

# CLALLAM COUNTY ROAD DEPARTMENT

## Integrated Weed Management Plan

2020 Annual Report



BIOLOGICAL



PHYSICAL



CHEMICAL



CULTURAL



PREVENTATIVE



POLLINATOR  
FRIENDLY

Prepared by **Clallam County Noxious Weed Control Board**  
Available online: [http://www.clallam.net/Weed/RD\\_IWMP.html](http://www.clallam.net/Weed/RD_IWMP.html)  
Joe Reynolds, Control Specialist  
Shea McDonald, Lead Inspector  
Cathy Lucero, Coordinator

**EXECUTIVE SUMMARY** .....4

**PROJECT SUMMARY** .....6

**MAPS: PROJECT AREAS AND TARGET ROADS**.....8

    MAP 1. CLALLAM COUNTY ROADSIDE TREATMENT OVERVIEW 2020 ..... 9

    MAP 2. BLYN – MILLER PENINSULA TREATMENT AREA ..... 10

    MAP 3. SEQUIM-DUNGENESS VALLEY TREATMENT AREA..... 11

    MAP 4. SOUTH SEQUIM TREATMENT AREA..... 12

    MAP 5. PORT ANGELES TREATMENT AREA..... 13

    MAP 6. JOYCE TREATMENT AREA ..... 14

    MAP 7. CLALLAM BAY TREATMENT AREA..... 15

    MAP 8. FORKS TREATMENT AREA..... 16

**POST SEASON OBSERVATIONS:** .....17

**RECOMMENDATIONS:** ..... 21

**APPENDIX A: 2020 IWM TASK TABLE** ..... 22

**APPENDIX B: WEED SPECIES TREATED ON COUNTY ROADSIDES AND ROCK SOURCES 2020**..... 27

**APPENDIX C: 2020 ROADSIDE TREATMENT ACTIVITIES:** ..... 30

**APPENDIX D: COUNTY ROCK SOURCES/SOIL DISPOSAL SITE TREATMENT ACTIVITIES** ..... 41

**APPENDIX E: HERBICIDE VOLUMES BY COUNTY ROADS AND ROCK SOURCES**.....46

**APPENDIX F: PILOT POLLINATOR PLANTINGS** ..... 56

**APPENDIX G: PROTOCOLS** ..... 57

**APPENDIX H: WSU EXTENSION MASTER GARDENER ROADSIDE WEED MANAGEMENT MONITORING REPORT** ..... 59

**APPENDIX I: PENINSULA DAILY NEWS LEGAL NOTICE OF HERBICIDE USE 2019**..... 90

**APPENDIX J: SAMPLE HERBICIDE NOTICE** ..... 91

**APPENDIX K: SAMPLE HERBICIDE/MANUAL TREATMENT DATA FORM (SIDE 1)**..... 92

**APPENDIX K: SAMPLE HERBICIDE/MANUAL TREATMENT DATA FORM (SIDE 2)**..... 93

**APPENDIX L: SAMPLE OWNER WILL CONTROL** ..... 94

**APPENDIX M: SAMPLE ADOPT-A-PATCH PERMIT** ..... 95

**APPENDIX N: SAMPLE ADOPT-A-PATCH ACTIVITY REPORT** ..... 96

**APPENDIX O: SAMPLE ADOPT-A-PATCH WAIVER**..... 97

## 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 implemented by reducing existing weed populations and preventing the establishment of new ones across the county.

### 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 project identifies high priority targets to contain the worst infestations and prevent the spread of noxious weeds.

### 2020 Project Overview:

This year we further integrated weed management into Road Department activities through communication and trainings. We began treatments earlier and expanded our control of weeds in pits. We combined weed surveys with manual control wherever 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 planting begun two years ago; we applied lessons learned, and expanded our plantings at some 2019 sites.

### 2020 Project Accomplishments:

#### Program Development

- Completed or progressed with all program development and implementation tasks outlined in IWM Plan.
- Facilitated communication to further synch the IWM Plan with Road Department activities.
- Implemented Pit Plans and treated each pit multiple times throughout the growing season.
- Continued observation of project to observe the effect of native shrub cover on tree seedling recruitment in the right-of way.
- Expanded Pollinator Planting Program; 2 new plantings, monitored, maintained and augmented 2018 and 2019 projects.

#### Roadsides:

- Controlled weeds on a total of **138 County Roads**; **45 roads** manual only, **55 roads** manual/herbicide, and **38 roads** herbicide only. **82 roads** were surveyed and 15 were found with high priority species and subsequent Early Detection & Rapid Response (EDRR) or manual treatments occurred.
- Controlled **222 miles** and examined **435 acres** (including retreatments).
- Herbicide was applied on **93 roads** with a total of **15.2 gallons** applied over **188 miles** (including retreatments)
- Controlled **35** species.
- More than **114 individuals** interacted with staff during treatments.

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

- Treated **25 County Pits**.
- Controlled a total of **30 species** over a total of **205 acres**.
- Controlled an estimated **0.13 solid acres** manually.
- Controlled an estimated **39.2 solid acres** chemically.
- Herbicide was applied within **25 County Pits** with a total of **29.8 gallons** applied over **205 acres**.

#### Strategic Pollinator Plantings:

- Monitored, maintained, and augmented **two** projects (**Old Olympic Hwy/ODT** and **Deer Park Overpass**).
- Expanded the Deer Park planting site, adding an oak/woodland savannah.
- Incorporated **35** native shrub and forb species with sequential bloom periods.
- Combined total of **9871 plants** over approximately **two acres**.

#### Program Monitoring, Evaluation and Reporting

- The Roadside Weed Monitoring Team (RWMT) assessed **35%** of roadside treatments and reported **80%** average efficacy; assessed locations for pollinator pathway potential.
- **Herbicide treatments were determined to be very precise. (See Master Gardener (MG) report in appendix H)**

**Observations and Recommendations:**

- Italian thistle is an aggressive Class A noxious weed that requires an intensive maintenance regime to reduce its population and seedbank.
- Our early start led to increased efficiency by detecting plants in an early life stage reducing both chemical and manual needs of treatment later on in the season.
- Multiple treatments of noxious weeds in smaller locations along county roads has become an option because of the less time it takes to do high priority roads with the reduction in the weed community.
- Retreatments of county roads have potential to become an effective way to improve efficacy.
- Treating entire pit areas for most or all noxious weeds is a challenging but exciting prospect leading to more effective preventative strategies.
- The Deer Park Overpass is an exciting opportunity to produce varied and quality habitat for pollinators. It is also a difficult site to water and maintain. Setting up watering stations and seeking volunteer assistance with watering is worth exploring.
- The program tackled more weedy widespread species such as Scotch broom and Himalayan blackberry in county pits in particular.

## Project 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. To accomplish the stated goal and be a responsible steward of county owned land, the County must ensure noxious and invasive weeds are effectively and efficiently controlled. The goal is implemented by reducing existing weed populations and preventing the establishment of new ones across the county. Invasive and noxious weeds negatively impact agricultural and forestry production, property value, as well as water flow and availability. Roadsides are high priorities for control of weed species because they cross and link many adjacent properties and land uses, and can act as conduits for the spread of weeds. County rock sources/soil disposal sites 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.

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 successfully create the shift in roadside vegetation to natural, site appropriate communities, the project identifies high priority targets to contain the worst infestations and prevent the spread of noxious weeds. 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/vectors for weed dispersal. The project aims to eliminate these significant weed pressures while systematically reducing weed abundance and promoting desirable vegetation. As the project matures and the number of high priority targets is reduced the number of chemical and physical treatments will also be reduced and balanced by cultural and preventative methods.

Weed control work on the County right-of-ways and pits is to be implemented by the Clallam Noxious Weed Control Board (NWCB) and through partnerships with other county entities, non-governmental agencies, and volunteers. Past partnerships included the Clallam County Road Department, Clallam County Sheriff's Department Chain Gang, Olympic Discovery Trail Volunteers and the 10K 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.

### 2020 Project Description:

In this fourth year of the IWM Program we further integrated weed management into Road Department activities. We facilitated communication between multiple departments, continued implementation of pit plans, and progressed in a study to further inform mowing practices through the efforts of Roadside Weed Monitoring Team (RWMT), a dedicated group of Master Gardeners with professional backgrounds in natural resources.

Expanded full time staffing under the Clallam County Noxious Weed Control Board increased our treatment capacity and allowed us to begin treatments earlier. This expansion aided in early detection and increased surveys in different seasons. The late start date of seasonal employees and heightened safety protocols due to the pandemic were obstacles to completing planned work. The Chain gang was not operational due to Covid-19 safety restrictions 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 impacts. Their report with the results of their observations can be found in Appendix H. 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. NWCB staff and volunteers expanded two pollinator friendly plantings with locally sourced native plants.

## 2020 PROJECT ACCOMPLISHMENTS:

### Program Development

- Completed or progressed with most program development and implementation tasks outlined in the Integrated Weed management (IWM) Plan.
- Facilitated communication to further synch the IWM Plan with Road Department activities.
- Implemented pit plans and associated weed treatments.
- Continued to observe the effect of native shrub cover on tree seedling recruitment in the right-of way.
- Executed contract with new locally-sourced native plant material provider.

### Program Implementation

#### Roadsides:

- Controlled weeds on a total of **138 County Roads**; **45 roads** manual only, **55 roads** manual/herbicide, and **38 roads** had herbicide only. **82 roads** were surveyed and 15 were found with high priority species and subsequent EDRR or manual treatments occurred in 2020.
- Controlled **222 miles** including retreatments (435 **acres examined**) and comprised of: **45 roads** with manual treatments only, **55 roads** had manual/herbicide treatments, and **38 roads** had herbicide treatments only.
- Controlled **.5 solid acres** manually.
- Controlled **19.1 solid acres** chemically.
- Herbicide was applied on **93 unique roads** with a total of **15.2 gallons** applied over **188 miles**, including retreatments.
- Controlled **35 species** – including **11 regulated** noxious weed species.
- More than **114 individuals** interacted with staff during treatments.

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

- Treated **25 County Pits**.
- Controlled a total of **30 species** over a total of **205 acres**.
- Controlled an estimated **0.13 solid acres** manually.
- Controlled an estimated **39.8 solid acres** chemically.
- Herbicide was applied within **25 County Pits** with a total of **29.8 gallons** applied over **205 acres**.

#### Strategic Pollinator Plantings:

- Monitored and maintained 3 sites (**Black Diamond, Old Olympic Hwy/ODT, and the Deer Park Pollinator Habitat Enhancement**)
- Established photo monitoring locations to document plant success over time.
- Augmented **two** projects (**Old Olympic Hwy/ODT and the Deer Park Pollinator Habitat Enhancement**) with a combined total of **9871 plants** over approximately **two acres**.
- Broadened plant diversity to include **35** native shrub and forb species with sequential bloom periods.

### Program Monitoring, Evaluation and Reporting

- The RWMT assessed **35%** of roadside treatments and reported **80%** average efficacy; this year they excluded and treatments west of Lake Crescent.
- Herbicide treatments were determined to be precise. (**See Master Gardener (MG) report in appendix H**)
- The RWMT assessed pollinator pathway potential while surveying the Olympic Discovery Trail for weed species. They have identified ODT parking lots as possible future planting sites.

## Maps: Project Areas and Target Roads

Map 1 shows an overview of all roadside and rock source treatment activities completed by Clallam County Noxious Weed Control Board and partners in 2020. Maps 2 – 8 show treatment activities in focus areas in East, Central and West Clallam County. Some roads that received treatment may not be shown in these maps, however every road that received treatment is listed in Appendix C and Appendix D.

### Map Description:

The top priority of the 2020 IWM Plan is 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 and bull thistle, are more widely distributed across the county and treatment activities 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 and Appendix D.

### Legend Description:

The Legend for maps 2-8 includes symbols only for **Species Treated** in areas encompassed in each specific map. Together, maps 2-8 show all species with spatial data recorded in 2020. *Regulated* weed species are listed first, as **stars** or **asterisks**, in alphabetical order according to weed codes; *non-regulated* weed species, where points were taken, are listed second, as circles, triangles, or squares, in alphabetical order by weed codes. All county pits shown on the map received treatments in 2020. In the **Overview** map, all treated roads are shown with solid **green lines**. In **Maps 2-8** treated roads are further color coded by treatment type; roads that received ONLY manual treatments are shown with green/white stripes, roads that had combination manual/herbicide treatments, or herbicide only, are shown with solid green.

### Map List:

#### **Clallam County**

Map 1. Clallam County Roadside Treatment Overview 2020

#### **East Clallam County**

Map 2. Blyn – Miller Peninsula Treatment Area

Map 3. Sequim-Dungeness Valley Treatment Area

Map 4. South Sequim Treatment Area

#### **Port Angeles/Central Clallam County**

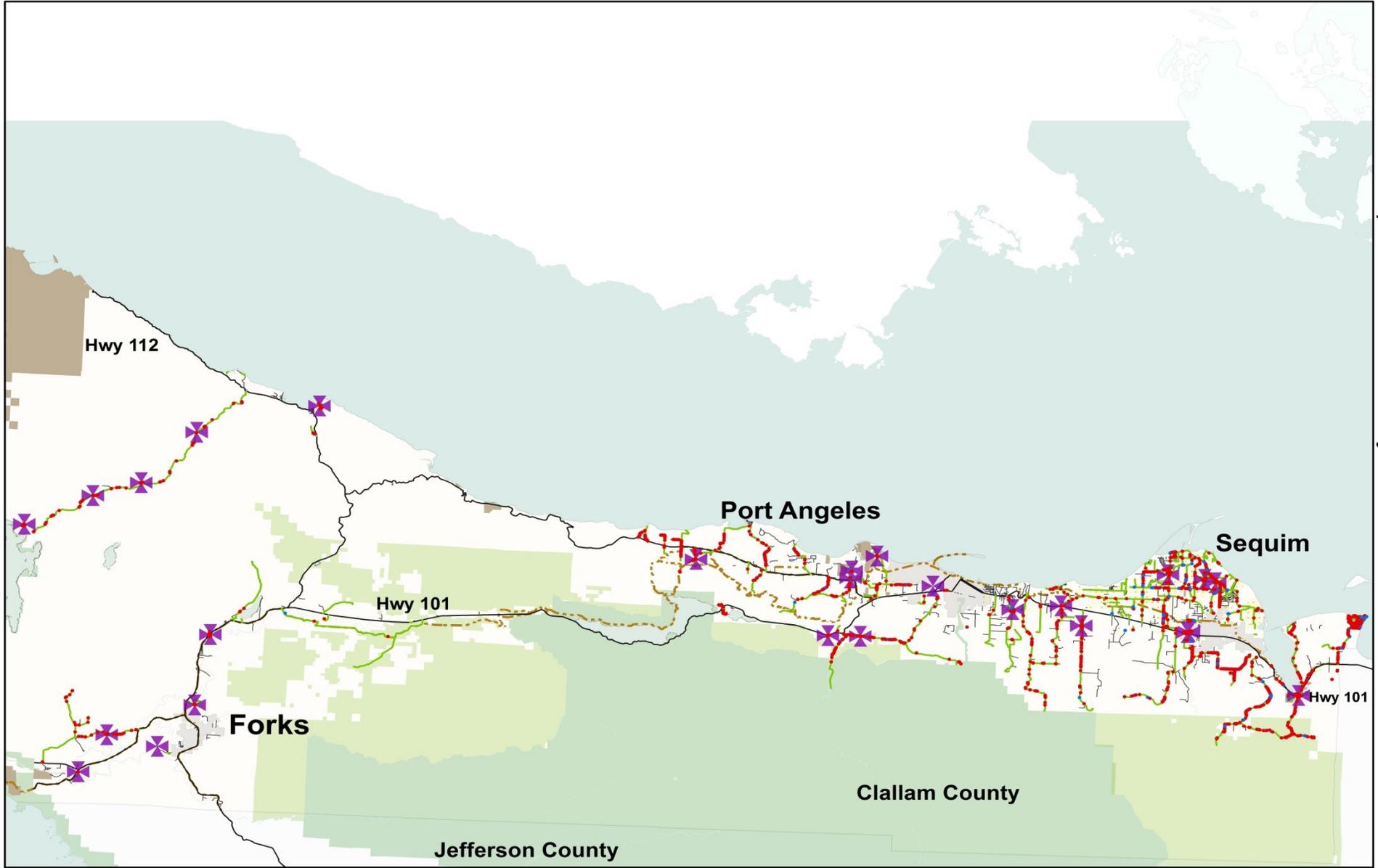
Map 5. Port Angeles Treatment Area

Map 6. Joyce Treatment Area

#### **West Clallam County**

Map 7. Hoko-Clallam Bay Treatment Area

Map 8. Forks Treatment Area

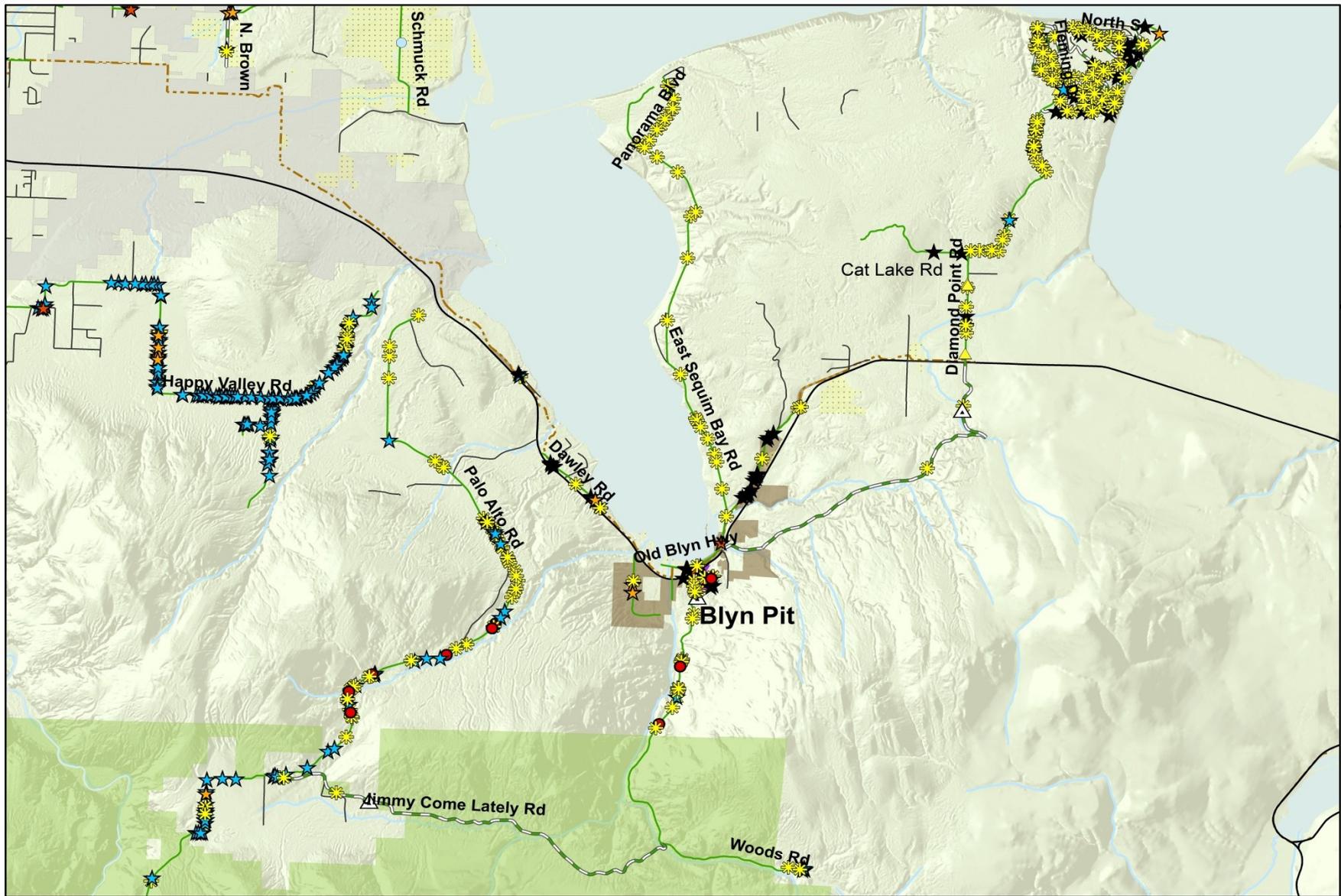


**Species Treated**

- Regulated Species
- Other Species
- ✱ County Pits
- Treated Roads
- County Roads
- State Hwy
- - - Olympic Discovery Trail
- Olympic National Forest
- Olympic National Park



Map 2. Blyn-Miller Peninsula Treatment Area



0 0.5 1 2 Miles

**Roads Treated**

- Manual Only
- Herbicide or Combination

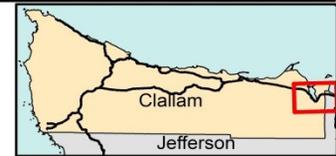
**\*Species Treated**

- knapsweed, spotted
- Fuller's teasel
- knapsweed, meadow
- knapsweed, Bohemian
- poison hemlock
- tansy ragwort
- herb-Robert
- Other
- Scotch broom

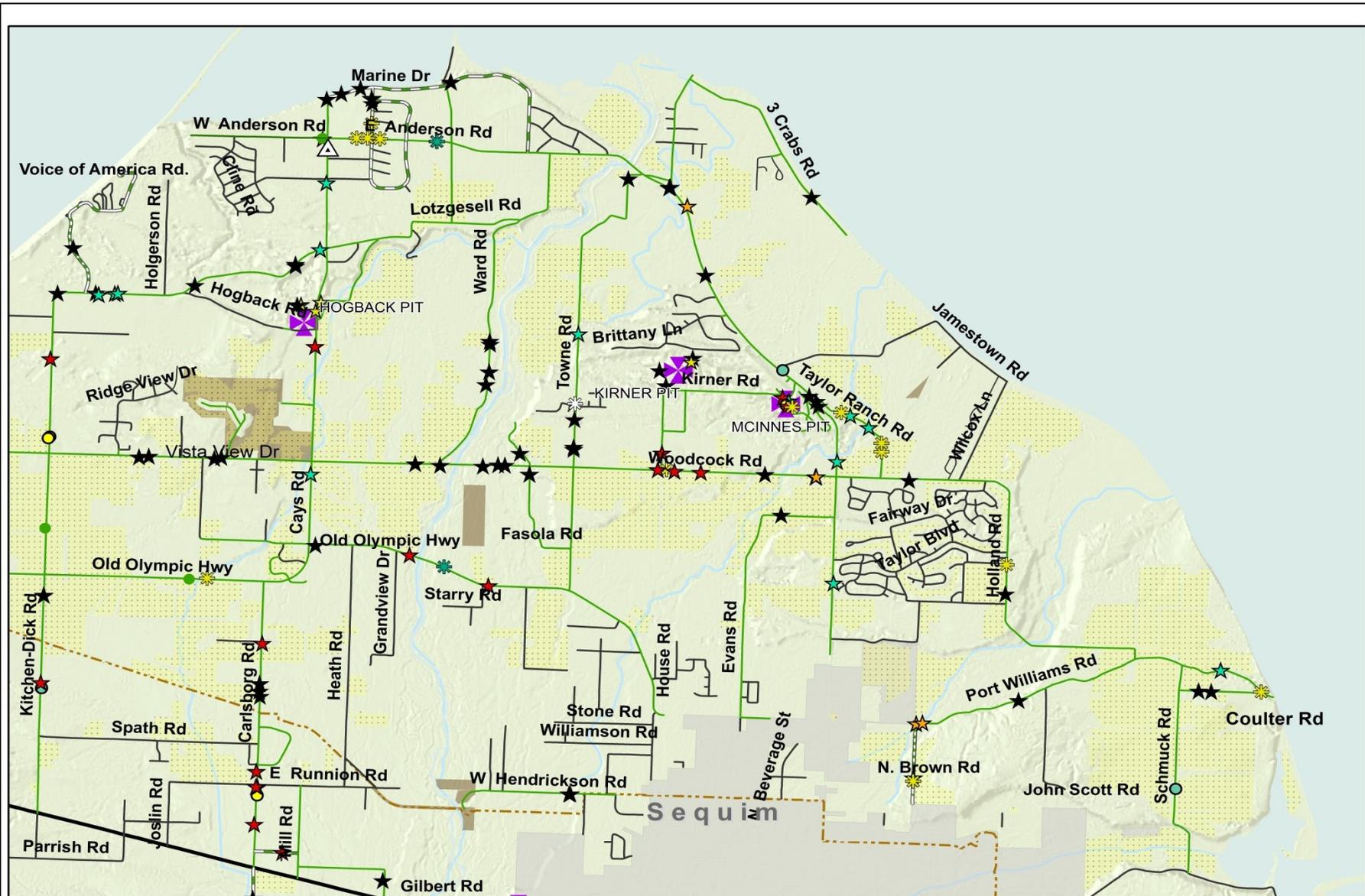
**Other Symbols:**

- County Pits
- Agriculture Areas
- Tribes
- City UGA
- Olympic Discovery Trail
- County Roads
- State Hwy

\*See legend description at the beginning of "Maps" section



Map 3. Sequim-Dungeness Valley Treatment Area



**Roads Treated**

- Manual Only
- Herbicide or Combination
- All County Roads
- State Hwy
- Olympic Discovery Trail
- ✳ County Pits

