Cranberry Bog

Olympic Peninsula Cooperative Noxious Weed Control 2011 Project Report

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

Cranberry Bog treatment, water supplied by USFS fire crew

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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 2011 Report.

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Table of Contents

***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 in areas identified by the Forest Service. On non-federal lands this project, coordinated by Clallam County, has overseen and implemented 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. The Act was re-authorized in 2008. 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), other seasons crew was expanded to include a Washington Conservation Corps (WCC) crew, and/or an Olympic Correction Center (OCC) inmate crew, working in pits and on Highway 101 in the west end of Jefferson and Clallam Counties. Since 2008 the Forest Service has hired contractors for certain projects.

2011 Project Goals:
1. Control weeds on roads scheduled for decommission.
2. Control weeds in Botanical Areas and similar critical sites.
3. Control weeds in quarries and other rock sources.
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

2011 Resources: (Clallam/Jefferson Noxious Weed Control Board's Staff)
- Supervisor (14 hours/week, 4 months)
- 4 Project Specialists (40 hours/week, varying amounts of time)
- Jefferson County Noxious Weed Coordinator/FS Program Assistant (28 hours/week, 6 months, 40 hours/week, 1 month).
- Clallam County Sheriff's Chain Gang
- WCC crew

2011 Accomplishments:
- Treated a total of **337** weed-infested acres
- Supported coordination of the Jefferson County Noxious Weed Control Program for 6 months.
- Completed and submitted FACTS treatment forms to USFS for upload to their database.
- Completed annual Project Report

Observations and Recommendations:
Weed infestations continue to threaten the health and diversity of native plant communities both within the Olympic National Forest and on adjacent lands. However, weed infestation size, density, and diversity have been reduced overall and no new weed species were discovered in 2011.

The Secure Rural Schools Act ends in 2012 and, given the state of the economy, we do not anticipate it being re-authorized. Clallam and Jefferson County Weed Boards have sufficient funding for a small field crew in 2012 and possibly into 2013. It is essential that we make the best use of the resources available in these final years. In many cases, we have made remarkable advances both in controlling invasives and in creating significant relationships with a wide array of entities. We need to search for other means and funding to continue this cooperative project into the future; it would be both disheartening and wasteful to lose the ground we have worked so hard to gain.

Weed Board staff has extensive knowledge ranging from project history and infestation locations to weed identification and best treatment methods. The County weed boards have provided a relatively inexpensive, locally based work force with county wide jurisdiction and long term focus. However, the CCNWCB Program is not equipped to carry out large-scale treatment operations, and the expertise of the Weed Board staff would be most efficiently used in other ways. Ideally, this staff is best suited to identify and control new infestations, tackle moderately-sized or widely-dispersed infestations and serve as advisors and/or supervisors for other crews that are able to tackle larger projects. We appreciate the opportunity to provide input on weed control strategy and to help coordinate the Forest Service's weed management plan.

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:

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. This project has also provided funding for the Jefferson County Noxious Weed Control Board and supported their local education, survey, and treatment efforts. 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. SRS was reauthorized in 2008, but is scheduled to expire in 2012. This program, which began in 2002, has funding for the 2012 field season.

On Forest Service lands the project seeks to work under a policy of early discovery and rapid response to prevent the establishment of new infestations wherever possible. Initial work focused on surveys to identify and update 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. For known sites, 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 fragile, sensitive environments such as Biological Areas.

On non-Forest Service lands, the emphasis has been on areas where uncontrolled noxious weed populations on federal, state, county, and private land were spreading and hindering coordinated control activities. The Clallam and Jefferson County Weed Boards provided the vital link to private landowners whose weeds threatened federal lands. For that reason, the project includes oversight and implementation of the Jefferson County Noxious Weed Control Board's program. Program goals include public education, monitoring infested sites, surveying for new noxious weed infestations, seeking private and public 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 small field crew and weed specialist hired by the Clallam County Noxious Weed Control Board (CCNWCB), a larger Washington Conservation Corps (WCC) crew, and occasionally, an Olympic Correction Center (OCC) inmate crew, working in the west end of Jefferson and Clallam Counties. Since 2008 the Forest Service has hired contractors for certain projects. Details of work performed by the contractor are not available to us and are not incorporated into this report.

2011 Project Description:

This year's work primarily involved treating previously identified weed infestations on Forest Service land. 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 "Project Areas", a broader, previously used reporting model. A Forest Service employee monitored treatment sites and sent feedback to the counties.

Three seasonal crew members were hired in June—one full time and two half-time in each county. A fourth person was added in August. Additionally, both county coordinators went out separately with the crew one day 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 2011, treatments on Forest Service lands were prioritized as follows:

1. Control weeds on roads scheduled for decommission.
2. Control weeds in quarries and other rock sources.
3. Control weeds in Botanical Areas and similar critical 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.

2011 Project Resources and Performance:
The number of staff/participants, the amount of time devoted to this project, and tasks completed were:

- **1 Supervisor: 14 hours/week, for 4 months, licensed applicator**
  - Supervised and administered the project
  - Provided technical information and support, crew training, and assisted with field treatments
  - Participated in 2planning meetings with Forest Service staff
  - Oversaw end-of-season reporting and planning for 2012 field season

- **Field team: 4 project specialists, (all licensed aquatic applicators), variable time**
  - Treated a total of **293.49** acres
  - Surveyed **207** miles of roads
  - Filled out FACTS forms for all treated sites

- **1 Jefferson County Noxious Weed Control Coordinator/FS Program Assistant: 28 hours/week, for 6 months, 40 hours/week for 1 month**
  - Coordinated Jefferson County Noxious Weed Control Program for six months
  - Assisted with FS field treatments
  - Reviewed crew's FACTS sheets and submitted them to the Forest Service
  - Compiled data and prepared report

- **WCC Crew**
  - Treated a total of **38.3** acres

- **Clallam County Sheriff's Chain Gang**
  - Treated 60,500Scotch broom within County pits and roads.

- **Clallam County Sheriff's Chain Gang FS funded**
  - Removed 15,347 Scotch broom, 3835 tansy ragwort, 85,360 herb Robert plants

2011 Project Accomplishments:
In 2011 the combined crews (Clallam County NWCB, Chain Gang and WCC) treated 337.79 acres of noxious weeds and surveyed 237 miles of roads. Most roads were traveled multiple times and surveyed or treated each time. Multiple trips were not included in the total. The table on the following page provides a summary of yearly crew activities over the life of this project. Yearly comparisons are complex and inconsistent because of changes in focus, crew resources and FS reporting protocols from 2002-2011. For more detail, please see 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 2011 project list.

2002 to 2011 Accomplishments Summary Table

Acres Treated, by Crew

CREW[A]	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
NWCB						**manual**	54.6	26.44	21.01	**32.96**	
						chemical	131.35	195.15	316.05	**260.53**	
total	N/A	N/A	N/A	N/A	20.28[5]	59.95[5]	185.95[5]	221.59[5]	337.06[5]	**293.49**	**1118.58**
OCC[5]-manual	N/A	N/A	N/A	N/A	N/A	337[5]	74.82[5]	77.5[5]	N/A	**N/A**	**489.32**[5]
WCC[5]	N/A	N/A	N/A	N/A	N/A	22.35	N/A	53.87(Chemical)	N/A	**38.3 (chemical)**	**76.22**
Chain Gang[6]	N/A	N/A	N/A	N/A	5.67[6]	7.27[6]*	2.43[6]	6.93[6]	0.16[6]	**6 (manual)**	**28.46**
TOTAL Acres Treated	**N/A**	**N/A**	**N/A**	**N/A**	**25.95**	**426.57**	**263.2**	**359.89**	**337.22**	**337.79**	**1750.88**

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

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	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**	**1,060**

Number of Weeds Removed Manually, by Crew[4]

CREW	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
NWCB	736[4]	886[4]	11,716[4]	51,775[4]	21,016[4]	N/A	N/A	N/A	N/A	**N/A**	**86,129**[4]
WCC Crew	31,085[4]	87,623[4]	1,166,200[4]	880,655[4]	N/A	N/A	N/A	N/A	N/A	**N/A**	**2,165,563**[4]
Chain Gang	8,286[4]	102,748[4]	112,858[4]	108,225[4]	56,775[4]	72,700[4]	24,350[4]	69,380[4]	1,652[4]	**3,700**	**560,674**[4]
TOTAL # Weeds Removed	**40,107**[4]	**191,257**[4]	**1,290,774**[4]	**1,040,655**[4]	**77,791**[4]	**72,700**[4]	**24,350**[4]	**69,380**[4]	**1,652**[4]	**3,700**[4]	**2,812,366**[4]

Road Miles Surveyed and/or Treated by NWCB Crews

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Miles of Roads Surveyed/Treated	192	702	265	113	N/A	N/A	N/A	N/A	N/A	**N/A**	**1,272**
Acres Surveyed/Treated[1]	233[1]	851[1]	321[1]	137[1]	N/A	N/A	N/A	N/A	N/A	**N/A**	**1,542**[1]
Miles of Roads Surveyed	N/A	N/A	N/A	N/A	391	369	423	299	222	**237**	**1,922**
Acres Surveyed[2]	N/A	N/A	N/A	N/A	947[2]	894[2]	1,025[2]	724[2]	626[3]	**575**	**4,744**

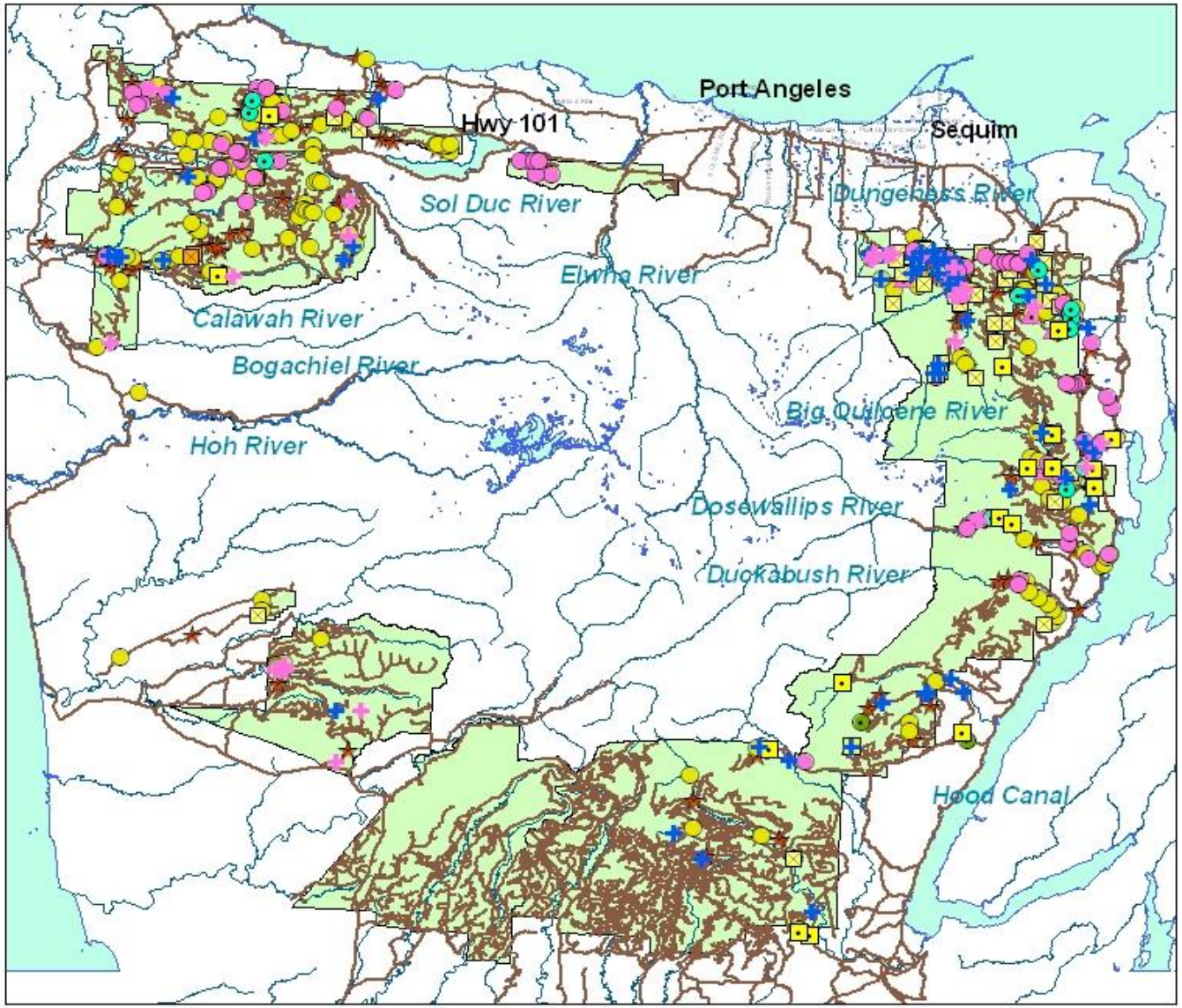
[A]Crew acronyms: **NWCB**=Noxious Weed Control Board, **OCC**=Olympic Correctional Crew, **WCC**=Washington Conservation Corps

1. Derived from miles surveyed/treated
2. Derived from miles surveyed. Recorded as a separate value for 2006 to 2011 only. Previously combined in miles treated/surveyed and acres treated/surveyed
3. Taken from FACTS sheets—"Area Examined for Weeds"
5. "Acres Treated" include chemical and manual treatment and are taken from the FACTS forms filled out by crew
6. For the Chain Gang, each thousand plants were estimated to encompass .1 acre, except in 2011 when they reported the number of acres treated.

