Combined Weed Board and Puget Sound Corps prepare to tackle Dosewallips River projects

Olympic Peninsula Cooperative Noxious Weed Control
2013 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 2013 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 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 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 local 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 contractors for specific large scale projects. For the first time ever, special Puget Sound Corps (PSC) funded by the WA Department of Natural Resources, assisted with several large scale projects across jurisdictional boundaries.

2013 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

2013 Resources: (All crews)
- Supervisor (25 hours/week, 6 months)
- 5 Project Specialists (various, only one up to 4 months)
- Clallam County Sheriff's Chain Gang (8 days)
- WCC (8 days)
- 2 PSC-(19 days)

2013 Accomplishments: (All crews**)**
- Examined **776** acres for invasive species, treated or re-treated **481** weed-infested acres
- Treated **16** wilderness/botanical/critical areas encompassing **69** acres
- Monitored treatments on **205** acres per FS protocol
- Completed and submitted **137** FACTS sheets, **37** Monitor forms, and **13** Rock Source Surveys to USFS.
- Compiled data and completed annual Project Report

Observations and Recommendations:
Weed infestations threaten the health and diversity of native plant communities both within the Olympic National Forest and on adjacent lands. Overall infestation size, density, and diversity have been considerably reduced. Although some new sites were mapped, for the first time in a long time, no new weed species were discovered in 2013!

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 2014. While one-time Washington Department of Natural Resource funded Puget Sound Corps provided critical assistance this year, we need to identify additional funding for some of the large invasive projects that remain. Large scale projects such as the one that occurred 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 have provided 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 now that the Act has expired.

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 2014 although SRS itself has not been renewed.

On Forest Service lands the project operates under a policy 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 treatments, 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 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 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 occasionally, 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. Instead, the Forest Service hired a two person crew that operated out of Olympia. Three newly formed six person Puget Sound Corps (PSC) were offered to CCNWCB to assist with restoration efforts along riparian areas that drain into the Puget Sound. CCNWCB chose to spread the crews as far as possible by stationing one in three different counties. In Clallam and Jefferson they were utilized for some of the large projects that were otherwise beyond the resources of our small crews, but still a high priority for the FS.

2013 Project Description:
This year's work involved a wide array of remote access sites including an infestation in the Buckhorn wilderness, several Botanical areas, and additional wildlife habitat and riparian restoration areas. (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. A Forest Service employee monitored some treatment sites and sent feedback to the counties. The FS required Weed Boards to monitor at least 50% of treated areas in specifically assigned watersheds. Crew often followed monitoring up with re-treatments as time allowed and weather allowed.

Two seasonal crew members were hired in June. The Clallam County coordinator oversaw the crew until at least one obtained an applicator's license. Then, the coordinator and/or another licensed applicator assisted at least one or two days a 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 2013, 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.

2013 Project Resources and Roles:

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

- **CCNWCB**

  Coordinator: 25 hours/week, for 6 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 Rocksource Inventory forms, submitted to the FS
  - Compiled data, prepared end-of-season report and planned for 2014 field season

  Field team: 5 project specialists, (licensed, aquatic applicators), variable time
  - Treated **297**acres; retreated **63** acres; completed **137** FACTS forms for all treated sites
  - Examined **776** acres, surveyed **149** miles of roads,
  - Surveyed and filled out forms for **13** FS rock sources
  - Monitored **205** acres, (to meet required 50%) and completed **37** Monitor forms

- **WCC Crew**
  - Treated a total of **15** acres
- **2 PSC Crew**
  - Treated a total of **84** acres
- **Clallam County Sheriff's Chain Gang**
  - Treated **52,108** Scotch broom within County pits and roads.
- **Clallam County Sheriff's Chain Gang-Title II FS funded**
  - Removed **16,700** Scotch broom, **380** tansy ragwort, 790 herb Robert plants, -estimated to equal **5** acres

2013 Project Accomplishments:

Through the efforts of the Clallam County NWCB, Chain Gang (for Forest Service) WCC and PSC, crews treated **418** acres of noxious weeds and surveyed **149** miles of roads. Weed board re-treatments (**63** acres) are noted, but not included in the acre total, per Forest Service protocol.

The table on the following page provides some prospective on 2013 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 2013 project list.

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

2002-2013 ACCOMPLISHMENT SUMMARY TABLES

Acres Treated by Crew-rounded to the nearest whole number

CREW[A]	2002-2006[1] (5 yrs manual treatments) baselines	2007	2008	2009	2010	2011	2011 retreats	2012	2012 retreats	2013	2013 retreats	Total
NWCB manual	8.61		55	27	21	33		33		**7**		
NWCB chemical			131	195	316	261	25[3]	286	52[3]	**297**	**63**[3]	
NWCB total	8.61[1]	60[2]	186[2]	222[2]	337[2]	294[2]		319[2]		**314**[2]		**1,741**[3]
OCC-manual	None	337[2*]	75[2]	78[2]	None	None		None				**489**[2]
WCC[5] manual	58.83	22	None		None			2		**7**		
chemical				54		38		26		**8**		
WCC total	58.83[1]	22[2]		54[2]		38[2]		28[2]		**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**		
Chain Gang	38.68[1]	7[1]	2[1]	7[1]	0.16[1]	6[2]		25[1]		**5**		**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	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**	**1,145**

Road Miles Surveyed and/or Treated by NWCB Crews

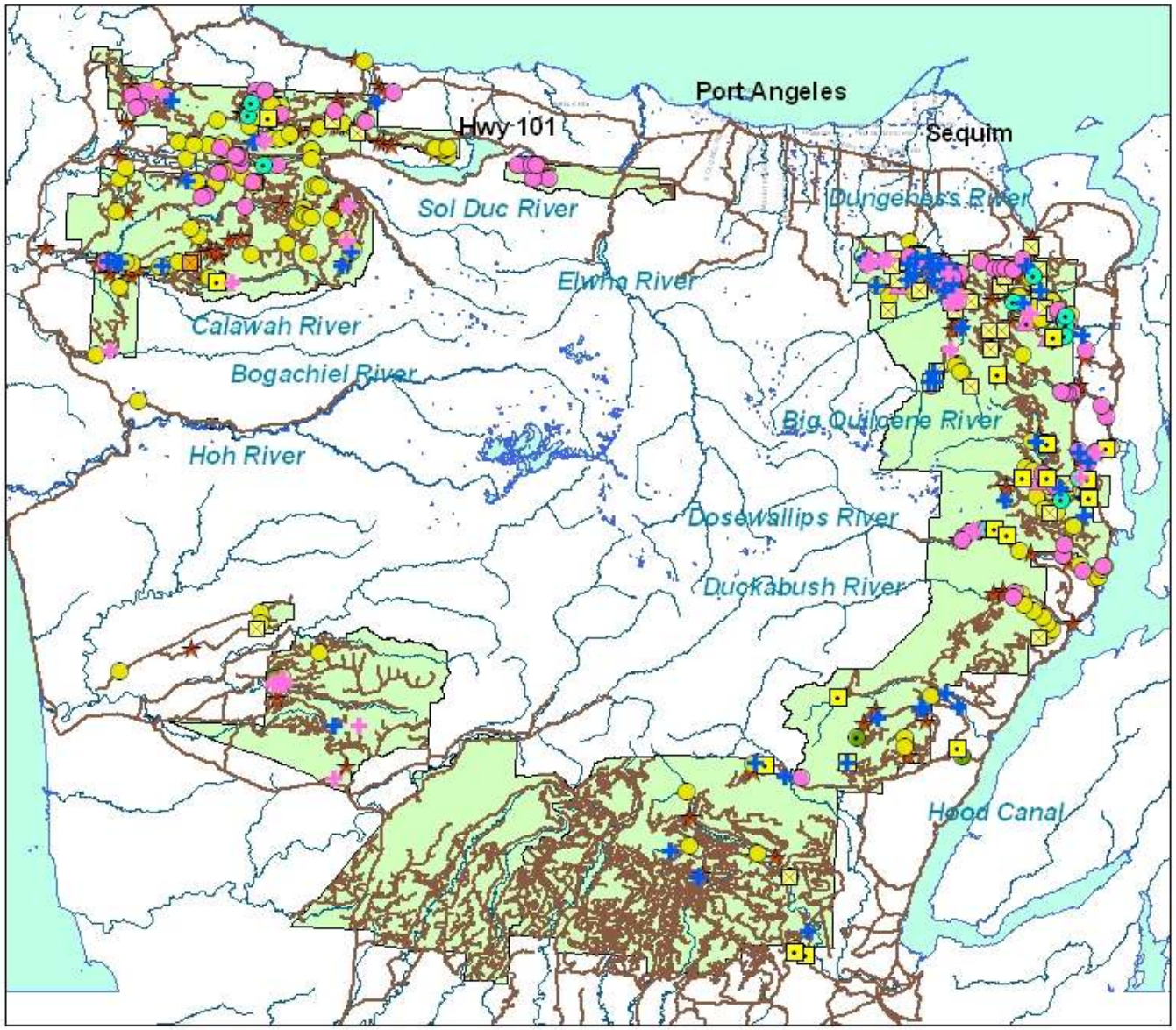
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Miles of Roads Surveyed/Treated	192	702	265	113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1,272**
Acres Surveyed/Treated	233[4]	851[4]	321[4]	137[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**1,542**[4]
Miles of Roads Surveyed	N/A	N/A	N/A	N/A	391	369	423	299	222	237	309	**149**	**2,399**
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]	**6,180**

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 for 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 2013 are shown in yellow. The Roads Surveyed 2013 layer was created in the office, based on roads named in the FACTS sheets filled out by the crew, and GPS track logs.
- The 2013 activity maps show weed sites newly documented in 2013. 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 Garmin version 6.0.0.1, 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

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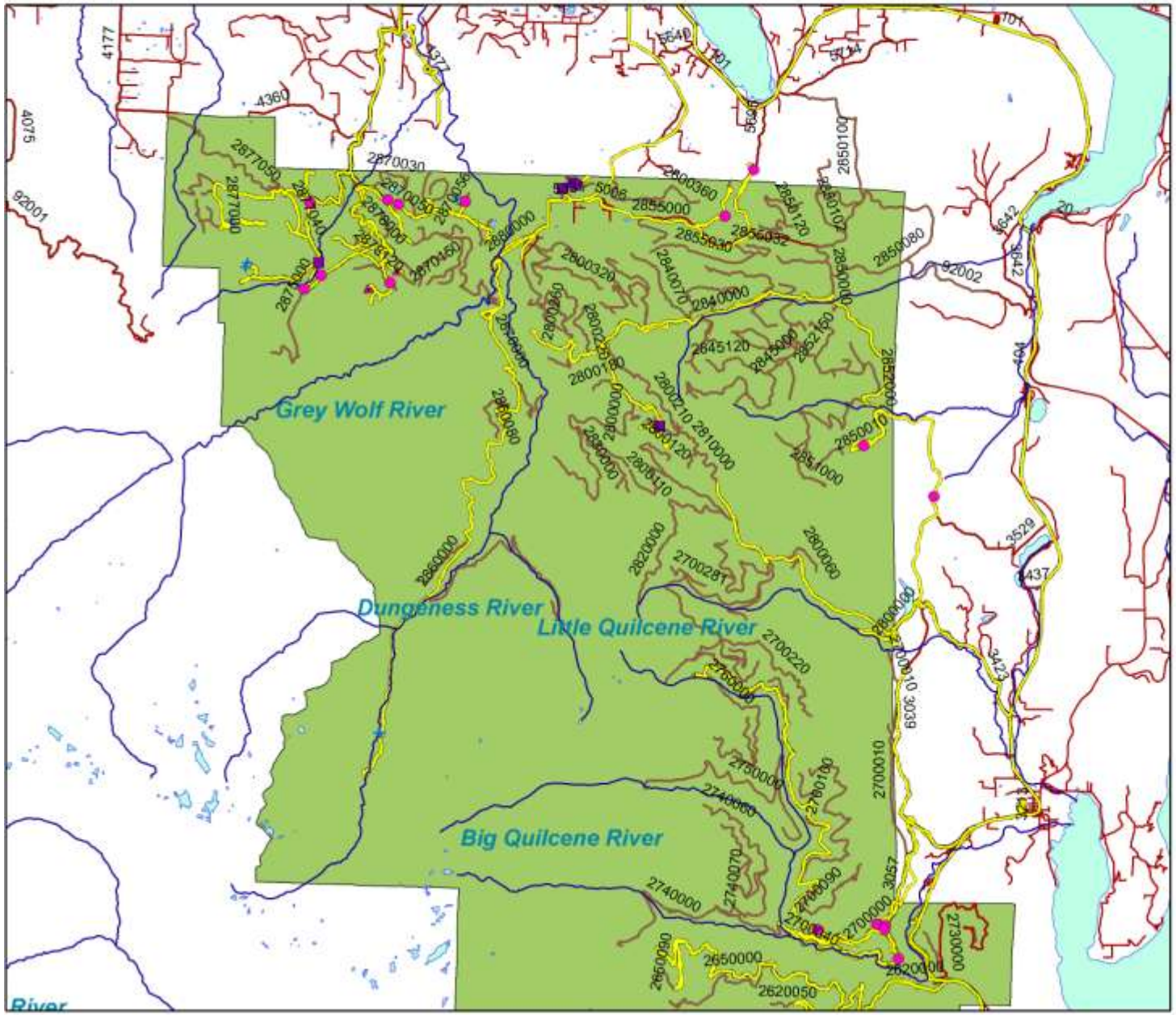
Hood Canal North--Roads Surveyed and New Weed Sites, 2013



Legend

- Bohemian knotweed
- Canada thistle
- English ivy
- everalssting peavine
- herb Robert
- meadow knapweed
- yellow archangel
- Rivers
- Roads Surveyed 2013
- FS Roads
- County Roads
- FS Districts
- Water

