WA State Parks staff happy to host combined Weed Board crew and Puget Sound Corps tackling cross jurisdiction Dosewallips River projects

Olympic Peninsula Cooperative Noxious Weed Control 2014 Project Report

A Title II Participating Agreement between
USFS Olympic National Forest
and
Clallam County and Jefferson County Noxious Weed Control Boards

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An unabridged copy of this report will be posted to our website at
http://www.clallam.net/weedcontrol/html/forest_service.htm -see 2014 Report.

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*Appendices are noted but omitted from the abridged version of this report

EXECUTIVE SUMMARY

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

Project Overview:
This project has been a comprehensive program for noxious weed control on the North Olympic Peninsula. On Forest Service lands it includes surveying, identifying, and controlling noxious weeds through a work plan coordinated between the Forest Service and local Weed Control Boards. On non-federal lands, this project has supported Jefferson County Noxious Weed Control Board's program which includes public education, survey and monitoring of noxious weed infestations, and seeking landowner compliance with RCW 17.10. Work has been accomplished with funding under Title II of the Secure Rural Schools Act (SRS), which was designed in part to promote cooperation and collaboration between federal and local governments. Additional dollars from specific FS funds have sometimes augmented additional tasks added to the work plan. Depending on funding levels in any given year, work has been accomplished by crews of varying size and expertise. Some seasons, crew was limited to a small field crew and a weed specialist hired by the Clallam County Noxious Weed Control Board (CCNWCB); sometimes crew was expanded to include a Washington Conservation Corps (WCC), and/or an Olympic Correction Center (OCC) inmate crew. In some years, the Forest Service hired personnel or contractors for specific large scale projects. Recently a Puget Sound Corps (PSC) funded by the WA Department of Natural Resources, has assisted with large scale projects across jurisdictional boundaries.

2014 Project Goals:
1. Control weeds on areas scheduled for road decommissioning or forest management.
2. Control weeds in quarries and other rock sources.
3. Control weeds in Botanical Areas and other special "critical area" sites.
4. Control weeds in campgrounds, trailheads and other heavily-used sites
5. Revisit previously controlled sites and perform necessary follow-up control work.
6. Identify and treat new populations

2014 Resources: (All crews)
- Supervisor (20 hours/week, 5 months)
- 4 Project Specialists (3 months or less)
- Washington Conservation Corps (4 days)
- FS 2-man crew (2 days)

2014 Accomplishments: (All crews**)**
- Examined **483** acres for invasive species, treated or re-treated **259** weed-infested acres
- Monitored treatments on **152** acres per FS protocol
- Completed and submitted **134** FACTS sheets, **37** Monitor forms, and **17** Rock Source Surveys to USFS
- Inspected and filed reports for **3** private rock sources to certify suitability
- Compiled data and completed annual Project Report

Observations and Recommendations:
Weed infestations negatively impact resources both within the Olympic National Forest and on adjacent lands. Through this program, overall weed infestation size, density, and diversity have been considerably reduced. Long range goals, detailed planning and consistency have been the keys to progress to date.

Although the Secure Rural Schools Act (SRS) has not been renewed, Clallam and Jefferson County Weed Boards have sufficient funding for a small field crew in 2015. This will not be sufficient for all the work that needs to be done. Should Puget Sound Corps be available next year, we will continue to push for their deployment at mutually beneficial locations. Large scale multi-jurisdictional projects such as the one occurring along the Dosewallips River demonstrate not only how critical cooperation is to success, but also demonstrate the capacity we have forged to work together.

Weed Board staff has extensive knowledge ranging from project history and infestation locations to weed identification and best treatment practices. The county weed boards provide a relatively inexpensive, locally based work force with county wide jurisdiction and long term focus. The expertise and flexibility of locally based weed boards make us best suited to identify and control new or small infestations. We appreciate the opportunity to provide input on weed control strategy and to help coordinate the Forest Service's weed management plan. Intra-agency invasive species control coordination has not only become increasingly important, but also is more likely to occur. This is a direct legacy of the working relationships created on the Olympic Peninsula during the tenure of the Secure Rural School Act. We hope this spirit of partnership will endure past the expiration of the Act which provided the inspiration.

PROJECT SUMMARY

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

Project Overview:
Title II of the Secure Rural Schools Act (SRS), was designed in part to promote cooperation and collaboration between federal and local governments. This project has been a comprehensive program for noxious weed control on the North Olympic Peninsula, including surveying, identifying, and controlling noxious weeds, coordinating action and communication between local, state and federal jurisdictions, and raising public awareness of the impacts of noxious weeds. Additional dollars from specific FS funds have sometimes augmented additional tasks added to the FS directed work plan for weed board partners. This project has also supported the Jefferson County Noxious Weed Control Board, specifically their local education, survey, and treatment efforts. SRS was re-authorized in 2008, but the funding, as scheduled, diminished each year. Some funding is left for field activities in 2015 although SRS itself has not been renewed.

On Forest Service lands the project operates under a strategy of early detection and rapid response to prevent the establishment of new infestations wherever possible. Initial work focused on surveys to identify weed baselines while performing manual control. After adopting Olympic National Forests' 2006 Environmental Impact Statement titled *Beyond Prevention: Site-specific Invasive Plant Treatment*, the focus shifted to treatment, using manual and herbicide methods. The emphasis has been on controlling high priority noxious weeds in areas with high potential to spread, such as rock sources or campgrounds, or in particularly sensitive environments such as Biological Areas. As the awareness of invasives has increased throughout the agency, additional tasks have been added such as treating prior to road decommissioning and timber management activities, and private rock source inspections to meet contract standards.

On non-Forest Service lands, the emphasis has been on areas where uncontrolled noxious weed populations on other federal, state, county, and private land were spreading and hindering coordinated control activities. The Clallam and Jefferson County Weed Boards provide the vital link to private and public landowners whose weeds threatened federal lands. For that reason, the project supports implementation of the Jefferson County Noxious Weed Control Board's program. Program goals include public education, surveying for new noxious weed infestations, seeking landowner compliance with RCW 17.10 and WAC 16-750, and assisting other public agencies with their efforts to control noxious weeds.

Work on the Forest has typically been accomplished by crews of varying size and expertise to match the need on the ground with available funding. Over the years, this has included a two to four person crew, a weed specialist hired by the Clallam County Noxious Weed Control Board (CCNWCB), a larger six person Washington Conservation Corps (WCC), and briefly, an Olympic Correction Center (OCC) inmate crew, working in the west end of Jefferson and Clallam Counties. Although the Forest Service has hired contractors for certain, large scale projects, there were no outside contracted projects this year or last. Instead, the Forest Service hired a two person crew that operated out of Olympia. Six-person Puget Sound Corps (PSC), funded by the Department of Natural Resources Aquatic Division, and overseen by the CCNWCB assisted with restoration efforts along riparian areas that drain into the Puget Sound. Two PSCs assisted last year; only one was provided this year. The PSC focus this year was to expand on control efforts begun last year, on lands adjacent to the Forest

2014 Project Description:
This year's work focused on sites designated as high priority by the Forest Service, infrequent high priority species and known herb Robert infestations. Control work at special wilderness and wildlife habitat sites have been highly successful and will be visited next year. (See special Dosewallips River spotlight) The Forest Activity Tracking Sheet (FACTS) form was used to document manual or chemical treatment. Treatment reporting was based on a unique "Reference Number", arbitrarily assigned within 6th field watersheds. The FS required Weed Boards to monitor at least 50% of treated areas. Crew often followed monitoring with re-treatments.

Three seasonal crew members were hired in June. All crew members obtained an applicator's license. The coordinator and/or another licensed applicator assisted a couple of days each week, enlarging crew capacity and using the coordinators' greater expertise to find a wider variety of non-native plant species.

County Weed Board stability protects Forest Service lands from noxious weed encroachment from surrounding lands. Because funding for weed control in Jefferson County is severely underfunded, past support from Title II under the Secure Rural Schools Act has enabled the Jefferson County Noxious Weed Control Board program to remain viable.

In 2014, treatments on Forest Service lands were prioritized as follows:

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

2014 Project Resources and Roles:
The number of staff, the amount of time devoted to this project, and tasks completed were:

- **CCNWCB**

  Coordinator: 20 hours/week, for 5 months, licensed applicator
  - Supervised and administered the project
  - Provided technical information and support, crew training, and field treatments
  - Planned and coordinated WCC and PSC activities
  - Participated in planning meetings with Forest Service staff
  - Reviewed crew FACTS, Monitor, and Rock Source Inventory forms, submitted to the FS
  - Compiled data, prepared end-of-season report and planned for 2015 field season

  Field team: 3 project specialists, (licensed, aquatic applicators), variable time
  - Treated **212** acres; retreated **26** acres; completed **134** FACTS forms for all treated sites
  - Examined **483** acres, surveyed **359** miles of roads,
  - Inspected, treated, and documented the status of **17** FS rock sources
  - Monitored **152** acres, (41 acres more than required 50%) and completed **32** Monitor forms

- **Forest Service Crew-(2-man)**
  - Treated a total of 5 acres

- **Washington Conservation Corps (WCC)**
  - Treated a total of **15** acres

- **Puget Sound Corp (PSC)**
  - Treated a total of **15** acres **bordering** Forest Service land

- **Clallam County Sheriff's Chain Gang**
  - Treated **26,046** Scotch broom within County pits and roads.
  - (No treatments were reported for the Title 11 FS funded Gang)

2014 Project Accomplishments:
Through the efforts of the Clallam County NWCB, WCC, and FS, crews treated **232** acres of noxious weeds and surveyed **359** miles of roads. Weed board re-treatments (**26** acres) are noted, but not included in the acre total, for consistency with an older Forest Service protocol.

The table on the following page provides some prospective on 2014 accomplishments by summarizing yearly crew activities since 2002. Yearly comparisons are complex and inconsistent because of changes in focus, crew resources and FS reporting protocols from 2002-2013. From 2002 to 2006, herbicides use was limited or disallowed. Manual treatments for those 5 years have been consolidated and acres treated estimated. Although considerable resources went into identifying problem areas in the first few years, (note how focus on surveys corresponds to number of new discoveries), the CCNWCB has been able to treat with the assistance of herbicides anywhere up to triple the amount of acres in a single year, that which previously took five years to treat manually. This increased capacity to cover ground has been instrumental in getting ahead of, and reducing the spread and impacts of invasive plant species. For more detail, please see the end of Appendix C for a brief history of FS policies, program focus and available resources which shaped overall program direction and accomplishments in different years. Appendix A provides detailed information about treatments at each site in the 2014 project list.

[A]Crew acronyms: **NWCB**=Noxious Weed Control Board, **OCC**=Olympic Correctional Crew, **WCC**=Washington Conservation Corps, **PSC**=Puget Sound Corps

2002-2014 ACCOMPLISHMENT SUMMARY TABLES

Acres Treated by Crew-rounded to the nearest whole number

CREW[A]	2002-2006[1] (manual/baselines)	2007	2008	2009	2010	2011	2011 retreats	2012	2012 retreats	2013	2013 retreats	2014	2014 retreats	Total
NWCB manual	8.61		55	27	21	33		33		**7**		**9.73**		
NWCB chemical			131	195	316	261	25[3]	286	52[3]	**297**	**63**[3]	**212**	**26**	
NWCB total	8.61[1]	60[2]	186[2]	222[2]	337[2]	294[2]		319[2]		**314**[2]		**238**		**1,741**[3]
OCC-manual	None	337[2*]	75[2]	78[2]	None	None		None				**None**		**489**[2]
WCC[5] manual	58.83	22	None	54	None	38		2						
chemical								26						
WCC total	58.83[1]	22[2]		54[2]		38[2]		28[2]		**15**		**15**		**202**
PSC manual										**4**				
chemical	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**80**				
PSC total										**84**		**None**		
Chain Gang	38.68[1]	7[1]	2[1]	7[1]	0.16[1]	6[2]		25[1]		**5**		**None**		**87**
TOTAL Acres Treated	**106.12**[1]	**426**[2*]	**263**	**361**	**337**	**338**		372		**418**				**2,203**

Number of New/Existing Sites Reported Each Year by NWCB Crews

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
New Sites/Total	**122**	**497/**619	**147/**766	**74/**840	**147/**986	**12/**998	**1/**999	**3/**1,002	**29/**1,031	**56/**1,060	**22/**1082	**63/1145**	**12/1157**	**1,157**

Road Miles Surveyed and/or Treated by NWCB Crews

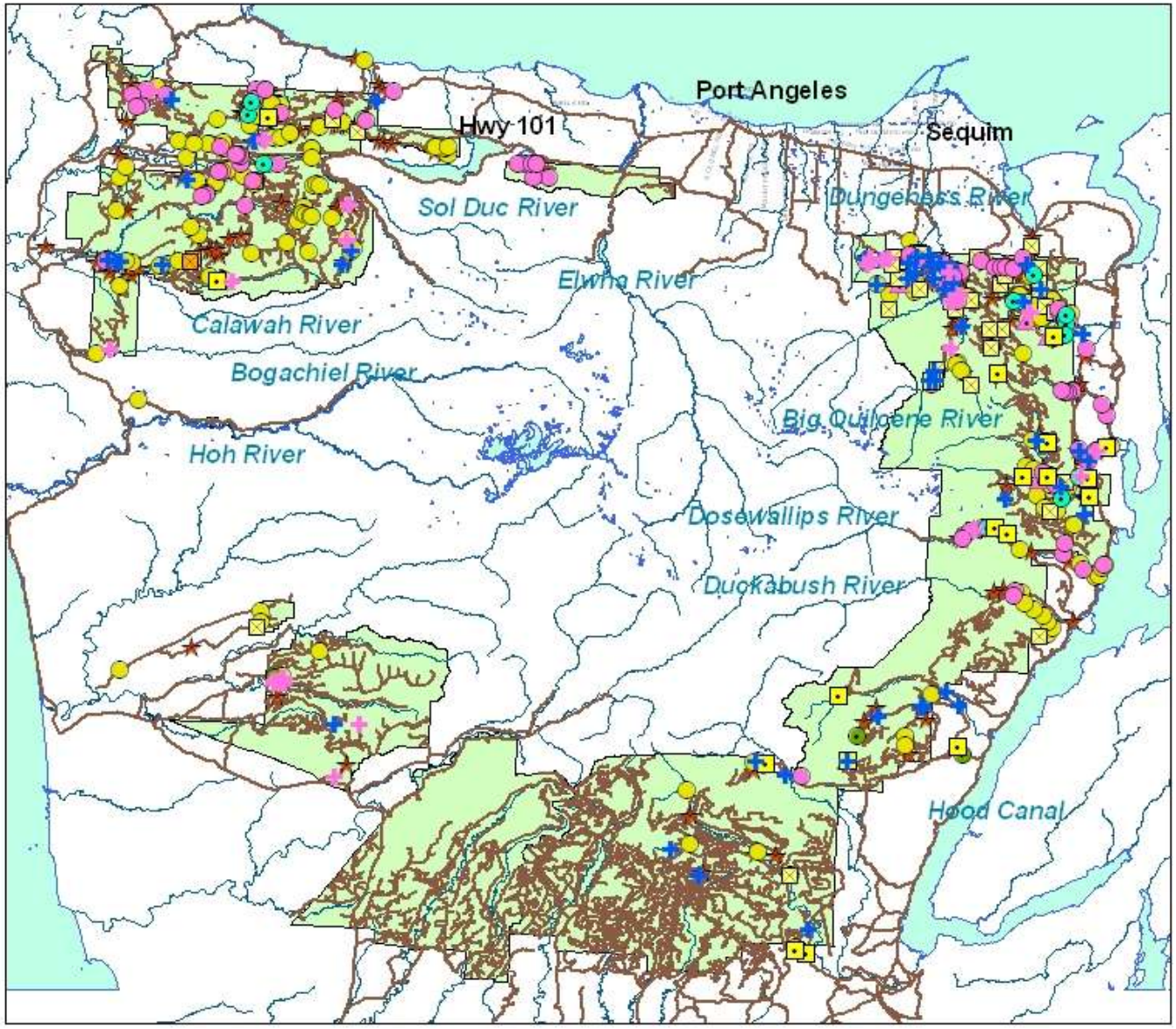
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Miles of Roads Surveyed/Treated	192	702	265	113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1,272**
Acres Surveyed/Treated	233[4]	851[4]	321[4]	137[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1,542**[4]
Miles of Roads Surveyed	N/A	N/A	N/A	N/A	391	369	423	299	222	237	309	**149**	**359**	**2,758**
Acres Surveyed[2]	N/A	N/A	N/A	N/A	947[5]	894[5]	1,025[5]	724[5]	626[6]	575[6]	613	**776**[6]	**483**	**6,663**

1. Only manual treatments were allowed during this 5 yr period. Acreage was estimated based on reported number of plants pulled; 1000=one/tenth acre. NWCB directive was to locate and document as many infestations as possible. For the Chain Gang reporting inconsistencies were difficult to reconcile with FS protocols.
2. "Acres Treated" include chemical and manual treatment and are taken from the FACTS forms filled out by crew. *The figure of **337 acres** reported for the **OCC** crew in 2007 is **considerably inflated**, due to a change, and subsequent misunderstanding of newly instituted FS reporting protocols. However, it is shown here as reported.
3. Re-treatments, (taken from FACT sheets), although considered a critical strategy for some species, were not originally counted toward acreage totals per FS protocol. Although that protocol has changed, it is retained here to be consistent.
4. Derived from miles surveyed/treated, but not used in the estimate of acres in the top table.
5. Derived from miles surveyed-Recorded as a separate value from 2006 to 2009. Previously combined in miles treated/surveyed and acres treated/surveyed
6. Taken from FACTS sheets—"Area Examined for Weeds"-from 2010-2102. This addition to the sheet gives perspective to infestation density and area covered.

MAPS

- Four maps are shown—an Overview of the Olympic National Forest, two covering activities in the Hood Canal District from north to south and one showing activities in the Pacific North district.
- The Overview Map shows baseline weed sites, documented since 2005.
- Roads that Jefferson County and Clallam County Noxious Weed Board crews worked on in 2014 are shown in yellow. The Roads Surveyed 2014 layer was based on GPS track logs.
- The 2014 activity maps show weed sites newly documented in 2014. The new weed layers are based on points taken by the field crew, using a Garmin 78. Office staff converted the points to shape files, using the Minnesota DNR public domain software DNR GPS version 6.0.0.15, which were then overlaid on all previous species shape files to ascertain which infestations were new.

Olympic National Forest Overview, with Baseline Weed Sites

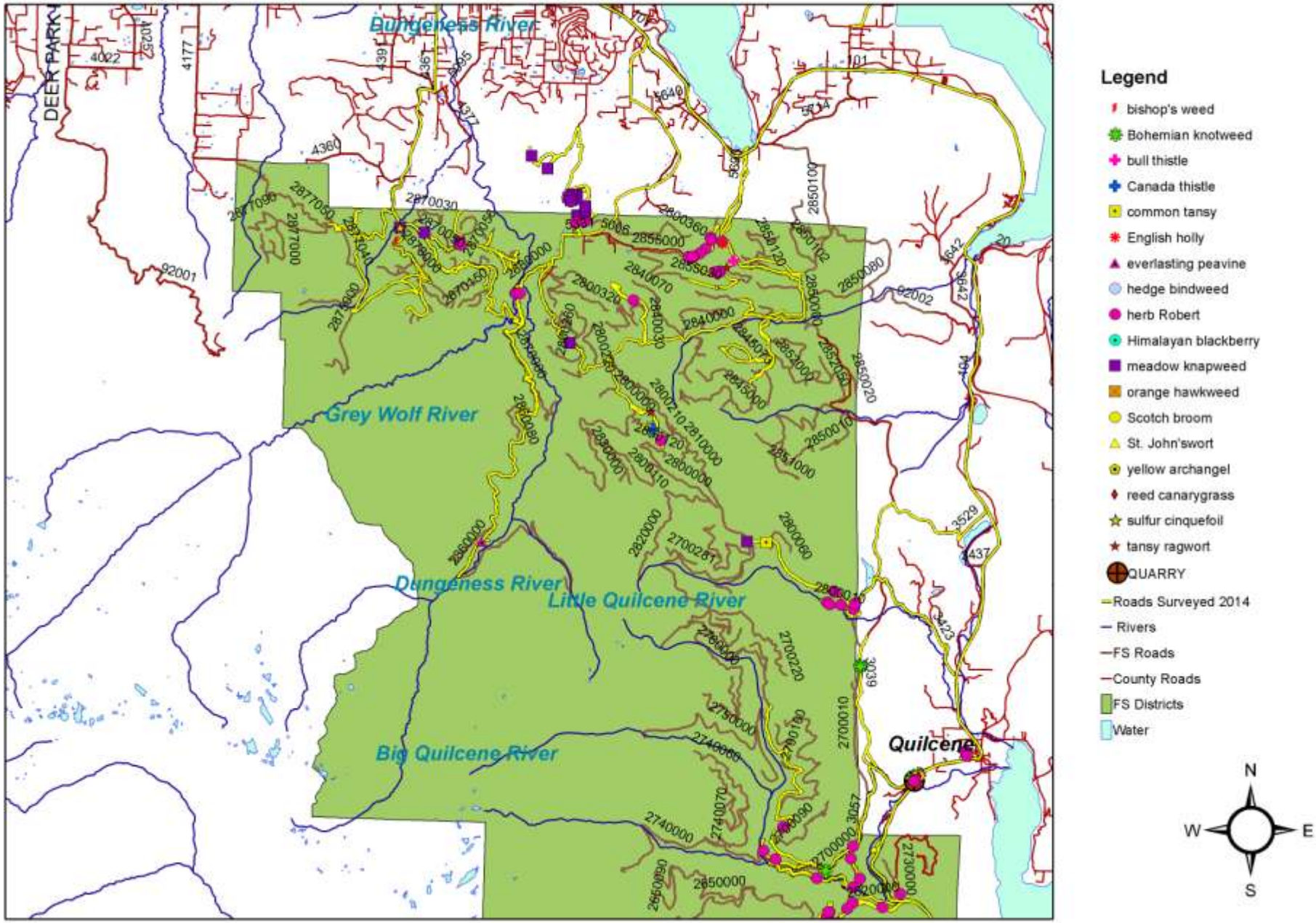


Legend

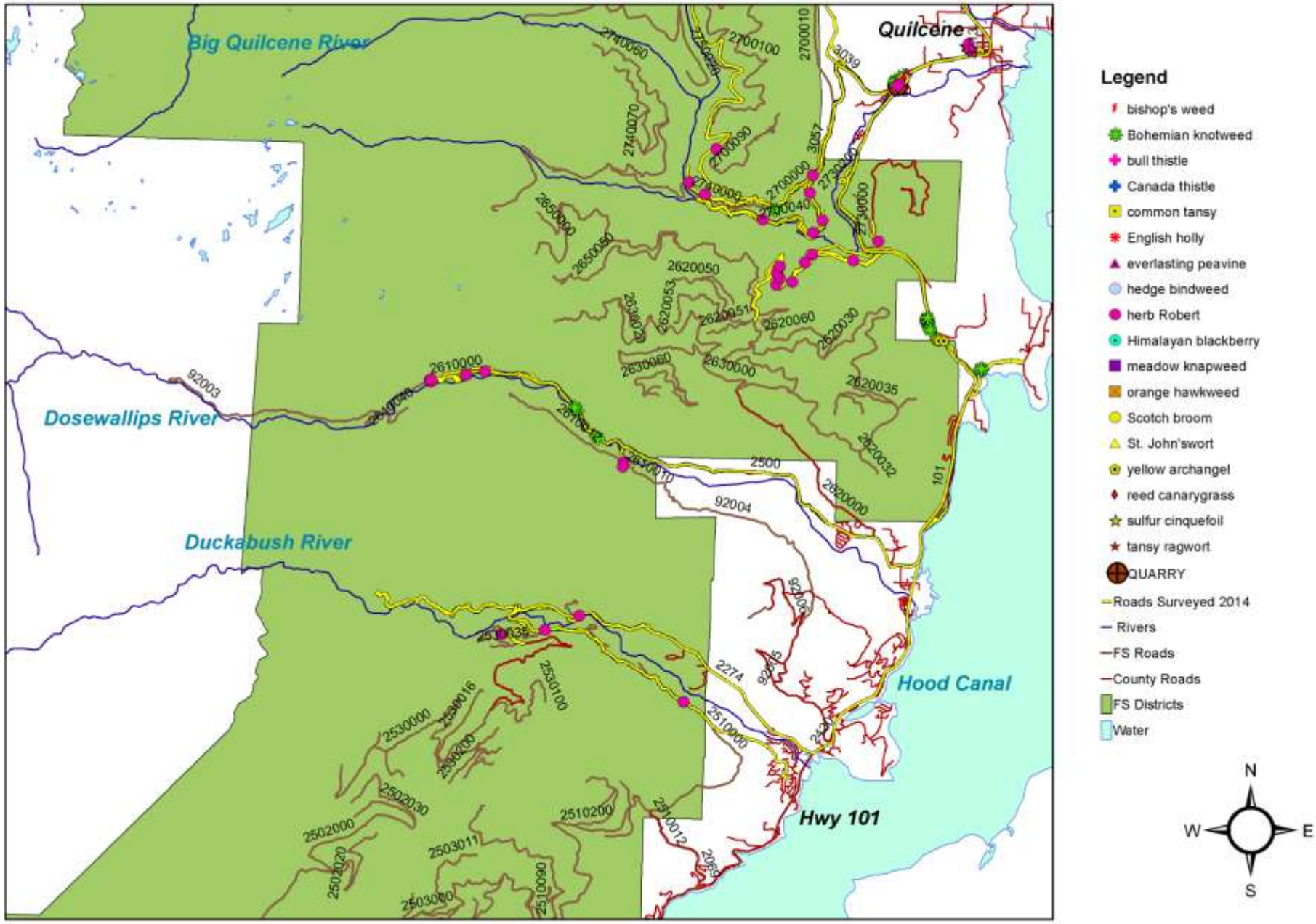
- bull thistle
- Canada thistle
- common tansy
- evergreen blackberry
- herb Robert
- himalayan blackberry
- meadow knapweed
- orange hawkweed
- peavine
- scotch broom
- tansy ragwort
- FS Roads
- Rivers
- Water
- FS Districts