Maps

- Five maps are shown—an Overview of the Olympic National Forest, three covering activities in the Hood Canal District from north to south and one showing activities in the Pacific North district.
- Roads that Jefferson County and Clallam County Noxious Weed Board crews worked on in 2011 are shown in orange. The Roads Surveyed 2011 layer was created in the office, based on roads named in the FACTS sheets filled out by the crew, and GPS track logs.
- The Overview Map shows baseline weed sites, documented since 2005.
- The other maps show new weed sites first documented in 2011. The new weed layers are based on points taken by the field crew, using a Garmin 78 or a Garmin 76 CX. Office staff converted the points to shape files, using the Minnesota DNR public domain software DNR Garmin version 5.14, which were then overlaid all previous species shape files to ascertain which infestations were new. Excess points (too close together) were deleted.

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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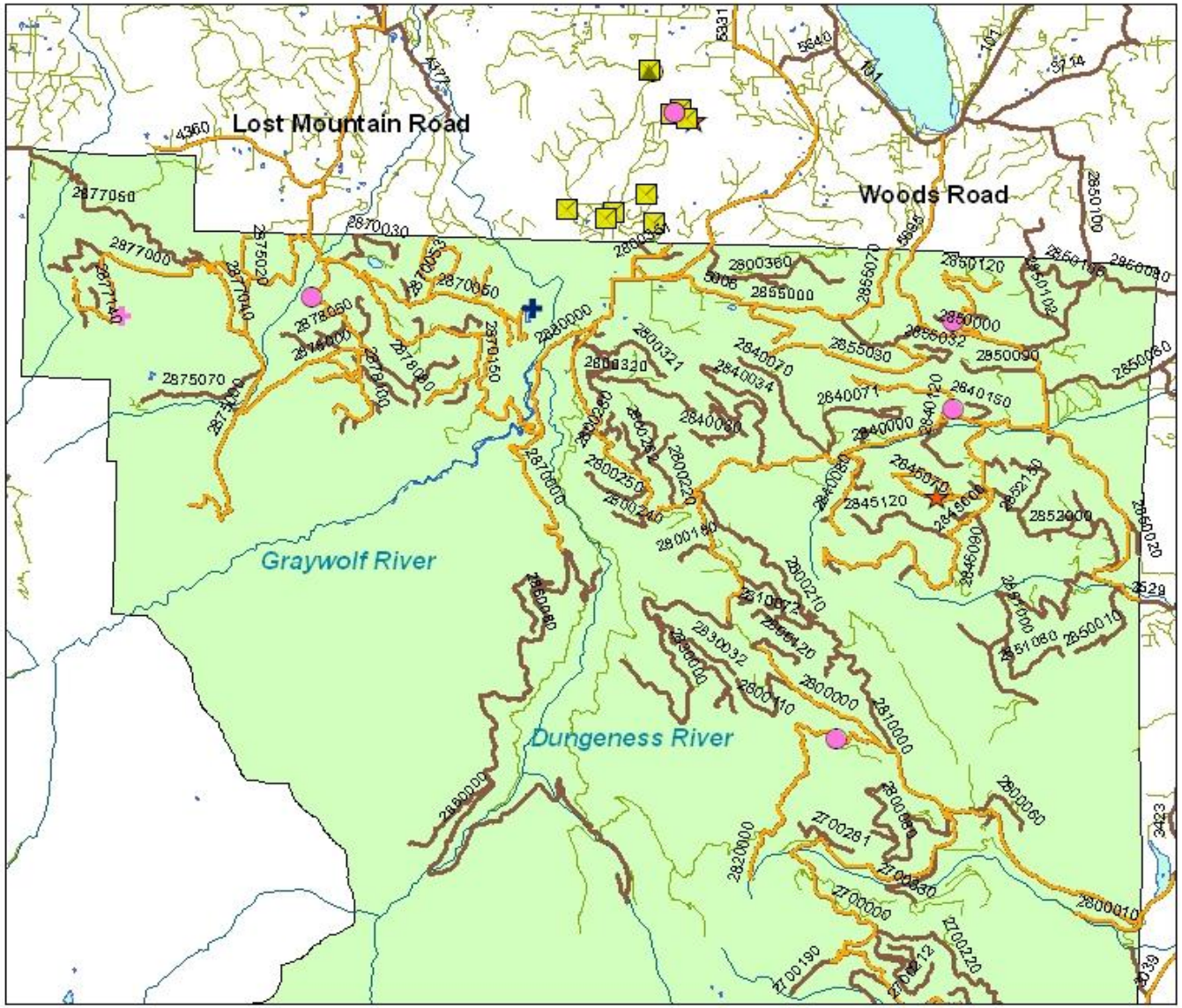
Hood Canal North, Showing Roads Surveyed and New Weed Sites Found in 2011



Legend

- bull thistle
- Canada thistle
- comfrey
- herb Robert
- knotweed
- meadow knapweed
- tansy ragwort
- yellow archangel
- Roads Surveyed 2011
- FS Roads
- Rivers
- DNR Roads
- Water
- FS Districts

