total, the <b>5</b> not surveyed will be the first priorities in 2024.
✓	<b>Implement weed free material requirements for all county projects:</b> A “Weed Free Material” clause is included in the county contracts. <b>11</b> private rock sources in Clallam County received passing inspections for “Weed Free” in 2023, many of these rock sources have received multiple years of passing inspections.
✓	<b>Facilitate annual department native and invasive plants identification training in cooperation with weed board staff. Supply field crew with identification booklets:</b> This is something that has room for improvement, though many of the Road Department crew members are very good at identifying and aiding us in the reduction of the infestations.
✓	<b>Identify equipment needs, investigate available resources, and procure as funding allows:</b> New backpack sprayers and spare parts were purchased, two new smaller water tanks and pumps were purchased in 2022 to facilitate watering at pollinator enhancement sites. These watering systems began use in the field in 2023, and the volunteer watering crews appreciated them. We are continuing to improve and expand the watering system. The Road Department supervisors have been very helpful, offering any handheld equipment we have needed.
✓	<b>Create county pit reference maps and include them in management plans:</b> Weed locations were mapped at each county pit and maps will be created when necessary. In upcoming years, we will mark weed locations in pits annually and not have multiple weed points throughout the year of the same weed. Particularly difficult pits will have treatment diaries created to monitor and improve the efficacy of our labor.
✓	<b>Survey and treat as needed: all sand piles and sand extraction zones in county pits:</b> All piles and extraction zones were surveyed and treated if necessary.
✓	<b>Provide inspection services for all privately sourced material for county projects that may be weed-contaminated:</b> Pit inspections were completed for <b>13</b> private pits that have current contracts with the county or will be bidding on county contracts in the future. All these participants are enthusiastic about attaining a “Weed Free” rating.
✓	<b>Monitor and evaluate treatments in county pits:</b> Early season treatments for poison hemlock in eastern Clallam County pits were monitored in the late summer and it was determined that early-season treatments alone were not effective at preventing seed formation. Infestations of noxious weeds that were treated in previous years were surveyed and retreated if necessary. We are continuing to try different methods of control with problematic weed species.
✓	<b>Create a road survey form to catalog weed infestations and road priority in treatment schedule:</b> A road survey form has been found to be adequate and was used to survey county roads. A master working copy of the 2023 IWM Plan was kept in the field vehicles and was helpful in recording accurate data for this report; as well as keeping track of completed roads and roads yet to be surveyed.
✓	<b>Compile list of sources that meet weed-free standards and distribute to County departments as necessary:</b> Updated private pit list in: K:\Interdepartmental\A-Share\Roads\NoxiousWeeds_PitCertifications\Pit Inspections. Sent list to Road Department October 9 <sup>th</sup> 2023 via email.
	<b>Chemical</b>
✓	<b>Implement project list based on tables 4-8 in the 2023 IWM plan and planned reduction of Category 2 weed sites:</b> 2023 IWM Plan was implemented, crews focused mainly on Priority 1 roads and regulated weeds. In 2023, <b>280</b> roads were surveyed and or treated, <b>3</b> county pits were surveyed without a need for treatment and <b>18</b> were treated for noxious weeds.
✓	<b>Post the annual project list and treatments online at the end of the treatment season:</b> Updated at the end of the season.
✓	<b>Compile locations and treatment plans for special management areas:</b> Met with District supervisors and discussed treatment for special areas of concern. Ongoing and open conversations with all 3 supervisors.

✓	<b>Assess equipment and supplies; identify needs and procure as resources allow:</b> New backpack sprayers and spare parts were purchased. Replacement handles for broken tools were installed, preserving finances versus complete tool replacement.
✓	<b>Ready all necessary forms, regulatory compliance paperwork and safety equipment before commencing treatment season:</b> Accomplished.
✓	<b>Coordinate with Road Department staff to identify special management areas or non-native, invasive weed locations that interfere with road safety or function and outline additional management needs or strategy for weed control in these areas:</b> Spoke to all District supervisors about Himalayan blackberry infestations that are interfering with road safety and function and will compile list of potential treatment locations. Coordinated with the county's Lead Right-of-Way agent to treat Canada thistle that was negatively affected neighboring properties.
✓	<b>Develop and utilize regional partners, both public and private to assist in weed control across the county:</b> Some manual control of tansy ragwort and Scotch broom was accomplished by partners on the west side.
✓	<b>Complete treatment records daily and enter data into Clallam County Noxious Weed Control Board database annually:</b> Treatment records were completed daily, and data was entered into the database at the end of the season.
✓	<b>Monitor at least 10% of all treatments, retreat as needed and as resources allow:</b> Surveyed and or treated 280 county roads; <b>57%</b> of roads listed on the 2023 IWM Plan. 27 roads had multiple surveys and or treatments. In 2023, the Roadside Weed Management Team monitored <b>9%</b> of treatments. . We will add <b>7</b> new roads to the 2024 IWM Plan.
✓	<b>Identify any additional equipment needs and take steps to incorporate any available resources including: vehicles, application equipment, water tanks, or technical equipment:</b> We increased the size and quantity of 12v batteries for the watering pumps and purchased two additional water tanks for 2024
✓	<b>Provide WSU Master Gardeners Roadside Weed Monitoring Team (RWMT) with safety equipment, additional training opportunities, and technical support for monitoring projects:</b> No requests for equipment were received.
✓	<b>Conduct a weed inventory on at least 25% of all county roads annually:</b> 280 roads were surveyed and or treated in 2023. 489 roads are listed in the 2023 IWM Plan. There are 855 County-managed roads. 32% of all Clallam County roads were surveyed and/or treated in 2023. Not all County roads are included in the IWM Plan but can be treated and added if weed infestations are found.
✓	<b>Identify, document and map additional species' location, size, and density:</b> Mapped and recorded information on all regulated species encountered on county roadsides, pits, and special sites during 2023 activities. Some technical difficulties with iForm dropping the points taken in the field were noticed this year; we are working towards a standard procedure to verify that the error is realized before the loss is substantial.
✓	<b>Update survey data of county roadsides and catalog infestations over time:</b> We have multiple roads that we are following over a six-year trend. All survey and treatment data has been compiled for this report. Infestations and survey results will be recorded in our database this winter.
✓	<b>Identify and compile a list of high priority infestations for following year treatment:</b> This is in process in order to prioritize in 2024 what didn't receive attention in 2023.
✓	<b>Support volunteer projects either on or adjoining county property that protect county property from weed infestations which may include monitoring, road-typing for re-vegetation, and re-vegetation projects:</b> CCNWCB hosted <b>13</b> volunteer watering events at the Deer Park Overpass pollinator planting and <b>3</b> planting events, <b>2</b> at the Deer Park Overpass and <b>1</b> at the Old Olympic Highway/ODT site. Volunteers contributed over <b>93</b> hours and were integral in the success of our pollinator projects! The volunteer Roadside Weed Management Team volunteered <b>100</b> hours to the implementation of the 2023 IWM Plan.
✓	<b>Promptly respond to all public inquiries and address any public concerns regarding treatments:</b> We spoke with at least <b>12</b> individuals while treating roadsides and right-of ways. We addressed all public concerns and provided information on what species were treated and when on specific roads.

✓	<b>Manage "Owner Will Control" agreements:</b> One agreement is in place and is a repeating agreement renewed annually.
✓	<b>Review "Owner Will Control" application form and encourage public involvement opportunities that are readily accessible online:</b> The form is available. We are considering ways to make the program more well known and encourage more landowners to help us maintain Right-of-Way areas that directly affect them.
✓	<b>Maintain current list and map of "Owner Will Control" locations for both office and field use:</b> One long standing agreement is known by CCNWCB staff. We are developing a map layer for ArcGIS if the program grows.
✓	<b>Review and update online weed control request application process and forms as necessary:</b> The online weed control request form was updated when the county moved to a new website. Both the weed control request and Knotweed sighting forms are working.
✓	<b>Review process and forms for interdepartmental communication:</b> Met with departmental staff in the beginning of the season to address any concerns.
✓	<b>Compile annual report summarizing accomplishments, effectiveness, and recommendations for subsequent year; then brief the Road Department and County Commissioners by December 31<sup>st</sup>:</b> The County Commissioners and Road Department will be briefed on the 2023 season during a commissioner work session in January 2024. We met with the commissioners in June to keep them apprised of our early-season progress in 2023. The 2023 report will be available by the end of December.
✓	<b>Draft Integrated Weed Management Plan and submit it to the Clallam County Noxious Weed Control Board and Road Department Supervisor for approval prior to the Weed Board's first meeting of the year. Submission of the IWM Plan should occur 20 days before the meeting and should be posted online. Provide public notice that the IWM Plan will be discussed, with Weed Board meeting announcements. The finalized plan and maps of proposed treatment locations should be posted online and made available upon public request:</b> Currently in the process of drafting the 2024 IWM Plan and it will be complete by December 31 <sup>st</sup> .

## APPENDIX B: WEED SPECIES TREATED ON COUNTY ROADSIDES, PITS, AND SPECIAL SITES

The table below alphabetically lists all weed species controlled in 2023 on County roadsides or rock sources/soil disposal sites (Pits). The 4-letter Weed Code is the first two letters of the genus and the first two letters of the species. Weed Category is determined in the 2023 IWM Plan to prioritize control. Definitions of headings can be found at the end of the table. Clallam County Noxious Weed List available online: <https://www.clallamcountywa.gov/1042/Roadside-Vegetation-Management>

COMMON NAME	4-LETTER WEED CODE	SCIENTIFIC NAME	LIFE CYCLE <sup>1</sup>	GROWTH FORM	THREAT	CATE-GORY	STATUS
bindweed, field	COAR	<i>Convolvulus arvensis</i>	P	Forb	Out competes native plants species and can reduce crop yields; forms an extensive root system, often climbing or forming dense tangled mats.	1	NR
burdock, common	ARMI	<i>Arctium minus</i>	B	Forb	A host for mildew and root rot that can affect cash crops, causes animal milk to smell funny and is considered toxic due to its diuretic properties	3	WW
chervil, bur	ANCA	<i>Anthriscus caucalis</i>	A	Forb	Highly adaptable, aggressive competitors, forms monocultures, toxins cause skin irritation	3	WW
chervil, wild	ANSY	<i>Anthriscus sylvestris</i>	A	Forb	Forms monoculture quickly, and difficult to remove once established.	1	NCR
blackberry, evergreen	RULA	<i>Rubus laciniatus</i>	P	Shrub	Dense canopies crowd out native species; impenetrable barrier	2	NW
blackberry, Himalayan	RUAR	<i>Rubus armeniacus</i>	P	Shrub	Dense canopies crowd out native species; impenetrable barrier	2	NW
broom, Scotch	CYSC	<i>Cytisus scoparius</i>	P	Shrub	Forms dense stands; unpalatable; interferes with forest regeneration; fire hazard; scent can exacerbate human grass allergies; seeds are toxic to horses and livestock	2	NW
butterfly bush	BUDA	<i>Buddleia davidii</i>	P	Shrub	Invades natural areas; dense stands crowd out native vegetation in riparian areas and interfere with natural succession	1	NCR
canarygrass, reed	PHAR	<i>Phalaris arundinacea</i>	P	Grass	Unpalatable unless young, forms dense stands that crowd out native plants; especially difficult to control; serious wetland invader; can stop the process of succession in riparian sites, impedes tree seedling establishment	2	NW
carrot, wild	DACA	<i>Daucus carota</i>	B	Forb	Damages agricultural commodity as it may cross pollinates with domestic carrot, seriously degrading the quality of commercial carrot seed production	3	NW