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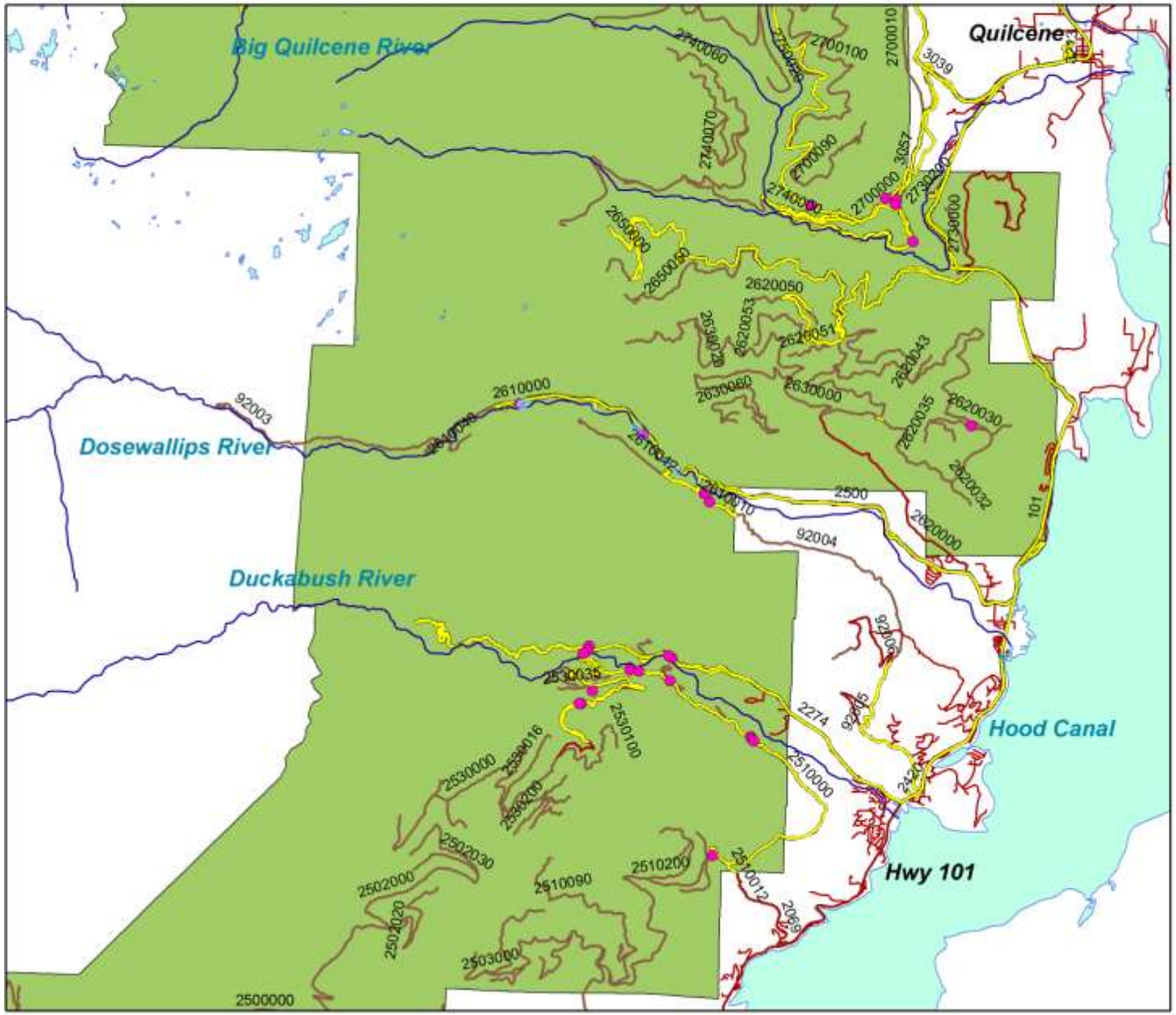
Hood Canal South--Roads Surveyed and New Weed Sites, 2013



Legend

- Bohemian knotweed
- Canada thistle
- English ivy
- everalssting peavine
- herb Robert
- meadow knapweed
- yellow archangel
- Rivers
- Roads Surveyed 2013
- FS Roads
- County Roads
- FS Districts
- Water

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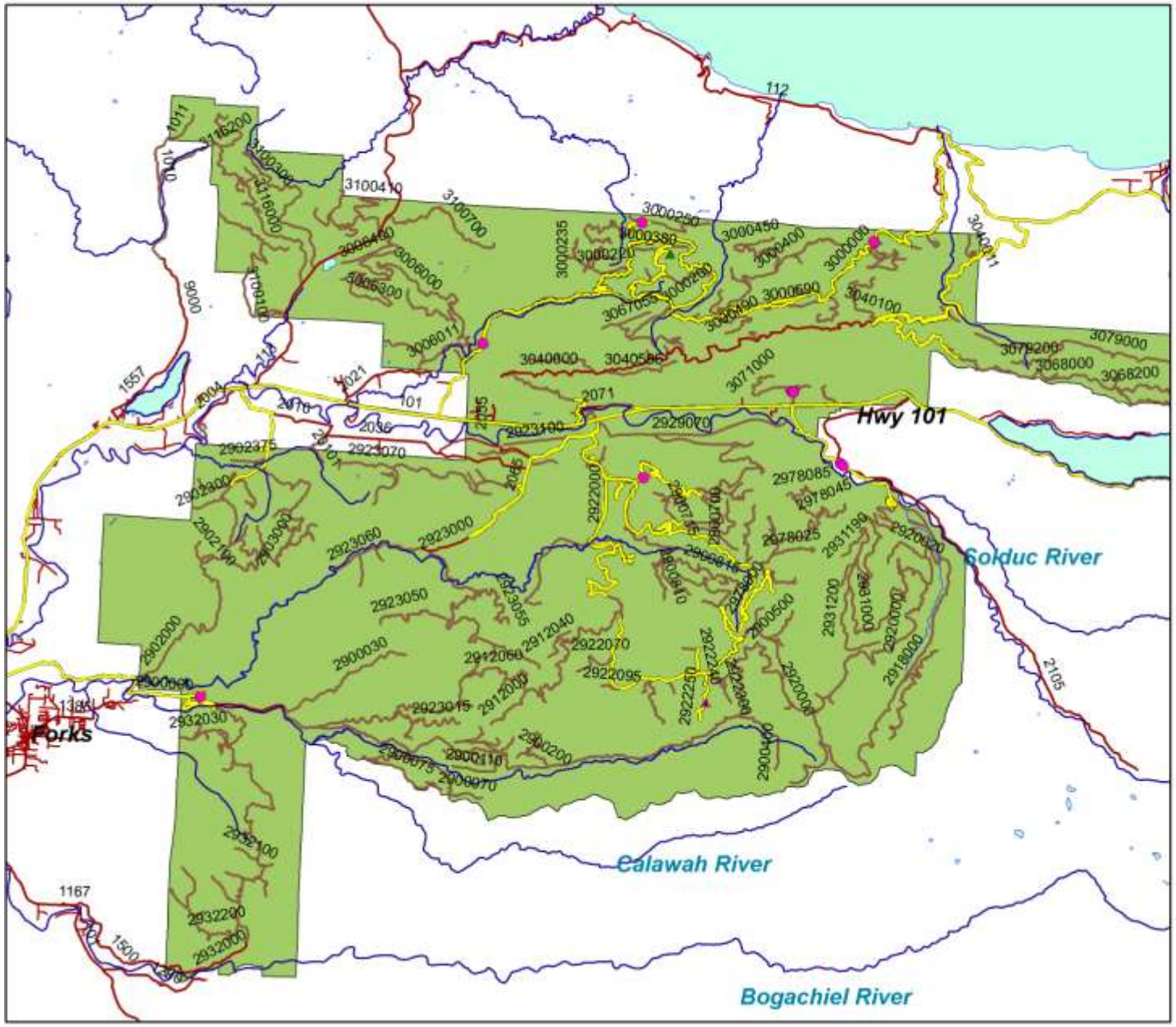
Pacific North--Roads Surveyed and New Weed Sites, 2013



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- Water

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Project Spotlight: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**.** After 2009 the Hood Canal Salmon Enhancement Group (HCSEG) sponsored a Washington Conservation Corps to treat knotweed which they have done for the last several years. 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 this year.

For many years, butterfly bush and Scotch broom grew unchecked on an important four acre gravel bar about one-half mile from 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. The Clallam and Jefferson Weed Boards coordinated with the Jefferson County water quality and environmental health advisor. The Puget Sound corps activities were also coordinated with the Jamestown S'Klallam tribe who has treaty rights on the river. There was also coordination with private landowners on the river. This project is an excellent example of many partners coming together to work toward a mutual goal!

Both the Clallam and Jefferson PSC were tasked with clearing the site. The size of the plants and density of the infestation required hard work and use of chain and hand saws, weed wrenches, and shovels. For 10 days the crew cut, pried up, and stacked broom and butterfly bush into burn piles. Cut stumps were painted with herbicide to prevent re-sprouting. The result of their hard work was a mere 4.25 treated acres and 0.24 protected river miles. This project also illustrates just how difficult invasive removal can be when not treated promptly or in the early stages of invasion.

A crew leader operates a chainsaw to quickly cut butterfly bush

A crew member paints stumps with herbicide to prevent regrowth

The removal of the scotch broom and butterfly bush was but one 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.

Additionally, both PSCs spent nearly a week assisting with several projects identified in our annual FS work plan encompassing considerable herb Robert infestations and smaller knotweed sites. It was important to complete invasive treatments prior to the installation of engineered log jams within Forest Service boundaries itself.

Much of this work would not or could not have been completed without such a large crew. To the best of our knowledge, this is the first year that the Dosewallips River has been worked in such a complete fashion, from the wash out on Dosewallips River Road to the mouth of the river. It will need similar effort over the next several years.

This year's work on the Dosewallips was selected for inclusion in greater detail because it exemplifies the power of cooperation and coordination between federal, state, county, non-profit, and private entities. 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.

Scotch broom and butterfly bush before treatment

After treatment. Stacked in burn piles.

POST-SEASON OBSERVATIONS:

Crew searches for ribbon grass at Sink Lake

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.

Over the past eleven years, weed infestation size, density, and diversity has been significantly reduced. The fact that we treated more acreage this year than last, likely in part, reflects lower densities on those acres. This season the NWCB crew treated all **57** high priority projects and an additional **44** projects for a total of **103** projects of the annual work plan which is created by Forest Service staff.

Early Detection/Rapid Response works. For example, no ribbon grass, an ornamental version of reed canary grass, remained at either site where it was discovered and treated in 2012. Both were very early stage infestations and easily treated. No new weed species were discovered this year.

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. However, in some circumstances we may need to plan for and apply more resources for treatments farther in advance. Herb Robert has become the top 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. We need to develop new strategies to counteract herb Robert's advance.

We treated **69** acres of critical habitat. It is not only exciting to see more sites in transition to restoration but also a sure sign that our control efforts are working. At every location the improvement is evident. Even the public has noticed. Our treatments at Camp Handy in the Buckhorn Wilderness drew rave responses from hikers who wondered "where all the Canada thistle had gone". As our work for the Forest Service transitions from heavy weed treatments to careful spot treatments amid site specific replanting, the work becomes more complicated and time consuming. It will be increasingly difficult to balance all the needs with the demands in the face of decreasing budgets.

Invasive Weed Populations:

- The most commonly recorded invasive species are herb Robert, everlasting peavine, tansy ragwort, Canada thistle, and bull thistle. The most infrequently recorded species are comfrey, hawkweeds, sulfur cinquefoil, common tansy, knotweed and sundry exotics found at unique sites such as the Caretaker's Cabin.
- We continue to make progress. No new weed species were found this year. None of the variegated, ornamental form of reed canary grass, an early infestation found for the first time and treated last year at two locations; was seen.
- Scotch broom abundance was very minor throughout project areas in 2013. There were no large dense patches of meadow knapweed. There was only one spotted knapweed site that had to be treated vs. twelve sites that have been found in the past.

- 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. We are trying to recruit volunteers such as the Back Country Horsemen to assist with some of those efforts.
- Crew did not see orange hawkweed in the Calawah Pit, however, this site will bear watching. Orange hawkweed infestations at the Caretakers Cabin are much diminished. Other orange hawkweed sites are so minimal they have become difficult for inexperienced crew to recognize.
- Crew did not find knotweed near the Calawah pit, and, in general most knotweed sites, even those along the Dosewallips are greatly reduced. Because of knotweed's known ability to return after years of invisibility, it will be important to periodically re-inspect.
- Last year's peavine treatments were VERY successful.
- Crew waypointed approximately **63** new sites this year. This may merely be this crew's greater propensity to map infestations over previous crews, although quite a few small to medium herb Robert infestations were mapped along the Duckabush.
- Herb Robert's rapidly expanding populations remain a top concern. This is not only because of its destructive effects on forest understory, but also because of its high and quick reproductive capacity. Its ability to invade undisturbed forest understory and to produce prolific seedling growth throughout the year has made it exceedingly difficult to find and to get ahead of.
- It is clear that thinning and road maintenance activities are spreading herb Robert over embankments or deeper into the forest itself. Now nature is taking over and continuing the spread. For example water draining from culverts easily moves plants ¼ mile into the woods. Also, we repeatedly found significant herb Robert infestations upslope, in and around mountain beaver communities.
- There were no contractor projects this year. The Forest Service's own weed team, while useful cannot replace the capacity of a contractor to treat large projects.
- On average, the condition of rock sources on FS land is improving. A few, especially those with high priority species, still need more work. Because of high visitation, disturbed condition, and potential use as yard waste dump sites, even those in good condition need to be periodically revisited. Some may be safely put on a two year rotating inspection/treatment schedule.
- 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 but it is unclear whether they have sufficient resources to adequately control its spread.

Survey, Treatment, and Monitoring

- NWCB crews treated all **57** high priority projects listed for Jefferson/Clallam in the 2013 work plan. An additional **44** priority 2 projects were treated, mainly because of proximity to high priority projects or known herb Robert sites that were not a high priority to the Forest Service. An additional **51** 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 project list was better sized this year than last year; but field crew would never have been able to get through some of the larger projects without help from the 2 Puget Sound Corps. This was particularly true on the Dosewallips and the 3000 road. ALL herb Robert sites require consistent follow up and a number of known sites were given lower priority and skipped this year.
- The upward trend of re-treatment acreage continued, from **24.98 in 2011, 51.82 in 2012 to 63.1 in 2013,** a 20% increase from last year. This is particularly important as multiple treatments per season are viewed as critical to getting ahead of herb Robert infestations. However, it may be more of an effect of our new monitoring requirements; crew typically re-treated new or missed growth after completing monitoring documentation.