N
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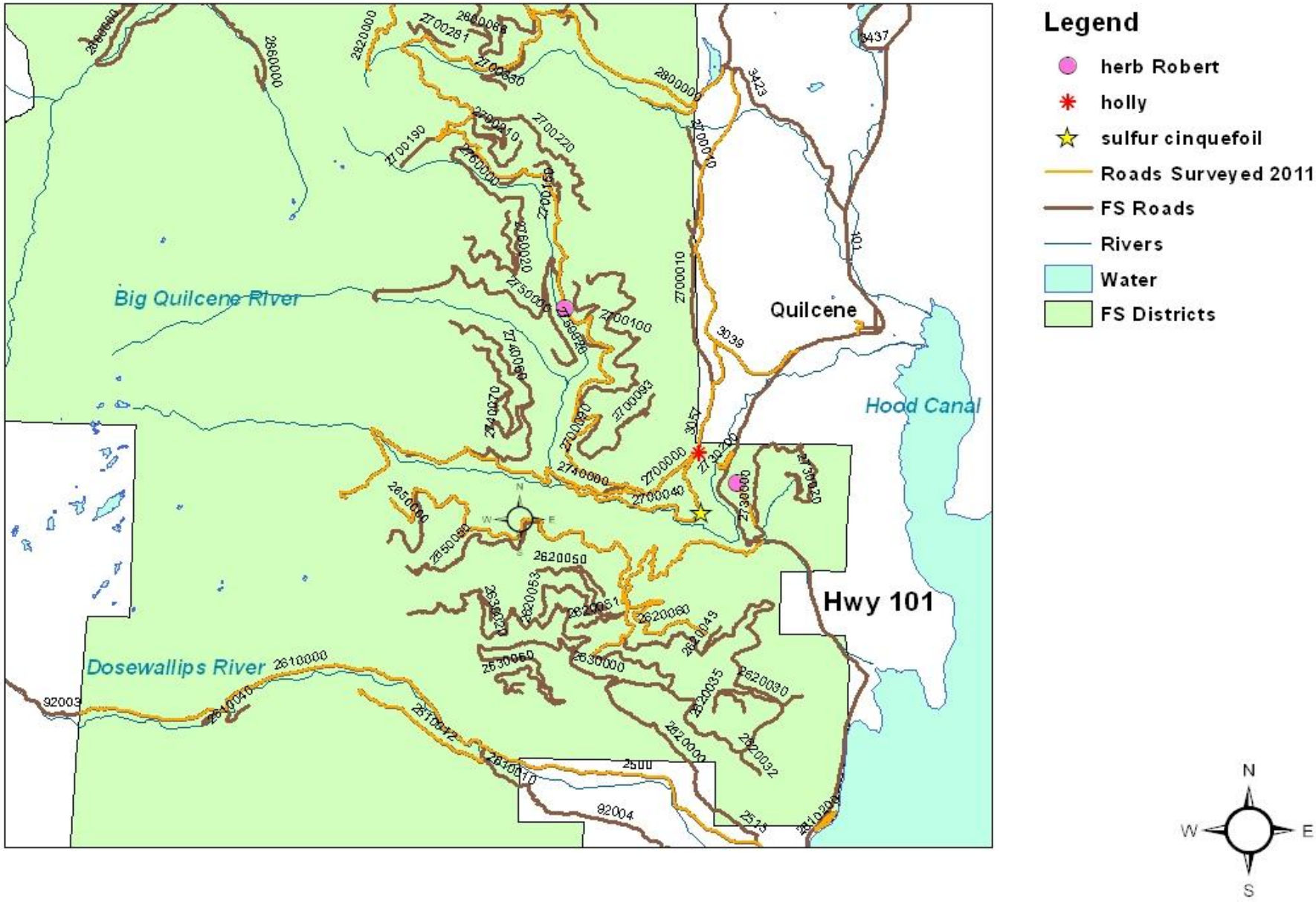
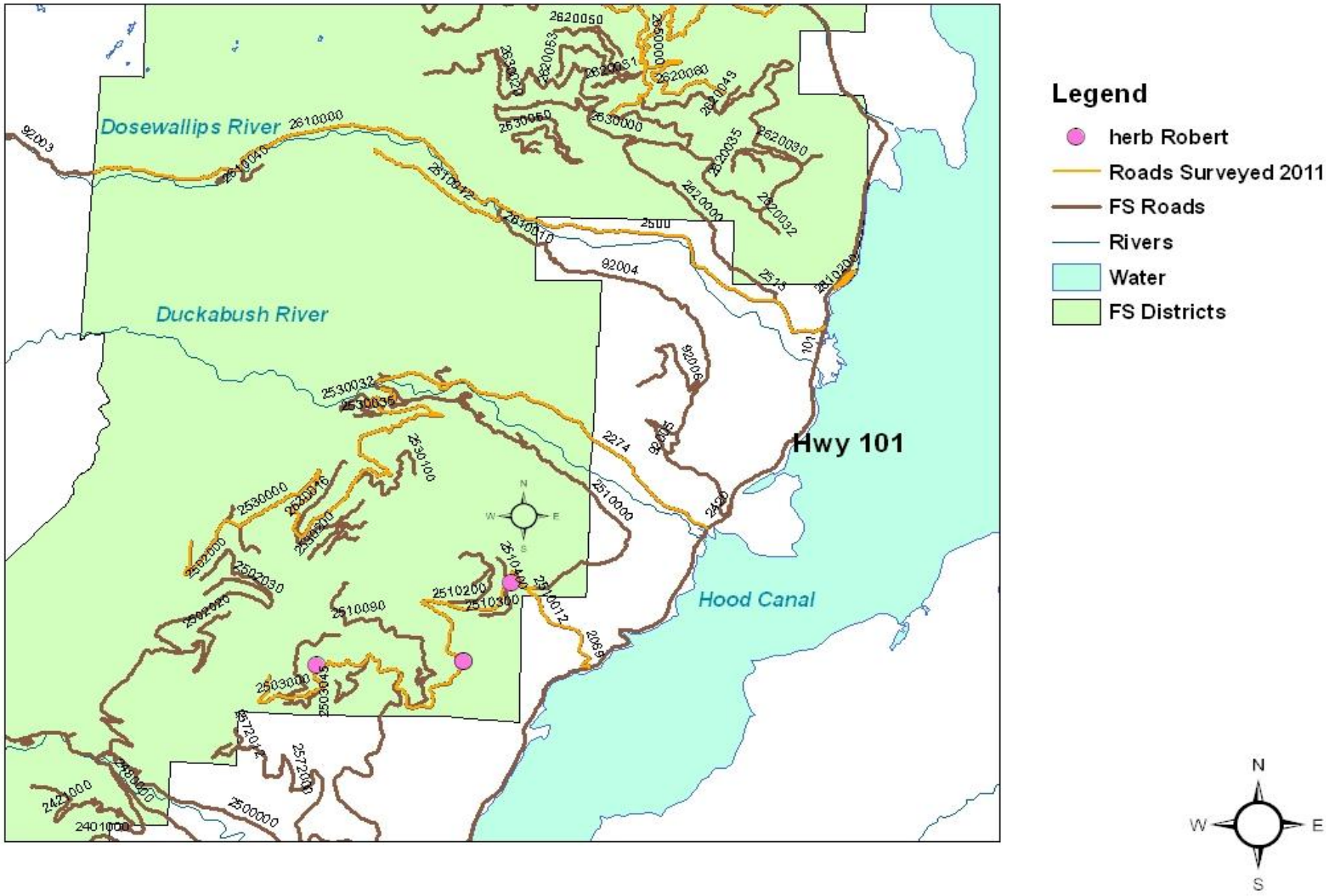
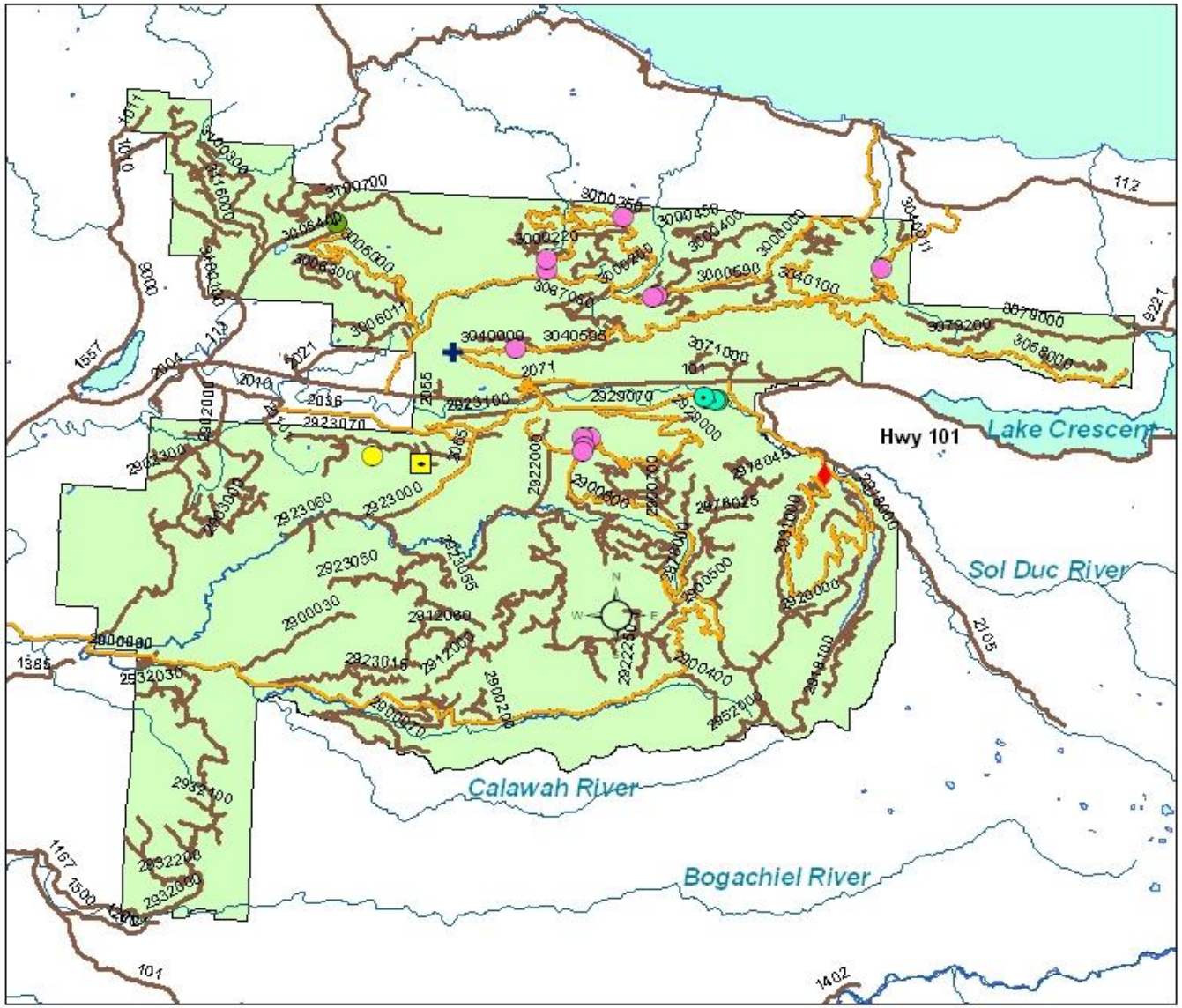
Hood Canal (Mid), Showing Roads Surveyed and New Weed Sites Found in 2011



Hood Canal South, Showing Roads Surveyed and New Weed Sites Found in 2011



Pacific North, Showing Roads Surveyed and New Weed Sites Found in 2011



Legend

- Canada thistle
- common tansy
- evergreen blackberry
- herb Robert
- himalayan blackberry
- reed canarygrass
- scotch broom
- Roads Surveyed 2011
- FS Roads
- Rivers
- Water
- FS Districts

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POST-SEASON OBSERVATIONS:

WCC Crew pulls broom in rainy weather

Nature of the Problem:

Weed infestations continue to threaten the health and diversity of native plant communities both within the Olympic National Forest and on adjacent lands. Aggressive and invasive, these invasive plants can displace native species. 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.

Crews have treated weeds on most of the sites identified in the 2003 baseline survey and the NWCB crew treated virtually all priority 1 and 1A sites on the 2011 project list. Weed infestation size, density, and diversity have been reduced overall and no new weed species were discovered in 2011. Continued follow-up on known sites is essential to effective control but workforce must be carefully matched to the project. Early detection and rapid response are the most effective means of reducing impacts and expense of invasive plants. With this in mind we have concerns about some areas that have not as yet been visited (see Appendix D), or known sites that have not been monitored for more than 4 years.

Invasive Weed Populations:

- Treatments are showing success. For example, Scotch broom abundance was minor throughout project areas in 2011, tansy ragwort has noticeably decreased on the 2800 roads compared to a few years ago, spotted knapweed was not discovered at any of the 12 previously known sites' orange hawkweed and knotweed populations are greatly reduced at known sites.
- The most commonly recorded invasive species now are herb Robert, everlasting peavine, tansy ragwort, Canada thistle, and bull thistle.
- Herb Robert's rapidly expanding populations are one of our biggest concerns. 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 under-story and to produce prolific seedling growth throughout the year has made it exceedingly difficult to find and to get ahead of. We continually discover new herb Robert sites and do not have enough time for sufficient treatments each year (3 would be optimum) to be effective. However, we should not give up yet.
- Everlasting peavine infestations may not be expanding rapidly, but may be the most abundant. Populations in some areas, especially the2878 roads (2878085, 2878110 and 2878100) were so large they were not only beyond the capacity of our crew to treat, but also appear to be significantly retarding regeneration of native understory and tree species. Control goals and a comprehensive strategy to achieve them, has yet to be developed for this plant.
- The most infrequently recorded species are comfrey, hawkweeds, sulfur cinquefoil and knotweed. The single butterfly bush reported in our portion of Forest Service lands is dead.
- No new weed species were found on Forest Service land in 2011. Crew mapped approximately 56 new sites this year.
- Small populations of purple loosestrife, yellow and European hawkweed, hoary alyssum, hairy willowherb, garlic mustard 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 there.

Survey and Treatment

- NWCB crews treated virtually all priority 1 and priority 1A sites on the project list, unless they could not be located or lacked presumed access. Adding herbicide tools since 2007has GREATLY increased productivity. CCNWCB crews treated 293.49acres in 2011. (Including WCC and Chain Gang work, the total acreage is 337.79. The remarkable similarity between "acres treated" in 2010 and 2011may indicate the treatment capacity of a 2-4 person crew in any given season. This information should be used to focus treatment priorities for NWCB crew, in a long wish list. See the Accomplishment Summary Table on Page 5 for comparisons.
- Herbicide totals increased: 48.58 gallons, up from 21.09 in 2010. We attribute this, at least in part, to the assistance of a WCC crew treating dense and extensive infestations of herb Robert. (WCC crews did not assist with our projects in 2010), and our subsequent documentation of herbicide within our report. Approximately 1/6thofour total reported usage this year is attributable to such sites treated with their assistance, (there was not a similar uptick in area treated). It also appears that some of the increase may be explained by FS protocol changes to methods of calculating and reporting acres treated.
- We did not treat everlasting peavine sites that were assigned in the project list as they were far too extensive for our crew to treat. The original thinking was that the Chain Gang could manually pull and we could treat later on. The Chain Gang was not scheduled to perform this task.
- The Forest Service 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.
- Surveys were often only performed while driving to assigned treatment project areas. Crew treated new infestations as they were discovered enroute.
- For the first time, there were few sites on the project list where hand-pulling alone, was an effective use of time. When weather conditions contradicted combined manual/herbicide treatments, we tried to at least perform surveys.
- Triclopyr (with increased residual and greater selectivity) was still favored over glyphosate. We need to start looking for other selective semi-aquatic chemicals effective on a wide array of invasives to avoid developing resistance in the future or shifting weed infestation composition.
- A major focus in 2011 was controlling weeds on soon-to-be-decommissioned roads, because access AFTER decommissioning is very challenging. The 3050 road system south of Lake Sutherland was a top priority for the Forest Service and crews spent many days treating *much* reduced herb Robert populations for the third year.
- Pits continued to increase in priority. The Forest Service incorporated high-priority pits into the general project list; most were treated.
- Treatment of campgrounds and trailheads continues to be a high priority because of the potential for spread. All priority campgrounds were treated in 2011, but several with herb Robert, should have received more re-treatments. We did not have enough time.
- Cooperation between the Weed Boards, the Forest Service and the Port Townsend Municipal Watershed continued to be excellent, resulting in more weed treatments within the watershed.
- Licensed WCC crew leaders have proved to be very valuable asset s. There has been a substantial increase in the weed control assistance that WCC crews can provide.
- 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 on the Dosewallips River.
- The FS monitor did an exemplary job of communicating with us, assisting with projects and providing useful feedback to direct re-treatments as needed. Well done!
- Cranberry Bog treatments could not have taken place without the extraordinary cooperation and coordination with FS staff and the FS fire crew, which facilitated on-site water storage. The Cranberry Bog is an important experiment in transitioning from treatments to restoration.
- Excellent communication, interest, and understanding between Forest Service departments led to discovery and an action plan to deal with invasives in a major engineered log jam project. This exciting collaboration was a direct result of recent Forest Service policies dealing with invasives. Thank you!
- 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. Additionally, the crew was deployed

to more non-roadside sites than in previous years. Although difficult and time consuming, treatment at these less accessible sites will continue to be one of the best uses of our crew.