COMMON NAME	4-LETTER WEED CODE	SCIENTIFIC NAME	LIFE CYCLE <sup>1</sup>	GROWTH FORM	THREAT	CATEGORY	STATUS
hawkweed, orange	HIAU	<i>Hieracium aurantiacum</i>	P	Forb	Aggressive invader forming dense mats, unpalatable, competitor of pasture and range plants	1	NCR
Hawkweed, yellow	HICA	<i>Hieracium caespitosum</i>	P	Forn	Aggressive invader forming dense mats, unpalatable, competitor of pasture and range plants	1	NCR
fennel, common	FOVU	<i>Foeniculum vulgare</i>	P	Forb	Dense stands exclude native vegetation	1	NCR
foxglove	DIPU	<i>Digitalis purpurea</i>	B	Forb	Can be toxic to livestock; spreads aggressively in disturbed areas	3	WW
herb Robert	GERO	<i>Geranium robertianum</i>	A, B	Forb	Rapid spreading; displaces native herbaceous plants; allelopathic, inhibits the germination of small seeded forbs in forest understory	1	NW
knapweed, meadow	CEMO	<i>Centaurea x moncktonii</i>	P	Forb	Outcompetes pasture species; degrades wildlife habitat; interferes with agriculture	1	NCR
knapweed, mountain	CEMO2	<i>Centaurea montana</i>	P	Forb	Rapidly spreading, unknown threat to habitat and infrastructure	2	WR
knapweed, spotted	CEST	<i>Centaurea stoebe</i>	B, P	Forb	Allelopathic plant that can inhibit the germination of grasses; forms dense stands that exclude desired plants and wildlife	1	NCR
Knapweed (unidentified)	CESP	<i>Centaurea spp.</i>	B, P	Forb	Outcompetes pasture species; degrades wildlife habitat; interferes with agriculture; rapidly spreading	1	
knotweed, Bohemian	POBO	<i>Polygonum x bohemicum</i>	P	Shrub	Easily spreads by disturbance; dense colonies eliminate other plant species and can degrade fish habitat; causes structural damage to human structures	1	NCR
laurel, spurge	DALA	<i>Daphne laureola</i>	P	Shrub	Toxic to humans and animals; contact with plants can cause dermatitis	1	NCR
lupine, tree	LUAR	<i>Lupinus arboreus</i>	P	Shrub	Aggressive invader forming dense monocultures, potentially toxic to livestock	2	WR
Moleplant	EULA	<i>Euphorbia lathyris</i>	A, B	Forb	Latex causes severe skin irritation and can be fatal if ingested; spreads rapidly	1	ISSC
mullein, common	VETH	<i>Verbascum thapsus</i>	B	Forb	Unpalatable	3	WW

COMMON NAME	4-LETTER WEED CODE	SCIENTIFIC NAME	LIFE CYCLE <sup>1</sup>	GROWTH FORM	THREAT	CATEGORY	STATUS
peavine, everlasting	LALA	<i>Lathyrus latifolius</i> ,	P	Forb - vine	Forms dense thickets; seeds can be toxic to livestock; seriously interferes with forest regeneration where it invades from edges of timber units	2	ISSC
poison hemlock	COMA	<i>Conium maculatum</i>	B	Forb	Highly toxic to humans and animals; all parts of the plant are toxic; severe birth defects	1	NCR
spurge laurel	DALA	<i>Daphne laureola</i>	P	Shrub	Toxic to humans and animals; contact with plants can cause dermatitis	1	NR
sow-thistle (annual)	SOSP	<i>Sonchus spp.</i>	A	Forb	Quickly invades disturbed sites and will form dense colonies; grows rapidly	2	WW
St. John's wort, common	HYPE	<i>Hypericum perforatum</i>	P	Forb	Causes photo-sensitization when grazed; toxic at all stages of growth	3	NW
sulfur cinquefoil	PORE	<i>Potentilla recta</i>	P	Forb	Not readily grazed by livestock and wildlife; forms dense stands	1	NCR
tansy ragwort	JAVU	<i>Jacobea vulgaris</i>	B	Forb	Poisonous to horses, cattle, and pigs; animals grazing tansy can produce tainted milk, may result in potentially toxic residue in honey	1	NCR
tansy, common	TAVU	<i>Tanacetum vulgare</i>	P	Forb	Dense stands degrade forage value; toxicity issues for humans and livestock	1	NR
teasel, common	DIFU	<i>Dipsacus fullonum</i>	B	Forb	Forms dense stands of prickly, unpalatable plants; degrades habitat and reduces accessibility	1	NCR
thistle, bull	CIVU	<i>Cirsium vulgare</i>	B	Forb	Aggressive competitor, unpalatable for cattle	2	NW
thistle, Canada	CIAR	<i>Cirsium arvense</i>	P	Forb	Aggressive competitor, unpalatable; decreases forage; host species for several agricultural pests	2	NW
thistle, Italian	CAPY	<i>Carduus pycnocephalus</i>	A	Forb	Spiny, unpalatable, and excludes native vegetation and degrades habitat. Spreads quickly and can be a fire hazard in summer season.	1	NCR
whitetop, hairy	LEAP	<i>Lepidium appelianum</i>	P	Forb	Monocultures displace desirable plants; unpalatable; can be form toxic to cattle	1	NR
yellow archangel	LAGA	<i>Lamiastrum galeobdolon</i>	P	Forb - vine	Aggressive invader, competes understory species, degrades wildlife habitat	1	NCR
wild basil savory	CLVU	<i>Clinopidium vulgare</i>	P	Forb	Aggressive invader, competes understory species, degrades wildlife habitat	1	NCR
<sup>1</sup> A - annual; B - biennial; P - perennial							

ISSC = Invasive Species of Special Concern; NCR = Noxious, Control Required; NR = Noxious, Rare; NW = Noxious, Widespread; WR=Weedy, Rare; WW=Weedy Widespread

## APPENDIX C: COUNTY ROADSIDE TREATMENT ACTIVITIES

This table includes all county roadsides managed for noxious weeds in 2023 under the Clallam County Road Department IWM Plan. The table is sorted alphabetically by road name. Definitions for the headings can be found at the end of the table. Species treated are listed alphabetically by the assigned 4-letter code (see Appendix B); 4-letter codes shown in bold are regulated noxious weeds and required for control in Clallam County.

We completed **139 treatments** on **103 county roads** over **65 days** and controlled **30 species**. In total, we treated **129 miles** (including retreatments/spot treatments) and examined **655 acres** (including monitoring surveys) of county roadside. For retreatments, Miles Examined, Acres Examined, and Acres Treated were counted in full in order to correctly calculate application rates and Solid Acres.

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
Aster Rd	Manual	07/19/23	0.10	0.10	0.100	0.0000	0.001	JAVU	2018-2021, 2023
Atterberry Rd	Herbicide	08/03/23	0.01	4.600	0.010	0.0100	0.000	CEMO	2019, 2022, 2023
Benson Rd	Manual	07/03/23	0.01	2.66	0.010	0.0000	0.001	HIAU	2020, 2022, 2023
Black Diamond Rd	Manual/ Herbicide	08/14/23	4.40	10.64	10.640	0.0344	0.001	CEMO, DIFU, CLVU	2017-2023
Born Dr	Manual	10/16/23	0.1	0.18	0.010	0.0000	0.010	TAVU	2023
Calawah Way	Manual	10/05/23	0.60	1.63	1.090	0.0000	0.001	JAVU	2023
Camp Hayden Rd	Manual	10/17/23	0.20	8.20	0.500	0.0000	0.001	JAVU	2018-2023
Carlsborg Rd	Manual	05/22/23	2.00	2.400	2.400	0.0000	0.001	CEST, COMA, FOVU	2018-2023
	Manual	08/03/23	0.01	1.210	0.010	0.0000	0.001	CEMO	
Cays Rd	Manual	05/22/23	2.80	4.800	4.800	0.0000	0.007	CAPY, CEST, COMA, TAVU	2019-2023
Cline Spit Rd	Manual	06/20/23	0.01	0.72	0.010	0.0000	0.001	COMA	2021, 2023
Coho Dr	Manual	10/02/23	0.10	0.70	0.200	0.0000	0.001	JAVU	2021, 2023
Commercial St	Manual	09/27/23	0.10	0.18	0.180	0.0000	0.001	JAVU	2023
Cooper Ranch Rd	Herbicide	06/13/23	0.400	1.450	1.450	0.0057	0.000	CLVU, CYSC*, DIPU*, JAVU	2019-2023

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
	Herbicide	08/29/23	0.100	7.630	0.180	0.0230	0.000	CLVU	
Crescent Beach Rd	Manual	08/02/23	0.01	6.36	0.010	0.0000	0.001	JAVU	2020-2023
	Manual	10/17/23	0.100	6.360	0.180	0.0000	0.001	JAVU	
Dan Kelly Rd	Herbicide	10/03/23	2.30	5.57	5.570	0.0459	0.000	JAVU, CEMO, LAGA, TAVU, GERO, CESP	2017-2021, 2023
Deer Park Rd	Manual	09/05/23	0.01	0.01	0.010	0.0000	0.001	FOVU	2018-2023
Diamond Point Rd	Manual	07/19/23	3.30	4.80	4.000	0.0000	0.001	JAVU	2018-2023
Don Schmith Rd	Herbicide	08/21/23	0.50	0.90	0.800	0.0230	0.000	CEMO, PORE	2023
East Beach Rd	Herbicide	06/12/23	0.75	1.30	1.300	0.1148	0.000	CEST, CYSC	2017-2023
East Lyre River Rd	Manual	08/28/23	0.60	1.09	1.090	0.0000	0.001	CEMO	2017-2023
Easterly Rd	Herbicide	10/17/23	0.30	0.54	0.540	0.0001	0.000	CEMO	2017-2021, 2023
Eden Valley Rd	Herbicide	10/03/23	0.01	6.18	0.010	0.0002	0.000	CEMO	2017-2023
Elk Loop Dr	Manual	10/05/23	0.20	0.36	0.360	0.0000	0.001	JAVU	2023
Elk Valley Rd	Manual	10/05/23	0.50	0.90	0.900	0.0000	0.002	JAVU	2023
Elwha River Rd	Herbicide	07/03/23	0.01	0.01	0.010	0.0115	0.000	CYSC	2019-2023
Farrington Rd	Manual	08/09/23	1.00	2.42	2.420	0.0000	0.001	CEMO, JAVU	2017-2023
Fleming Dr	Manual	07/19/23	0.10	0.50	0.100	0.0000	0.001	JAVU	2023
Freshwater Bay Rd	Manual	10/17/23	0.80	6.10	1.900	0.0000	0.001	JAVU	2019-2021, 2023
Freshwater Park	Manual	10/17/23	1.20	2.90	2.900	0.0000	0.001	JAVU	2022-2023
Front Street	Manual	09/27/23	0.60	1.09	1.090	0.0000	0.001	JAVU	2023
Gilbert Rd	Manual	06/14/23	0.20	0.300	0.030	0.0000	0.001	COMA	2020-2023
Gossett Rd	Manual	08/02/23	0.01	1.49	0.001	0.0000	0.001	JAVU	2017-2023
	Manual	08/30/23	0.82	1.49	1.490	0.0000	0.001	CEMO, JAVU	
Grael-Ramapo Rd	Manual	08/02/23	0.01	3.45	0.010	0.0000	0.001	JAVU	2018-2021, 2023

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
Happy Valley Rd	Manual	06/14/23	0.01	0.250	0.010	0.0000	0.001	COMA	2017-2023
	Herbicide	06/26/23	1.80	2.600	2.600	0.0057	0.000	CEMO, CEST	
	Manual/ Herbicide	07/12/23	0.25	0.900	0.900	0.0115	0.009	DIFU	
	Manual	10/17/23	0.10	7.270	0.100	0.0000	0.001	CEMO	
Henry Boyd Rd	Manual	08/07/23	0.01	3.87	0.020	0.0000	0.001	JAVU	2021-2023
Hermison Rd	Manual	10/02/23	0.01	1.20	0.010	0.0000	0.001	JAVU	2023
Hoare Rd	Herbicide	08/14/23	0.01	1.69	0.001	0.0100	0.000	CEMO	2023
Hoffman Rd	Manual	08/28/23	0.10	0.18	0.010	0.0000	0.001	JAVU	2023
Hoko-Ozette Rd	Manual/ Herbicide	06/27/23	6.80	12.80	9.900	0.0402	0.004	CYSC, HIAU, JAVU	2017-2023
	Manual/ Herbicide	09/20/23	17.90	32.54	32.540	0.0344	0.001	JAVU, POBO	
Jimmy Come Lately Rd	Herbicide	08/21/23	1.10	2.18	2.000	0.0002	0.000	CEMO	2019-2023
	Herbicide	09/05/23	0.25	2.90	0.450	0.0115	0.000	POBO	
Johnson Creek Rd	Herbicide	10/18/23	0.60	1.09	1.090	0.0344	0.000	CEMO, RUAR, CSYC, JAVU	2017-2023
Kacee Way	Manual	09/18/23	0.50	0.90	0.900	0.0000	0.001	CEMO	2023
Kitchen Dick Rd	Manual	05/03/23	0.01	0.060	0.060	0.0000	0.001	COMA	2017-2023
	Manual	05/30/23	0.01	0.100	0.100	0.0000	0.001	COMA	
Laird Rd	Manual	08/07/23	0.90	1.630	1.630	0.0000	0.001	CEMO	2017-2023
Lake Aldwell Road	Herbicide	09/11/23	0.60	1.09	1.090	0.0803	0.000	CEMO, GERO	2023
Lamar Ln	Manual	01/26/23	0.25	0.25	0.010	0.0000	0.001	COMA	2019-2021, 2023
	Manual	05/18/23	0.01	0.10	0.100	0.0000	0.001	COMA	
Liljedahl Rd	Manual	08/02/23	0.05	1.81	0.001	0.0000	0.001	JAVU	2023
Little Loop Dr	Manual/ Herbicide	08/07/23	0.10	1.94	0.010	0.0115	0.001	JAVU	2020-2023
	Manual	08/09/23	0.01	0.01	0.010	0.0000	0.001	JAVU	