- A wet September was utilized by our field crew to hit the new monitoring acreage targets, but decreased their treatment productivity during that time.
- Overall **herbicide usage decreased slightly again this year 37.77** gallons down from **38.57** in **2012**, even though **total treated acreage increased by nearly 96 acres**. We attribute this, at least in part, to lower weed densities as we continue to make progress, or because most of the re-treatment acreage had high initial effectiveness.
- The large, remote area covered by this project still makes travel time a significant factor in the amount of fieldwork that can be accomplished in a season and hence associated costs. Crew was again deployed to many non-roadside sites. We treated approximately **70 acres** in botanical/critical/habitat areas, approximately 30 acres more than last year.
- There were few sites on the project list where hand-pulling alone was an effective use of time.
- The new monitoring requirement yielded some unexpected crew benefits. It was perhaps the best way for crew to see the effect of their treatments themselves while incorporating a process for corrective action in cases of poor treatment, before the season ended. The monitoring requirement may have also encouraged additional follow-up visits to sites that may not have otherwise received them. Monitoring was a required activity that could be performed during inclement weather.
- The crew dispersed native blue wildrye on bare ground Often this was on old peavine or herb Robert infestations. This was another good activity for inclement weather at the end of the season. (see Appendix D for more details)
- The Chain Gang still appears to be underutilized and uncoordinated with the over all invasive management plan. This might be explained by dwindling funding which forces their activities to be concentrated elsewhere.
- The Puget Sound Corps contributed **19 days** of crew time to Forest Service projects and are credited with treating approximately **85** acres on Forest Service land, (including additional acreage elsewhere in Clallam and Jefferson). They enabled us to tackle some enormous sites particularly along the 2610 (Dosewallips River) and 3000 (Bear Creek) road systems.
- This year's WCC crew was the most eager and inspired crew we've worked with to date. WCC crew willingness and capacity to spray has greatly increased the productivity of its crew. A wet June decreased hoped for treatment assistance on some large projects; however. The WCC were mostly reduced to surveys and manual control during their time with us. Unfortunately, once again, the WCC crew did not have a licensed applicator while the crew leader was on vacation.
- Cranberry Bog treatments cannot take place without the assistance of the FS fire crew, which facilitated on-site water storage. The Cranberry Bog continues to be an exciting experiment in transitioning from treatments to restoration.
- Cooperation between the Weed Boards, the Forest Service and the Port Townsend Municipal Watershed continued to be excellent. 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, Jefferson County Noxious Weed Control Board 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 are very useful and have become more focused and organized.
- The Forest Service once again provided excellent pre-season planning documents and files. Maps, color coding assignments and their priority, adding reference numbers, and providing FS road numbers really helped. Shape files for previous year treatments were invaluable.
- Only one former crew member returned to CCNWC program. Because he had other responsibilities, his involvement with Forest Service projects was intermittent. Crew hiring was fitful due to some changes in Clallam County hiring policy. One crew member returned to school in mid August, another was brought on immediately after. All these factors resulted in not only a steep learning curve, but what seemed like a continuous learning curve, particularly in respect to filling out forms. We apologize for any confusion or difficulties this may have caused.
- We appreciated the reinstatement of "Acres Examined for Weeds" line and other changes made to the 2013 FACTS sheet.

RECOMMENDATIONS:

A large workforce is needed to successfully combat large, peavine-infested sites like the one shown here.

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. In many cases, we have made remarkable advances both in controlling invasive, detrimental plant species and in creating close relationships with a wide array of entities. The SRSA has not been renewed but there is funding for a small crew in 2014.

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, tt would be helpful for the Forest Service to ask for some of the buffers restrictions for certain herbicides to be re-examined to avoid overly complicating treatments, without gaining 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. We have been increasingly called upon for special, widely-dispersed infestations or to advise while augmenting other crews that are sized or equipped for larger projects. 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 has expired and the funding it provides is nearly exhausted.

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.
- Consider an early season meeting with other land managers and/or contractors to identify needs, pool resources and formulate more cross boundary invasive plant control projects to protect FS resources.
- Require WCC to provide a licensed applicator during their assignment with the weed boards. The only applicator was on vacation for half their time with us this year.
- 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.
- Include a weed board representative in consultation meetings with NFMS and USFW services, if possible. This would help us better understand and address potential concerns.
- Expand treatment dates, providing for later treatments as weather conditions, critical wildlife windows, and crew resources allow.

- Please include a list (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 required buffers much as possible. These buffers may interfere with more widespread use of very useful herbicides
- Support through SRS has provided improved year-to-year 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

- Expand the use of clopyralid wherever herb Robert is not a target. Results on peavine and thistle are very encouraging.
- Treatments of Canada thistle at Camp Handy, Heather Creek, Pat's Prairie, Juniper Meadow and the Caraco Units have been so successful, consider delaying re -treatments for a year. Bonidu Meadows may still need another year of treatments.
- Monitor sites seeded with blue wildrye. Note germination and level of weed encroachment. Provide additional seed as available.
- Create an acreage goal in consultation with Port Townsend Municipal Watershed officials for peavine treatments on the 2700 and 2800 roads. Recheck on allowed herbicides. Plan for re-seeding. Possibly explore the use of native forb seeds in addition to grassy species?
- Monitor effectiveness of late imazapyr treatments along the Little Quilcene water diversion. It will be interesting to see whether this treatment reduced or eliminated some germination this winter and into the spring.
- Secure a contractor for herb Robert treatments on long, heavily infested roads. Most are beyond the capacity of local weed boards. Continue to build follow-up treatments into the work plan. At every known herb Robert site we recommend at least 2 treatments per season for several years.
- Include a survey component in the work plan. Pre-planning should include identifying areas where we have not been for four years. Surveys are an important activity that can be performed on inclement weather days and provide welcome variety and thus a morale boost for summer crew during a long season of weed control.
- Include re-seeding with native grasses as a late season, or very early season activity (when there will be sufficient moisture) into the NWCB work plan. Ask crews to identify areas that would benefit from re-planting to reduce erosion and possible sediment pollution into streams.
- Re-inspect historic knotweed sites at least every other year because of their known ability to return after years of invisibility.
- To conserve dwindling Title II funding, narrow and focus next year's project list to reflect high priority species, high priority sites, and early detection goals. A list of potential survey sites is given in Appendix E.

Documentation

- Please provide an updated road shape file that shows current status of the Forest Service road system such as closed roads, trails, and roads proposed for decommissioning. Our shapefile dates back to the '90's and does not include up-to-date information.
- Changes to the 2013 FACTS forms were useful and constructive. The Weed Board needs to ensure earlier in the season that there is no confusion and that we are completely filling out forms.

2013 PROTOCOLS

2013 NWCB crew heads to Camp Handy

1. **Team and Project Dates**
   This year's project focused almost entirely on treatment, rather than survey. Additionally, 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, Jessica Coyle, Stephen Marsh, Alyce Miller and Even Sivesind in various combinations performed treatments. Port Angeles and Chimacum based Puget Sound Conservation Corps assisted on several Forest Service projects; one in the Deep Creek 6th field watershed, the rest in the Lower Dosewallips 6th field watershed. 2013 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 H), and additional species that are of concern to the Forest Service. In most cases Class B non-designate, Class C, and other low priority non-native weeds were only documented when an infestation was in a site of particular concern (e.g. a Botanical Area), when the infestation was of notable size, or when a new species was found. Exceptions were made for especially invasive species, such as herb Robert or knotweeds, which threaten undisturbed areas. See Appendix G for a complete listing of species recorded from 2002 to 2013. Treatment and surveys were not intended to target all non-native species.

3. **Survey and Treatment (see Appendix D):**
   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.

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

   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. 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 6th and October 5th.

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% Garlon 3A or Element 3A (tricloypr)or Aqua Neat (glyphosate), or .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 J

Invasive Plant Inventory for Rock Sources

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

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 this map are 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 are still vague and have not been adequately developed.

a. Individual sites were plotted as points. Where practical, multiple sites on a road of the same species were turned into a polygon.
b. There is a separate layer (shape file) for each weed species.
c. Polygons were drawn on a separate layer – one layer for each species.
d. New layers were produced post-season showing where treatment occurred.

- NWCB crew carried a Garmin 78 pre-loaded with Topo US 24K. The automatic track log function was enabled.
- Meta data was set to NAD83 Harn, State Plane North 4601, statute feet.
- Crew was instructed to turn and leave on units, just prior to entering project area.

- Crew was 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.
- 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. IN 2013, the crew rarely kept the log book up to date. Waypoints and tracklogs were downloaded in the office and converted into shapefiles through the Minnesota DNR public domain software DNRGarmin version 6.0.0.15.

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 2013 treatments by acreage, date and species. It is a comprehensive account of work accomplished in 2013.
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 2013, 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 2013 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: 2013PROJECT 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 or no priority. This table includes all Clallam and Jefferson Priority 1A and Priority 1 sites; Priority 2 sites are only shown when treated. 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, CPSC=Clallam Puget Sound Corps, JPSC=Jefferson Puget Sound Corps, and WB=Weed board staff.

The table shows the acreage treated each time the crew was on site, and whether the treatment was manual or chemical. (Re-treatments are identified with green shading and total 63.1 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 **402.10** 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 called out for treatment in 2014. ED/RR sites, requested mid-season by FS staff, or newly discovered are highlighted in red Any sites that the crew indicated should be a high priority for next season are marked with an **X** in the ***2014 priority*** column. **Each project** is **only marked once as a future priority**, although the reference number may appear more than once in the table. This is because we documented each visit to a specific project this year.

New this year is an ***Acres Monitored*** *column*. FS requested that we monitor at least 50% of our treatments in specific watersheds. We requested a change in monitoring locations to coincide with larger projects so we could achieve our monitored acre target. We managed to monitor **204.71** acres this year, just over the 50% goal. Generally crew re-treated remaining plants after monitoring.

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.

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
5	1A		Canyon Creek /Pats Creek	**Canyon Pit**	2875000	3.8	3.8		3.8	herbicide; Element 3A	8	7/5/2013	**CEJA,** CYSC, LALA,	
5	1A	X	Canyon Creek /Pats Creek	**Canyon Pit**	2875000			3.8		herbicide; Element 3A	22	8/28/2013	**CEJA,** CIAR, CIAV, LALA,	
6	2		Canyon Creek /Pats Creek	**Caraco Cat Unit 6**	2870054	2	0.7			herbicide, AquaNeat	4	9/19/2013	CIAR4, CIVU	
7	2		Canyon Creek /Pats Creek	**Caraco Cat Unit 5**	2870050	5	4.5			herbicide, AquaNeat	24	9/19/2013	CIAR4, CIVU, PHAR3	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
8	2		Canyon Creek /Pats Creek	**Caraco Cat Unit 2**	2870057	1	1			herbicide, Polaris	4	9/19/2013	CIAR4, CIVU, CYSC4	
9	2	X	Canyon Creek /Pats Creek	**Caraco Cat Unit 3**	2870056	4	3			herbicide, Polaris	8	9/19/2013	CIAR4, CIVU, **GERO**	found GERO patch starting edge of meadow
10	1		Canyon Creek /Pats Creek	**Cranberry Bog**	2870059	3	3		3	herbicide; Element 3A,66 Aqua-Neat,6	72	7/11/2013	CIAR4, CIVU, **GERO,** PHAR3	
10	1	X	Canyon Creek /Pats Creek	**Cranberry Bog**	2870059	4	4	2.5		herbicide; Element 3A,66 Aqua-Neat,6	84	9/10/2013	CIAR4, CIVU,**GERO,** PHAR3	GERO near Caraco Pit
11	2	X	Canyon Creek /Pats Creek		2870050	3.4	2.2			herbicide; Element 3A	8	8/28/2013	CIAR4, CIVU,CEDE, **GERO**, LALA, SEJA	
15	2	X	Canyon Creek /Pats Creek		2870056	0.6	0.035			herbicide, AquaNeat	2	9/19/2013	**GERO,** CIVU	new GERO patch near ref 9
19	1A	X	Canyon Creek /Pats Creek	**Lower Caraco Quarry**	2870000	3	3			herbicide; Element 3A	22	8/28/2013	CIAR4, CIVU,CEDE, **GERO,** LALA	heavy use by homeless
20	1A	X	Canyon Creek /Pats Creek	**Ned Hill Quarry**	2878123	1.3	1			herbicide; Element 3A	10	7/8/2013	CIVU, CYSC, LALA,	
25	2	X	Canyon Creek /Pats Creek		2875000	8.7	0.1		0.1	manual		7/5/2013	CIAR, CIVU, **CEDE5,** CYSC, LALA, SEJA	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
25	2		Canyon Creek /Pats Creek		2875000	3.3		1.5	3.3	herbicide, Element 3A	8	8/28/2013	CIAR, CIVU, **CEDE5**, GERO LALA,	
26	2		Canyon Creek /Pats Creek		2878000	19.3	4	13		herbicide, Element3A	72	8/19/2013	CIAR4, CIVU, LALA4	
26	2		Canyon Creek /Pats Creek		2878000	3.0	3		3	herbicide, Element3A	18	7/17/2013	CIAR4, CIVU, LALA4	
26	2		Canyon Creek /Pats Creek		2878000	3.7	3.5		3.5	herbicide, Element3A	6	7/5/2013	CIAR4, CIVU, LALA4	
27	1A	X	Canyon Creek /Pats Creek		2875020	1.5	0.02		0.02	manual		7/5/2013	CIAR4, CIVU, **POBO**	
28	1A	X	Canyon Creek /Pats Creek		2877040	2.1	0.9			herbicide, Element3A	6	7/16/2013	CIAR4, **GERO,** RUAR9	
28	1A		Canyon Creek /Pats Creek		2877040	2	1.1		1.1	manual		7/16/2013	CIVU, CYSC4,	
28	1A	X	Canyon Creek /Pats Creek		2877040	2	0.101			herbicide, Element3A	2	9/9/2013	CIAR4, **GERO**	
29	1	X	Canyon Creek /Pats Creek		2878100	2.3	1			herbicide; Element 3A	18	7/17/2013	CIAR4, CIVU, HYPE, LALA4	getting better, but widely dispersed near new bathroom, NT by Falls Trail
29	1		Canyon Creek /Pats Creek		2878100	2.3		1		herbicide; Element 3A	12	9/3/2013	CIAR4, CIVU, HYPE, LALA4	
30	1		Lower Gray Wolf River		2880000	5.4	4.9		3.8	herbicide; Element 3A	27	8/6/2013	CIVU, **GERO,** HYPE	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
30	1	X	Lower Gray Wolf River		2880000	3.6	3.6			herbicide; Element 3A	12	9/3/2013	CIAR4, CIVU, **GERO,** HYPE	
37	1A	X	Canyon Creek /Pats Creek		2875070	4.4	0.01		0.01	manual		7/5/2013	CYSC, SEJA	
41	1A		Canyon Creek /Pats Creek		2878110	1.7	1.7			herbicide; Element 3A	18	7/16/2013	CIVU, LALA	
41	1A		Canyon Creek /Pats Creek		2878110	1.4	1.2		2.9	herbicide; Element 3A	66	7/9/2013	CIVU, LALA	
42	2	X	Canyon Creek /Pats Creek		2878120	1.2	1.2		1.2	herbicide; Element 3A	36	7/8/2013	CIAR, LALA	
43	1A	X	Deep Creek		3000200	4.8	1.5			manual		6/19/2013	CYSC4, **GERO**	WCC
43	1A		Deep Creek		3000200	18.76	12			manual		6/20/2013	CIVU, CYSC4, DIPU	WB,WCC
43	1A		Deep Creek		3000200	9.6	9.6			herbicide; Element 3A	166	7/25/2013	CIVU, **GERO,** LALA	
43	1A		Deep Creek		3000200	21.52	21.52		21.52	herbicide; Element 3A	189	8/7/2013	CIVU, **GERO,** HYPE, LALA	
43	1A		Deep Creek		3000200	0.98	0.98		0.98	herbicide; Element 3A	12	8/12/2013	**GERO**	
43	1A		Deep Creek		3000200	6.3	5.1		5.1	herbicide; Element 3A,	24	8/14/2013	CIVU, **GERO**	
43	1A		Deep Creek		3000200	1.9	1.7		1.7	herbicide; Element 3A, Transline (3oz)	33	8/21/2013	CYSC4, **GERO**	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
44	2		Deep Creek		3000250	1.7	1.7			herbicide; Element3A	18	7/16/2013	LALA	
46	2	X	Deep Creek		3067000	5.5	4.5			herbicide; Element3A	30	8/21/2013	CYSC, **GERO**	
47	1A	X	Deep Creek		3000000	10.3	10.3		9	herbicide; Element3A	50	8/12/2013	**GERO**	logging activites spreading GERO
49	2	X	East Twin River		3040000	5	4		4	herbicide; Element3A	264	9/17/2013	CIAR4, CIVU, CYSC4, **GERO**, SEJA	bad GERO
50	2		East Twin River		3068000	10	0.5			herbicide; Element3A	1	9/17/2013	CIVU, CYSC, HYPE, SEJA	
58	1A	X	Jimmy-come-lately Creek	**Louella Rock pit**	2800351	0.9	0.9			herbicide	2	7/24/2013	**CEDE5,** CIAR4, CIVU, HYPE	2nd tierof pit has CEDE5
60	1A	X	Jimmy-come-lately Creek	**Raccoon Pit**	2855070	1.8	1.8			herbicide, Element 3A	48	9/9/2013	CIVAR4, CIVU, CYSC4, **GERO**, HYPE, LALA4, SEJA,	
64	2	X	Jimmy-come-lately Creek		2855070	0.5	0.5			herbicide, Element 3A	4	9/9/2013	CEBI, **GERO**	CEBI .6 m up rd
65	2	X	Jimmy-come-lately Creek		2800351	1.9	0.01			manual		7/24/2013	**CEDE5**, CIVU, HYPE	nt complete
65	2	X	Jimmy-come-lately Creek		2800351	2.42	2.42			herbicide, Element 3A	12	8/6/2013	**CEDE5**	nt complete, follow-up!