- Wet weather which hampered herbicide treatments early in the treatment season, was offset by exceptionally fine weather into fall. WCC and seasonal crew schedules were sometimes difficult to adapt to this unpredictable weather pattern.
- Because of time constraints and extent of the project list, field crew was not able to re-treat as frequently as necessary, especially for sites with herb Robert.

Data Collection/Mapping

- Equipping the crew with recreational-grade Garmin units loaded with Topo 24K has made it much easier to navigate and return to sites as needed. However, we did not do a good job establishing clear goals about what data should be collected with it, and how it was to be documented.
- Track logs from Garmin GPS units greatly enhanced our ability to determine where crews had surveyed and/or treated. Due to a variety of reasons, however, these logs are not complete and do not fully represent surveyed/treated areas.
- Crew did a much better job of measuring road miles, figuring out which Reference Number site they were working on and recording the Reference Number on the FACTS sheets
- Early season instructions to combine project sites on a single FACT sheet, while meant to simplify, confused and reduced data quality. Crew eventually reverted back to one sheet per site per day.
- The ""Acres Examined for Weeds" line should be reinstated in next year's FACT sheet.
- The "Project Completed?" check box was missing on the 2011 FACT sheets. Unfortunately, this went unnoticed until late in the season, making it difficult to determine whether subsequent treatment days were re-treatments or additional treatments, and whether a project was totally completed. It will be restored to forms next year.
- Dedicating weekly staff time to FACT sheet review, data entry, and form submission to the FS has been invaluable with monitoring tasks and end of season reporting, but may be difficult for other counties with smaller programs to replicate.
- There is poor communication about contractor activities and the Weed Boards do not have information about contractor accomplishments during the season or after treatment.
- The majority of weed sites in the Olympic National Forest have already been mapped in the county's GIS system. Shape files were amended to reflect new GPS points created by crew.

RECOMMENDATIONS:

Junk car buried in everlasting peavine

Future Direction of the Project

The Secure Rural Schools Act ends in 2012 and, given the state of the economy, we do not anticipate it being re-authorized. Our counties (Clallam and Jefferson) have sufficient funding for a small field crew in 2012 and possibly into 2013. It is essential that we make the best use of the resources available in these final years. In many cases, we have made remarkable advances both in controlling invasives and in creating significant relationships with a wide array of entities. We need to search for other means and funding to continue this cooperative project into the future; it would be both disheartening and wasteful to lose the ground we have worked so hard to gain.

The successful adoption of the 2008 EIS, which authorized herbicide use throughout the Olympic National Forest, allows effective treatment of larger 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 utilize herbicides on a regular basis.

Weed Board staff has extensive knowledge ranging from project history and infestation locations to weed identification and best treatment methods. The County weed boards have provided a relatively inexpensive, locally based work force with county wide jurisdiction and long term focus. However, the CCNWCB Program is not equipped to carry out large-scale treatment operations, and the expertise of the Weed Board staff would be most efficiently used in other ways. Ideally, this staff is best suited to identify and control new infestations, tackle moderately-sized or widely-dispersed infestations and serve as advisors and/or supervisors for other crews that are able to tackle larger projects. We appreciate the opportunity to provide input on weed control strategy and to help coordinate the Forest Service's weed management plan. Specific recommendations are listed below.

Program Development

- Stable funding 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 cut.
- Although few, if any of our treatments could truly fall into an aquatic category, it is unclear how much effect the newly required NPDES permits issued by the EPA will have on planning weed control in Olympic National Forest. It will be imperative to sort this out as soon as possible so that treatments can begin in a timely manner.
- We have concerns about how the amount of herbicide over a given area is being used for consulting purposes with NFMS and USFWS. We would like to better understand that process and perhaps have some input.
- Consider adding new, low impact herbicides such as aminopyralid to the list of approved chemicals in the forest.
- We should strive to be, at a minimum, on a 4-year survey cycle.
- If it hasn't already been done, require an onsite invasive survey and a subsequent weed management plan for all wildlife, road maintenance, decommissioning, and other projects with potential for spreading or introducing invasive plant species. Continue to support intra agency communication about such projects at the earliest possible juncture, to allow the most lead time for getting any needed treatments on the ground at *least* one, if not two seasons before project implementation.
- The Clallam County Chain Gang should be tapped for specific, easily recognized, concentrated weed infestations, such as everlasting peavine. To do this will require more planning, increased

training in identification and treatment, and most importantly, closing the communication gap between all involved,

- From files provided, we created a color coded map showing year and location of contractor treatments and year of last survey/treatment by county crew. We need an updated road file to show closed roads and a file to show what species contractors treated. The resulting map would be a valuable visual aid for focusing next year's project list.
- Although we note and update" species found" on our road list and on our project list in this report, it does not appear that the species found column in the project list sent out by the FS is similarly updated from year to year, to reflect crew observations. This puts a new crew at a disadvantage by failing to capitalize on information gleaned in a previous year. Please provide us with a list (per road or project) of species found by contractors and the Chain Gang.
- We need to discuss and standardize our goals, protocols, and uses of hand-held GPS units in the field.

Survey and Treatment

- To conserve remaining funding, we need to 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 D.
- Set aside at least two weeks during the season for surveys—these could be used on poor weather days. Pre-planning should include identifying areas where we have not been for four years and including a portion of those areas in the annual workplan.
- Additional time must be built into the work plan for follow-up treatments. Specifically, at every known herb Robert site, we recommend 3 treatments per season.
- An annual list of high priority non-FS pits and their locations at the beginning of the season would be very useful
- Everlasting peavine while expansive and certainly detrimental to forest re-generation, does not appear to be spreading rapidly. We have not found many "new" patches and, peavine responds well to several herbicides. We suggest setting an acreage goal for treatments every year and making that a part of the contractor project list, especially in Pat's Prairie, the Graywolf, and Dungeness watershed.
- Plan invasive treatments as early as possibly in the de-commissioning process, especially those sites where herb Robert is present
- We should consider establishing perhaps a dozen study areas designed to closely track progress from one year to the next, documenting treatment and effectiveness several times each year, including what happens to desirable plants after treatments.

Documentation

- Add area examined back onto forms as well as check box for whether a site was completed or not.
- Add a line for total product used to the FACTs form. We consider this to be the most relevant piece of information for risk assessment.
- Continue to discuss clear goals for data collection and how to realistically achieve them.
- Consider combining sites into larger, more clearly defined units (for example, from one road intersection to another). This would reduce confusion in the field. We are not suggesting lumping treatments at different reference number sites onto one form. Lumping reference numbers was attempted, but discarded early in the season as noted above in the observation section.

2011 PROTOCOLS

Spraying herb Robert on 3040 Rd.

1. Team and Project Dates

This year's project focused almost entirely on treatment, rather than survey. Cathy Lucero (Clallam County Coordinator), Eve Dixon (Jefferson County Coordinator) and field technicians Grace Bell, David Freed, Katie Gibbons and Ethan Strahan performed and documented treatments. Fieldwork began in June 2011 and continued through mid-October.

2. Invasive Species Recorded

Treatment and surveys focused on Class A and B-designate weeds on the Washington State Noxious Weed List (see Appendix H), and additional species that are of concern to the Forest Service. In most cases Class B non-designate, Class C, and unlisted 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 can threaten undisturbed areas. See Appendix G for a complete listing of species recorded from 2002 to 2011. Treatment and surveys were not intended to target all non-native species.

3. Road 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 recorded in the field 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.
c. From 2007 through 2011miles surveyed were estimated from treatment sites (recorded on FACTS forms) and roads taken to get to those treatment sites.
d. Small tap rooted weed infestations were usually treated manually when found.
e. Herbicide treatments were applied based on guidelines established in the 2008 EIS which allow the use of 10 different herbicides.
    i. Foliar herbicide applications were made using 1.5% Garlon 3A (tricloypr) or Aqua Neat (glyphosate) and 0.5% Competitor (surfactant).
    ii. A legal notice listing all sites under consideration for herbicide treatment (see Appendix I) was published in the Peninsula Daily News more than two weeks before any herbicide applications. Herbicide applications were carried out between 6-6-10 and 10-12-10.
    iii. 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 and instruction for filling it out, as supplied by the Forest Service, are 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.

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 ***RangelandPC 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 year 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. Protocols for GPS mapping are vague and have not been adequately developed.

a. Sites were plotted as points for individual sites. 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 or a Garmin 76 CX 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, or new weed locations.
- 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. Waypoints and tracklog data were downloaded in the office and converted into shapefiles through the Minnesota DNR public domain software DNRGarmin version 5.14.

6. Data Reporting

Office staff reviewed FACTS forms and Rock Source Survey forms and submitted copies of them to the Forest Service several times 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 supplied by the Forest Service at the start of the season, with details of 2011 treatments by acreage, date and species. It is a comprehensive account of work accomplished in 2011.
b. **Appendix B** is summary of 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 in from 2007 through 2011, and weed species treated.

d. **Appendix D** shows previously-listed weed sites that were not included in a Forest Service "Project Area" as well as others that have never been surveyed and are close to known infestations.
e. **Appendix E is** a summary of weed control work in Clallam and Jefferson Counties, off Forest Service–not done yet
f. **Appendix F** gives control recommendations for each invasive species identified during the course of this project.
g. **Appendix G** is a list of all weed species reported and entered into the NRIS Terra database over the lifetime of this project.
h. **Appendix H** shows the 2011 Washington State Noxious Weed List-not changed yet, 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 any listed noxious weeds on their property. 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 administered under 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
i. **Appendix I** shows examples of a legal notice regarding herbicide use and an on-site posting notice.
j. **Appendix J** shows all forms used in the project and Forest Service established protocols for filling out each form.

APPENDIX A: 2011 PROJECT LIST ACTIONS

This table is based on the Project List issued 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* 1A, 1, 2 or no priority. This table includes only Clallam and Jefferson Priority 1A*, 1A, 1 sites; Priority 2 sites are only shown when treated. Information on sites treated by the contractor is not available.

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 24.80 acres). Re-treatments are noted to account for the work, but deducted to avoid counting the same area twice. Therefore, we are reporting **337.79** total acres treated, manually or chemically.

All of the Priority 1A* and nearly all1A and 1 sites were treated at least once, with the exception of very large peavine sites, assigned to a two-part treatment with the Chain Gang (scheduling did not occur). Some high priority sites were missed because of time constraints, because the crew could not find them, or because access was not available as supposed. These are highlighted in blue and should be treated in 2012.