N
W E
S

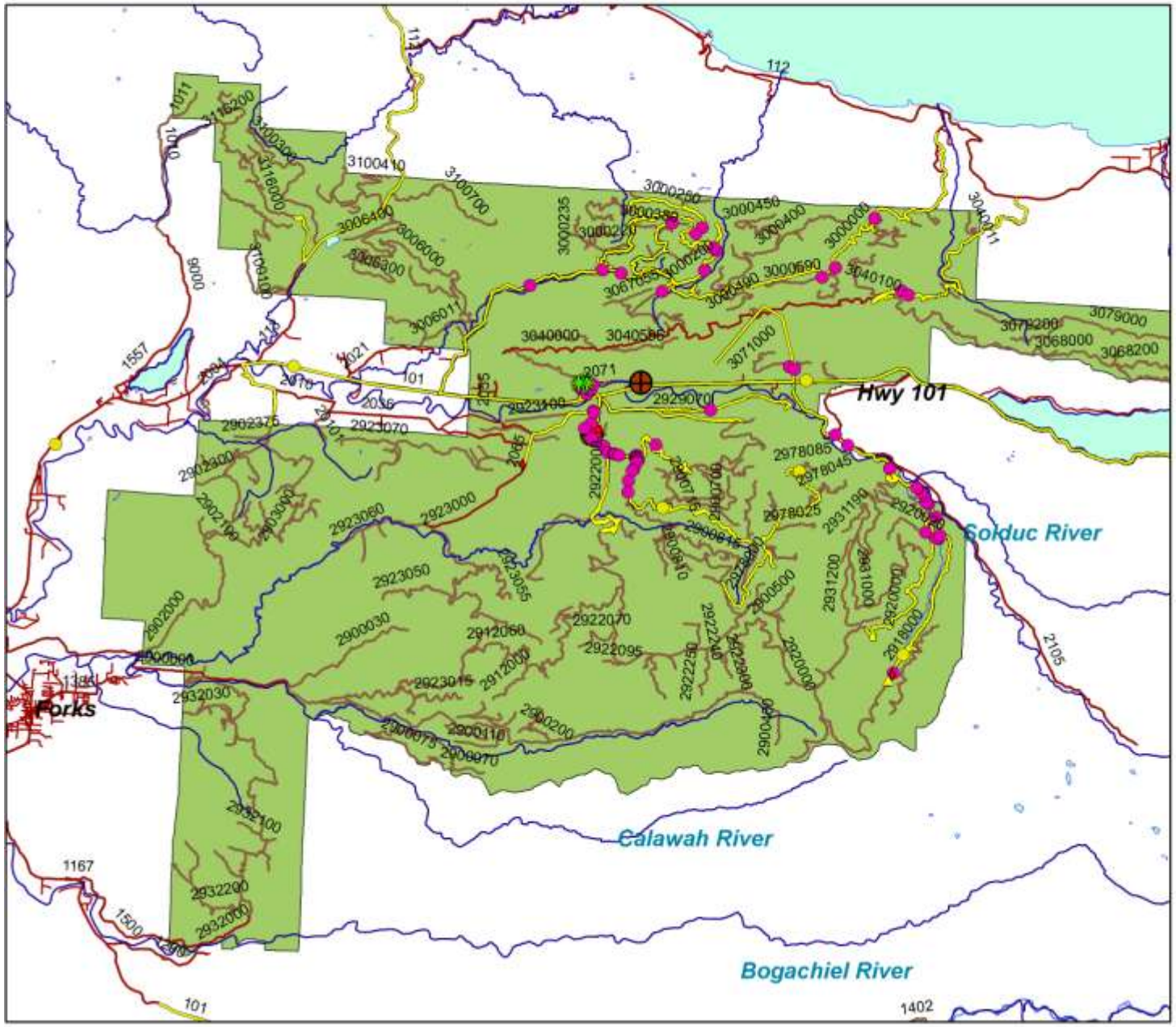
Hood Canal North--Roads Surveyed and New Weed Sites, 2014



Hood Canal South--Roads Surveyed and New Weed Sites, 2014



Pacific North--Roads Surveyed and New Weed Sites, 2014



Project Spotlight: Dosewallips River

Weed Board and PSC crew trek to weed infested gravel bars in the Dosewallips River

The Dosewallips River is one of the largest rivers in Jefferson County. It flows east from the Olympic Mountains into the Hood Canal at the town of Brinnon. It drains approximately 130 square miles and includes close to 132 miles of streams and tributaries. The Dosewallips River supports Chinook, steelhead, and Hood Canal Summer Chum, the last of which is listed as Threatened under the Endangered Species Act.

While the upper portion of the watershed is mainly under federal management, (Forest Service or National Park), the lower portion remains a patchwork of private in-holdings scattered amidst public ownership. Multiple entities have become involved in restoration activities throughout this corridor. In addition to the strong partnership between the Forest Service and Clallam and Jefferson Weed Boards to treat invasives within FS boundaries, the weed boards have sought and received permission from private landowners to treat knotweed since 2006**.** Beginning in 2009 the Hood Canal Salmon Enhancement Group (HCSEG) has sponsored a Washington Conservation Corps to treat knotweed along the Dosewallips. Jefferson County itself has purchased several parcels for conservation purposes. Removing invasives took on additional importance in anticipation of several large scale in-stream restoration projects that began upstream on Forest Service land last year.

For many years, butterfly bush, Scotch broom and tansy ragwort grew unchecked near the mouth of the Dosewallips. One of the owners along this gravel bar remarked that he “had not seen the river in 20 years!” This infestation had grown so densely that it prevented the growth of nearly all native vegetation. Non-profit restoration organizations in the area had long expressed interest in restoring this section of the Dosewallips, but none were ever able to secure sufficient funding to begin clearing the invasives.

In 2013, Washington State Department of Natural Resources, Aquatic Management put several newly formed Puget Sound Corps (PSC) at the disposal of the local Weed Boards to further riparian restoration activities**.** Clearing invasives from the gravel bar seemed like an ideal job for them. This monumental task thus became one piece of a multi-agency, multi-year effort to restore the Dosewallips River.

2014
Pre: Crew clears broom and butterfly bush along south banks and gravel bars in river.

Post: Treated stumps are all that remain. Area cleared last year can be seen across the river.

Removing Scotch broom, butterfly bush and other invasives was but the first step in a plan to restore native vegetation which will improve water quality and create a more suitable habitat for fish. Where landowners are willing, the HCSEG has already allotted funding for this purpose.

Last year, the combined efforts of two full crews for over two weeks yielded a mere 4.25 treated acres and 0.24 protected river miles. This year a single crew returned, but this time to the opposite bank encompassing 15 acres of Washington State Park and DNR land. As time allowed, the crew performed followed-up treatment at last year's sites. This is a prime example of just how difficult invasive removal can be when not treated promptly or in the early stages of invasion.

None of this would have been possible without the assistance of multiple entities including: the Jamestown S'Klallam tribe (which has treaty rights on the river), Hood Canal Salmon Enhancement Group, WA State Parks and Department of Natural resources, Jefferson County water quality and environmental health, the Jefferson and Clallam Weed Boards, in addition to cooperation from private landowners on the river.

This year's work on the Dosewallips was included in our Forest Service report because it exemplifies the power of cooperation and coordination between federal, state, county, non-profit, and private entities. The work occurring up-river under Forest Service auspices, directly affects outcomes downstream. Only by working together can we hope to mitigate invasive plant impacts in our quest to enhance watershed health, increase desirable habitat for fish and wildlife, while improving forest health and recreation. It is clearly both the intent, and the purpose of Title II of the Secure Rural Schools Act to foster relationships that support this kind of restoration progress.

Heavy tansy ragwort infestations were also targeted.

Treated knotweed: Several previously undiscovered patches were discovered amid the jungle of broom and butterfly bush.

POST-SEASON OBSERVATIONS:

Uncommon white clones of Canada thistle illustrated underground connectivity

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

The Forest Service, in consultation with the local Weed Boards, creates an annual work plan identifying high priority sites based on known problems or anticipated needs such as the potential for weed invasion during road decommissioning, thinning, or other forest health and maintenance projects. The NWCB crew treated all **41** high priority projects, **42** additional lower priority projects, and **12** Early Detection sites for a total of **95** projects.

Early detection and rapid response has been shown to be effective. Species, such as ribbon grass, which was found and treated just as it was starting to invade the forest, are more likely to be eradicated. For this reason infrequent high priority species such as orange hawkweed, sulfur cinquefoil and knotweed were specifically targeted in the work plan. All known sites of these species were treated; we found and treated one small orange hawkweed site that was new to us. Teasel which is beginning to spread rapidly in the counties is being detected and treated before it has a chance to gain a foothold. Additionally, a small area of common mullein was noted (for the first time) and treated in the Lower Big Quilcene watershed.

As the significance of invasive plant impacts percolates through the Forest Service as an agency, more prevention strategies are being built into a wide range of Forest Service projects and activities that have potential to act as vectors for weeds: forest management, road to trail conversions, contract and material standards. These new policies are smart, cost effective steps that are already beginning to bear fruit. More private quarry owners ask for inventories in order to qualify as rock sources. We inspected and treated **16** Forest owned quarries in addition to providing certification services free of cost to several privately owned rock pits that are likely to provide material for Forest projects in the future.

Over the past twelve years, weed infestation size, density, and diversity have declined significantly. Long range goals, detailed planning and consistency have been the key to our progress to date. There is still more to be done. Herb Robert has risen to become one of the most problematic invasive species in the Forest. This aggressive weed has a seed bank that is persistent and easily stimulated; light disturbances from thinning and road maintenance activities are having monumental consequences as small infestations are quickly dispersed to harder to reach locations. One of our top priorities should be finding better ways to keep ahead of herb Robert's advance while maintaining the overall gains we have made to date.

Invasive Weed Populations:

- The most commonly recorded invasive species continue to be herb Robert, everlasting peavine, tansy ragwort, Canada thistle, and bull thistle. The most infrequently recorded species are teasel, bishops weed, comfrey, sulfur cinquefoil, common tansy, hawkweeds, knotweed, and sundry exotics found at unique sites such as the Caretaker's Cabin.

- We increased our use of clopyralid for peavine, tansy, knapweed and thistle because of its demonstrated ability to provide excellent long lasting control with little off target damage.
- Scotch broom abundance is minor where treatment has occurred for at least three years.
- Except for a decommissioned road near the Luella Guard Station, there was little meadow knapweed. Single spotted knapweed plants were found along the 2800 road.
- Tansy abundance is down in areas where there has been consistent follow-up, especially in the Dungeness Watershed. There are still sites where little work has yet occurred. Those areas, particularly in Jefferson County, would benefit from treatments.
- The orange hawkweed infestation at the Caretakers Cabin continues to decline-and has stopped spreading-almost none was found this year outside the gate and along the road. The yellow archangel and comfrey are also almost completely gone.
- Although we did find a tiny orange hawkweed site across from the Bonidu Pit, the site up the road is almost completely gone. We do need to check the 3050 next year.
- Small or single canes of knotweed remain in the forest itself. Adjacent properties on the Dosewallips that have knotweed are being addressed-several knotweed small patches that appear to be new, were found on gravel bars near the mouth. It will continue to be important to periodically re-inspect.
- Crew waypointed approximately **12** new sites this year that we treated as EDRR. Other new points were taken for some additional species, like the common mullein and teasel, and the new orange hawkweed which were within an existing project.
- The number and extent of herb Robert infestations remain a top concern. Herb Robert was present on **71** of the **95** projects we treated but we still didn't reach all known sites. Herb Robert was noted to be in 89 of the county assigned projects and 13 more of those for Forest Service. When we monitored sites on the Dosewallips, it was clear that the crews had done an incredibly effective job-it was just as clear from the seedling germination that the seed bank remained extremely robust. We need more resources to combat it.
- There were no contractor projects this year. The Forest Service's weed team, was not available to assist often enough with large, (especially herb Robert) control projects.
- Not having water available at Cranberry Bog slowed us considerably. Crew trekked in on three separate occasions and still did not completely finish. More discussion is needed to proceed with reed canarygrass treatments there.
- On average, the condition of rock sources on FS land is improving. It was disturbing to see that rock had been stockpiled at Lower Caraco Quarry which is still infested with herb Robert. We had no idea the quarry was being used in this manner, or we would have advised against it.
- Small populations of purple loosestrife, yellow, common and European hawkweed, hoary alyssum, hairy willowherb, and common reed are all present on Jefferson and/or Clallam County roadsides. We consider control of all of these plants—as yet unrecorded on Forest Service land (excluding highways)—a high priority to prevent their spread.
- Poison hemlock and wild chervil are still common on roadsides in Jefferson County. Neither has yet been seen on FS land but could easily spread through yard waste dumps or local visitors. Jefferson County has been actively treating wild chervil and expects to do more in the coming year.

Survey, Treatment, and Monitoring

- NWCB crews treated all **42** priority 1A or 1 projects listed for Jefferson/Clallam in the 2014 work plan. An additional **44** priority 2 projects were treated, mainly because of proximity to high priority projects or because they were known herb Robert sites. An additional **89** projects were listed for a crew hired specifically by the Forest Service. The status of those projects is unknown.
- It is clear that adding herbicide tools since 2007 has GREATLY increased productivity. See the Accomplishment Summary Table on Page 4 for comparisons of treated acreage in the first 5 years versus every year after**.** By examining treated acres over the last several years, it appears that 300 acres is about close to the maximum that our small field crew can achieve in any given season.
- The Forest Service deliberately limited the number of 1A and 1 priority projects in the work plan which gave weed board considerable flexibility to adapt priorities. A weed board priority was to identify new, and to treat as many herb Robert sites as possible.
- There were few sites on the project list where hand-pulling alone was an effective use of time.

- The monitoring requirement yields multiple crew benefits; encouraging them to see the effect of their treatments themselves and helps ensure two herb Robert treatments per season.
- The crew noted good grass establishment where we seeded last year. Because it was such a dry year, we did not disperse any additional seed this year. Thank you for creating this opportunity! (see Appendix D for more details)
- FS sponsored WCC assisted for four days this year. This year's timing was much better than in past years. Another excellent crew this year! WCC crew willingness and capacity to spray has greatly increased the productivity of its crew.
- Cooperation between the Weed Boards, the Forest Service and the Port Townsend Municipal Watershed continued to be excellent. The new caretaker is very interested and willing to help with eradicating the invasives there! We met the request of Municipal Watershed managers and provided a report of treatments within the watershed to meet their November 1st reporting deadline and requirements.
- Cooperation between the Forest Service, the County Noxious Weed Control Boards and the East Jefferson WCC Riparian Crew again facilitated knotweed treatments on FS land along the Dosewallips River.

Data Collection/Mapping

- The pre-and post season meetings between the FS and Weed Boards continue to be well organized and helpful.
- The Forest Service provided excellent pre-season planning documents and files. Shape files for previous year treatments were invaluable as was the layer for decommissioned roads. Thank you!
- We were understaffed this year and it shows in our treatment results. Due to hiring processes, we were not able to hire the fourth seasonal as we had hoped. Although two former crew members returned, only one was able to be consistently out in the field, and he did not stay for the entire season. It is possible that there will only be one crew member returning next season. The coordinator will need to set aside extra training time to ensure that next year's team is appropriately trained.

Herb Robert spills over slopes following ground disturbing activities like culvert replacement or thinning operations.

RECOMMENDATIONS:

Future Direction of the Project

The Secure Rural Schools Act has provided the opportunity and impetus to develop a collaborative relationship between the Forest Service and local weed boards to address invasive plant issues. Over the course of this program, we have made remarkable advances both in controlling invasive, detrimental plant species and in creating cooperative relationships with a wide array of entities. The SRSA has not been renewed but there is funding for a small crew in 2015.

The successful adoption of the 2008 EIS, which authorized herbicide use throughout the Olympic National Forest, allows effective treatment of large infestations and certain weed species that do not lend themselves to non-chemical methods. We will continue to consider all control methods, but the most effective treatments for a small CCNWCB crew will likely continue to be a combination of herbicides with other control methods. Future EIS iterations should include consideration of new chemistries that may have even lower toxicity. At the same time, it would be helpful for the Forest Service to investigate changes in buffers restrictions for certain herbicides which end up overly complicating treatments without providing significant benefit to the environment.

Weed Board staff has extensive knowledge ranging from project history and infestation locations to weed identification and best treatment practices. The County Weed Boards have provided a relatively inexpensive, locally based work force with county wide jurisdiction and long term focus. The expertise, flexibility, and locally based weed boards are best suited to identify and control new or small infestations. The working relationship between Weed Board and Forest Service has enabled us to refine and improve many elements of this project over the years. We appreciate the opportunity to provide input on weed control strategy and to help coordinate the Forest Service's weed management plan. Intra-agency invasive species control coordination has not only become increasingly important, but also is more likely to occur. This is a direct legacy of the working relationships created on the Olympic Peninsula during the tenure of the Secure Rural School Act. We hope this spirit of partnership will endure though the Act itself has expired and the funding unpredictable.

Specific recommendations for next year are listed below.

Program Development

- Support research to improve herb Robert control. Look for better methods that provide longer lasting control thereby reducing the number of treatments required in a season. Herb Robert has become our most problematic species.
- Re-engage the Chain Gang with a specific work plan that better aligns with overall invasive species management goals. The Clallam County Chain Gang should be tapped for specific, easily recognized, concentrated weed infestations, such as everlasting peavine.
- Participate in pre- season planning with other land managers and/or contractors to identify needs, pool resources and formulate more cross boundary invasive plant control projects that protect FS resources.

Even perfect treatments fail to stop herb Robert from prolific post season germination when rains return during late fall or winter

- Provide a list of high priority non-FS rock sources and their locations at the beginning of the season so that the Weed Boards can encourage and assist private sources to achieve at least minimum standards BEFORE materials are needed.
- Don't hesitate to include a weed board representative in consultation meetings with NFMS and USFW services. We may have solutions to address potential concerns.
- Please include a list or shape file (per road or project) of species found by other crews that may have worked in our counties.
- Should SRS funding become available in the future, petition to have invasive species control included as a watershed restoration activity, particularly since at least one if not most top priority weeds are primarily habitat threats.
- Seek to add new, low toxicity herbicides such as aminopyralid to the list of approved chemicals and to reduce some of the current buffers that have been imposed. These buffers interfere unnecessarily with our ability to use the full complement of herbicides that are already approved.
- Support through SRS has provided weed control continuity within the Forest and an improved weed control program on Jefferson County lands that are adjacent and directly connected to the Olympic National Forest. Funding from the Forest Service is especially important because allocations from Jefferson County for weed control continue to be insufficient.

Survey and Treatment

- Continue to focus on infrequent, high priority invasives; it's working.
- Herb Robert must be a focus or we will lose the ground we have gained. Imazapyr treatments late season seemed fairly effective. Identify locations where ground disturbance is planned and bare ground expected for this treatment.
- Secure a contractor or additional crew assistance for herb Robert treatments on long, heavily infested roads, especially the 3000 road system. Most are beyond the capacity of local weed boards. Unless longer lasting control methods are discovered, we still recommend at least two treatments per season for several years. Even with two years of very good control on the Dosewallips it was apparent that there is still a considerable seed bank to overcome.
- Target specific peavine and Canada thistle sites in eastern Clallam and Jefferson Counties for clopyralid treatments. Tansy and peavine should be similarly targeted in the Rocky Brook area. Encourage the weed board to seek permission to treat the private pit in the vicinity.
- Jimmy-Come-Lately and Graywolf are likely to have untreated herb Robert sites that have not yet spread widely.
- Re-visit Camp Handy, Heather Creek, Pat's Prairie, Juniper Meadow, Bonidu Meadows and the Caraco Units to check on re-growth.
- Plan for re-seeding. Possibly explore the use of native forb seeds in addition to grassy species? Ask crews to identify areas that would benefit from re-planting to reduce erosion and possible sediment pollution into streams.
- Continue to include a survey component in the work plan. The excellent weather this summer precluded making use of the well developed survey list provided by the Forest Service.
- Re-inspect historic knotweed sites at least every other year because of their known ability to return after years of invisibility.
- A list of potential survey sites that reflects these recommendations is given in Appendix E.