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
Little River Rd	Herbicide	08/14/23	0.86	7.50	2.100	0.0459	0.000	CEMO, JAVU	2017-2023
	Herbicide	08/22/23	3.80	6.90	6.900	0.0344	0.000	CEMO	
	Manual/ Herbicide	08/28/23	2.30	4.18	4.180	0.0918	0.010	CEMO, CLVU, CYSC, HYPE, LALA, RUAR	
	Herbicide	09/11/23	0.20	0.36	0.360	0.0115	0.000	CLVU	
Lost Mountain Rd	Herbicide	07/05/23	0.70	12.60	1.700	0.0230	0.000	CEMO, CYSC, JAVU	2019-2023
Lotzgesell Rd	Manual	06/20/23	0.01	8.240	0.010	0.0000	0.001	COMA	2018-2023
Lower Elwha Rd	Manual/ Herbicide	06/21/23	0.10	0.150	0.150	0.0057	0.001	CEMO, JAVU	2019-2023
	Manual/ Herbicide	07/12/23	0.75	6.500	1.800	0.0230	0.004	JAVU	
	Manual	09/18/23	2.80	5.090	5.090	0.0000	0.009	JAVU	
Madrona Way	Manual	07/19/23	0.10	1.300	0.100	0.0000	0.001	JAVU	2017, 2019- 2020, 2022- 2023
Manzanita Drive	Manual	09/28/23	0.70	1.270	1.270	0.0000	0.001	JAVU	2023
Mapleton Way	Manual	09/18/23	0.01	0.540	0.018	0.0000	0.001	JAVU	2023
Marine Dr	Manual	05/22/23	0.75	1.100	1.100	0.0000	0.001	COMA	2019-2023
Marmot Lp	Manual	05/30/23	0.01	7.270	0.100	0.0000	0.001	ANSY	2023
Mary Clark Rd	Manual	08/29/23	7.60	13.80	13.800	0.0000	0.014	JAVU	2019-2023
McGarvie Rd	Manual	08/30/23	0.29	0.52	0.520	0.0000	0.001	JAVU	2023
Melton Rd	Manual	07/03/23	0.01	0.01	0.010	0.0000	0.001	HIAU	2023
Mina Smith Rd	Manual	10/02/23	2.80	8.00	6.800	0.0000	0.001	JAVU	2018-2023
Monroe Rd	Manual/ Herbicide	08/09/23	2.80	6.78	1.570	0.0002	0.001	JAVU, CEMO, TAVU	2023
	Manual/ Herbicide	09/11/23	0.20	0.36	0.360	0.0459	0.001	JAVU, CYSC, CEMO, RUAR	
Mount Pleasant Rd	Manual/ Herbicide	08/07/23	0.10	13.80	0.200	0.0689	0.001	CEMO, JAVU, TAVU	2020-2023

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
	Manual/ Herbicide	09/11/23	0.01	0.01	0.010	0.0002	0.001	COMA	
North St	Manual	07/19/23	0.01	0.400	0.010	0.0000	0.001	JAVU	2023
O' Brien Rd	Manual/ Herbicide	07/10/23	2.00	9.93	4.840	0.0459	0.001	CEMO, CYSC, JAVU, PORE, TAVU	2017-2021, 2023
	Manual	08/03/23	0.01	12.12	0.010	0.0000	0.001	JAVU	
Okerman Rd	Herbicide	09/11/23	0.40	0.72	0.720	0.0574	0.000	CEMO, CYSC, RUAR	2020, 2021, 2023
Old Black Diamond Rd	Manual/ Herbicide	08/14/23	0.20	0.48	0.001	0.0002	0.001	CEMO, JAVU	2021, 2023
Old Blynn Hwy	Manual	02/02/23	0.70	2.000	0.670	0.0000	0.001	COMA, JAVU	2018-2023
	Manual	03/23/23	0.08	0.040	0.040	0.0000	0.001	COMA	
	Herbicide	05/08/23	0.17	0.200	0.200	0.0459	0.000	CLVU	
	Herbicide	05/09/23	0.17	1.200	1.200	0.0803	0.000	CLVU	
	Herbicide	05/11/23	0.17	0.700	0.700	0.0689	0.000	CLVU	
	Manual/ Herbicide	08/08/23	0.90	2.900	2.500	0.0746	0.001	CLVU, COMA	
Old Olympic Hwy	Manual/ Herbicide	08/03/23	2.00	12.12	3.630	0.0230	0.001	BUDA, JAVU, CEMO, TAVU	2017-2023
Olympic Hot Springs Rd	Herbicide	06/12/23	2.20	5.00	5.000	0.0803	0.000	CEMO, CLVU, CYSC	2017-2021, 2023
Palo Alto Rd	Manual/ Herbicide	08/16/23	4.30	12.840	10.420	0.0287	0.001	CEMO, CLVU, GERO*, JAVU, LALA*, TAVU	2017-2023
	Herbicide	08/21/23	3.00	5.45	5.450	0.1148	0.000	CEMO, CLVU	
Pavel Rd	Manual	08/29/23	0.20	2.36	0.360	0.0000	0.001	JAVU	2023
Pit Ln	Manual	07/30/23	0.50	1.090	0.900	0.0000	0.001	JAVU	2023
Poplar Ct	Manual	09/28/23	0.10	0.18	0.120	0.0000	0.001	JAVU	2023
Power Plant Rd	Herbicide	06/21/23	0.80	1.200	1.200	0.0803	0.000	CEMO2, CYSC	2019-2023
Quillayute Airport Rd	Manual	09/06/23	0.40	0.72	0.720	0.0000	0.005	JAVU	2021-2023

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
Quillayute Rd	Manual	07/26/23	5.90	12.54	10.720	0.0000	0.001	JAVU	2020-2023
	Manual	09/06/23	3.00	5.45	5.450	0.0000	0.001	JAVU	
	Manual	10/02/23	3.50	9.70	8.500	0.0000	0.003	JAVU	
Reynolds Rd	Manual/ Herbicide	08/28/23	0.10	0.72	0.180	0.0002	0.001	CEMO, JAVU	2022- 2023
Richwine Rd	Manual	10/02/23	0.10	1.70	0.200	0.0000	0.001	JAVU	2021-2023
Ridge View Dr	Manual	06/08/23	0.01	0.01	0.010	0.0000	0.001	COMA	2023
River Rd	Herbicide	06/28/23	0.90	3.20	1.300	0.0344	0.000	CEMO, CIVU, CYSC, PORE	2017-2021, 2023
	Manual/ Herbicide	09/05/23	0.90	1.63	1.630	0.0230	0.001	CEMO, PORE	
S Bean Rd	Herbicide	08/07/23	0.01	1.21	0.200	0.0574	0.000	CEMO,CYSC	2022- 2023
Schmitt Rd	Manual	08/30/23	0.48	0.87	0.870	0.0000	0.001	JAVU	2017-2021, 2023
Sekiu Airport Rd	Manual	09/27/23	0.30	0.54	0.540	0.0000	0.001	JAVU	2023
Sekiu River Rd	Herbicide	10/05/23	0.10	1.27	0.100	0.0023	0.000	POBO	2023
Sequim-Dungeness Way	Manual	01/27/23	0.01	0.20	0.200	0.0000	0.002	DIFU	2017-2021, 2023
	Manual	05/30/23	0.01	0.10	0.100	0.0000	0.001	COMA	
	Herbicide	06/08/23	0.50	0.60	0.600	0.0057	0.000	CEST	
	Manual	06/20/23	2.20	7.20	3.200	0.0000	0.001	COMA	
	Manual	08/01/23	0.01	4.84	0.010	0.0000	0.004	DIFU	
Striped Peak Rd	Manual	10/18/23	0.10	1.200	0.200	0.0000	0.001	JAVU	2023
Sunshine Ave	Manual	07/19/23	0.10	0.700	0.100	0.0000	0.001	JAVU	2023
Timber Dr	Manual	09/28/23	0.10	0.18	0.180	0.0000	0.001	JAVU	2023
Towne Rd	Manual	01/31/23	0.01	0.010	0.010	0.0000	0.001	DIFU	2018-2023
Township Line Rd	Manual/ Herbicide	07/10/23	1.00	4.10	1.200	0.0230	0.001	CEMO, HICA, JAVU	2018-2023
Trout Ave	Manual	10/23/23	0.10	0.90	0.100	0.0000	0.001	JAVU	2023

ROAD NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	MILES TREATED	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL ACRES TREATED <sup>4</sup>	SOLID MANUAL ACRES TREATED <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>	YEARS TREATED
Turnstone Ln	Herbicide	07/05/23	0.70	1.00	1.000	0.1148	0.000	CEST	2017-2023
W Hendrickson Rd	Manual	03/09/23	0.2	0.11	0.110	0.0000	0.009	DIFU	2018, 2020, 2022-2023
W Washington St	Herbicide	05/22/23	0.30	1.900	1.900	0.1435	0.000	CEST, CIVU*, RUAR*	2017-2023
W Duval Road	Manual	09/11/23	0.20	0.360	0.010	0.0000	0.001	CEMO	2023
West Lyre River Rd	Manual/ Herbicide	08/30/23	0.60	1.09	1.090	0.0344	0.001	CEMO, JAVU	2017-2023
West Sequim Bay Rd	Manual	09/05/23	0.50	4.000	0.900	0.0000	0.001	DIFU	2019-2023
Whiskey Creek Beach Rd	Manual	08/30/23	0.85	0.47	0.470	0.0000	0.001	JAVU	2017-2023
Whitcomb-Diimmel Rd	Herbicide	05/17/23	0.10	0.120	0.120	0.0344	0.000	COAR, CYSC, JAVU, RUAR, RULA, SOSP	2020-2023
Woodcock Rd	Herbicide	05/24/23	0.01	0.100	0.010	0.0002	0.000	LEAP	2017-2023
	Manual/ Herbicide	05/25/23	3.75	6.660	6.660	0.0459	0.001	CEST, CIVU, COMA	
Woods Rd	Herbicide	08/08/23	0.80	3.87	3.870	0.9068	0.000	GERO, CLVU, JAVU, RUAR, COAR, DIPU	2018-2023
Wye Rd	Manual	10/17/23	0.10	1.00	0.200	0.0000	0.001	JAVU	2019-2023
<b>Total Roads: 103</b>	<b>139 Treatments</b>	<b>65 Days of Treating</b>	<b>129 Miles</b>	<b>655 Acres Examined</b>	<b>242 Acres Treated</b>	<b>2.98 Acres Treated</b>	<b>0.10 Acres Treated</b>	<b>30 Species Treated</b>	

\*Non-priority species treated intermittently, meaning the entire population was not controlled during treatment

<sup>1</sup>M – Manual control; H – Chemical control; M/H – Combination of manual and chemical control

<sup>2</sup>Examined Acres – The total area searched for noxious weeds while crew was involved in treatment activities

<sup>3</sup>Treated Acres – The gross area encompassing all treatments per road per day

<sup>4</sup>Solid Chemical Treated Acres – The estimated net area if the plants were “clumped” together; calculated using the tank mix volume applied and calibrated sprayer output

<sup>5</sup>Solid Manual Acres – The estimated net area controlled by any manual means (pulling, digging, cutting, etc.) if the plants were “clumped” together; calculated by number of plants removed

<sup>6</sup>Species Treated – The 4-Letter Weed codes correspond to the species’ scientific name and can be found in Appendix B. Bolded species are regulated noxious weeds required for control in Clallam County

## APPENDIX D: COUNTY ROCK SOURCE/SOIL DISPOSAL SITE TREATMENT ACTIVITIES

These tables include all County rock sources/spoil disposal sites (pits) managed for noxious weeds in 2023 under the Clallam County Road Department IWM Plan. The table is sorted alphabetically by pit name. Definitions for the headings can be found at the end of the table. Species treated are listed alphabetically by the assigned 4-letter code (see Appendix B); 4-letter codes shown in bold are regulated noxious weeds and required for control in Clallam County.