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 previously noted by the FS. *Our Comments* column notes high priority species not previously mentioned in the work list by the FS and **should be used to upgrade this field for next year's list.**

Ref #	**Priority: 1A*=required 1A=highest 1=high 2=medium**	**Project #**	**6th Field Watershed Name**	**Site Name**	**Road #**	**Acres Treated Herbicide**	**Acres Treated Manual**	**Treatment**	**Herbicide Amount (oz)**	**Date**	**Species Treated**	**Our Comments**
85	1A*	45A	Lower Elwha River		3050000	1.02		Garlon 3A	8	6/8/2011	**GERO**	
85	1A*	45A	Lower Elwha River		3050000	5.89		Garlon 3A	17.5	6/13/2011	**GERO**	
85	1A*	45A	Lower Elwha River		3050000	1.25		Garlon 3A	26	6/17/2011	**GERO**	
85	1A*	45A	Lower Elwha River		3050000	2.41		Garlon 3A	58	6/23/2011	**GERO** **HIAU** SEJA	
85	1A*	45A	Lower Elwha River		3050000	2.72		Garlon 3A	54	7/8/2011	**GERO** PRLA5 HEHE	
86	1A*	45B	Lower Elwha River		3050011	8.2		Garlon 3A	38	6/30/2011	**GERO** CYSC4 LEVU	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
5	1A	4C	Canyon Creek/ Pats Creek	Canyon Pit	2875000		0.5	Manual		7/13/2011	SEJA CIVU	No knapweed found in 2011
6	1A	4D	Canyon Creek/ Pats Creek	Caraco Cat Unit 6	2870054	3		AquaNeat	6	8/18/2011	PHAR3	
6	1A	4D	Canyon Creek/ Pats Creek	Caraco Cat Unit 6	2870054	4.2		Garlon 3A	36	8/18/2011	CYSC4 **CEDE5** LEVU CIAR4 CIVU HYPE	CEDE5 not listed by FS
7	1A	4E	Canyon Creek/ Pats Creek	Caraco Cat Unit 5	2870050	4		Garlon 3A	34	8/18/2011	CYSC4 **CEDE5** LEVU CIAR4 CIVU HYPE	CEDE5 not listed by FS
7	1A	4E	Canyon Creek/ Pats Creek	Caraco Cat Unit 5	2870050	3		AquaNeat	3	8/18/2011	PHAR3	
7	1A	4E	Canyon Creek/ Pats Creek	Caraco Cat Unit 5	2870050	1.5		Garlon 3A	78	9/1/2011	CIAR4 CIVU **GERO**	GERO not listed by FS
8	1A	4F	Canyon Creek/ Pats Creek	Caraco Cat Unit 2	2870057	1.2		Garlon 3A	30	7/11/2011	CIVU CIAR4 CYSC4 **GERO**	WCC Crew. GERO not listed by FS
8	1A	4F	Canyon Creek/ Pats Creek	Caraco Cat Unit 2	2870057	1.2		AquaNeat	15	7/11/2011	CIVU CIAR4 CYSC4 **GERO**	WCC Crew. GERO not listed by FS
8	1A	4F	Canyon Creek/ Pats Creek	Caraco Cat Unit 2	2870057	0.2		Garlon 3A	7.5	7/12/2011	CIVU CIAR4	WCC Crew
9	1A	4G	Canyon Creek/ Pats Creek	Caraco Cat Unit 3	2870056	2.7		Garlon 3A	105	7/12/2011	CIVU CIAR4 CYSC4 SEJA	WCC Crew

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
10	1A	4B	Canyon Creek/ Pats Creek	Cranberry Bog	2870059	1.5		Garlon 3A	12	8/4/2011	**GERO** CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6	
10	1A	4B	Canyon Creek/ Pats Creek	Cranberry Bog	2870059	3		Garlon 3A	114	8/8/2011	**GERO** CIAR4 CIVU	
10	1A	4B	Canyon Creek/ Pats Creek	Cranberry Bog	2870059	1		AquaNeat	6	8/8/2011	PHAR3	
10	1A	4B	Canyon Creek/ Pats Creek	Cranberry Bog	2870059	2		Garlon 3A	18	9/14/2011	**GERO** CIAR4 CIVU	
10	1A	4B	Canyon Creek/ Pats Creek	Cranberry Bog	2870059	2		AquaNeat	18	9/14/2011	PHAR3	
11	1	4H	Canyon Creek/ Pats Creek		2870050	0.75		Garlon 3A	6	8/4/2011	**GERO** CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6	GERO not listed by FS. Knapweed listed but not found
11	1	4H	Canyon Creek/ Pats Creek		2870050	1.7		Garlon 3A	16	8/8/2011	CIVU CEDE5 SEJA LALA **GERO**	GERO not listed by FS. Knapweed listed but not found
11	1	4H	Canyon Creek/ Pats Creek		2870050		0.98	Manual		9/14/2011	SEJA CIVU	Knapweed listed but not found
12	1A	4I	Canyon Creek/ Pats Creek		2870050	0.75		Garlon 3A	6	8/4/2011	**GERO** CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
15	1A	4A	Canyon Creek/ Pats Creek		2870056	1.5		Garlon 3A	12	8/4/2011	**GERO** CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6	Knapweed listed but not found
17	1A	4K	Canyon Creek/ Pats Creek		2870058		0.71	Manual		7/13/2011	**GERO** CYSC4	GERO not listed by FS. Knapweed listed but not found
17	1A	4K	Canyon Creek/ Pats Creek		2870058	1.5		Garlon 3A	12	8/4/2011	**GERO** CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6	GERO not listed by FS. Knapweed listed but not found
17	1A	4K	Canyon Creek/ Pats Creek		2870058	0.005		Garlon 3A	4	9/14/2011	**GERO**	GERO not listed by FS. Knapweed listed but not found
18	1A	4L	Canyon Creek/ Pats Creek		2870059	2.46		Garlon 3A	12	9/14/2011	**GERO** CEDE5 CIAR4 CYSC4 CIVU	Knapweed listed but not found
20	1A	4N	Canyon Creek/ Pats Creek	Ned Hill Quarry	2878123		1	Manual		7/13/2011	LALA4 CYSC4	
21	1A	4P	Canyon Creek/ Pats Creek	Upper Caraco Quarry	2870000	1.5		Garlon 3A	6	10/12/2011	CIAR4 CIVU SEJA	**BUDA gone**
23	1	4R	Canyon Creek/ Pats Creek		2870030							
25	1	4A	Canyon Creek/ Pats Creek		2875000		0.5	Manual		7/13/2011	SEJA CIVU	Knapweed listed but not found

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
26	1	4A	Canyon Creek/ Pats Creek		2878000		4.5	Manual		7/13/2011	**GERO** CIVU SEJA LALA4	Knapweed listed but not found
27	1	4S	Canyon Creek/ Pats Creek		2875020		0.5	Manual		7/13/2011	SEJA CIVU	Knapweed listed but not found
28	1	4T	Canyon Creek/ Pats Creek		2877040		0.5	Manual		7/13/2011	SEJA CIVU	Knapweed listed but not found
29	1	4U	Canyon Creek/ Pats Creek		2878100							No treatment--peavine too extensive
32	1A	4X	Canyon Creek/ Pats Creek	unnamed gravel pit	2870000		1	Manual		7/13/2011	CYSC4 PHAR3 LALA4 HYPE	Knapweed listed but not found
38	1	4CC	Canyon Creek/ Pats Creek		2878060							No treatment--peavine too extensive
39	1	4DD	Canyon Creek/ Pats Creek		2878080							No treatment--peavine too extensive
40	1	4EE	Canyon Creek/ Pats Creek		2878085							No treatment--peavine too extensive
41	1	4FF	Canyon Creek/ Pats Creek		2878110							No treatment--peavine too extensive
42	1	4GG	Canyon Creek/ Pats Creek		2878120							No treatment--peavine too extensive
602	1	4ZZ	Canyon Creek/ Pats Creek		2878123							No treatment--peavine too extensive
603	1	4LL	Canyon Creek/ Pats Creek		2878102							No treatment--peavine too extensive
604	1	4PP	Canyon Creek/ Pats Creek		2878108							No treatment--peavine too extensive

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
605	1	4QQ	Canyon Creek/ Pats Creek		2878109							No treatment--peavine too extensive
606	1	4MM	Canyon Creek/ Pats Creek		2878104							No treatment--peavine too extensive
607	1	4KK	Canyon Creek/ Pats Creek		2878101							No treatment--peavine too extensive
615	1	4JJ	Canyon Creek/ Pats Creek		2878050							No treatment--peavine too extensive
616	1	4HH	Canyon Creek/ Pats Creek	Schmits Knob	2800310							
687	1	4NN	Canyon Creek/ Pats Creek		2800000							
688	1	4TT	Canyon Creek/ Pats Creek		2880000							
43	1	20A	Deep Creek		3000200	3		Garlon 3A	190	8/10/2011	**GERO** CIVU LALA4	
43	1	20A	Deep Creek		3000200	0.5		AquaNeat	30	8/10/2011	**GERO** CIVU LALA4	
43	1	20A	Deep Creek		3000200	7.2		Garlon 3A	334	8/11/2011	**GERO** CIVU LALA4	
44	1	20D	Deep Creek		3000250	0.1		Garlon 3A	4	9/9/2011	**GERO**	Road closed both ends-work done by walking

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
45	1	20E	Deep Creek		3000330							Closed road--should be walked next year
47	1	20B	Deep Creek		3000000	2.46		Garlon 3A	66	9/7/2011	**GERO**	GERO not listed by FS
47	1	20B	Deep Creek		3000000	3		Garlon 3A	82	9/9/2011	**GERO**	GERO not listed by FS
49	1	24A	East Twin River		3040000	5.12		Garlon 3A	66	7/28/2011	**GERO** CIAR4 CYSC4	
49	1	24A	East Twin River		3040000	1.2		Garlon 3A	28	9/21/2011	CEDE5 **GERO** SEJA CIVU CIAR4 HYPE LALA4	
49	1	24A	East Twin River		3040000		0.05	Manual		9/27/2011	**GERO**	
49	1	24A	East Twin River		3040000	0.15		Garlon 3A	22	10/4/2011	**GERO**	
50	1	24X	East Twin River		3068000		3.3	Manual		9/20/2011	CYSC4	Knapweed listed but not found
474	1	43E	Fulton Creek/Waketickeh Creek		2503000	3.5		Garlon 3A	88	8/8/2011	**GERO** HYPE SEJA	
474	1	43E	Fulton Creek/Waketickeh Creek		2503000	8.18		Garlon 3A	106	8/9/2011	**GERO** HYPE SEJA CIVU	
57	1A	18A	Jimmy-come-lately Creek	Coho Pit	2840080	1		Garlon 3A	4	8/25/2011	CIVU CIAR4 LALA4 SEJA	
58	1A	18C	Jimmy-come-lately Creek	Louella Rock pit	2800351							Treated 7/20/11 along with other sites in this watershed

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
59	1A	18E	Jimmy-come-lately Creek	Luella LuLu quarry	2800360							
60	1A	18B	Jimmy-come-lately Creek	Raccoon Pit	2855070	3.06		Garlon 3A	46	8/25/2011	**GERO** LALA4 CIVU SEJA	GERO not listed by FS
61	1A	18AA	Jimmy-come-lately Creek	2845073 spur pit	2845073		1	Manual		6/27/2011	SEJA CYSC4 CIAR4	
61	1A	18AA	Jimmy-come-lately Creek	2845073 spur pit	2845073	1.2		Garlon 3A	12	10/5/2011	SEJA CYSC4 CIAR4 CIVU CEDE5	
62	1A	18F	Jimmy-come-lately Creek	Wolf Quarry 2	2840120	1		Garlon 3A	3.5	8/25/2011	CIVU HYPE GERO SEJA	Knapweed listed but not found
63	1	18B	Jimmy-come-lately Creek		2855000							
64	1	18B	Jimmy-come-lately Creek		2855070							
65	1	18D	Jimmy-come-lately Creek		2800351	1.5		Garlon 3A	30	7/20/2011	**GERO** SEJA CEDE5 HYPE	GERO not listed by FS
66	1	18G	Jimmy-come-lately Creek		2855100	2		Garlon 3A	35	7/20/2011	**GERO** SEJA **CEDE5** HYPE	Knapweed not listed by FS
69	1	18K	Jimmy-come-lately Creek		5006							
70	1	18L	Jimmy-come-lately Creek		2840070							
71	1	18M	Jimmy-come-lately Creek		2840071							