\*See legend description at the beginning of "Maps" section

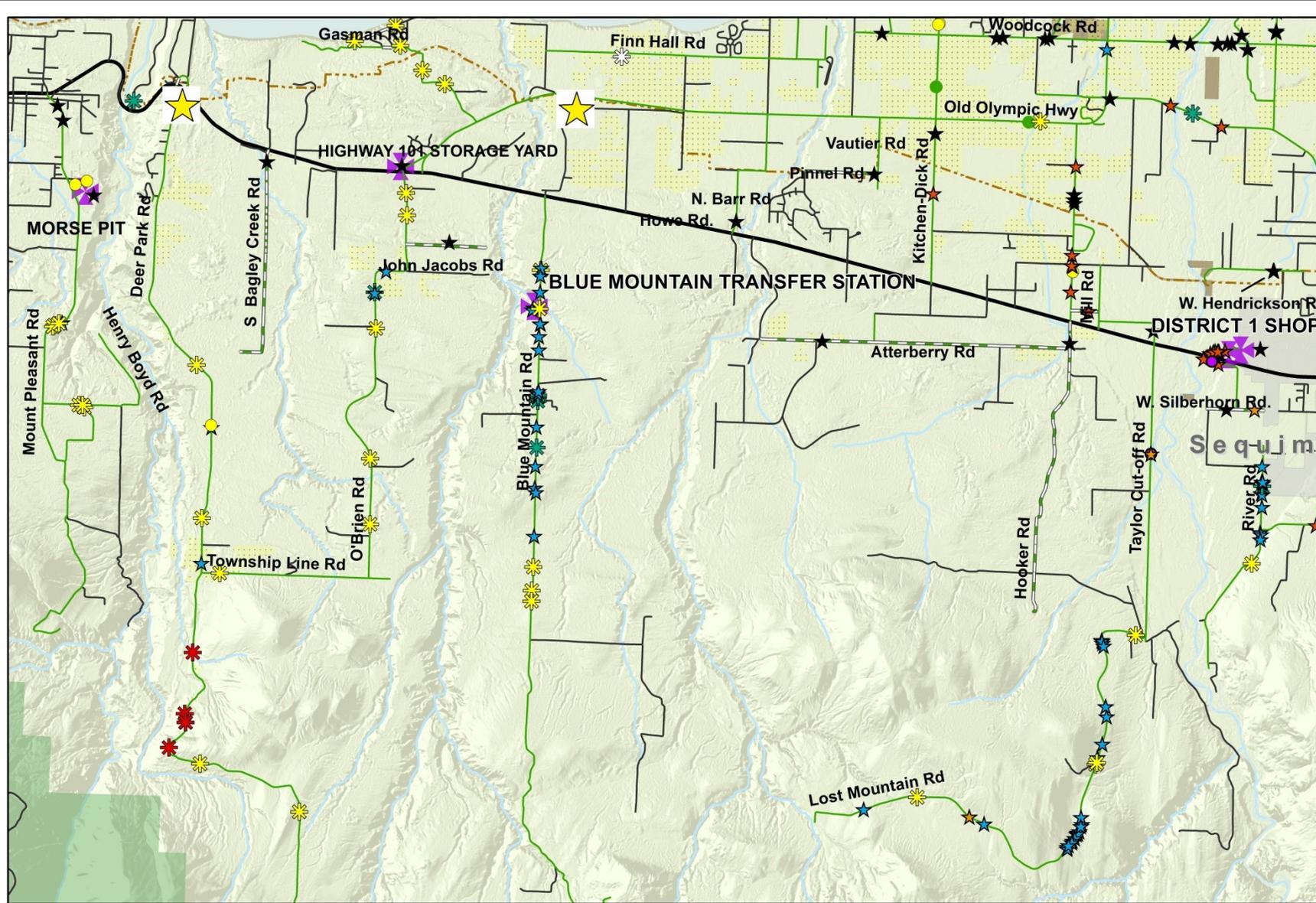
- Agriculture Areas
- Tribes
- City UGA

**\*Species Treated**

- ★ common teasel
- ★ knapweed, meadow
- ★ knapweed, spotted
- ★ common tansy
- ★ field bindweed
- ★ Other
- ★ sulfur cinquefoil
- ★ tansy ragwort
- ★ thistle, Italian
- ★ yellow archangel
- ▲ knotweed, Bohemian



Map 4. South Sequim Treatment Area



**Roads Treated**

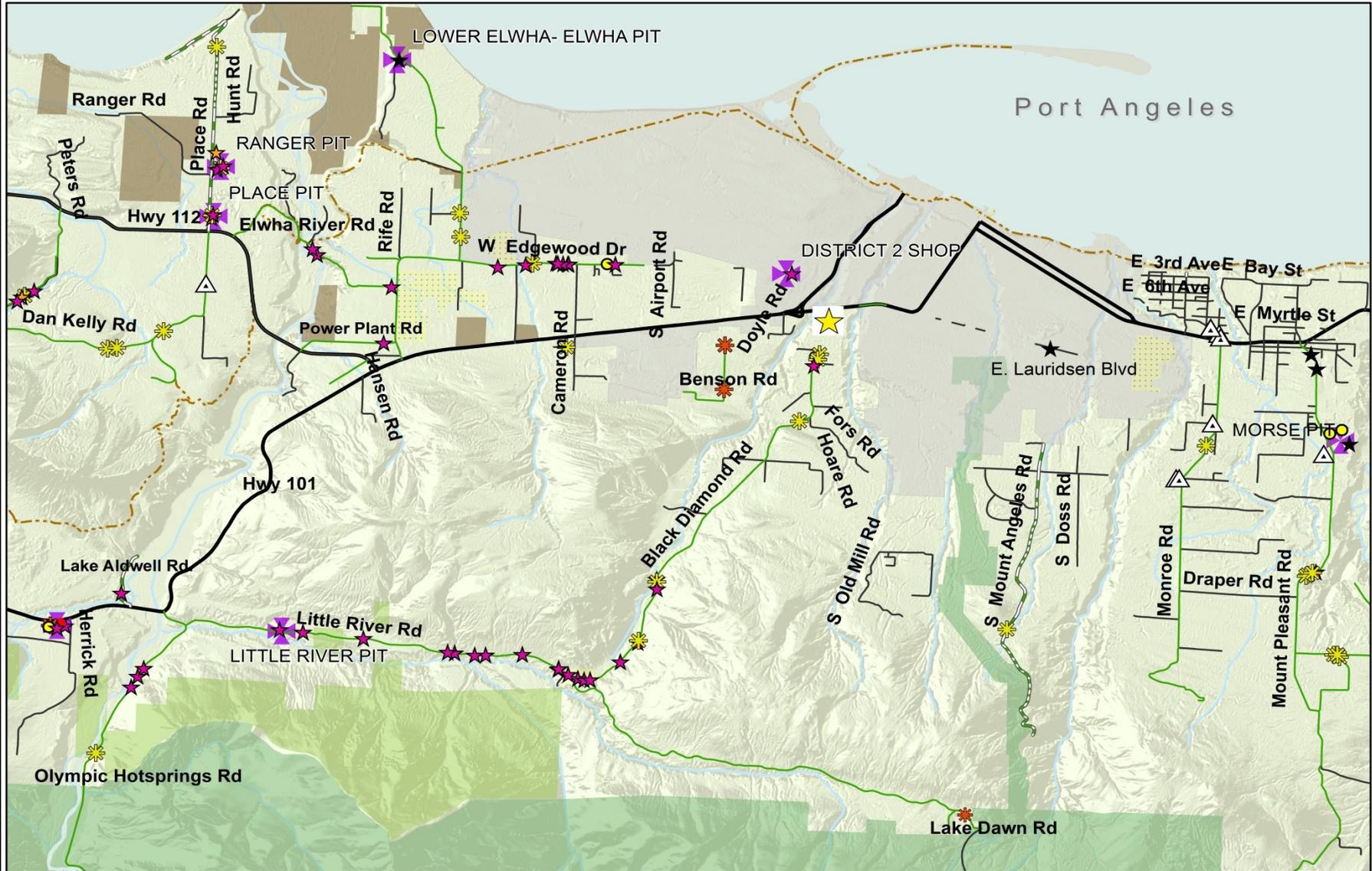
- Manual Only
  - Herbicide or Combination
  - County Pits
  - All County Roads
  - Pollinator Planting Site
  - State Hwy
  - Olympic Discovery Trail
  - Agriculture Areas
  - City UGA
- \*See legend description at the beginning of "Maps" section

**\*Species Treated**

- yellow hawkweed
- Fuller's teasel
- knapweed, meadow
- knapweed, spotted
- poison hemlock
- sulfur cinquefoil
- tansy ragwort
- yellow archangel
- butterfly bush
- common tansy
- field bindweed



Map 5. Port Angeles Treatment Area



0 0.5 1 2 Miles

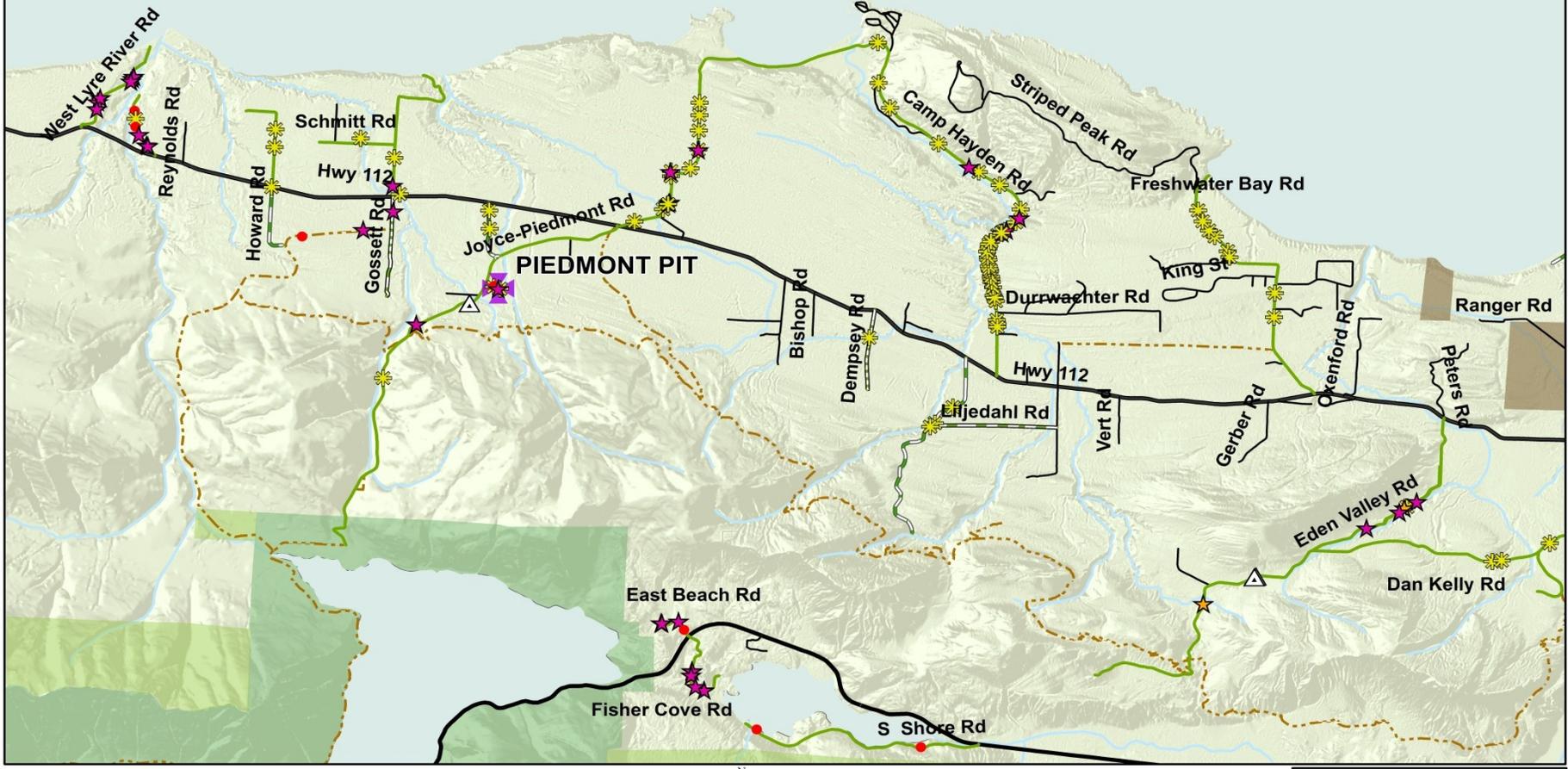
**Roads Treated**

- Manual Only
- Herbicide or Combination
- County Pits
- County Roads
- State Hwy
- Agriculture Areas
- Olympic Discovery Trail
- Tribes
- Pollinator Planting Site

**\*Species Treated**

- common teasel
- hawkweed, orange
- knapweed, meadow
- poison hemlock
- tansy ragwort
- yellow archangel
- common tansy
- herb-Robert
- Other
- knotweed, Bohemian

\*See legend description at the beginning of "Maps" section



**Roads Treated**

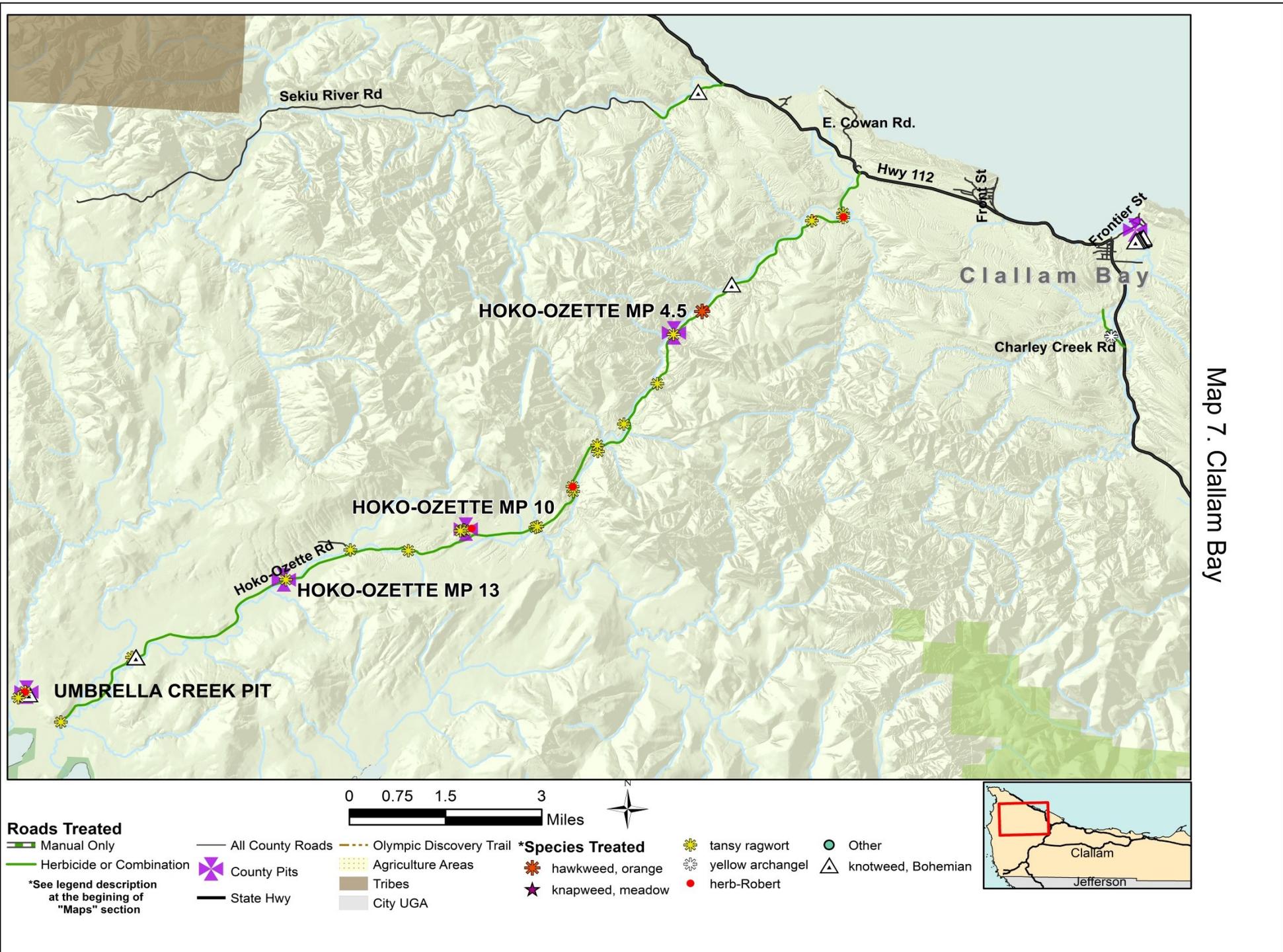
- Manual Only
- Herbicide or Combination
- ✱ County Pits
- All County Roads
- State Hwy
- - - Olympic Discovery Trail
- Agriculture Areas
- Tribes
- City UGA

\*See legend description at the beginning of "Maps" section

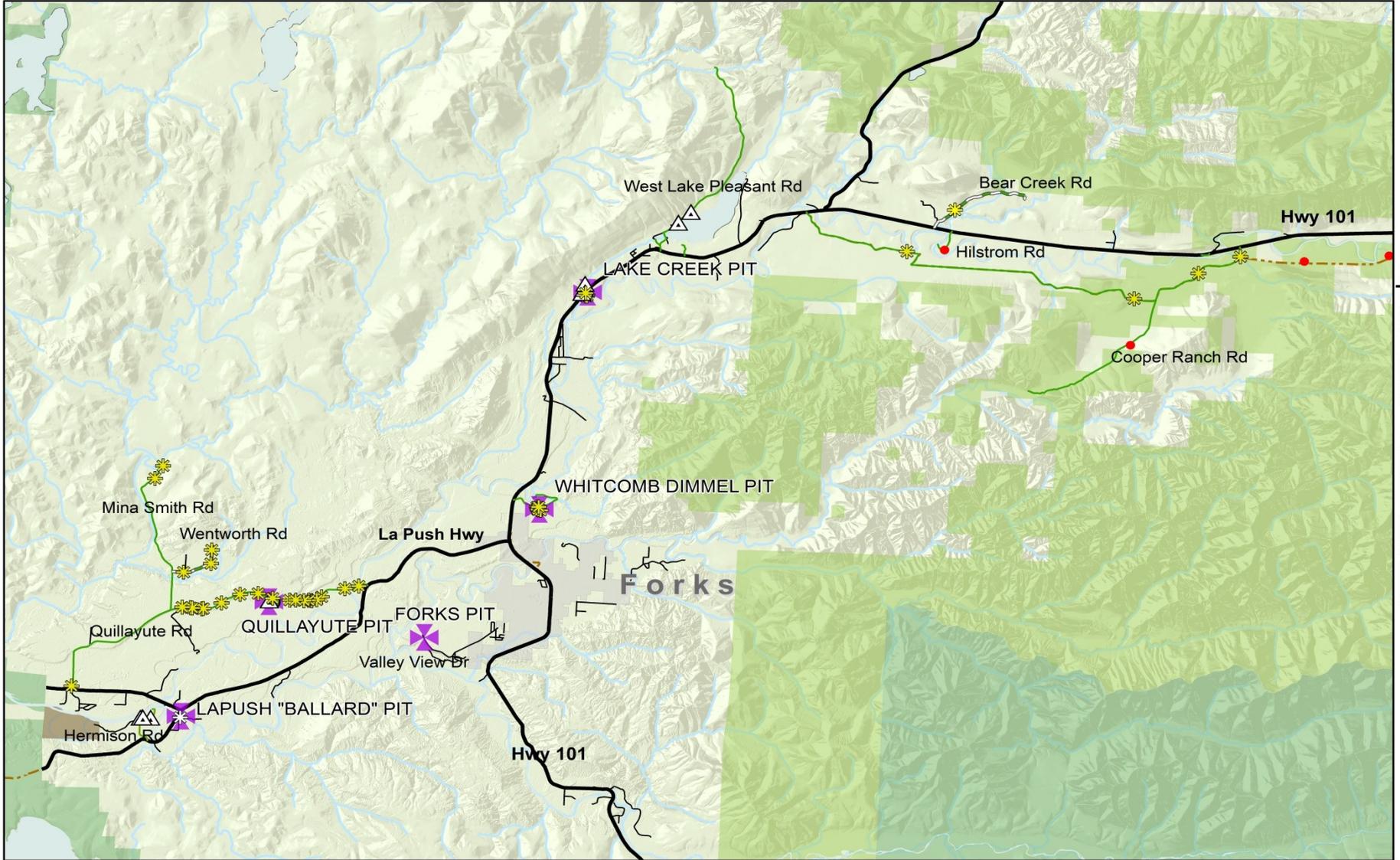
**\*Species Treated**

- ★ common teasel
- ✱ hawkweed, orange
- ✱ knapweed, meadow
- ✱ tansy ragwort
- ✱ yellow archangel
- herb-Robert
- Other
- △ knotweed, Bohemian





Map 8. Forks Treatment Area



**Roads Treated**

- Manual Only
- Herbicide or Combination
- County Roads
- State Hwy
- - - Olympic Discovery Trail
- ✕ County Pits
- ✕ Agriculture Areas
- Tribes
- City UGA

**\*Species Treated**

- ✱ yellow archangel
- herb-Robert
- Other
- △ knotweed, Bohemian
- ✱ hawkweeds: nonnative
- ✱ hawkweed, orange
- ✱ tansy ragwort

\*See legend description at the beginning of "Maps" section

## POST SEASON OBSERVATIONS:

### 2020:

Roadside weed management is an evolving 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 2020 Plan was designed to complement our previous work, adapt to the observed conditions, and further specific weed management goals. The successful execution of the IWM plan is dependent on the effective coordination of its components. We reviewed the existing program, forms and protocols developed previously and revised where needed for 2020. We invested substantial time and effort to improve coordination between IWM and maintenance activities. The IWM Plan is a unique element within the Road department's maintenance program, but to be successful, weed control activities must be seamlessly incorporated into the general maintenance activities. Weed control strategies must also be shaped to fit road maintenance criteria.

In spring we solicited feedback from each shop superintendent regarding planned weed control activities in the upcoming treatment season. We discussed specific weed control needs for pits within each road district and how to synchronize road mowing schedules to better fit high priority weed life cycles and our treatments. We noted individual communication preferences and exchanged or updated contact information. We brainstormed solutions for two significant Scotch broom infestations. The first was a highly visible site on the south side of Deer Park Loop Road overpass. The District 2 superintendent committed crew and equipment to remove, haul and dispose of over thirty loads of Scotch broom. We estimate this project would have taken several months or not have been contemplated at all; this dedicated crew swept the site of Scotch broom in less than two days. Their efforts opened up approximately two acres for pollinator habitat enhancement. The second site was located on county land adjacent to the District 3 shop and was undertaken at the specific request of the District 3 superintendent. Mowers efficiently reduced the biomass of approximately 6.5 acres of Scotch broom preparing for follow up treatment that will use less herbicide.

Coordination between the Weed Board's full time inspector and ROW specialist significantly increased the RIWM program efficiency through shorter monitoring/survey cycles and earlier discovery of high priority weeds. The inspector was also available to assist with early season treatment prior to seasonal worker hires. The early treatments led to more opportunities to control high priority, early blooming species and infrequent noxious weeds and led to more total road miles over the course of the season.

Pandemic safety protocols required adaptations to program strategies and operating procedures. The need for social distancing and limited number of suitable vehicles forced us to bring seasonal workers on later and keep our staff capacity low; we never had more than two people to a vehicle. The Sheriff's chain gang was suspended during the pandemic which further reduced resources at our disposal. Even with these handicaps, we were able to meet many of our goals for this season. Not only were we able to treat every priority 1 road, we were also able to conduct more in-season follow-up spot treatments of small, high priority weeds infestations. All county pits in the plan were treated, often multiple times. Progress made over the past several years allowed us to begin tackling some of the more widespread species in those areas such as Himalayan blackberries and Scotch broom. The program continues to grow its pollinator habitat enhancement areas. We almost doubled the number of plants put in the ground this year compared with the last while increasing species biodiversity within those sites.

Our use of technology has greatly increased our efficiency both in the field and in the office. GIS software through our WSDA provided smartphones provided access to information that was crucial to decision making. The addition of a computer tablet assisted the RWMT in tracking the programs noxious weed points and provided the ability to record real-time points of new weed sites they found while performing treatment efficacy assessments.

### Specific observations:

#### **Program Development**

- We published the "Adopt-a-patch" and "Owner Will Control" public engagement opportunities online; received and accepted two "Owner Will Control" agreement.
- We created a new status metric, Priority "4", for county roads which no longer contain noxious weeds or none were found. Roads placed in this category require less active annual monitoring, and instead are to be placed in a

maintenance mode, surveyed and treated as needed every 4 years. It is a goal to get all county roads sufficiently noxious weed free, to be able to adopt a four year monitor/treatment cycle.

- We improved communication between the Shop Supervisors, Roads Management, engineer/environmental coordinator and the NWCB.
- The pit plans improved coordination between pit management activities and weed control efforts. Major pit activities, such as sand extraction, were successfully coordinated with weed control activities to help prevent material contamination. Prioritizing stock pile areas and monitoring spoils areas improves the likelihood of achieving the goal of weed free material in all county pits.
- We communicated with PUD management to discuss maintenance activities and continued dialogue to identify compatible management practices to align weed management and vegetation management goals.
- Our partnership with the Clallam County Sheriff Department Chain Gang was helpful. Although there were no chain gang members, officers picked-up and disposed of discarded erosion blanket at the Deer Park planting sites.
- A field training “scavenger hunt” of different noxious weed species helped the Roadside Weed Monitoring Team (RWMT) improve weed identification and monitoring skills while maintaining COVID 19 safety precautions.
- We continued to monitor the “light-touch” mowing BMP pilot study with the RWMT. Support included adjacent weed control activities and continued communication with mowing supervisors. This is an on-going study.
- The RWMT provided us with valuable in-season control updates and notified us of areas in need of rechecks. The smart tablet we have provided enables them to note real-time weed sightings on a regular basis.
- The RWMT completed invasive plant surveys for the entire Olympic Discovery Trail (two year endeavor). We were able to use this information to inform treatment priorities for the trail system.
- The RWMT Pollinator corridor map provides a framework for prioritizing future control work and implementing pollinator plantings as sites become ready.
- 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 H).