Documentation

- Changes to the FACTS forms continue to be useful and constructive.
- We are not sure of returning crew next year. We need to be sure to spend adequate time acquainting new crew with the documentation process.
- Please continue with the excellent project disc provided at the beginning of the season. Can we work to add shape files of known species to the road maps?

2014 PROTOCOLS

2014 NWCB crew heads to Cranberry Bog

1. **Team and Project Dates**
   This year's project focused almost entirely on treatment, rather than survey. The crew was required to monitor at least 50% of treated acreage in specific watersheds. Cathy Lucero (Clallam County Coordinator), and field technicians Jon Clevenger, Tyler Criswell, Stephen Marsh, and Derek Schmid in various combinations performed treatments. A Port Angeles based Puget Sound Corps (PSC) assisted on several projects adjacent to Forest Service lands; on DNR land along Bear Creek Burnt Hill, and the rest in the Lower Dosewallips 6th field watershed. 2014 Fieldwork began in June and continued through the second week in October.

2. **Invasive Species Recorded**
   Treatment and surveys focused on Class A and B-designate weeds on the Washington State Noxious Weed List (see Appendix I), and additional species that are of concern to the Forest Service. In most cases Class B non-designate, Class C, and other low priority non-native weeds were only documented when an infestation was in a site of particular concern (e.g. a Botanical Area), when the infestation was of notable size, or when a new species was found. Exceptions were made for especially invasive species, such as herb Robert or knotweeds, which threaten undisturbed areas. See Appendix H for a complete listing of species recorded from 2002 to 2014. Treatment and surveys were not intended to target every non-native species.

3. **Survey and Treatment (see Appendix A):**
   The project focus was on treatment of known infestations in specific project areas identified by the Forest Service, often including sites that had received treatment in the past. Survey and treatment of new infestations was also a priority, especially if new sites were seen en route to known sites.
   a. Many known sites are roadside, and are typically surveyed by vehicle. The distance surveyed was measured using a Garmin GPS unit and the area surveyed was calculated using the following formula. Crew made a road specific estimation of how many feet on each side of the road were to be included in the formula.

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

   b. Trailheads, campground parking areas, and gravel pits were surveyed on foot and area surveyed or treated was estimated by using measurement functions on a Garmin GPS unit or by other predetermined figures.
   c. From 2007 through 2012 miles surveyed were estimated from treatment sites (recorded on FACTS forms) and roads taken to get to those treatment sites. Beginning in 2013, surveyed miles **only includes** a single trip on a road, even though it may have been traveled and surveyed many times during the season. Additionally, **only treated** roads documented on FACTS forms were included, **not** additional roads that were viewed on the way to a project.
   d. Small tap rooted weed infestations were often treated manually on rainy days. Seeded plants were dead-headed; heads were bagged and disposed of off-site, during late season treatments.
   e. Herbicide treatments were applied based on guidelines established in the 2008 EIS which allow the use of 10 different herbicides.
      i. A legal notice listing all sites under consideration for herbicide treatment (see Appendix J) was published in the Peninsula Daily News. Herbicide applications were carried out between June 10th and October 16th.

ii. Backpack sprayers were calibrated prior to use on FS lands per federal NPDES standards. A sample calibration sheet and the calibration methodology can be seen in Appendix L.
iii. Foliar herbicide applications were made using 1.5% Element 3A (triclopyr) or Aqua Neat (glyphosate), .39% Transline (clopyralid) and 0.5% Competitor (surfactant).
iv. On-site notices (see Appendix I) were posted prior to treatments and left in place for at least 24 hours afterwards. Treatments in high-use areas such as campgrounds were avoided during busy times (near weekends or holidays), Forest Service recreational personnel were contacted prior to commencing treatment, and sites were posted a week before treatment.

4. Data Collection

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

Forest Activity Tracking Sheet (FACTS)

FACT sheets are used to record treatments in each Reference # site. This form has been modified several times since its introduction causing some confusion and making yearly comparisons difficult. A sample form is shown in Appendix K

Invasive Plant Inventory for Rock Sources

Rock Source Survey, introduced in 2009, is used to track the suitability of quarry material from both public and private sources to meet FS "weed free standards". FS protocols for filling out this form are included in Appendix K along with a sample form.

Invasive Plant Treatment Monitoring

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

Olympic NF Invasive Plant Inventory Data Collection Form NRIS

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

5. Spatial Data Collection and Mapping:

Weed sites were previously mapped in ArcView GIS on a laptop computer by county staff so that a real-time map could be available to the field crew. The shape files produced for that map were retained by the Clallam County Noxious Weed Control Board for use in future fieldwork as necessary. These files are not submitted to the Forest Service because a Forest Service GIS analyst must construct a GIS coverage that coincides with other Forest Service database materials and metadata. Weed Board Protocols for GPS mapping have not been consistent, but are improving. As follows:

a. NWCB crew carries a Garmin 78 pre-loaded with Topo US 24K or a Montana Hunt chip(which identifies owners). The automatic track log function is enabled.
b. Meta data is set to NAD83 Harn, State Plane North 4601, statute feet. Newer Garmin units that don't allow for this projection are set to UTMs, statute feet.
c. Crew is instructed to turn and leave on units, just prior to entering project area.
d. Crew is directed to take waypoints for significant events or sites, such as beginning or end of treatments, new weed locations, or to document named locations such as quarries.

e. Individual weed sites are plotted as points. If there is no existing waypoint, crew marks a location using a pre-designated symbol and then records the four letter plant code and size of infestation in feet in the comment field.
f. New layers are produced post-season showing where treatment occurred. Waypoints and tracklogs were downloaded in the office and converted into shape files through the Minnesota DNR public domain software DNRGarmin version 6.0.0.15.

In previous years, crew documented the waypoint number, the nature of event or species, and road number in a log book. The waypoint may have also been noted on the relevant FACTS sheet. Unfortunately, since 2013, the crew has rarely kept the log book up to date.

6. Data Reporting

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

a. **Appendix A** is the Project Area list or "annual work plan" supplied by the Forest Service at the start of the season, with details of 2014 treatments by acreage, date and species. It is a comprehensive account of work accomplished in 2014.
b. **Appendix B** is summary of this year's rock source inspections and treatments.
c. **Appendix C** is a master list of the roads surveyed and treated since the inception of our SRS, Title II projects. This list shows the amount of survey completed on each road, and totals for each year, as well as the number of weeds pulled manually for each year up to 2006. It also lists the area of treatment, by road, completed from 2007 through 2014, and weed species treated.
d. **Appendix D** shows grass seeding sites and locations
e. **Appendix E** shows weed sites recommended for next season's project area list.
f. **Appendix F is** a brief summary of weed control work in Clallam and Jefferson Counties, off Forest Service lands.
g. **Appendix G** gives control recommendations for each invasive species identified during the course of this project.
h. **Appendix H** is a list of all weed species reported and entered into the NRIS Terra database over the lifetime of this project.
i. **Appendix I** shows the 2014 Washington State Noxious Weed List-, which is updated annually according to WAC Chapter 16-750. Under RCW Chapter 17.10 all non-federal landowners in the state are responsible for controlling or eradicating listed noxious weeds on their property. The control threshold is defined by RCW 17.10 and is determined by the class into which each weed is placed. This same law provides for the formation of the County Noxious Weed Control Boards, and thus the weed control program in Jefferson County that is supported by this project. Federal agencies are required to work with local agencies to meet or match local weed control standards under the Federal Noxious Weed Act amended in 1994
j. **Appendix J** shows examples of a legal notice regarding herbicide use and an on-site posting notice.
k. **Appendix K** shows a sample of all forms used in the project and Forest Service established protocols for filling out each form.
l. **Appendix L** shows a sample record of calibrations performed to comply with federal NPDES requirements. The calibration methodology is also provided,

APPENDIX A: 2014 PROJECT LIST ACTIONS-

This table is based on the Project List developed by the Forest Service, which served as the work plan for Clallam and Jefferson Counties' Noxious Weed Control Boards (CCNWCB and JCNWCB). The list was categorized into Priority 1A, 1, 2, S (survey need), or no priority. This table includes all Clallam and Jefferson Priority 1A and Priority 1 sites; Priority 2 sites are only shown when treated. Sites shown as Early Detection Rapid Response were originally listed as survey, no priority, or were not shown. There were no contractor treated sites this year. Treatments attributed to other crews have been summarized in the Accomplishment Table and marked here in the notes section. Crew abbreviations are as follows: WCC=Washington Conservation Corps, PSC=Clallam Puget Sound Corps, funded by the DNR for aquatic related projects, and WB=Weed board staff.

The table is sorted by road number; smallest to largest. It shows the acreage treated each date the crew was on site, and whether the treatment was manual or chemical. (Re-treatments are identified with green shading and total **26.6** acres)**. Re-treatments** are noted to account for the work, but **are not included** in the **Acres Treated** column; in order to be consistent with previous year protocols. Therefore, we are reporting **232.2** total acres treated, manually or chemically.

All of the Priority **1A and 1** sites listed in our work plan **were treated at least once**. Any missed would have been are highlighted in blue and would be called out for treatment in 2015. ED/RR sites requested mid-season by FS staff or newly discovered and treated (**12**), are highlighted in red. The table summarizes each visit to a specific project this year.

Note the ***Acres Monitored*** *column*. FS requests that we monitor at least 50% of our treatments. Generally crew re-treated remaining plants after monitoring. Often re-treatment post monitoring was not documented by crew; re-treatments are therefore likely to be under-reported. We managed to monitor **152.25** acres this year, **41** acres above the 50% goal.

In the *Species Treated* column, we recorded only those species we found and treated on each site. High priority species have been **bolded** in this column. The *Species Treated* column does not necessarily list species noted by the crew or FS in prior years. *Our Comments* column notes high priority species not previously mentioned, or not found this year as well as areas that had poor access that limited their ability to treat.

This year we focused on the sites with the least frequent high priority weeds such as orange hawkweed, yellow archangel, knotweed, and knapweeds in addition to as many herb Robert sites as possible.

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
117	1	Middle Sol Duc River		2071000	1.2	0.8	~		Herbicide Element 3A	24	8/19/14	**GERO POBO**	
299	1	Lower Dosewallips River	**Dose Road (see notes)**	2500000	4.6	1.6			Herbicide Element 3A Polaris	28.5	7/28/14	CIAR, CIVU, CYSC, **GERO**, HYPE **POBO**, SEJA	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
309	1	Lower Duckabush River		2510000	12	8.4		7.4	Herbicide Element 3A AquaNeat	91	7/29/14	CIVU, CIAR, **GERO** HYPE, RULA, PHAR, SEJA	
309	1	Lower Duckabush River		2510000	12		2		Herbicide Element 3A	18	9/18/14	CIVU, **GERO**, HYPE	
757	2	Lower Duckabush River	**Big Hump Fire Trail Corridor**	2510000	5.5				Manual		8/12/14	CIVU	
452	1	Lower Duckabush River		2510060	0.3	0.2		0.2	Herbicide Element 3A	1	7/29/14	HYPE, SEJA	
453	1	Lower Duckabush River		2510065	2	1.7		1.7	Herbicide Element 3A	24	7/29/14	CIVU, **GERO**, HYPE	
310	1	Lower Duckabush River	**Collins CG**	2510070	6.7	4.3		4.3	Herbicide Element 3A AquaNeat	110	8/4/14	**GERO** HYPE, RUAR, SEJA	
310	1	Lower Duckabush River	**Collins CG**	2510070	1		1		Herbicide Element 3A	16	10/1/14	**GERO**, HYPE, RUAR, SEJA	
312	2	Lower Duckabush River		2530000	1.7	1.3			Herbicide Element 3A	10	8/4/14	**GERO**, HYPE, SEJA	
298	1	Lower Dosewallips River		2610000	4	3.2		3.2	Herbicide Element 3A	102	7/28/14	CIVU, **GERO,** HYPE **POBO**, RULA, SEJA	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
298	1	Lower Dosewallips River		2610000	2	2		2	Herbicide Element 3A	60	7/30/14	**GERO**	
298	1	Lower Dosewallips River		2610000	5	1.5		1.5	Herbicide Element 3A	12	7/31/14	CIAR, CIVU, **GERO**, HYPE, SEJA	
768	1	Lower Dosewallips River	**Lower Dosewallips River Riparian Area**	2610000	6.5	6.5		6.5	Herbicide Element 3A AquaNeat	324	7/30/14	CIAR, CIVU, CYSC, **GERO,** HYPE, SEJA	
768	1	Lower Dosewallips River	**Lower Dosewallips River Riparian Area**	2610000	15	6.2		5.5	Herbicide Element 3A Polaris	123	7/31/14	CIVU, **GERO**, HYPE **POBO**, SEJA	
768	1	Lower Dosewallips River	**Lower Dosewallips River Riparian Area**	2610000	9	7		7	Herbicide Element 3A		8/4/14	**GERO**	
768	1	Lower Dosewallips River	**Lower Dosewallips River Riparian Area**	2610000	9	8		8	Herbicide Element 3A AquaNeat	90	8/5/14	**GERO**	
768	1	Lower Dosewallips River	**Lower Dosewallips River Riparian Area**	2610000	3.4		3.4		Herbicide Element 3A	18	10/1/14	**GERO**, CIVU, SEJA	
631	2	Lower Dosewallips River		2610000	5							**GERO**	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
758	1	Lower Dosewallips River		2610010	6	5.9			Herbicide Element 3A	144	8/5/14	**GERO**	
319	2	Spencer Creek/Maple Creek	**Seal Rock CG**	2610200	2.5	1.01			Manual		6/11/14	CYSC **GERO**, HYPE, SEJA	
295	2	Lower Big Quilcene River		2620000	5	1.7		1.7	Herbicide Element 3A	48	7/15/14	CIAR, CIVU, CYSC, **GERO**, HYPE	
295	2	Lower Big Quilcene River		2620000	1	0.5			Herbicide Element 3A	6	9/26/14	CIAR, CIVU, CYSC, **GERO**, HYPE, DIPU	
295	2	Lower Big Quilcene River		2620000	3.6	1			Herbicide Element 3A	18	9/25/14	CIAR, DIPU, **GERO**, HYPE, SEJA	
289	1	Lower Big Quilcene River		2700000	2.2	1			Herbicide Element 3A	16	6/19/14	CIAR, CIVU, **GERO**, SEJA	
289	1	Lower Big Quilcene River		2700000	2	1.1			Herbicide Element 3A	30	7/14/14	CYSC, **GERO**, HYPE, SEJA	
289	1	Lower Big Quilcene River	**(spur 100 feet north of 2740/2700 junction)**	2700000	0.2	0.1			Herbicide Polaris		7/15/14	PHAR, **POBO**	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
455	ED RR	Upper Big Quilcene River		2700000	6.5	5.5			Herbicide Element 3A	28	6/19/14	CIAR, CIVU, CYSC, **GERO**, SEJA	Found 2 new small GERO infests while following up on 7.2 mp site
590	1	Lower Big Quilcene River	**PT Muni WS caretakers cabin**	2700040	2	1.8		1.8	Herbicide AquaNeat		6/11/14	**GERO**, **HIAU**, **LAGA**, PHAR, SEJA	
590	1	Lower Big Quilcene River	**PT Muni WS caretakers cabin**	2700040	1.5		1.5		Herbicide Element 3A	4	10/6/14	**GERO, HIAU, LAGA**, PHAR, SEJA	
462	2	Lower Big Quilcene River		2700040	7	3.6		3.6	Herbicide Element 3A	168	6/30/14	CIVU, **GERO,** HYPE, SEJA	
462	2	Lower Big Quilcene River		2700040	3.6	2.8			Herbicide Element 3A	60	7/14/14	CIVU **GERO,** HYPE, SEJA	
462	2	Lower Big Quilcene River		2700040	6.5		4		Herbicide Element 3A	28	10/6/14	CIVU, **GERO**, HYPE, SEJA VETH	
462	2	Lower Big Quilcene River		2700040	1.6		1.6		Herbicide Element 3A	28	10/7/14	CIVU, **GERO**, HYPE, SEJA	
767	1	Lower Big Quilcene River	**Lower Big QuilceneTrail**	2700080	2.7	0.3			Herbicide Element 3A	12	6/11/14	CIUV, **GERO**	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
296	2	Lower Big Quilcene River		2700080	0.5	0.5			Herbicide Element 3A	24	7/15/14	CIAR, **GERO**, HYPE, LALA, SEJA	
292	2	Lower Big Quilcene River	**Falls View CG**	2730200	3	1.1		1.1	Herbicide Element 3A	50	8/6/14	CIVU, **GERO**, HYPE, ILAQ, SEJA	
292	2	Lower Big Quilcene River	**Falls View CG**	2730200	6		0.5		Herbicide Element 3A	4	9/18/14	**GERO**, CIVU, CIAR	
285	1A	Lower Big Quilcene River	**Quilcene office compound**	2730300	3	1		1	Herbicide Element 3A	20	8/5/14	CIAR, CIVU, CYSC, **GERO**, RUAR, RULA, SEJA	
285	1A	Lower Big Quilcene River	**Quilcene office compound**	2730300	5		3	5	Herbicide Element 3A	11	9/29/14	**GERO, PORE**, SEJA	
285	1A	Lower Big Quilcene River	**Quilcene office compound**	2730300	5		3	5	Herbicide Element 3A	22	9/25/14	**GERO, PORE**, SEJA	
198	2	Little Quilcene River		2800000	2.4	1.2			Herbicide Element 3A	8	10/7/14	**CEJA, GERO**, LALA, SEJA, TAVU	
194	ED RR	Little Quilcene River	**Bon Jon Quarry**	2800000	1.2	0.5			Herbicide Element 3A	1	10/7/14	HYPE, LALA, SEJA	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
107	ED RR	Middle Dungeness River		2800000	1.5	1.5			Herbicide Element 3A	28	8/20/14	**CEJA, CEST**, CIVU, SEJA	
195	1	Little Quilcene River		2800010	4.7	3.7		3.7	Herbicide Element 3A	252	6/25/14	**GERO**, CIVU, CIAR	
195	1	Little Quilcene River		2800010	2.6		1.5		Herbicide Element 3A	10	10/7/14	**GERO**, SEJA	
101	1	Middle Dungeness River	**Lost Pit (aka Canine Pit)**	2800130	4.5	1.2			Herbicide Element 3A	27	8/20/14	CIAR, CIVU, CYSC, **GERO,** HYPE, LALA	
108	2	Middle Dungeness River		2800130	2	2			Herbicide Element 3A	16	8/20/14	**CEJA,** CIAR, CIVU, CYSC, SEJA	2 beautiful meadows full of Canada thistle-treated
109	2	Middle Dungeness River		2800132	0.6	0.6			Herbicide Element 3A	1	8/20/14	CIAR, CIVU, SEJA	
75	2	Jimmy-come-lately Creek	**Louella Work Center**	2800350	1	0.5			Herbicide Element 3A	2	8/20/14	CIAR, **CEJA**, HYPE, LALA, SEJA	
65	2	Jimmy-come-lately Creek		2800351	1.5	.1			Herbicide Element 3A	2	8/20/14	CEDE	
58	1A	Jimmy-come-lately Creek	**Louella Rock pit**	2800351	1.03				Herbicide Element 3A	1	8/20/14	CEDE CIVU SEJA	Very clean