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
72	1	18N	Jimmy-come-lately Creek		2850120	3.2		Garlon 3A	13	10/11/2011	SEJA HYPE CIVU CYSC4 **GERO**	GERO not listed by FS. Knapweed listed but not found
73	1	18P	Jimmy-come-lately Creek		2855030	3.2		Garlon 3A	9	10/11/2011	SEJA HYPE CIVU CYSC4 **GERO** CIAR4 CIVU	GERO not listed by FS
75	1	18D	Jimmy-come-lately Creek	Louella Work Center	2800350	1.2		Garlon 3A	8	7/20/2011	SEJA HYPE CIAR4 CIVU	Knapweed listed but not found
78	1	18T	Jimmy-come-lately Creek		2840000		3	Manual		9/7/2011	SEJA	Chain Gang
80	1	18V	Jimmy-come-lately Creek		2840034							
82	1	18X	Jimmy-come-lately Creek		2840036							
84	2	18Z	Jimmy-come-lately Creek		2850000		3	Manual		9/7/2011	SEJA	Chain Gang
528	1	18AA	Jimmy-come-lately Creek		2850090							
194	1A	35F	Little Quilcene River	Bon Jon Quarry	2800000	0.25		AquaNeat	12.5	8/22/2011	HYPE SEJA LALA4 DIPU CIAR4	
195	1	35A	Little Quilcene River		2800010	2.04		AquaNeat	100	8/22/2011	**GERO** SEJA CIAR4 CIVU	
195	1	35A	Little Quilcene River		2800010	1		AquaNeat	10	8/29/2011	**GERO**	
195	1	35A	Little Quilcene River		2800010	1.2		AquaNeat	99	9/6/2011	**GERO** SEJA	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
195	1	35A	Little Quilcene River		2800010	0.86		AquaNeat	106	9/12/2011	**GERO** SEJA HYPE CIVU	
285	1	28B	Lower Big Quilcene River	Quilcene office compound	2730300	2		Garlon 3A	72	7/11/2011	**PORE5** SEJA CYSC4 **GERO** LALA4	POBO listed but not found
285	1	28B	Lower Big Quilcene River	Quilcene office compound	2730300	3.06		AquaNeat	22.5	8/15/2011	**PORE5** CYSC4 RULA HYPE	POBO listed but not found
285	1	28B	Lower Big Quilcene River	Quilcene office compound	2730300	2.5		Garlon 3A	18	8/23/2011	CYSC4 HYPE LALA4 SEJA	POBO listed but not found
285	1	28B	Lower Big Quilcene River	Quilcene office compound	2730300	0.1		Garlon 3A	2	8/29/2011	CYSC4	
289	1	28A	Lower Big Quilcene River		2700000		4.5	Manual		8/29/2011	SEJA CIVU CIAR4	
289	1	28A	Lower Big Quilcene River		2700000	2.9		Garlon 3A	80	9/8/2011	**GERO** CIVU CIAR4 HYPE LALA4 SEJA	
290	1	28D	Lower Big Quilcene River		2730011	2		Garlon 3A	22	8/23/2011	**GERO** SEJA HYPE ILAQ80	
291	1	28A	Lower Big Quilcene River		2740000	3.06		AquaNeat	110	8/29/2011	**GERO** HYPE CYSC4 SEJA CIAR4 CIVU LALA4 RUDI2	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
291	1	28A	Lower Big Quilcene River		2740000	2.67		AquaNeat	212.5	8/30/2011	**GERO** HYPE CYSC4 SEJA CIAR4 CIVU LALA4	
291	1	28A	Lower Big Quilcene River		2740000	2		Garlon 3A	60	9/15/2011	**GERO** HYPE CYSC4 SEJA CIAR4 CIVU LALA4 DIPU CEDE5	
291	1	28A	Lower Big Quilcene River		2740000	1		AquaNeat	15	9/15/2011	**GERO** HYPE SEJA CIAR4 CIVU LALA4 DIPU	
292	1	28D	Lower Big Quilcene River	Falls View CG	2730200		0.5	Manual		7/19/2011	**GERO**	Across road by old water tower
292	1	28D	Lower Big Quilcene River	Falls View CG	2730200	1.02		Garlon 3A	12	7/19/2011	**GERO**	
292	1	28D	Lower Big Quilcene River	Falls View CG	2730200	0.5		Garlon 3A	12	8/2/2011	**GERO** HYPE	
292	1	28D	Lower Big Quilcene River	Falls View CG	2730200	2.04		AquaNeat	35	8/15/2011	**GERO** HYPE	
292	1	28D	Lower Big Quilcene River	Falls View CG	2730200	3.06		AquaNeat	7.5	8/16/2011	**GERO**	

Ref #	**Priority: 1A*=required 1A=highest 1=high 2=medium**	**Project #**	**6th Field Watershed Name**	**Site Name**	**Road #**	**Acres Treated Herbicide**	**Acres Treated Manual**	**Treatment**	**Herbicide Amount (oz)**	**Date**	**Species Treated**	**Our Comments**
292	1	28D	Lower Big Quilcene River	Falls View CG	2730200		1.5	Manual		10/3/2011	**GERO**	
462	1	28A	Lower Big Quilcene River		2700040	10		AquaNeat	110	7/5/2011	**GERO** SEJA	GERO not listed by FS
462	1	28A	Lower Big Quilcene River		2700040	2		AquaNeat	90	7/11/2011	**GERO** SEJA	GERO not listed by FS
462	1	28A	Lower Big Quilcene River		2700040	6		AquaNeat	105	7/18/2011	**GERO** SEJA **PORE5**	New PORE5 (sulfur cinquefoil) site--1 plant. GERO not listed by FS
462	1	28A	Lower Big Quilcene River		2700040	7.16		AquaNeat	82.5	7/19/2011	GERO SEJA	GERO not listed by FS
462	1	28A	Lower Big Quilcene River		2700040	8.8		AquaNeat	60	8/16/2011	GERO SEJA DACA6 HYPE LALA4 ILAQ80	GERO not listed by FS
590	1	28G	Lower Big Quilcene River	PT Muni WS caretakers cabin	2700040	3		AquaNeat	10	7/5/2011	**GERO HIAU AEPO** (bishop's weed)	AEPO VERY bad
590	1	28G	Lower Big Quilcene River	PT Muni WS caretakers cabin	2700040	0.1		AquaNeat	1	7/11/2011	**AEPO**	AEPO VERY bad
590	1	28G	Lower Big Quilcene River	PT Muni WS caretakers cabin	2700040	1		AquaNeat	7.5	8/16/2011	**GERO HIAU AEPO LAGA2**	AEPO VERY bad
617	1	28G	Lower Big Quilcene River		2620060	1		Garlon 3A	36	9/19/2011	SEJA HYPE CIAR4 CIVU CYSC	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
617	1	28G	Lower Big Quilcene River		2620060	0.5		Garlon 3A	24	9/22/2011	SEJA HYPE CIAR4	
617	1	28G	Lower Big Quilcene River		2620060	1.6		Garlon 3A	36	10/6/2011	SEJA HYPE CIAR4 CIVU	
653	1	28H	Lower Big Quilcene River		2650000		4.6	Manual		9/26/2011	SEJA	
653	1	28H	Lower Big Quilcene River		2650000	0.8		Garlon 3A	18	10/6/2011	SEJA CIAR4 CIVU HYPE	
653	1	28H	Lower Big Quilcene River		2650000	1.21		Garlon 3A	30	10/10/2011	SEJA CIAR4 HYPE	
298	1	19A	Lower Dosewallips River		2610000	2		Garlon 3A	12	6/15/2011	**GERO**	
298	1	19A	Lower Dosewallips River		2610000	2		Garlon 3A	88	6/16/2011	**GERO**	
298	1	19A	Lower Dosewallips River		2610000	4		Garlon 3A	132	6/20/2011	**GERO**	
298	1	19A	Lower Dosewallips River		2610000	1		Garlon 3A	34	7/12/2011	**GERO**	
298	1	19A	Lower Dosewallips River		2610000	2		Garlon 3A	132	7/18/2011	**GERO**	WCC Crew, working between the river and the road

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
298	1	19A	Lower Dosewallips River		2610000	6		Garlon 3A	240	7/19/2011	**GERO**	WCC Crew, working between the river and the road
298	1	19A	Lower Dosewallips River		2610000	6		Garlon 3A	216	7/20/2011	**GERO**	WCC Crew, working between the river and the road
298	1	19A	Lower Dosewallips River		2610000	9		Garlon 3A	108	7/21/2011	**GERO**	WCC Crew, working across from the river
298	1	19A	Lower Dosewallips River		2610000	7		AquaNeat	135	8/15/2011	**GERO**	WCC Crew
298	1	19A	Lower Dosewallips River		2610000	3		AquaNeat	45	8/16/2011	**GERO**	WCC Crew
298	1	19A	Lower Dosewallips River		2610000		5	Manual		10/3/2011	**GERO**	
633	1	19C	Lower Dosewallips River		2610012		0.42	Manual		10/10/2011	CYSC4	
310	1	32B	Lower Duckabush River	Collins CG	2510070		2.5	Manual		6/14/2011	**GERO**	
310	1	32B	Lower Duckabush River	Collins CG	2510070	2.5		Garlon 3A	96	6/21/2011	**GERO**	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
310	1	32B	Lower Duckabush River	Collins CG	2510070	2.5		Garlon 3A	66	7/7/2011	**GERO**	
310	1	32B	Lower Duckabush River	Collins CG	2510070	2.5		Garlon 3A	6	7/12/2011	**GERO**	
312	1	32C	Lower Duckabush River		2530000	1		Garlon 3A	9	6/14/2011	**GERO** SEJA	Knapweed listed but not found
36	1	15G	Lower Gray Wolf River		2870150	4.5		Garlon 3A	97	8/17/2011	LALA4 CIVU CIAR4	
94	1	15D	Lower Gray Wolf River	Dungeness Forks Campground	2880050	2		Garlon 3A	132	8/9/2011	**GERO**	
586	1A	15J	Lower Gray Wolf River	Armpit quarry	2870150	0.3		Garlon 3A	24	10/12/2011	LALA CIAR4 CIVU	
586	1A	15J	Lower Gray Wolf River	Armpit quarry	2870150	0.3		AquaNeat	22	10/12/2011	LALA CIAR4 CIVU	
99	1	14A	McDonald Creek/Siebert Creek	Pat's Prairie	2877000					7/13/2011		Cathy went here with Irene and Joan, but was not sure it was the right place
102	1	16C	Middle Dungeness River		2820000	3		AquaNeat	7.5	8/22/2011	**CEDE5** LALA4 **GERO** CIAR4 CIVU HYPE SEJA	GERO not listed by FS