## Weed Control

- This year we were able to treat 29% more roads and increase the number of our treatment days 53% compared to last year because of the availability of full time staff earlier in the season and because of progress in reducing the density of roadside noxious weeds over the last couple of years. This progress and staffing enhancements provided more opportunity for retreatments, expanded surveys, fulfillment of public requests of lower priority noxious weeds, and some weedy widespread species that damage or degrade county assets. .
- Early season weed treatments allowed for more effective control of weed species, such as Italian thistle and poison hemlock, thus reducing the number of flowering plants encountered, overall weed biomass, and volume of herbicide needed during those treatments. The seedbank of poison hemlock and tansy ragwort requires multiple treatments because of unpredictable germination times.
- Retreatments improved our ability to control hard to find weeds and weeds with different phenological responses. Often done manually, it also provided opportunities for public education.
- “Solid acres” treated rose significantly as the program begins to tackle more weedy wide spread species and line of sight issues on our county roads. Due to progress from past years we were able to expand some aspects of weed control including more thorough treatments of weedy widespread species in pits; an important preventative measure to protect and enhance existing County resources.
- Many more roads were surveyed and high priority weed species were found on 15 previously untreated roads
- More focus was put onto line of sight as well as weeds that may jeopardize road infrastructure such as signs, guard rails, and asphalt.
- The pit plans helped us improve overall weed control; the improved coordination helped us prioritize treatments and prepare pits for upcoming material storage and extraction projects.
- The Italian thistle treatments have been effective, but took more than 6 different treatments (5 manual, ~2000 plants pulled) throughout growing season to disrupt the life cycle
- All chemical treatments were entirely non-mechanized and carefully targeted allowing us to maximize the protection of native or desirable vegetation. No off target damage was found from RWMT monitoring team.

- Milestone® was highly effective for control of yellow hawkweed
- Foliar application of Polaris® has been very effective to control bohemian knotweed and reed canary grass.
- Treatments with Transline® show greater promise for better and longer lasting control of emerged and germinating poison hemlock than Vastlan® and Milestone® combinations.
- Scotch broom control has been popular but time consuming and requires a large amount of labor. The amount of resources available to accommodate these requests is still limited.
- We invested substantial time and effort to communicate with individuals and businesses with specific concerns regarding herbicide treatments.
- Treatments of Himalayan blackberry thickets that combine pre-mowing followed by spot herbicide treatment shows great promise, but timing is critical and challenges arise in coordinating timing with mowing departments.
- The RWMT has surveyed the ODT and we have responded with controlling the high priority weeds and are accounting for areas where weedy wide spread species may be effectively treated and replaced with native vegetation.

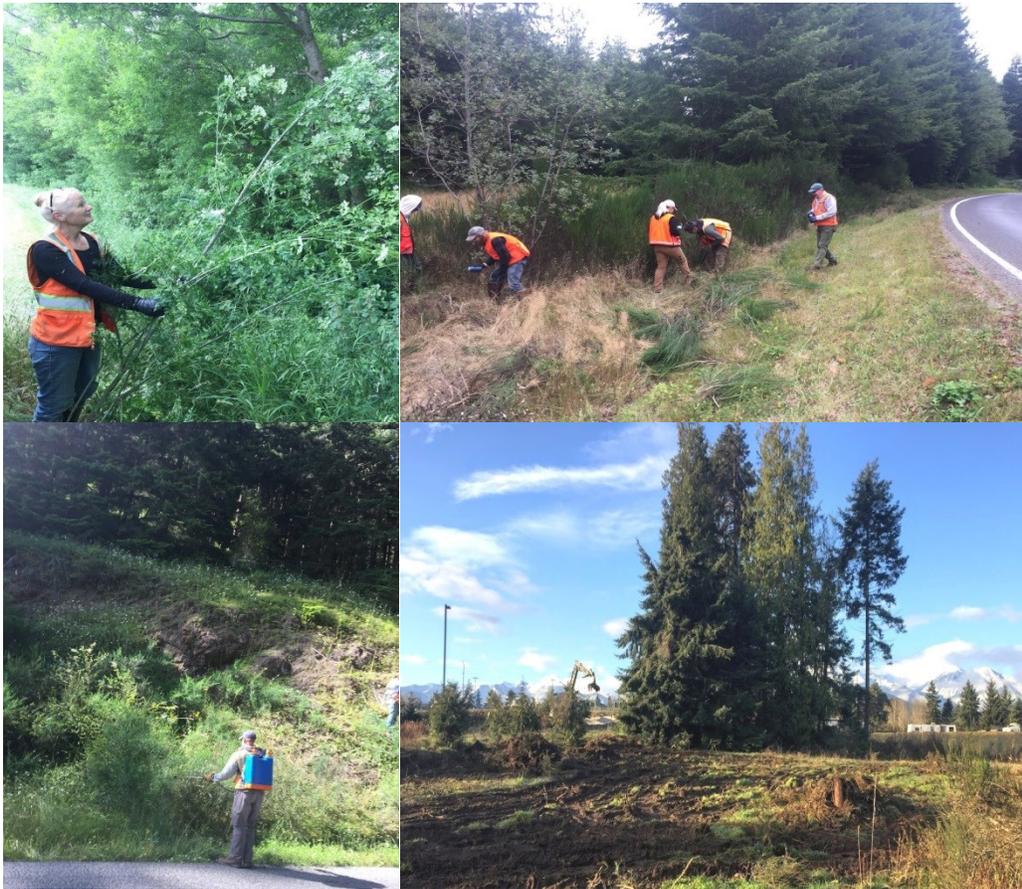
## Plantings

- The RWMT monitored 2018 and 2019 pollinator habitat enhancement projects on Black Diamond Rd, Old Olympic Hwy/ODT, and Deer Park Overpass slope sites. The purpose of the monitoring was to assess plant survivorship and to assess the quality of pollinator habitat using the Xerces Society habitat assessment protocol. Planting areas were treated for noxious weeds and augmented with additional native plants as dictated by space and need.
- The partnership between Clallam County and a locally sourced native plant nursery was crucial to our planting successes this year. They were a flexible, knowledgeable local resource that provided us with healthy plants and technical advice.
- Native plant material was shared between County departments as needed. Weed Board staff filled a Road Department staffing gap by assisting with plantings to meet the department's environmental compliance requirements at multiple county road construction sites.
- The Deer Park Overpass site is very large and is comprised of many microenvironments. It is notably steep and inhospitable. This year's plantings are the second phase of a multi-year project.
- The watering regime needed to support the 2019 plantings was time intensive and required considerable resources during our treatment season. We located a nearby water source to fill our 100 gallon portable tank, and luckily the WSU coordinator stepped in to assist with a biweekly watering regime for every slope.
- New plantings began after weather had cooled and rainfall was likely to supply consistent moisture. Plantings at Deer Park and the ODT trail were undertaken after all other road department sites were completed, delaying us by about two weeks.
- This year we added Gary oak/savanna species to the Deer Park site. Several of these species are increasingly scarce in Clallam County and across the state.
- We incorporated water polymers when planting all trees and shrubs at the Deer Park Overpass site this year. This additive will hopefully retain water and cut down on resources needed for hand watering going forward.
- The Road Department's environmental coordinator helped with planting at Deer Park, and 4 volunteers assisted with planting on 6 different days.

## Crew and Equipment

- The published 2020 IWM was a valuable guide for crew and a helpful reference for the public.
- The roadside crew included up to 3 full-time staff and 2 seasonal employees but crew composition on any given day varied depending on the need.
- One of the two seasonal workers acquired his Washington State Pesticide License. Seasonal crew received on-going training; crew efficiency improved over the season. Seasonal employee quality was high this year, with a worker with years of previous experience and youthful enthusiasm from another. Our high levels of treated pits and roads represents the great cooperation the team exhibited, and the program is hoping for the return of seasonal employees as testimony of our programs atmosphere and engaging nature of the job.

- Crew size was limited because of an early hiring freeze, subsequent lack of applicants and the need to adapt to COVID 19 safety protocols. Even with the late start and smaller crew size all priority 1 roads were completed and multiple treatments of pits were accomplished, as well as a doubling of the number of plants installed.
- The vehicle provided by the road department greatly improves crew efficiency and adds to program safety, visibility and professional appearance.
- Over 10 backpack sprayers have been repaired or had parts replaced throughout the year. Through diligent attention to maintenance no new backpacks were ordered this year.
- Our fire shovels acquired for planting also work well for large poison hemlock patches that have long tap roots in often compacted and hard soil.
- WSDA Smartphone and ArcCollector 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.



Crew uses a combination of control methods and equipment to treat infestations of noxious weeds. Clockwise (beginning from top left): manual control of ~10-12' poison hemlock, cut stump of Scotch broom with 10KYI; chemical control on county road; mechanical control of Scotch broom (Deer Park site ~2 acres)

## 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 and local partners and stakeholders are essential. For that reason the results of control activities are monitored, evaluated and the program activities adjusted as necessary.

### Specific recommendations for the 2021 IWM Program:

- Continue to support coordination and communication between the Noxious Weed Control Board, Road Department, Sheriff Department, WSU Extension, Clallam PUD and other partners.
- Collaborate with Road Department maintenance staff and Clallam PUD to identify landscape goals and harmonize maintenance techniques wherever possible.
- Continue to support maintenance staff with solutions compatible with weed management goals.
- Provide Road Department staff with annual program communication including plant identification material, the IWM plan, and discuss effective vegetation management strategies and pit plans with maintenance staff.
- Coordinate with Road Department for gear rack and accessories as necessary for work vehicle.
- Foster and maintain an atmosphere of cooperation and open communication between mowing staff and noxious weed department.
- Provide for time and resources to walk treatment areas of roads with known infestations of priority weeds.
- Develop strategy to determine treatments of non-priority category 2 species.
- Add a metric for “retreatments”. Adding a “retreatment” box option to our treatment forms would better account for miles of treated versus miles of retreated roads.
- Evaluate and revise pit plans as necessary with input from ER&R Manager, shop supervisors and engineers. The groundwork has been set for the ability to revegetate areas in county pits that were being unused and overwhelmed by weeds. McInnes pit in Sequim as well as the borders of many pits could be potential areas for native vegetation to alleviate weed pressure.
- Direct the chain gang towards Scotch broom removal and brushing Himalayan blackberry patches on roadsides. These are excellent uses of this labor force for time consuming but popular weed control activities.
- Provide Chain gang with additional training, focus area maps and shared work schedules.
- Develop volunteer resources for Pollinator Habitat Resource Project watering. The flat areas on the Deer Park planting sites are potential spaces that can be watered by volunteers.
- Support WSU Master Gardener “light touch” pilot study to assess maintenance techniques and collaborate with Road Department maintenance staff.
- Standardize protocol for point taking to help the program’s ability to record and track infestations and assist the RWMT’s efforts.
- Continue to diligently map and record all new infestations of high priority, category 1 species.
- Evaluate and update Italian thistle eradication plans as necessary.
- Coordinate with Clallam County GIS department to support and utilize all technical upgrades for data collection.
- Create GIS layer for priority 4 roads to minimize redundancy in surveying. Also create GIS layers for “owner will control” contracts and land owner permission agreements.
- Continue to support and develop native plant materials availability. Coordinate and plan better for the private property “native plant enhancement” option with our “owner will control” contracts.
- Partner with local experts to develop native seed mix for Road Department projects where bare ground is necessary.
- Increase communication with Olympic Discovery Trail Volunteers and Coordinator to find and transition areas from weed landscapes to more native vegetation corridors.
- Recruit and train seasonal crew earlier in 2020.
- Monitor and support the pilot Pollinator Habitat Enhancement Areas with follow-up weed control and volunteer maintenance.
- Work with the RWMT to develop educational signs to explain the Pollinator Habitat Enhancement Projects.
- Develop and expand Pollinator Habitat Enhancement projects and coordinate with Road Department, WSU Extension and Chain Gang.

- Evaluate roads not treated in prior seasons.

### General 2021 Treatment Recommendations:

1. Treat category 1, priority weeds on roadsides.
  - a. Repeat treatment of roads in 2020 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. Roads intersecting or adjacent to 2020 treatments as necessary to complete control.
2. Treat category 1 and category 2 weeds in County pits as determined by pit plans.
3. Treat species and locations with most impact local agriculture.
  - a. Continue outreach with local farmers to identify priorities and potential concerns.
4. Treat species and locations with 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.
6. Coordinate roadside treatments to support weed management goals adjacent to County land.

## Appendix A: 2020 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 precept of the IWM Work Plan is that all treatment methods are potentially applicable to the County’s management of noxious weeds. The table lists the task in **bold**, description of 2019 activities; blue check marks indicate completed tasks, orange check marks indicate partially completed tasks.

Task Status <sup>1</sup>	Biological
✓	<b>Identify release appropriate sites adjacent to County right-of-way:</b> Identified project sites, no new developments in 2020
✓	<b>Coordinate with WSU Extension and Noxious Weed Control Board for Releases as they become available:</b> Nothing new in 2020, site appropriate biocontrol agents currently available. Suitable sites TBD.
✓	<b>Assist with research projects where possible:</b> Master Gardeners are working on a study to gauge the ability of salal, ferns, snowberry and other native shrubs cover to suppress seedling recruitment along right-of-way back slope.
	Physical
✓	<b>Update contact list to be shared between departments:</b> Shared contact between Road Department Superintendents, Environmental Coordinator, and ODT Volunteer Coordinator.
✓	<b>Coordinate mowing schedule with weed treatments to avoid incompatible treatments:</b> NWCB staff regularly updated shop supervisors when working in their regions. Treatments were able to be effectively applied to all sites without interference of mowers or NWCB staff interfering with mowing schedule.
✓	<b>Provide mowers with map of planned weed treatment areas:</b> Pre-season focus maps were provided to all roads managers for distribution and inclusion into planning process.
✓	<b>Clearly mark treatment areas, communicate location to field crews:</b> All treatment sections were posted with Herbicide Notice during and after treatments for at least 24 hours. Supervisors were notified when treatments were to occur in their district.
✓	<b>Schedule and oversee six weeks of Chain Gang time for large pulling projects:</b> No Chain Gang throughout 2020 due to Covid 19 safety protocols.

✓	<b>Provide training and focus area maps for Chain Gang projects:</b> No focus maps due to no Chain Gang activity
✓	<b>Support volunteer opportunities for weed pulling projects as appropriate:</b> Support for any volunteers with our loaning of Scotch broom pullers, but no public gatherings were done this year due to pandemic.
✓	<b>Identify "Adopt-a-Patch" locations appropriate for manual control that can be adopted by members of the public; post online before treatment season begins:</b> Inventoried roads that may be appropriate for manual control for the public, but no agreements were reached.
✓	<b>Review public involvement opportunities to ensure the available material meets program goals and is readily accessible online:</b> Maintained an online process for the public to apply for "Adopt-a-Patch" sites on appropriate roadways.
✓	<b>Create Report It! forms so that road crews can report weed infestations:</b> Mowing crews and staff prefer marking large infestations with flags or calling program directly.
✓	<b>Discourage mowing of desirable native vegetation wherever possible:</b> Discussed with district mow staff about progressive mow BMPs. Focused on a "light touch" techniques to maintain desirable vegetation.
✓	<b>Collaborate with mowing personnel to update mowing practices:</b> Pre- season meeting with shop supervisors but no meetings with mowing personnel due to Covid 19 pandemic.
✓	<b>Consult on road standards that maximize mowing effectiveness in regard to weed control:</b> Developed "light touch" BMPs with Roads management and maintenance staff. Began implementing progressive approach where appropriate.
	<b>Cultural</b>
✓	<b>Identify opportunities to use native plantings in the early stages of projects in the county's transport plan:</b> Provided for the exchange of native plant material with Road Department plantings, including river edge landscapes, wetland mitigation sites and post-construction revegetation. Continued Deer Park Overpass planting-a post project opportunity
✓	<b>Create maps to incorporate roadside environmental typing system:</b> Master Gardner's Roadside Weed Monitoring Team integrated environmental typing to create Pollinator Corridor map. The RWMT surveyed the Olympic Discovery Team for noxious weeds and pollinator habitat opportunities.
✓	<b>Compile list of plant material sources and needs from other government entities:</b> Continued collaboration with local agencies including: USFS, Olympic National Park, WSDOT, and DNR to address plant material needs and potential sources.
✓	<b>Seek grant opportunities to implement pilot projects:</b> Monitored, maintained and augmented 2018 and 2019 sites. Continued two projects, Deer Park Overpass and Old Olympic Highway berm. Planted 9871 native shrubs and forbs in total, 12 planting days, with 4 volunteers plus a Chain Gang cleanup crew.
✓	<b>Foster partnership with locally sourced nursery and updated native plant material list and program as necessary:</b> Renewed contract.
✓	<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> Encouraged the establishment of the non-profit Peninsula Native Plant Center. Our partnership with WSU extension and the WSU Master Gardeners is ongoing, and was especially helpful in 2020. One day of collaboration with the 10KYI yielded great control of Scotch broom on the Quillayute Rd.

✓	<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. Include roadside appropriate list in "Owner Will Control" packet as it becomes available:</b> Created online protocols for "Owner Will Control" agreements received and accepted 2 applications for 2020.
✓	<b>Identify suitable county pit locations for native plant seeding and implement as material becomes available and when seasonally appropriate:</b> Site appropriate, native seed mix may just be coming available. Finalized Pit Plans should incorporate native seeding of desirable, native vegetation.
	<b>Preventative</b>
✓	<b>Update rock and gravel source weed management protocols:</b> Protocols remained the same throughout the year
✓	<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> Completed inventories of most County pits (25). Preliminary Pit Plans were created; plans to be finalized with support from ER&R and supervisors.
✓	<b>Create county pit reference maps to include in management plans:</b> Aerial maps created for all weed control efforts. Maps to be included in finalized Pit Plans for reference.
✓	<b>Adopt weed free material requirements for all county projects:</b> Requested list of upcoming Roads projects and prospective material providers.
✓	<b>Develop clean equipment standards and requirements for all county projects:</b> "Weed-free" requirements included in all Road Department engineer projects. Parks Department and Department of Community Development IWM plans adopted annually by Clallam Noxious Weed Control Board.
✓	<b>Provide inspection services for all privately sourced material for county projects that may be weed-contaminated:</b> Completed 5 private and 4 state-managed pit inspections.
✓	<b>Compile list of sources that meet weed-free standards:</b> Updated list included in NWCB USFS Report
✓	<b>Facilitate annual department weed and native plant identification training in cooperation with weed board staff. Supply field crew with identification booklets. Provide plant identification services for field crew in cooperation with weed board staff:</b> No annual department native plant identification training happened due to Covid 19 pandemic
	<b>Chemical</b>
✓	<b>Implement project list based on tables 4-8 and planned reduction of Category 2 weed sites:</b> Accomplished 2020 IWM Plan and treated 93 roads and 25 pits using chemical methods or a combination of methods. See Appendix C and Appendix D.
✓	<b>Develop and utilize regional partners to assist in weed control across the county:</b> Communicated IWM Plan with regional partners (Clallam PUD, WSDOT, USFS and DNR). Provided resource material for 10K Years Institute and utilized work force for assistance and manual treatment on one county roadside in District 3.
✓	<b>Complete treatment records:</b> Completed "Herbicide/Manual Treatment Data Form" (Appendix K) for all noxious weed control activities.
✓	<b>Enter data into Clallam county noxious weed control program database:</b> All data inputted into program database
✓	<b>Identify any additional equipment needs and take steps to incorporate any available resources, including; vehicles, application equipment, water tanks, or technical equipment:</b> Need to repair water tank in county vehicle
✓	<b>Post annual project list and treatments online. Update as often during season as resources allow:</b> Need to have better updated project and treatment list posted online (done only once in 2020)

✓	<b>Monitor at least 10% of all treatments, retreat as needed and as resources allow:</b> Volunteer Master Gardener Roadside Weed Monitoring Team monitored 35% of treated roads. Re-treatments occurred on several roads where necessary, including a portion of the Olympic Discovery Trail where several high priority species were identified.
✓	<b>Provide WSU Master Gardeners Roadside Weed Monitoring Team (RWMT) with safety equipment, additional training opportunities, and technical support for monitoring projects:</b> Provided a pre-season technical training and an in-season field training for RWMT with a “scavenger hunt” that gave locations of known weed species to the RWMT. A new shared map system was created to enable RWMT to more efficiently find specific treatments during their monitoring activities.
✓	<b>Develop protocols to monitor treatments in county pits:</b> Pit locations were determined to be poorly suited for monitoring by RWMT volunteers. Pits were monitored by NWCB and Roads staff.
✓	<b>Conduct a weed inventory on at least 25% of all county roads annually:</b> In the course of treatment NWCB staff surveyed nearly 39% of County roadsides. We are not quite ready to assume a 4 year maintenance schedule.
✓	<b>Identify, document and map additional species, location, size and density:</b> Mapped and recorded information on all regulated weed species encountered on county roadsides and rock sources during 2020 activities.
✓	<b>Update survey data of county roadsides and catalog infestations over time:</b> All survey and treatment data has been compiled for this report. Infestations and survey results will be recorded in NWCB database this winter.
✓	<b>Identify and compile a list of high priority infestations for following year. Create map:</b> In process.
✓	<b>Identify and compile a list of sites for revegetation appropriate opportunities:</b> List of possible pollinator “Islands” identified and in process with Road department to determine long-term feasibility.
✓	<b>Support four, volunteer-based projects either on or adjoining county property that protects county property from weed infestations. This may include monitoring, road-typing for re-vegetation, and re-vegetation projects:</b> Completed two planting events to implement pilot-pollinator projects. Volunteer Master Gardener RWMT recorded over 400 volunteer hours dedicated to the 2020 IWM Plan.
✓	<b>Compile locations and instructions for special management areas. Include and update field maps as frequently as needed:</b> The Old Olympic Rd bridge that crosses the Dungeness has been added as a special site.
✓	<b>Promptly respond to all public inquiries. Address any public concerns regarding applications:</b> Provided project information and specific activity information to over 114 individuals in the field. Answered and responded to inquiries directed to the phone number listed on “Herbicide Notice” (Appendix J). Contacted all registered sensitive persons relevant to control activities (2); in addition to RCW requirements we provided periodic updates, alternate route information and additional accommodations.
✓	<b>Manage "Owner Will Control" agreements:</b> Complete. 2 accepted agreements.
✓	<b>Review “Owner Will Control” application process and forms to ensure all public involvement opportunities are readily accessible online:</b> Complete.
✓	<b>Maintain current list and map of "Owner Will Control" locations for both office and field use:</b> Complete.
✓	<b>Review and update on-line weed control request application process and forms as necessary:</b> Contact form available online at: <a href="http://www.clallam.net/features/emailClallam.asp?em=weed">http://www.clallam.net/features/emailClallam.asp?em=weed</a>
✓	<b>Develop on-line, Report It! process and forms for interdepartmental communication:</b> Contact information and training material distributed to Departments.
✓	<b>Compile annual report summarizing accomplishments, effectiveness, and recommendations for subsequent year. Brief the Road Department and County Commissioners by December 31st:</b> Complete.



**Draft IWM plan and submit 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 plan will be discussed, with weed board meeting announcements. The finalized plan and a map of proposed treatment locations should be posted online and made available upon public request:** In process.

<sup>1</sup>Blue check marks indicate task completed in 2019; Orange check marks indicate partial completion, Red check marks indicate note complete.