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
93	2		Lower Gray Wolf River		2875000	6.8	0.01		0.01	herbicide	8	7/15/2013		
94	1	X	Lower Gray Wolf River	**Dungeness Forks Campgrnd**	2880050	4.4	1.8		1.8	herbicide, Element 3A	90	7/24/2013	CIVU **GERO**, LALA	
94	1	X	Lower Gray Wolf River	**Dungeness Forks Campgrnd**	2880050	10	5.1		5.1	herbicide, Element 3A (68 oz) AquaNeat (5oz,)	72	7/24/2013	**GERO,** PHAR	CPSC
94	1		Lower Gray Wolf River	**Dungeness Forks Campgrnd**	2880050	18.5		12		herbicide, Element 3A	78	8/16/2013	**GERO**	
99	1		McDonald Creek/Siebert Creek	**Pat's Prairie**	2877000	21.68	17.5			herbicide, Element 3A	36	8/20/2013	CIAR	
101	1A	X	Middle Dungeness River	**Lost Pit (aka Canine Pit)**	2800130	2	0.74			herbicide, Element 3A, Polaris	3	9/24/2013	CIAR4, CYSC, **GERO**, HYPE, LALA, SEJA	
101	1A		Middle Dungeness River	**Lost Pit (aka Canine Pit)**	2800130	3.1	1.03			herbicide, Element 3A, Polaris	5	10/1/2013	CIAR4, CYSC, HYPE, LALA, SEJA	
107	2		Middle Dungeness River		2800000	22.5							SURVEYED ONLY CIAR4, CIVU, CYSC, LALA4, SEJA	
116	1A	X	Middle Sol Duc River		3000000	11.6	9		9	herbicide, Element 3A	54	8/14/2013	CIVU, **GERO**, LALA4	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
116	1A		Middle Sol Duc River		3000000	22.4	16		16	herbicide, Element 3A	266	9/12/2013	CIVU, CYSC, **GERO,** HYPE, LALA4, SEJA	WB, CPSC
116	1A		Middle Sol Duc River		3000000	1.8		1.8	1.8	herbicide, Element 3A	30	9/25/2013	**GERO**	WB, CPSC
118	2	X	Middle Sol Duc River	**Snider Work Center**	3040800	1.2	0.9			herbicide	24	7/25/2013	CIVU, GERO, LALA	must follow-up
126	1A		Middle Sol Duc River		3000200	0.96	0.96		0.96	herbicide; Element 3A	23	6/16/2013	**GERO**, CYSC	
126	1A		Middle Sol Duc River		3000200	2.036	2.036		2.036	herbicide; Element 3A	72	6/17-18/2013	**GERO,** CYSC	
126	1A		Middle Sol Duc River		3000200	2.036	2.036		2.036	herbicide; Element 3A	72	6/17-18/2013	CYSC4, **GERO**	WCC
128	1A	X	Middle Sol Duc River		3000300	3.63	1		1	herbicide; Element 3A	96	6/19/2013	CYSC4, **GERO**	WCC
128	1A	X	Middle Sol Duc River		3000300	5.6		4.2		herbicide; Element 3A	72	8/27/2013	CYSC4, CIVU, **GERO**	Could nt finish1st mile
133	1A		North Fork Calawah River	**Grindstone Pit**	2923070	1.8	1.8			herbicide; Element 3A-6 AquaNeat-18	24	8/5/2013	CIVU, CYSC, HYPE, LALA, PHAR3	
134	1		North Fork Calawah River	**Bonidu Meadow**	2929000	2.3	1.8			herbicide; Element 3A, 15 AquaNeat 7	23	7/10/2013	CIVU, CIAR4, HYPE, RUAR9, PHAR3	
143	1A		Pysht River		3000200	4.61	4.61		3.86	herbicide; Element 3A	84	6/19/2013	**GERO,** CYSC4	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
144	2		Pysht River		3000215	1.2	0.3		0.3	herbicide; Element 3A	60	6/18/2013	**GERO**, CYSC4	
149	1		Snow Creek/Salmon River		2850010	0.36	0.36			herbicide; Element 3A	22	9/24/2013	**GERO**	
149	1	X	Snow Creek/Salmon River		2850010	3	2.9			herbicide; Element 3A	104	10/1/2013	CIVU, **GERO,** SEJA	needs work
152	1A	X	North Fork Calawah	**Calawah Pit**	2900015	8	0.8			herbicide, AquaNeat	6	9/4/2013	CYSC4, **GERO**, HYPE LALA4, PHAR3, SEJA	
162	1		Upper Dungeness River	**Camp Handy**	2870000	9	9			herbicide; Element 3A	30	8/8/2013	CIAR4	
165	1A	X	Upper Sol Duc River	**Bonidu Pit**	2900000	5.5	1.5			herbicide; Element 3A	19	7/10/2013	CIVU, CYSC4, **GERO**, HYPE, **TAVU**	
166	2		Upper Sol Duc River	**Klahowya CG**	2900990									
168	1A		Upper Sol Duc River	**Tom Creek Pit**	2931000	5	5			herbicide; Element 3A-2 AquaNeat-2	4	8/5/2013	**CEDE**, CIVU, CYSC, HYPE, PHAR	
173	1A	X	Upper Sol Duc River	**Littleton Horse Camp gravel pit**	3071000	0.1	0.1			herbicide; Element 3A	0.2	8/5/2013	LALA4	
177	2	X	Upper Sol Duc River		2918000	4.7	0.2			herbicide; Element 3A	5	6/28/2013	**GERO**	found 3 rdside patches of GERO, just getting started.

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
187	1		West Twin River		3000000	5.1	0.1		0.1	manual		7/12/2013	CYSC, **GERO**, SEJA	get GERO, stop CYSC
187	1	X	West Twin River		3000000	17.0	2.73		2.73	herbicide, Element 3A	27	9/12/2013	CIVAR4, CIVU, CYSC, **GERO,** HYPE	
195	2	X	Little Quilcene River		2800010	0.9	0.5			herbicide, Polaris	3	10/14/2013	**GERO**	this rd needs followup!
198	2	X	Little Quilcene River		2800000	2	2			manual		8/29/2013	SEJA	crew pick
285	1A		Lower Big Quilcene River	**Quilcene office compound**	2730300		10			manual		6/26/2013	CYSC4	
285	1A		Lower Big Quilcene River	**Quilcene office compound**	2730300	20	10		10	herbicide Element 3A	172	6/26/2013	CIAR4, CIVU, CYSC4, **GERO, PORE5,** RUAR9, SEJA	WB, WCC
285	1A	x	Lower Big Quilcene River	**Quilcene office compound**	2730300	5.9		0.5		manual		8/29/2013	CYSC4	
289	2		Lower Big Quilcene River		2700000	1.2	1			manual		9/5/2013	CIVU, **GERO,** SEJA	
292	2	X	Lower Big Quilcene River	**Falls View CG**	2730200	2	1		1	manual		6/27/2013	**GERO**	WB, WCC, JPSC
292	2		Lower Big Quilcene River	**Falls View CG**	2730200	3	2.9			herbicide, Element3A	72	8/22/2013	**GERO**	
296	2	X	Lower Big Quilcene River		2700080	1	0.6			herbicide, Polaris	4	10/14/2013	CIVU, **GERO**, SEJA	trying out imazpyr late season