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
	ED RR	Jimmy-come-lately Creek		2800353	1.1	1.07			Herbicide Element 3A	18	8/20/14	CEDE CIAR GERO LALA SEJA	Sort of blocked road-needs follow-up
80	1	Jimmy-come-lately Creek		2840034	2.5	1			Herbicide Element 3A	14	9/11/14	CIAR, CIVU, **GERO**	
62	2	Jimmy-come-lately Creek	**Wolf Quarry 2**	2840120	0.84	0.1			Herbicide Transline Polaris	0.25	10/16/14	CIVU, **GERO**, SEJA	
148	2	Snow Creek/Salmon River		2845073	0.1						10/16/14	CIAR, CIVU, CYSC, LALA, SEJA	
61	2	Jimmy-come-lately Creek	**2845073 spur pit (Loop pit)**	2845073	1						10/16/14	CIAR, CIVU, SEJA	
84	ED RR	Jimmy-come-lately Creek		2850000	1.4	1.2			Herbicide Element 3A	12	8/14/14	CIAR, CIVU, CYSC, **GERO**, ILAQ, HYPE, SEJA	
63	ED RR	Jimmy-come-lately Creek		2855000	1.9	1.7			Herbicide Element 3A	12	8/14/14	CIAR, CIVU, **GERO**, SEJA, HYPE	
64	2	Jimmy-come-lately Creek	**2855070**	2855070	3.4	3			Herbicide Element 3A	36	8/14/14	**CEDE**, CIVU, CYSC, **GERO**, HYPE, LALA, SEJA	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
60	1A	Jimmy-come-lately Creek	**Raccoon Pit**	2855070	1.7	1.6			Herbicide Element 3A	54	8/14/14	CIAR, CIVU, CYSC, **GERO**, HYPE, LALA, SEJA	
112	2	Middle Dungeness River	**2860 road and Old East Crossing CG**	2860000	0.25	0.1			Herbicide Element 3A	2	9/22/14	**GERO**, RUAR	
19	2	Canyon Creek /Pats Creek	**Lower Caraco Quarry**	2870000	1	0.5			Herbicide Element 3A	24	9/17/14	CIAR, CIVU**,** **CEDE**, DACA, **GERO**	
19	2	Canyon Creek /Pats Creek	**Lower Caraco Quarry**	2870000	1	0.5		0.5	Herbicide Element 3A	12	9/11/14	CIAR, CIVU, **CEDE,** DACA, **GERO**	
160	2	Upper Dungeness River	**UPPER DUNGENESS RIVER**	2870000	1.8	1.4			Herbicide Element 3A	18	7/1/14	CIAR, CIVU, CYSC, **GERO**, LALA4	
32	2	Canyon Creek /Pats Creek	**unnamed gravel pit**	2870000	2	1			Herbicide Transline Polaris	15	10/16/14	CIAR, CIVU, **CEDE**, CYSC, DIFU, LALA, **PORE,**	
11	2	Canyon Creek /Pats Creek		2870050	3	0.5			Herbicide Element 3A	18	9/17/14	CIAR, CIVU, **GERO**, HYPE	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
14	2	Canyon Creek /Pats Creek		2870053	2.7	1.2			Herbicide Element 3A	8	8/11/14	**CEDE**, CIAR, CIVU, HYPE	
15	2	Canyon Creek /Pats Creek		2870056	1.1	0.7			Herbicide Element 3A	6	8/11/14	CIAR, CIVU, **GERO** HYPE	
18	2	Canyon Creek /Pats Creek		2870059	1	0.8			Herbicide Element 3A	12	8/11/14	CIAR, CIVU, CYSC, **GERO**, HYPE	
18	2	Canyon Creek /Pats Creek		2870059	1						9/17/14	CIVU, **GERO**	
10	1A	Canyon Creek /Pats Creek	**Cranberry Bog**	2870059	2	1			Herbicide Element 3A	32	9/17/14	CIAR, CIVU, **GERO**	
10	1A	Canyon Creek /Pats Creek	**Cranberry Bog**	2870059	0.5	0.5			Herbicide Element 3A	16	9/30/14	CIAR, CIVU, **GERO**	
10	1A	Canyon Creek /Pats Creek	**Cranberry Bog**	2870059	2	1.5			Herbicide Polaris		10/16/14	CIAR, CIVU, **GERO**	
586	2	Lower Gray Wolf River	**Armpit quarry**	2870150	1	1			Herbicide Polaris		9/17/14	CIAR, CIVU, LALA	
36	S	Lower Gray Wolf River		2870150	0.6	0.2		0.2	Herbicide Polaris		9/17/14	CIVU,LALA, SEJA	
5	2	Canyon Creek /Pats Creek	**Canyon Pit**	2875000	3.8	3.8			Herbicide Element 3A	10	8/11/14	**CEDE,** CIAR, LALA, RUAR	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
27	1	Canyon Creek /Pats Creek		2875020	0.25	0.1			Herbicide Element 3A	2	9/11/14	**CEJA**, CIAR, CIVU	
28	1	Canyon Creek /Pats Creek		2877040	0.25	0.1			Herbicide Element 3A	2	9/11/14	**GERO**	Rd covered in dirt and fallen timber- treated at existing wpt.
840	1	Canyon Creek /Pats Creek	**Slab Camp / Deer Ridge TH**	2878000	1	0.3			Herbicide Element 3A	1	6/12/14	CIVU, **GERO**	
26	2	Canyon Creek /Pats Creek		2878000	2.4	1.2			Herbicide Element 3A	1	6/12/14	CIAR, **GERO**, HYPE, LALA, SEJA	
26	2	Canyon Creek /Pats Creek		2878000	0.1	0.01			Herbicide Polaris Manual		10/16/14	**AEPO**	
29	1	Canyon Creek /Pats Creek		2878100	1.5	0.5			Herbicide Element 3A	4	9/11/14	CIAR, CIVU, LALA	
42	2	Canyon Creek /Pats Creek		2878120	1.2	1.2			Herbicide Element 3A Transline	103	6/12/14	CIVU, **GERO**, LALA, CIVU	
20	2	Canyon Creek /Pats Creek	**Ned Hill Quarry**	2878123	1	0.25			Herbicide Transline Polaris	1	10/16/14	CIVU, LALA, CYSC	
94	2	Lower Gray Wolf River	**Dungeness Forks Campground**	2880050	14.25	8		8	Herbicide Element 3A	174	7/8/14	CIAR, CIVU, **GERO**	
94	2	Lower Gray Wolf River	**Dungeness Forks**	2880050	3	1			Herbicide Element 3A	24	9/22/14	**GERO**	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
			Campground										
94	2	Lower Gray Wolf River	**Dungeness Forks Campground**	2880050	12.5	4			Herbicide Element 3A	48	9/30/14	**GERO**	
136	2	North Fork Calawah River		2900000	4.2	4		4	Herbicide Element 3A AquaNeat	130	6/26/14	CIVU CYSC **GERO** HYPE PHAR SEJA	
136	2	North Fork Calawah River		2900000	2		0.5		Herbicide Element 3A	8	9/15/14	**GERO**	
136	2	North Fork Calawah River		2900000	5.61	3		3	Herbicide Element 3A AquaNeat	108	7/2/14	CIVU, CYSC, **GERO HIAU,** PHAR	
136	2	North Fork Calawah River		2900000	3.6	1		1	Herbicide Element 3A	30	7/3/14	CIVU, CYSC ,**GERO, HIAU**, PHAR	
174	2	Upper Sol Duc River		2900000	3.9	3		3	Herbicide Element 3A	110	6/23/14	**GERO**, CIVU, HYPE, SEJA	
174	2	Upper Sol Duc River		2900000	2		0.5		Herbicide Element 3A	8	9/15/14	**GERO**	
165	1A	Upper Sol Duc River	**Bonidu Pit**	2900000	6.3	5	1	5	Herbicide Element 3A AquaNeat	54	6/10/14	CIAR, CIVU, CYSC, **GERO**, HYPE	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
165	1A	Upper Sol Duc River	**Bonidu Pit**	2900000	1	1		0	Herbicide Element 3A	4	6/23/14	**GERO**, CIVU, HYPE, SEJA	
176	ED RR	Upper Sol Duc River		2900960	0.75	0.25		0.25	Herbicide Element 3A	16		**GERO HIAU**	near Bonidu Pit-new HIAU site-just little bit, plus GERO
166	1A	Upper Sol Duc River	**Klahowya CG**	2900990	10				Manual		6/16/14	CIVU CYSC , **GERO**	
166	1A	Upper Sol Duc River	**Klahowya CG**	2900990	2	0.5			Herbicide Element 3A	4	6/26/14	CIVU, **GERO**, ILAQ	
588	1	Bockman Creek	**Bockman Pit**	2902000	1	0.5			Herbicide Element 3A	8	9/15/14	CIAR, CIVU, CYSC	
177	1	Upper Sol Duc River		2918000	4.8	0.5		0.5	Herbicide Element 3A	12	6/17/14	CIVU, CYSC, **GERO**	
177	1	Upper Sol Duc River		2918000	2	0.3			Herbicide Element 3A	8	7/3/14	CIAR, CIVU, **GERO**, HYPE	
54	2	Headwaters Sol Duc River		2918000	4	0.2			Herbicide Element 3A	1	6/17/14	CIVU, CYSC, **GERO**, SEJA	
54	2	Headwaters Sol Duc River		2918000	4	1.5			Manual		6/17/14	CIVU, CYSC, **GERO**, SEJA	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
412	ED RR	Headwaters Sol Duc River		2918000	4	0.2			Herbicide Element 3A Manual	1	6/17/14	CIAR, CIVU, CYSC, **GERO**, HYPE, PHAR	treated broom beyond washout, found/treated new GERO patch
XXX	ED RR	Headwaters Sol Duc River		2920000	0.5	0.3	0.3		Herbicide		7/3/14	**GERO**	
55	2	Headwaters Sol Duc River		2920000	6	1.7			Manual		6/17/14	CIVU, **GERO**, SEJA	GERO has crossed bridge- impassable after 5.6 miles
55	2	Headwaters Sol Duc River		2920000	0.5	1.1			Herbicide Element 3A Manual	9	6/18/14	CIVU, **GERO**, SEJA	
55	2	Headwaters Sol Duc River		2920000	1	0.4	0.4		Herbicide Element 3A	2	7/3/14	**GERO**	
52	ED RR	Headwaters Sol Duc River		2920020	2.1	1		1	Herbicide Element 3A	3	6/17/14	**GERO**	1st time sighting of GERO- spreading from ecobarrier/ culvert
133	1A	North Fork Calawah River	**Grindstone Pit**	2923070	1.2	0.5		0.5	Herbicide Transline		6/10/14	CYSC, HYPE, PHAR, LALA	
613	1	Upper Sol Duc River		2929000	3.7	0.9			Herbicide Element 3A	12	7/2/14	CIVU, CYSC, **GERO**	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
178	1A	Upper Sol Duc River		2929000	4.1	1.5			Herbicide Element 3A	10	8/18/14	CIVU, CYSC, **GERO**, HYPE, RUAR	
170	1A	Upper Sol Duc River		2929070	4	0.251			Herbicide Element 3A AquaNeat	1	6/10/14	**GERO**, RULA	
168	2	Upper Sol Duc River	**Tom Creek Pit**	2931000	11	0.04			Herbicide		6/18/14	**CEJA**, CIVU, CYSC, HYPE, PHAR	
XXX	ED RR	Upper Sol Duc		2978000	2	0.7			Herbicide Element 3A	18	8/13/14	CYSC	
116	1	Middle Sol Duc River		3000000	3.6	2.5		2.5	Herbicide Element 3A	118	7/21/14	CIVU, CYSC, **GERO**, LALA	
116	1	Middle Sol Duc River		3000000	11	9.5		9.5	Herbicide Element 3A	180	7/22/14	CIVU, CYSC, **GERO**, LALA	
116	1	Middle Sol Duc River		3000000	8	6.2		6.2	Herbicide Element 3A	170	7/16/14	CIVU, CYSC, **GERO**, HYPE SEJA	
187	1	West Twin River		3000000	4.3				Manual		7/23/14	CIVU, CYSC, GERO, SEJA	
47	1A	Deep Creek		3000000	2	1		1	Herbicide Element 3A	48	7/7/14	CIVU, CYSC, **GERO**	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
47	1A	Deep Creek		3000000	9.6	4.6		4.6	Herbicide Element 3A	120	7/17/14	CIVU, CYSC, **GERO**	
126	1	Middle Sol Duc River		3000200	4.3	1.5			Herbicide Element 3A	56	10/2/14	CYSC, **GERO**, SEJA	
43	1A	Deep Creek		3000200	2	1.6		1.6	Herbicide Element 3A	120	7/7/14	CIVU, **GERO**, HYPE, SEJA	
43	1A	Deep Creek		3000200	6	3.2		3.2	Herbicide Element 3A	150	7/9/14	CIVU, CYSC, **GERO**, HYPE, LALA, RULA	
43	1A	Deep Creek		3000200	6	4.5	0.8	4.5	Herbicide Element 3A	108	8/21/14	CIVU, CYSC, **GERO**, HYPE, LALA,	
43	1A	Deep Creek		3000200	8.5		1.6	1.6	Herbicide Element 3A Polaris	66	9/16/14	**GERO**, CIVU, HYPE	
43	1A	Deep Creek		3000200	1	0.8		0.8	Herbicide Element 3A	52	8/25/14	**GERO**, HYPE	
144	2	Pysht River		3000215							7/8/14	**GERO**, RULA	
44	1A	Deep Creek		3000250	1.6	1			Herbicide Element 3A	42	8/21/14	CIVU, CYSC, **GERO**, LALA	
44	1A	Deep Creek		3000250	3.8	2.3			Herbicide Element 3A	90	7/10/14	CIVU, CYSC, **GERO**, HYPE	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
128	1	Middle Sol Duc River		3000300	3	2		2	Herbicide Element 3A	36	8/7/14	CIVU, CYSC, **GERO**, HYPE, SEJA	
128	1	Middle Sol Duc River		3000300	2.2	1.7		1.7	Herbicide Element 3A	48	8/18/14	CYSC, **GERO**	
732	1	Deep Creek		3000300	0.6	0.6		0.6	Herbicide Element 3A	24	8/7/14	CIVU, **GERO**, HYPE, SEJA	
192	S	West Twin River		3000800	0.7				Manual		7/23/14	**GERO**	
49	2	East Twin River		3040000	9.6	4.6		4.6	Herbicide Element 3A	120	7/17/14	CIAR, CIVU, **GERO**, SEJA	
119	2	Middle Sol Duc River		3040000	3.5	2			Herbicide Element 3A	48	9/8/14	**GERO** **POBO** RUAR	
118	1	Middle Sol Duc River	**Snider Work Center**	3040800	2	1.5		10.7	Herbicide Element 3A	30	8/18/14	ARMI, CIAR, CIVU, CYSC, **GERO**, HYPE, ILAQ, LALA, PHAR, P**OBO** RUAR, RULA	

Ref #	Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (oz)	Date	Species	Notes
118	1	Middle Sol Duc River	**Snider Work Center**	3040800	10	7			Herbicide Element 3A	192	8/19/14	CIVU, CIAR, CYSC, **GERO**, LALA, PHAR, **POBO**	
118	1	Middle Sol Duc River	**Snider Work Center**	3040800	1	0.4			Herbicide Element 3A	6	9/8/14	CIAR, **POBO** RUAR	
612	2	Upper Sol Duc River	**Mt. Muller TH gravel pile**	3071000	1	0.3			Herbicide Element 3A	2	6/26/14	CIVU, **GERO**, HYPE, LALA, RUAR	
173	2	Upper Sol Duc River	**Littleton Horse Camp gravel pit**	3071000	0.8	0.5			Herbicide Element 3A	2	6/26/14	CIVU, CYSC, **GERO**, HYPE, LALA, SEJA	
			TOTALS		483.94	222.45	26.60	152.25		5169			

APPENDIX B: ROCK SOURCE SURVEYS AND TREATMENT

16 FS rock sources were inspected and treated, an additional one was surveyed only**.**
Dates, treated species, and suitability are given here. Rock Source Index numbers and codes, when available, have been added because they are helpful when locating pits. A rock source inventory provided by the FS in 2008 indicates there are over 90 rock sources in the Olympic within Jefferson and Clallam counties. As the Forest Service prepares for future harvest and road building, we recommend incorporating more rock source survey/treatments into the work plan next year so that these sources are ready for use when needed. Two private rock sources were inspected for weeds. Additional private sources have been inspected within the last two years. These are shown after the FS-owned sources.

New stock pile has been left in the herb Robert-infested Lower Caraco Pit fueling concern over potentially spreading contaminated rock.

Some color coding has been added to indicate at a glance, Forest Service rock source standard, and thus suitability, each rock source achieved this year. Green shading indicates currently suitable, yellow indicates some caution should be used, red indicates currently not suitable. Grey indicates rock source indicated on the work list but slated for inspection by a non-weed board crew.

Name	RSI	RSI Code	Road	Ref. #	Priority	Weeds	Date	Treatment Type/Suitability	Acres Treated
Armpit Quarry		28701500.4	2870150	586	2	CIAR, CIVU, LALA	9/17/14	Chemical meets standard B-treat LALA along road.	1
Bockman Pit	76	29020009.2	2902	588	1	CYSC, SEJA	9/5/14	Chemical meets standard B	0.5
Bonidu Pit	8	290000037.2	2900	165	1A	CYSC4, CIVU, HYPE **GERO**	6/5/14, 6/23/14	Chemical meets standard C- considerable GERO but not in main body. Be careful!	5.5
Bon Jon Quarry		260000004.5	2600	194		HYPE, LALA, SEJA	10/7/14		.5
Calawah Pit	133	290001500.1	2900	152	1A	**GERO**, CYSC4, **HIAR,** HYPE, LALA PHAR3, **POBO**, RUAR, SEJA	Nt Treated by CCNWCB in 2014-9/4/13	Status Unknown	0.8
Canyon Pit	139	287500001.4	2875000	5	2	**CEDE5**, CIVU CIAR,LALA	8/11/14	Chemical not suitable	3.8

Name	RSI	RSI Code	Road	Ref. #	Priority	Weeds	Date	Treatment Type/Suitability	Acres Treated
Grindstone Pit	122	292307000.1	2923070	133	1A	CIVU, CYSC, PHAR3	6/10/14	Chemical meets requirements	.5
Littleton Horsecamp stockpile		307100000.0	3017000.3	173	2	**GERO**, HYPE, LALA	6/26/14	Chemical meets requirements- minimal GERO, all removed	0.5
Loop Quarry aka-spur (unnamed) Pit		284507300.9	2845073	61		CIAR, CIAR, SEJA,	10/16/14	Survey only no CEDE found, SEJA along rd, HYPE on back loop, minor GERO previously found beyond quarry	0.0
Louella Rock Pit		280036000.4	2800351	58	1A	CEDE5, CIVU, CIAR, HYPE	8/20/14	Chemical meets requirements	0.03
Lost Pit (a.k.a Canine Pit)		Nt correctly listed	2800130.6	101	1A	CIAR4, CYSC4, **GERO**, HYPE, LALA, SEJA	8/20/14	Chemical meets requirements- **GERO** behind biggest mound in woods	1.2
Lower Caraco Quarry	144	287000001.0	2870000	19	2	**GERO** SEJA CIVU CEDE4	9/11/14 9/17/14	Chemical not suitable largely because of GERO –careful of storing material here!	.5
Mt Mueller TH Gravel Pile		307100000.3	3071000.3	612	2	CIVU, CYSC4, **GERO**, HYPE, LALA, SEJA	6/26/14	Chemical meets requirements-GERO plants removed	0.3
Ned Hill Quarry (aka Sandstone Quarry)	138	287812500.5	2878125	20	2	LALA4 CIVU CIAR4, CYSC	10/16/14	Chemical meets standard B	.01
Raccoon Pit		285507001.3	2855070	60	1A	CIAR4, CIVU, CYSC4,**GERO**, HYPE, LALA4, SEJA,	8/14/2014	Chemical not suitable	1.5
Tom Creek Pit	51	293100000.2	2931	168	2	**CEDE5**, CIVU, DIPU,HYPE PHAR3	6/17/14	Chemical meets requirements-single CEDE5 removed	0.01
Unnamed Gravel Pit		Nt known	Junction 2878 X 2870	32	2	**CEDE5** CIAR, CYSC, DIFU,HYPE, LALA, **PORE**, RUAR/RULA	10/16/14	Chemical Not suitable-don't use south half-PORE, CEDE5, single DIFU	.75

Name	RSI	RSI Code	Road	Ref. #	Priority	Weeds	Date	Treatment Type/Suitability	Acres Treated
Wolf Quarry 2		28401200.3	2840120	62	2	CIVU, **GERO**, SEJA	10/16/14	Chemical Meets requirements-GERO on roadside, down bank	.1
Private Quarries									
Hillcar-Fletcher Quarry		Private	US 110			CIVU, CYSC, HYPE, RUAR	5/31/12	2012 last visit, excellent condition- have checked this quarry for yrs-owner very co-operative	
Snider Quarry		Private	252 E Snider Rd. off US101-35 m west of Port Angeles			CASE, CYSC, GERO, ILAQ	6-2-14	Minor GERO seedlings all removed at time of inspection-excellent condition	
Beaver Falls Quarry		Private	US113			CIVU, HYPE, PHAR, RUAR	6/7/14	2012 last visit-excellent condition-cked mult. yrs-owner very co-operative	
Hecklesville Quarry		Private	Hecklesville Rd off US 101, before Beaver			CIVU, CYSC4, HYPE, ILAQ, RUAR	10/21/02	2012 last visit, but in excellent condition-owner very co-operative.	
Penny Creek Quarry		Private	450 Penny Creek Rd, Quilcene WA			CYSC, **GERO**, LALA, PHAR, **POBO**, SEJA	4/21/14	Not suitable-POBO is biggest concern with GERO	
Mary Clark Pit and Extension aka Box Car						CYSC, LALA, PHAR, **POBO**, SEJA		Nt treated this yr. Needs to be cked-use caution-Box Car is in good shape	
Additional to Consider for Inspection in 2016									
Anderson Bros. Quarry		Private	Old State Route-off Herrick Rd			CIAR, CYSC		Previously inspected in 2010-very good rock-generally clean	
Shine Quarry		Private	US 101					Condition Unknown-Never inspected	

APPENDIX C: ROADS SURVEYED OR TREATED

The following table shows where survey and treatment work occurred and what species were reported since the initiation of the project in 2002**.** To make room for new data while preserving this important program history, accomplishments on each road have been subsequently grouped and condensed into blocks, based on data consistency or similar focus,(i.e., survey, vs., control, herbicide allowed or not). Individual year accomplishments on each road can be found in prior reports.

For common name equivalent of Forest Service weed species plant codes, see Appendix G.

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

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

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
SR101	3	4	2	4	0.1	HICA10 GERO SEJA	19	28.7	POBO POSA CYSC												
CR5695	5	8,499	4.98	8,499		CYSC CIAR SEJA	4	2	SEJA	1.7											
CR5331	3		8.24				6	1.03	GERO CEDE SEJA	7.5											
CR4361	1									2.6											
CR4360	1									2.6											
CR3057	1	3	1.9	3	0.1	SEJA				1.9											
CR3039	2	4,959	1.1	4,959	0.1	GERO	4	0.5	SEJA	1.4											
CR2515	1		0.4																		

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
CR2500	4	35,074	25.1	35,074		GERO CYSC				7.6											
CR2274	1									3.8											
CR2071	4	15	2	15	0.2	SEJA	1	3	GERO CIAR LALA POBO CYSC	1.5	6	GERO POBO									
CR2065	4	22,049	8.52	22,049		CYSC SEJA GERO	3	1	GERO CYSC	2.7											
CR2036	1									5	0.1	CYSC SEJA TAVU HYPE CIVU									
CR 5006	1									1.22											
3116000	4		10				3.5	3.1	GERO CIAR RUDI												
3100420	1		0.6																		
3100400	1		2.9																		
3100300	3		5				2	3.5	GERO												
3071015	1		0.6																		
3071000	5	60	3.4	60		CYSC	1									0	0.9	CIVU CYSC **GERO** HYPE LALA SEJA	0.5	0.8	CIVU, CYSC **GERO** HYPE ,LALA ,SEJA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3068200	3	815	7.2	815		CYSC															
3068190	2		0.4																		
3068000	6	521	32.3	521		SEJA CYSC CEDE	2.8	5.1	CYSC	3.58	3.3	CYSC				5.6	0.5	CIVU CYSC HYPE SEJA			
3067000	3	1,402	7.06	1,402		SEJA CYSC										3.6	4.5	CYSC **GERO**			
3050150	1						1.1	1.7	GERO												
3050011	4		1.5				2.5	5.08	GERO HYPE CIVU	2.9	11.7	GERO HIAU CYSC LEVU									
3050000	5	2	3.8	2		SEJA	18	18	GERO HIAU LEVU LALA CIVU CIAR4 HYPE	13	81.3	GERO HIAU LALA CIVU CIAR HYPE SEJA ILAQ8 PRLA	7.2	1	**GERO** CIAR4 CIVU HYPE SEJA						
3040900	1		0.5																		

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3040800	8	54,709	0.5	54,709	1.85	GERO POCU ARMI ILAQ	2.5	17	GERO CYSC RUDI POBO LALA CIVU CIAR SEJA CIVU PHAR	1	4.13	GERO RUDI POBO ILAQ CIVU				0	0.9	CIVU GERO LALA	21	7.4	CIVU, CIAR, CYSC **GERO** ,LALA PHAR **POBO** RUAR
3040595	3	373	4	373		CIVU SEJA	4	1	SEJA GERO												
3040200	1		1																		
3040115	3	95	1	95	0.1	GERO				0.7											
3040100	3	8	4	8	0.3	SEJA CYSC	2			2.3	1.09	HYPE CIVU DIPU SEJA									
3040025	3	1	0.4	1		RUDI															
3040012	1	2	0.31	2	0.1	CYSC															
3040011	2		2																		
3040000	12	35,136	71	35,136	1.3	CYSC SEJA GERO	67	23.4	GERO SEJA LALA CYSC CIVU CIAR4 CEDE	35	28.8	CEDE GERO SEJA CIVU CIAR4 HYPE LALA CYSC	14	9.6	**GERO** CIVU CIAR4 HYPE ILAQ8 PHAR LALA SEJA RUDI	5.2	4	CIAR4 CIVU CYSC **GERO** SEJA	21	6.6	CIAR, CIVU, **GERO** ,SEJA
3006300	1		4.1																		

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3006011	1		1.2																		
3006000	3		8				2	1	CYSC	6.5	2.46	GERO RUDI RULA HYPE CIVU SEJA									
3000800	1																		1.8	0.1	**GERO**
3000591	1									0.3	0.3	GERO CIVU DIPU									
3000401	1		1																		
3000400	1		2.2																		
3000395	1		0.2																		
3000370	2												0.8	0.07	**GERO** SEJA CIVU CYSC	0.4	0.7	CIVU DIPU LEVU SEJA			
3000330	1												2.2	0.7	CYSC SEJA CIVU						
3000300	5		3.5										3.5	0.7	**GERO** SEJA CIVU CYSC	1.75	5.2	CYSC 4 **GERO** CIVU	3.5	4.2	CIVU, CYSC **GERO** HYPE ,SEJA
3000260	1		0.7																		