## Appendix B: Weed Species Treated on County Roadsides and Rock Sources 2020

The table below alphabetically lists all weed species controlled in 2020 on County roadsides or rock sources/soil disposal sites (Pits). The species listed in Green were treated on **roadsides** only; species listed in Pink were treated in **Pits** only. Species without color coding were treated on both roadsides and 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 2019 IWM Plan to prioritize control. Definitions of headings can be found at the end of the table. Clallam County Noxious Weed List available online: <http://www.clallam.net/weed/doc/ClallamWeedList2019.pdf>

Common Name	4-Letter Weed Code	Scientific Name	Life Cycle <sup>1</sup>	Growth Form	Threat	Category	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
bindweed, hedge	CASE	<i>Calystegia sepium</i>	P	Forb	Competes with native plants; difficult to eradicate once established	3	WW
mustard, bird's rape	BARR	<i>Brassica rapa</i>	B	Forb	Can be toxic to livestock, can degrade agricultural seed production	2	WW
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	NR
canary grass, 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	2	NW
chicory, common	CIIN	<i>Cichorium intybus</i>	P	Forb	Only found in the Dungeness Valley where it is starting to spread	1	ISSC
cinquefoil, sulfur	PORE	<i>Potentilla recta</i>	P	Forb	Not readily grazed by livestock and wildlife; forms dense stands	1	NCR
mullein, common	VETH	<i>Verbascum thapsus</i>	B	Forb	Unpalatable	3	WW
comfrey, common	SYOF	<i>Symphytum officinale</i>	P	Forb	Aggressive invader, unpalatable, mildly toxic to livestock	2	WR
daisy, oxeye	LEVU	<i>Leucanthemum vulgare</i>	P	Forb	Aggressively invades fields and forms dense populations, out competes desirable plants	3	WW
hawkweed, orange	HIAU	<i>Hieracium aurantiacum</i>	P	Forb	Aggressive invader forming dense mats, unpalatable, competitor of pasture and range plants	1	NR
hawkweed, yellow	HICA	<i>Hieracium caespitosum</i>	P	Forb	Aggressive invader forming dense mats, unpalatable, competitor of pasture and range plants	1	NR

Common Name	4-Letter Weed Code	Scientific Name	Life Cycle <sup>1</sup>	Growth Form	Threat	Category	Status
hawthorne, English	CRMO	<i>Crataegus monogyna</i>	O	Tree	Dense thickets can dominate shrub layer and suppress desirable vegetation	2	NR
hoary alyssum	BEIN	<i>Erteroa incana</i>	A, B	Forb	Can be toxic to horses; spreads aggressively in disturbed areas	1	NR
holly, English	ILAQ	<i>Ilex aquifolium</i>	P	Shrub	Dense thickets can dominate shrub layer and suppress desirable vegetation	3	WW
fennel, common*	FOVU	<i>Foeniculum vulgare</i>	P	Forb	Dense stands exclude native vegetation	1	NCR
fox glove	DIPU	<i>Digitalis purpurea</i>	B	Forb	Can be toxic to livestock; spreads aggressively in disturbed areas	3	WW
nightshade, hairy	SOPH	<i>Solanum physalifolium</i>	P	Forb	Can be toxic to humans and livestock; limited distribution	1	WR
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
Ivy, English	HEHE	<i>Hedera helix</i>	P	Shrub - vine	Aggressive invader, competes understory species, degrades wildlife habitat, can cause tree collapse due to added canopy weight and surface area.	2	NW
knapweed, meadow	CEMO	<i>Centaurea x moncktonii</i>	P	Forb	Outcompetes pasture species; degrades wildlife habitat; interferes with agriculture	1	NCR
knapweed, spotted	CEST	<i>Centaurea stoebe</i>	B	Forb	Allelopathic plant that can inhibit the germination of grasses; forms dense stands that exclude desired plants and wildlife	1	NCR
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	NR
lupine, tree	LUAR	<i>Lupinus arboreus</i>	P	Shrub	Aggressive invader forming dense monocultures, potentially toxic to livestock	2	WR
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
periwinkle, greater	VIMA	<i>Vinca major</i>	P	Shrub - vine	Rapidly spreading, invades and displaces native or desirable vegetation	2	WR
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
St Johnswort, common	HYPE	<i>Hypericum perforatum</i>	P	Forb	Causes photo-sensitization when grazed; toxic at all stages of growth	3	NW
tansy ragwort	SEJA	<i>Senecio jacobaea</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	NR
thistle, bull	CIVU	<i>Cirsium vulgare</i>	B	Forb	Aggressive competitor, unpalatable for cattle	2	NW

Common Name	4-Letter Weed Code	Scientific Name	Life Cycle <sup>1</sup>	Growth Form	Threat	Category	Status
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	NR
whitetop, hairy	LEAP	<i>Lepidium appelianum</i>	P	Forb	Monocultures displace desirable plants; unpalatable; can be form toxic to cattle	1	NR
wormwood, absinth	ARAB	<i>Artemisia absinthium</i>	P	Shrub	Aggressive invader, will outcompete desirable forbs and grasses in pastures, fields and native grasslands; plants have a strong bitter taste and odor, may affect milk quality	1	NR
yellow archangel	LAGA	<i>Lamiastrum galeobdolon</i>	P	Forb - vine	Aggressive invader, competes understory species, degrades wildlife habitat	1	NCR
white sweet clover	MEAL	<i>Melilotus albus</i>	A	Forb	Toxicity issues for livestock; aggressive invader. County piles cleared	3	WW
wild basil savory	CLVU	<i>Clinopidium vulgare</i>	P	Forb	Aggressive invader, competes understory species, degrades wildlife habitat	2	WR

<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: 2020 Roadside Treatment Activities:

This table includes all county roadsides managed for noxious weeds in 2020 under the Clallam County Road Department IWM Plan. The table is sorted alphabetically by road name. Names shown in *italics* are roads that were treated in 2018 and 2020; names both **bolded and italicized** were treated in 2018-2020; names that are only **bolded** were treated in 2019-2020; roads that are green have been treated 2017-2020. The table contains the **Species Treated, Examined Acres, Treated Acres, Solid Treated Acres, and Solid Manual Acres** for each day work occurred on a road; definitions of these headings can be found at the end of the table.

To differentiate between original miles treated and retreated miles, we marked retreatments with a “0.1” metric in categories “miles treated,” “acres examined”, and “acres treated”. This was done to try to avoid too much double counting. 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 treated **138** roads and an additional 82 surveyed that required 15 treatments. We completed a total of **222 miles** (435 **examined acres**) of county roadside. This comprised of **59.1 miles** manual only, **73.8 miles** of manual/ chemical, and **88.9 miles** chemical only. Treatments occurred within a total **274 acres** and included **35 species**. We treated **.55 solid acres** of weeds with manual methods only and **19.1 solid acres** of weeds chemically. “Solid acres” represent the area that would be covered 100% with noxious weeds if the plants were clumped together; area is estimated in the field or calculated with recorded data. See table footer for further explanation.

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
<b><i>3 Crabs Rd</i></b>	H	3/4/20	0.08	2.7	0.1	0.01	0.000	<b>COMA</b>
	M	5/28/20	0.01	0.1	0.01	0.00	0.001	<b>COMA</b>
<b><i>Aster Rd</i></b>	M	7/9/20	0.2	0.3	0.3	0.00	0.001	<b>SEJA</b>
Barker Rd	M	6/10/20	0.04	0.1	0.1	0.00	0.001	<b>COMA</b>
Bear Creek Rd	M	9/15/20	0.1	1.8	0.0	0.00	0.001	<b>SEJA</b>
<b>Benson Rd</b>	H	6/23/20	1.1	1.4	0.8	0.09	0.000	<b>HIAU</b>
<b>Black Diamond Rd</b>	H	7/15/20	1.9	4.6	4.6	0.33	0.000	<b>CEMO, CIAR*, CIVU*, CRMO*, CYSC*, RUAR</b>
	H	7/16/20	2.2	5.3	5.3	0.32	0.000	<b>CEMO, CIAR*, CIVU*, GERO*, RUAR*</b>
<b>Blue Mountain Rd</b>	H	6/23/20	5	4.7	0.1	0.39	0.000	<b>CEMO, SEJA</b>
	H	6/24/20	0.4	0.1	0.8	0.81	0.000	<b>CEMO, CIAR, CIVU, CYSC, HIAU, HYPE, LALA, PORE, RUAR, RULA, SEJA</b>
	H	8/6/20	0.1	0.1	10.0	0.00	0.004	<b>CEMO, CEST, CIAR, CIVU, CYSC, HYPE</b>
<b>Business Park Loop</b>	M	7/9/20	0.3	0.7	0.7	0.11	0.003	<b>CEST, COMA</b>
	H	10/8/20	0.1	0.2	0.2	0.05	0.000	<b>CEMO, CIIN</b>

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
<b>Business Park Loop</b>	H	10/12/20	0.1	0.1	0.1	0.11	0.000	ARAB,CEMO,CIIN,SYOF
<b>Camp Hayden Park Rd</b>	M	8/6/20	4.29	7.4	7.4	0.00	0.009	SEJA
	H	8/17/20	0.1	0.1	0.1	0.18	0.000	CEMO, CIAR, GERO*, RUAR*, SEJA
<b>Carlsborg Rd</b>	M	6/8/20	0.5	1.0	0.01	0.00	0.001	COMA
	M	7/9/20	0.1	0.1	0.1	0.00	0.004	CIIN*, CEST, CRMO, CYSC*, ILAQ, RUAR*, TAVU
	H	10/8/20	0.1	0.1	1.0	0.09	0.000	ARAB, CEMO, CIIN, COMA
<b>Cat Lake Rd</b>	M, H	11/30/20	0.1	0.1	0.1	0.01	0.001	CYSC*, SEJA
<b>Cays Rd</b>	H	2/18/20	0.3	0.5	0.1	0.09	0.000	CAPY
	H	2/20/20	0.5	0.9	1.8	0.15	0.000	CAPY
	M	4/28/20	0.1	0.1	0.1	0.00	0.025	CAPY
	M	4/30/20	0.1	0.1	0.1	0.00	0.013	CAPY
	M	5/18/20	0.1	0.1	0.1	0.00	0.013	CAPY
	H	8/24/20	0.1	0.1	0.1	0.29	0.000	CEMO, CEST, CIIN, COMA, CYSC, POBO, RUAR
	M	3/26/20	0.1	0.1	0.1	0.00	0.001	COMA
	M	7/2/20	0.1	0.1	0.1	0.00	0.003	CAPY
<b>Charley Creek Rd</b>	H	8/13/20	0.75	1.0	0.5	0.07	0.000	LAGA
<b>Chicken Coop Rd</b>	M, H	9/14/20	3.5	6.7	6.7	0.00	0.001	SEJA
<b>Cooper Ranch Rd</b>	M	9/10/20	5.6	11.2	0.1	0.00	0.001	SEJA
Corriea Rd	H	2/26/20	0.1	1,4	0.0	0.00	0.000	COMA, DIFU
	M	10/14/20	0.1	0.1	0.0	0.00	0.001	COMA, DIFU
Coulter Rd	H	2/26/20	0.1	0.44	0.2	0.04	0.000	COMA
Crescent Beach Rd	M	8/5/20	3.5	6.5	6.5	0.00	0.005	SEJA
	H	8/18/20	0.1	0.1	0.1	0.07	0.001	CEMO, CYSC*, LAGA, SEJA
<b>Dan Kelly Rd</b>	M	6/25/20	0.1	6.0	0.1	0.00	0.001	SEJA
	M	7/23/20	0.1	0.1	0.1	0.00	0.000	SEJA
	H	9/14/20	0.1	0.1	0.1	0.05	0.000	POBO
<b>Dawley Rd</b>	H	2/26/20	0.7	0.1	0.1	0.00	0.000	COMA, DIFU, SEJA

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
Dawley Rd	M	6/10/20	0.1	0.1	0.1	0.00	0.001	COMA
	H	9/8/20	0.1	1.4	1.4	0.02	0.000	COMA, DIFU, SEJA
Deer Park Loop	M, H	5/14/20	0.3	0.2	0.2	0.07	0.005	BRRA, CYSC
	H	9/30/20	0.1	0.1	0.1	0.11	0.001	CYSC*
Deer Park Rd	H	5/20/20	2.25	5.0	5.0	1.15	0.000	HICA, SEJA
	H	6/1/20	5.6	10.8	10.8	0.62	0.000	HICA, GERO*
	H	6/3/20	0.1	0.1	0.1	0.13	0.000	GERO*, HICA, LALA*, SEJA
	M	8/4/20	0.1	0.1	0.1	0.00	0.003	SEJA
	M	8/6/20	0.1	0.1	0.1	0.00	0.008	CEMO,SEJA,TAVU
Dempsey Rd	M	8/3/20	0.7	1.4	1.4	0.00	0.000	SEJA
Diamond Point Rd	M, H	4/6/20	0.1	0.1	0.1	0.10	0.025	CIVU, CYSC, RUAR, SEJA
	M, H	4/7/20	4.09	7.8	6.8	0.01	0.050	CYSC, CRMO, RUAR
	M,H	7/2/20	0.1	0.1	0.1	0.00	0.017	CEMO, CIVU, CRMO, CYSC, RUAR, SEJA
	M	7/9/20	0.1	0.1	0.1	0.00	0.001	CYSC, CRMO, RUAR, SEJA
	M	7/27/20	0.1	0.1	0.1	0.00	0.001	CIVU, CYSC, RUAR, SEJA
	M	9/14/20	0.1	0.1	0.1	0.00	0.001	CEMO, SEJA*
	M, H	9/16/20	0.1	0.1	0.1	0.20	0.004	CEMO, CYSC*, GERO*, SEJA
	M, H	9/24/20	0.02	0.1	0.1	0.00	0.011	CYSC, SEJA
	M, H	11/24/20	0.1	0.1	0.1	0.00	0.003	CYSC, SEJA
M, H	11/23/20	0.1	0.1	0.1	0.00	0.005	CYSC	
Discovery View Dr	M	7/9/20	0.5	1.0	1.0	0.00	0.001	SEJA
Dodger Ln	H	7/27/20	0.25	0.3	0.0	0.01	0.000	PORE
Dorothea Way	M	4/29/20	0.1	0.2	0.2	0.00	0.013	BEIN
E Anderson Rd	H	3/4/20	0.1	0.1	0.1	0.02	0.000	COMA
	M, H	8/3/20	1.4	2.8	2.4	0.36	0.000	CIAR, CIVU, COAR, DIFU, PORE, SEJA
Eagle Creek Rd	M	7/9/20	0.3	0.6	0.6	0.00	0.001	SEJA
East Beach Rd	H	6/18/20	0.6	0.6	0.6	0.10	0.000	CEMO, CYSC, GERO, SEJA
East Lyre River Rd	M, H	6/18/20	0.5	1.2	1.2	0.18	0.000	CEMO, CIVU, DIFU, GERO, RULA, SEJA

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
<b>East Sequim Bay Rd</b>	M, H	8/10/20	4.5	8.7	8.7	0.05	0.002	<b>SEJA</b>
<b>Easterly Rd</b>	H	10/15/20	0.2	0.4	0.4	0.01	0.000	<b>CEMO, CYSC, HYPE</b>
	H	6/22/20	0.1	0.1	0.1	0.02	0.000	<b>CEMO, CIAR, CYSC</b>
<b>Eden Valley Rd</b>	M, H	7/23/20	1.8	4.4	4.4	0.22	0.000	<b>CEMO, CYSC*, DIFU, SEJA</b>
<b>Elwha River Rd</b>	H	7/23/20	1.7	4.1	4.1	0.41	0.000	<b>CEMO, CYSC*, GERO*, HYPE*, RUAR*</b>
	H	8/12/20	0.1	0.2	0.2	0.00	0.001	<b>CEMO</b>
<b>Evans Rd</b>	M	3/5/20	1.7	2.2	2.2	0.00	0.001	<b>COMA</b>
	H	3/9/20	0.1	0.1	0.1	0.01	0.000	<b>COMA</b>
	M	5/28/20	0.1	0.1	0.1	0.00	0.001	<b>COMA</b>
	H	10/8/20	0.1	0.1	0.1	0.20	0.000	<b>CIAR, CIVU, COMA</b>
<b>Farrington Rd</b>	M	8/3/20	0.9	1.7	1.7	0.00	0.001	<b>SEJA</b>
	M, H	9/21/20	0.1	0.1	0.1	0.05	0.000	<b>SEJA</b>
<b>Fasola Rd</b>	H	3/9/20	0.7	1.7	0.6	0.01	0.000	<b>COMA, DIFU</b>
Finn Hall Rd	M, H	8/27/20	2.5	3.7	0.0	0.01	0.001	<b>CYSC, LAGA</b>
<b>Fisher Cove Rd</b>	H	6/18/20	0.8	1.0	1.0	0.14	0.000	<b>CEMO, CIVU, CYSC, GERO</b>
<b>Fleming Dr</b>	M	7/2/20	0.1	0.2	0.2	0.00	0.001	<b>SEJA</b>
	M	10/15/20	0.4	1.0	0.8	0.00	0.004	<b>CYSC, DALA, SEJA</b>
<b>Freshwater Bay Rd</b>	M	8/3/20	2.3	5.0	5.0	0.00	0.004	<b>SEJA</b>
	H	10/19/20	0.1	0.1	0.1	0.08	0.000	<b>SEJA</b>
<b>Gasman Rd</b>	M, H	4/1/20	2.0	4.1	0.0	0.00	0.001	<b>CYSC</b>
	M	7/30/20	0.1	0.1	0.0	0.00	0.001	<b>CYSC, SEJA</b>
Gilbert Rd	H	3/4/20	0.1	0.4	0.2	0.01	0.000	<b>COMA</b>
	H	10/15/20	0.1	0.1	0.1	0.02	0.000	<b>CIVU, COMA, DALA, FOVU, RUAR</b>
<b>Gossett Rd</b>	H	6/18/20	0.04	0.1	0.1	0.03	0.000	<b>CEMO, CIAR, CIVU, RUAR, RULA,</b>
<b>Grauel-Ramapo Rd</b>	M	8/3/20	1.5	3.0	3.0	0.00	0.001	<b>SEJA</b>
<b>Happy Valley Rd</b>	M, H	6/22/20	5.9	11.4	11.4	0.30	0.001	<b>CEMO, CIAR, CIIN, CIVU, CYSC, DIFU, HYPE, LALA, SEJA</b>
	M	10/12/20	0.1	0.1	0.0	0.00	0.001	<b>CEMO, SEJA</b>

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
Happy Valley Rd	H	10/15/20	0.1	0.1	0.1	0.002	0.000	<b>CEMO</b>
Henry Boyd Rd	M, H	9/8/20	0.9	1.4	0.1	0.00	0.006	<b>SEJA</b>
Hilstrom Rd	H	9/15/20	0.3	1.2	0.6	0.01	0.000	<b>GERO*</b>
Hogback Rd	H	2/21/20	0.5	0.2	0.2	0.05	0.000	<b>CAPY, COMA</b>
Hoko-Ozette Rd	H	5/26/20	0.1	0.1	0.1	0.05	0.000	CYSC, <b>SEJA</b> , RUAR
	H	8/4/20	7.4	14.3	14.3	0.51	0.000	CIAR*, CIVU, <b>GERO</b> , HYPE, <b>POBO</b> , RUAR*, RULA*, <b>SEJA</b>
	H	8/11/20	6.8	13.1	13.1	0.83	0.000	CIAR, CYSC, <b>GERO</b> , <b>POBO</b> , RUAR, RULA, <b>SEJA</b>
	H	8/13/20	0.1	0.1	0.1	0.00	0.003	CYSC, <b>GERO</b> , HYPE*, RUAR*, RULA*, <b>SEJA</b>
	H	10/22/20	0.1	0.1	0.0	0.01	0.000	<b>POBO</b>
	M	10/28/20	0.02	0.1	0.1	0.00	0.001	<b>SEJA</b>
<b>Holland Rd</b>	H	9/8/20	0.9	1.7	1.7	0.07	0.000	ARMI*, CIAR*, <b>LAGA</b>
	M, H	9/9/20	0.1	0.1	0.1	0.01	0.001	CIAR, <b>SEJA</b>
Hooker Rd	M	3/11/20	0.1	0.2	0.1	0.00	0.001	<b>COMA</b>
Howard Rd	M	8/3/20	0.3	0.6	0.6	0.00	0.001	<b>SEJA</b>
Industrial Pkwy	M	7/9/20	0.5	0.9	0.8	0.00	0.001	<b>SEJA</b>
<b>Jimmy Come Lately Rd</b>	M	7/28/20	0.25	0.6	0.6	0.00	0.001	<b>CEMO, SEJA</b>
John Jacobs Rd	M	3/3/20	0.278	0.5	0.0	0.00	0.001	<b>COMA</b>
Johnson Creek Rd	H	10/12/20	0.3	0.6	0.6	0.02	0.000	<b>CEMO*</b> , CIAR
	H	6/22/20	0.1	0.1	0.1	0.02	0.000	<b>CEMO</b> , CYSC, CIVU
	H	10/15/20	0.1	0.1	0.1	0.03	0.000	<b>CEMO</b>
<b>Joyce-Piedmont Rd</b>	H	9/22/20	4	7.9	7.9	0.38	0.000	<b>CEMO</b> , CYSC*, <b>GERO*</b> , <b>POBO</b> , <b>SEJA</b>
Juan De Fuca Way	M	7/30/20	0.2	0.4	0.0	0.00	0.001	<b>SEJA</b>
Kitchen-Dick Rd	M	3/11/20	0.1	0.1	0.0	0.00	0.001	<b>COMA</b>

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
Kitchen Dick Rd	M, H	7/27/20	2.9	6.0	6.0	0.69	0.001	BEIN, <b>CEMO</b> , CIAR, <b>COMA</b> , CIVU, COAR, <b>COMA</b> , CRMO, DALA, DIFU, LEAP, RUAR, TAVU
Laird Rd	H	7/23/20	0.25	0.5	0.3	0.05	0.000	CYSC*, RUAR*
Lake Aldwell Rd	M	9/23/20	0.5	1.1	0.1	0.00	0.000	<b>CEMO</b>
<b>Lake Dawn Rd</b>	H	7/15/20	0.1	0.2	0.2	0.02	0.000	<b>HIAU</b>
<b>Lake Pleasant Park Rd</b>	H	9/28/20	0.1	0.1	0.2	0.07	0.000	<b>POBO</b>
<b>Lamar Ln</b>	H	3/11/20	0.1	0.1	0.1	0.01	0.000	<b>CAPY, COMA</b>
	M	4/27/20	0.1	0.1	0.0	0.00	0.050	<b>CAPY, COMA</b>
	M	5/18/20	0.7	1.4	0.1	0.00	0.013	<b>CAPY, COMA</b>
LaPush Road	H	9/1/20	0.1	0.3	0.3	0.00	0.000	<b>HIAU</b>
Little Loop Dr	M	9/9/20	0.1	1.5	0.2	0.00	0.004	<b>SEJA</b>
Little River Rd	H	6/25/20	3.5	6.8	6.8	0.37	0.000	<b>CEMO</b> , CIAR, CIVU, CYSC, GERO, HYPE, RUAR,
	H	7/15/20	2	4.0	4.0	0.13	0.000	<b>CEMO</b> , CYSC*, GERO*, RUAR*
	M	8/4/20	0.1	0.1	0.1	0.00	0.001	<b>CEMO</b>
	H	10/7/20	0.1	0.1	0.1	0.17	0.000	<b>CEMO</b> , CIVU, GERO*, RULA*, <b>SEJA</b>
<b>Lost Mountain Rd</b>	H	8/27/20	5.15	9.7	9.7	0.40	0.000	<b>CEMO</b> , CIAR, CYSC, GERO, <b>SEJA</b>
<b>Lotzgesell Rd</b>	H	2/21/20	0.1	0.1	0.1	0.05	0.000	<b>COMA</b> , DIFU
	H	7/30/20	2	4.0	4.0	0.34	0.000	<b>CEMO</b> , <b>CEST</b> , CIAR*, CIVU*, <b>COMA</b> , DIFU, RUAR*
	M, H	8/3/20	0.75	1.5	1.5	0.19	0.000	CIAR, CIVU, CRMO, <b>DALA</b> , ILAQ, RUAR, VIMA
<b>Lower Elwha Rd</b>	M, H	7/16/20	0.45	0.8	0.8	0.05	0.000	CYSC*, RUAR*, <b>SEJA</b>
	M	9/21/20	0.1	0.1	0.1	0.00	0.001	<b>SEJA</b>
Lupine Dr	M	7/9/20	0.5	1.0	0.1	0.00	0.001	<b>SEJA</b>
<b>Madrona Way</b>	M	7/2/20	0.6	1.2	1.2	0.00	0.003	<b>SEJA</b>
Manzanita Dr	M	7/2/20	0.7	1.4	1.4	0.00	0.001	<b>SEJA</b>
<b>Marine Dr</b>	M	2/28/20	0.1	0.1	0.1	0.00	0.005	<b>COMA</b>
	M	3/12/20	1.5	3.2	3.5	0.00	0.003	<b>COMA</b>

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
Mary Clark Rd	M,H	7/8/20	0.2	0.1	0.1	0.16	0.005	CYSC, DIVU, HYPE, ILAQ, RUAR, SEJA
	M, H	9/10/20	7.6	14.7	14.7	0.17	0.004	CYSC*, RUAR*, SEJA
Mina Smith Rd	M, H	8/31/20	3.4	5.8	5.8	0.21	0.004	CYSC,GERO,RULA,SEJA
Monroe Rd	M	9/9/20	0.01	0.0	0.0	0.00	0.001	SEJA
Mount Pleasant Rd	M	8/18/20	2.11	4.1	0.5	0.00	0.001	CEMO,COMA,SEJA
N Barr Rd	H	3/9/20	0.04	0.1	0.0	0.01	0.000	COMA
N Brown Rd	M	9/9/20	0.5	1.0	1.0	0.00	0.001	CEMO*, DIFU*, SEJA
North St	M	7/9/20	0.5	1.0	1.0	0.00	0.001	SEJA
O'Brien Rd	M	8/6/20	3.8	7.3	0.1	0.00	0.004	CEMO,PORE,SEJA
	H	6/16/20	0.1	0.0	0.0	0.00	0.001	CEMO
Okerman Rd	M	9/23/20	0.4	0.7	0.7	0.00	0.013	CEMO
	H	10/15/20	0.1	0.1	0.0	0.00	0.001	CEMO
Old Blyn Hwy	H	2/26/20	2.1	4.3	4.1	0.04	0.000	COMA, CYSC, GERO, SEJA
Old Olympic Hwy	M	3/10/20	0.1	0.1	0.0	0.00	0.001	COMA
	M	3/27/20	0.1	0.1	0.1	0.00	0.001	COMA
	M	3/30/20	0.1	0.1	0.1	0.00	0.003	CYSC
	M, H	3/31/20	0.1	0.1	0.1	0.01	0.003	CYSC, RUAR
	M, H	4/1/20	0.1	0.1	0.1	0.01	0.013	CYSC, RUAR
	M, H	4/2/20	0.1	0.1	0.1	0.001	0.003	CYSC, RUAR
	M, H	8/25/20	4.2	8.3	8.3	0.16	0.001	CEST, CIAR, COAR, CYSC, DIFU, PORE, SEJA
	H	8/26/20	3.5	6.8	6.8	0.25	0.001	CIAR, CYSC, RULA
	M	8/27/20	0.1	0.1	0.1	0.00	0.007	DIFU
	M, H	11/23/20	0.1	0.1	0.1	0.01	0.001	CYSC
Olympic Discovery Trail	M	4/29/20	0.1	0.1	0.1	0.00	0.001	COMA
	M	7/9/20	0.4	0.7	0.7	0.00	0.001	CEST
	H	8/31/20	0.1	0.1	0.1	0.01	0.000	POBO
	H	9/22/20	0.1	0.3	0.3	0.08	0.000	CEMO, CIAR, CYSC, GERO, PHAR*, RUAR*, SEJA