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
														treatment
298	1		Lower Dosewallips River		2610000	1.5	0.5			manual		6/27/2013	**GERO**, CIVU	WB, WCC
298	1		Lower Dosewallips River		2610000	16.36	16.36		23.24	herbicide Element 3A-86 AquaNeat-15	116	7/30/2013	CIVU, **GERO**, HYPE, **POBO10**, SEJA	WB, JPSC, CPSC
298	1	X	Lower Dosewallips River		2610000	19.39	6.38			herbicide Element 3A-86 AquaNeat-15	101	7/31/2012	CIVU, **GERO**, HYPE, **POBO10**, SEJA	WB, JPSC, CPSC
298	1		Lower Dosewallips River		2610000	16		16		herbicide Element 3A-86 AquaNeat-15	68	9/11/2013	CIAR4. CIVU, **GERO**, HYPE, **POBO10**, SEJA	WB, JPSCC, CPSCC
299	1		Lower Dosewallips River		2610000	16.63	16.63			herbicide, Element 3A	116	7/30/2013	CIAR4, CIVU, **GERO,** HYPE	WB, JPSC, CPSC
301	2	X	Lower Dosewallips River		2620000	18	1			herbicide, Element 3A	26	7/19/2013	**GERO,** SEJA	just a little GERO left
302	2		Lower Dosewallips River		2620056	1	1			manual		7/19/2013	SEJA	
303	2		Lower Dosewallips River	**Elkhorn CG**	2610050	4.2	1.75			manual		6//24/13	**GERO,** SEJA	WCC
309	1A	X	Lower Duckabush River		2510000	2.6	2.6			herbicide, Element 3A	10	7/18/2013	**GERO,** HYOE	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
309	1A	X	Lower Duckabush River		2510000	14.9	3.3			herbicide, Element 3A	58	9/26/2013	CIAR, CIVU, DIPU, DACA6, **GERO,** HYPE, SEJA	manageable patches of GERO-do WHOLE rd.
310	1A		Lower Duckabush River	**Collins CG**	2510070	4	4			manual		6/3/2013	**GERO**	JPSC
310	1A		Lower Duckabush River	**Collins CG**	2510070	7.5	6		4	herbicide, Element 3A	93	7/18/2013	**GERO,** HYPE	
310	1A	X	Lower Duckabush River	**Collins CG**	2510070	4		4		herbicide, Element 3A	54	8/15/2013	**GERO**	blocked at 4.5
312	2	X	Lower Duckabush River		2530000	16.3	3.53			herbicide, Polaris	6	10/7/2013	CIVU, CYSC, **GERO,** HYPE, SEJA	
319	2		Spencer Creek/Maple Creek	**Seal Rock CG**	2610200	4	1			manual		6/27/2013	CYSC4, **GERO,** LALA, RUAR9, SEJA	
319	2		Spencer Creek/Maple Creek	**Seal Rock CG**	2610200	10	1		1.8	herbicide, Element 3A	10	7/19/2013	CYSC4, **GERO,** HYPR, LALA, RUAR9, HEHE	
452	1A		Lower Duckabush River		2510060	0.1	0.01			manual		8/6/2013	SEJA	
453	1A	X	Lower Duckabush River		2510065	1.5	1.5		1.5	herbicide, Element 3A	20	8/15/2013	CIAR4, CIVU, **GERO**	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
453	1A	X	Lower Duckabush River		2510065	1.5		1.1		herbicide, Element 3A	12	9/26/2013	**GERO**	GERO found in meadow behind hitching posts
462	2	X	Lower Big Quilcene River		2700040	1.8	1.8			herbicide, Element 3A	8	8/22/2013	CIVU, **GERO,** HYPE	
462	2		Lower Big Quilcene River		2700040	2	1.5			herbicide, Element 3A	48	10/8/2013	CIVU, **GERO**	
462	2		Lower Big Quilcene River		2700040	18.9	10.6			herbicide, Element 3A	68	10/9/2013	CIAR4, CIVU, **GERO,** LALA, SEJA,	
588	1A		Bockman Creek	**Bockman Pit**	2902000	0.6	0.5			herbicide, AquaNeat	6	9/4/2013	CYSC4, SEJA	
590	1	X	Lower Big Quilcene River	**PT Muni WS caretakers cabin**	2700040	1.5	1.5			herbicide, Element 3A 20 AquaNeat 4	24	8/22/2013	**AEPO, BOOF, GERO, HIAU,** ILAQ80, LAGA, PHAR3, **VIMI, CASE13**	VINCA treatment didn't take
603	1		Canyon Creek /Pats Creek		2878102	1.45	1.45		1.45	herbicide, Element 3A	2	7/17/2013	CIVU, LALA	
604	1		Canyon Creek /Pats Creek		2878108	0.4	0.001			herbicide, Element 3A	1	8/19/2013	LALA4	
604	1		Canyon Creek /Pats Creek		2878108	0.2		0.2	0.2	herbicide, Element 3A	1	8/19/2013	CIVU, CIAR4, CYSC, LALA4	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
605	1		Canyon Creek /Pats Creek		2878109	1.06	0.7		0.7	herbicide, Element 3A	2	8/19/2013	LALA4	
605	1		Canyon Creek /Pats Creek		2878109	0.9		0.3		herbicide, Element 3A	4	9/3/2013	LALA4	
606	1	X	Canyon Creek /Pats Creek		2878104	0.6	0.02		0.02	herbicide, Element 3A	2	8/19/2013	**GERO**	No access half way
607	1		Canyon Creek /Pats Creek		2878101	0.36	0.36		0.36	herbicide, Element 3A	5	7/17/2013	CIVU, LALA	
612	1A	X	Upper Sol Duc River	**Mt. Muller TH gravel pile**	3071000	0.8	0.8			herbicide, Element 3A	12	8/5/2013	CIVU, CYSC, **GERO**, HYPE, LALA, SEJA	sm amount GERO
613	1A	X	Upper Sol Duc River		2929000	2.5	2.5			herbicide; Element 3A, 5 Aqua-Neat-1	6	7/10/2013	CIVU, CYSC4, **GERO,** HYPE, PHAR3	
613	1A	X	Upper Sol Duc River		2929000	9		1.2		herbicide; Element 3A, 5 Aqua-Neat-1	4	9/25/2013	CYSC4, **GERO**	only half-logs in rd!
614	2		McDonald Creek/Siebert Creek		2877050									
615	1A		Canyon Creek /Pats Creek		2878050	0.72	0.08			herbicide, Element 3A	7	7/17/2013	**CEDE5**, CIVU, LALA4	
615	1A		Canyon Creek /Pats Creek		2878050	1.77	0.1			herbicide, Element 3A	1	7/17/2013	CIVU, LALA4, SEJA	
615	1A		Canyon Creek /Pats Creek		2878050	2.1	0.8		0.9	herbicide, Element 3A	6	8/19/2013	**CEDE5**, CIVU, **GERO**, LALA4	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
653	2		Lower Big Quilcene River		2650000	7.5				survey			CIAR4, HYPE, SEJA-very abundant	
658	2		Upper Big Quilcene River		2650000	10.6				survey			CIAR4, HYPE, SEJA-several dense patches	
659			Upper Big Quilcene River		2650090	4.1				survey			SEJA-very clean	
675	1		Middle Dungeness River		2800250	3.3	0.04			manual		10/1/2013	SEJA	
697	1		Canyon Creek /Pats Creek	**Juniper Meadow**	2875070	2.9	0.5			herbicide, Element 3A, Transline	22	8/28/2013	CIAR	
704	1		North Fork Calawah River		2900700	3.15	1.8			herbicide, Element 3A,	18	8/30/2013	CIVU, CYSC	
734	1A		Deep Creek		3000370	1	0.7			herbicide, Element 3A	4	9/4/2013	CIVU DIPU, LEVU, SEJA	
754	1A		South Fork Calawah		2922250	4.7	2.8			herbicide, Element 3A	12	8/30/2013	**CESTM8**, CIVU, **CUSC4**, LALA4, SEJA	
755	1A		South Fork Calawah		2922020	0.72						8/30/2013	NONE	CLEAN!
755	1A		South Fork Calawah		2922020	3.13						9/25/2013	NONE	

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method	Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
757	1A		Lower Duckabush River	**Big Hump Fire Trail Corridor**	2510000	3.4	0.1			manual		8/2/2013	CIVU	ONP notes GERO in park boundary
758	1		Lower Dosewallips River		2610010	1.8	1.8			herbicide, Element 3A	90	7/30/2013	**GERO**	WB, JPSCC, CPSCC
758	1		Lower Dosewallips River		2610010	9.2	8.5			herbicide, Element 3A	108	7/31/2013	**GERO**	WB, JPSCC, CPSCC
758	1		Lower Dosewallips River		2610010	1.39	1.39			herbicide, Element 3A	61	7/26/2013	**GERO,** SEJA	
758	1		Lower Dosewallips River		2610010	21.81	21.58			herbicide, Element 3A	222	8/1/2013	**GERO**	WB, CPSCC
758	1		Lower Dosewallips River		2610010	1.5	1.5		28.3	herbicide, Element 3A	12	7/19/2013	**GERO,** HYPE	WB, CPSCC
758	1	X	Lower Dosewallips River		2610010	4.45	3			herbicide, Element 3A	21	9/11/2013	**GERO,** ILAQ80	WB, CPSCC
759	2		Upper Dungeness River	**Dungeness Trail**	2870000	2.5	0						NONE	
760	2		Upper Dungeness River	**Heather Basin Trail**	2870000	0.4	0						NONE	
766	1	X	Upper Big Quilcene River	**Sink Lake**	2760000	2.1	2			herbicide, AquaNeat	5	9/5/2013	PHAR	no variegated found
767	2	X	Lower Big Quilcene River	**Lower Big QuilceneTr**	2700080	1.8	0.9			manual		9/5/2013	**GERO**	need to make sure we hike farther trying out imazapyr

Ref #	Priority	2014 Priority	6th Field Watershed Name	Site Name	Road #	Acres Examined	Acres Treated	Acres Retreated	Acres Monitored	Treatment Method		Herbicide Amount (Oz)	Treatment Date	Species Treated	Notes
767	2		Lower Big Quilcene River	**Lower Big QuilceneTr**	2700080	1.8	0.5			herbicide, Polaris		2	10/14/2013	**GERO**	
768	1A	X	Lower Dosewallips River		2610000	2	0.02			herbicide, Element 3A		27	7/26/2013	**GERO, POBO**	WB, JPSCC, CPSCC
768	1A		Lower Dosewallips River		2610000	23.63	16.5		16.5	herbicide, Element 3A		243	7/29/2013	**GERO**, HYPE, SEJA	WB, JPSCC, CPSCC
816	1A *		North Fork Calawah River		2922240	3.3	0.504			herbicide, Element 3A		5	8/30/2013	CIVU, LEVU, SEJA	
XXX	E D R R		Canyon Creek /Pats Creek	**Old Campgrnd**	2875000-2878000 junction	0.5	0.5			manual			7/18/2013	CIVU, CIAR, **GERO**, DIPU, CYSC	
xxx			Big Quilcene River		2760	0.6	0.6			herbicide, AquaNeat, and manual		5	9/5/2013	CIAR, CYSC4, SEJA	
										Manual Acres	Herbicide Acres				
				TOTALS		**776.14**	**403.41**	**63.10**	**204.73**	**18**	**448**	**4834**			

APPENDIX B: ROCK SOURCE SURVEYS AND TREATMENT

All **13** high-priority rock sources incorporated into the 2013 project list were inspected and treated**.**
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.

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

Name	RSI	RSI Code	Road	Ref. #	Priority	Weeds	Date	Treatment Type/Suitability	Acres Treated
Bockman Pit	76	29020009.2	2902	588	1A	CYSC, SEJA	9/4/2013	Chemical meets standard C	0.6
Bonidu Pit	8	290000037.2	2900	165	1A	CYSC4, CIVU, HYPE **GERO**	8/5/13	Chemical meets standard C-considerable GERO but not in main body.	5.5
Calawah Pit	133	2900015.1	2900	152	1A	**GERO**, CYSC4, HYPE, LALA PHAR3	9/4/2013	Chemical meets standard-C-minimal GERO	0.8
Canyon Pit	139	287500001.4	2875000	5	1A	**CEDE5**, CIVU CIAR,LALA	7/15/2013 8/28/2013	Chemical not suitable	3.8
Grindstone Pit	122	29230700.1	2923070	133	1A	CIVU, CYSC, PHAR3	8/5/2013	Chemical meets requirements	1.8
Littleton Horsecamp stockpile		30710000.0	3017000.3	173	1A	**GERO**, HYPE, LALA	8/5/2012	Chemical meets requirements-minimal GERO, all removed	0.8
Louella Rock Pit		28003600.4	2800351	58	1A	CEDE5, CIVU, CIAR, HYPE	7/24/2013	Chemical meets requirements	0.5
Lost Pit (a.k.a Canine Pit)		Nt correctly listed	2800130.6	101	1A	CIAR4, CYSC4, **GERO**, HYPE, LALA, SEJA	9/24/2013	Chemical meets requirements-all GERO removed	0.74
Lower Caraco Quarry	144	287000001.0	2870000	19	1A	**GERO** SEJA CIVU CEDE4	8/28/2013	Chemical not suitable largely because of GERO	1.5

Name	RSI	RSI Code	Road	Ref. #	Priority	Weeds	Date	Treatment Type/Suitability	Acres Treated
Mt Mueller TH Gravel Pile		3071000.3	3071000.3	612	1A	CIVU, CYSC4, **GERO**, HYPE, LALA, SEJA	8/5/2013	Chemical meets requirements-single GERO plants removed	0.8
Ned Hill Quarry (aka Sandstone Quarry)	138	287812500.5	2878125	20	1A	LALA4 CIVU CIAR4, CYSC	8/19/2013	Chemical meets standard C	1
Raccoon Pit		28550701.3	2855070	60	1A	CIAR4, CIVU, CYSC4,**GERO**, HYPE, LALA4, SEJA,	9/9/2013	Chemical not suitable	1.5
Tom Creek Pit	51	293100000.2	2931	168	1A	**CEDE5**, CIVU, DIPU,HYPE PHAR3	5/17/2012	Chemical meets requirements-single CEDE5 removed	0.01

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.

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
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								

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
CR2515	1		0.4															
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	CYSC4 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															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
3071000	4	60	3.4	60		CYSC	1									0	0.9	CIVU CYSC **GERO** HYPE LALA4 SEJA
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	CYSC4				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 CYSC4 LEVU						
3050000	5	2	3.8	2		SEJA	18	18	GERO HIAU LEVU LALA CIVU CIAR4 HYPE	13	81.29	GERO HIAU LALA CIVU CIAR HYPE SEJA ILAQ80 PRLA5	7.2	1	**GERO** CIAR4 CIVU HYPE SEJA			
3040900	1		0.5															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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
3040800	7	54,709	0.5	54,709	1.85	POCU ARMI2 ILAQ80	2	17	GERO CYSC RUDI POBO LALA4 CIVU CIAR SEJA CIVU PHAR3	1	4.13	GERO RUDI POBO ILAQ CIVU				0	0.9	CIVU GERO LALA
3040800	7	54,709	0.55	54,709	1.85	POCU GERO	0.5	0	SEJA CYSC							0	0.9	CIVU GERO LALA
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															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
3040000	11	35,136	71	35,136	1.3	CYSC SEJA GERO	67	23.4	GERO SEJA LALA4 CYSC4 CIVU CIAR4 CEDE5	35	28.8	CEDE5 GERO SEJA CIVU CIAR4 HYPE LALA4 CYSC4	14	9.6	**GERO** CIVU CIAR4 HYPE ILAQ80 PHAR3 LALA4 SEJA RUDI2	5.2	4	CIAR4 CIVU CYSC4 **GERO** SEJA
3006300	1		4.1															
3006011	1		1.2															
3006000	3		8				2	1	CYSC	6.5	2.46	GERO RUDI2 RULA HYPE CIVU SEJA						
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 CYSC4	0.4	0.7	CIVU DIPU LEVU SEJA

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
3000330	1												2.2	0.7	CYSC4 SEJA CIVU			
3000300	4		3.5										3.5	0.7	**GERO** SEJA CIVU CYSC4	1.75	5.2	CYSC4 **GERO** CIVU
3000260	1		0.7															
3000250	3	10	10	10	1.2	CYSC	8	2.66		3.8	0.1	GERO				3.8	1.7	LALA4
3000220	1		2.8															
3000215	5		3.6				1	2	GERO	0.6	0.4	GERO CYSC4				0.6	0.3	**GERO** CYSC4
3000200	8	6	70	6	0.2	SEJA	30	26.6	GERO LALA4 CIVU CYSC4	8.46	16.76	GERO CIVU LALA4	10.3	13.5	**GERO** CIVU CYSC4 SEJA	8.46	62.042	CYSC4 **GERO** CIVU DIPU LALA4
3000011	1		1															
3000000	8	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** CYSC4 CIVU CIAR4 RUDI2 RULA HYPE LALA	16	39.93	CIVU CYSC **GERO** HYPE LALA4 SEJA CIAR4
2978085	2		1.1															
2978040	2		0.3															
2978035	2		0.1															
2978030	2		0.6															
2978030	2		0.7															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2978025	2		0.3															
2978015	2	18	1.6	18		CYSC												
2978011	2		0.4															
2978000	2	3,604	4.7	3,604		CYSC SEJA												
2952000	1												2.2	0.1	CIVU CYSC4			
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	CYSC4									
2932000	6	2,153	15	2,153	0.3	LEVU CYSC	11		CYSC SEJA GERO				5	5.2	**GERO** RULA RUDI2 SEJA HYPE CIVU **LAGA2**			
2931200	1		2.5															
2931190	1		1.7															
2931000	4	1	12	1		SEJA				12.2	18	CYSC LALA CIVU CEDE5	0.1	0.01	**CEDE5**	0	5	**CEDE** CIVU CYSC HYPE PHAR