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
3000250	4	10	10	10	1.2	CYSC	8	2.66		3.8	0.1	GERO				3.8	1.7	LALA	3.1	3.3	CIVU, CYSC **GERO** HYPE LALA
3000220	1		2.8																		
3000215	5		3.6				1	2	GERO	0.6	0.4	GERO CYSC				0.6	0.3	**GERO** CYSC			
3000200	9	6	70	6	0.2	SEJA	30	26.6	GERO LALA CIVU CYSC	8.46	16.8	GERO CIVU LALA	10.3	13.5	**GERO** CIVU CYSC SEJA	8.46	62.04	CYSC **GERO** CIVU DIPU LALA	8.5	11.6	CIVU, CYSC **GERO** HYPE LALA,
3000011	1		1																		
3000000	9	883,098	92	######	1	GERO RULA CYSC CIVU SEJA	39	32	CYSC SEJA GERO CIVU CIAR LALA CEDE	16	5.46	GERO	14.8	31.9	**GERO** CYSC CIVU CIAR4 RUDI RULA HYPE LALA	16	40.0	CIVU CYSC **GERO** HYPE LALA SEJA CIAR4	16	23.8	CIVU, CYSC **GERO** HYPE LALA SEJA
2978085	2		1.1																		
2978040	2		0.3																		
2978035	2		0.1																		
2978030	2		0.6																		
2978030	2		0.7																		
2978025	2		0.3																		
2978015	2	18	1.6	18		CYSC															
2978011	2		0.4																		

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2978000	3	3,604	4.7	3,604		CYSC SEJA													4.6	2.2	CYSC
2952000	1												2.2	0.1	CIVU CYSC						
2932070	1	12	0.9	12		CYSC															
2932050	1		0.3																		
2932040	1		0.4																		
2932035	1		0.2																		
2932031	1		0.5																		
2932030	3		1.4				1	0.1	CYSC												
2932000	6	2,153	15	2,153	0.3	LEVU CYSC	11		CYSC SEJA GERO				5	5.2	**GERO** RULA RUDI SEJA HYPE CIVU **LAGA**						
2931200	1		2.5																		
2931190	1		1.7																		
2931000	5	1	12	1		SEJA				12.2	18	CYSC LALA CIVU CED5	0.1	0.01	**CED5**	0	5	**CEDE** CIVU CYSC HYPE PHAR	2.4	0.04	**CEJA**, CIVU, CYSC HYPE PHAR
2929070	6	525	3	525		GERO RULA CYSC	6	2	GERO	6.3	6.12	GERO RUDI RULA DIPU HYPE							3.3	0.25	**GERO** ,RULA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2929000	7		10				13	1	HIAU GERO CIVU CYSC	9.4	1.92	HYPE LEVU CIAR4 CYSC 4CIVU DIPU GERO HYRA LALA	6	11.5	PHAR CIAR4 **GERO** CIVU CYSC	3	5.5	CIVU CIAR4 HYPE RUAR PHAR CYSC **GERO**	11	2.65	CIVU, CYSC **GERO** HYPE RUAR
2923100	1		0.2																		
2923095	1									0.2	0.2	CYSC HYPE TAVU SEJA									
2923090	1									1.2	1	CYSC HYPE TAVU SEJA									
2923077	2						16	2.15	CYSC SEJA				2.6	0.1	CYSC SEJA HYPE						
2923074	1												0.8	0.01	CIVU						
2923073	1												0.8	0							
2923072	1												0.8	0.02	CYSC CIAR4 HYPE						

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2923070	6	2	5	2		SEJA	9	8.6	CIVU HYPE GERO SEJA CYSC CIAR RUDI				6	1.06	CIVU CYSC PHAR	0	1.8	CIVU CYSC HYPE LALA PHAR	5.2	0.5	CYSC HYPE PHAR ,LALA
2923060	3		1				3	0.15	CYSC CIAR GERO				4.6	1.2	**GERO** CYSC SEJA CIVU CIAR4 RULA HYPE						
2923020	1												1.2	0.73	CYSC SEJA						
2923015	1												2.4	3	**GERO** CYSC CIVU SEJA						
2923000	6	1,434	41	1,434	0.5	SEJA CIAR HIAU CYSC	27	4	CYSC GERO				18	15.2	CYSC RULA HYPE CIVU CIAR4 SEJA GERO						
2922250	2												2.6	4	LALA CYSC 4CIVU	1.3	2.8	**CEST M8** CIVU CUSC LALA SEJA			

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2922240	1															1.1	0.504	CIVU LEVU SEJA			
2922200	1												2.86	0.3	CYSC HYPE						
2922020	2												1.72	0.01	**GERO**	0.86	0	NONE			
2922000	3		13				20	4.2	GERO												
2920210	1		0.2																		
2920020	2		1.4																1.4	1	**GERO**
2920000	4		6							8	0.5	GERO CIVU CIAR CYSC							6	3.5	CIVU, **GERO** ,SEJA
2918110	3		1				1	1	CYSC DIGIT LEVU LALA	1		None									
2918100	3		3				3	1	CYSC DIGIT LEVU LALA	17	20	CYSC CIAR GERO SEJA CIVU HYPE									
2918000	5	2,315	20	2,315		SEJA CYSC	9	1.5	CYSC DIGIT LEVU LALA	5.4						4.1	0.2	**GERO**	13.6	2.7	CIAR, CIVU, CYSC **GERO** HYPE PHAR

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2912060	3	3	2.8	3		SEJA							7	1	**GERO** CYSC SEJA CIAR4						
2903000	1	78	7	78		SEJA CYSC															
2902375	1		0.8																		
2902300	1		0.6																		
2902000	5	4,175	2.91	4,175	0.2	CYSC SEJA										0	0.5	CYSC SEJA	9.2	0.5	CIAR, CIVU, CYSC
2900992	1						0.5	0.1	GERO												
2900990	6	5,300	2.4	5,300		CYSC GERO	2	0.4	GERO	0.2	0.1	GERO CYSC ILAQ8	0.1	3	**GERO** ILAQ8					1.7	CIVU CYSC **GERO** ILAQ
2900950	1		0.1																		
2900810	1												2.6	0.1	CIAR4 CYSC RULA						
2900700	1															2.8	1.8	CIVU CYSC			
2900650	1		1.2																		
2900540	1		2																		
2900200	2	54	0.7	54		CYSC SEJA															
2900070	1		2.3																		
2900030	1												3	0							

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2900015	4		0.1				0.7	4.5	CYSC RUDI SEJA GERO				0.1	4.12	**POSA** RULA RUDI CIAR4	0	0.8	CYSC **GERO** HYPE LALA PHAR SEJA			
2900000	11	664,225	72.2	664225	2.3	CYSC GERO HIAU SEJA POSA CIAR	25	8.1	CYSC SEJA CIVU HIAU RUDI LALA HYPE GERO	11	5.05	HYPE LEVU CIAR4 CYSC 4CIVU DIPU GERO HYRA SEJA	16	15.1	**GERO** HYPE HIAU LALA CYSC SEJA CIVU CIAR4 RULA PHAR DIPU LEVU	0	1.5	CIVU CYSC 4 **GERO** HYPE **TAVU**	38.3	10	CIVU CYSC **GERO ,HIAU** HYPE PHAR SEJA
2880050	11	255,004	0.5	######	0.5	GERO	1.5	23	GERO	1.1	6	GERO	0.1	23.5	**GERO** LALA CIAR4	0	18.9	CIVU **GERO** LALA PHAR		13	CIAR, CIVU, **GERO**
2880000	9	9,923	17	9,923	0.3	GERO SEJA	8	5.1	SEJA CYSC GERO CIAR4 CEDE	1.81			3.7	4.5	**GERO** CIVU CIAR4 HYPE LALA	1	8.5	CIVU **GERO** HYPE CIAR4	1.85		
2878123	6		0.2				0.2			0.15	1	LALA CYSC	0.1	1	LALA 4CIVU CIAR4	0	1	CIVU CYSC LALA	0.2	0.01	CIVU, LALA, CYSC
2878120	7	2,170	1	2,170		CYSC	2	2	LALA	1.4	0.25	LALA CYSC CIVU				1	1.2	CIAR LALA	1	1.2	CIVU, **GERO** ,LALA , CIVU

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2878110	4		1				1	1	LALA	1	0.25	CIVU CYSC LALA CEDE				0.9	2.9	CIVU LALA			
2878109	2		0.27													0.25	1	LALA 4			
2878108	2		0.13													0.1	0.20 1	CIVU CIAR4 CYSC LALA			
2878104	1															0.2	0.02	**GERO**			
2878102	2		0.4													0.4	1.45	CIVU LALA			
2878101	1															0.1	0.36	CIVU LALA			
2878100	5		1.5				1	3	LALA	1.95	0.2	LALA CIVU CIAR SEJA GERO				0.95	2	CIAR4 CIVU HYPE LALA	0.95	0.5	CIAR, CIVU, LALA
2878085	3		1				1	1	CIAR CIVU GERO	1	0.01	SEJA CIAR CIVU									
2878080	3		1.5				1	0.5	LALA CIAR	1	0.25	SEJA CIAR CYSC									
2878060	3	127	0.5	127		CYSC	1	0.5	LALA CIAR	1	0.25	SEJA CIAR CYSC									

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2878050	2		0.6													0.6	0.98	CEDE CIVU LALA SEJA **GERO**			
2878000	10	2,971	4	2,971	0.2	CYSC	20	13	LALA CIAR4 CEDE CYSC GERO SEJA	8	12.5	LALA CIAR GERO CIVU SEJA	8	0.1	**GERO**	4	23.5	CIAR4 CIVU LALA 4	4	1.2	**AEPO** CIAR, **GERO** HYPE ,LALA ,SEJA
2877100	2		0.5							1		None									
2877052	1		0.29																		
2877050	1		2.65																		
2877040	5		2.5				1	0.2	SEJA CEDE CIAR CIVU	2.1	1.8	CIVU CYSC CIAR GERO SEJA				1.1	2.101	CIAR4 **GERO** RUAR 9CIVU CYSC	1.1	0.1	**GERO**
2877000	6		5				20	13.4	CEDE LALA CIAR CIVU CYSC SEJA	15.1	3.8	CIAR CIVU CYSC HYPE	9.2	12	CIAR4 CIVU HYPE LALA SEJA	0	17.5	CIAR	4		
2875090	1		0.1																		
2875070	5		2.5				1	0.5	CIAR CYSC				3.6	0.91	**CEDE** SEJA **GERO** CIAR4	1.8	0.51	CYSC SEJA CIAR			

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2875020	6	6	0.5	6		CYSC	1	0.5	CIAR CYSC POBO	1.6	1.6	CEDE CIAR CIVU CYSC SEJA PHAR				0.6	0.02	CIAR4 CIVU **POBO**	0.6	0.1	**CEJA**, CIAR, CIVU
2875000	10	268	12	268	0.4	CEDE	23	10.8	CEDE LALA 4CIVU CIAR4 CEBI	10.5	4.5	HYPE GERO CIAR CIVU LALA CYSC SEJA	7.2	8.5	SEJA **GERO** CIVU **CEDE** CIAR4	6.5	9.21	**CEJA** CYSC LALA CIAR CIVU **CEDE** **GERO** SEJA	6.5	3.8	**CEDE** ,CIAR, LALA, RUAR
2870270	2		3.5		0.28	CIAR CIVU	3.5	3.2	CIVU CEDE SEJA HYPE												
2870250	1						1	1.5	CEDE 5CEBI												
2870230	4	38	4	38	0.3	SEJA CIAR CIVU HYPE	4	0.4	CIVU CIAR GERO												
2870150	4		0.5				1	3	LALA	0.7	5.1	LALA CIVU CIAR4							0.5	0.2	CIVU, LALA, SEJA
2870130	2	1	1	1	0.1	CYSC				1	0.1	SEJA CEDE									
2870110	2	729	0.5	729		CYSC				0.5	0.1	CYSC									

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
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2870059	9	19,529	3	19,529		CIAR CIVU SEJA CEDE CYSC GERO	1			0.4	7.96	GERO CIAR4 SEJA CYSC CIVU LEVU HYPE DACA PHAR	0.8	7.25	CIVU **GERO** PHAR 3 CIAR4 CYSC	0	9.5	CIAR4 CIVU **GERO** PHAR 3	0.4	4.8	CIAR, CIVU, CYSC **GERO** HYPE PHAR
2870058	6		3		2.55	GERO CIAR PHAR	8	6.5	GERO CIAR4 PHAR 3 CIVU	4.55	2.45	GERO CIAR4 SEJA CYSC 4CIVU LEVU HYPE DACA	1	2.75	CIVU GERO HYPE CIAR4						
2870057	5						5	4	CIAR4 CIVU HYPE GERO PHAR	1.1	2.7	CIVU CIAR4 CYSC 4 GERO	0.1	0.4	CIAR4 CIVU PHAR SEJA	0	1	CIAR4 CIVU CYSC 4			
2870056	10	14	2	14	0.1	CEDE SEJA	3	8.9	SEJA CIVU CEDE CYSC CIAR4	1.6	4.3	GERO CIAR4 SEJA CYSC CIVU LEVU HYPE DACA TAVU CEDE	1.2	0.45	CIAR4 CIVU SEJA **CEDE 5**	0.6	3.03 5	CIAR4 CIVU **GERO**	0.6	0.7	CIAR, CIVU, CYSC **GERO** HYPE

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2870054	5						1.5	4	CEDE CIAR CIVU	1.1	7.95	PHAR CYSC CEDE LEVU CIAR4 CIVU HYPE SEJA	1.4	2.3	CIAR4 CIVU LEVU **CEDE** CYSC HYPE	0	0.7	CIAR4 CIVU			
2870053	7						2	1.7	CIAR4 CIVU CEDE	1.7	15	CIAR CIVU SEJA	3	0.3	CIVU **CEDE** HYPE LALA **GERO** SEJA CIAR4				1.5	1.2	**CEDE** CIAR, CIVU, HYPE
2870052	2									1	0.1	CIAR HYPE	0.6	0.2	CIVU HYPE						
2870050	12	110	16	110	0.8	CEDE CIAR CIVU CYSC GERO HYPE LALA SEJA	13	10.5	CIAR4 CIVU GERO LEVU PHAR RUDI SEJA	5.6	10.8	GERO CIAR4 SEJA CYSC CIVU LEVU HYPE DACA CEDE PHAR	5.6	4.11	CIVU **GERO** LALA CIAR4 HYPE	2.8	6.7	CIAR4 CIVU PHAR **CEDE** **GERO** LALA SEJA	2.8	0.5	CIAR, CIVU, **GERO** HYPE
2870030	7	78	5	78		CEDE CYSC SEJA	4	3.5	CEDE SEJA CIAR CYSC	2	10.3	CEDE CIAR CIVU HYPE	3.6	0.1	CIVU CIAR4 HYPE SEJA CEDE						

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2870000	12	3,853	143	3,853	3.13	CEDE SYSC SEJA	256	21.7	CEDE CIAR4 CIVU CYSC GERO HYPE LEVU SEJA LALA	34.3	8.1	CEDE CIAR4 CIVU CYSC GERO HYPE LALA RUDI SEJA PHR3	18	17.5	**GERO** CIAR4 CIVU SEJA **CEDE** DACA HYPE LALA	0	12	CIAR4 CIVU **CEDE** **GERO** LALA	16.2	3.5	CIAR, CIVU, CEDE DACA **GERO**
2860120	1		1.6																		
2860011	2	2,708	1	2,708		GERO SEJA															
2860000	5	54,000	50	54,000		CIVU GERO													3	0.1	**GERO** RUAR
2855100	2		2.4							1.1	2	GERO SEJA CEDE HYPE									
2855070	9	5497	5	5497	0.52	CEDE CIAR CYSC GERO RULA SEJA	3	5	CEBI CEDE CYSC SEJA	1.4	3.06	GERO LALA CIVU SEJA	3	4.11	**GERO** LALA CYSC SEJA CIVU CIAR4 HYPE **CEBI2**	1.5	2.3	CIAR4 CIVU CYSC **GERO** HYPE LALA SEJA **CEBI**	1.5	4.6	**CEDE** ,CIAR CIVU, CYSC **GERO** HYPE ,LALA ,SEJA
2855032	2	1	1.6	1		RULA															

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ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2855030	3	19,200	5.4	19,200		SEJA				1.25	3.2	SEJA HYPE CIVU CYSC GERO CIAR4 CIVU									
2855000	10	51,947	10	51,947	0.4	CEBI CEDE CIVU CYSC GERO SEJA	11	2.2	SEJA	1.3				3					2.8	1.7	CIAR, CIVU, GERO ,SEJA HYPE
2852150	2	25	1.29	25		CYSC															
2852090	2	3,362	10	3,362		CIAR CYSC GERO SEJA															
2852000	6	47,605	5	47,605	0.3	CEDE CIAR GERO RULA SEJA	2	1	CEDE	3	3.6	CEDE CIAR CIVU CYSC GERO HYPE SEJA	2.5	0.24	SEJA						
2851090	2		1																		
2851080	2	1,660	4	1,660		CYSC SEJA TAVU															
2851000	3	10,090	8	10,090	0.6	SEJA															

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2850124	1		0.2																		
2850120	3		3		0.2	CYSC				2.8	3.2	SEJA HYPE CIVU CYSC GERO									
2850093	1		0.1																		
2850090	1		1																		
2850010	4	5,352	3	5,352	0.9	RULA SEJA										1.5	3.26	CIVU **GERO** SEJA			
2850000	8	67,334	22	67,334	0.6	CYSC GERO RULA SEJA				12.2	9	SEJA	2.4	0.3	SEJA CIVU				7.4	2.9	CIAR, CIVU, CYSC **GERO** ,ILAQ, HYPE ,SEJA
2845200	1		0.28																		
2845150	1		0.2																		
2845120	2	84	2	84		CYSC SEJA	2	1.9	CIVU CYSC SEJA												
2845090	2	12	1	12		CYSC SEJA															

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2845073	5		1				1.5	2	CYSC	1	2.09	SEJA CYSC CIAR4 CIVU CEDE 5DIPU DACA	1.8	2.1	SEJA CIVU CIAR4 CYSC HYPE				0.9		CIAR, CIVU, CYSC ,LALA ,SEJA
2845070	5	1,860	6	1,860		CYSC	6	4	CEDE CYSC SEJA CIAR CIVU	1.6			3	0.9	SEJA CIVU HYPE CYSC CIAR4				1.5		
2845040	1	160	0.3	160		SEJA															
2845000	5	12,378	5	12,378	0.7	SEJA	10			5.4									5.4		
2840150	1	1	1	1		SEJA															
2840130	1		1																		
2840120	4		1.27							0.2	1	CIVU HYPE GERO SEJA	1.6	0.05	**GERO** CIVU SEJA				1.6	0.1	CIVU, **GERO** ,SEJA
2840084	1		0.25																		
2840080	2	1	0.89	1		RULA				0.3	1	CIVU CIAR4 LALA SEJA									

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
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2840071	3	36	2	36		BORA SEJA							3.2	7.5	LALA CIVU CIAR4 **GERO** SEJA PHAR SYOF HYPE CYSC						
2840070	2	5,753	4	5,753		CYSC SEJA															
2840036	1									3.5	1	CEDE CIAR SEJA									
2840035	1									1	0.6	CIAR CIVU HYPE									
2840034	3		2							2	2.5	CEDE CIAR CIVU GERO SEJA							1.4	1	CIAR, CIVU, **GERO**
2840030	2		3							3	7.5	CEDE CIAR CIVU HYPE SEJA									

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
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2840000	6	10,010	11	10,010		CIAR CYSC SEJA	10			4.8	5.5	CIAR CYSC GERO HYPE LEVU SEJA SYOF							4.8		
2830034	1		0.33																		
2830032	1		1																		
2830030	1		2																		
2830000	4	1,250	10	1,250		CEBI	11	0.2	SEJA												
2820000	5	2,274	4	2,274	0.2	SEJA	8	2	SEJA CIAR CEDE	6.25	17	CEDE LALA GERO CIAR4 CIVU HYPE SEJA									
2810070	1		0.61																		
2810000	2	10,190	8	10,190		CYSC SEJA															
2800351	7						4.5	3	CEDE CYSC	0.8	1.5	GERO SEJA CEDE HYPE	1.6	1.72	**CEDE** CIVU CIAR4 SEJA	0.8	3.33	**CEDE** CIAR4 CIVU HYPE	0.35	1.1	CEDE CIAR, CIVU, HYPE
2800350	4						3	4	CEDE CIAR CIVU	0.2	1.2	SEJA HYPE CIAR4 CIVU	0.1	0.31	**CEDE** CIVU CIAR4				1	2	**CEDE** CIAR **GERO** LALA SEJA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2800310	4	4,655	1	4,655	0.2	CYSC															
2800290	2	2	1	2		CYSC SEJA															
2800270	1	310	1	310		CYSC SEJA															
2800262	1		0.6																		
2800260	1		1.2																		
2800250	4	92	5	92	0.1	SEJA										1.1	0.04	SEJA			
2800240	1		0.8																		
2800220	1		1.2																		
2800210	1		0.4																		
2800145	1		0.3																		
2800132	3	463	1	463	0.1	CEBI CEJA	1												0.6	0.6	CIAR, CIVU, SEJA
2800130	3						2	1.3	CEBI SEJA							0	1.77	CIAR4 CYSC **GERO** HYPE LALA SEJA	0.7	3.2	CEDE ,CIAR, CIVU, CYSC ,SEJA
2800060	1		1																		
2800010	8	10	1	10	0.1		3	6	GERO CIAR4 LALA CIVU ILAQ	1.6	16.6	GERO SEJA HYPE CIVU CIAR4	1	8.18	**GERO** SEJA CIAR4 HYPE	0.5	0.5	**GERO**	0.5	7.3	GERO ,CIVU, CIAR SEJA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2800000	13	70,321	89	70,321	1	CEDE CIAR CIVU CYSC GERO SEJA	87	88.8	CEBI CEDE CIAR4 CIVU CYSC GERO ILAQ8 SEJA DIPU LALA	31.5	3.75	CIAR4 CIVU CYSC HYPE LALA PHAR SEJA DIPU	0.1	0.25	LALA HYPE SEJA	14.8	2	SURV EYED ONLY CIAR4 CIVU CYSC LALA SEJA	15.6	3.2	CEJA, CEST GERO HYPE LALA, SEJA, TAVU
2760000	1															0	2	PHAR			
2750020	1		1.5																		
2750000	3		5				5	8	SEJA LALA CIAR CIVU CYSC	5	18	CIAR CIVU HYPE LALA SEJA									
2740110	1						1.5	1	SEJA CYSC CIAR CIVU CEDE												
2740075	2		0.5				0.5	1	SEJA CYSC CIAR CIVU CEDE												
2740072	4	200	1	200	0.1	CEBI	1	1	SEJA CYSC CIAR CIVU CEDE												