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
<b>Olympic Discovery Trail</b>	M, H	10/1/20	4.7	9.1	9.1	0.72	0.007	CIVU, CYSC, GERO ,RUAR
	M, H	10/6/20	1.5	2.9	2.9	0.18	0.111	<b>CEMO, CIAR, CIVU, GERO, SEJA</b>
Olympic Hot Springs Rd	M	8/4/20	1.5	3.2	3.2	0.00	0.007	<b>CEMO</b>
	H	6/25/20	0.1	0.1	0.1	0.73	0.000	<b>CEMO, CYSC, GERO, RUAR</b>
Palo Alto Rd	M, H	7/13/20	7.8	15.6	15.6	0.80	0.001	<b>CEMO, CIAR, CIIN, CYSC, DIFU, GERO, HYPE, PORE, RUAR*</b>
<b>Panorama Blvd</b>	M	6/24/20	0.1	0.1	0.1	0.00	0.001	<b>SEJA</b>
	M, H	8/10/20	0.75	1.5	1.5	0.03	0.000	CYSC, <b>SEJA</b>
<b>Pinnell Rd</b>	M	3/11/20	0.5	1.1	0.1	0.00	0.001	<b>COMA</b>
Poplar Ct	M	7/2/20	0.2	0.4	0.4	0.00	0.001	<b>SEJA</b>
Port Williams Rd	H	2/26/20	0.1	0.1	0.1	0.01	0.000	<b>DIFU</b>
	M, H	9/8/20	2.4	4.8	4.8	0.21	0.001	<b>CEMO, CIAR*, DIFU*, RUAR*, SEJA</b>
<b>Power Plant Rd</b>	H	7/16/20	0.1	0.1	0.1	0.05	0.000	<b>CEMO*, CYSC*, RUAR*</b>
	H	9/21/20	0.8	1.6	1.6	0.07	0.000	<b>CEMO, CIAR*, CYSC*, GERO*, RUAR*</b>
Quillayute Rd	M, H	9/1/20	6.7	13.0	13.0	0.09	0.071	CYSC, <b>SEJA</b>
<b>Rhododendron Dr</b>	M	7/2/20	0.1	1.6	0.1	0.00	0.001	<b>SEJA</b>
River Rd	H	6/17/20	0.42	1.0	0.5	0.11	0.000	<b>CEST,CEMO,CYSC,PORE,RUAR</b>
	H	6/22/20	1	2.4	2.4	0.32	0.000	CIAR, CIVU, CYSC*, <b>GERO</b>
	M, H	6/23/20	0.42	1.0	0.5	0.22	0.000	<b>CEMO, CIAR*, CIVU*, CYSC*, GERO*, SEJA</b>
S Bagley Creek Rd	M	4/7/20	0.1	0.1	0.1	0.00	0.001	<b>COMA</b>
Schmitt Rd	M	6/25/20	0.1	0.1	0.1	0.00	0.001	<b>SEJA</b>
	M, H	9/21/20	0.4	1.0	1.0	0.05	0.001	<b>SEJA</b>
Schmuck Rd	H	9/8/20	1.3	2.7	2.7	0.09	0.000	CIIN*, <b>CIAR, RUAR*</b>
Sequim-Dungeness Way	M	3/26/20	0.2	0.4	0.1	0.00	0.021	<b>COMA</b>
	H	8/24/20	0.1	0.1	0.1	0.15	0.019	CYSC,RUAR,RULA
	H	8/25/20	1.1	2.2	2.2	0.01	0.000	<b>CEMO,CEST</b>
<b>Sherwood Rd</b>	M	7/2/20	0.3	0.6	0.6	0.00	0.002	<b>SEJA</b>

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
Slab Camp Rd	H	6/29/20	0.7	1.2	1.7	0.10	0.000	<b>CEMO, CIAR, CIVU, CYSC, GERO*, PORE, SEJA,</b>
	H	7/1/20	0.7	1.0	1.0	0.14	0.001	<b>CYSC, GERO*, SEJA</b>
Smithfield Dr	M	6/22/20	0.1	0.1	0.1	0.00	0.001	<b>CEST</b>
Sunshine Ave	M	7/9/20	0.1	0.6	0.1	0.00	0.001	<b>SEJA</b>
Sunshine Plz	M	7/9/20	0.25	0.4	0.4	0.00	0.001	<b>SEJA</b>
Swan Bay	H	8/4/20	0.78	1.9	1.9	0.30	0.000	<b>GERO,RUAR,SEJA</b>
Taylor Cut-off Rd	M	3/27/20	0.1	0.1	0.1	0.00	0.003	<b>CYSC, ILAQ</b>
	M, H	11/23/20	0.1	0.1	0.1	0.00	0.001	<b>CYSC</b>
	M, H	7/9/20	0.1	0.1	0.1	0.01	0.001	<b>BUDA, COMA, DIFU, GERO*, SYOF</b>
Taylor Ranch Rd	M, H	9/9/20	0.8	1.5	1.5	0.02	0.001	<b>SEJA</b>
Thornton Dr	M	2/28/20	0.1	0.1	0.0	0.00	0.001	<b>COMA</b>
	M	7/2/20	0.1	0.2	0.2	0.00	0.001	<b>SEJA</b>
Timber Rd	M	7/2/20	0.1	0.2	0.2	0.00	0.001	<b>SEJA</b>
Towne Rd	H	2/11/20	0.08	0.1	0.1	0.01	0.000	<b>COMA</b>
	H	2/19/20	0.1	0.1	0.1	0.02	0.000	<b>COMA</b>
	H	4/29/20	0.1	0.1	0.1	0.05	0.000	<b>COMA</b>
	M	4/30/20	0.05	0.1	0.1	0.00	0.001	<b>COMA</b>
	M	6/8/20	0.01	0.1	0.1	0.00	0.001	<b>COMA</b>
	H	8/12/20	0.005	0.1	0.1	0.01	0.000	<b>COAR</b>
	M, H	8/27/20	2.9	6.0	0.4	0.03	0.001	<b>COMA,DIFU,FOVU,LAGA</b>
Township Line Rd	M	8/6/20	1.6	3.3	3.3	0.00	0.001	<b>SEJA</b>
Tripp Rd	H	10/12/20	0.3	0.5	0.1	0.01	0.000	<b>SYOF</b>
Turnstone Ln	H	6/17/20	0.1	0.1	0.1	0.28	0.000	<b>CEMO,CYSC,RUAR</b>
	M	6/24/20	0.4	1.0	1.0	0.00	0.001	<b>DIFU</b>
Valley Center Place	H	4/29/20	0.2	1.0	0.1	0.02	0.000	<b>BEIN</b>
Vautier Rd	H	10/12/20	0.6	1.2	1.2	0.13	0.000	<b>CIAR</b>
Vista View Dr	H	4/9/20	0.1	0.4	0.4	0.11	0.000	<b>COMA, CYSC</b>

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
Vista View Dr	H	8/28/20	0.1	0.1	0.1	0.01	0.000	LAGA
Voice Of America Rd	M	2/28/20	0.1	0.1	0.1	0.00	0.001	COMA
	M	5/18/20	1.1	2.0	0.8	0.00	0.001	COMA
W Arnette Rd	H	9/8/20	0.10	0.1	0.1	0.01	0.000	POBO
W Bluff Dr	M	7/30/20	0.25	0.4	0.0	0.00	0.001	SEJA
W Edgewood Dr	H	9/11/20	2.2	5.3	5.3	0.14	0.000	CEMO, CYSC*, RUAR*, SEJA
W Hendrickson Rd	H	3/12/20	0.1	0.4	0.4	0.02	0.000	COMA
	M	5/28/20	0.1	0.1	0.1	0.00	0.001	COMA
W Silberhorn Rd	M	3/6/20	0.01	1.2	0.0	0.00	0.001	COMA
W Washington St	H	3/17/20	0.1	0.1	0.1	0.05	0.000	CEST, COMA, DALA
	H	6/17/20	0.5	1.2	1.2	0.21	0.000	CEST, CIAR, CYSC, HYPE, RUAR
	M	9/14/20	0.1	0.1	0.1	0.00	0.001	CEST*, CEMO*
	M, H	10/7/20	0.1	0.1	0.1	0.01	0.000	CEMO, COMA
W Lauridsen Blvd	H	7/23/20	0.7	1.3	1.3	0.05	0.000	CEST, CIAR*, CIVU*
	M	8/6/20	0.1	0.1	0.1	0.00	0.001	CEMO, SEJA
Ward Rd	H	3/4/20	1.6	3.1	3.1	0.03	0.000	COMA
Wentworth Rd	M	9/1/20	1.2	2.3	2.3	0.00	0.001	SEJA
West Lake Pleasant Rd	H	9/15/20	0.9	1.8	1.8	0.06	0.000	POBO, RUAR*
West Lyre River Rd	H	6/18/20	0.6	1.4	1.4	0.02	0.000	CEMO, GERO, RULA
West Sequim Bay Rd	M	4/20/20	0.1	0.1	0.0	0.00	0.001	COMA
	M, H	9/9/20	1.6	1.9	1.9	0.01	0.001	CEMO, CIVU*, GERO*, SEJA
West St	M	7/9/20	0.1	0.3	0.0	0.00	0.001	SEJA
Whiskey Creek Beach Rd	M	6/25/20	0.5	1.0	0.9	0.00	0.001	SEJA
	H	9/21/20	0.1	0.1	0.1	0.07	0.000	SEJA
Whitcomb-Diimmel Rd	M, H	9/15/20	1.4	2.7	2.7	0.14	0.005	CYSC*, RUAR*, SEJA
Woodcock Rd	H	3/4/20	0.1	0.1	0.1	0.01	0.000	COMA

Road Name	Treatment Method	Date Treated	Miles Treated	acres examined	acres treated	Solid Treated Acres Chemically	Solid Manual Acres Treated	Treated Species List
<i>Woodcock Rd</i>	H	3/9/20	0.1	0.1	0.1	0.03	0.000	<b>COMA</b>
	M	5/28/20	0.1	0.1	0.1	0.00	0.001	<b>COMA</b>
	M	6/8/20	0.1	0.1	0.1	0.00	0.005	<b>COMA</b>
	H	8/19/20	3.2	7.8	7.8	0.25	0.000	ARMI, <b>CEST</b> ,CIIN, <b>COMA</b> ,CYSC,FOVU,HYPE,LALA,RUAR, <b>SEJA</b>
	H	8/24/20	2.8	5.4	5.4	0.09	0.000	<b>CEMO</b> , <b>CEST</b> , <b>COMA</b> ,CYSC
	H	10/8/20	0.1	0.1	0.1	0.01	0.000	CIAR
<b>Woods Rd</b>	H	10/15/20	1.8	4.3	4.3	0.05	0.000	CYSC,GERO,HYPE,RUAR, <b>SEJA</b>
	M, H	6/30/20	0.25	0.5	0.5	0.60	0.013	CIIN, CIVU, CYSC, GERO, LALA, RUAR, <b>SEJA</b>
<b>Wye Rd</b>	M	6/25/20	0.5	1.0	1.0	0.00	0.001	<b>SEJA</b>
<b>Total: 138 roads</b>		<b>101 days</b>	<b>222</b>	<b>435</b>	<b>375</b>	<b>19.14</b>	<b>0.557</b>	<b>35 species</b>

\*Species treated intermittently treated\*\*Multi-use trail operated and maintained by Clallam County Road Department.

<sup>1</sup>*Italicized only* =road was also treated in 2018, **bold and Italicized**=road was also treated in 2018 and 2019, **bold** indicates road was also treated in 2019, **Green**=\_roads were also treated in 2017-2019

<sup>2</sup>**M** – Manual control; **H**- Chemical control; **M, H** – Combination of manual and chemical Control

<sup>3</sup>**Examined Acres** - The total area searched for noxious weeds while crew was involved in treatment activities

<sup>4</sup>**Treated Acres** - The total area encompassing all herbicide treatments per road per day

<sup>5</sup>**Solid Treated Acres**- The estimated area that would be covered 100% with noxious weeds if the plants were “clumped” together; calculated using the tank mix volume applied and calibrated sprayer output

<sup>6</sup>**Solid Manual Acres** - The area controlled by any manual means (pulling, digging, cutting, etc.) and does not include the spaces between weeds; area is either estimated in field and recorded on

“Herbicide/Manual Treatment Data Form” or calculated by infestation data (infested area \* cover class) or by number of plants pulled (1000 CYSC = 0.1 ac, 1000 SEJA = 0.025 ac.)

<sup>7</sup>**Species Treated** - The 4-Letter Weed codes correspond to the species scientific name and can be found in Appendix. Bolded species are regulated noxious weeds.

## Appendix D: County Rock Sources/Soil Disposal Site Treatment Activities

These tables include all County rock sources/spoil disposal sites (pits) and county “Special Sites” managed for noxious weeds in 2020 under the Clallam County Road Department IWM Plan. Two tables are sorted alphabetically by pit name and special sites. The table contains the **Species Treated**, **Examined Acres**, **Treated Acres**, **Manual Acres**, and **Solid Treated Acres** for each day a pit was worked; definitions of these 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.

To differentiate between original acres treated and retreated acres, we marked retreatments with a “0.1” metric in categories “acres treated” and “acres examined”. This was done to try to avoid too much double counting.

We completed work in **25 pits** over **56 days** and controlled **30 species**. We controlled **0.1 solid acres** of weeds with manual methods only and **39.9 solid acres** of weeds chemically. “Solid acres” represent the area that would be covered 100% with noxious weeds if the plants were “clumped” together and are estimated in the field or calculated using recorded data.

Pit Name	Treatment Method <sup>1</sup>	Treatment Date	Acres <sup>2</sup> examined	Acres <sup>3</sup> treated	Solid Chemical Acres Treated <sup>4</sup>	Solid Manual Acres Treated <sup>5</sup>	Species List <sup>6</sup>
Blue Mountain Transfer Station	H	06/23/20	2.7	2.7	0.64	0	CIAR, CIVU, <b>CYSC</b> , <b>COMA</b> , HYPE,
	M, H	09/30/20	0.1	0.1	0.29	0.0025	<b>CEMO</b> , CIAR, CIVU, <b>CYSC</b> , HYPE, RUAR*
Blyn Pit	H	02/10/20	0.1	0.1	0.01	0	<b>SEJA</b>
		05/07/20	4.3	4.3	1.42	0	CASE, <b>COMA</b> , <b>CYSC</b> , DIPU, HYPE, LALA, LEVU, RUAR, <b>SEJA</b>
		07/09/20	0.1	0.1	0.23	0	<b>COMA</b> , <b>DIFU</b> , <b>GERO*</b> , LALA*, RUAR*, <b>SEJA</b>
		10/07/20	0.1	0.1	0.37	0	CYSC, DALA, RUAR, <b>SEJA</b>
	M, H	09/14/20	14.3	10	0.78	0.0001	<b>CYSC*</b> , GERO, RUAR*, <b>SEJA</b>
Clallam Bay Storage Yard	H	05/26/20	3	3	0.23	0	CYSC, <b>LAGA</b> , PHAR*, RUAR, <b>SEJA</b>
District 1 Shop	M	03/24/20	0.1	0.01	0.00	0.00005	<b>CEST</b>
	H	10/07/20	1	1	0.18	0	<b>CEST</b> , CIAR, CIVU, RUAR
District 2 Shop	H	06/11/20	2.5	2.5	0.46	0	<b>CEMO</b> , <b>CYSC</b> , CIVU, HYRA, GERO, ILAQ, LEVU, RUAR, TAOF, TRRE
		07/21/20	1	0.5	0.11	0	GERO, ILAQ, LEVU, RUAR
Herrick Gravel	H	05/04/20	11.3	10	0.67	0	CIAR, CIVU, <b>CEMO</b> , GERO, HYPE, RUAR
		05/11/20	0.1	1	1.46	0	<b>CEMO</b> , CIAR <b>CYSC</b> , DALA, <b>GERO</b> , <b>HIAU</b> , LALA, RULA, RUAR

Pit Name	Treatment Method <sup>1</sup>	Treatment Date	Acres <sup>2</sup> examined	Acres <sup>3</sup> treated	Solid Chemical Acres Treated <sup>4</sup>	Solid Manual Acres Treated <sup>5</sup>	Species List <sup>6</sup>
Herrick Gravel	H	09/03/20	0.1	0.1	0.07	0	<b>CEMO,CIVU*,GERO*</b>
	M, H	10/06/20	0.1	0.1	0.45	0.00125	CEMO, CIAR, CIVU, CYSC, DIPU, GERO, HYPE, RUAR, RULA, <b>SEJA</b>
Hoko-Ozette Rd MP 10	H	05/26/20	2.9	2.9	0.62	0	CASE, DIPU, LEVU, PHAR, RUAR, <b>SEJA</b>
		08/11/20	0.1	0.1	0.09	0	CIAR,CIVU, <b>GERO</b> ,HYPE,PHAR,RUAR,RULA, <b>SEJA</b>
Hoko-Ozette Rd MP 13	H	05/19/20	1.5	1.5	0.51	0	CASE, CYSC, RUAR, RULA, <b>SEJA</b>
Hoko-Ozette Rd MP 4.5	H	05/26/20	1.4	1.4	0.23	0	DIPU, <b>GERO</b> , HYPE, PHAR, RUAR, <b>SEJA</b>
Hwy 101 Storage Yard	H	02/11/20	1.2	0.23	0.00	0	<b>COMA, GERO</b>
		09/29/20	0.1	0.1	0.09	0	CIAR,RUAR*
Joyce-Piedmont Pit	H	05/11/20	5.4	5.4	0.84	0	<b>CEMO, CIAR, CIVU, CYSC, DIPU, GERO, HYPE,LALA, LEVU, SEJA</b>
	M, H	10/06/20	0.1	0.1	0.30	0.00025	<b>CYSC,GERO,PHAR,SEJA</b>
Kirner Pit	H	02/10/20	39.9	2	0.16	0	<b>COMA</b>
		03/17/20	0.1	7.9	0.15	0	<b>COMA</b>
		04/08/20	0.1	30	1.29	0	ARMI, BRRA, <b>CAPY, CEST</b> , CIAR, CIIN, CYSC, DALA, DIPU, LUAR, RUAR
	M, H	08/24/20	0.1	0.1	0.11	0.00125	<b>COMA,DIFU,RUAR*</b>
		09/16/20	0.1	0.1	0.84	0.00063	<b>CEST,CIIN,COMA,CYSC*,RUAR*</b>
		09/29/20	0.1	0.1	1.25	0.005	<b>CEMO,CIIN,COMA,CYSC*,RUAR*</b>
La Push "Ballard" Pit	H	04/16/20	2	2	0.63	0	CIAR, CIVU, CYSC, DIPU, LAGA, PHAR, RUAR, RULA, <b>SEJA</b>
	M, H	10/05/20	0.1	0.1	0.22	0.0055	GERO,LAGA,PHAR,RUAR, <b>SEJA</b>
Lake Creek Pit	H	04/15/20	15.1	15.1	1.49	0	CIVU, CYSC, DIVU, HYPE, LEVU, PHAR, RUAR, <b>SEJA</b>
		07/08/20	0.1	0.1	0.55	0	CIVU, CYSC, LEVU, RUAR, RULA, SEJA
	M, H	09/02/20	0.1	0.1	0.34	0.00238	PHAR,ROAR,RULA*, <b>SEJA</b>
		09/15/20	0.1	0.1	0.10	0.0025	RUAR*, <b>SEJA</b>
	H	09/28/20	0.1	0.1	1.31	0	CYSC*,RUAR*, <b>SEJA</b>

Pit Name	Treatment Method <sup>1</sup>	Treatment Date	Acres <sup>2</sup> examined	Acres <sup>3</sup> treated	Solid Chemical Acres Treated <sup>4</sup>	Solid Manual Acres Treated <sup>5</sup>	Species List <sup>6</sup>
Little River Pit	H	06/25/20	1	1	0.05	0	<b>CEMO, CIAR, CIVU, GERO</b>
		10/07/20	0.1	0.1	0.09	0	<b>CEMO,GERO,PHAR</b>
Lower Elwha Pit Lower Elwha Pit	H	02/14/20	1	1	0.00	0	<b>COMA</b>
	H	04/30/20	0.1	0.1	0.01	0	<b>COMA, CYSC, RUAR</b>
		07/16/20	0.1	0.1	0.05	0	<b>CYSC, RUAR</b>
McInnis Pit	M, H	02/10/20	5.1	2	0.06	0	<b>CAPY, COMA, CEMO, CEST, CIIN, CIAR, CIVU, SEJA, SYOF, TAVU</b>
		03/17/20	0.1	2	0.06	0	<b>CAPY,CEMO,CEST,COMA,RUAR*</b>
		04/09/20	0.1	1.1	1.12	0	<b>CEMO,CIIN,COMA,CYSC,RUAR*</b>
	H	07/02/20	0.1	0.1	0.13	0.00063	<b>CAPY, COMA</b>
		08/19/20	0.1	0.1	0.11	2.5E-05	<b>CAPY, COMA, GERO</b>
		09/29/20	0.1	0.1	0.16	0.0025	<b>COMA, CEMO, CIAR, CIVU, BRRA, RUAR, CIIN</b>
Morse Creek Pit	H	02/11/20	3.3	3.3	0.03	0	<b>COMA</b>
		03/18/20	2.6	2.6	0.01	0	<b>COMA</b>
		04/09/20	14	14	0.73	0	<b>BRRA, CIAR, COMA, CYSC, HYPE, LUAR, RUAR, TAVU</b>
	M, H	04/14/20	8	8	0.94	0.005	<b>BRRA, CIAR, COMA, CYSC, HYPE, LUAR, RUAR, TAVU</b>
	H	04/20/20	3.75	0.775	0.52	0	<b>COMA, CIAR, CYSC, GERO, RUAR</b>
	M,H	08/18/20	0.1	0.1	0.18	0.00108	<b>COMA,CYSC,SEJA,TAVU</b>
	H	09/17/20	0.1	0.1	2.41	0	<b>CIAR*,CIVU*,COMA,CYSC*,RUAR</b>
Place Pit	H	02/11/20	4.9	0.2	0.01	0	<b>BRRA, CIAR, CIVU, CYSC, DIFU, GERO, RUAR, SEJA</b>
		04/30/20	0.1	4.7	0.27	0	<b>BRRA, CIAR, CIVU, CYSC, DIFU, GERO, IRPS, RUAR, SEJA</b>
		05/04/20	0.1	0.1	0.96	0	<b>CEMO,SEJA</b>
	M, H	08/18/20	0.1	0.1	0.01	0.00013	<b>DIFU</b>
	H	09/24/20	0.1	0.1	0.32	0	<b>CEMO,CIAR*,CIVU,CYSC,PHAR,RUAR</b>
Quillayute Pit	M, H	03/23/20	0.1	0.01	0.00	0.015	<b>CYSC</b>
		H	04/16/20	10	10	1.15	0
	05/27/20		3.5	3.5	1.93	0	<b>CIAR, CIVU, CYSC, DIPU, GERO, HYPE, RUAR, RULA, SEJA</b>

Pit Name	Treatment Method <sup>1</sup>	Treatment Date	Acres <sup>2</sup> examined	Acres <sup>3</sup> treated	Solid Chemical Acres Treated <sup>4</sup>	Solid Manual Acres Treated <sup>5</sup>	Species List <sup>6</sup>
Quillayute Pit	H	05/28/20	0.1	0.1	1.70	0	CIAR, CIVU, CYSC*, DIPU*, <b>GERO</b> , HYPE*, RUAR*, RULA, <b>SEJA</b> *
	M, H	09/01/20	0.1	0.1	0.12	0.00065	<b>CYSC*,SEJA</b>
		09/02/20	0.1	5	0.14	0.00058	<b>CYSC*,PHAR*,RUAR*,SEJA*</b>
	H	09/28/20	0.1	0.1	0.48	0	CYSC*,DIPU*,HYRA*,RUAR*, <b>SEJA*</b>
	M, H	10/05/20	0.1	4.9	1.22	0.0075	<b>CYSC,DIPU,RUAR,SEJA</b>
Ranger Pit	H	02/11/20	19.3	2.3	0.02	0	<b>DIFU, GERO</b>
	M, H	04/22/20	8.5	8.5	1.02	0.00125	CIAR, CIVU, <b>CYSC, GERO</b> , RUAR, VIMA
		04/23/20	0.1	10	1.08	0	<b>CYSC, DIPU, GERO, RUAR, SEJA</b>
		08/18/20	0.1	0.1	0.01	0.00095	<b>CEMO,CYSC*,SEJA</b>
	H	09/21/20	0.1	0.1	0.32	0	CIVU*, <b>CYSC*</b> , RUAR*
	09/30/20	0.1	0.1	0.41	0	CIAR,CIVU, <b>CYSC*</b> , <b>DIFU,PHAR,POBO</b> ,RUAR	
Sequim Storage Yard	H	02/14/20	2.1	0.01	0.00	0	<b>CEMO</b>
		06/17/20	0.1	2.1	0.37	0	<b>CEMO, CEST</b> , CIAR, CIIN, CIVU, <b>CYSC, DALA*</b> , <b>DIFU, HYPE</b> , PHAR, RUAR*
	M, H	09/14/20	0.1	0.1	0.11	0.00058	<b>DIFU,RUAR</b>
Umbrella Creek Pit	H	05/19/20	5	5	0.87	0	<b>CYSC, GERO, POBO</b> , RUAR, RULA, <b>SEJA</b>
		08/04/20	0.1	0.1	0.18	0	<b>GERO, PHAR*, POBO, RUAR*, SEJA</b>
		10/22/20	0.1	0.1	0.18	0	<b>GERO, PHAR*, RUAR*, POBO</b>
Whitcomb Diimmel Pit	M	05/05/20	8.8	0.2	0.00	0.0375	<b>CYSC, DIPU, LEVU, SEJA</b>
	H	07/08/20	2	7	1.47	0	<b>CYSC*,PHAR,SEJA</b>
	M, H	09/10/20	0.1	0.1	0.62	0.0325	CIAR, CIVU, <b>CYSC, DIPU, RUAR, RULA, SEJA, SYOF</b>
		10/01/20	0.1	0.1	0.41	0.005	<b>CYSC*,SEJA</b>
<b>Total Pits: 24</b>		<b>Days: 56</b>	<b>214.75</b>	<b>203.84</b>	<b>39.87</b>	<b>0.13</b>	<b>30 species</b>

\* Species intermittently treated

<sup>1</sup>Treatment Method –M- Manual Control; H- chemical Control; M, H – Both 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 total area encompassing all herbicide treatments per road per day; NR - not recorded

<sup>4</sup>Solid Acres Treated - The estimated area that would be covered 100% with noxious weeds if the plants were “clumped” together; calculated using the tank mix volume applied and calibrated sprayer output; NR - not recorded

<sup>5</sup>Solid Manual Acres - The area controlled by any manual means (pulling, digging, cutting, etc.) and does not include the spaces between weeds; area is either estimated in field and recorded on “Herbicide/Manual Treatment Data Form” or calculated by infestation data (infested area \* cover class) or by number of plants pulled (1000 CYSC = 0.1 ac, 1000 SEJA = 0.025 ac.)