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2929070	5	525	3	525		GERO RULA CYSC	6	2	GERO	6.3	6.12	GERO RUDI2 RULA DIPU HYPE						
2929000	6		10				13	1	HIAU GERO CIVU CYSC	9.4	1.92	HYPE LEVU CIAR4 CYSC4 CIVU DIPU GERO HYRA3 LALA4	6	11.5	PHAR3 CIAR4 **GERO** CIVU CYSC4	3	5.5	CIVU CIAR4 HYPE RUAR9 PHAR3 CYSC4 **GERO**
2923100	1		0.2															
2923095	1									0.2	0.2	CYSC4 HYPE TAVU SEJA						
2923090	1									1.2	1	CYSC4 HYPE TAVU SEJA						
2923077	2						16	2.15	CYSC SEJA				2.6	0.1	CYSC4 SEJA HYPE			
2923074	1												0.8	0.01	CIVU			
2923073	1												0.8	0				

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2923072	1												0.8	0.02	CYSC4 CIAR4 HYPE			
2923070	5	2	5	2		SEJA	9	8.6	CIVU HYPE GERO SEJA CYSC CIAR RUDI				6	1.06	CIVU CYSC4 PHAR3	0	1.8	CIVU CYSC HYPE LALA PHA3
2923060	3		1				3	0.15	CYSC CIAR GERO				4.6	1.2	**GERO** CYSC4 SEJA CIVU CIAR4 RULA HYPE			
2923020	1												1.2	0.73	CYSC4 SEJA			
2923015	1												2.4	3	**GERO** CYSC4 CIVU SEJA			
2923000	6	1,434	41	1,434	0.5	SEJA CIAR HIAU CYSC	27	4	CYSC GERO				18	15.2	CYSC4 RULA HYPE CIVU CIAR4 SEJA GERO			

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2922250	2												2.6	4	LALA4 CYSC4 CIVU	1.3	2.8	**CESTM8** CIVU CUSC4 LALA4 SEJA
2922240	1															1.1	0.504	CIVU LEVU SEJA
2922200	1												2.86	0.3	CYSC4 HYPE			
2922020	2												1.72	0.01	**GERO**	0.86	0	NONE
2922000	3		13				20	4.2	GERO									
2920210	1		0.2															
2920020	1		1.4															
2920000	3		6							8	0.5	GERO CIVU CIAR CYSC						
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						

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2918000	4	2,315	20	2,315		SEJA CYSC	9	1.5	CYSC DIGIT LEVU LALA	5.4						4.1	0.2	**GERO**
2912060	3	3	2.8	3		SEJA							7	1	**GERO** CYSC4 SEJA CIAR4			
2903000	1	78	7	78		SEJA CYSC												
2902375	1		0.8															
2902300	1		0.6															
2902000	4	4,175	2.91	4,175	0.2	CYSC SEJA										0	0.5	CYSC4 SEJA
2900992	1						0.5	0.1	GERO									
2900990	5	5,300	2.4	5,300		CYSC GERO	2	0.4	GERO	0.2	0.1	GERO CYSC4 ILAQ80	0.1	3	**GERO** ILAQ80			
2900950	1		0.1															
2900810	1												2.6	0.1	CIAR4 CYSC4 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				

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2900015	4		0.1				0.7	4.5	CYSC RUDI SEJA GERO				0.1	4.12	**POSA4** RULA RUDI2 CIAR4	0	0.8	CYSC4 **GERO** HYPE LALA4 PHAR3 SEJA
2900000	10	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 CYSC4 CIVU DIPU GERO HYRA3 SEJA	16	15.1	**GERO** HYPE HIAU LALA4 CYSC4 SEJA CIVU CIAR4 RULA PHAR3 DIPU LEVU	0	1.5	CIVU CYSC4 **GERO** HYPE **TAVU**
2880050	10	255,004	0.5	######	0.5	GERO	1.5	23	GERO	1.1	6	GERO	0.1	23.5	**GERO** LALA4 CIAR4	0	18.9	CIVU **GERO** LALA PHAR3
2880000	9	9,923	17	9,923	0.3	GERO SEJA	8	5.1	SEJA CYSC4 GERO CIAR4 CEDE5	1.81			3.7	4.5	**GERO** CIVU CIAR4 HYPE LALA4	1	8.5	CIVU **GERO** HYPE CIAR4
2878123	5		0.2				0.2			0.15	1	LALA4 CYSC4	0.1	1	LALA4 CIVU CIAR4	0	1	CIVU CYSC LALA
2878120	6	2,170	1	2,170		CYSC	2	2	LALA	1.4	0.25	LALA4 CYSC CIVU				1	1.2	CIAR LALA

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
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	LALA4
2878108	2		0.13													0.1	0.201	CIVU CIAR4 CYSC LALA4
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	4		1.5				1	3	LALA	1.95	0.2	LALA4 CIVU CIAR SEJA GERO				0.95	2	CIAR4 CIVU HYPE LALA4
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						

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2878050	2		0.6													0.6	0.98	CEDES5 CIVU LALA4 SEJA **GERO**
2878000	9	2,971	4	2,971	0.2	CYSC	20	13	LALA4 CIAR4 CEDE5 CYSC4 GERO SEJA	8	12.5	LALA4 CIAR GERO CIVU SEJA	8	0.1	**GERO**	4	23.5	CIAR4 CIVU LALA4
2877100	2		0.5							1		None						
2877052	1		0.29															
2877050	1		2.65															
2877040	4		2.5				1	0.2	SEJA CEDE CIAR CIVU	2.1	1.8	CIVU CYSC CIAR GERO SEJA				1.1	2.101	CIAR4 **GERO** RUAR9 CIVU CYSC4
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 LALA4 SEJA	0	17.5	CIAR
2875090	1		0.1															
2875070	5		2.5				1	0.5	CIAR CYSC				3.6	0.91	**CEDE5** SEJA **GERO** CIAR4	1.8	0.51	CYSC SEJA CIAR

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2875020	5	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**
2875000	9	268	12	268	0.4	CEDE	23	10.8	CEDE5 LALA4 CIVU CIAR4 CEBI	10.5	4.5	HYPE GERO CIAR CIVU LALA CYSC SEJA	7.2	8.5	SEJA **GERO** CIVU **CEDE5** CIAR4	6.5	9.21	**CEJA** CYSC LALA CIAR CIVU **CEDE5** **GERO** SEJA
2870270	2		3.5		0.28	CIAR CIVU	3.5	3.2	CIVU CEDE SEJA HYPE									
2870250	1						1	1.5	CEDE5 CEBI									
2870230	4	38	4	38	0.3	SEJA CIAR CIVU HYPE	4	0.4	CIVU CIAR GERO									
2870150	3		0.5				1	3	LALA	0.7	5.1	LALA4 CIVU CIAR4						
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						

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2870059	8	19,529	3	19,529		CIAR CIVU SEJA CEDE CYSC GERO	1			0.4	7.96	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6 PHAR3	0.8	7.25	CIVU **GERO** PHAR3 CIAR4 CYSC	0	9.5	CIAR4 CIVU **GERO** PHAR3
2870058	6		3		2.55	GERO CIAR PHAR	8	6.5	GERO CIAR4 PHAR3 CIVU	4.55	2.45	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6	1	2.75	CIVU GERO HYPE CIAR4			
2870057	5						5	4	CIAR4 CIVU HYPE GERO PHAR	1.1	2.7	CIVU CIAR4 CYSC4 GERO	0.1	0.4	CIAR4 CIVU PHAR3 SEJA	0	1	CIAR4 CIVU CYSC4

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2870056	9	14	2	14	0.1	CEDE SEJA	3	8.9	SEJA CIVU CEDE CYSC CIAR4	1.6	4.3	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6 TAVU CEDE5	1.2	0.45	CIAR4 CIVU SEJA **CEDE5**	0.6	3.035	CIAR4 CIVU **GERO**
2870054	5						1.5	4	CEDE CIAR CIVU	1.1	7.95	PHAR3 CYSC4 CEDE5 LEVU CIAR4 CIVU HYPE SEJA	1.4	2.3	CIAR4 CIVU LEVU **CEDE5** CYSC4 HYPE	0	0.7	CIAR4 CIVU
2870053	6						2	1.7	CIAR4 CIVU CEDE5	1.7	15	CIAR CIVU SEJA	3	0.3	CIVU **CEDE5** HYPE LALA4 **GERO** SEJA CIAR4			
2870052	2									1	0.1	CIAR HYPE	0.6	0.2	CIVU HYPE			

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2870050	11	110	16	110	0.8	CEDE CIAR CIVU CYSC GERO HYPE LALA SEJA	13	10.5	CIAR4 CIVU GERO LEVU PHAR3 RUDI SEJA	5.6	10.8	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6 CEDE5 PHAR3	5.6	4.11	CIVU **GERO** LALA4 CIAR4 HYPE	2.8	6.7	CIAR4 CIVU PHAR3 **CEDE** **GERO** LALA SEJA
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 CEDE5			
2870000	11	3,853	143	3,853	3.13	CEDE SYSC SEJA	256	21.7	CEDE CIAR4 CIVU CYSC4 GERO HYPE LEVU SEJA LALA4	34.3	8.1	CEDE CIAR4 CIVU CYSC4 GERO HYPE LALA4 RUDI SEJA PHR3	18	17.5	**GERO** CIAR4 CIVU SEJA **CEDE5** DACA6 HYPE LALA4	0	12	CIAR4 CIVU **CEDE** **GERO** LALA
2860120	1		1.6															
2860011	2	2,708	1	2,708		GERO SEJA												

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2860000	4	54,000	50	54,000		CIVU GERO												
2855100	2		2.4							1.1	2	GERO SEJA CEDE5 HYPE						
2855070	8	5497	5	5497	0.52	CEDE CIAR CYSC GERO RULA SEJA	3	5	CEBI CEDE CYSC SEJA	1.4	3.06	GERO LALA4 CIVU SEJA	3	4.11	**GERO** LALA4 CYSC SEJA CIVU CIAR4 HYPE **CEBI2**	1.5	2.3	CIVAR4 CIVU CYSC4 **GERO** HYPE LALA4 SEJA **CEBI**
2855032	2	1	1.6	1		RULA												
2855030	3	19,200	5.4	19,200		SEJA				1.25	3.2	SEJA HYPE CIVU CYSC4 GERO CIAR4 CIVU						
2855000	9	51,947	10	51,947	0.4	CEBI CEDE CIVU CYSC GERO SEJA	11	2.2	SEJA	1.3				3				
2852150	2	25	1.29	25		CYSC												

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
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												
2850124	1		0.2															
2850120	3		3		0.2	CYSC				2.8	3.2	SEJA HYPE CIVU CYSC4 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

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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
2850000	7	67,334	22	67,334	0.6	CYSC GERO RULA SEJA				12.2	9	SEJA	2.4	0.3	SEJA CIVU			
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												
2845073	4		1				1.5	2	CYSC	1	2.09	SEJA CYSC4 CIAR4 CIVU CEDE5 DIPU DACA4	1.8	2.1	SEJA CIVU CIAR4 CYSC4 HYPE			
2845070	5	1,860	6	1,860		CYSC	6	4	CEDE CYSC SEJA CIAR CIVU	1.6			3	0.9	SEJA CIVU HYPE CYSC4 CIAR4			
2845040	1	160	0.3	160		SEJA												
2845000	5	12,378	5	12,378	0.7	SEJA	10			5.4								
2840150	1	1	1	1		SEJA												
2840130	1		1															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2840120	3		1.27							0.2	1	CIVU HYPE GERO SEJA	1.6	0.05	**GERO** CIVU SEJA			
2840084	1		0.25															
2840080	2	1	0.89	1		RULA				0.3	1	CIVU CIAR4 LALA4 SEJA						
2840071	3	36	2	36		BORAG SEJA							3.2	7.5	LALA4 CIVU CIAR4 **GERO** SEJA PHAR3 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						

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2840034	2		2							2	2.5	CEDE CIAR CIVU GERO SEJA						
2840030	2		3							3	7.5	CEDE CIAR CIVU HYPE SEJA						
2840000	6	10,010	11	10,010		CIAR CYSC SEJA	10			4.8	5.5	CIAR CYSC GERO HYPE LEVU SEJA comfrey						
2830034	1		0.33															
2830032	1		1															
2830030	1		2															
2830000	4	1,250	10	1,250		CEBI	11	0.2	SEJA									

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2820000	5	2,274	4	2,274	0.2	SEJA	8	2	SEJA CIAR CEDE	6.25	17	CEDE5 LALA4 GERO CIAR4 CIVU HYPE SEJA						
2810070	1		0.61															
2810000	2	10,190	8	10,190		CYSC SEJA												
2800351	6						4.5	3	CEDE5 CYSC4	0.8	1.5	GERO SEJA CEDE5 HYPE	1.6	1.72	**CEDE5** CIVU CIAR4 SEJA	0.8	3.33	**CEDE5** CIAR4 CIVU HYPE
2800350	2						3	4	CEDE CIAR CIVU	0.2	1.2	SEJA HYPE CIAR4 CIVU	0.1	0.31	**CEDE5** CIVU CIAR4			
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															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2800220	1		1.2															
2800210	1		0.4															
2800145	1		0.3															
2800132	2	463	1	463	0.1	CEBI CEJA	1											
2800130	2						2	1.3	CEBI SEJA							0	1.77	CIAR4 CYSC **GERO** HYPE LALA SEJA
2800060	1		1															
2800010	7	10	1	10	0.1		3	6	GERO CIAR4 LALA4 CIVU ILAQ	1.6	16.6	GERO SEJA HYPE CIVU CIAR4	1	8.18	**GERO** SEJA CIAR4 HYPE	0.5	0.5	**GERO**
2800000	12	70,321	89	70,321	1	CEDE CIAR CIVU CYSC GERO SEJA	87	88.8	CEBI CEDE5 CIAR4 CIVU CYSC4 GERO ILAQ80 SEJA DIPU LALA	31.5	3.75	CIAR4 CIVU CYSC HYPE LALA4 PHAR SEJA DIPU	0.1	0.25	LALA4 HYPE SEJA	14.8	2	SURVEYED ONLY CIAR4 CIVU CYSC LALA4 SEJA
2760000	1															0	2	PHAR
2750020	1		1.5															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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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									
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									