We completed **48** treatments in **18 pits** over **40 days** and controlled **26 species**. **Three** pits were surveyed and not treated (Hoko-Ozette Rd MP 13, La Push “Ballard” and Little River pits). In total we treated 300 **acres** (including retreatments) and examined **462 acres** (including monitoring). For retreatments, Acres Examined and Acres Treated were counted in full to correctly calculate application rates and Solid Acres.

PIT NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL TREATED ACRES <sup>4</sup>	SOLID MANUAL TREATED ACRES <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>
Blyn Pit	Manual	02/02/23	18	18.00	0.00	0.022	BUDA, CIVU, COMA, DIFU, DIPU, GERO, JAVU, VETH
	Manual/ Herbicide	03/22/23	8	8.00	0.05	0.000	CIVU, COMA, CYSC, DIPU, JAVU, LUAR, RUAR
	Herbicide	04/14/23	1	1.00	0.05	0.001	DIPU, JAVU, RUAR, VETH
	Herbicide	04/24/23	0.5	0.10	0.00	0.000	COMA
	Manual	05/24/23	1	1.00	0.00	0.001	COMA, DIPU, GERO, JAVU
	Manual	10/04/23	18.65	9.66	0.00	0.004	BUDA, CIVU, JAVU
Clallam Bay Storage Yard	Manual	10/05/23	2.3	2.30	0.00	0.000	CIVU
District 2 Shop	Herbicide	05/01/23	2	2.00	0.32	0.000	ALL INVASIVE PLANTS
Forks Pit	Manual/ Herbicide	07/30/23	7	7.00	0.01	0.004	JAVU
	Manual/ Herbicide	10/05/23	8	8.00	0.04	0.000	CIAR, CIVU, CYSC, JAVU, POBO
Herrick Pit	Herbicide	07/07/23	0.5	0.50	0.01	0.000	CYSC, CEMO, HYPE
	Herbicide	08/17/23	12.9	6.45	0.09	0.000	CIVU, CEMO, CYSC
	Herbicide	08/22/23	6	6.00	0.10	0.000	CYSC, CEMO
Hogback Pit	Manual	10/12/23	1.8	0.10	0.00	0.000	TAVU

PIT NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL TREATED ACRES <sup>4</sup>	SOLID MANUAL TREATED ACRES <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>
Hoko-Ozette Rd MP 4.5 Pit	Manual/ Herbicide	06/27/23	1.4	1.40	0.00	0.000	CYSC, JAVU
Hwy 101 Storage Yard	Manual	02/09/23	0.25	0.01	0.00	0.000	COMA
	Herbicide	10/03/23	4.03	4.03	0.05	0.000	CIVU, CYSC, RUAR
Kirner Pit	Manual	01/25/23	39	12.00	0.00	0.002	COMA
	Manual/ Herbicide	03/06/23	1	0.30	0.02	0.000	COMA
	Herbicide	03/30/23	1.2	1.20	0.01	0.000	COMA, EULA
	Herbicide	04/13/23	1	0.50	0.02	0.000	COMA
	Manual	07/24/23	37	37.00	0.00	0.006	COMA, DIFU, EULA
	Herbicide	10/18/23	37.4	5.00	0.11	0.000	RUAR, COMA, EULA, DIFU, CYSC, CEST
	Herbicide	12/20/23	10	10	0.02	0.000	ANCA*, CEST*, COMA, DIFU*, EULA
Lake Creek Pit	Herbicide	04/25/23	2	2.00	0.28	0.000	CYSC
	Manual/ Herbicide	07/30/23	15.1	15.10	0.03	0.000	CYSC, JAVU, VETH
	Manual/ Herbicide	10/13/23	15.1	15.1	0.41	0.001	RUAR, JAVU, GERO, CIVU, CIAR
Lower Elwha Pit	Herbicide	06/21/23	2.35	2.35	0.05	0.000	COAR, CYSC, HYPE, LALA, RUAR
McInnes Pit	Manual	01/27/23	0.5	0.50	0.00	0.008	COMA
	Herbicide	03/07/23	5.5	5.50	0.07	0.000	CIVU, COMA, DACA, PHAR, RUAR
	Herbicide	03/29/23	5	5.00	0.03	0.000	ANCA*, CIVU, COMA, RUAR*
	Herbicide	05/30/23	5.5	5.50	0.34	0.000	COMA, DIFU, FOVU
	Herbicide	08/16/23	5	3.5	0.07	0.000	CEMO, CEST, CIAR, CIVU, COMA, DIFU
Morse Creek Pit	Herbicide	03/22/23	0.5	0.50	0.01	0.000	COMA
	Herbicide	4/14/23	1	1.00	0.02	0.000	COMA
	Herbicide	5/15/23	33	33.00	0.34	0.000	COMA, CYSC

PIT NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL TREATED ACRES <sup>4</sup>	SOLID MANUAL TREATED ACRES <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>
	Manual/Herbicide	5/24/23	2	2.00	0.03	0.003	ARMI, COMA, DIPU*, RUAR*
	Herbicide	9/18/23	33.68	0.01	0.01	0.000	POBO
Piedmont Pit	Manual	08/28/23	2	2.00	0.00	0.001	JAVU
Quillayute Pit	Manual/Herbicide	07/26/23	20.75	10.00	0.07	0.002	CYSC*, DIPU*, JAVU*
	Herbicide	10/23/23	20.75	20.75	0.34	0.001	RUAR, JAVU, CIVU, POBO
Ranger Pit	Manual	03/20/23	20	0.75	0.00	0.001	JAVU, GERO, CIVU
Sequim Storage Yard	Herbicide	03/22/23	0.25	0.01	0.00	0.000	COMA
Whitcomb Diimmel Pit	Manual	04/19/23	2	2.00	0.00	0.002	CYSC*, DIPU*, JAVU
	Herbicide	04/25/23	2	2.00	0.14	0.000	CYSC
	Manual	07/26/23	15.7	9.00	0.00	0.000	JAVU
	Manual/Herbicide	09/06/23	15.7	8.00	0.05	0.006	CIAR, CIVU, DIPU* JAVU, POBO, RUAR. RULA*
	Manual	10/02/23	8	8.00	0.00	0.001	CYSC, JAVU
<b>Total Pits: 18 sites</b>	<b>Treatments: 48</b>	<b>40 Days</b>	<b>462 Acres</b>	<b>300 Acres</b>	<b>3.20 Acres</b>	<b>0.068 Acres</b>	<b>26 Species Treated</b>

\*Non-priority species treated intermittently, meaning the entire population was not controlled during treatment

<sup>1</sup>M – Manual control; H – Chemical control; M/H – Combination of manual and chemical control

<sup>2</sup>Examined Acres – The total area searched for noxious weeds while crew was involved in treatment activities

<sup>3</sup>Treated Acres – The gross area encompassing all treatments per pit per day

<sup>4</sup>Solid Chemical Treated Acres – The estimated net area if the plants were “clumped” together; calculated using the tank mix volume applied and calibrated sprayer output

<sup>5</sup>Solid Manual Acres – The estimated net area controlled by any manual means (pulling, digging, cutting, etc.) if the plants were “clumped” together; calculated by number of plants removed

<sup>6</sup>Species Treated – The 4-Letter Weed codes correspond to the species’ scientific name and can be found in Appendix B. Bolded species are regulated noxious weeds required for control in Clallam County

## APPENDIX E: COUNTY SPECIAL SITE TREATMENT ACTIVITIES

This table includes all “Special Sites” managed for noxious weeds in 2023 under the Clallam County Road Department IWM Plan. This table is sorted alphabetically by site name. Definitions for the headings can be found at the end of the table. Species treated are listed alphabetically by the assigned 4-letter code (see Appendix B); 4-letter codes shown in bold are regulated noxious weeds and required for control in Clallam County.

We completed **11 treatments** on **8 Special Sites** over **11 days** and controlled **11 species**. In total we treated **10.3 acres** (including retreatments) and examined **14 acres**. For retreatments, Acres Examined and Acres Treated were counted in full to correctly calculate application rates and Solid Acres.

SITE NAME	TREATMENT METHOD <sup>1</sup>	TREATMENT DATE	ACRES EXAMINED <sup>2</sup>	ACRES TREATED <sup>3</sup>	SOLID CHEMICAL TREATED ACRES <sup>4</sup>	SOLID MANUAL TREATED ACRES <sup>5</sup>	TREATED SPECIES LIST <sup>6</sup>
Blake Sand & Gravel Ridge	Manual	05/22/23	1	1.000	0.00	0.008	CAPY
	Manual	06/05/23	1	1.000	0.00	0.020	CAPY
Cays & Lamar Intersection	Manual	02/27/23	0.75	0.028	0.00	0.003	CAPY
	Manual	03/09/23	0.75	0.028	0.00	0.002	CAPY
	Manual	05/18/23	0.5	0.500	0.00	0.001	CAPY
Dungeness Recreation Area (Parking lot @ 0.25mi)	Herbicide	05/25/23	0.8	0.800	0.01	0.000	CIVU, COMA
Herrick Rd - West Elwha Trail ROW	Manual	08/22/23	3	1.000	0.00	0.002	DALA
Hoko-Ozette Culvert (MP 8.8)	Herbicide	06/27/23	0.5	0.500	0.03	0.000	CYSC, LALA, RUAR
O'Brien ROW Parcel	Herbicide	09/21/23	2.4	2.400	0.27	0.000	CIAR, CIVU
ODT -- Dean Creek crossing	Herbicide	08/16/23	0.5	0.250	0.01	0.000	POBO
ODT - Whitefeather Way to W Sequim Bay Rd	Manual/ Herbicide	05/04/23	2.8	2.800	0.00	0.000	GERO, JAVU, RUAR
<b>Total: 8 sites</b>	<b>11 Treatments</b>	<b>11 Days</b>	<b>14.0 Acres</b>	<b>10.3 Acres</b>	<b>0.32 Acres</b>	<b>0.035 Acres</b>	<b>11 species Treated</b>

\*Non-priority species treated intermittently, meaning the entire population was not controlled during treatment

<sup>1</sup>**M** – Manual control; **H** – Chemical control; **M/H** – Combination of manual and chemical control

<sup>2</sup>**Examined Acres** – The total area searched for noxious weeds while crew was involved in treatment activities

<sup>3</sup>**Treated Acres** – The gross area encompassing all treatments per site per day

<sup>4</sup>**Solid Chemical Treated Acres** – The estimated net area if the plants were “clumped” together; calculated using the tank mix volume applied and calibrated sprayer output

<sup>5</sup>**Solid Manual Acres** – The estimated net area controlled by any manual means (pulling, digging, cutting, etc.) if the plants were “clumped” together; calculated by number of plants removed

<sup>6</sup>**Species Treated** – The 4-Letter Weed codes correspond to the species’ scientific name and can be found in Appendix B. Bolded species are regulated noxious weeds required for control in Clallam County

## APPENDIX F: HERBICIDE VOLUMES BY COUNTY ROADS

The table alphabetically lists the County roads that received chemical treatment in 2023. The table includes the trade name of herbicides used and amounts applied in ounces or grams per treated road section (Note: 1 oz. equals 2 tablespoons). The **Treated Road Section** lists the portions for each road where herbicide application may have occurred. Herbicide applications within the listed boundaries were only made to noxious weeds and exact treatment locations varied with individual plant locations.