<sup>6</sup>Species Treated - The 4-Letter Weed codes correspond to the species scientific name and can be found in Appendix; Bolded species are regulated noxious weeds;

## Appendix D: County Special Site Treatment Activities

We completed work in **8 special sites**, over **13 days** and controlled **17 species**. We controlled **0.02 solid acres** of weeds with manual methods only and **2.2 solid acres** of weeds chemically. “Solid acres” represent the area that would be covered 100% with noxious weeds if the plants were “clumped” together and are estimated in the field or calculated using recorded data.

Site Name	Treatment Method <sup>1</sup>	Treatment Date	acres examined <sup>2</sup>	acres treated <sup>3</sup>	Solid Acres Treated (herbicide) <sup>4</sup>	Solid Manual Acres Treated	Species List <sup>6</sup>
Dungeness Dike	H	2/19/20	6.4	5.2	0.17	0	<b>COMA, DIFU</b>
Ward Bridge Restoration	H	3/4/20	0.9	0.9	0.02	0	<b>COMA</b>
Deer Park Interchange and Rest Area	M/H	3/27/20	3.5	3.5	0.01	0.00625	CYSC
Olympic Wetland Mitigation Site	H	6/16/20	8.5	8.5	0.37	0	CIAR, CYSC, PHAR*, <b>PORE</b>
McDonald Creek Bridge	M/H	8/25/20	1.0	1.0	0.09	0	BUDA*, GERO*, RUAR*
Old Olympic Highway Bridge	H	8/26/20	1.0	0.5	0.07	0	BUDA, <b>POBO</b> , RUAR
ODT Berm on Old Olympic Highway	H	8/26/20	0.5	0.5	0.39	0	BRRA, <b>CEMO</b> , CIAR, CIVU, RUAR
Deer Park Interchange and Rest Area	H	9/21/20	0.1	0.1	0.00	0.005	CYSC*, HYRA*, LEVU*, RARE*
Deer Park Interchange and Rest Area (WSDOT)	H	9/30/20	1.0	1.0	0.61	0	CIVU, CYSC
Old Olympic Highway Bridge	H	10/8/20	0.1	0.1	0.08	0	BUDA, GERO*, CYSC*, <b>POBO</b> , RUAR, SYOF
ODT Berm on Old Olympic Highway	H	10/12/20	0.1	0.1	0.34	0	CIAR, CIVU, PHAR, RULA
Deer Park Interchange and Rest Area	M/H	10/14/20	0.1	0.1	0.00	0.01255	CYSC, RUAR*
Deer Park Interchange and Rest Area	H	10/20/20	0.1	0.1	0.00	0.0238	CYSC, HYRA*, LEVU*, RARE*
<b>Totals</b>		<b>13 days</b>	<b>23.3</b>	<b>21.6</b>	<b>2.15</b>	<b>0.0238</b>	<b>17 species</b>

\* Species intermittently treated

<sup>1</sup>**Treatment Method** –M- Manual Control; H- chemical Control; M, H – Both 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 total area encompassing all herbicide treatments per road per day; NR - not recorded

<sup>4</sup>**Solid Acres Treated** - The estimated area that would be covered 100% with noxious weeds if the plants were “clumped” together; calculated using the tank mix volume applied and calibrated sprayer output; NR - not recorded

<sup>5</sup>**Solid Manual Acres** - The area controlled by any manual means (pulling, digging, cutting, etc.) and does not include the spaces between weeds; area is either estimated in field and recorded on “Herbicide/Manual Treatment Data Form” or calculated by infestation data (infested area \* cover class) or by number of plants pulled (1000 CYSC = 0.1 ac, 1000 SEJA = 0.025 ac.)

<sup>6</sup>**Species Treated** - The 4-Letter Weed codes correspond to the species scientific name and can be found in Appendix; Bolded species are regulated noxious weeds;

## Appendix E: Herbicide Volumes by County Roads and Rock Sources and Special Sites

The table alphabetically lists the county roads, rock sources, and other county property called “special sites” that received chemical treatment in 2020. The table includes the trade name of herbicides used and amounts applied in ounces 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. Names shown in *italics* are roads that were treated in 2018 and 2020; names both ***bolded and italicized*** were treated in 2018-2020; names that are only **bolded** were treated in 2019-2020; roads that are **green** have been treated 2017-2020.

In 2020 we applied a total of **12.8 gallons and 29.8 gallons** of herbicide on County roadside and in County pits, respectively. An additional **1.2 gallons** of herbicide was applied on “special sites”. A combination of Milestone® and Vastlan® or Element 3A® was used on most roads included in chemical treatment; a mix that was chosen for its efficacy on expected weed species. Polaris® was almost used exclusively for knotweed species and AquaNeat® was mainly used for cut stumping Scotch broom and to assist with site preparation to clear noxious weeds in advance of pollinator-friendly native plantings. All treatment locations were posted and signs left in place for 24 hours. An online table of treated roads and treatment dates was updated once last season.

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
<b><i>3 Crabs Rd</i></b>	3/4/20	After bridge	0.1	0.01			0.04			
	5/28/20	.25 miles east of intersection with Sequim Dungeness way	0.1							
<b>Black Diamond Rd</b>	7/15/20	1.9 miles from northern black diamond intersection to the Black diamond Grange	1.9	2.3	27.9					
	7/16/20	2.22 miles from Black Diamond Grange to Little River rd.	2.2	2.2	26.9					
<b>Blue Mountain Rd</b>	6/23/20	From MP 6.5 to MP 1.5	5.0	2.7	32.6					
	6/24/20	Lilly rd. to guard rails past transfer station	0.7	5.7	69					
<b><i>Business Park Loop</i></b>	10/8/20	1/4 of road (North)	0.	0.07					3.8	
	10/12/20	3/4 of road (South)	0.3	0.8					9.6	
<b>Camp Hayden Park Rd</b>	8/17/20	entire road	3.7	1.3			15.4			
<b><i>Carlsborg Rd</i></b>	10/8/20	Entire Rd	1.7	0.6	5.8				7.7	
Cat Lake Rd	11/30/20	First 2000 feet	0.1					1.5		

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
<b>Cays Rd</b>	2/20/20	Rd. next to Blake Sand and Gravel Pit and bluff	0.4	1.1						4.3
	8/24/20	Entire Rd	2.9	2		0.3	24			
<b>Charley Creek Rd</b>	8/13/20	Entire Rd	0.7	0.5			5.9			
<b>Chicken Coop Rd</b>	9/14/20	Entire Rd	0.1			1.3				
Corriea Rd	2/26/20	Southern Section of Road	0.8	0.02			0.2			
Coulter Rd	2/26/20	Entire Rd	0.4	0.3			2.6			
Crescent Beach Rd	8/18/20	Entire rd	3.3	0.5			5.9			
<b>Dan Kelly Rd</b>	9/14/20	Parcel# 073016ROAD15	0.1			1.				
	9/14/20	Parcel# 073009road03	0.1			1.9				
Dawley Rd	2/26/20	Entire Rd.	0.7	0.01			0.01			
	9/8/20	Entire Rd	0.7	0.2			1.92			
Deer Park Loop	5/14/20	South of the county parking lot near the WSDOT parcel	0.1	2			7.7			
<b>Deer Park Rd</b>	5/20/20	South of Township Line and North of 5285 Deer Park Rd.	0.7	8						
	6/1/20	(Township Line Rd. to 1.8 miles South of Township Line Rd	1.8				69			
	6/3/20	Last 2.25 before park boundary	2.2				14			
<b>Diamond Point Rd</b>	4/6/20	South of West St., E. of Airport, South of Airport by Sunshine Ave., Intersection of Sunshine Ave., Intersection of Fleming Drive, Fleming to Critter County)	0.9	0.6		2.7	5.1			
	4/7/20	Highway 101 Intersection, Blue Ice and Rhodendron Rd	2.0	0.01		5.8	0.6			
	7/2/20	First 0.25 mile from Hwy 101	0.25			1.4				

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
<b>Diamond Point Rd</b>	9/16/20	Entire Rd.	4.0	1.4			7.7			
	9/24/20	Corner past Cat Lake Rd	0.1					3.5		
	11/23/20	.3 miles north of parking lot ODT)	0.1					2		
	11/24/20	.25-.5 north of ODT parking lot	0.25					10		
Dodger Ln	7/27/20	Lower .25 mile	0.1	0.1	1					
E Anderson Rd	3/4/20	Intersection of Sequim-Dungeness	0.1	0.1			1.0			
	5/28/20	Corner of E. Anderson Rd. And Sequim Dungeness Way	0.1							
	8/3/20	From west dead end to Clark Road	1.4	2.6			40.3			
East Beach Rd	6/18/20	Entire Rd.	0.3	0.7	8.6					
East Lyre River Rd	6/18/20	Entire Rd.	0.5	1.3	15.3					
East Sequim Bay Rd	8/10/20	Entire Rd.	4.5	0.3	3.9					
Easterly Rd	6/22/20	Entire Rd.	0.4	0.1	1.4					
	10/15/20	Entire road	0.2	0.1					0.2	
Eden Valley Rd	7/23/20	To Dan Kelly Intersection	1.8	1.5	18.2					
Elwha River Rd	7/23/20	Entire Rd.	1.7	2.7	32.7		2.6			
	8/12/20	1st 1000 feet on North side of road ROW, intersection with Lairds Rd	0.1	0.01			0.2			
<b>Evans Rd</b>	3/5/20	Southern section of road	0.4							
	3/9/20	Northern bend of road	0.4	0.01			0.1			
	10/8/20	Sequim/Dungeness Intersection to sharp corner	0.7							10.9
Farrington Rd	9/21/20	Entire Rd	0.9	0.3			3.8			
Fasola Rd	3/9/20	Entire Rd.	0.7	0.1			0.6			
Finn Hall Rd	8/27/20	West end of road	0.02	0.01			0.1			

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
Fisher Cove Rd	6/18/20	Both ends, 0.1 mile in middle untreated		0.9	11.5					
Freshwater Bay Rd	10/19/20	Entire Rd	2.6						6.7	
Gasman Rd	4/1/20	Intersection with Old Olympic East side of Rd	0.1			0.1				
Gilbert Rd	3/4/20	Entire Rd.	0.2	0.08			1.5			
	10/15/20	Entire Rd	0.3	0.24					2.01	
<b>Grauel-Ramapo Rd</b>	8/3/20	lower 1.5 miles	1.5							
Happy Valley Rd	6/22/20	Entire Rd	5.9	2.10	25.4					
	10/15/20	.5 miles west of Johnson Creek int.	2	0.02					0.24	
Henry Boyd Rd	9/8/20	Little Loop to prvt estate ~.25 mile	0.25	0.08			0.96			
Hilstrom Rd	9/15/20	End of cul de sac	0.3	0.04	0.5					
Hogback Rd	2/21/20	Intersection of Cays to Hogback Pit	0.5	0.4						1.4
Hoko-Ozette Rd	5/26/20	Guard rail both sides at MP 4.5	1.0	0.2		1.3	2.6			
	8/4/20	MP16.5 to MP 4.5	7.4	3.4	21	1.6	25.6			
	8/11/20	MP 16.5 to MP 9.7	6.8	5.4	23.1	2.5	44			
	8/13/20	MP 9.3 to MP 4.5	4.8	1.9		0.1	23.1			
	10/22/20	MP 15				0.13				
<b>Holland Rd</b>	9/8/20	From Port Williams Rd to Medsker Rd	0.9	0.5			5.8			
	9/9/20	Woodcock to Medsker	0.9	0.02			0.2			
Johnson Creek Rd	6/22/20	Happy Valley to Easterly Rd.	0.25	0.1	1.4					
	10/12/20	Entire Rd.	0.75	0.36					3.9	0.2
<b>Joyce-Piedmont Rd</b>	9/22/20	Entire Rd	4.0	2.6	11.5	0.6	20.2			
Kitchen-Dick Rd	7/27/20	Hwy 101 to Lotzgesell	2.9	4.8	54		6			
Laird Rd	7/23/20	Guard rail on both sides at southern section of Lairds	0.25	0.4	4.4					

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
<b>Lake Dawn Rd</b>	7/15/20	.2 mile east from where Lake Dawn splits into 2 roads)	0.1							1.0
Lake Pleasant Park Rd	9/28/20	~.7 miles north of bridge	0.1			3.8				
<b>Lamar Ln</b>	3/11/20	entire Rd.	0.1							0.2
LaPush Road	9/1/20	east end								0.1
<b>Little River Rd</b>	6/25/20	From Olympic hot springs rd to reclaimed pit ~2.5 miles up	2.0	2.6	30.7					
	7/15/20	1 mile west of upper Little River Rd to Little River Rd/Black Diamond Intersection	1.0	0.9	11.1					
	10/7/20	Western Section	0.1	0.3					3.8	3.5
<b>Lost Mountain Rd</b>	8/27/20	Entire Rd	5.2	2.8	6.7		35.8			
<b>Lotzgesell Rd</b>	2/21/20	Eastern most part of Lotzgesell North of Blake Sand & Gravel	0.3	0.4			1.4			
	7/30/20	Kitchen Dick to Clark	2.0	2.2	26				0.8	
	8/3/20	From Clark to E. Anderson	0.75	1.4			21			
<b>Lower Elwha Rd</b>	7/16/20	Edgewood Dr to 0.45 mi north	0.4	0.3	2.1					
Mary Clark Rd	7/8/20	First .5 mile	0.5				17.9			
Mary Clark Rd	9/10/20	Entire Rd	7.6	1.2	7		7.6			
<b>Mina Smith Rd</b>	8/31/20	Entire Rd.	3.4	1.4			17.3			
N Barr Rd	3/9/20	.1 miles south of Highway 101 Intersection	0.1	0.02			0.2			
<b>O'Brien Rd</b>	6/16/20	MP 1.2 to 1.4	0.4	0.01	0.1					
	9/23/20	Entire rd	0.4							
Okerman Rd	10/15/20	EDRR (First 100 feet)		0.01					0.1	
<b>Old Blyn Hwy</b>	2/26/20	Entire Rd.	2.1	0.25			2.0			

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
Old Olympic Hwy	3/31/20	Western off ramp to the 1st guard rail past Gasman Rd ~ 1 mile	1.0			6.4				
	4/1/20	(3 sites, .54 miles east of Western most off ramp, .84 miles East of western off ramp, and 1.69 miles east of western most off ramp)	1.7			3.2				
	4/2/20	1.69 miles east from western most off ramp	0.1			1.6				
	8/25/20	Eastern most section to Gunn Rd.	4.3	1.1			13.4			
	8/26/20	Gunn to 101	3.5	1.72			20.6			
	11/23/20	Lewis to Spring	1.1					0.7		
Olympic Hot Springs Rd	6/25/20	Entire Rd	3.5	5.1	53.8		10.2			
Palo Alto Rd	7/13/20	Entire Rd.	7.8	5.8	66		5			
Panorama Blvd	8/10/20	Entire Rd.	0.75	0.2	2.4					
Port Williams Rd	2/26/20	.45 miles east of round about	0.1	0.01			0.1			
	9/8/20	Entire Rd.	2.5	1.48			17.8			
Power Plant Rd	7/16/20	.3 miles west of Lairds Rd	0.3	0.3	3.8					
	9/21/20	Entire Rd.	0.8	0.5			5.4			
Quillayute Rd	9/1/20	Entire Rd.	6.7				9.0	17		
River Rd	6/17/20	101 to Happy Valley	0.7	1.6	18.7					
	6/22/20	Happy Valley to End	1.0	3	35.5					
	9/21/20	Entire Rd.	0.6	0.32			3.84			
Schmuck Rd	9/8/20	Entire Rd.	1.4	0.6			7.7			
Sequim-Dungeness Way	8/24/20	Brigadoon to Woodland	0.5	1.04			12.5			
	8/25/20	Woodland/Medsker	1.1	0.04			0.5			
Sherwood Rd	7/2/20	Entire Rd.	0.1							
Slab Camp Rd	6/29/20	.2 miles from E end	0.7	1.6	15.4		16.4			
Swan Bay	8/4/20	Entire Rd.	0.8	2			33.3			

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
<b>Taylor Cut-off Rd</b>	7/9/20	School bus turnaround ~ 1 mile	0.1			1				
	11/23/20	.25 mile North of Fish Hatchery Rd	0.5					2.5		
<b>Taylor Ranch Rd</b>	9/9/20	Entire Rd.	0.8	0.12			1.4			
<b>Towne Rd</b>	2/11/20	Parking lot west of old school house	0.1	0.08			0.6			
	2/19/20	Road adjacent to F&WL parcel by Dungeness Dike	0.3	0.2			1.3			
	4/29/20	Woodcock & Towne Intersection (First 850 feet on west side of road)	0.1	0.4			4.3			
	8/12/20	Entire Rd	0.1	0.04			20.9			
	8/27/20	btwn E Anderson and Dike entrance	0.1	0.1			1.4			0.3
<b>Tripp Rd</b>	10/12/20	Entire Rd.	0.25	0.1					0.1	
<b>Turnstone Ln</b>	6/17/20	From sharp curve to cul de sac	0.3	2	23.5					
Valley Center Place	4/29/20	Road next to Bluemeisters	0.1	0.16			1.9			
Vautier Rd	10/12/20	Entire Rd.	0.6							3.5
Vista View Dr	4/9/20	Intersection with Woodcock	0.1	0.4			6.4			
	8/24/20	EDRR in first .1 miles	.1	0.04			0.2			
W Arnette Rd	9/8/20	Entire Rd.	0.1			0.6				
<b>W Edgewood Dr</b>	9/11/20	Entire Rd	2.2	1	11					
<b>W Hendrickson Rd</b>	3/12/20	Priest Rd. to Lois Ln.	0.2	0.12			1.0			
<b>W Washington St</b>	3/17/20	Entire Rd.	0.25	0.3			3.8			
	6/17/20	Entire Rd.	0.1	1.5	17.7					
	10/7/20	Entire Rd	0.1							0.2
W Lauridsen Blvd	7/23/20	From Bean Rd. to East of airport	0.7	0.4	4.3					
<b>Ward Rd</b>	3/4/20	Entire Rd.	1.6	0.2			1.6			

Road Name	Treatment Date	Treatment Location	Miles treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Element 3A <sup>4</sup> (oz)	Aquaneat <sup>5</sup> (oz)	Garlon 4 <sup>6</sup> (oz)	Transline <sup>7</sup> (oz)
West Lake Pleasant Rd	9/15/20	Entire Rd.	0.9	0.3	3.8	0.6				
West Lyre River Rd	6/18/20	Entire Rd.	0.6	0.2	1.8					
West Sequim Bay Rd	9/9/20	Parking lot east of white feather way to Highway 101)	1.6	0.1			1			
Whiskey Creek Beach Rd	9/21/20	Entire Rd.	0.5	0.5			5.8			
Whitcomb-Diimmel Rd	9/15/20	Entire Rd.	1.4	1.0	15.4					
Woodcock Rd	3/4/20	East end of Woodcock North of Berm	0.15	0.08			0.64			
	3/9/20	Intersection of Vista View Also Lavender Meadows	0.3	0.2			1.8			
	8/19/20	Eastern section to Ward Bridge	3.2	1.75			21			
	8/24/20	Ward Bridge to Cameron	2.8	0.6			7.7			
	10/8/20	.6 miles west of Sequim Dungeness	0.6							0.3
Woods Rd	6/30/20	End of county Rd. to 0.8 miles from 101 Hwy	1.8	4.2			66.6			
	10/15/20	.25 mile south of 101	0.25	0.3					3.8	
93 Roads	79 days		163 miles	123 oz	753 oz	38 oz	746 oz	37 oz	43 oz	28 oz
				.96 gal	5.8 gal	.3 gal	5.8 gal	.3 gal	.3 gal	.2 gal

<sup>1</sup>Milestone® - Active ingredient: aminopyralid; in 0.125% 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 2-2.5% solution on roadsides, 25-50% solution for cut stump only.

<sup>4</sup>Polaris® - Active ingredient: imazapyr in 1% solution, 10% for cut stump only

<sup>5</sup>AquaNeat® - Active ingredient: glyphosate in 0.5-2% solution, 50%-100% solution for cut stump only

<sup>6</sup>Garlon 4® - Active ingredient: triclopyr in 1.5-2% solution

<sup>7</sup>Transline® - Active ingredient: clopyralid in .5% solution

## Appendix E: Herbicide Volume Used In County Rock Source

Pit name <sup>1</sup>	Total Acres	Milestone <sup>2</sup>	Vastlan <sup>3</sup>	Polaris <sup>4</sup>	Element 3A <sup>5</sup>	Aquaneat <sup>6</sup>	garlon 4 <sup>7</sup>	Transline <sup>8</sup>
Blue Mountain Transfer	2.8	4.9	53.8				24	
Blyn Pit	14.6	6.0	71	5.1	148.2		30.7	
Clallam Bay Storage Yard	3	0.8		6.4	12.8			
District 1 Shop	1.01	1.2	15.3					
District 2 Shop	3	0.8	9.6			51.1		
Herrick Gravel	10.3	11.1	15.4	20.5	143		23	14.7
Hoko-Ozette Rd MP 10	3	4.6		37	69			
Hoko-Ozette Rd MP 13	1.5			10	30			
Hoko-Ozette Rd MP 4.5	1.4	0.8		6.4	12.8			
Hwy 101 Storage Yard	0.24	0.6			0.16		7.7	
Joyce-Piedmont Pit	5.5	3	2.8	42	23.0		4.0	1.5
Kirner Pit	40.2	10.5		110.3	137.2		44.2	
La Push "Ballard" Pit	2.1	4.7		12	38		14.4	
Lake Creek Pit	15.5	4.92		70.1	125.0	7.7	103.7	
Little River Pit	1.1	0.3	3.8	6.8	0.2			0.6
Lower Elwha-Elwha Pit	1.2	0.37			3.4			
McInnes Pit	5.4	5.37		66.7	49.9		13.4	1.0
Morse Creek Pit	28.8	12.9		59.8	369.0			0.7
Place Pit	5.2	1.74		11.5	186.2			
Quilayute Pit	23.7	15.92		43.4	487.1	7.7	109.5	
Ranger Pit	21.1	18.4		11.5	196.8		24.9	
Sequim Storage Yard	2.1	2.7	40.3					
Umbrella Creek Pit	5.2	0.6		40.6	100.2			
Whitcomb Diimmel Pit	7.4	5.4	7.68	30.7	251.6		19.2	1.9
<b>Totals</b>	<b>205.3 acres</b>	<b>118.0 oz</b>	<b>219.7 oz</b>	<b>591.1 oz</b>	<b>2383.6 oz</b>	<b>66.5 oz</b>	<b>418.7 oz</b>	<b>20.4 oz</b>
		<b>0.9 gal</b>	<b>1.7 gal</b>	<b>4.6 gal</b>	<b>18.6 gal</b>	<b>0.5 gal</b>	<b>3.2 gal</b>	<b>0.2 gal</b>

<sup>1</sup>**Treated Road/Pit Section** - the approximate linear extent of road where herbicide application may have occurred; herbicide was only applied to designated noxious weeds and exact locations of applications varied with individual plant locations.

Treatment Extent not included for County Rock Source and treatment may have occurred anywhere within pit boundaries

<sup>2</sup>**Milestone®** - Active ingredient: aminopyralid; in 0.125% solution.

<sup>3</sup>**Vastlan®** - Active ingredient: triclopyr; in 1.5-2% solution, 25-50% solution for cut-stump application only.

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

<sup>5</sup>**Polaris®** - Active ingredient: imazapyr in 1% solution

<sup>6</sup>**AquaNeat®** - Active ingredient: glyphosate in 0.5-2% solution

<sup>7</sup>**Garlon 4®** - Active ingredient: triclopyr in 1.5-2% solution

<sup>8</sup>**Transline®** - Active ingredient: clopyralid in .5% solution

## Appendix E: Herbicide Volume Used In County “Special Sites”

Site Name	acres treated	Milestone <sup>1</sup> (oz)	Vastlan <sup>2</sup> (oz)	Polaris <sup>3</sup> (oz)	Garlon 4 <sup>4</sup> (oz)	Element 3A <sup>5</sup> (oz)	Transline <sup>6</sup> (oz)	Roundup Pro <sup>7</sup> (oz)	Aquaneat <sup>8</sup> (oz)
Dungeness Dike	5.2	1.2				9.7			
Ward Bridge Restoration	0.9	0.1				1.0			
Deer Park Interchange and Rest Area	3.7							20.5	69.4
Olympic Wetland Mitigation Site	8.5	2.6	30.7						
McDonald Creek Bridge	1.0	0.7		0.3	7.7				
Old Olympic Highway Bridge	0.5			3.8					
ODT Berm on Old Olympic Highway	0.6	1.1			1.9	13.4	6.7		35.8
Deer Park Interchange and Rest Area (WSDOT)	1.0				50.9				
Old Olympic Highway Bridge	0.1	0.2		2.6	2.9				
<b>Totals</b>	21.5	6.0 oz	30.7 oz	6.6 oz	63.3 oz	24.1 oz	6.7 oz	20.5 oz	105.2 oz
		.05 gal	.23 gal	.05 gal	.50 gal	.18 gal	.05 gal	.16 gal	.82 gal

<sup>1</sup>Milestone® - Active ingredient: aminopyralid; in 0.125% 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>Garlon 4® - Active ingredient: triclopyr in 1.5-2% solution

<sup>5</sup>Element 3A® - Active ingredient: triclopyr in 2-2.5% solution, 25-50% solution for cut stump only.