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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2740000	6		21				25	3.6	CEBI SEJA CEDE CIAR CIVU CYSC	2.4	8.73	GERO HYPE CYSC4 SEJA CIAR4 CIVU LALA4 DIPU CEDE5						
2730300	8	934	1	934		CYSC	2	8.3	CYSC LALA RUDI PORE SEJA GERO CIAR	1.1	9.66	PORE5 SEJA CYSC4 GERO LALA4 RULA HYPE	0.1	5	**PORE5** CYSC4 SEJA HEHE **GERO**	0	20.5	CIAR4 CIVU CYSC4 **GERO** **PORE5** RUAR9 SEJA
2730200	10	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**
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 ILAQ80						

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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	3						1	2	GERO SEJA LALA CYSC CEJA CIAR CIVU				0.6	0.73	**GERO** LALA4 HYPE SEJA	0.3	2	CIVU **GERO** SEJA
2700040	5						4	11.2	GERO SEJA CYSC HIAU BORAG ILAQ80 PRLA5 CIVU LAGA2 PHAR HEHE	7.7	38.66	GERO SEJA DACA6 HYPE LALA4 ILAQ80 HIAU AEPO LAGA2 CIAR4 CIVU CYSC	7.4	7.9	**GERO** SEJA HYPE CIAR4 SYOF **HIAU** AEPO LAGA2 VIMI2 CASE HEHE	3.7	15.4	CIVU **GERO** HYPE **AEPO** **SYOF** GERO **HIAU** ILAQ80 LAGA PHAR3 **VIMI** LALA SEJA CIAR4 **CASE**

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2700000	11	4,201	37	4,201		SEJA TAVU	21	15.1	CEDE CIAR CIVU CYSC GERO LALA SEJA	21.7	37.43	GERO CIVU CIAR4 HYPE LALA4 SEJA CYSC4	5.2	1.75	**GERO** CEDE5 SEJA HYPE **POSA4** LALA4 CIAR4	2.6	1	CIVU **GERO** SEJA
2650090	2		1.68													1.7	0	SEJA-very clean
2650050	2		0.9															
2650000	4	2	15	2		ARMI2				2.7	6.61	SEJA CIAR4 CIVU HYPE				7.5	0	CIAR4 HYPE SEJA-very abundant
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															

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2620036	1												0.6	1	SEJA CIAR4 CIVU CYSC4 HYPE			
2620035	1												1.2	2.6	SEJA CIAR4 HYPE CYSC4 CIVU **GERO**			
2620030	1		9.7															
2620000	6	39,464	35	39,464		CIVU CYSC GERO RULA SEJA	12						8.6	15.9	SEJA CIVU **GERO** CIAR4 LALA4 HYPE CYSC4	7.3	1	**GERO** SEJA
2610200	11	3,676	11	3,676	0.2	CYSC GERO HEHE RUDI SEJA	4	5	CYSC SEJA	1.1	3.1	LALA4 GERO CYSC4 CIVU SEJA	0.1	1	HYPE SEJA CYSC4 **GERO** LALA4	0	2	CYSC4 **GERO** LALA RUAR9 SEJA HYPE **HEHE**
2610050	2						1	1	GERO SEJA CIAR CYSC							0	1.75	**GERO** SEJA

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
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	CYSC4						
2610010	1															0.9	37.77	**GERO** SEJA HYPE ILAQ80
2610000	10	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 CYSC4 LALA4 POSA4	4.75	72.39	CIAR4. CIVU **GERO** HYPE **POBO10** SEJA
2530000	4		5.7							4.4	1	GERO SEJA				10.1	3.53	CIVU CYSC **GERO** HYPE SEJA
2527000	1		1.2															
2510070	8	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
2510065	3		1							1	0.5	GERO HYPE SEJA				0.2	2.6	CIAR4 CIVU **GERO**
2510060	1															0.1	0.01	SEJA
2510012	2		1							1.7								

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2510000	6	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 CYSC4 LALA4	6.6	6	CIAR CIVU DIPU DACA6 **GERO** HYPE SEJA
2503000	1									3.7	11.68	GERO HYPE SEJA						
2500000	3		4				19	3.75	GERO SEJA CIAR CYSC POBO									
2190220	1	251		251		COTON POCU												
2190200	3		4		0.1	POCU	38	1.7	CIVU CYSC4 DIPU POBO SEJA									
2190170	1		2															
2190000	2		14				10											
2100000	2	50	8	50		SEJA												
2760	1															0.5	0.6	CIAR CYSC4 SEJA

	Totals 2002-2013		Survey, manual control and limited herbicide 2002-2006				2007-2009			2010-11			2012			2013		
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**
2071	1												1	5	**GERO** LALA4 RUDI2 POCU6			
TOTALS		**2695174**	**1467.2**	**2695174**	**28.43**		**1087.3**	**590.6**		**459.42**	**626.06**		**307.5**	**318.461**		**148.72**	**466.913**	

PROGRAM HISTORY FROM 2002-2013-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.
- 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. Because of FS staffing shortfalls, weed boards were tasked with additional monitoring. We also reseeded some sites. The availability of three PSC enabled additional treatment, but cannot be counted on in the future. Chain Gang focus has shifted to other tasks and could not be counted on this year nor in the future. Forest Service created their own two person invasive crew which could be used to augment small projects, but had no effect on the resources needed 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.

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. 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. It will be interesting to monitor germination, establishment success and effect next season.

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.

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 Forest Service work should focus on FS 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. **Sites on the 2013 work plan that the crew thought should be a high priority have been marked for 2014 in Appendix A: Project Action List.**

- Eradicate orange hawkweed, yellow archangel, comfrey, spotted knapweed, sulfur cinquefoil and knotweeds. There are no large infestations of these species on any FS lands in Clallam and Jefferson.
- Treat all invasives at Caretaker's Cabin. Ensure thorough treatment of periwinkle, as it did not seem successful this year, most others are nearly gone.
- Snider was a low priority and barely treated in 2013. This should be a higher priority. Likely need contractor or WCC assistance for first couple miles.
- Schmidt's Knob has not been visited for several years.
- Ensure follow-up treatment for all meadow knapweed sites found in 2013. Canyon Pit appears to be the largest remaining site. Re-check for meadow knapweed off spurs near the Luella Guard station that are connected to Burnt Hill.
- Prioritize herb Robert treatment at the Little Quilcene water diversion. It was only partially treated.
- Continue treatments of Cranberry Bog, and adjacent spurs. Herb Robert has been carried deep into the forest here by animals and water movement, almost to the old road grade. A relatively large patch of herb Robert was treated ¼ mile past the lower bog trail. This patch should be revisited next year. Most of it is uphill, but is spilling into the area that drains to the bog, creating additional source plants.
- Survey farther up the Big Quilcene Trail-We may not have gone far enough. Follow up for herb Robert on the spur leading to the trail, and on the trail itself. It's not too late.
- Allow sufficient time for multiple treatments of all herb Robert sites. (The work plan shows 100 projects that contain herb Robert!) Inspect and treat neighboring road spurs. Most large sites, longer than one or two miles, will require a Contractor or significant WCC time allotted for this specific purpose. Long stretches of the 3000, 2610, 3040 are beyond our capability, we will need help. Herb Robert on the Duckabush has spread, but is largely manageable. Several new sites were discovered there.
- Treat the following pits, Luella LuLu, Armpit, (potential re-seeding?) Lost Pit (a.k.a. Canine) Canyon, Lower Caraco, Bonidu, Calawah, Racoon, and lower Tom Creek (for PHAR and CIAR), and the DNR's Mary Clark because of high use. Survey and treat others not seen in the past two years. Provide a list of important non-Forest rock sources that may be under consideration for FS projects in the next several years.
- Survey and treat all campgrounds, such as (Dungeness Forks) trailheads and special use facilities such as administrative sites and water diversions.
- 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.
- Some Contractor site suggestions are noted in the table below. Pre-survey to confirm most urgent need.
- It will be helpful to know which sites the FS based crew treated this year.
- Identify high-priority cross-boundary projects with other public land agencies-For example. North Cascades Exotic Plant Management Team reported herb Robert within the ONP boundary up the Big Hump Trail.
- Explore further downstream of the Dungeness Forks CG-across the river to the FS boundary. Large WCC project will be ongoing for 3 years, downstream.
- Identify areas that have not been surveyed or treated for four years.

Some old suggestions, some new.

FS Road	Note	Weed(s)	Note (2013)
2610000	Survey above Elkhorn Campground —herb Robert is rampant below-joint treatment with North Cascades EMPT?		WCC hiked and pulled some
2610012	Consider special contractor project to coincide with planned LWD project.		Not treated this year, given a low priority.
2620000 and spurs	Some were missed this year	GERO	
2630000	Never surveyed	GERO	.

FS Road	Note	Weed(s)	Note (2013)
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
2700010	Vague recollection from 2010	??	
2700090	Survey due	ARMI2—ck SEJA CIAR4 CIVU HYPE,	
2800250	Survey due	POBO10	
2800270	Survey due		
2800290	Survey due	SEJA	
2800310	Schmidt Knob	CYSC4 SEJA	3
2800320	Close to known herb Robert infestation	SEJA CYSC4	
2800321	Survey due	CYSC4	
2800360	Survey due ”		
2840034			
2840036			
2840071	survey	CEDE5	
2840080	Close to known herb Robert infestation		
2840088	Survey due ”		
2850000 2850080 2850100 2850105	Survey due	CIVU CIAR4 LALA4 SEJA	CIVU CIAR4 LALA4 SEJA treated 2011
2850090	Not completed in 2011		Priority 2—not treated
2851000			
2860000	Not surveyed since 2004	CEDE5—untreated for several years	
2860011	East Crossing CG	SEJA	Not treated
2877040	2877000 may not have been surveyed	GERO SEJA	Not on work plan, not treated
3078	Olympic Hot Springs Road as it passes through ONF	CIAR, GERO on 040 spur	
2978000	Not checked in a long time.	GERO	
2900200	Pit	POBO10 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	**CONTRACTOR**
3000200	Getting better	GERO, LALA	**CONTRACTOR**
3000300	Thinning project	CIAR and RUDI treated 2009-Bad GERO	**Currently blocked with debris, only partially treated CONTRACTOR**
3000400	Thinning project	GERO	**CONTRACTOR**
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
3100700	Close to known herb Robert infestation. Closed	CYSC4	Not on work plan, not treated
3116000 (to end of road)	Close to known herb Robert infestation		
3116200	Survey due		

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 2013 Snapshot	
Number of Known Noxious Weed Species	68
Number of Regulated Noxious Weed Species	44
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)	1,851
Number of Landowner Contacts	1,212
Educational Events	26
Public Contacts (Phone Calls, Walk-Ins, Emails)	1640
Web-Site Hits	1358
Volunteer Weed Events	3
Area of Weeds Controlled by Weed Board Staff	11,702 individual plants removed from 380 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 roughly300,000 acres.

The weed control program is poorly funded and has relied extensively on Title II funding and help from Clallam County to remain viable. 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 and 2011. In 2012 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. Additionally, the Weed Board has made noticable progress to in efforts to control two of the most problematic (as well as toxic) species, tansy ragwort and poison hemlock, through public education and outreach.

Jefferson County 2013 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.)	150
Educational Events	3
Weed Pulls	7

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) and hundreds of private landowners.

For the first time, two Puget Sound Corps, based in Port Angeles and Port Haddlock and funded by the WDNR, assisted with multiple projects across County-Federal boundaries. In county, through the combined efforts of both crews, they surveyed approximately 90 parcels encompassing 1,800 acres. They treated approximately 863 acres, including 9 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 productin each season. Prevention measures a must.
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
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 ON FOREST SERVICE LAND IN CLALLAM OR JEFFERSON COUNTIES, 2002-2013

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

Fuller's teasel newly listed by WA state, increasingly common in Clallam and Jefferson Counties

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
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*

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*
buffalobur	*Solanum rostratum*
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*
hawkweed, European	*Hieracium sabaudum*
hawkweed, yellow devil	*Hieracium floribundum*
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*
velvetleaf	*Abutilon theophrasti*
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*
common fennel	*Foeniculum vulgare*
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 oxtongue	*Picris hieracioides*
hawkweed, mouseear	*Hieracium pilosella*
hawkweed, orange	*Hieracium aurantiacum*
hawkweed, queen-devil	*Hieracium glomeratum*
hawkweed, smooth	*Hieracium laevigatum*
hawkweed, tall	*Hieracium piloselloides*
hawkweed, yellow	*Hieracium caespitosum*
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*
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*
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*
hawkweed, common	*Hieracium lachenalii*
hawkweeds, nonnative and invasive species not listed elsewhere	*Hieracium spp.*
hawkweed, polar	*Hieracium atratum*
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*
old man's beard	*Clematis vitalba*
oxeye daisy	*Leucanthemum vulgare*
reed canarygrass	*Phalaris arundinacea*
sandbur, longspine	*Cenchrus longispinus*
scentless mayweed	*Matricaria perforata*
smoothseed alfalfa dodder	*Cuscuta approximata*
sowthistle, perennial	*Sonchus arvensis* ssp. *arvensis*

Class C Weeds continued	
spikeweed	*Hemizonia pungens*
St. Johnswort, common	*Hypericum perforatum*
swainsonpea	*Sphaerophysa salsula*
teasel, common	*Dipsacus fullonum*
thistle, bull	*Cirsium vulgare*
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*

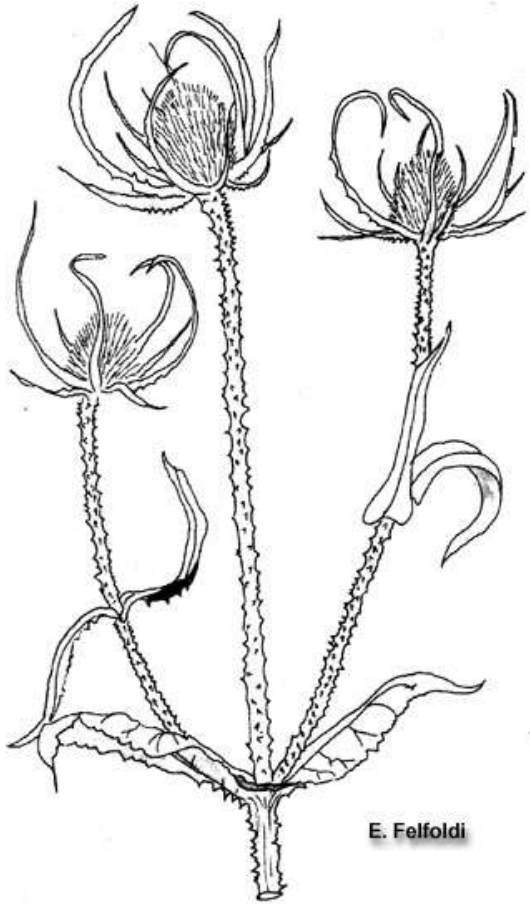
To protect the State's resources and economy, the Washington State Noxious Weed Control Board adopts a State Noxious Weed List each year (WAC 16-750). This list classifies weeds into three major classes – A, B, and C – based on the stage of invasion of each species and the seriousness of the threat they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

2013 Washington State Noxious Weed List



Common Teasel (*Dipsacus fullonum*), a new 2013 Class C 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 on May 15 - October 15, 2013. 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 Cathy Lucero, Clallam and Jefferson Counties Noxious Weed Control Board at (360)417-2442, or Cheryl Bartlett, Forest Botanist and Invasive Plant Program Coordinator, Olympic National Forest, at (360)956-2283.