In 2023 we applied a total of **2.03 gallons** of liquid herbicide on County roadsides. A combination of Milestone® and Vastlan® or Element 3A® was used on roads included in chemical treatment, a mix that was chosen for its efficacy on expected weed species. Polaris® was also used almost exclusively for knotweed species and reed canary grass. All treatment locations were posted, and signs left in place for at least 24 hours.

ROAD NAME	TREATMENT DATE	TREATMENT LOCATION	MILES TREATED	MILESTONE (oz) <sup>1</sup>	VASTLAN (oz) <sup>2</sup>	ELEMENT 3A(oz) <sup>3</sup>	POLARIS(oz) <sup>4</sup>
Atterberry Rd	08/03/23	Entire Road	0.01	0.002	0.002		
Bean Rd	08/07/23	Entire road	0.01	0.4	4.8		
Black Diamond Rd	08/14/23	Entire Road	4.40	0.24	2.88		
Cooper Ranch Rd	06/13/23	MP 2.2 to MP 2.6	0.400	0.04	0.50		
	08/29/23	MP 2.2 target wild basil savory	0.100	0.16	1.92		
Dan Kelly Rd	10/03/23	From 846 to 3400.	2.30	0.64			
Don Schmith Rd	08/21/23	entire road	0.50	0.16	2.133		
East Beach Rd	06/12/23	Intersection of 101 to driveway to East Beach parking lot	0.75	0.8	9.6		
Easterly Rd	10/17/23	Entire Road				0.19	
Eden Valley Rd	10/03/23	Entire Road	0.01	0.003			
Elwha River Rd	07/03/23	Large pullout adjacent to ICI pit perimeter	0.01	0.08	0.96		
Happy Valley Rd	06/26/23	MP 5.7 (intersection with River Rd) to 3958 Happy Valley (start of big curve)	1.80	0.04	0.50		
	07/12/23	Bell Creek Ln to Doe Run Ln	0.25	0.08	0.96		
Hoare Rd	08/14/23	Entire road	0.01	0.001	0.002		
Hoko-Ozette Rd	09/20/23	Entire Road	17.90				1.92
	06/27/23	MP 0.0 to 8.8	6.80	0.28	3.4		
Jimmy Come Lately Rd	09/05/23	1.6 miles, Directed to (2) individual patches on Rd.	0.25				0.64
	08/21/23	1.1 miles, Paved section starting at Palo Alto Rd.	1.10	0.002	0.019		
Johnson Creek Rd	10/18/23	Entire Road				3.84	
Lake Aldwell Road	09/11/23	Entire road	0.60	0.56	6.72		
Little Loop Dr	08/07/23	Entire road	0.10	0.08	0.96		
Little River Rd	09/11/23	Entire road	0.20	0.08	0.96		
	08/14/23	From Olympic Hot Springs Rd to 863	0.86	0.32	3.84		
	08/22/23	MP 3.4-7.2	3.80	0.24	2.88		

ROAD NAME	TREATMENT DATE	TREATMENT LOCATION	MILES TREATED	MILESTONE (oz) <sup>1</sup>	VASTLAN (oz) <sup>2</sup>	ELEMENT 3A(oz) <sup>3</sup>	POLARIS(oz) <sup>4</sup>
Little River (cont.)	08/28/23	MP 0.0-3.4	2.30	0.64	7.68		
Lost Mountain Rd	07/05/23	Slab Camp Rd to Egloff Rd	0.70	0.16	1.92		
Lower Elwha Rd	06/21/23	Gandolf Rd to 0.1mi west	0.10	0.04	0.50		
	07/12/23	Surveyed entire Rd, treated first 0.75 miles	0.75	0.16	1.92		
Monroe Rd	08/09/23	Entire Road	2.80	0.002	0.019		
	09/11/23	From 883 to 1103 Both sides of road	0.20	0.32	3.84		
Mount Pleasant Rd	08/07/23	Entire Road	0.10	0.48	5.76		
	09/11/23	173 Mt. Pleasant Rd Approach within ROW	0.01	0.002	0.019		
O'Brien Rd	07/10/23	Entire Road	2.00	0.32	3.84		
Okerman Rd	09/11/23	Entire Road	0.40	0.4	4.8		
Old Black Diamond Rd	08/14/23	Entire Road	0.20	0.0001	0.002		
Old Blyn Hwy	05/08/23	East end to 2354 Old Blyn Hwy	0.17	0.30	3.80		
	05/09/23	East end to 2354 Old Blyn Hwy	0.17	0.56	6.70		
	05/11/23	East end to 2354 Old Blyn Hwy	0.17	0.48	5.76		
	08/08/23	East end to 2354 Old Blyn Hwy	0.90	0.52	6.24		
Old Olympic Hwy	08/03/23	Kitchen Dick to 101 Westbound	2.00	0.16	1.92		
Olympic Hot Springs Rd	06/12/23	Hwy 101 to Park entrance	2.20	0.56	6.72		
Palo Alto Rd	08/21/23	MP 5.3-8.7	3.00	0.8	9.6		
	08/16/23	MP 0 - 5.3	4.30	0.20	2.40		
Power Plant Rd	06/21/23	Entire road	0.80	0.56	6.70		
Reynolds Rd	08/28/23	Entire road	0.10	0.002	0.019		
River Rd	06/28/23	Entire Road	0.90	0.24	2.9		
	09/05/23	River Road 742- Happy Valley Rd	0.90	0.16	1.92		
Sekiu River Rd	10/05/23	Entire Road	0.10				0.128
Sequim-Dungeness Way	06/08/23	Between Medsker Rd to Taylor Blvd (Sunland entrance)	0.50				
Township Line Rd	07/10/23	Entire Road	1.00	0.16	1.92		
Turnstone Ln	07/05/23	Entire road	0.70	0.8	9.6		
W Washington St	05/22/23	Entire Road	0.30	1.00	12.00		
West Lyre River Rd	08/30/23	Entire Road	0.60	0.24	2.88		
Whitcomb-Diimmel Rd	05/17/23	on berm directly in front of pit	0.10	0.24	2.90		
Woodcock Rd	05/24/23	just east of Dungeness River	0.01	0.00	0.02		
	05/25/23	From Sequim-Dungeness intersection to 1500 Woodcock	3.75	0.30	3.80		
	06/08/23	Edginton to Kitchen-Dick Rd	0.75	0.04	0.48		

ROAD NAME	TREATMENT DATE	TREATMENT LOCATION	MILES TREATED	MILESTONE (oz) <sup>1</sup>	VASTLAN (oz) <sup>2</sup>	ELEMENT 3A(oz) <sup>3</sup>	POLARIS(oz) <sup>4</sup>
Woods Rd	08/08/23	County Pit 0.8mile South Both Sides of road	0.80	6.32	75.84		
<b>Total: 41 roads</b>	<b>36 Days</b>		<b>76 miles</b>	<b>20.4 oz</b>	<b>237.5 oz</b>	<b>4.0 oz</b>	<b>2.7 oz</b>

<sup>1</sup>Milestone® - Active ingredient: aminopyralid; in 0.125-0.250% solution.

<sup>2</sup>Vastlan® - Active ingredient: triclopyr; in 1.5-2% solution, 25-50% solution for cut-stump application only.

<sup>3</sup>Element 3A® - Active ingredient: triclopyr; in 1.5% solution on roadsides, 25-50% solution for cut stump only.

<sup>4</sup>Polaris® - Active ingredient: Imazapyr; in 1.0% solution on roadsides

## APPENDIX G: HERBICIDE VOLUME USED IN COUNTY ROCK SOURCES

The table alphabetically lists the County rock sources and spoil sites that received chemical treatment in 2023. The table includes the trade name of herbicides used and amounts applied in ounces or grams per treatment date (Note: 1 oz. equals 2 tbsp). Herbicide was only applied within County pit boundaries to noxious weeds and other invasive plants and exact locations of applications varied with individual plant locations.

In 2023 we applied a total of **1.92 gallons** of liquid herbicide in County pits. A combination of Milestone® and Vastlan® or Element 3A® was used in most pits included in chemical treatment, a mix that was chosen for its efficacy on expected weed species. Polaris® was used almost exclusively for knotweed species and reed canary grass. Oust XP® was not used as a treatment on poison hemlock in 2023 but may be used in the future.

PIT NAME	TREATMENT DATE	ACRES TREATED	MILESTONE (OZ) <sup>1</sup>	VASTLAN (OZ) <sup>2</sup>	POLARIS (OZ) <sup>3</sup>	ELEMENT 3A (OZ) <sup>4</sup>	AQUANEAT (OZ) <sup>5</sup>	GARLON 4 (OZ) <sup>6</sup>	OUST XP (OZ) <sup>7</sup>
Blyn Pit	03/22/23	8.00	0.3	3.8					
	04/14/23	1.00	0.32	3.84					
	04/24/23	0.10	0.005	0.06					
District 2 Shop	05/01/23	2.00			17.92		17.92		
Forks Pit	07/30/23	7.00	0.08	0.96					
	10/05/23	8.00			2.24				
Herrick Gravel	07/07/23	0.50	0.08	0.96					
	08/22/23	6.00	0.72	8.64					
	08/17/23	6.45	0.64	7.68					
Hoko-Ozette Rd MP 4.5	06/27/23	1.40	0.001	0.02					
Hwy 101 Storage Yard	10/03/23	4.03			2.56				
	03/06/23	0.30					2.6		
	03/30/23	1.20					0.5		
Kirner Pit	04/13/23	0.50	0.16	1.92					
	10/18/23	5.00				9.6			
	12/20/23	10.00					1.92		
Lake Creek Pit	04/25/23	2.00	1.92	23					
	07/30/23	15.10	0.2	2.4					
	10/13/23	20.00				34.56			
Lower Elwha Pit	06/21/23	2.35	0.36	4.3					
McInnes Pit	03/07/23	5.50					7.7		
	03/29/23	5.00	0.2	2.4					
	05/30/23	5.50			19.2				
	08/16/23	3.50	0.2	2.4	2.2				
Morse Creek Pit	03/22/23	0.50	0.04	0.5					
	4/14/2023	1.00	0.16	1.92					
	5/15/2023	33.00	2.4	28.8					
	5/24/2023	2.00	0.2	2.4					
	9/18/2023	0.01			0.64				

PIT NAME	TREATMENT DATE	ACRES TREATED	MILESTONE (OZ) <sup>1</sup>	VASTLAN (OZ) <sup>2</sup>	POLARIS (OZ) <sup>3</sup>	ELEMENT 3A (OZ) <sup>4</sup>	AQUANEAT (OZ) <sup>5</sup>	GARLON 4 (OZ) <sup>6</sup>	OUST XP (OZ) <sup>7</sup>
Quillayute Pit	07/26/23	10.00	0.48	5.76					
	10/23/23	20.75				28.8			
Sequim Storage Yard	03/22/23	0.01	0.002	0.02					
Whitcomb Diimmel Rd Pit	04/25/23	2.00	0.96	11.52					
	09/06/23	8.00	0.16	1.92	1.92				
<b>Total: 14 sites</b>	<b>29 Days</b>	<b>197.7 Acres</b>	<b>9.6 oz</b>	<b>115.2 oz</b>	<b>46.7 oz</b>	<b>73.0 oz</b>	<b>30.6 oz</b>	<b>0 oz</b>	<b>0 oz</b>

<sup>1</sup> Milestone® - Active ingredient: aminopyralid; in 0.125-0.250% solution.

<sup>2</sup> Vastlan® - Active ingredient: triclopyr; in 1.5-2% solution, 25-50% solution for cut-stump application only

<sup>3</sup> Polaris® - Active ingredient: imazapyr in 1% solution, 10% for cut stump only

<sup>4</sup> Element 3A® - Active ingredient: triclopyr; in 1.5% solution, 25-50% solution for cut stump only

<sup>5</sup> Aquaneat® - Active ingredient: glyphosate in 1.0% solution

<sup>6</sup> Garlon 4® - Active ingredient triclopyr in 1.5% solution

<sup>7</sup> Oust XP®- Active ingredient: sulfometruon at 3 grams per gallon of solution

## APPENDIX H: HERBICIDE VOLUME USED IN COUNTY “SPECIAL SITES”

The table alphabetically lists the County-owned “Special Sites” that received chemical treatment in 2023. The table includes the trade name of herbicides used and amounts applied in ounces or grams per treatment date (Note: 1 oz. equals 2 tablespoons). Special Site boundaries include only Clallam County owned lands or lands with county maintenance obligations.