<sup>6</sup>Transline® - Active ingredient: clopyralid in .5% solution

<sup>7</sup>Roundup Pro® Active ingredient: glyphosate in 1.5-3% solution, 50%-100% solution for cut stump only

<sup>8</sup>AquaNeat® - Active ingredient: glyphosate in 0.5-2% solution, 50%-100% solution for cut stump only

## Appendix F: Pilot Pollinator Plantings

The table below shows all plants included in Pollinator Planting projects this year. The table is arranged alphabetically by the common name. All of the plants were grown by a locally sourced native plant center and species were from existing populations on the Olympic Peninsula. The species included will provide native pollinator resources 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.

In 2020 we planted a portion of the Deer Park Overpass with the assistance of road department staff, and volunteers. The majority of available plants were used at the Deer Park Underpass; these species are shown in the first table. Species used to augment the Old Olympic Highway Berm are a separated table.

Deer Park Planting Site		
Common Name	Scientific Name	Quantity Planted
bald-hip rose	<i>Rosa gymnocarpa</i>	168
big-leaved lupine	<i>Lupinus polyphyllus</i>	846
blue elderberry	<i>Sambucus cerulea</i>	50
blue wildrye	<i>Elymus glaucus</i>	200
broadleaf lupine	<i>Lupinus latifolius</i>	154
buffaloberry	<i>Shepardia canadensis</i>	20
California aster	<i>Symphotrichum chilensis</i>	167
creeping snowberry	<i>Symphoricarpos mollis</i>	98
Douglas maple	<i>Acer glabrum</i>	70
Douglas's aster	<i>Symphotrichum subspicatum</i>	415
Garry oak	<i>Quercus garrana</i>	74
goldenrod	<i>Solidago canadensis</i>	983
kinnikinnick	<i>Arctostaphylos uvaursi</i>	100
madrone	<i>Arbutus menziesii</i>	3
mock-orange	<i>Philadelphus lewisii</i>	108
Nootka rose	<i>Rosa nutkana</i>	32
oceansrapy	<i>Holodiscus discolor</i>	138
Oregon sunshine	<i>Eriophyllum lanatum</i>	724
pearly everlasting	<i>Anaphalis margaritacea</i>	614
red fescue	<i>Festuca rubra</i>	488
red columbine	<i>Aquilegia formosa</i>	166
red-flowering	<i>Ribes sanguineum</i>	198
Roemer's fescue	<i>Festuca roemeri</i>	512
serviceberry	<i>Amelanchier alnifolia</i>	113
showy fleabane	<i>Erigeron speciosus</i>	200
snowberry	<i>Symphoricarpos aibus</i>	358
Suksdorf's mugwort	<i>Artemisia suksdorfii</i>	315

Deer Park Planting Site		
Common Name	Scientific Name	Quantity Planted
tall Oregon grape	<i>Berberis aquifolium</i>	90
western mugwort	<i>Artemisia ludoviciana</i>	805
western red columbine	<i>Aquilegia formosa</i>	166
yarrow	<i>Achillea millefolium</i>	850
<b>Totals</b>	<b>31 species</b>	<b>9225</b>
ODT Berm		
Common Name	Scientific Name	Quantity Planted
Douglas's aster	<i>Symphyotrichum subspicatum</i>	70
golden rod	<i>Solidago canadensis</i>	108
mock-orange	<i>Philadelphus lewisii</i>	2
red-flowering	<i>Ribes sanguineum</i>	13
snowberry	<i>Symphoricarpos aibus</i>	24
Suksdorf's mugwort	<i>Artemisia suksdorfi</i>	180
thimbleberry	<i>Rubus parviflorus</i>	105
Twinberry	<i>Lonicera involucrata</i>	144
<b>Total</b>	<b>8 species</b>	<b>646</b>

## Appendix G: Protocols

### Project selection:

The focus of the Clallam County Road Department 2020 IWM was the control of regulated noxious weeds and invasive, non-native weeds of special concern on Clallam County rights-of-way. The 2020 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 2020 Plan, locations suitable for manual control during periods of inclement weather and locations discovered to fit “early detection, rapid response” criteria were added to 2020 projects.

### Control Methods:

#### Chemical:

- Used only EPA and WSDA approved formulation herbicides; all are aquatically approved formulations with the exception of Transline. The products chosen offered the greatest weed selectivity, maximized worker and public safety, offered lowest rates, and posed the lowest risk for wildlife and environment.
  - Milestone® - Active ingredient: aminopyralid; in 0.125% 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
- All proposed roadside application locations included in 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 I) to clearly mark treatment areas prior to all herbicide activity. Posted at all public intersections and at intervals of approximately ½ mile or less depending on the road’s length.
- Herbicide Application Notices included name and mobile contact number to reach 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.
- Mixed and loaded 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 statute feet).
- GPS points were taken for all regulated weed species, priority species, or significant observations.
- Carried an iPhone 6 (provided by WSDA) with ArcCollector Application with current Clallam County Parcel data, spatial notes and past infestation information.
- Data was mapped and symbolized to Treatment Area Maps (Page 4).

### Data Reporting and Monitoring:

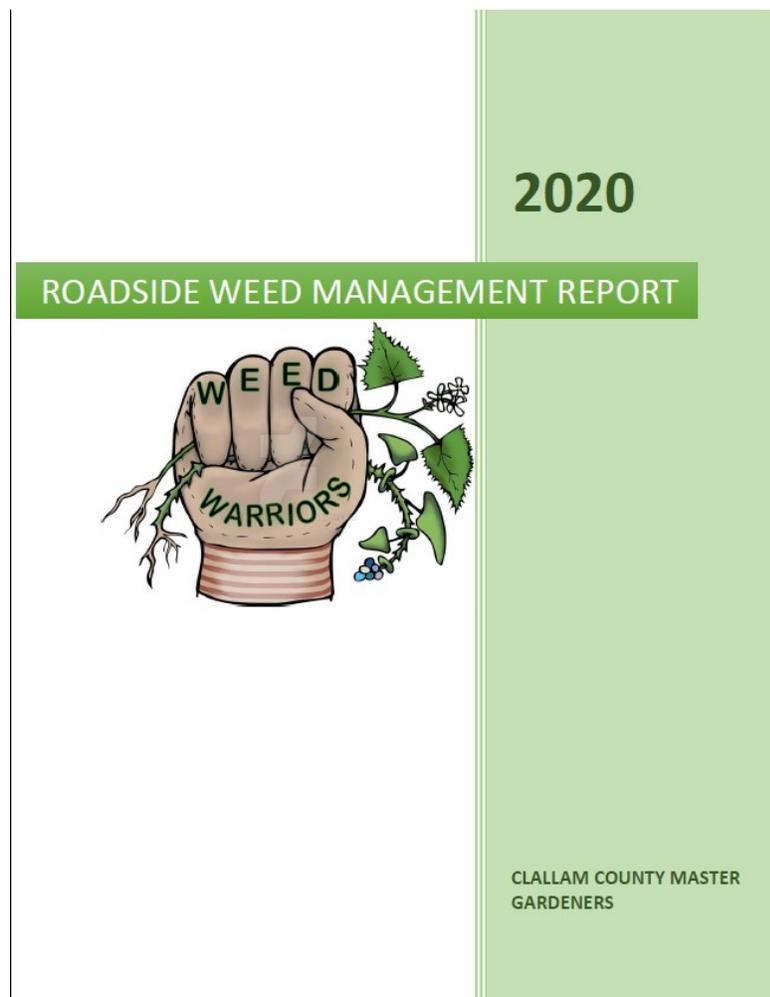
- Supported WSU Master Gardener’s RWMT with completed Herbicide/Manual Treatment Form and details.
- Published and routinely updated herbicide application information by road section to NWCB website. Detailed activity data published in the appendices to this report.

## Appendix H: WSU Extension Master Gardener Roadside Weed Management Monitoring Report

The following report document is a scanned 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 as 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.

The 2019 RWMT consisted of seven certified Master Gardeners with a particular interest in environmental stewardship and research. Individually, the team members come from a variety of professional and academic backgrounds, including, resource management, applied sciences and natural science. The team logged over 500 volunteer hours during which they assessed 45% of the treated roads as well as assisted in the development and implementation of a variety of research projects, each of which is described in the following report.



# Clallam County Master Gardener Roadside Weed Monitoring Report – 2020

## **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 2020, for the eighth year, surveying 57 roadsides in the East and Central Road Commission Districts. Eighty-eight (88) Herbicide/Manual treatment forms were analyzed. Overall, 2020 weed control efficacy was 80%, up from last year but equal to the efficacy of 2018. No instances of off-target herbicide application were noted.

The two native planting sites that were established in 2018 and the two sites that were added in 2019 were monitored in 2020 for plant survival. Some species did very well and some did not.

Two projects initiated in 2019 by RWMT were continued this year. The No-Mow Pilot Area Project involves Place and Diamond Point roadsides. The objective of the study is to determine if roadside back-slopes left un-mowed develop fewer tree seedlings if the culturally controlled low growing native roadside vegetation is allowed to flourish. Secondly, the Olympic Discovery Trail weed species evaluation was continued with a survey of the noxious weeds. The RWMT’s reports on the above projects and surveys have also been delivered to the Noxious Weed Office which are available from said office upon request.

The RWMT volunteered approximately 400 hours this year. We are enjoying the projects, expanding our knowledge base, and look forward to further research opportunities, guided by the forward-looking County Commissioners and Road Department. With four years of monitoring some distributions and eradication trends are becoming noticeable. Treated weed species appear and disappear from the landscape. We hope that our collaboration in this positive environmental effort with the involved County Departments will continue.

## **PROJECT OVERVIEW:**

Entering the fourth 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 treated (herbicide and/or manual) by the noxious weed staff. The primary purpose of the monitoring was and is to evaluate the efficacy of treatment. This emphasis continues.

Maintaining the emphasis of the three prior years, the Master Gardener team monitored herbicide-treated roadsides. However, a portion of the volunteer hours in 2020 were devoted to several associated projects carried out in conjunction with the Noxious Weed Control Office. Pollinator work, commencing in 2018, continued this year. To follow up, the RWMT monitored the condition of the 2018 and 2019 plantings in 2020. To emphasize this project the investigation of publicity, in the form of signage, is being explored.

The No-Mow Pilot (NMP) Project begun last year was continued. The objective is to determine if roadside back slopes left un-mowed over an extended time period enhance the native shrub vegetation, thus limiting tree seedling development. Surveying of the Clallam County Park land for the presence of noxious and invasive weeds was continued with the canvassing of the Olympic Discovery Trail.

RWMT reports on the above activities have been submitted to the Noxious Weed Office and are available upon request.

## **METHODOLOGY CHANGES for 2020:**

The year 2020 brought about two significant changes in our operational procedures.

1. The pandemic
2. The use of a data collection device (DCD)

Because of the possible transmission of SARS Co-2, Washington State University Master Gardeners, following the State of Washington's guidelines, limited personal contact. In past years the normal data collecting activity was to meet as a group and disperse to collect data for our reports in groups of 3 to 7. This year, in order to do our treatment monitoring, we gathered information predominately in pair's. We were masked and if driving together had the windows open. Also, there was more walking along roadsides in specific locations. For the NMP we drove to the study plots in individual cars rather than one or two vehicles. From that point data was collected on foot.

Before the data season began, we obtained the use of a data collection device (DCD) which had the ArcGIS Collector app installed. Fieldworkers use web maps on mobile devices to collect and edit data. Countless details for any observation can be added. Our information could be relayed back to the Noxious Weed Office in real time. If we found sites with poor efficacy ratings or undocumented invasive weeds, that information was immediately available to interested parties. Also, in the field, we had precise locations as to treatment sites that covered a limited area along a long stretch of road. Thus, our unknowns decreased significantly this year, limited to only sites out of DCD signal range. With precise locations for specific weeds we could get out of our vehicle and walk a short stretch of roadside to find the treatment site.

Between the two changes to methodology, it was difficult to get a feel of the monitoring success. No one covered more than a third of the sites and the after-fieldwork wrap up was hard to conduct. We tried to get the DCD out on as many field sessions as possible, but not all, so that meant no more than two people in the field on any one day. It did make for some interesting schedule situations.

**MONITORING:**

Commencing at the end of May, six Master Gardeners launched the 2020 treatment site monitoring. During the season, the team was given completed 2020 Herbicide/Manual Treatment Data Forms (TDF) for treated sites (Table 1).

**Table 1:** Treatment Forms

Treatment forms received: -----	146
Herbicide treatment: -----	73
Manual or out of monitoring area -----	72
Single species on form -----	81
Treatment forms monitored: -----	88

Fifty-seven (57) roadsides were monitored during the 2020 season (Appendix A) with 39 in the East Clallam Road Department District and 18 in the Central District. Thirteen (13) previously un-monitored roadsides were newly evaluated with 14 roadsides monitored for the fourth year. In addition to roadsides, Voice of America was monitored for poison hemlock again. Total area monitored accumulated to 95 acres.

Twenty-five (25) Clallam County noxious weed species were monitored (Appendix B). Category 1 weeds remained the highest priority for control in 2020. Most of the commonly monitored weeds of 2017 were still being monitored in 2020 (Table 2). The knapweeds (meadow, spotted, and diffuse) were a high priority in 2017 and remained such for 2020. Meadow knapweed was the most commonly monitored in 2019 and is still prevalent in 2020 noted on 23 of the TDFs. It is still more prevalent in the Central District than the East. Spotted knapweed was documented only 3 times this year down from 9 TDFs last year, compared to 16 in 2018. Diffuse knapweed was not documented again this year, only once in 2018 and 9 times in 2017.

**Table 2:** Most Commonly Monitored Weeds

<u>Rank</u>	<u>2017</u>	<u>Rank</u>	<u>2018</u>
1	Tansy Ragwort	1	Canada thistle
2	Canada Thistle	2	Bull Thistle
3	Meadow Knapweed	3	Scotch Broom
4	Scotch Broom	4	Meadow Knapweed
5	Diffuse Knapweed	5	Tansy Ragwort

<u>Rank</u>	<u>2019</u>	<u>Rank</u>	<u>2020</u>
1	Meadow Knapweed	1	Scotch Broom
2	Canada Thistle	2	Poison Hemlock
3	Bull Thistle	3	Meadow Knapweed
4	Poison Hemlock	4	Himalayan Blackberry
4T	Tansy Ragwort	5	Tansy Ragwort

Canada thistle remains prevalent but dropped out of the top 5 on the list of treated and monitored weeds and there is a noticeable decrease in some areas. However, it is present in many of the same places on adjacent private land where it has been minimalized on the public right of way. Partial treatments were common with Scotch Broom (1/3<sup>rd</sup> of the sites), Herb Robert (56% of the sites) and Himalayan Blackberry (43% of the sites). Scotch Broom partial treatments were common west of Port Angeles. Densities were usually high and large patches were common. There is a significant problem with Scotch broom along the Lower Elwha Road especially on the adjacent private property. Poison hemlock is found only east of Port Angeles and is a weed that is treated early and often. It has appeared on the top 5 list only in the last two years as it has become a target (Table 2). These sites are usually monitored early in the season and seem to be mostly repeat sites. Tansy Ragwort appears in the top five monitored weeds all four years. It is lower on the list now than in 2017 but many of the sites are manually treated and the RWMT’s efforts have concentrated on herbicide treated locations since 2018. As a result, it has dropped down the monitored list but is still prevalent.

Over half of the 25 monitored weeds had four or fewer locations to be monitored, and the area coverage of these was minimal, usually less than a tenth of an acre (Appendix C). Without the DCD or when out of range it is still difficult to locate small infestations with low densities. The unknowns this year were minimal.

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 not long after that time period had elapsed.

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 WTMF (Table 3).

**Table 3:** Code for Percent Efficacy of Treatment & Monitoring Evaluations for 2020

Code	% Efficacy	Rating	Monitoring Evaluation Total
0	0	No effect	1
03	1 – 5	Failure	0
15	6 – 25	Poor	10
35	26 – 50	Marginal	21
65	51 – 75	Fair	21
85	76 – 90	Good	26
95	91 – 99	Excellent	35
100	100	Complete	63
UN	UNK	Unknown	3

The combined overall average efficacy was 80% (Good), about the same as 2018 (79%) but up from the 74% mark in 2019. A total of 226 efficacy ratings (173 in 2019) were given with 152 in the East District and 75 in the Central. The RWMT monitored 186 herbicide-only applications, 22 combination manual/herbicide applications, and 22 manual treatments. The manual treatment area monitoring was part of the herbicide application at a specific site or poison hemlock sites. This total does not add up to 226 since some information was lacking on the TDFs. Included in the 226 were 41 partial treatment applications, and those 41 treatment evaluations are not reflected in the overall efficacy and species ratings. Scotch Broom, Herb Robert and Himalayan blackberry accounted for about 70% of the 41 partial treatments.

Star efficacy ratings were earned on several common weed species (Table 4). Poison hemlock applications, with a mean efficacy rating of 91, most commonly received a 100 percent rating. This showed a great improvement over 2019. Tansy ragwort, with a few low efficacy ratings, most commonly received complete efficacy ratings, like last year. Treatment results seemed to improve across the board for the most commonly monitored species. Even Herb Robert showed strong improvement, although it had room to improve compared to 2019. Efficacy was low. The exception to the improvement is meadow knapweed where the average and the mid-point rating dropped; furthermore, the most common rating was lower.

Overall, efficacy ratings showed a wide range for individual species (Appendix C).

**Table 4:** 2019/2020 Efficacy ratings for the Most Commonly Monitored Species

Weed	Treatments*		Mean		Median		Mode	
	2019	2020	2019	2020	2019	2020	2019	2020
Meadow knapweed	24	22	77	74	90	85	95	M
Canada thistle	16	10	78	80	95	95	95	95
Bull thistle	20	14	87	79	95	90	100	95
Poison hemlock	14	25	63	91	100	100	85	100
Scotch broom	10	23	77	79	85	95	85	95
Common teasel	6	11	80	91	75	100	65	100
Herb Robert	8	7	49	56	35	65	15	M
Tansy ragwort	11	14	76	86	95	100	100	100

\*Unknown ratings or partial treatments not included

M- Multimodal

**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 by using the DCD when appropriate. When the DCD was not employed, other methods of communication were used. Communication was common between the Noxious Weed staff and the Master Gardeners during the season. Any priority weed noted for treatment that had less than half of the target population controlled was quickly reported.

### **ENVIRONMENTAL SITE TYPING:**

Environmental site typing characterizes the immediate surroundings along the roadside and classifies the section into areas that are open, wet/dry, forest, or other. Open and forest are the two common land cover types. Since no significant changes occurred, except for anthropogenic modification, reporting for 2020 will be limited to the fourteen newly monitored roadsides (Appendix A). Of these newly monitored sites, only Dawley and Slab Camp roads were considered forest lined roads. A mixed vegetational type was found along four roadsides (Benson, Blue Mountain, Dodger and Eden Valley) with the remaining roadsides were indicated as open site.

Environmental site typing serves two main functions: it gives a good indication of the invasive and noxious weeds that possibly are present and which native plantings have a better success potential.

### **NATIVE PLANTING:**

The cultural weed control aspect of the Integrated Weed Management Plan is to foster native plant communities built off the RWMT's environmental site typing data. Two (2) pilot sites were planted in fall 2018: a section along the Olympic Discovery Trail in Agnew, and the County right of way near Hillside Baptist Church on Black Diamond Road.

In 2019 the Noxious Weed Office staff and volunteers added additional plants to both previously planted sites. The RWMT assisted with native plantings at the new site, Deer Park Loop, and added native plants along the roadside in front of the Master Gardener Foundation Demonstration Garden on Woodcock Road. Additional areas were planted at Deer Park Loop in 2020 emphasizing Gary Oak and native grasses. To monitor the change of the new habitat over time a series of photo stations has been established. This will allow us to visually note the occurring changes. Public notification of activities at the planting sites is deemed necessary. Working with the Noxious Weed Office staff, RWMT will be submitting grant applications to regional non-profits to offset costs for interpretive signage. The purpose of the signage is to educate any passersby about the use of native plants. Hopefully, signage can be placed in 2021. The plantings should reduce mowing costs and provide habitat and food for native pollinators. For follow-up information on the trial planting sites, see the submitted Pollinator Plantings Monitor report available upon request from the Noxious Weed Office.

### **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 was noted this year.

## **OLYMPIC DISCOVERY TRAIL WEED SURVEY:**

Weed species, Global Positioning Satellite (GPS) coordinates, and other weed location data along the Olympic Discovery Trail from the Elwha River to the East Clallam County line were provided in a 2019 report to the Noxious Weed Office. Additional areas of the trail were surveyed this year with the assistance of the DCD. This information will aid Noxious Weed Office personnel in prioritizing future work.

## **NO-MOW PILOT:**

Data gathering to determine if some low growing native shrubs can help suppress roadside tree growth, which could reduce the County roadside mowing burden while enhancing pollinator habitat. Preliminary results are that the vast majority of tree seedlings were proximate to the ditch, which will continue to be mowed. While the No-Mow Pilot Project is expected to continue for several years, the RWMT 2019 report was supplemented with a report on the 2020 activities which is available upon request from the Noxious Weed Office.

## **OBSERVATIONS AND CONCLUSIONS:**

With the completion of the 2020 fieldwork, we now have four years of data along fourteen roadsides (Appendix A). Along some of those fourteen roadsides fifteen weed species have been monitored for the four-year period (Appendix B). Density/Efficacy data can be noted for meadow knapweed in table 5 which has the most complete set of data. Ten other weed species have more limited data sets which can be noted in Appendix E. Four of the weed species did not have significant data to reach any valid conclusions. Most of the following text will refer to this data. Field cognizance for this year were very limited due to the pandemic restrictions.

The knapweed species have remained a high priority weed. In 2017, it seemed that there was a lot of dead knapweed biomass. Since then, dead knapweed biomass has been much harder to find; plants are mostly younger and smaller, and there was more specific site herbicide application. Table 5 notes meadow knapweed densities and efficacies for the four-year period. The selected roads are the ones that have been treated in the same sectors over the four-year period (Appendix A). Each of these selected roads are treated in their entirety every year. However, Laird was only partially treated this year. Old Olympic has been treated every year but in different segments, so was not included. Perusing the table, one can note where meadow knapweed is occurring and where it is not. Most of the selected roadsides have been treated for meadow knapweed all four years, the distribution of which is cosmopolitan. Exceptions are noted along Turnstone where it appeared for the first time in 2020 and it was only treated along River in 2018 and 2019. Densities show a downward trend on several roads including Happy Valley, Johnson Creek and West Lyre River which is far removed from Happy Valley. The data shows that it can be treated, miss a year and be treated again after the missing year, along an

individual roadside: example, Black Diamond. There are roadsides where the area needing treatment decreased and the treatment efficacy increased that don't show up in Table 5 since they do not yet meet the table criteria. To make viable comparisons for weed species over the period, one needs to compare the same application sites with significant numbers and areas.

**Table 5: Four Year Meadow Knapweed Analysis - Density/efficacy**

Roadside	2017	2018	2019	2020
<b>EAST</b>				
Easterly	4/65	2/85	1/95	3/15
Happy Valley	5/35	4/65	4/65	2/35
Johnson Creek	5/65	4/85	4/65	3/15
Palo Alto	1/65	2/35	2/85	ND/65
River		2/85	4/95	
Turnstone				2/85
Washington				
<b>CENTRAL</b>				
Black Diamond	1/95	2/35		3/85
East Lyre River	1/85	3/95	3/95	2/85
Laird	3/95	2/95	2/65	
Little River	2/95	2/15	2/65	3/65
Olympic Hot Springs	5/65	2/15	4/15	2/95
Power Plant	5/100	8/100	8/15	2/PT
West Lyre River	6/85	4/15	4/15	2/85

Lower density number - lower weed population

ND - Not Determined

PT - Partial Treatment

Additional density/efficacy data analysis for commonly treated weeds over the four-year period can be found in Appendix E. Major points are summarized in the following.

Spotted knapweed is another priority weed that has been treated for the four-year period but is found only along East District roadsides. Further narrowing down the range, it seems to be located along River Road and adjacent roadsides. However, in 2019 it was found along Palo Alto but not this year. Around Sequim, it was only treated along West Washington this year. Blue Mountain, a first-year roadside treatment, did have spotted knapweed. Its range is normally limited to the East District but last year was treated on Deer Park and this year on Lauridsen. Diffuse knapweed has not been noted for several years.

Canada thistle and bull thistle treatment efficacies have increased from fair to good since 2017, but the number of partial application sites is high (Appendix E). They are fairly uniform in their distribution but

*Master Gardener Program*

favor an open habitat, therefore can be found more readily in the East District. Canada thistle has not been noted along Johnson Creek road since 2017 and it was only treated in 2018 on Turnstone. However, it does seem persistent in other locations. Significant drops in density were noted along Happy Valley and Laird and bull thistle has had a significant density drop on East Lyre River road. Bull thistle was not reported on Olympic Hot Springs, Power Plant or West Lyre River roads this year.