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
116	1	21A	Middle Sol Duc River		3000000			Survey only		10/12/2011		VERY bad herb Robert--should be done by contractor next year
117	1	21C	Middle Sol Duc River	Snider Work Center	2071000							
118	1	21D	Middle Sol Duc River		3040800	0.13		Garlon 3A	14	9/20/2011	**GERO**	
119	1	21R	Middle Sol Duc River		3040000		0.02	Manual		6/22/2011	**GERO** CYSC4	
119	1	21R	Middle Sol Duc River		3040000		0.36	Manual		7/14/2011	CIVU	
119	1	21R	Middle Sol Duc River		3040000	0.4		Garlon 3A	60	9/20/2011	**GERO**	
119	1	21R	Middle Sol Duc River		3040000	0.8		Garlon 3A	24	9/27/2011	**GERO**	
119	1	21R	Middle Sol Duc River		3040000	1.7		Garlon 3A	90	9/28/2011	**GERO**	
119	1	21R	Middle Sol Duc River		3040000	0.003		Garlon 3A	4	10/4/2011	**GERO**	
122	1	21G	Middle Sol Duc River		3006000	2		Garlon 3A	114	8/31/2011	**GERO** RUDI2 RULA HYPE CIVU SEJA	
122	1	21G	Middle Sol Duc River		3006000	0.46		AquaNeat	8	8/31/2011	**GERO** RUDI2 RULA HYPE CIVU SEJA	
127	1A	21L	Middle Sol Duc River		2923090		1	Manual		7/27/2011	CYSC4 HYPE TAVU SEJA	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
662	1A	21W	Middle Sol Duc River		2923095		0.2	Manual		7/27/2011	CYSC4 HYPE TAVU SEJA	
134	1A	8C	North Fork Calawah River	Bonidu Meadow	2929000							
136	1	8E	North Fork Calawah River		2900000	0.2		Garlon 3A	12	6/6/2011	**GERO** **HIAU**	
660	1A	8Q	North Fork Calawah River		2036	0.1		Garlon 3A	0.5	7/27/2011	CYSC4 SEJA TAVU HYPE CIVU	
143	1	23A	Pysht River		3000200	6.06		Garlon 3A	102	8/3/2011	**GERO**	
144	1	23B	Pysht River		3000215	0.4		Garlon 3A	6	8/3/2011	**GERO** CYSC4	
147	1	47D	Snow Creek/Salmon River		2845070	1		Garlon 3A	12	6/27/2011	SEJA **GERO** CYSC4	
147	1	47D	Snow Creek/Salmon River		2845070	2.72		Garlon 3A	24	10/5/2011	CYSC4 SEJA **CEDE5** HYPE CIAR4 CIVU	
148	1	47E	Snow Creek/Salmon River		2845073	1.09		Garlon 3A	30	10/5/2011	CIAR4 SEJA DIPU DACA4	
319	1	6A	Spencer Creek/Marple Creek	Seal Rock CG	2610200		1.5	Manual		7/12/2011	CYSC4 SEJA	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
319	1	6A	Spencer Creek/Marple Creek	Seal Rock CG	2610200	1.5		Garlon 3A	14	7/12/2011	LALA4 **GERO** CYSC4 CIVU SEJA	
321	1	46C	Upper Big Quilcene River		2740072							Inaccessible because of rock slide on the 2740
455	1	46F	Upper Big Quilcene River		2700000	10		AquaNeat	45	7/25/2011	HYPE CIVU CIAR4 LALA4 CYSC4 SEJA	
455	1	46F	Upper Big Quilcene River		2700000		2	Manual		7/25/2011	SEJA	
455	1	46F	Upper Big Quilcene River		2700000	11		AquaNeat	217.5	8/1/2011	HYPE CIVU CIAR4 LALA4 CYSC4 SEJA	
455	1	46F	Upper Big Quilcene River		2700000	1.43		AquaNeat	116	8/15/2011	LALA4 CIVU CIAR4 **GERO** HYPE SEJA	GERO not listed by FS
455	1	46F	Upper Big Quilcene River		2700000		1.6	Manual		8/23/2011	SEJA CYSC4	
165	1A	36A	Upper Sol Duc River	Bonidu Pit	2900000	1		Garlon 3A	5	8/24/2011	**GERO** HYPE CYSC4 SEJA	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
168	1A	36B	Upper Sol Duc River	Tom Creek Pit	2931000	11		Garlon 3A	0.08	10/12/2011	**CEDE5** CIVU	
166	1	36R	Upper Sol Duc River	Klahowya CG	2900990		0.1	Manual		6/22/2011	**GERO** CYSC4 ILAQ80	
170	1	36D	Upper Sol Duc River		2929070	5.12		Garlon 3A	14	8/24/2011	**GERO** RUDI2 RULA DIPU HYPE	
174	1A	36M	Upper Sol Duc River		2900000	0.66		Garlon 3A	14	6/7/2011	HYPE LEVU CIAR4 CYSC4 CIVU DIPU **GERO** HYRA3	
174	1A	36M	Upper Sol Duc River		2900000	0.02		Garlon 3A	12	7/27/2011	**GERO**	
174	1	36H	Upper Sol Duc River		2900000	0.1		Garlon 3A	6	8/24/2011	**GERO**	
174	1	36H	Upper Sol Duc River		2900000	3.07		Garlon 3A	84	9/13/2011	**GERO** SEJA HYPE CYSC4	
178	1A	36M	Upper Sol Duc River		2929000	0.66		Garlon 3A	14	6/7/2011	HYPE LEVU CIAR4 CYSC4 CIVU DIPU **GERO** HYRA3	
178	1A	36M	Upper Sol Duc River		2929000		0.1	Manual		6/22/2011	**GERO**	

Ref #	Priority: 1A*=required 1A=highest 1=high 2=medium	Project #	6th Field Watershed Name	Site Name	Road #	Acres Treated Herbicide	Acres Treated Manual	Treatment	Herbicide Amount (oz)	Date	Species Treated	Our Comments
613	1A	36T	Upper Sol Duc River		2929000	0.66		Garlon 3A	14	6/7/2011	HYPE LEVU CIAR4 CYSC4 CIVU DIPU **GERO** HYRA3	
183	1	25B	West Twin River		3000591	0.1		Garlon 3A	6	9/9/2011	**GERO** CIVU DIPU	
184	2	25D	West Twin River		3040100	1.09		Garlon 3A	2	9/21/2011	HYPE CIVU DIPU SEJA	CEDE listed, not found
185	1	25E	West Twin River		3040115	0	0	Manual		9/21/2011	None	
	TOTALS					**315.428**	**46.44**		**48.57875**			
	Minus Retreatments					**16.6**	**7.48**					
Ref #	**ACTUAL TOTALS**					**298.828**	**38.96**					

APPENDIX B: ROCK SOURCE SURVEYS AND TREATMENT

High-priority pits were incorporated into the project list in 2011. Details of treatment are given here. Rock Source Index numbers and codes have been added because they are helpful when locating pits.

Name	RSI	RSI Code	Road	Weeds	Date	Treatment Type	Acreage Treated
2845073 Spur Pit			2845073	CIAR4 CYSC4 SEJA	6/27/11	Manual	1
Armpit quarry	140	287015000.50		CIAR4 CIVU LALA4 DIPU LEVU TAOF broadleaf plantain cudweed	10/12/11	Treated chemically Does NOT meet requirements—heavily infested with peavine	0.5
Bon Jon Quarry	21	280000004.60	2800	CIAR4 HYPE LALA4 SEJA DIPU LEVU	8/22/11	Treated chemically Meets requirements	0.3
Bonidu Pit	8	290000037.20	2900	CIAR4 CYSC4 GERO HYPE ILAQ80 PHAR3 SEJA TAVU DIPU HYRA3 LEVU LOPE80 PLLA RARER TAOF sow thistle broadleaf dock cudweed	7/21/11	Treated chemically Meets minimum requirements	1
Canyon Pit	139	287500001.40	2875000	CIVU SEJA	7/13/11	Treated manually	0.5
Coho Pit			2840080	CIAR4 CIVU LALA4 SEJA DIPU HYRA3 LEVU TAOF	8/25/11	Treated chemically Meets requirements	1
Louella Rock Pit			2800351	SEJA LALA4	7/20/11	Treated chemically	0.5
Ned Hill Quarry (aka Sandstone Quarry)	138	287812500.50	2878125	CYSC4 LALA4	7/13/11	Treated manually	1
Raccoon Pit			2855070	CIVU GERO LALA4 SEJA	8/25/11	Treated chemically	3.6
Tom Creek Pit	51	293100000.20	2931	CEDE5 CIVU PHAR3 DIPU HYRA3 LEVU LOPE80 PLLA broadleaf dock woodland groundsel cudweed	10/12/11	Treated chemically Meets requirements	3
Unnamed Gravel Pit at junction of 2870 and 2878 roads (ref #587)				CYSC4 HYPE LALA4 PHAR3	7/13/11	Treated manually	1
Upper Caraco Quarry	142	287000001.30		CIAR CIVU SEJA DIPU HYRA3 LEVU TAOF	10/12/11	Treated chemically Meets requirements	0.5
Wolf Quarry 2	27	284012000.30	2840120	CIAR4 CIVU GERO HYPE SEJA DIPU LEVU RARER TAOF	8/25/11	Treated chemically Meets requirements	1

Other Pits Inspected					
Name	**Address**	**Weeds Present**	**Date Inspected**	**Conclusion**	**Acres Inspected**
Beaver Falls Pit	Burnt Mountain Road (Highway 113)	CYSC4 DACA6 HYPE RUDI2 RULA SEJA hedge bindweed DIPU HYRA3 LOPE80	7/1/11	Inspected at FS request—meets requirements	10
DNR pit, no name, inspected because used in an FS project	FS 2510-012	GERO ILAQ80	4/22/11	Treated-Meets minimum requirements	.5
Penny Creek Quarry	Penny Creek Road	CIAR4 COAR4 CYSC4 DACA6 GERO HYPE LALA4 POBO10 RUDI2 SEJA TAVU DIPU HYRA3 LEVU RARER TAOF	4/22/11	Meets minimum requirements, required to store material in main pit area, and used this spring	20
Ranger Pit	Place Road	CEDE5 CIAR4 CIVU CYSC4 DACA6 HYPE LALA4 PHAR3 POPBO10 RUDI2 RULA SEJADIPU HYRA3 LOPE80 PLLA common vetch hedge bindweed broadleaf dock tarweed clover		Treated multiple times-Meets requirements	8

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). **I**ndividual 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 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	**No. Years Visited**	**Total Miles**	**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	15.5	4	2	4	0.1	HICA10 GERO SEJA	8.5	18.7	POBO POSA CYSC	5	5	CYSC						
CR5695	5	8.98	8,499	4.98	8,499		CYSC CIAR SEJA	4	2	SEJA							1.7		
CR5331	3	14.24		8.24				6	1.03	GERO CEDE SEJA							7.5		
CR 5006	1	1.22															1.22		
CR4361	1	2.6															2.6		
CR4360	1	2.6															2.6		
CR3057	1	1.9	3	1.9	3	0.1	SEJA										1.9		

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
CR3039	2	5.1	4,959	1.1	4,959	0.1	GERO	4	0.5	SEJA							1.4		
CR2515	1	0.4		0.4															
CR2500	4	25.05	35,074	25.1	35,074		GERO CYSC										7.6		
CR2274	1	3.8															3.8		
CR2071	4	4	15	2	15	0.2	SEJA				1	3	GERO CIAR LALA POBO CYSC	1	6	GERO POBO	0.5		
CR2065	4	11.52	22,049	8.52	22,049		CYSC SEJA GERO	3	1	GERO CYSC							2.7		
CR2036	1	10															5	0.1	CYSC4 SEJA TAVU HYPE CIVU
3116000	4	13.45		10							3.45	3.1	GERO CIAR RUDI						
3100420	1	0.6		0.6															
3100400	1	2.9		2.9															
3100300	3	6.95		5							1.95	3.5	GERO						
3071015	1	0.6		0.6															
3071000	3	3.4	60	3.4	60		CYSC	1											
3068200	3	7.2	815	7.2	815		CYSC												
3068190	2	0.4		0.4															

	Totals 2002-2011			Survey, manual control and limited herbicide 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
3068000	5	35.1	521	32.3	521		SEJA CYSC CEDE	2.8	5.1	CYSC							3.58	3.3	CYSC4
3067000	2	7.06	1,402	7.06	1,402		SEJA CYSC												
3050150	1	1.1									1.1	1.7	GERO						
3050011	4	7		1.5							1	1.58	GERO	1.5	3.5	GERO HYPE CIVU	1.4	8.2	GERO HIAU CYSC4 LEVU
3050000	4	37	2	3.8	2		SEJA				9	18	GERO HIAU LEVU LALA	9	68	GERO HIAU LALA CIVU CIAR HYPE	4	13.3	GERO HIAU SEJA ILAQ80 PRLA5
3040800	6	4	54,709	0.5	54,709	1.85	POCU ARMI2 ILAQ80	1	7	GERO CYSC RUDI POBO LALA4 CIVU CIAR SEJA CIVU PHAR3	1	10	GERO CIAR LALA POBO CYSC	0.5	4	GERO RUDI POBO ILAQ CIVU	0.5	0.13	GERO
3040595	3	4	373	4	373		CIVU SEJA	4	1	SEJA GERO									
3040200	1	1		1															
3040115	3	2.4	95	1	95	0.1	GERO										0.7	0	0

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
3040100	3	7.2	8	4	8	0.3	SEJA CYSC	2									2.3	1.09	HYPE CIVU DIPU SEJA
3040025	3	0.5	1	0.4	1		RUDI												
3040012	1	0.31	2	0.31	2	0.1	CYSC												
3040011	2	2		2															
3040000	9	182	35,136	71	35,136	1.3	CYSC SEJA GERO	44	18.4	GERO SEJA LALA4 CYSC4 CIVU CIAR4 CEDE5	23	5	CYSC GERO CIAR LALA	20	19	GERO HYPE CIAR CIVU CYSC	15	9.8	CEDE5 GERO SEJA CIVU CIAR4 HYPE LALA4 CYSC4
3006300	1	4.1		4.1															
3006011	1	1.2		1.2															
3006000	3	25		8							2	1	CYSC				6.5	2.46	GERO RUDI2 RULA HYPE CIVU SEJA
3000591	1	0.1															0.3	0.3	GERO CIVU DIPU
3000401	1	1		1															
3000400	1	2.2		2.2															
3000395	1	0.2		0.2															
3000300	2	7		3.5															