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2740070	3		4				3	1	SEJA CYSC CIAR CIVU CEDE												
2740060	4	33	9	33	0.2	CYSC	9	1	SEJA CYSC CIAR CIVU CEDE												
2740000	6		21				25	3.6	CEBI SEJA CEDE CIAR CIVU CYSC	2.4	8.73	GERO HYPE CYSC SEJA CIAR4 CIVU LALA DIPU CEDE									
2730300	9	934	1	934		CYSC	2	8.3	CYSC LALA RUDI PORE SEJA GERO CIAR	1.1	9.66	PORE SEJA CYSC GERO LALA RULA HYPE	0.1	5	**PORE** CYSC SEJA HEHE **GERO**	0	20.5	CIAR4 CIVU CYSC **GERO** **PORE** RUAR SEJA		7	CIAR CIVU CYSC **GERO** **PORE** RUAR SEJA
2730200	11	19,621	5	19,621		CIVU GERO SEJA	2	4	GERO	1.5	8.72	GERO HYPE	0.1	2.5	**GERO** CIVU	0	3.9	**GERO**		1.6	**CIVU** **CIAR** **GERO** HYPE ,ILAQ, SEJA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2730100	4	35	0.4	35		SEJA							0.1	0.1	SEJA CIVU						
2730020	3		1																		
2730011	3	51	1	51		GERO				1.9	4	GERO SEJA HYPE ILAQ8									
2730000	4	146,400	15	######		CYSC SEJA TAVU															
2700330	2		1										1	0.3	SEJA						
2700140	1		1.2																		
2700100	1		4.6																		
2700090	1		1.99																		
2700080	4						1	2	GERO SEJA LALA CYSC CEJA CIAR CIVU				0.6	0.73	**GERO** LALA HYPE SEJA	0.3	2	CIVU **GERO** SEJA	0.3	0.8	CIAR, **GERO** HYPE LALA, SEJA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2700040	6						4	11.2	GERO SEJA CYSC HIAU BORA ILAQ8 PRLA CIVU LAGA PHAR HEHE	7.7	38.7	GERO SEJA DACA HYPE LALA ILAQ8 HIAU AEPO LAGA CIAR4 CIVU CYSC	7.4	7.9	**GERO** SEJA HYPE CIAR4 SYOF **HIAU** AEPO LAGA VIMI2 CASE HEHE	3.7	15.4	CIVU **GERO** HYPE **AEPO** **SYOF** GERO **HIAU** ILAQ8 LAGA PHAR **VIMI** LALA SEJA CIAR4 **CASE**	2.7	15.3	CASE CIVU, **GERO** **HIAU**, **LAGA** PHAR SEJA, **SYOF** **VETH** **VIMI**
2700000	11	4,201	37	4,201		SEJA TAVU	21	15.1	CEDE CIAR CIVU CYSC GERO LALA SEJA	21.7	37.4	GERO CIVU CIAR4 HYPE LALA SEJA CYSC	5.2	1.75	**GERO** CEDE SEJA HYPE **POSA** LALA CIAR4	2.6	1	CIVU **GERO** SEJA	12.7	10.9	CIAR, CIVU, CYSC **GERO** HYPE PHAR POBO SEJA
2650090	2		1.68													1.7	0	SEJA-very clean			
2650050	2		0.9																		
2650000	4	2	15	2		ARMI 2				2.7	6.61	SEJA CIAR4 CIVU HYPE				7.5	0	CIAR4 HYPE SEJA-very abundant			

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
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2620060	1									2.8	3.1	SEJA HYPE CIAR4 CIVU CYSC									
2620056	4	24	0.76	24		CEJA							1.6	1	SEJA HYPE CIVU	0.8	1	SEJA			
2620053	2		1.3																		
2620051	3		0.89										1.6	0.3	SEJA HYPE						
2620050	3		2.8										4	3.8	SEJA CIAR4 HYPE CIVU						
2620043	1		0.7																		
2620036	1												0.6	1	SEJA CIAR4 CIVU CYSC 4 HYPE						
2620035	1												1.2	2.6	SEJA CIAR4 HYPE CYSC CIVU **GERO**						
2620030	1		9.7																		

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2620000	7	39,464	35	39,464		CIVU CYSC GERO RULA SEJA	12						8.6	15.9	SEJA CIVU **GERO** CIAR4 LALA HYPE CYSC	7.3	1	**GERO** SEJA	4.3	3.2	CIAR, CIVU, CYSC ,GERO,HYPE,DIPU
2610200	12	3,676	11	3,676	0.2	CYSC GERO HEHE RUDI SEJA	4	5	CYSC SEJA	1.1	3.1	LALA GERO CYSC CIVU SEJA	0.1	1	HYPE SEJA CYSC **GERO** LALA	0	2	CYSC **GERO** LALA RUAR SEJA HYPE **HEHE**		1	CYSC GERO HYPE ,SEJA
2610050	2						1	1	GERO SEJA CIAR CYSC							0	1.75	**GERO** SEJA			
2610040	4	3,000	1	3,000		SEJA	1	2	GERO SEJA CIAR CYSC	1	4	GERO									
2610012	2	397	0.85	397	0.2	GERO				0.5	0.42	CYSC 4									
2610010	2															0.9	37.77	**GERO** SEJA HYPE ILAQ8	0.9	5.9	**GERO**

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 Only)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2610000	11	6,570	20	6,570	0.1	CEDE CIAR CIVU CYSC GERO RULA SEJA	32	17.5	CIAR CYSC GERO POBO SEJA	2	42	GERO	6.4	17.6	**GERO** HYPE CIAR4 CIVU SEJA CYSC LALA POSA	4.75	72.4	CIAR4 . CIVU **GERO** HYPE **POBO** SEJA	37.8	5.4	CIVU, CIAR **GERO** HYPE **POBO** ,SEJA
2530000	5		5.7							4.4	1	GERO SEJA				10.1	3.53	CIVU CYSC **GERO** HYPE SEJA	10.1	1.3	**GERO** HYPE ,SEJA
2527000	1		1.2																		
2510070	9	1,600	1	1,600	0.82	GERO	1	6.5	GERO	1.2	21	GERO	0.1	8.5	**GERO** CIVU	0	14	**GERO** HYPE		5.3	**GERO** HYPE RUAR ,SEJA
2510065	4		1							1	0.5	GERO HYPE SEJA				0.2	2.6	CIAR4 CIVU **GERO**	0.2	1.7	CIVU, **GERO** HYPE
2510060	2															0.1	0.01	SEJA	0.1	0.2	HYPE SEJA
2510012	2		1							1.7											
2510000	7	53	40	53	0.53	CEDE CYSC SEJA	41	19.5	CIAR4 CIVU GERO HYPE RUDI RULA SEJA				42	10.8	HYPE **GERO** SEJA CIAR4 CIVU CYSC LALA	6.6	6	CIAR CIVU DIPU DACA **GERO** HYPE SEJA	25.5	8.4	CIVU, CIAR, **GERO** HYPE RULA, PHAR ,SEJA

			Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
ROAD	No. Years Visited	Total Weeds Removed	Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
2503000	1									3.7	11.7	GERO HYPE SEJA									
2500000	4		4				19	3.75	GERO SEJA CIAR CYSC POBO										2.5	1.6	CIAR, CIVU, CYSC **GERO** HYPE **POBO** ,SEJA
2190220	1	251		251		COTO POCU															
2190200	3		4		0.1	POCU	38	1.7	CIVU CYSC DIPU POBO SEJA												
2190170	1		2																		
2190000	2		14				10														
2100000	2	50	8	50		SEJA															
2760	1															0.5	0.6	CIAR CYSC SEJA			
2071	1												1	5	**GERO** LALA RUDI POCU						

ROAD	No. Years Visited	Total Weeds Removed	Survey manual control and limited herbicide 2002-2006				2007-2009			2010-2011			2012			2013			2014		
			Survey Miles	# of Weeds	Acres Treated (2006 0nly)	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species	Survey Miles	Acres Treated	Weed Species
TOTALS		2695174	1467.2	2695174	28.43		1087.3	590.6		459.42	626.06		307.5	318.461		148.72	466.913		359	222.5	

*As of 2013 Survey miles recorded for a road only once, retreats or additional visits to complete project, not counted in mileage

PROGRAM HISTORY FROM 2002-2014-A PERSPECTIVE

- Focus: When the project began in 2002 the focus was almost exclusively on surveying, with a small amount of manual weed removal. From 2003 to 2005 surveying was still the primary focus, and the use of herbicide was limited by policy. Different crews manually removed thousands of weeds each year. In 2006 some herbicide treatments were allowed. After the completion of a new EIS, herbicide treatments expanded and the focus shifted from survey to control. This year we have condensed years with manual only, 2002-2006. The increase in productivity is striking. In a single year crews were able to cover in one year what previously took nearly five. As we transition to more riparian, restoration, or habitat projects, productivity may decrease due to long walk in or other logistical difficulties.
- Crew Resources: The County has hired a small field crew each year since the inception of the project, but changes in funding have meant that the crew size has ranged from 2 to 5 members. Some years a WCC crew has been made available to the Counties (typically for two weeks in each county, but this can vary). From 2007 to 2009 an Olympic Corrections Center (OCC) crew was used, mainly to pull Scotch broom from pits, quarries and roadsides. A Clallam County Sheriff's Chain Gang has been funded for a number of years for mixed purposes, sometimes weed control. Their efforts were not always coordinated with the Weed Control program, but when provided, their data has been incorporated into the end of year report.
- Reporting: Protocols have changed during the life of the project. From 2002 to 2005 we reported miles of roads surveyed and/or treated and number of weeds manually removed. Acres treated and/or surveyed were estimated, based on the road miles.
- In 2006, when herbicide treatments began, we were asked to simply report acres treated. However, crews or office staff tracked miles surveyed, for some reporting consistency across project years. Most roads are surveyed multiple times during the year, when different plant species are apparent.
- Because 2006 was a transition year crews reported manual treatments both as acres treated and number of weeds removed. County crews have not reported number of weeds removed since 2006; the WCC crew made the change in 2005. The Chain Gang still reports number of weeds removed but in 2011 they also reported acres treated. Chain Gang reporting in 2012 was chaotic and inconsistent. It is possible that they made more complete reports directly to the Forest Service. No weed work by the Forest Service funded Chain Gang was reported to us in 2014.
- Estimating acres treated has always been problematic. In 2007 the OCC crew reported treating 337 acres, which we suspect is an inflated figure, because of confusion about protocol. Still, that figure has been retained in the table as reported.
- Each year, some of our documented work is for re-treatments. When compiling acreage figures for each year we record re-treatments and subtract them from the total, however, the work involved should somehow be acknowledged as it shows a new kind of success; time in the season to do needed follow-up work..
- Changes in the FACTS sheets over the years have made comparisons of acreage treated from year to year difficult. From 2007 to 2009 we used the "Infested Area Treated" figure from the FACTS sheets to sum up acres treated. In 2010 the forms were changed and "Infested Area Treated" was no longer on the form, so in that year we used the "Application Area" figure from the back of the form.
- In 2011 the form was changed again and "Infested Area Treated" was again used.
- Further, in 2010 "Acres Examined for Weeds" was on the FACTS sheet, so that figure was used for "Acres Surveyed" in the table below, rather than extrapolating it from "Miles Surveyed".
- In 2011 we began to break down acres treated chemically and acres treated manually in the summary table. We continued that practice in 2012. We believe re-treatments are a significant factor in effective control of certain species such as herb Robert.
- In 2012, there was a notable emphasis on restoration, habitat, or prevention projects that are more logistically complicated, and therefore, more labor intensive and expensive. However, it is heartening to see weed infestations so significantly reduced that re-introduction of native plants has begun in some of the more fragile environments.
- In 2013 there were many changes. Weed boards were tasked with additional task of monitoring. We also reseeded some sites. The availability of three PSC enabled additional treatment. Chain Gang focus has shifted to other tasks as well. Forest Service created their own two person invasive crew but there were insufficient resources for some of the larger weed control projects that remain. Coordination which has become increasingly complicated is even more essential than before. Funding will likely be phased out sometime next year unless SRS Act is renewed.
- In 2014 we were unfortunately short staffed and the Jefferson NWCB's coordinator retired but was not replaced. We focused heavily on infrequent high priority species and herb Robert sites. Our totals are less this year than in years with more staffing.
- The table showing the number of new sites/ total sites recorded in any given year nicely depicts changes in program focus since its inception. As more emphasis is given to treatments, and less to surveys and discoveries, fewer "new" sites are discovered.

APPENDIX D: GRASS SEEDING-LOCATIONS

Forest Service staff collected a South Olympia biotype of native blue wildrye, (*Elymous glaucus)* from agency lands in Gray's Harbor County, Washington. Commercially produced seeds of this original native stock were provided to Peninsula weed boards for broadcast on or near previously treated sites. According to testing conducted in 2012, the lot was 99.18% pure, germination 67%.

Re-seeding with native grass may compete with or inhibit broad leaf weed re-infestation and minimize erosion from bare ground, serving two important prevention goals. 2013 seeding was delayed until fall for best germination conditions. Additionally, crew waited at least a month after treatments where triclopyr was used because of potential residual effects. Crew-documented most re-seeded sites with GPS waypoints and/or stakes.

In the course of 2014 treatments, crew monitored seeded sites and noted good establishment in general. This was one of the driest summers in memory and no additional sites were seeded by this year. Additional seeding sites will be encouraged next year, along with continued monitoring of the success repressing weed invasion of bare ground.

Native blue wild rye grows well this year following 2013 seeding adjacent to to Dosewallips River (FS Rd 2610)

2013

Bag of blue wildrye provided by FS

2878 spurs: Bare ground after successful everlasting peavine monoculture treatments.

Crew hand distributes native blue wildrye on open ground.

Stake marks a seeded site.

The following table provides field information collected by crew regarding sites that were seeded with blue wildrye in 2013.

Project Ref #	Road Number	Date	Size(sq ft)	Quantity (volume oz.)	WP	Notes
41	2878110	10/2/2013	300	40	588	seed spread east of stake-area west no seed, (a control)
29	2878100	10/2/2013	1100	82	589, 590	in shaded spot
607	2878101	10/2/2013	15840	80	591,592	spread through road spur.
768	2610000	10/8/2013	1000	120	621	partially on hill next to river, cleared leaves, marked area with stake.
768	2610000	10/8/2013	375	30	622	partly on hill pullout, steep bank down to river
319	2610200	10/8/2013	150	30	624	at entrance to seal rock campground
462	2700040	10/14/2013	600	148		200 ft N of gate-Caretakers cabin
462	2700040	10/14/2013	100	36		400 ft N of last site
462	2700040	10/14/2013	100	36		500 ft N of last site
462	2700040	10/14/2013	250	36		650 ft N of last site
462	2700040	10/14/2013	100	36		900 ft N of last site
462	2700040	10/14/2013	100	36		1400 ft N of last site
462	2700040	10/14/2013	100	36		1900ft N of last site
462	2700040	10/14/2013	2400	112	659	600 ft N of last site

APPENDIX E: POTENTIAL SURVEY AND TREATMENT SITES

Future work should focus on priority species with limited distribution in the forest. Herb Robert which has become one of the most troublesome species and a top concern should be the other top priority.

- Continue focus to eradicate limited species- orange hawkweed, yellow archangel, comfrey, spotted knapweed, sulfur cinquefoil, knotweeds, teasel, and common mullein. There are no large infestations of these species on any FS lands in Clallam and Jefferson. This is working!
- Continued treatment of all invasives at Caretaker's Cabin. It looks better every year.
- Snider itself got treatment, but not completed. This is probably the source of knotweed on the Sol Duc, and has to be rechecked every couple of years. Ribbon grass above Snider not seen this year.
- Schmidt's Knob has not been visited for several years.
- Work on reed canarygrass plan in Cranberry Bog, herb Robert is better.
- Keep pressure up for all meadow knapweed sites. Top of 2875 shows knapweed that did not get treated this year. Continue to press for Burnt Hill treatment-it is the source. Encourage Clallam County to allow treatment of Palo Alto Rd, which has become another source.
- Prioritize herb Robert treatments. Long stretches of the 3000 and spurs, 2610 and spurs, and 3040 are really beyond our capability, we need help. Treatments there were very good this year, but must keep up pressure. 3050 and 3006 were not treated at all. Explore farther downstream of the Dungeness Forks CG-across the river to the FS boundary. Large WCC project will be ongoing for 3 years, downstream, maybe they could help. Did not spend enough time in the Jimmy Come Lately Watershed-believe there is more herb Robert here that did not get treated.
- Research additional control options for herb Robert that might last longer with fewer effects on Rubus spp. and forbs.
- Schedule Canada thistle treatment above Dungeness Forks Campground per Back Country Horseman observation. We are having great success with the expanded use of clopyralid.
- Expand treatment of tansy ragwort on Rocky Brook starting on the 101 side.
- Identify old pit sites that are along the way of other scheduled treatments, encourage concurrent treatment. Even if these pits are not going to be considered for use, need to survey to be sure they are not compromised and the source for adjacent areas. Luella LuLu-(think we can find it) vague recollection of herb Robert there. Canyon, Lower Caraco, Bonidu, Calawah, and Raccoon need re-treatment. DNR's Mary Clark is a high priority because of high use. Survey and treat others not seen in the past two years. Schedule privately owned pit inspections.
- Keep up treatments of campgrounds such as (Dungeness Forks), trailheads and special use facilities such as administrative sites and water diversions. It's working!
- Set additional goals for everlasting peavine treatments using clopyralid, which has worked very well. Use contractor, WCC or Chain Gang as workforce for heavily infested areas.
- Identify high-priority cross-boundary projects with other public land agencies
- Even though there was almost no time for any survey work this year-Continue to identify areas that have not been surveyed or treated for four years-in case there is an opportunity.
- It will be helpful to know which sites the FS based crew treated this year and what they found.

Some old suggestions, some new.

FS Road	Note	Weed(s)	Note (2014)
2610000	Survey above Elkhorn Campground —herb Robert is rampant below-joint treatment with North Cascades EMPT?		GERO is definitely there, but not widespread, yet. Must do something soon!-need to schedule extra crew to complete again. Additional focus across Dose?
2620000 and spurs	Some were missed this year	GERO	
2650000	MP 1.56- ARMI2 not noted in 2011, recheck to confirm	GERO SEJA	Found several small, but significant patches last year. Needs follow up
2740072 2740110		CEST	Did not treat this year

FS Road	Note	Weed(s)	Note (2014)
2800250	Survey due	POBO10	Cannot find this on road list-hmm.
2800270	Survey due		
2800145		CEDE?	
2800310	Schmidt Knob	CYSC4 SEJA	Didn't get to it this year.
2800320	Close to known herb Robert infestation	SEJA CYSC4	Did not check
2820000		GERO	Old location
2840034			Not done this year.
2840036			Not done this year.
2840071	survey	CEDE5	Not done this year.
2840070	check	CEDE5	Not done this year.
2840088	Survey due ”		
2851000			
2860000	Not surveyed since 2004	CEDE5—untreated for several years	
2855100		CEDE, GERO	Not treated
2860011	East Crossing CG	SEJA	Not treated
3078	Olympic Hot Springs Road as it passes through ONF	CIAR, GERO on 040 spur	
2862000		CEDE, GERO	
2875000	Old location	CEDE	At top-old sightings-track logs don't show going far enough to find.
2870030	Previously found	CEDE5	Missed this year.
2978000	Not checked in a long time.	GERO	
2900200	Pit	POBO10 GERO	
2932000		GERO	
2923070 (to end of road)	Close to known herb Robert infestation		
3000000	Bad herb Robert infestation--should be contractor mp 0-7.4	CYSC4 SEJA	**Need help**
3000200	Getting better	GERO, LALA	**Need help**
3000300	Thinning project	CIAR and RUDI treated 2009-Bad GERO	**Currently blocked with debris, only partially treated Need help**
3000400	Thinning project	GERO	**Need help**
3000450	Close to known herb Robert infestation	Likely GERO	
3006000	Bad herb Robert infestation-should be contractor. Closed midway	Likely GERO	**CONTRACTOR**
3068000		Likely GERO	
3068200	Off 3040, above Snider	GERO RUDI2	
3008000		CEDE5 & SEJA. Treated 2007 and 2008	CYSC4 treated 2011
3050-spurs	Decommissioned 1 mile up?	GERO, HIAU	Not treated this year
3100400		GERO	Old site?
3100700	Close to known herb Robert infestation. Closed	CYSC4	Not done this year.
3116000 (to end of road)	Close to known herb Robert infestation		Not done this year.
3116200	Survey due		Not done this year.

APPENDIX F: COUNTY ACCOMPLISHMENTS-A SNAPSHOT

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

Clallam County covers 1,112,960 acres on the north edge of the Olympic Peninsula, along the Strait of Juan de Fuca. Almost half the acreage of the county (46%) is in federal ownership (National Park or National Forest). The major highway, US 101, runs from east to west through most of the county. Many roads lead from US 101 into the National Forest and many go through the Forest into the popular Olympic National Park. Clallam has a stable, assessment-funded weed program.

Clallam County 2014 Snapshot	
Number of Known Noxious Weed Species	68
Number of Regulated Noxious Weed Species	42
Most Common Noxious Weeds	tansy ragwort, poison hemlock, knapweeds
Least Common Noxious Weeds	hoary alyssum, hairy willowherb, purple loosestrife, sulfur cinquefoil, giant hogweed, gorse, perennial sowthistle
Total Number of Sites (Regulated Species Only)	1,898
Number of Landowner Contacts	1,212
Educational Events	20
Public Contacts (Phone Calls, Walk-Ins, Emails)	1398
Web-Site Hits	998
Volunteer Weed Events	2
Area of Weeds Controlled by Weed Board Staff	13,098 individual plants removed from 357 properties.

Jefferson County is actually larger than Clallam County, covering 1,397,760 acres on the eastern edge of the Olympic Peninsula. However, more than half of Jefferson County in is federal ownership and the county is split into two sections with federal land in the center. The western portion is sparsely populated and is 120 miles from Port Townsend, the county seat. Consequently, Jefferson County Weed Board operates almost exclusively in the eastern portion of the county, comprising roughly 300,000 acres.

The Jefferson County NWCB is poorly funded and has relied extensively on Title II funding and help from Clallam County NWCB to remain viable. The Jefferson County Road Department has had an informal no-spray policy for 20 years but in 2009 the Weed Board was able to get permission to spray certain weeds on county roads. Small amounts of spraying to treat several high priority species took place in 2010 through 2014. The Road Department began contributing a small amount of funding to the Weed Board to facilitate high priority weed control, particularly wild chervil, on county roads. This year the program suffered with the loss of the coordinator who retired in April, but not replaced. The JCNWCB seeks a weed assessment in 2016 to fully fund this program and thus better protect Jefferson County resources in the future.

Jefferson County 2014 Snapshot	
Number of Known Noxious Weed Species	47
Number of Regulated Noxious Weed Species	28
Most Common Noxious Weeds	tansy ragwort, poison hemlock, wild chervil, knapweeds
Least Common Noxious Weeds	purple loosestrife, sulfur cinquefoil, milk thistle, giant hogweed, gorse. phragmites, hawkweeds
Total Number of Sites (Regulated Species Only)	620
Number of Landowner Contacts (est.)	250
Educational Events	6
Weed Pulls	1+ 250 volunteer hrs

County Cooperation: The two Counties work together closely. In addition to receiving Title II funding, they have for several years jointly received funding from Washington State Department of Agriculture for knotweed control and have worked on all the major waterways in both counties. This program has involved cooperation with six Native American Tribes, Olympic National Park, 4 state agencies (WSDOT, WDNR, WDFW, and WA State Parks) 9 local governments and hundreds of private landowners.