In 2023 we applied a total of **65.38 ounces** of liquid herbicide on “Special Sites”. A combination of Milestone® and Vastlan® or Element 3A® was used on most sites included in chemical treatment, a mix that was chosen for its efficacy on expected weed species.

Site Name	Treatment Date	Acres Treated	Milestone (oz) <sup>1</sup>	Vastlan (oz) <sup>2</sup>	Polaris (oz) <sup>3</sup>	Element 3A (oz) <sup>4</sup>	Transline (oz) <sup>5</sup>
Dungeness Recreation Area (Parking lot @ 0.25mi)	05/25/23	0.8	0.08	1.0			
Hoko-Ozette Culvert (MP 8.8)	06/27/23	0.5	0.2	2.4			
O'Brien ROW Parcel	09/21/23	2.4	3.8			22.6	
ODT -- Dean Creek crossing	08/16/23	0.25			0.3		
ODT - Whitefeather Way to W Sequim Bay Rd	05/04/23	2.8		35.0			
<b>Total: 5 Special Sites</b>	<b>5 Days Treating</b>	<b>6.75 Acres</b>	<b>4.08 oz</b>	<b>38.4 oz</b>	<b>0.3 oz</b>	<b>22.6 oz</b>	<b>0.0 oz</b>

<sup>1</sup>Milestone® - Active ingredient: aminopyralid; in 0.125-0.250% solution.

<sup>2</sup>Vastlan® - Active ingredient: triclopyr; in 1.5-2% solution, 25-50% solution for cut-stump application only

<sup>3</sup>Polaris® - Active ingredient: imazapyr in 1% solution, 10% for cut stump only

<sup>4</sup>Element 3A® - Active ingredient: triclopyr in 2-2.5% solution, 25-50% solution for cut stump only

<sup>5</sup>Transline®- Active ingredient: clopyralid in .5% solution

## APPENDIX I: PILOT POLLINATOR PLANTINGS

The table below shows all plants included in pollinator planting projects this year. The table is arranged alphabetically by the scientific name. All plants were native and locally sourced, grown from seed collected on the Olympic Peninsula. The species were selected to provide high quality native pollinator forage with a continuous bloom period ranging from late February to late October. The species represent a mixture of native shrubs and forbs that meet roadside criteria, provide desirable habitat, and through competition, help prevent the establishment of noxious weeds and undesirable vegetation.

2023 Kugel Creek		
Scientific Name	Common Name	Quantity
<i>Acer circinatum</i>	vine maple	10
<i>Amelanchier alnifolia</i>	pacific serviceberry	10
<i>Carex obnupta</i>	slough sedge	209
<i>Crataegus douglasii</i>	black hawthorn	10
<i>Holodiscus discolor</i>	ocean spray	20
<i>Physocarpus capitatus</i>	pacific ninebark	10
<i>Ribes sanguineum</i>	red currant	10
<i>Rubus parviflorus</i>	thimbleberry	5
<i>Sambucus racemosa</i>	red elderberry	47
Saxifragaceae species	Various species in the saxifrage family	113
<i>Spiraea douglasii</i>	rose spirea	40
<i>Thuja plicata</i>	western red cedar	10
<b>Total Species: 12</b>		<b>Total Quantity: 494</b>

Sequim-Dungeness & Woodcock		
Scientific Name	Common Name	Quantity
<i>Juniperus communis</i>	common juniper	20
<b>Total Species: 1</b>		<b>Total Quantity: 20</b>

## 2023 Deer Park Overpass

Scientific Name	Common Name	Quantity
<i>Abies lasiocarpa</i>	subalpine fir	23
<i>Achillea millefolium</i>	common yarrow	125
<i>Allium cernuum</i>	nodding onion	157
<i>Anaphalis margaritacea</i>	pearly everlasting	382
<i>Antennaria spp.</i>	pussytoes species	29
<i>Antennaria microphylla</i>	little leaf pussytoes	12
<i>Arbutus menziesii</i>	pacific madrone	40
<i>Armeria maritima</i>	sea thrift	91
<i>Arnica latifolia</i>	broad-leaved arnica	54
<i>Arnica parryii</i>	Parry's arnica	192
<i>Artemisia ludoviciana</i>	Western mugwort	54
<i>Bistorta bistortoides</i>	American bistort	17
<i>Boechera spp.</i>	rockcross	67
<i>Canadanthus modestus</i>	great northern aster	250
<i>Carex pachystachya</i>	starry sedge	82
<i>Castilleja spp.</i>	paintbrush	85
<i>Dasiphora fruticosa</i>	shrubby cinquefoil	17
<i>Drymocallis glandulosa</i>	sticky cinquefoil	150
<i>Erigeron flettii</i>	Olympic mountain/ Flett's fleabane	72
<i>Erigeron philadelphicus</i>	Philadelphia fleabane	225
<i>Erigeron speciosus</i>	showy fleabane	550
<i>Eriophyllum lanatum</i>	Oregon sunshine	710
<i>Erysimum arenicola</i>	sand-dwelling wallflower	29
<i>Eucephalus paucicapitatus</i>	Olympic mountain aster	280
<i>Geum triflorum</i>	prairie smoke / old man's whiskers	4
<i>Grindelia integrifolia</i>	Puget Sound gumweed	12
<i>Heuchera chlorantha</i>	green-flowered alumroot	36
<i>Juniperus communis</i>	common juniper	205
<i>Luetkea pectinate</i>	partridgefoot	9
<i>Lomatium spp.</i>	various species of biscuitroot	190
<i>Lupinus latifolia</i>	broadleaf lupine	80
<i>Lupinus polyphyllus</i>	big-leafed lupine	227
<i>Luina hypoleuca</i>	silverback luina	108
<i>Mahonia aquifolium</i>	tall Oregon grape	92

## 2023 Deer Park Overpass

Scientific Name	Common Name	Quantity
<i>Opuntia fragilis</i>	brittle prickly-pear	34
<i>Penstemon ovatus</i>	broadleaf beardtongue	100
<i>Penstemon procerus</i>	litteflower beardtongue	149
<i>Penstemon serrulatus</i>	coast penstemon	385
<i>Phacelia hastata</i>	silverleaf scorpionweed	225
<i>Pinus contorta</i>	lodgepole pine	18
<i>Prunus emarginata</i>	bitter cherry	36
<i>Rosa nutkana</i>	Nootka rose	18
<i>Rupertia physodes</i>	California tea/ forest surfpea	370
<i>Sambucus cerulea</i>	blue elderberry	31
<i>Sedum spp.</i>	various species of stonecrop	48
<i>Solidago lepida</i>	western goldenrod	606
<i>Solidago multiradiata</i>	northern goldenrod	91
<i>Symphotrcihum subspicatum</i>	Douglas aster	518
<i>Trifolium willdenovi</i>	sand clover	18
<b>Total Species: 50</b>		<b>Total Quantity: 7,303</b>

**2023 Old Olympic HWY/ ODT Berm**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Quantity</b>
<i>Achillea millefolium</i>	common yarrow	97
<i>Eriophyllum lanatum</i>	oregon sunshine	47
<i>Heuchera chlorantha</i>	green flowered alumroot	150
<i>Lupinus polyphyllus</i>	bigleaf lupine	18
<i>Mahonia aquifolium</i>	oregon grape	62
<i>Penstemon serrulatus</i>	coast penstemon	109
<i>Rosa nutkana</i>	Nootka rose	36
<i>Sambucus cerulea</i>	blue elderberry	41
<i>Solidago spp</i>	various species of goldenrod	98
<i>Symphoricarpos albus</i>	snowberry	9
<i>Symphyotrichum subspicatum</i>	Douglas aster	144
<b>Total Species: 11</b>		<b>Total Quantity: 811</b>

<b>Grand Total – Number of Species: 62</b>		<b>Grand Total – Quantity: 8,628</b>
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## APPENDIX J: PROTOCOLS

### Project selection:

The focus of the Clallam County Road Department 2023 IWM was the control of regulated noxious weeds and invasive, non-native weeds of special concern on Clallam County rights-of-way. The 2023 IWM Plan treatment priorities were:

1. Control of Category 1 regulated weeds on county roadsides in accordance with state law.
2. Control of Category 1 regulated weeds and select weeds in all county rock sources.
3. Control of Category 1 and 2 weeds at locations with most impact to local agriculture.
4. Control of Category 1 and 2 weeds at locations with most impact to local forestry.
5. Control of non-native, invasive weeds that interfere with the safety or function of County roadsides or additional non-roadside management areas
6. Control of Category 1 and 2 weeds at locations requested by the public and local agencies.

In addition to the prioritized locations listed in the 2023 Plan, locations suitable for manual control during periods of inclement weather and locations discovered to fit “early detection, rapid response” criteria were added to 2021 projects.

### Control Methods:

#### Chemical:

- Used only EPA and WSDA approved formulation herbicides; all are aquatically approved formulations, with the exception of Transline, Garlon 4 and Oust XP. The products chosen offered the greatest weed selectivity, maximized worker and public safety, offered lowest application rates, and posed the lowest risk for wildlife and environment.
  - Milestone® - Active ingredient: aminopyralid; in 0.125-0.250% solution.
  - Vastlan®- Active ingredient: triclopyr; in 0.5-1.5% solution foliar application, 25-50% Cut-Stump application ONLY
  - Element 3A®- Active ingredient: triclopyr; in 1-2.5% solution
  - Polaris® - Active ingredient: imazapyr in 1% solution
  - AquaNeat® - Active ingredient: glyphosate in 0.5% solution at select locations; 25-50% Cut-Stump application ONLY
  - Transline®-Active ingredient: clopyralid in 0.5% solution
  - Round Up Pro® - Active ingredient: glyphosate; in 2-3% solution
  - Garlon 4® - Active ingredient triclopyr; in 1-2.5% solution
  - Oust XP® – Active ingredient sulfometuron methyl; 3g per acre
- Control on all proposed roadside application locations included in Integrated Weed Management Plan, the plan was published online, and notice placed in local newspaper in advance of treatments.
- Offered adjacent landowner agreements/volunteer alternatives to herbicide applications.
- Posted Herbicide Application Notices (Appendix M) to clearly mark treatment areas prior to all herbicide activity. Posted at most public intersections and at intervals of approximately ½ mile depending on the road’s length.
- Herbicide Application Notices included name and mobile work contact number to contact control crew in the field during treatments.
- All roadside applications completed by licensed applicators and were conducted on foot without the use of any mechanized equipment
- Used spot treatments ONLY (no broadcast treatments), for specific weeds and included marker dye to aid in identification of treatment areas.
- Prepared herbicides in locations that minimized risk of public exposure to concentrated chemicals and potential for spills.
- Observed strict compliance to product labels and to state and local regulations; including the use of appropriate personal protective equipment as described by product labels.

#### Physical:

- Dug up newly established infestations of plants wherever practical and conditions favorable.
- Cut and bagged heads of flowering biennial plants wherever feasible.

### Spatial Data collection and Mapping:

- NWCB staff carried a Garmin 78 pre-loaded with Montana Hunt Chip, which identified landowners (Meta data was set to NAD83 Harn, State Plane North 4601, and statue feet).
- GPS points were taken for all regulated weed species, priority species, or significant observations.
- Carried a cellphone with ArcCollector Application with current Clallam County Parcel data, spatial notes and past infestation information.
- Data was mapped and symbolized to Treatment Area Maps (Pages 11-20).

### Data Reporting and Monitoring:

- Supported WSU Master Gardener’s RWMT with completed Herbicide/Manual Treatment Form and details.
- Published and updated herbicide application information by road section to NWCB website once. Detailed activity data published in the appendices to this report.

## APPENDIX K: WSU EXTENSION MASTER GARDENER ROADSIDE WEED MANAGEMENT MONITORING REPORT

The following report document is a copy of the report created by WSU Extension program's Master Gardeners Roadside Weed Monitoring Team (RWMT). The WSU Master Gardener program was established in 1971 to assist Extension professionals in the delivery of research-based horticultural information to communities. Today, Master Gardeners undergo 100 hours of training in topics such plant biology and species identification training to become certified Master Gardeners and provide for a variety of community services including educational programs, diagnostic services and answers to home gardening questions.