Scotch broom treatment efficacies have improved from marginal to fair since 2017, with a decrease in area and a pleasing increase in efficacy. Yet, it remains a problem on adjacent private property. An outstanding example of this is along Lower Elwha Road where it looks like tens of thousands of the plant abide. The only roadside of the fourteen that have been treated, from which it has been eliminated, is Palo Alto. It was only treated on 3 of the new roads this year. Additionally, mature plants are prolific seed producers, and many small plants are found sprouting later in the same or next year. If some have been removed, it seems that another can be found.

Some of the less widely dispersed noxious weed species have been monitored every year since 2017 and limited data does not allow one to draw significant conclusions. Common teasel is one of these species that is spread in location but not in great quantities. The only roadside on which it has been treated, for the time period, is Happy Valley where density ratings have decreased. It appeared in 2018 on Turnstone and Little River but not since. This is the first year, of the four years, that it was noted on East Lyre River and Palo Alto. Also, it was noted on Dawley and Eden Valley roads which were first year monitored roadsides (Appendix C).

Herb Robert is common in the Central District and persistent. Over the years it is often only partially treated and densities remain high. This year it was monitored on West Lyre River and Palo Alto for the first time. St Johnswort was treated on nine of the 14, four year monitored, roadsides in 2019 but only three this year, one was a partial treatment (Appendix E). Everlasting peavine, another obvious plant on the landscape, often previously found in significant patches was not monitored along any of the fourteen roadsides in 2020. However, it was noted by RWMT members along Little River. It was treated Tansy ragwort, which was the most commonly monitored weed in 2017, is still, barely, in the top five but has disappeared from 9 of the continuously monitored roadsides except for Happy Valley and East Lyre River (Appendix E). On the other hand, it was found on 4 of the newly monitored roadsides. Common tansy was only monitored on Kitchen Dick in 2020.

Poison hemlock has not been monitored for the four-year period but has become a point of attention in the monitoring process over the last two years. First monitored in 2018 there were ten roadsides. In 2019, twelve roadsides were monitored with 6 new roadsides; dropping 4 that were done in 2018. Eleven new sites were added for the 2020 monitoring season yielding a total of 22 this year. The roadsides that were dropped in 2019 were picked up again this year. It currently seems to be confined to the East District. Densities are mainly staying high with a few exceptions such as West Washington and Sequim Dungeness.

Since the Integrated Weed Management Plan has only been in effect since 2017 and noxious weed seeds can survive several 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 2020, six (6) Master Gardeners participated in the activities associated with the Noxious Weed Office. They were: Brick Ayola, Peggy Goette, Bev Hetrick, Brenda Lasorsa, John Viada, and Bruce Pape. Due to COVID-19 pandemic restrictions, monitoring teams were predominately composed of two people instead of the previously 3 or 4 person teams. Monitoring was mainly accomplished from a slow-moving vehicle, but when necessary, sites were examined on foot; this year more commonly that in the past. 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 staff. Being out and about, we occasionally had people inquire about our purpose. Contacts, again, were overwhelmingly positive, and to concisely present our story, last year's handout was used to reflect the wider scope of activities (Appendix D).

Monitoring commenced at the end of May and ended in mid- September. Roadside monitoring activity occurred on many days due to the restrictions imposed by COVID- 19 and CDC availability. (total = 95 hours). The number of monitoring forms completed was significantly higher this year (88) compared to last year (59) but similar to the 99 of 2018. Treatment forms normally are received by RWMT in clusters over the season and locations were more spatially dispersed than normal within the cluster. Additionally, over half of the TDF's had only a single species treated.

Field work for the No-Mow project was done in mid spring and late September (total = 43 hours). The Pollinator Plantings assessments at Black Diamond and the Agnew portion of the Olympic Discovery Trail were field checked sporadically by individuals or pairs returning from monitoring activity. Co-ordination, administrative activity, and report writing contributed over 150 hours. Total volunteer hours compiled were approximately 400.

This report was developed by Brick Ayola and Bruce Pape and edited by the above-named Master Gardeners.

## APPENDIX A: Roadsides and Non-Road Areas Monitored

East		Central	
<b>Blue Mountain<sup>^</sup></b>	Old Olympic*	Benson <sup>^</sup>	Voice of America
<b>Cays and Lamar</b>	Palo Alto*	Black Diamond*	
<b>Coulter<sup>^</sup></b>	Pinnell <sup>^</sup>	Deer Park	
<b>Dawley<sup>^</sup></b>	Port Williams	Deer Park Loop <sup>^</sup>	
<b>Dorothea Way</b>	River*	Dodger <sup>^</sup>	
<b>Diamond Point</b>	Silberhorn	East Lyre River*	
<b>East Anderson</b>	Slab Camp <sup>^</sup>	Eden Valley <sup>^</sup>	
<b>Easterly*</b>	Sequim Dungeness	Elwha River	
<b>Evans</b>	Taylor Cutoff	Gossett	
<b>Gasman<sup>^</sup></b>	Three Crabs	Laird*	
<b>Gilbert<sup>^</sup></b>	Towne	Lauridsen	
<b>Happy Valley*</b>	Turnstone*	Little River*	
<b>Hendrickson</b>	Valley Center Place <sup>^</sup>	Lower Elwha	
<b>Hogback</b>	Vistas	O'Brien	
<b>Hooker<sup>^</sup></b>	Ward	Olympic Hot Springs*	
<b>Johnson Creek*</b>	West Sequim Bay <sup>^</sup>	Power Plant*	
<b>Kitchen Dick</b>	West Washington*	West Edgewood	
<b>Lotzgesell</b>	Woodcock	West Lyre River*	
<b>N Barr</b>	Woods		
<b>Old Blyn</b>			

<sup>^</sup> First year monitored

\*Fourth year monitored

## APPENDIX B: Noxious Weeds Monitored

Code	Scientific name	Common name
BEIN	<i>Berteroa incana</i>	hoary alyssum
CAPY	<i>Carduus pycnocephalus</i>	Italian thistle
CEMO	<i>Centaurea x moncktonii</i>	meadow knapweed*
CEST	<i>Centaurea stoebe</i>	spotted knapweed *
CIAR	<i>Cirsium arvense</i>	Canada thistle*
CIIN	<i>Cichorium intybus</i>	chicory
CIVU	<i>Cirsium vulgare</i>	bull thistle*
COAR	<i>Covolvulus arvensis</i>	field bindweed
COMA	<i>Conium maculatum</i>	poison hemlock
CRMO	<i>Crataegus monogyna</i>	English hawthorn
CYSC	<i>Cytisus scoparius</i>	Scotch broom*
DALA	<i>Daphne laureola</i>	spurge laurel*
DIFU	<i>Dipsacus fullonum</i>	common teasel*
GERO	<i>Geranium robertianum</i>	Herb Robert*
HIAU	<i>Hieracium aurantiacum</i>	orange hawkweed
HICA	<i>Hieracium caespitosum</i>	yellow hawkweed
HYPE	<i>Hypericum perforatum</i>	St Johnswort*
ILAQ	<i>Ilex aquifolium</i>	common holly
LALA	<i>Lathyrus latifolius</i>	everlasting peavine *
LEAP	<i>Lepidium appelianum</i>	hairy whitetop
PORE	<i>Potentilla recta</i>	sulphur cinquefoil*
RUAR	<i>Rubus armeniacus</i>	Himalayan blackberry*
RULA	<i>Rubus laciniatus</i>	evergreen blackberry*
SEJA	<i>Senecio jacobaea</i>	tansy ragwort*
TAVU	<i>Tanacetum vulgare</i>	common tansy*

\* Treated 2017 through 2020

## APPENDIX C: Efficacy Ratings

WEED	EFFICACY	ROAD
BEIN	35	Dorothea
	100	Kitchen Dick
	95	Valley Center
CAPY	85	Cays and Lamar 2
	85	Cays 4
	100	Cays and Lamar 48
	100	Cays 49
	100	Cays and Lamar 53
	100	Cays and Lamar 53
	100	Hogback
	95	Lamar 57
	CEMO	95
35		Blue Mountain 82
15		Easterly
35		Happy Valley
15		Johnson Creek
100		Kitchen Dick
100		Lotzgesell 146
65		Palo Alto
100		Slab Camp 109
85		Turnstone
85		Black Diamond 132
65		Black Diamond 134
85		Elwha River
100		Gossett
35		Little River 85
65		Little River 131
95	O'Brien	
95	Olympic Hot Springs	
85	West Lyre River	

Number indicates TDF on segmented or multi-treated roadsides

APPENDIX C, *continued*

WEED	EFFICACY	ROAD
CEST	35	Blue Mountain 82
	95	West Washington
	15	Lauridsen
CIAR	95	Blue Mountain 80
	85	Blue Mountain 82
	65	Easterly
	15	Happy Valley
	95	Kitchen Dick
	95	River 75
	95	Slab Camp 109
	65	Black Diamond 134
	95	Gossett
	95	Little River 85
CIIN	35	Happy Valley
	100	River 79
	85	Woods
CIVU	95	Blue Mountain 80
	85	Blue Mountain 82
	85	Diamond Point 43
	65	Happy Valley
	85	Johnson Creek
	95	Kitchen Dick
	35	River 75
	95	River 79
	95	Slab Camp 109
	95	Woods
	65	Black Diamond 134
	95	East Lyre River
	15	Gossett
	95	Little River 85
COAR	100	Kitchen Dick

Number indicates TDF on segmented or multi-treated roadsides

APPENDIX C, *continued*

WEED	EFFICACY	ROAD
COMA	100	Coulter
	100	Dawley
	35	East Anderson
	65	Evans 21
	65	Evans 23
	100	Gilbert
	100	Hendrickson
	100	Hogback
	100	Hooker
	100	Kitchen Dick
	100	Lotzgesell 5
	100	Lotzgesell 146
	100	North Barr
	100	Old Blyn
	100	Pinnell
	100	Silberhorn
	100	Sequim Dungeness
	100	Three Crabs
	95	Towne 1
	65	Towne 3
	100	Vistas
	85	Ward
	65	West Washington
100	Woodcock 18	
95	Woodcock 26	
65	Voice of America	
CRMO	15	Kitchen Dick

Number indicates TDF on segmented or multi-treated roadsides

APPENDIX C, *continued*

WEED	EFFICACY	ROAD
CYSC	95	Blue Mountain 80
	95	Blue Mountain 82
	85	Diamond Point 43
	35	Diamond Point 44
	15	Diamond Point 87
	35	Easterly
	85	Gasman
	65	Happy Valley
	95	Johnson Creek
	95	N Barr
	100	Old Olympic 38
	85	Old Olympic 40
	35	Old Olympic 42
	65	River 79
	100	Slab Camp 109
	100	Slab Camp 110
	100	Taylor Cutoff
	95	Turnstone
	65	Vistas
	85	Woods
95	Deer Park Loop	
100	Little River 85	
95	Olympic Hot Springs	
DALA	100	Kitchen Dick
	95	West Washington
DIFU	100	Dawley
	100	East Anderson
	15	Happy Valley
	100	Kitchen Dick
	100	Lotzgesell 5
	100	Lotzgesell 146
	95	Palo Alto
	100	Port Williams
	100	East Lyre River
	100	Eden Valley

Number indicates TDF on segmented or multi-treated roadsides

APPENDIX C, *continued*

WEED	EFFICACY	ROAD
GERO	85	Old Blyn
	85	River 75
	15	River 79
	65	East Lyre River
	15	Little River 85
	35	Olympic Hot Springs
	95	West Lyre River
HIAU	95	Benson
	100	Blue Mountain 80
HICA	UN	Deer Park 59
	UN	Deer Park 61
	UN	Deer Park 62
HYPE	85	Blue Mountain 80
	85	Blue Mountain 82
	35	Happy Valley
	95	Little River 85
ILAQ	100	Taylor Cutoff
LALA	95	Blue Mountain 80
	100	Woods
LEAP	100	Kitchen Dick
PORE	100	Blue Mountain 80
	100	Dodger

Number indicates TDF on segmented or multi-treated roadsides

APPENDIX C, *continued*

WEED	EFFICACY	ROAD
RUAR	65	Diamond Point 43
	15	Diamond Point 44
	85	Kitchen Dick
	35	Old Olympic 40
	65	Palo Alto
	35	Towne 3
	0	Turnstone
	35	Woods
	15	Gossett
	85	Little River 85
	65	Olympic Hot Springs
	RULA	35
35		Gossett
85		West Lyre River
SEJA	95	Blue Mountain 80
	100	Dawley
	100	Diamond Point 43
	35	Happy Valley
	100	Old Blyn
	65	Palo Alto
	100	Slab Camp 109
	100	Slab Camp 110
	35	Woods
	UN	Deer Park 59
	85	Deer Park 62
	100	East Lyre River
	100	Eden Valley
	85	Lower Elwha
100	West Edgewood	
TAVU	100	Kitchen Dick

Number indicates TDF on segmented or multi-treated roadsides

## APPENDIX D: Public Handout

**WHAT'S GOING ON?**





**Who are we?** Washington State University Clallam County Extension Master Gardener volunteers

**What are we doing and why?** Monitoring our County's annual Integrated Weed Management Plan

- Determining efficacy of physical (hand-pulling) and chemical (herbicides) weed control activities by County employees. Weed control efficacy helps determine if immediate retreatment is necessary, next year's activities need to be modified, or the Plan is effective.
- Assuring chemical weed control activities do not impact native plants. Immediate feedback helps determine if chemicals or application methods need to be modified.
- Assisting with cultural weed control activities such as planting native flowers and shrubs. This includes providing data for site assessments for consideration of future plantings and determining how successfully plantings survived and are helping to control noxious weeds.
- Data gathering to determine if some low growing native shrubs can help suppress roadside tree growth, which could reduce the County roadside mowing burden while enhancing pollinator habitat.
- Data gathering on the Olympic Discovery Trail for noxious weeds and site assessments for consideration of future weed control and native plantings.

**Who else is involved?**

- Clallam County Road Department,
- Noxious Weed Control Board,
- Matt Albright Native Plant Nursery, and
- Community Volunteers

If you are interested in finding out more about this effort or would like to help, possibly by hosting some pollinators or native plantings, please contact:

- the Noxious Weed Control office at 360-417-2442.
- additional information can be found at <http://www.clallam.net/weed/>.

WASHINGTON STATE UNIVERSITY  
CLALLAM COUNTY EXTENSION  
Master Gardener Program

## APPENDIX E: DENSITY/EFFICACY RATINGS

### 2017-2020 Spotted Knapweed (CEST) Density/Efficacy ratings for the Most Commonly Monitored Roadsides

Roadside	2017	2018	2019	2020
<b>EAST</b>				
Easterly				
Happy Valley		2/UN	3/95	
Johnson Creek				
Palo Alto			2/95	
River	ND/65	2/85	2/95	
Turnstone	ND/95	ND/95	2/35	
Washington	4/95	ND/85	5/15	4/95

- CENTRAL**
- Black Diamond
  - East Lyre River
  - Laird
  - Little River
  - Olympic Hot Springs
  - Power Plant
  - West Lyre River

ND No Data  
 PT Partial Treatment  
 UN Unknown

**2017-2020 Canada Thistle (CIAR) Density/Efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly	5/65		4/95	3/65
Happy Valley	9/35	2/PT	ND/95	3/15
Johnson Creek	4/65			
Palo Alto		2/PT	ND/15	ND/PT
River		3/85	ND/PT	3/95
Turnstone		3/95		
Washington	1/95	1/65	ND/PT	2/65
<b>CENTRAL</b>				
Black Diamond	7/35		2/100	3/65
East Lyre River				
Laird	6/35	2/100		
Little River		4/85	1/100	2/95
Olympic Hot Springs	1/85	2/85	1/UN	
Power Plant		2/85	2/65	
West Lyre River		1/100	1/95	

ND No Data

PT Partial Treatment

UN Unknown

**2017-2020 Bull Thistle (CIVU) Density/Efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly			1/100	
Happy Valley	3/35	1/65	ND/PT	2/65
Johnson Creek	5/35		1/65	3/85
Palo Alto River		1/65	ND/PT	3/35
Turnstone Washington				
<b>CENTRAL</b>				
Black Diamond	4/35		2/100	3/65
East Lyre River	9/100		1/100	3/95
Laird		2/95	ND/PT	
Little River	4/35	2/85	1/95	2/85
Olympic Hot Springs		2/85	2/65	
Power Plant		1/85	1/35	
West Lyre River		1/100	1/95	

ND No Data

PT Partial Treatment

**2017-2020 Scotch Broom (CYSC) Density/efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly		4/95		5/35
Happy Valley	7/35	3/35	ND/PT	2/65
Johnson Creek		4/100		3/95
Palo Alto	6/65			
River	PT/35	1/65	ND/PT	6/PT
Turnstone	4/95	2/65	ND/65	2/95
Washington		1/95		
<b>CENTRAL</b>				
Black Diamond	5/0		3/95	6/PT
East Lyre River				
Laird	5/35	3/35	3/65	3/PT
Little River	5/0	4/95		1/100
Olympic Hot Springs	1/95	3/95		2/95
Power Plant		3/35	3/15	6/PT
West Lyre River				

ND No Data

PT Partial Treatment

**2017-2020 Common Teasel (DIFU) Density/Efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly				
Happy Valley	5/85	4/UN	2/100	3/15
Johnson Creek			6/100	
Palo Alto River				ND/95
Turnstone Washington		6/95		
<b>CENTRAL</b>				
Black Diamond	6/95		5/UN	
East Lyre River				2/100
Laird				
Little River		3/100		
Olympic Hot Springs				
Power Plant				
West Lyre River				

ND No Data  
 PT Partial Treatment  
 UN Unknown

**2017-2020 Herb Robert (GERO) Density/Efficacy ratings  
 Roadside**

	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly	8/UN	4/100		
Happy Valley				
Johnson Creek				
Palo Alto				ND/PT
River		4/UN	ND/PT	5/15
Turnstone				
Washington				
<b>CENTRAL</b>				
Black Diamond		6/UN		6/PT
East Lyre River	1/85	3/95	ND/0	3/65
Laird				
Little River	ND/0	5/UN	5/85	4/PT
Olympic Hot Springs	1/0	6/UN	5/15	4/35
Power Plant		5/100	ND/15	
West Lyre River				2/95

ND No Data  
 PT Partial Treatment  
 UN Unknown



2017-2020 St Johnswort (HYPE) Density/Efficacy ratings

Roadside	2017	2018	2019	2020
<b>EAST</b>				
Easterly	6/UN		4/100	
Happy Valley	9/UN			2/35
Johnson Creek				
Palo Alto	4/UN		PT/15	ND/PT
River		1/35		
Turnstone			1/100	
Washington			2/65	
<b>CENTRAL</b>				
Black Diamond			2/100	
East Lyre River				
Laird	6/100	1/15	1/95	
Little River			1/100	2/95
Olympic Hot Springs			1/UN	
Power Plant		4/100	4/35	
West Lyre River				

ND No Data  
 PT Partial Treatment  
 UN Unknown



**2017-2020 Everlasting Peavine (LALA) Density/Efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly				
Happy Valley	8/15	4/85		
Johnson Creek				
Palo Alto				
River				
Turnstone				
Washington		7/UN		
<b>CENTRAL</b>				
Black Diamond		8/UN		
East Lyre River				
Laird		7/65	7/85	
Little River	2/15	6/85	23/65	
Olympic Hot Springs	2/35	6/85	2/UN	
Power Plant				
West Lyre River				

ND No Data  
 PT Partial Treatment  
 UN Unknown

**2017-2020 Tansy Ragwort (SEJA) Density/Efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly				
Happy Valley	6/100	5/95	1/65	ND/35
Johnson Creek		1/100		
Palo Alto	1/95	2/95	1/65	
River			ND/100	
Turnstone				
Washington				
<b>CENTRAL</b>				
Black Diamond				
East Lyre River	1/100	2/100	2/100	1/100
Laird				
Little River	4/95	1/UN		
Olympic Hot Springs	1/PT	2/UN	1/UN	
Power Plant	1/100			
West Lyre River	2/85	1/100	1/100	

ND No Data  
 PT Partial Treatment  
 UN Unknown

**2017-2020 Common Tansy (TAVU) Density/Efficacy ratings**

<b>Roadside</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>EAST</b>				
Easterly				
Happy Valley	5/85	4/UN	2/100	3/15
Johnson Creek			6/100	
Palo Alto				ND/95
River				
Turnstone		6/95		
Washington				
<b>CENTRAL</b>				
Black Diamond	6/95		5/UN	
East Lyre River				2/100
Laird				
Little River		3/100		
Olympic Hot Springs				
Power Plant				
West Lyre River				

ND No Data  
 PT Partial Treatment  
 UN Unknown

## Classified Proof

---

### **PUBLIC HEARING NOTICE**

Clallam County is beginning the 2020 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 <http://www.clallam.net/weed/> 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.

PUB: PDN February 14, 2020

Legal No. 889241

# **NOTICE**

The herbicides aminopyralid, imazapyr, triclopyr, or 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<sup>\*</sup> :** \_\_\_\_\_

<sup>\*</sup>Actual date of application contingent upon weather conditions.

**Targeted Noxious Species<sup>\*\*</sup> :** \_\_\_\_\_

<sup>\*\*</sup>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  
Joe Reynolds, noxious weed control specialist  
223 East Fourth Street, Suite 15  
Port Angeles, WA 98362  
(360) 417-2000 ext 2703  
(360) 999-6734**

# Appendix K: Sample Herbicide/Manual Treatment Data Form (Side 1)

**2020 CLALLAM COUNTY-ROADS  
Herbicide/Manual Treatment Data Form**

8/11 4-25-19

Project ID #: \_\_\_\_\_

Project Complete? **Y** or **N** (add notes)

Name of Entity/Person for whom Treatment was applied: Clallam County  
 Street Address: 223 E 4th St City: Port Angeles State: WA Zip: 98362  
 Address or Exact Location of Site: Old Blyn Hwy (2.15 mi) entire road  
 PIN#: \_\_\_\_\_

**General Activity Fields**

County (circle one)	WRIA (circle one)	Project Name (from project list)	Department (circle one)	Workforce**
<u>Clallam</u>	15 16 17 18 19		<u>Roads</u> DCD Parks Other	<u>NWCB - Z</u>

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

Crew Members Present:  
Jim, Cathy

**Site/Inventory Fields**

Start Date	Stop Date	acres examined for weeds	Treatment Site (circle one)	Total Manual Infested Area Treated: (DO NOT lump plants together)
<u>4/1/19</u>	<u>4/1/19</u>	<u>4.3 acres</u>	<u>Road edge/ROW</u> Park Other	acres
Weeds Treated (Just the PLANTS code is OK)	Infested Area Treated (DO NOT lump plants together)	% of area examined for weeds infested with this species (lump plants together - use cover classes 1 - 9 listed below)	Manual/Herbicide or Survey	
<u>COMA</u>	<u>20,000 + 1 plant</u> sq ft	<u>4</u>	<u>H</u>	
<u>GERD*</u>	<u>10,000</u> sq ft	<u>4</u>	<u>H</u>	
	sq ft			
	sq ft			
	sq ft			

† 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 K: Sample Herbicide/Manual Treatment Data Form (Side 2)

All Licensed Applicators: Name and License # James Winthrop Knight 87945, Cathleen Lucero 56527

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
4/1/2019	2:00	3:30	58°F	5 mph	N		

Application Area (acre)	Total Volume of Mix Applied (gal)	Diluent	Special comment
0.5 acres	3.5 gal	Water	

Product Name	EPA Registration #	Amount of herbicide used (oz)	Herbicide Applied/Acre or other measure	Concentration Applied
Vestlan	62719-687	4.5 oz	9 oz/acre	1%
Liberate	WA: 34704-04008	1.8 oz	3.5 oz/acre	0.4%
Bleazon-blue	—	1.2 oz	2.3 oz/acre	0.25%

Was this application made as a result of a permit? Yes  No   
 If yes, Permit # \_\_\_\_\_

**WA State NPDES Acres:**  
 0

Notes: Spoke w/ Joe - Homeowner at 2111 Old Blyn w/ extensive patch on ROW next to his horse pasture; he was extremely pleased w/ our control he has been controlling his for years w/out any improvement on ROW. # Interactions: 3  
 COMA spotty from 2111 Old Blyn to approx. 1535 Old Blyn Hwy. GERO partially treated here as well.  
 1 COMA plant dug adjacent to 652 Old Blyn Hwy near gate. 1 COMA patch between ODT/Old Blyn Intersection at Blyn Rd.  
 Follow-up for GERO is possible.

# Appendix L: Sample Owner Will Control

Program details and forms available online at: [http://www.clallam.net/weed/RD\\_IWMP.html](http://www.clallam.net/weed/RD_IWMP.html)



## 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)	<b>YES</b> <b>NO</b>
* _____	* _____	* _____
County Representative	(Signature)	Date
*Required Field		

# Appendix M: Sample Adopt-a-Patch Permit

Program details and forms available online at: [http://www.clallam.net/weed/RD\\_IWMP.html](http://www.clallam.net/weed/RD_IWMP.html)

**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**

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

Special Use: NOXIOUS WEED CONTROL

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.*

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

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

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: \_\_\_\_\_

# Appendix N: Sample Adopt-a-Patch Activity Report

Program details and forms available online at: [http://www.clallam.net/weed/RD\\_IWMP.html](http://www.clallam.net/weed/RD_IWMP.html)



## Adopt-A-Patch Activity Report

Permit#: \_\_\_\_\_ Permitee Name: \_\_\_\_\_

Permitee 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 no later than October 31. |

Email to [reynolds@co.clallam.wa.us](mailto:reynolds@co.clallam.wa.us) or Mail to Adopt-A-Patch Coordinator  
223 E Fourth St, Suite 15  
Port Angeles, WA 98362

# Appendix O: Sample Adopt-a-Patch Waiver

Program details and forms available online at: [http://www.clallam.net/weed/RD IWMP.html](http://www.clallam.net/weed/RD_IWMP.html)

## 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"/>			