A Puget Sound Corps, based in Port Angeles and funded by the WDNR, assisted with multiple projects across County-Federal boundaries in both counties. In county, this crew surveyed approximately 90 parcels encompassing 214 acres. They treated approximately 157 acres, including 8 river miles, for invasive plants.

Additionally, Clallam County is the de facto leader of the Olympic Knotweed Working Group, a loose consortium of government entities, tribes, and non-profits that meets to exchange information and strategize effective knotweed control on the Peninsula. As part of Cooperative Weed management Area, we are increasingly focused on an “all invasives” approach.

Both Counties partner with many other agencies and volunteer groups, including the Back Country Horseman, Master Gardeners, Stream Keepers, Audubon Society, North Olympic Land Trust, Jefferson Land Trust and Port Townsend School District.

APPENDIX G: CONTROL RECOMMENDATIONS BY WEED SPECIES

Herb Robert

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

- Annuals like herb Robert, especially at campgrounds, should be treated as early in the season as possible. With herb Robert in particular it will almost certainly be necessary to repeat treatments within the season, though if seed set is prevented each time, it is hoped that the size of the infestation can be greatly reduced with each treatment effort.
- Early blooming perennials, such as orange and yellow hawkweed should be treated as early as possible.
- Biennials like tansy ragwort are often difficult to treat effectively with either chemical or manual treatment alone; once plants have bolted it may be most effective to pull and deadhead flowering stalks, though first year rosettes may be easier to treat chemically.
- Scotch broom and other woody shrubs can be effectively pulled early in the season before seed set and while the ground is damp; herbicide treatments can be made early, but are still effective later in the summer.
- Later blooming perennials like reed canarygrass, Canada thistle, everlasting peavine, knotweeds, knapweeds, common tansy and common toadflax may be effectively treated from midsummer until fall, depending on the species and the location (altitude, aspect, etc).

Plant Code	Common Name	*Botanical Name*	Control Recommendation
AEPO	bishop's weed	*Aegopodium podgraria*	Foliar application of imazapyr, or triclopyr
ANSY	wild chervil	*Anthriscus sylvestris*	Manual removal; spot herbicide application
ARMI2	common burdock	*Arctium minus*	Where minimal occurrence, manual removal; spot herbicide application to rosettes by early spring; or to second year growth, before budding
BUDA	butterfly bush	*Buddleja davidii*	Manual removal small plants, or cut-stump/foliar treat with triclopyr, or glyphosate,
CESTM	spotted knapweed	*Centaurea stoebe*	Manual removal very small sites; spot application with selective herbicide - clopyralid preferred
CASE13	Hedge bindweed	*Calystigia sepium*	Herbicide application combined with manual removal. Very difficult to eradicate.
CEDE5	meadow knapweed	*Centaurea jacea x nigra*	Foliar herbicide application with selective herbicide, late season - clopyralid preferred
CEDI3	diffuse knapweed	*Centaurea diffusa*	Manual removal for very small sites; foliar herbicide application - clopyralid preferred
CIAR4	Canada thistle	*Cirsium arvense*	Manual removal has limited effectiveness, for only very early infestations; spot herbicide application with glyphosate at bud to full bloom; fall or foliar application of a selective herbicide throughout the summer, fall. Clopyralid has worked well and will be emphasized in future treatments.
CIVU	bull thistle	*Cirsium vulgare*	Where minimal occurrence, manual removal; spot herbicide application to rosettes by early spring or to second year growth, before budding. Remove seeded heads.
COTON	rockspray cotoneaster	*Cotoneaster horizontalis*	Manual removal; herbicide treatment only if size of infestation increases
CYSC4	Scotch broom	*Cytisus scoparius*	Manual removal for small infestations; cut stump treatments preferred for very large infestations, foliar herbicide applications possible, newer herbicides such as aminopyralid would be useful.
DACA6	wild carrot	*Daucus carota*	Manual removal; spot herbicide application triclopyr
DIFU2	Fuller's teasel	*Dipsacum fullonum*	Manual removal before full bloom (after full bloom, flower heads need to be removed and disposed of); selective herbicide application in first year or pre-bloom in 2nd year.

Plant Code	Common Name	*Botanical Name*	Control Recommendation
GERO	herb Robert	*Geranium robertianum*	Manual removal for small infestations; spot herbicide application where feasible; multiple treatments per season preferred, to prevent multi-generational seed production each season. Prevention measures a must. Imazapyr may be considered-where off-target loss is more tolerated, such as roadside- for fall treatments after rain has induced seed germination. Effects on late spring/early summer plants may be too slow to stop seed production.
HEHE	English ivy	*Hedera helix*	Manual removal; cut stump or foliar herbicide application. Higher end surfactant rates may be needed.
HIAU	orange hawkweed	*Hieracium aurantiacum*	Spot spray with selective herbicide in late spring or summer; - clopyralid preferred - possible manual removal for very small infestation.
HYPE	St. Johnswort	*Hypericum perforatum*	Pervasive. Preventative control should be incorporated into restoration and maintenance projects. Possible candidate for biocontrol releases where infestations are heavy. Herbicide control options are available should this species otherwise become a resource management issue.
ILAQ80	English holly	*Ilex aquifolium*	Manual removal; cut stump or foliar herbicide treatment. May be best treated with imazapyr.
LAGA2	yellow archangel	*Lamiastrum galeobdolon*	Foliar herbicide application –triclopyr, glyphosate, or a combination
LALA4	everlasting peavine	*Lathyrus latifolius*	Foliar herbicide application - clopyralid preferred
LEVU	oxeye daisy	*Leucanthemum vulgare*	Pervasive. Preventative control should be incorporated into restoration and maintenance projects. Herbicide control options are available should this species otherwise become a resource management issue.
LIVU2	common toadflax	*Linaria vulgaris*	Spot herbicide application
LYSA2	purple loosestrife	*Lythrum salicaria*	There is only one known site: manual removal should be possible, however herbicide application is available (potential aquatic application)
PHAR3	reed canary grass, ribbon grass	*Phalaris arundinacea*	Glyphosate in mid-June and mid-Sept.
POBO10 POSA or POCU	knotweed species	*Polygonum spp.*	Injection with glyphosate; and/or foliar application of glyphosate or imazapyr
PORE	sulfur cinquefoil	*Potentilla recta*	Selective herbicides preferred. Will need several years of re-treatment Small, but long-time plants may need to be dug; plant surface may be insufficient to fully control large root system.
RUAR9	Himalayan blackberry	*Rubus armeniacus*	Cut stump with glyphosate or triclopyr or foliar application as appropriate to site. Triclopyr preferred
RULA	evergreen blackberry	*Rubus laciniatus*	Cut stump or foliar herbicide application - triclopyr preferred
SEJA	tansy ragwort	*Senecio jacobaea*	Will require systematic removal from roadsides and follow-up; manual removal before full bloom (after full bloom, flower heads need to be removed and disposed of); selective herbicide application in first year or pre-bloom in 2nd year.
SYOF	common comfrey	*Symphaticum officinale*	Minimal occurrence, but expanding; spot herbicide application.
TAVU	common tansy	*Tanacetum vulgare*	Spot herbicide application
VIMA VIMI12	bigleaf periwinkle common periwinkle	*Vinca major* *Vinca minor*	Thorough spot herbicide application

APPENDIX H: WEED SPECIES REPORTED 2002-2014 ON FOREST SERVICE LAND IN CLALLAM OR JEFFERSON COUNTIES

(Other counties may have reported other species)
List sorted alphabetically by botanical name.

Common mullein noted on 2700-040 for first time

Plant Codes come from the USDA Natural Resources Conservation Service PLANTS database.

Common Name	*Botanical Name*	Plant Code
bishop's weed	*Aegopodium podgraria*	AEPO
common burdock	*Arctium minus*	ARMI2
cheatgrass	*Bromus tectorum*	BRTE
butterfly bush	*Buddleja davidii*	BUDA
hedge bindweed	*Calystegia sepium*	CASE13
meadow knapweed	*Centaurea debeauxii*	CEDE5
diffuse knapweed	*Centaurea diffusa*	CEDI
spotted knapweed	*Centaurea stoebessp. micranthosi*	CESTM
Canada thistle	*Cirsium arvense*	CIAR4
bull thistle	*Cirsium vulgare*	CIVU
rockspray cotoneaster	*Cotoneaster*	COTON
Scotch broom	*Cytisus scoparius*	CYSC4
wild carrot	*Daucus carota*	DACA6
herb Robert	*Geranium robertianum*	GERO
English ivy	*Hedera helix*	HEHE
orange hawkweed	*Hieracium aurantiacum*	HIAU
yellow hawkweed	*Hieracium caespitosum*	HICA10
European hawkweed	*Hieracium sabaudum*	HISA4
St. Johnswort	*Hypericum perforatum*	HYPE
English holly	*Ilex aquifolium*	ILAQ80
yellow archangel	*Lamiastrum galeobdolon*	LAGA
everlasting peavine	*Lathrus latifolius*	LALA4
oxeye daisy	*Leucanthemum vulgare*	LEVU
common toadflax	*Linaria vulgaris*	LIVU2
purple loosestrife	*Lythrum salicaria*	LYSA2
reed canary grass	*Phalaris arundinacea*	PHAR3
ribbon grass*	*Phalaris arundinacea, variagated*	PHAR3
Japanese knotweed	*Polygonum cuspidatum*	POCU6
giant knotweed	*Polygonum sachalinense*	POSA4
Bohemian knotweed	*Polygonum x bohemicum*	POBO10
sulfur cinquefoil	*Potentilla recta*	PORE
Himalayan blackberry	*Rubus armeniacus*	RUAR9
evergreen blackberry	*Rubus laciniatus*	RULA
tansy ragwort	*Senecio jacobaea*	SEJA
comfrey	*Symphytum officinale*	SYOF
common tansy	*Tanacetum vulgare*	TAVU
Common mullein	***Verbascum thapsus***	**VETH**
periwinkle	*Vinca minor*	VIMI

High-Risk Species in Clallam and Jefferson Counties, Not Yet Detected on (Clallam/Jefferson) FS Lands

wild chervil	*Anthriscus sylvestris*
hoary alyssum	*Berteroa incana*
poison hemlock	*Conium maculatum*
spurge laurel	*Daphne laureola*
Fuller's teasel	*Dipsacum fullonum*
hairy willowherb	*Epilobium hirsutum*
common hawkweed	*Hieracium lachenalii*
common reed	*Phragmites australis*

APPENDIX I: 2014 STATE WEED LIST

Class A Weeds: Non-native species whose distribution in Washington is still limited. Preventing new infestations and eradicating existing infestations are the highest priority. **Eradication of all Class A plants is required by law.**

bean-caper, Syrian	*Zygophyllum fabago*
blueweed, Texas	*Helianthus ciliaris*
broom, French	*Genista monspessulana*
broom, Spanish	*Spartium junceum*
bulrush, ricefield	*Schoenoplectus mucronatus*
clary, meadow	*Salvia pratensis*
clematis, Oriental	*Clematis orientalis*
cordgrass, common	*Spartina anglica*
cordgrass, dense flower	*Spartina densiflora*
cordgrass, salt meadow	*Spartina patens*
cordgrass, smooth	*Spartina alterniflora*
crupina, common	*Crupina vulgaris*
false brome	*Brachypodium sylvaticum*
flowering rush	*Butomus umbellatus*
flax, spurge	*Thymelaea passerina*
four o'clock, wild	*Mirabilis nyctaginea*
goatsrue	*Galega officinalis*
hogweed, giant	*Heracleum mantegazzianum*
hydrilla	*Hydrilla verticillata*
johnsongrass	*Sorghum halepense*
knapweed, bighead	*Centaurea macrocephala*
knapweed, Vochin	*Centaurea nigrescens*
kudzu	*Pueraria montana* var. *lobata*
milfoil, variable-leaf	*Myriophyllum heterophyllum*
mustard, garlic	*Alliaria petiolata*
nightshade, silverleaf	*Solanum elaeagnifolium*
primrose-willow, floating	*Ludwigia peploides*
sage, clary	*Salvia sclarea*
sage, Mediterranean	*Salvia aethiopis*
shiny geranium	*Geranium lucidum*
spurge, eggleaf	*Euphorbia oblongata*
sweetgrass, reed	*Glyceria maxima*
starthistle, purple	*Centaurea calcitrapa*
thistle, Italian	*Carduus pycnocephalus*
thistle, milk	*Silybum marianum*
thistle, slenderflower	*Carduus tenuiflorus*
woad, dyers	*Isatis tinctoria*

Class B Weeds: Non-native species presently limited to portions of the State. Species are **designated** for control in regions where they are not yet widespread. Preventing new infestations in these areas is mandated. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal. Please contact your County Noxious Weed Control Coordinator to learn which species are designated in your area.

blueweed	*Echium vulgare*
Brazilian elodea	*Egeria densa*
bugloss, annual	*Anchusa arvensis*
bugloss, common	*Anchusa officinalis*
butterfly bush	*Buddleja davidii*
camelthorn	*Alhagi maurorum*
celandine, lesser	*Ficaria verna*
common fennel (except bulbing fennel	*Foeniculum vulgare (except F. vulgare var. azoricum)*
common reed (nonnative genotypes)	*Phragmites australis*
Dalmatian toadflax	*Linaria dalmatica* ssp. *dalmatica*
Eurasian watermilfoil	*Myriophyllum spicatum*
fanwort	*Cabomba caroliniana*
gorse	*Ulex europaeus*
grass-leaved arrowhead	*Sagittaria graminea*
hairy willow-herb	*Epilobium hirsutum*
hawkweed, all nonnative species and hybrids of the wall and meadow subgenera	*Hieracium subgenus Hieracium subgenus Pilosella*
hawkweed, orange	*Hieracium aurantiacum*
hawkweed, oxtongue	*Picris hieracioides*
herb-Robert	*Geranium robertianum*
hoary alyssum	*Berteroa incana*
houndstongue	*Cynoglossum officinale*
indigobush	*Amorpha fruticosa*
knapweed, black	*Centaurea nigra*
knapweed, brown	*Centaurea jacea*
knapweed, diffuse	*Centaurea diffusa*
knapweed, meadow	*Centaurea jacea x nigra*
knapweed, Russian	*Acroptilon repens*
knapweed, spotted	*Centaurea stoebe*
knotweed, Bohemian	*Polygonum x bohemicum*
knotweed, giant	*Polygonum sachalinense*

Class B Weeds - continued

knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
kochia	*Kochia scoparia*
loosestrife, garden	*Lysimachia vulgaris*
loosestrife, purple	*Lythrum salicaria*
loosestrife, wand	*Lythrum virgatum*
parrotfeather	*Myriophyllum aquaticum*
perennial pepperweed	*Lepidium latifolium*
poison-hemlock	*Conium maculatum*
policeman's helmet	*Impatiens glandulifera*
puncturevine	*Tribulus terrestris*
rush skeletonweed	*Chondrilla juncea*
saltcedar	*Tamarix ramosissima*
Scotch broom	*Cytisus scoparius*
spurge laurel	*Daphne laureola*
spurge, leafy	*Euphorbia esula*
spurge, myrtle	*Euphorbia myrsinites*
sulfur cinquefoil	*Potentilla recta*
tansy ragwort	*Senecio jacobaea*
thistle, musk	*Carduus nutans*
thistle, plumeless	*Carduus acanthoides*
thistle, Scotch	*Onopordum acanthium*
velvetleaf	*Abutilon theophrasti*
water primrose	*Ludwigia hexapetala*
white bryony	*Bryonia alba*
wild chervil	*Anthriscus sylvestris*
yellow archangel	*Lamiastrum galeobdolon*
yellow floating heart	*Nymphoides peltata*
yellow nutsedge	*Cyperus esculentus*
yellow starthistle	*Centaurea solstitialis*

Class C Weeds: Noxious weeds which are already widespread in WA or are of special interest to the state's agricultural industry. The Class C status allows counties to enforce control if locally desired. Other counties may choose to provide education, technical consultation or other assistance.

absinth wormwood	*Artemisia absinthium*
babysbreath	*Gypsophila paniculata*
barberry, common	*Berberis vulgaris*
bindweed, field	*Convolvulus arvensis*
blackberry, evergreen	*Rubus laciniatus*
blackberry, Himalayan	*Rubus armeniacus*
blackgrass	*Alopecurus myosuroides*
buffalobur	*Solanum rostratum*
catsear, common	*Hypochaeris radicata*
cereal rye	*Secale cereale*
cockle, white	*Silene latifolia* ssp. *alba*
cocklebur, spiny	*Xanthium spinosum*
curly-leaf pondweed	*Potamogeton crispus*
eel grass, Japanese	*Zostera japonica*
fieldcress, Austrian	*Rorippa austriaca*
goatgrass, jointed	*Aegilops cylindrica*
groundsel, common	*Senecio vulgaris*
henbane, black	*Hyocyamus niger*
hoary cress	*Cardaria draba*
ivy, English - four cultivars only	*Hedera helix* 'Baltica', 'Pittsburgh', and 'Star'; *H. hibernica* 'Hibernica'
lawnweed	*Soliva sessilis*
lepyrodiclis	*Lepyrodiclis holosteoides*
nonnative cattail species and hybrids	*Typha* spp
old man's beard	*Clematis vitalba*
oxeye daisy	*Leucanthemum vulgare*
reed canarygrass	*Phalaris arundinacea*
Russian olive	*Elaeagnus angustifolia*
sandbur, longspine	*Cenchrus longispinus*
scentless mayweed	*Matricaria perforata*
smoothseed alfalfa dodder	*Cuscuta approximata*
sowthistle, perennial	*Sonchus arvensis* ssp. *arvensis*
spikeweed	*Hemizonia pungens*
St. Johnswort, common	*Hypericum perforatum*
swainsonpea	*Sphaerophysa salsula*
teasel, common	*Dipsacus fullonum*
thistle, bull	*Cirsium vulgare*

Class C Weeds continued

thistle, Canada	*Cirsium arvense*
toadflax, yellow	*Linaria vulgaris*
tree-of-heaven	*Ailanthus altissima*
water lily, fragrant	*Nymphaea odorata*
whitetop, hairy	*Cardaria pubescens*
wild carrot	*Daucus carota*
yellow flag iris	*Iris pseudacorus*

To protect the State's resources and economy, the Washington State Noxious Weed Control Board adopts a State Noxious Weed List each year (WAC 16-750). This list classifies weeds into three major classes – A, B, and C – based on the stage of invasion of each species and the seriousness of the threat they pose to Washington State. This classification system:

- Prevents small infestations from expanding by eradicating them when they are first detected
- Restrict s already established weed populations to regions of the state where they occur and prevent their movement to un-infested areas
- Provides flexibility and local control for weeds that are already widespread.

To learn more about noxious weeds and noxious weed control in Washington State, please contact:

Washington State Noxious Weed Control Board
P.O. Box 42560
Olympia, WA 98504-2560
(360) 725-5764
Email: noxiousweeds@agr.wa.gov
Website: http://www.nwcb.wa.gov
or
Washington State Department of Agriculture
21 North First Avenue #103
Yakima, WA 98902
(509) 225-2604
or
Clallam County Noxious Weed Control Board
223 E 4th St., Suite 15
Port Angeles WA 98362
(360) 417-2442

2014 Washington State Noxious Weed List

Drawing from *Illustrated Flora o British Columbia, volume 4*; Douglas, Meidinger, Pojar

lesser celandine (*Ficaria verna*), a new 2014 Class B noxious weed

Please help protect Washington's economy and environment from noxious weeds!

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

A legal notice preceding herbicide application on the Olympic National Forest was published in the Peninsula Daily News (PDN), which is distributed throughout both Clallam and Jefferson Counties. The text of the legal notice in the PDN read as follows:

LEGAL NOTICE

The Pacific and Hood Canal Ranger Districts, Olympic National Forest, may be applying the herbicides glyphosate, clopyralid, triclopyr or imazapyr to noxious weeds or other invasive plant species at the following Forest Service sites in Jefferson and Clallam Counties May 20 – November 1, 2014. Applications will be conducted as planned in the Final EIS-Olympic National Forest Site Specific Invasive Plant Treatment Project, which was finalized in 2008. Notices indicating that formulations containing glyphosate, clopyralid, triclopyr or imazapyr will be applied will be posted at entrances to the target road systems and/or individuals sites. For questions about applications or to receive a complete list of individual sites contact Cheryl Bartlett, Forest Botanist and Invasive Plant Program Coordinator, at 360-956-2283 or Cathy Lucero, Clallam County Noxious Weed Control Board, at 360-417-2442.

Big Creek/Upper Quinault River subwatershed, 2190200 Rd; **Bockman Creek subwatershed,** 2902 and 2903 rds, Bockman rock pit; **Canyon Creek /Pats Creek subwatershed**, 2870, 2875, 2877, 2878 and 2880 Rd and associated spurs; Cranberry Bog, Juniper Meadow, Schmits Knob, Slab Camp / Deer Ridge TH and Caraco Cat units; Upper and Lower Caraco, Canyon, and Ned Hill quarries; **Deep Creek subwatershed**, including the 30, 3040, 3067 Rds and associated spurs, **East Twin River subwatershed**, including the 3040 Rd and associated spurs, **Fulton Creek/Waketickeh Creek subwatershed**, including the 2503 Rd and associated spurs, **Headwaters Sol Duc River subwatershed**, including the 2918 and 2920 Rds; **Jimmy-come-lately Creek subwatershed**, including the 5006, 28, 2840, 2845, 2850 and 2855 Rds and associated spurs; Louella Work Center; Louella, Louella LuLu, Coho, Raccoon, Coho and Wolf 2 Quarries; **Little Quilcene River subwatershed**, including the 27and 28, and 2820 Rds and associated spurs; Bon Jon Quarry; **Lower Big Quilcene River subwatershed**, including the 2650, 27, 2620, 2730 and 2740 Rds and associated spurs; PT Muni WS caretakers cabin, Rainbow and Falls View CGs and the Quilcene office compound; **Lower Boqachiel River subwatershed**, including the 2932 Rd; **Lower Dosewallips River subwatershed**, including the 25, 2610, 2620, and 2630 Rd and associated spurs; Elkhorn CG and the lower Dosewallips riparian area; **Lower Duckabush River subwatershed**, including the 2510 and 2530 Rds and associated spurs; Big Hump Fire Trail corridor; Collins CG; **Lower Elwha River subwatershed**, including the 3050 rd and associated spurs; **Lower Gray Wolf River subwatershed**, including the 2870 and 2880 Rds and associated spurs; Armpit Quarry; Dungeness Forks CG; **Matheny Creek subwatershed**, including and 2140, 2160, 2170, 2180, 2190 Rds and associated spurs, and the Matheny Beaver Pond; **McDonald Creek/Siebert Creek subwatershed,** including the 2877 Rd and associated spurs and Pat's Prairie; **Middle Dungeness River subwatershed**, including the 28, 2820, 2860 and 2870 Rds and associated spurs; Lost Pit, old East Crossing CG, Gold Creek and Sleepy Hollow trails; **Middle Queets River subwatershed**, including the 2180 rd and associated spurs, Park pit; **Middle Quinault River subwatershed**, including the 2140 and 2190 and associated spurs, **Middle Sol Duc River subwatershed**, including the 2071, 30, 3040, 3100 and 3116 Rds and associated spurs and the Snider Work Center; **North Fork Calawah subwatershed**, including the 29, 2922, 2923, and 2929 Rds and associated spurs; Calawah and Grindstone quarries; Bonidu Meadows; **Pysht River subwatershed**, including the 30, 31, and 3116 Rds and associated spurs; **Salmon River subwatershed**, including the 2120 and 2140 Rd and associated spurs, **Sam's River subwatershed**, including the 2170 and 2180 Rds and associated spurs, **Snow Creek/Salmon River subwatershed,** including the 2840, 2845, 2850, 2851 and 2852 Rds and associated spurs; **South Fork Calawah subwatershed**, including the 29, 2912, 2922, 2923, 2932 and Rds and associated spurs; **Spencer Creek / Marple Creek subwatershed**, including the 2620 Rd and associated spurs; Seal Rock CG; **Upper Big Quilcene River subwatershed**, including the 2650, and 2760 Rds and associated spurs, Lower Big Quilcene Trail, and Sink Lake; **Upper Dungeness River subwatershed**, including the 2870 Rd and associated spurs; Camp Handy, Dungeness Trail and the Heather Basin Trail, **Upper Sol Duc River subwatershed**, including the 2065, 29, 2918, 2929, 2931, 2978, 3040 and 3071 Rd and associated spurs, Bonidu pit, Klahowya CG, Tom Creek Pit and the Kloshe Nanich Loop Trail, and **West Twin River subwatershed,** including the 3000, 3040 Rd and associated spurs.