The RWMT are Master Gardeners engaged as citizen scientists to collect data and provide an independent assessment of the IWM Program and its treatment activities. Master Gardener's unique qualities as an educated, highly-trained volunteer group make the RWMT an extremely valuable asset to the IWM Program.

***WEEDS,  
WEEDS,  
WEEDS***

**2023**

**ROADSIDE WEED MANAGEMENT REPORT**



**CLALLAM COUNTY MASTER  
GARDENERS**

## Clallam County Master Gardener Roadside Weed Monitoring Report – 2023

### **EXECUTIVE SUMMARY:**

The Washington State University Clallam County Extension Master Gardener's Roadside Weed Monitoring Team (RWMT) continued its Clallam County roadside monitoring activity in 2023, surveying a dozen (12) roadsides in the East and Central Clallam Road Commission Districts. Nine (9) weed species were evaluated for efficiency. The one (1) weed of emphasis had an efficacy rating of 73% (Fair). Personnel changes in the Noxious Weed Office still require some procedural adjustment on the part of RWMT.

Two (2) additional projects were continued this year:

1. Pollinator plantings at the Deer Park interchange.
2. The Highway 101 project west of Lake Crescent was vehicle surveyed for any significant changes.

We are enjoying the projects, expanding our knowledge base, and look forward to further research opportunities. With seven (7) years of monitoring, some distribution and eradication trends are beginning to appear. With the new personnel in the Noxious Weed Office, we anticipate more learning and research opportunities.

### **MONITORING PROJECT OVERVIEW:**

Entering the seventh year of the Clallam County Integrated Weed Management Plan, Master Gardeners continued our role as an impartial monitor of the weed control efficacy along Clallam County roadsides. Master Gardeners have been monitoring Clallam County roadsides since 2012, noting specific noxious weeds. In 2017, the objective changed to monitoring undesirable weeds that were treated with herbicide and/or manually removed by the noxious weed staff. The primary purpose of the monitoring was and is to evaluate the efficacy of treatment. This emphasis continues. In this report; there will be minimal numerical analysis. While it may be generally useful, data for analysis was limited since the roadsides monitored, the weed species viewed and the number of efficacy ratings were significantly lower than in previous years. We acknowledge that the collected data are not designed for statistical treatment as they are subjective and not normally distributed.

### **METHODOLOGY for 2023:**

The year 2023, did not produced any significant changes in our operational procedures. Thus, we mainly relied on our standard manual method of roadside surveillance to determine efficacy. If we found sites with poor efficacy ratings or other pertinent information, it was punctually relayed to the Noxious Weed Office.

### **MONITORING:**

A total of eighty-six (86) herbicide weed treatment data forms were received from the noxious weed office. Of those, fifty-eight (58) were manual treatment sites. Manual treatment sites are hard to evaluate since there are no plant remains to view at a later date. Eight (8) sites were out of area or for safety reasons deemed not worth the risk to view. That left twenty (20) spatially distributed herbicide weed treatment data forms for monitoring.

Several problems arose this year in monitoring.

- The wide distribution of sites over the allotted viable time frame
- The busy schedules and life events that occurred minimized personnel availability
- The ability to have enough clustered sites to monitor at one session
- High number of not found efficacy ratings due to altering of roadside (mowing)

As a result, only twelve(12) roadsides were monitored during the 2023 season (Appendix A) split evenly between East Clallam Road Department District and the Central District. Four (4) new roadsides were monitored in the Central District, and only one(1) roadside (Happy Valley) was monitored for the seventh consecutive year.

Nine (9) Clallam County noxious weed species were monitored but only five (5) received efficacy ratings (Appendix B). Category 1 weeds remained the highest priority for control in 2023. The knapweeds (meadow and spotted), were a high priority in 2017 and remained such for 2023.

Over the last few years, we have typically given over 200 efficacy ratings and viewed over 100 partial treatments, but in 2023 the numbers plunged. Only ten (10) efficacy ratings were given. Nineteen (19) unknown or not found readings were assigned. Therefore, it is difficult to viably analyze this year's data. A few statements can be made.

The primary concern in the monitoring process is the efficacy of the noxious weed treatments. The developed efficacy data from our monitoring corresponds to the prescribed codes found on the weed treatment monitoring form (WTMF) provided by the Noxious Weed Office. Monitoring of herbicide treated sites was done at least 4 weeks after treatment but usually within six weeks after treatment.

While efficacy ratings are somewhat subjective, they are determined by consensus. Efficacy ratings vary noticeably from road to road and weed to weed. The developed efficacy data from our monitoring evaluation corresponds to the prescribed codes found on the integrated weed management monitoring form.

With only a total of ten (10) efficacy ratings, any overall efficacy ratings would not be viable.

There were nineteen (19) unknowns or not found evaluations. Unknowns and partial treatment applications are not reflected in the overall efficacy ratings. Overall, efficacy ratings showed a wide range for individual species (Appendix C).

#### **HERBICIDE RETREATMENT NEEDS:**

Other data gathered by the monitoring team on the WTMF included retreatment needs for this year and next. Retreatment needs for this year were communicated to the Noxious Weed staff shortly after monitoring. Any priority weed noted for treatment that had less than half of the target population controlled was promptly reported.

#### **OFF-TARGET DAMAGE:**

Assuring chemical weed control activities do not impact native plants is an important role for our impartial RWMT. Immediate feedback helps determine if chemicals or application methods need to be modified. We continue to assess this on every WTMF. No off-target damage sites were noted in 2023.

**MONITORING OBSERVATIONS AND CONCLUSIONS:**

With the completion of the 2023 fieldwork, the RWMT now has multi-year data for most of the roadsides monitored. The following discussion will concentrate on the two (2) knapweeds, meadow and spotted. The knapweeds, commonly observed by the RVMT in full summer continuing into September, are typically treated with herbicides.

In 2023 efficacy ratings were bi-modal for the knapweeds. Of the seven (7) monitored sites for meadow knapweed 4 had efficacy ratings of good or better and three (3) were marginal (35%). Lower ratings were found around Sequim while the higher ratings were west of Port Angeles. The marginal and poor sites were reported to the weed office and retreated. The retreated sites were not reevaluated by RVMT, due to circumstances, but no doubt would have resulted in improved efficacy ratings for the knapweeds.

The knapweed species have remained high priority weeds over the survey period. Meadow knapweed appears to be the prevalent knapweed species currently monitored. It is cosmopolitan in its distribution in the East and Central districts, but there are several troublesome locations that need to be highlighted. The Happy Valley area is one of the prime locations, mainly west of Johnson Creek Road.

**Table 1:  
 Herbicide Treatment of the knapweeds along Happy Valley Road from 2017 -2023 showing density and efficacy**

YEAR	Date	DENSITY	EFFICACY
2017		3,4,5	35, 65, 85
2018	8/7	4,2	65/un
2019	8/27	4	65/95
2020		2	35
2021		---	95
2022		2	35
2023	6/28	1	35

Happy Valley Road has been treated for the knapweeds since the beginning of the herbicide treatments in 2017. Density readings in table 1 show a downward trend in the presence of mainly meadow knapweed. It is the prevalent species noted. The spray application timing in the early years indicates multiple dates for application. This past year the entire road was treated in one day. Note the downward trend in density from four (4) in the early years of treatment to this year, a density of one (1). Three of the last four years (missing data for 2021) show lower densities than the early years.

Efficacy ratings show the same trend but evaluation indicates a perception that the application is not as effective as it could be. There seem to be fewer patches of knapweed along the roadsides now than when the program started. But the persistent spot is the intersection of Happy Valley Road and Third Avenue, especially on the northeast corner by the white fence. And since we know where the knapweeds occur, we are concentrating on

that one location. The first year that we traversed this intersection by foot (2020) could reflect the drop in efficacy readings or else the concentration of the knapweed ratings for the road hinge on this one section. The area figures could be examined as well but that data was not available for this discussion. There is the impression that the knapweeds wax and wane which could be a result of the bi-annual nature of the plant. In this same vein meadow knapweed in some years is seen north of Happy Valley Road along Third Avenue and some years not.

Another location that has an overabundance of knapweed is the area just east of the Elwha River which includes unvisited, in 2023, Olympic Hot Springs Road. On the roads around Lairds Corner, meadow knapweed plants are found in abundance.

Since the Integrated Weed Management Plan has only been in effect since 2017 and noxious weed seeds can survive years, even decades, it is important to continue to appropriately resource the County's efforts in order to comply with Washington State weed laws. Supported activity by the Clallam County Road Commission and the Clallam County Commissioners illustrates an awareness of the "big picture" and a view to a sustainable future.

#### **RWMT:**

In 2023, eight (8) Master Gardeners continued in the activities associated with the Noxious Weed Office. They were: Gary Brundige, Lorraine Eckerd, Peggy Goette, Bev Hetrick, Nancy Kohn, Brenda Lasorsa, John Viada, and Bruce Pape.

Monitoring was mainly accomplished from a slow-moving vehicle, but, when necessary, sites were examined on foot. Safety was always a priority. Activities were limited to the East and Central Clallam Road District areas. During the monitoring, the teams documented post-treatment live noxious weeds and provided point notations for the Noxious Weed Office staff. Total volunteer hours were still depressed and amount to about one hundred (100) for the reasons previously noted.

## **APPENDIX A: Roadsides Monitored**

**East**

Happy Valley\*  
Lost Mountain  
O'Brien  
River  
Township Line  
Turnstone

**Central**

Bean^  
Black Diamond  
Hoare^  
Little Loop^  
Little River  
Old Black Damond^

^ First year monitored

\*Seventh year monitored

## APPENDIX B: Noxious Weeds Monitored

Code	Scientific name	Common name
CEMO	<i>Centaurea x moncktonii</i>	meadow knapweed*
CEST	<i>Centaurea stoebe</i>	spotted knapweed *
CIVU	<i>Cirsium vulgare</i>	bull thistle*
CLVU	<i>Clinopodium vulgare</i>	wild basil
CYSC	<i>Cytisus scoparius</i>	Scotch broom*
HICA	<i>Hieracium aurantiacum</i>	yellow hawkweed
JAVU	<i>Jacobaea vulgaris</i>	tansy ragwort*
PORE	<i>Potentilla recta</i>	sulfur cinquefoil
TAVU	<i>Tanacetum vulgare</i>	common tansy*

\* Treated 2017 through 2023

**APPENDIX C: Efficacy Ratings**

WEED	EFFICACY	ROAD
CEMO	95	Bean
	65	Black Diamond
	35	Happy Valley
	100	Hoare
	85	Little River
	95	Old Black Diamond
	35	River
CEST	65	Turnstone
CYSC	0	Bean
JAVU	95	Old Black Diamond

**APPENDIX C, *continued***

CLASSIFIED PROOF

**PUBLIC HEARING NOTICE**

Clallam County is beginning the 2023 Integrated Weed Control program which may include spot treatments of herbicide to control specific noxious weeds and invasive species of special concern along selected portions of county right-of-way. Notices indicating which herbicide has been applied, the application date, and the target weed species will be posted onsite. The Integrated Weed Management Plan, which contains information about target weeds, locations, and treatment methods, can be viewed online at <https://www.clallamcounty.wa.gov/821/Noxious-Weed-Control>. Property owners who do not wish to have their adjoining right-of-way treated with herbicide have the option of keeping the right-of-way abutting their property weed free by applying for an Owner Will Control Agreement with Clallam County available online. Contact the County for further information at 360-417-2442.  
PDN.: April 6, 2023  
Legal No. 974434

# **NOTICE**

The herbicides aminopyralid, imazapyr, triclopyr, clopyralid or \_\_\_\_\_ will be applied to this site to control noxious weeds, which threaten native vegetation and habitat in this area.

**Planned / Actual application date\*:** \_\_\_\_\_

\*Actual date of application contingent upon weather conditions.

**Targeted Noxious Species\*\*:** \_\_\_\_\_

\*\*Other weed species in this area may also be treated at this time.