Pacific RD: Big Creek/Upper Quinault River Watershed 2190 rd and associated spurs**; Bockman Creek Watershed** 2902 and 2903 rds and associated spurs, Bockman rock pit; **Deep Creek Watershed** 30, 3040, and 3067 rds and associated spurs; **East Twin River Watershed** 3040 and 3068 rds and associated spurs; **Headwaters Sol Duc River Watershed** 2918 and 2920 rds and associated spurs; **Lower Boqachiel River Watershed** 2932 rd and associated spurs; **Lower Elwha River Watershed** 3050 rd and associated spurs; **Matheny Creek Watershed** 21, 2140, 2160, 2170, 2180, 2190 rds and associated spurs; **Middle Queets River Watershed** 2180 rd and associated spurs and Park rock pit; **Middle Quinault River Watershed** 2140 and 2190 rds and associated spurs; **Middle Sol Duc River Watershed** 2065, 2071, 2923, 30, 3006, 3040, 31, and 3116 rds and associated spurs and the Snider Work Center; **North Fork Calawah River Watershed** 29, 2922, 2923, 2929 rds and associated spurs, Bonidu Meadow, Calawah and Grindstone rock pits; **Pysht River Watershed** 30, 3006, 31, and 3116 rds and associated spurs; **Salmon River Watershed** 2120 and 2140 rds and associated spurs; **Sams River Watershed** 2170 and 2180 rds and associated spurs; **South Fork Calawah Watershed** 2922, 2952, 29, 2912, 2923, and 2932 rds and associated spurs; **Upper Sol Duc River Watershed** 29, 2918, 2929, 2931, 2978, and 3071 rds and associated spurs, Klahowya campground, Littleton Horse Camp, Bonidu and Tom Creek rock pits; **West Twin River Watershed** 30 and 3040 rds and associated spurs.
Hood Canal RD: Canyon Creek /Pats Creek Watershed 28, 2870, 2875, 2877, 2878, and 2880 rds and associated spurs, Schmits Knob, Upper and Lower Caraco, Canyon and Ned Hill rock pits, Cranberry Bog, Caraco Elk Forage units, and Juniper Meadow; **Fulton Creek/Waketickeh Creek Watershed** 2503 and 2510 rds and associated spurs; **Jimmy-come-lately Creek Watershed** 28, 2850, 2855, 2840, and 2845 rds and associated spurs, Louella Work Center, Louella, Raccoon, Coho, and Wolf 2 rock pits; **Little Quilcene River Watershed** 28 and 2820 rds and associated spurs and Bon Jon rock pit; **Lower Big Quilcene River Watershed** 2620, 2650, 27, 2730 and 2740 rds and associated spurs, Quilcene office compound, Rainbow and Falls View campgrounds, Lower Big Quilcene Trail, and caretakers cabin; **Lower Dosewallips River Watershed** 25, 2610 and 2620 rds and associated spurs and Elkhorn campground; **Lower Duckabush River Watershed** 2510 and 2530 rds and associated spurs, Collins campground, Duckabush rock pit, Duckabush trail; **Lower Gray Wolf River Watershed** 2870, 2875 and 2880 rds and associated spurs, Dungeness Forks campground, Armpit rock pit; **McDonald Creek/Siebert Creek Watershed** 2877 rd and associated spurs, Pat's Prairie; **Middle Dungeness River Watershed** 28, 2820, 2830, 2860, and 2870 rds and associated spurs, Lost rock pit, and old East Crossing campground; **Snow Creek/Salmon River Watershed** 2850, 2852, 2840 and 2845 rds and associated spurs; **Spencer Creek / Marple Creek Watersheds** 2620 and 2610 rds and associated spurs, Seal Rock campground; **Upper Big Quilcene River Watershed** 2650, 27, 2740, and 2760 rds and associated spurs, Sink Lake; **Upper Dungeness River Watershed** 2870 rd and associated spurs, Camp Handy, Dungeness trail and Heather Basin trail

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

_____, 2013 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

VM

2013 FACTS Invasive Plant Treatment Data Form

General Activity Fields

Ref #: 10

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)	Canyon Creek / Park Creek	FS	Clallam County Nox (3 # people)

Method Code	Equipment Code (circle one)	Job Code:	Treatment Location and Comments:
200 Herbicide	711 hand sprayer 712 backpack sprayer 713 hack & squirt 716 injector	NFWF09	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.: Cranberry Bog; 2870059 **Was entire area represented by the Ref# treated for weeds?** Yes / No → If no, describe what part was treated above.
100 Manual	721 mobile ground sprayer 000 other		Comments: We finished the site, although it would be beneficial to return b/c of the abundance of GERO. The area is also a good 2nd it would be advantageous to keep it prime of invasives

***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 #
7/11/13	7/11/13	3	Road edge/ROW, Campground, Gravel/rock source, Trailhead, Forest, Riparian, Admin Site, Other	Cathy Lucero; 56527
				Total Manual Infested Area Treated: Do not lump plants together: 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	2 acres	5	
CIVU	.8 acres	2	
CIAR4	.5 acres	1	
PHAR3	.9 acres	3	Near bog's edge
	acres		
	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 cl[illegible] meant to be approximations only. DO NOT spend more than a few moments determining cover class.

Admin Use Only

Activity Unit FACTS ID#: _____ Name: _____

Subunit #: _____ Name: _____

Daily Log Day 1

Application Date	Time Start	Time Stop	Temp (F)	Wind Speed (MPH)	Wind Direction	Cloud Cover	Comments:
7/11/13	10:30 am	4:10 pm	61°	less than 2 mph	E	partly cloudy	Very little wind especially b/c most of the application was below foliage

Total Volume of Mix Applied	UOM	Mix (oz herbicide /1 gallon water)	Dilutant	Applicators Names
36	Gallons	2 oz/ gallon	Water	Allyce Miller, Jessica Coyle, Cathy Lucas

Herbicide Product Name	Amount of this herbicide product that was applied	Percent Solution	Adjuvant Product Name	Amount of this adjuvant that was applied	Percent Solution	Total Application Area (Acres):
Element 3A	66 oz	1.5 %	Competitor	24 oz	.52%	3.0
Aqua Net	6 oz	1.5 %	Blazon	oz	.35%	Acres Treated within 150' of Water: 3.0
	oz	%		oz	%	Bankful Acres Treated (for NPDES): 3.0

Daily Log Day 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 /1 gallon water)	Dilutant	Applicators Names
	Gallons	oz/ gallon	Water	

Herbicide Product Name	Amount of this herbicide product that was applied	Percent Solution	Adjuvant Product Name	Amount of this adjuvant that was applied	Percent Solution	Total Application Area (Acres):
	oz	%		oz	%	
	oz	%		oz	%	Acres Treated within 150' of Water:
	oz	%		oz	%	Bankful Acres Treated (for NPDES):

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

Notes:

- 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.

Stephen Marsh — Signature

9/4/2013 — Date

Name of Rock Source: Backman Quarry

Narrative of Pit Location (include, at minimum, road number and milepost): 2902 road MP 9.2

Ref # (from project spreadsheet): 588

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: Stephen Marsh **Date of Inspection:** 9/4/2013

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 SEJA (Tansy ragwort) was on the opposite edge of the exposed rock/gravel, and was treated/heads bagged.

Weed List:

Species Present?	Code	Common Name	Scientific Name	Treatment Priority	Abundance (circle one – use comments section to elaborate, if needed)
	VIMA	bigleaf periwinkle	Vinca major	1	Widespread / Scattered / Rare
	AEPO	bishop's weed, goutweed	Aegopodium podagraria	1	Widespread / Scattered / Rare
	SILAA3	bladder campion	Silene latifolia ssp. alba	1	Widespread / Scattered / Rare
	POBO10	Bohemian knotweed	Polygonum x bohemicum	1	Widespread / Scattered / Rare
	CEJA	brownray knapweed	Centaurea jacea	1	Widespread / Scattered / Rare
	BUDA2	butterfly bush	Buddleja davidii	1	Widespread / Scattered / Rare
	BRTE	cheatgrass	Bromus tectorum	1	Widespread / Scattered / Rare
	BOOF	common borage	Borago officinalis	1	Widespread / Scattered / Rare
	SYOF	common comfrey	Symphytum officinale	1	Widespread / Scattered / Rare
	VETH	common mullein	Verbascum thapsus	1	Widespread / Scattered / Rare
	VIMI2	common periwinkle	Vinca minor	1	Widespread / Scattered / Rare
	CEDI3	diffuse knapweed	Centaurea diffusa	1	Widespread / Scattered / Rare
	HISA4	European hawkweed	Hieracium sabaudum	1	Widespread / Scattered / Rare
	DIFU2	Fuller's teasel	Dipsacus fullonum	1	Widespread / Scattered / Rare
	LYVU	garden yellow loosestrife	Lysimachia vulgaris	1	Widespread / Scattered / Rare
	POSA4	giant knotweed	Polygonum sachalinense	1	Widespread / Scattered / Rare
	GERO	herb Robert, stinky Bob	Geranium robertianum	1	Widespread / Scattered / Rare
	POCU6	Japanese knotweed	Polygonum cuspidatum	1	Widespread / Scattered / Rare
	LYPU2	large yellow loosestrife	Lysimachia punctata	1	Widespread / Scattered / Rare
	ARMI2	lesser burdock	Arctium minus	1	Widespread / Scattered / Rare
	HICA10	meadow (yellow) hawkweed	Hieracium caespitosum	1	Widespread / Scattered / Rare
	CEDE5	meadow knapweed	Centaurea debeauxii	1	Widespread / Scattered / Rare
	HIAU	orange hawkweed	Hieracium aurantiacum	1	Widespread / Scattered / Rare
	CESTM	spotted knapweed	Centaurea stoebe ssp. micranthos	1	Widespread / Scattered / Rare
	PORE5	sulphur cinquefoil	Potentilla recta	1	Widespread / Scattered / Rare
✓	SEJA	tansy ragwort	Senecio jacobaea	1	Widespread / Scattered / Rare
	LAGA2	yellow archangel	Lamiastrum galeobdolon	1	Widespread / Scattered / Rare
	CIVU	bull thistle	Cirsium vulgare	2	Widespread / Scattered / Rare
	CIAR4	Canada thistle	Cirsium arvense	2	Widespread / Scattered / Rare
	HYPE	common St. Johnswort	Hypericum perforatum	2	Widespread / Scattered / Rare
	TAVU	common tansy	Tanacetum vulgare	2	Widespread / Scattered / Rare
	RULA	cutleaf blackberry	Rubus laciniatus	2	Widespread / Scattered / Rare
	ILAQ80	English holly	Ilex aquifolium	2	Widespread / Scattered / Rare
	HEHE	English ivy	Hedera helix	2	Widespread / Scattered / Rare
	PRLA5	English laurel	Prunus laurocerasus	2	Widespread / Scattered / Rare
	LALA4	everlasting peavine	Lathyrus latifolius	2	Widespread / Scattered / Rare
	COAR4	field bindweed	Convolvulus arvensis	2	Widespread / Scattered / Rare
	LYSY	flat pea	Lathyrus sylvestris	2	Widespread / Scattered / Rare
	RUAR9	Himalayan blackberry	Rubus armeniacus	2	Widespread / Scattered / Rare
	DACA6	Queen Anne's lace	Daucus carota	2	Widespread / Scattered / Rare
	PHAR3	reed canarygrass & ribbon grass	Phalaris arundinacea	2	Widespread / Scattered / Rare
✓	CYSC4	Scot's broom	Cytisus scoparius	2	Widespread / Scattered / Rare
					Widespread / Scattered / Rare
					Widespread / Scattered / Rare
					Widespread / Scattered / Rare
					Widespread / Scattered / Rare
					Widespread / Scattered / Rare
					Widespread / Scattered / Rare

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

Name of Quarry: Bockman Pit

Date of Inspection: 9/4/2013
Document valid 1 year after inspection.

Name of Rock Source: Backman Quarry Date inspected: 9/4

Species present:

Species Code	Common Name	Infested Area (acres)	Cover Class	Comments
SEJA		.3	1	Along South Forest edge w/ a few towards middle
CYSC4		.3	1	Along North forest edge w/ a few in the middle

Do not record tolerate species in this table.

DON'T FORGET TO FILL OUT THIS SECTION!

Estimated size of pit: .6 **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 50% **%**
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?** _____

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.

FACT SHEET #120

Rock Pit Inspection: Bockman quarry

Clallam County
2902 road, MP 9.2
Approx 0.6 acres

Date of Inspection: 9/4/2013 (include year)

Calibration Verification

Agency/Organization: Clallam Noxious Weeds Date: 6/14/13

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: _____ Position: Clallam County Noxious Weed Control Coordinator

Equipment ID	Equipment Type	Calibrated GPA	Working Condition?	Comments	Examiner Initials
99	Backpack	30	Yes		AM
DNR 1	Backpack	29	yes		AM
93	Backpack	62	Yes		CJ
DNR 6	Backpack	17	Yes		CJ
5	Backpack	36	Yes		CJ
96	Backpack	31	Yes		CJ
3	backpack	36	Yes		CJ
91	backpack	31	Yes		CJ
97	backpack	41	Yes		CJ
98	backpack	32	Yes		CJ
94	backpack	37	Yes		CJ
84	backpack	38	Yes		CJ

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.