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

NOTICE

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

_____, 2014 to control weeds, which threaten native vegetation and habitat in this area:

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

Targeted Weed Species include, but are not limited to:

NO USE RESTRICTIONS ARE IN PLACE

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

FOR MORE INFORMATION CONTACT:

Cheryl Bartlett
Forest Botanist and Invasive Plant Program Coordinator
Olympic National Forest
1835 Black Lake Blvd., SW Suite A
Olympia, WA 98512
cbartlett02@fs.fed.us
360-956-2283

(120) TC

2014 FACTS Invasive Plant Treatment Data Form

General Activity Fields

Ref #: 295

FS tracks areas treated by the Ref #, so if a Ref # is not recorded in the box to the left, we will have no record of that area being treated. You can document one Ref # per FACTS form (easiest for FS), or multiple Ref # on a single FACTS form. If you document multiple Ref # on a single FACTS form, these Ref # **must all 1) be in the same 6th Field Watershed and 2) have been treated on consecutive days.** *Rock Pits always get their own FACTS form.*

Region	Forest	District (circle one)*	6th Field Watershed Name	Owner	Workforce** (and Number of People in Crew)
06	09	PAC-N (05) ~~HC-N (02)~~ PAC-S (03) ~~HC-S (01)~~	Lower Dosewallops	FS	CCNWCB (2) # people

Method Code	Equipment Code (circle one)	Job Code:	Treatment Location and Comments:
(700 Herbicide)	711 hand sprayer (712 backpack sprayer) 713 hack & squirt 716 injector 721 mobile ground sprayer 000 other		If you are treating a road, record **Road number w/ BMP & EMP** If you are not treating a road (ex. a campground, rock pit, etc.) record **Site Name** -Record this information as it appears on the spreadsheet - Rocky Brook 2620000 BMP 0-23 **Was entire area represented by the Ref# treated for weeds?** Yes / (No) → If no, describe what part was treated above. Comments: Retreat. didnot get to the end of GERO
100 Manual			

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

**Workforce: County Name, Contractor Name, WCC, DNR, SCA, ONF, etc.

Should this area be a high priority for follow-up treatments next year? (Yes) / No (circle one)

Site/Inventory Fields

Start Date	Stop Date	Acres examined for weeds	Application Site (circle one)	Licensed Applicator: Name and License #
9/25	9/25	3.6	(Road edge/ROW) Campground Gravel/rock source Trailhead Forest Riparian Admin Site Other	Stephen Marsh 86283, ~~Jon Clevenger 84178,~~ ~~Derek Schmid 88032,~~ Tyler Criswell 88212 Cathy LuCero 56527

Total Manual Infested Area Treated: Do not lump plants together. 25 acres

Weeds Treated (Use PLANTS code; include common or scientific name as well if it is an uncommon weed on the ONF)	Infested Area Treated (DO NOT lump plants together)	% cover of species in Infested Area Treated (lump plants together – use cover classes 1 - 9 listed below)	Comments
GERO	5 acres	4	
SESA	3.6 acres	4	.25 Treated
CIAR	.1 acres	1	
HYPE	3.6 acres	4	
DIPU	1 acres	2	Treated .10
	acres		
	acres		

Cover Classes: 1 = Trace, 2 = 1 – 3%, 3 = 3 – 5% 4 = 5 – 10%, 5 = 10 – 25%, 6 = 25 – 50%, 7 = 50 – 75%, 8 = 75 – 95%, 9 = 95 – 100%

Note: Cover classes are meant to be approximations only. DO NOT spend more than a few moments determining cover class.

Admin Use Only

Activity Unit FACTS ID#: _____ Name: _____

Activity Subunit #: _____ Name: _____

Daily Log Part 1

Application Date	Time Start	Time Stop	Temp (F)	Wind Speed (MPH)	Wind Direction	Cloud Cover	Comments:
9/25	2:30	4:30	60°	<2	W	90%	

Total Volume of Mix Applied	UOM	Mix (oz herbicide /1 gallon water)	Dilutant	Applicators Names
9	Gallons	2 oz/ gallon	Water	Stephen Marsh, Jon Clevenger, Tyler Criswell, Derek Schmid

Herbicide Product Name / EPA #	Amount of this herbicide product that was applied	Percent Solution	Adjuvant Product Name	Amount of this adjuvant that was applied	Percent Solution	Total Application Area (Acres):
Element 3A EPA# 62719-37	18 oz	1.5 %	Competitor WAREG 2935-04001	6 oz	.5 %	1
Aqua Neat EPA# 228-365	oz	%	BlazOn	3 oz	.25 %	Acres Treated within 150' of Water: .25
	oz	%		oz	%	Bankful Acres Treated (for NPDES): 0

Daily Log Part 2 For use when more than one day is necessary to treat the infestation.

Application Date	Time Start	Time Stop	Temp (F)	Wind Speed (MPH)	Wind Direction	Cloud Cover	Comments:

Total Volume of Mix Applied	UOM	Mix (oz herbicide /I gallon water)	Dilutant	Applicators Names
	Gallons	oz/ gallon	Water	Stephen Marsh, Jon Clevenger, Tyler Criswell, Derek Schmid

Herbicide Product Name / EPA #	Amount of this herbicide product that was applied	Percent Solution	Adjuvant Product Name	Amount of this adjuvant that was applied	Percent Solution	Total Application Area (Acres):
Transline EPA# 62719-259	oz	%	Competitor WAREG 2935-04001	oz	%	
Polaris EPA# 241-426-228	oz	%	BlazOn	oz	%	Acres Treated within 150' of Water:
	oz	%		oz	%	Bankful Acres Treated (for NPDES):

(From front page) Ref #:_____ Start Date:_____

Notes:

APPENDIX K: PROJECT FORMS

- Rock Pit Inspection Form

Invasive Plant Inventory for Rock Sources, Olympic National Forest

District or Forest Weed Specialist compliance statement and signature:
This designation is valid for two years from the inspection date listed below.

CHECK ONE:

☐ **Option A. Rock source exceeds requirements:** ***I have determined that this rock source to be completely free of weeds.*** Weeds, even those listed as tolerated species, are not present in, and are not associated with, this rock source.

☐ **Option B. Rock source meets requirements:** ***I have determined that this rock source to be acceptable for use, with acceptable levels of contamination.*** *It is very unlikely that distribution of materials from this rock source would contribute to the spread of noxious weeds.*

- Any species listed as priority 1 by Olympic NF, OR those listed as Class A, B or selected weeds on State and County noxious weed lists, OR species of particular concern are absent in or around rock source.
- Species listed as priority 2 by Olympic NF (but not on State or County list specified above) may be present in small, isolated patches within or near the rock source. Typically, less than 10% of the pit either has weeds growing on it or potentially could contain weed seed or other propagules, and these areas are easily isolated from rock source materials.
- Species listed as tolerated are present to various degrees within and around rock source.

☒ **Option C. Rock source meets minimum requirements:** ***I have determined that this rock source acceptable for use, but only if no other source is available.*** *Distribution of materials from this rock source may contribute to the spread of noxious weeds if precautionary measures are not followed.* *These measures are described in the comments box below.*

- Any species listed as priority 1* by Olympic NF, OR any species listed as Class A, B* or selected weeds* on State and County noxious weed lists, OR species of particular concern are absent in or around rock source.
- Species listed as priority 2 by Olympic NF (but not on State or County list specified above) are present in patches, but some portions of the rock source are relatively free of weeds, are most likely are not contaminated with a significant amount of propagules (seeds, roots, etc.) from these species, and may be an acceptable rock source for FS lands. Typically, between 10 – 50% of the pit will have priority 2 weeds growing on it and/or potentially could contain seed or other propagules from these species, and these areas are easily isolated from rock source materials.

*In limited circumstances, as determined by the inspector, this box may be checked when species listed as priority 1 by Olympic NF, OR class B or selected weeds on State and County noxious weed lists are present in very small, easily isolated patches.

☐ **Option D. Rock source fails to meet requirements.** ***I have determined that this source is unsuitable for use at this time.*** *Distribution of materials from this rock source would likely contribute to the spread of noxious weeds.*
Weed species listed as priority 1 by Olympic NF, OR those listed as Class A, B or selected weeds on State and County noxious weed lists, OR species of particular concern are present in or around this rock source, OR weed species listed as priority 2 by Olympic NF are present to the extent that plants and/or propagules (seeds, roots, etc.) are present in significant portions of the rock source and cannot be isolated by precautionary measures.

Signature _____ Date 10/16/14

Name of Rock Source: Unnamed Pit

Narrative of Pit Location (include, at minimum, road number and milepost):
2878 X 2870 junction

Ref # (from project spreadsheet): 32

Coordinates of Location N: _____ **E:** _____ *UTM NAD 83 is preferred
Projection (circle one): (UTM NAD 83) (UTM NAD 27) (NAD 83 Albers) (Lat/Long) (Decimal Degrees) (Other): _____

Name and Title of Inspector: CCDWB Coordinator **Date of Inspection:** 10/16/14

Comments: Include mitigation measures that need to be implemented to minimize the chance of spreading weeds. This should include a description of what parts of pit are usable, and what parts must be avoided. This should also be shown in the sketch of the pit on last page.

The north end of the pit is probably the most valuable as this is only scabious and priority 2 weeds. Southend has several high priority weeds that are of very limited distribution. Until they are gone, probably should use the southern half of this quarry for materials.

ame of Rock Source: Date inspected:

Species present:

Species Code	Common Name	Infested Area (acres)	Cover Class	Comments
CESA	meadowfoam CESA	.1	2	
PORE	sulfur cinquefoil PORE			
CIAR	Canada thistle	.1	2	
DIFU	fuller's teasel	.01	1	just one on the left
LALA	everlasting peavine	.75	4	
RULA RUAR	Himalayan Blackberry Cutleaf Blackb	.1	2	both - in small patch the RUAR starting to fill away
CYSC	scotch broom	.5	3	
SIGSA	tansy ragwort	.01	1	true
HYPE	St Johnswort	.5	2	
Do not record tolerate species in this table.				

DON'T FORGET TO FILL OUT THIS SECTION!

Estimated size of pit: 2 **acres**
(1 acre = 43560 ft², or approximately 209 ft x 209 feet. 1/10 acre = 4356 ft², or 66 ft x 66 ft, or approximately 435 ft x 10 ft)

Percent of pit occupied by invasive plants 40 **%**
This percent should indicate the percent of the pit that is NOT usable as a rock source as you find it on the day of the inspection. This includes area occupied by weeds AND the area potentially contaminated with seeds or other propagules.

Was this pit treated for invasive plants during this visit? (Yes) / No
If yes, please fill out a FACTS form documenting treatment

Has this pit been treated for weeds before? (Yes) No / Don't know **If yes, what year?** 2012 or 13

Cover Class and **Infested Area (acres)** columns are filled out exactly the same way as on the FACTS form.

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

2014 Olympic National Forest Invasive Species List

Updated 03/19/2014

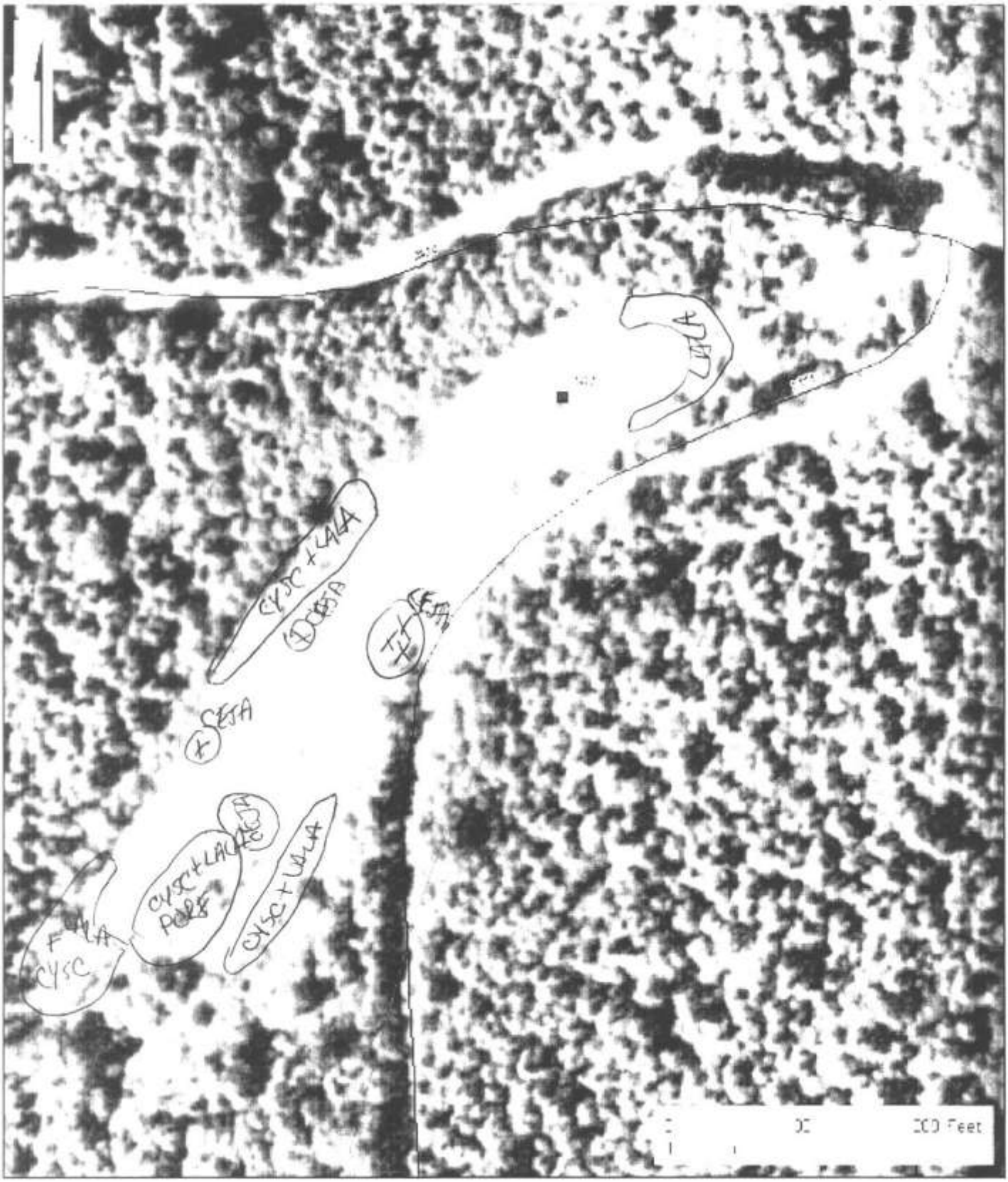
CLB

Code	Scientific Name	Common Name	Treatment Priority
AEPO	*Aegopodium podagraria*	Bishop's weed, goutweed	1
ARMI2	*Arctium minus*	lesser burdock	1
BOOF	*Borago officinalis*	common borage	1
BRTE	*Bromus tectorum*	cheatgrass	1
BUDA2	*Buddleja davidii*	butterfly bush	1
CEDE5	*Centaurea debeauxii*	meadow knapweed	1
CEDI3	*Centaurea diffusa*	diffuse knapweed	1
CEJA	*Centaurea jacea*	brownray knapweed	1
CESTM	*Centaurea stoebe* ssp. *micranthos*	spotted knapweed	1
DIFU2	*Dipsacus fullonum*	Fuller's teasel	1
GERO	*Geranium robertianum*	herb Robert, stinky Bob	1
HIAU	*Hieracium aurantiacum*	orange hawkweed	1
HICA10	*Hieracium caespitosum*	meadow (yellow) hawkweed	1
HISA4	*Hieracium sabaudum*	European hawkweed	1
LAGA2	*Lamiastrum galeobdolon*	yellow archangel	1
LYPU2	*Lysimachia punctata*	large yellow loosestrife	1
LYVU	*Lysimachia vulgaris*	garden yellow loosestrife	1
ORVU	*Origanum vulgare*	oregano	1
POCU6	*Polygonum cuspidatum*	Japanese knotweed	1
POPO5	*Polygonum polystachyum*	Himalayan knotweed	1
POSA4	*Polygonum sachalinense*	giant knotweed	1
POBO10	*Polygonum x bohemicum*	Bohemian knotweed	1
PORE5	*Potentilla recta*	sulphur cinquefoil	1
SEJA	*Senecio jacobaea*	tansy ragwort	1
SILAA3	*Silene latifolia* ssp. *alba*	bladder campion	1
SYOF	*Symphytum officinale*	common comfrey	1
VETH	*Verbascum thapsus*	common mullein	1
VIMA	*Vinca major*	bigleaf periwinkle	1
VIMI2	*Vinca minor*	common periwinkle	1
CIAR4	*Cirsium arvense*	Canada thistle	2
CIVU	*Cirsium vulgare*	Bull thistle	2
COAR4	*Convolvulus arvensis*	field bindweed	2
CYSC4	*Cytisus scoparius*	Scot's broom	2
DACA6	*Daucus carota*	Queen Anne's lace	2
HEHE	*Hedera helix*	English ivy	2
HYPE	*Hypericum perforatum*	common St. Johnswort	2
ILAQ80	*Ilex aquifolium*	English holly	2
LALA4	*Lathyrus latifolius*	everlasting peavine	2
LYSY	*Lathyrus sylvestris*	flat pea	2
PHAR3	*Phalaris arundinacea*	reed canarygrass (including ribbon grass)	2
PRLA5	*Prunus laurocerasus*	English laurel	2
RUAR9	*Rubus armeniacus*	Himalayan blackberry	2
RULA	*Rubus laciniatus*	cutleaf blackberry	2
TAVU	*Tanacetum vulgare*	common tansy	2
DIPU	*Digitalis purpurea*	purple foxglove	Tolerate
HYRA3	*Hypochaeris radicata*	hairy catsear	Tolerate
LEVU	*Leucanthemum vulgare*	oxeye daisy	Tolerate
LOPE80	*Lotus pedunculatus*	big trefoil	Tolerate
PLLA	*Plantago lanceolata*	narrowleaf plantain	Tolerate
RARER	*Ranunculus repens* var. *repens*	creeping buttercup	Tolerate
TAOF	*Taraxacum officinale*	common dandelion	Tolerate

GEM

Rock Pit Inspection: Unnamed, 2878 x 2870 jxn

Date of Inspection: 10/16/14 (mo/day/year)



Calibration Verification

Agency/Organization: Clallam Co Noxious Weeds Date: 6/9/14

Each piece of equipment listed below has been calibrated using an accepted, appropriate method, and examined and repaired as necessary to ensure it is safe and in good working order. Each unit will be maintained periodically as needed throughout the field season.

Signature: Cathy S Position: Coordinator

Equipment ID	Equipment Type	Calibrated GPA	Working Condition?	Comments	Examiner Initials
97	Back pack	50	good		SM
84		51			JPC
96		32	good	Cone Tip	SM
3		40	Fair	Weak/Low pressure	JPC
94		42	good	Cone Tip	SM
5		36	Good	Brass Tip	JPC
99		42	good	Cone Tip	SM
91		34	good		SM
117		52	Fair	Handle gets stuck on JPC	JPC
98		41	good	handle little loose	SM
93		41	POOR	Very Leaky Around pump (handle sticks)	JPC
50		42	Good	Had to borrow handle from other sprayer	JPC
16		36	Good	Says it leaks.	
M3	Handsprayer	37	Good		JPC

APPENDIX L: CALIBRATION METHODOLOGY

Followed Method 2

Method 1-Hand Sprayer Calibration Method
It is just as important to calibrate manual sprayers as it is to calibrate power sprayers. Generally, these sprayers are calibrated by determining the amount of liquid required to adequately cover the intended target.
Step 1: Area Measurement Measure and mark off an area 20 feet by 50 feet (1,000 square feet). Practice spraying the area with water. Spray the area twice for a uniform application. Walk in
one direction, swinging the nozzle back and forth. When you finish, go over the area again, this time walking at a right angle to the direction you walked before. For example, walk from north to south for the first application, and from east to west for the second.

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

Example: One gallon of water was put in al -gallon hand-operated sprayer. After spraying a I 00- square-foot test area, it was determined that 8 ounces of water were needed to refill the tank to the I gallon mark. At this application rate, how many square feet of carpet could be treated with I gallon?

spray used =8 oz. on I 00 sq. ft. I gal. water = 128 oz. 128 oz. =16 8 oz.
16 x 100 sq. ft. = 1,600 sq. ft.

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

Change Delivery Rate

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

•Change the pump pressure. Lower pressure pushes less spray out of the nozzle; higher pressure pushes more spray out. This is not the best method because a pressure change will change the nozzle pattern.

•Change the speed of the sprayer. Slower speed leaves more spray along the target area; faster speed means less spray is left behind. Doubling the speed you move cuts the application rate in half. Changing the speed is practical for small adjustments of the application rate.
Adjust each nozzle's hole size by changing the nozzle's disk or change the entire nozzle. This is the preferred method of adjusting the application rate. By increasing the size of the hole in the disk or nozzle, you increase the application rate.

Method 2-Calibration of Small Volume & Hand Held Sprayers

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

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

3. Measure the amount of water delivered to this strip by spraying into a bucket for the same amount of time as in step #2. Also keep your pressure the same as when you sprayed the strip. 4. The amount of water collected in fluid ounces equals the output or GPA. (Ounces = GPA)

This method works because of the relationship between a square that is 128th of an acre (I 8 1/2x 18 V2= 342.25 ft2) and the fact that there are 128 ounces in a gallon.