## **NO USE RESTRICTIONS ARE IN PLACE**

**Avoid contact with treated vegetation until after it has dried.**

**Clallam County Noxious Weed Control Board  
223 East Fourth Street, Suite 15  
Port Angeles, WA 98362  
(360) 417-2476  
(360) 477-1210**

# APPENDIX N: SAMPLE HERBICIDE/MANUAL TREATMENT DATA FORM (SIDE 1):

## 2023 CLALLAM COUNTY ROADS: Herbicide/Manual Treatment Data Form

Name of Entity/Person for whom Treatment was applied: <u>Clallam County</u>			
Street Address: <u>223 E 4th St</u>	City: <u>Port Angeles</u>	State: <u>WA</u>	Zip: <u>98362</u>
Address or Exact Location of Site: _____			
PIN#: _____			

### General Activity Fields

County (circle one)	WRIA (circle one)	Project Name (from project list)	Department (circle one)	Workforce**
Clallam	15 16 17 18 19		Roads   Parks DCD   Other	

\*\*Workforce: County Name, WCC Crew Name, County Weed Board

Crew Members Present: _____
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### Site/Inventory Fields

Date	Acres examined for weeds	Acres treated (do not lump plants)	Miles Examined	Miles Treated	Treatment Site (circle one)	Treatment Method (circle one)	Total <u>Manual Infested Area</u> Treated: (DO NOT lump plants together)  acres
					Road edge/ROW   Park Pit   Other   Private	Spot Complete Retreatment	

Weeds Treated (Just the PLANTS code is OK)	Infested Area Treated (DO NOT lump plants together)	% of area examined for weeds infested with species ( <u>lump</u> plants together - use cover classes 1 - 9 listed below)	Manual Herbicide	Number of plants manually removed	Notes

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.

APPENDIX N: SAMPLE HERBICIDE/MANUAL TREATMENT DATA FORM (SIDE 2):

**Herbicide Application**

All Licensed Applicators: Name and License #  Christina St John #104740  Allison Frick #106051  Joe Oakes #100454

Firm Name: Clallam County Noxious Weed Control Board Phone # 360-417-2442

Firm Address: 223 E 4<sup>th</sup> St, Suite 15 City: Port Angeles State: WA Zip: 98362

Application Date	Time Start	Time Stop	Temp (F)	Wind Speed (MPH)	Wind Direction	Cloud Cover	Remarks – Weather forecast

Application Area (acre)	Total Volume of Mix Applied (gal)	Diluent	Special comment
		Water	

Product Name	EPA Registration #	Amount of herbicide used (oz)	Herbicide Applied/Acre or other measure	Concentration Applied
<input type="checkbox"/> Element 3A	62719-37			
<input type="checkbox"/> Milestone	62719-519			
<input type="checkbox"/> Vastlan	62719-687			
<input type="checkbox"/> Transline	62719-259			
<input type="checkbox"/> Competitor	WA-2935-04001			
<input type="checkbox"/> Blazon Blue				
<input type="checkbox"/> Oust XP	432-1552			
<input type="checkbox"/> Ranger Pro	524-517			

Was this application made as a result of a permit? **YES NO**  
If yes, Permit # \_\_\_\_\_

Project Complete? **Y** or **N** (add notes) Project ID #: \_\_\_\_\_

**WA State NPDES Acres:** \_\_\_\_\_

Notes: \_\_\_\_\_ # Interactions: \_\_\_\_\_

APPENDIX O: SAMPLE OWNER WILL CONTROL:



**OWNER WILL CONTROL AGREEMENT**

By entering into this agreement an adjacent property owner (hereinafter referred to as "Owner") will agree to control noxious weeds and other weeds of concern as described in Appendix A of this agreement on county right-of-way adjacent to property located at:

\_\_\_\_\_ (Street) \_\_\_\_\_ (City) \_\_\_\_\_ (Zip)

The County will send a confirmation email upon receiving a completed application and return a copy of the finalized Owner Will Control Agreement (hereinafter referred to as "Agreement").

For the purpose of this Agreement, 'control' will consist of complete removal of all above ground biomass and as much of the root system as is feasible of weeds listed in your packet, as well as any additional weeds of concern as determined by the County.

If noxious or other weeds of concern are observed on right-of-way adjacent to above named address, County will notify property owner of their presence. Owner will then have ten (10) days to completely remove weeds as required by this Agreement. If Owner fails to control weeds in that timeframe, this Agreement will be terminated and weeds will be controlled as determined by the County, including the use of herbicides.

This Agreement is valid from the date signed by both parties until December 31 of the same year.

If the Owner Will Control Agreement is terminated as described above the Owner may apply to re-enter into a new Owner Will Control Agreement the following calendar year.

\* \_\_\_\_\_ \* \_\_\_\_\_ \* \_\_\_\_\_

Owner Name (Print) (Signature) Date

\* \_\_\_\_\_ \* \_\_\_\_\_

(Owner Email) (Owner Phone #)

Interested in Native Plant Enhancement Program? (circle one) **YES NO**

\* \_\_\_\_\_ \* \_\_\_\_\_ \* \_\_\_\_\_

County Representative (Signature) Date

\*Required Field

APPENDIX P: SAMPLE ADOPT-A-PATCH PERMIT:

**Clallam County Public Works Department**  
 223 East Fourth Street, Suite 15 Port Angeles, WA 98362  
 360-417-2703 Phone 360-417-2414 Fax

**\$160 plus all costs beyond public use\*\***  
 \*\*See C.C.C. 5.100.245 – Fee Schedule 245-A

PROJECT NO. _____
ROAD NAME _____
PERMIT NO. _____
COUNTY USE ONLY

**APPLICATION FOR SPECIAL USE OR EVENT ALONG CLALLAM COUNTY RIGHT OF WAY**

In Clallam County, a "Right-of-Way" permit is required to work along a county-owned road within the county right of way.

**PLEASE PRINT**

Name of Applicant: _____	County Road: _____
Mailing Address: _____ _____ _____	Address/ Milepost of Project Site: _____
Phone: _____	<b><u>When the project is approved.</u></b> (check one item below) <input type="checkbox"/> Mail permit when approved <input type="checkbox"/> Call when approved <input type="checkbox"/> Fax when approved
Cell Phone: _____	
Fax: _____	

**USE PROPOSED & PURPOSE**

Special Use: NOXIOUS WEED CONTROL

Name of Event Coordinator: \_\_\_\_\_

Start Date \_\_\_\_\_  
 End Date \_\_\_\_\_

**IMPORTANT:**

Project Location Description: \_\_\_\_\_  
 (Reference "Adopt-A-Patch Site List" for location")

**THE EXACT LOCATION OF THE ENTIRE EVENT/USE AREA MUST BE CLEARLY MARKED SO AS TO BE EVIDENT TO COUNTY PERSONNEL. FAILURE TO COMPLY WILL RESULT IN A DELAY OF THE PROCESSING OF THIS PERMIT.**  
 It is the responsibility of the applicant to notify all utilities and private property owners when such property is liable to injury or damage through the performance of the permitted work. The applicant shall make all necessary arrangements relative to the protection of such property and/or utilities.

By signing this permit, the applicant agrees to comply with all conditions as stated on the PERMIT, Form RWPCOND041604, Permit Conditions Addendum and C.C.C. 5.100.245 – Fee Schedule 245-A. Applicant has 10 days from permit approval date to request clarification or modification to permit conditions attached.

Signed \_\_\_\_\_ Date \_\_\_\_\_

\*\*\*\*\* COUNTY USE ONLY \*\*\*\*\*

PERMISSION IS HEREBY  GRANTED  DENIED  
 Call 360-417-2703 for the following:  
 Start Date \_\_\_\_\_  \_\_\_\_\_  Final  
*The Approved Permit Must be Posted on Site Until Final Inspection.*

<b>FEE CALCULATION</b>
_____
_____
_____
AMT WAIVED: _____
NET FEE: _____
DATE: _____
RECEIPT#: _____
CHECK#: _____
REC'D BY: _____

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

This permit shall be void unless the work herein contemplated is completed before the following date: \_\_\_\_\_  
 Area Supervisor/Design Review Engineer \_\_\_\_\_ Date \_\_\_\_\_ Final Inspection By: \_\_\_\_\_ Date: \_\_\_\_\_

Program details and forms available online at <https://www.clallamcountywa.gov/1042/Roadside-Vegetation-Management>

APPENDIX Q: SAMPLE ADOPT-A-PATCH ACTIVITY REPORT:



**Adopt-A-Patch Activity Report**

**Permit#:** \_\_\_\_\_ **Permittee Name:** \_\_\_\_\_

**Permittee Phone #:** \_\_\_\_\_

**Dates included in this report:** \_\_\_\_\_ (mm/dd/yy)

\_\_\_\_\_ (mm/dd/yy)

\_\_\_\_\_ (mm/dd/yy)

\_\_\_\_\_ (mm/dd/yy)

**Target Species:** \_\_\_\_\_

**Estimated Total Removed:**

**Species 1** \_\_\_\_\_ **#plants** \_\_\_\_\_ **lbs of flowers/seeds** \_\_\_\_\_

**Species 2** \_\_\_\_\_ **#plants** \_\_\_\_\_ **lbs of flowers/seeds** \_\_\_\_\_

**Species 3** \_\_\_\_\_ **#plants** \_\_\_\_\_ **lbs of flowers/seeds** \_\_\_\_\_

**Species 4** \_\_\_\_\_ **#plants** \_\_\_\_\_ **lbs of flowers/seeds** \_\_\_\_\_

**Total Distance Covered: shoulder 1** \_\_\_\_\_ **miles/feet shoulder 2** \_\_\_\_\_ **miles/feet**

**Total # in Workforce:** \_\_\_\_\_ **Total # Hours Worked:** \_\_\_\_\_

**Comments?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Submit reports as often as desired, but submit no later than October 31.

Email to [Noxiousweedcontrol@clallamcountywa.gov](mailto:Noxiousweedcontrol@clallamcountywa.gov) or Mail to: Clallam County Noxious Weed Board  
223 E Fourth St, Suite 15  
Port Angeles, WA 98362

Program details and forms available online at: <https://www.clallamcountywa.gov/1042/Roadside-Vegetation-Management>

APPENDIX R: SAMPLE ADOPT-A-PATCH WAIVER:

**Adopt-A-Patch Waiver**

Name of Grantee		Permit #	
Name of Volunteer/Assignee			
Address	City	Zip Code	Telephone Number
Person to notify in case of emergency		Relationship	
Address	City	Zip Code	Telephone Number
<p>Clallam County's Adopt-a-Patch Program issues permits that allow permit holders, hereinafter known as "Grantees" to enter onto County owned lands for the purpose of controlling noxious and invasive plants of special concern. Grantees and their participants, hereinafter known as "Volunteers" or "Assignees" are advised that working adjacent to a county road can be hazardous and shall exercise due care in performing weed control activities. Grantees and their Assignees must receive safety training prior to participating in any weed control activities.</p> <ol style="list-style-type: none"> <li>1. I understand that working within right-of-ways and performing noxious weed control can be hazardous.</li> <li>2. I hereby verify that I am 18 years of age or older, have viewed the Adopt-a-Highway Safety Video and read the Adopt-a-Patch Safety Tips. I understand the conditions, responsibilities, and privileges of participation in the Adopt-a-Patch Program.</li> <li>3. By signature below I verify that I am operating on Clallam County right-of-way as a Volunteer/Assignee for Grantee _____ under a valid Clallam County permit and therefore agree to defend, indemnify, and save harmless the County from all claims, actions or damages of every kind and description which may accrue to or be suffered by any person or persons, corporation or property by reason of the performance of any such work, character of materials used or manner of installation, maintenance and operation or by the improper occupancy of rights of way or public place or public structure, and in case any such suit or action is brought against said County for damages arising out of or by reason of any of the above causes, the grantee, his agents, successors, assigns, or volunteers will upon written notice to him or them or commencement of such action defend the same at his or their sole cost and expense and will fully satisfy any judgment after the said suit or action shall have finally been determined if adversely to the County.</li> </ol>			
Signature of Assignee		Date	
<input type="text"/>		<input type="text"/>	
Number of hours worked			
<input type="text"/>			

Program details and forms available online at: <https://www.clallamcountywa.gov/1042/Roadside-Vegetation-Management>