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
3000260	1	0.7		0.7															
3000250	2	18	10	10	10	1.2	CYSC	8	2.66								3.8	0.1	GERO
3000220	1	2.8		2.8															
3000215	4	5		3.6							1	2	GERO				0.6	0.4	GERO CYSC4
3000200	6	114.2	6	70	6	0.2	SEJA	28	23.6	GERO LALA4 CIVU CYSC4	2	3	GERO				8.46	16.8	GERO CIVU LALA4
3000011	1	1		1															
3000000	6	128.5	883,098	92	883,098	1	GERO RULA CYSC CIVU SEJA	32	29	CYSC SEJA GERO CIVU CIAR LALA CEDE	7	3	CYSC SEJA				16	5.46	GERO
2978085	2	1.1		1.1															
2978040	2	0.3		0.3															
2978035	2	0.1		0.1															
2978030	2	0.6		0.6															
2978030	2	0.7		0.7															
2978025	2	0.3		0.3															
2978015	2	1.6	18	1.6	18		CYSC												
2978011	2	0.4		0.4															
2978000	2	4.7	3,604	4.7	3,604		CYSC SEJA												
2932070	1	0.9	12	0.9	12		CYSC												
2932050	1	0.3		0.3															

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2932040	1	0.4		0.4															
2932035	1	0.2		0.2															
2932031	1	0.5		0.5															
2932030	3	2.4		1.4				1	0.1	CYSC4									
2932000	5	23	2,153	15	2,153	0.3	LEVU CYSC	11		CYSC SEJA GERO									
2931200	1	2.5		2.5															
2931190	1	1.7		1.7															
2931000	2	24	1	12	1		SEJA							12	7	CYSC LALA CIVU	0.2	11	CEDE5 CIVU
2929070	5	18.6	525	3	525		GERO RULA CYSC	3			3	2	GERO	3	1	GERO	3.3	5.12	GERO RUDI2 RULA DIPU HYPE
2929000	4	26		10				10			3	1	HIAU GERO CIVU CYSC	3	0.5	CIAR HYPE LALA CYSC GERO	6.4	1.42	HYPE LEVU CIAR4 CYSC4 CIVU DIPU GERO HYRA3
2923100	1	0.2		0.2															
2923095	1	0.4															0.2	0.2	CYSC4 HYPE TAVU SEJA

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2923090	1	2.4															1.2	1	CYSC4 HYPE TAVU SEJA
2923077	1	16						16	2.15	CYSC SEJA									
2923070	3	14	2	5	2		SEJA	7	8	CIVU HYPE GERO SEJA CYSC	2	0.6	CIAR RUDI						
2923060	2	4		1							3	0.15	CYSC CIAR GERO						
2923000	5	68	1,434	41	1,434	0.5	SEJA CIAR HIAU CYSC	22	3.5	CYSC GERO	5	0.5	GERO						
2922000	3	33		13				13	0.1	GERO	7	4.1	GERO CYSC						
2920210	1	0.2		0.2															
2920020	1	1.4		1.4															
2920000	3	14		6										6	0.5	GERO CIVU CIAR CYSC	2		
2918110	3	2		1							1	1	CYSC DIGIT LEVU LALA	1		None			

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2918100	3	23		3							3	1	CYSC DIGIT LEVU LALA	17	20	CYSC CIAR GERO SEJA CIVU HYPE			
2918000	3	34.4	2,315	20	2,315		SEJA CYSC				9	1.5	CYSC DIGIT LEVU LALA				5.4		
2912060	2	2.8	3	2.8	3		SEJA												
2903000	1	7	78	7	78		SEJA CYSC												
2902375	1	0.8		0.8															
2902300	1	0.6		0.6															
2902000	3	2.91	4,175	2.91	4,175	0.2	CYSC SEJA												
2900992	1	0.5									0.5	0.1	GERO						
2900990	4	4.5	5,300	2.4	5,300		CYSC GERO				2	0.4	GERO				0.2	0.1	GERO CYSC4 ILAQ80
2900950	1	0.1		0.1															
2900650	1	1.2		1.2															
2900540	1	2		2															
2900200	2	0.7	54	0.7	54		CYSC SEJA												
2900070	1	2.3		2.3															

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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	2	0.3		0.1				0.7	4.5	CYSC RUDI SEJA GERO									
2900000	7	124	664,225	72.2	664225	2.3	CYSC GERO HIAU SEJA POSA CIAR	15	4.9	CYSC SEJA CIVU HIAU RUDI LALA HYPE	10	3.2	SEJA HIAU GERO CYSC				11	5.05	HYPE LEVU CIAR4 CYSC4 CIVU DIPU GERO HYRA3 SEJA
2880050	8	3	255,004	0.5	255,004	0.5	GERO	0.5	5	GERO	1	18	GERO	1	4	GERO	0.1	2	GERO
2880000	7	26.81	9,923	17	9,923	0.3	GERO SEJA	8	5.1	SEJA CYSC4 GERO CIAR4 CEDE5							1.81		
2878123	3	1.4		0.2				0.2									0.15	1	LALA4 CYSC4
2878120	5	5	2,170	1	2,170		CYSC	1			1	2	LALA	1	0.25	LALA CYSC CIVU	0.4		LALA4
2878110	3	3		1							1	1	LALA	1	0.25	CIVU CYSC LALA CEDE			
2878109	1	0.27		0.27															
2878108	1	0.13		0.13															
2878102	1	0.4		0.4															

	Totals 2002-2011			Survey, manual control and limited herbicide 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2878100	3	3.5		1.5							1	3	LALA	1	0.2	LALA CIVU CIAR SEJA GERO	0.95		LALA4
2878085	3	3		1							1	1	CIAR CIVU GERO	1	0.01	SEJA CIAR CIVU			
2878080	3	3.5		1.5							1	0.5	LALA CIAR	1	0.25	SEJA CIAR CYSC			
2878060	3	2.5	127	0.5	127		CYSC				1	0.5	LALA CIAR	1	0.25	SEJA CIAR CYSC			
2878050	1	0.6		0.6															
2878000	7	36	2,971	4	2,971	0.2	CYSC	12	9	LALA4 CIAR4 CEDE5 CYSC4 GERO SEJA	8	4	LALA	4	8	LALA CIAR GERO CIVU	4	4.5	GERO CIVU SEJA LALA4
2877100	2	1.5		0.5										1		None			
2877052	1	0.29		0.29															
2877050	1	2.65		2.65															
2877040	3	4.5		2.5							1	0.2	SEJA CEDE CIAR CIVU	1	1.3	CIVU CYSC CIAR GERO	1.1	0.5	SEJA CIVU

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2877000	4	42		5				10	12.4	CEDE LALA CIAR CIVU CYSC	10	1	SEJA CEDE CIAR CIVU	10	3.8	CIAR CIVU CYSC HYPE	5.1		
2875090	1	0.1		0.1															
2875070	3	3.5		2.5							1	0.5	CIAR CYSC						
2875020	4	3.7	6	0.5	6		CYSC				1	0.5	CIAR CYSC POBO	1	1.1	CEDE CIAR CIVU CYSC SEJA PHAR	0.6	0.5	SEJA CIVU
2875000	7	46	268	12	268	0.4	CEDE	18	9	CEDE5 LALA4 CIVU CIAR4	5	1.8	CEBI	4	3.5	HYPE GERO CIAR CIVU LALA CYSC SEJA	6.5	1	SEJA CIVU
2870270	2	7		3.5		0.28	CIAR CIVU	3.5	3.2	CIVU CEDE SEJA HYPE									
2870250	1	1						1	1.5	CEDE5 CEBI									
2870230	4	8	38	4	38	0.3	SEJA CIAR CIVU HYPE	4	0.4	CIVU CIAR GERO									

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2870150	3	4.1		0.5							1	3	LALA				0.7	5.1	LALA4 CIVU CIAR4
2870130	2	2	1	1	1	0.1	CYSC							1	0.1	SEJA CEDE			
2870110	2	1	729	0.5	729		CYSC							0.5	0.1	CYSC			
2870059	6	5	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
2870058	5	15		3		2.55	GERO CIAR PHAR	4	5	GERO CIAR4 PHAR3 CIVU	4	1.5	GERO CIAR PHAR CIVU	4	0.25	GERO	0.55	2.2	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6
2870057	3	7						2.5	1.5	CIAR4 CIVU HYPE	2.5	2.5	CIAR CIVU GERO PHAR	1	0.1	CIVU	0.1	2.6	CIVU CIAR4 CYSC4 GERO

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2870056	8	7	14	2	14	0.1	CEDE SEJA	2	7.9	SEJA CIVU CEDE CYSC CIAR4	1	1	CIAR CIVU CEDE	1	0.1	CIVU CIAR TAVU HYPE CEDE	0.6	4.2	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6
2870054	4	4.5						0.5	3	CEDE	1	1	CIAR CIVU	1	0.75	CIAR CIVU SEJA	0.1	7.2	PHAR3 CYSC4 CEDE5 LEVU CIAR4 CIVU HYPE
2870053	5	3.7						1	0.7	CIAR 4CIVU CEDE5	1	1	CIAR CIVU	1.5	15	CIAR CIVU SEJA	0.2		
2870052	1	1												1	0.1	CIAR HYPE			
2870050	9	37	110	16	110	0.8	CEDE CIAR CIVU CYSC GERO HYPE LALA SEJA	11	8.5	CIAR4 CIVU GERO LEVU PHAR3 RUDI SEJA	2	5	CIAR CIVU	3	0.6	CEDE CIAR CIVU GERO HYPE	2.6	10.2	GERO CIAR4 SEJA CYSC4 CIVU LEVU HYPE DACA6 CEDE5 PHAR3

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2870030	6	11	78	5	78		CEDE CYSC SEJA	2	2	CEDE SEJA	2	1.5	CEDE CIAR CYSC SEJA	2	10.3	CEDE CIAR CIVU HYPE			
2870000	9	459	3,853	143	3,853	3.13	CEDE SYSC SEJA	226	16.5	CEDE CIAR4 CIVU CYSC4 GERO HYPE LEVU SEJA LALA4	30	5.2	CIAR CIVU CYSC LALA SEJA	30	5.6	CEDE CIAR CIVU CYSC GERO HYPE LALA RUDI SEJA	4.3	2.5	CYSC4 PHAR3 LALA HYPE CIAR4 CIVU SEJA
2860120	1	1.6		1.6															
2860011	2	1	2,708	1	2,708		GERO SEJA												
2860000	4	50	54,000	50	54,000		CIVU GERO												
2855100	2	2.4		2.4													1.1	2	GERO SEJA CEDE5 HYPE
2855070	6	8	5497	5	5497	0.52	CEDE CIAR CYSC GERO RULA SEJA	1.5	4	CEBI CEDE CYSC SEJA	1.5	1	CEBI				1.4	3.06	**GERO** LALA4 CIVU SEJA
2855032	2	1.6	1	1.6	1		RULA												

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2855030	3	10.4	19,200	5.4	19,200		SEJA										1.25	3.2	SEJA HYPE CIVU CYSC4 **GERO** CIAR4 CIVU
2855000	6	22.3	51,947	10	51,947	0.4	CEBI CEDE CIVU CYSC GERO SEJA	8	2	SEJA	3	0.2	SEJA				1.3		
2852150	2	1.29	25	1.29	25		CYSC												
2852090	2	10	3,362	10	3,362		CIAR CYSC GERO SEJA												
2852000	5	10	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			
2851090	2	1		1															
2851080	2	4	1,660	4	1,660		CYSC SEJA TAVU												
2851000	3	8	10,090	8	10,090	0.6	SEJA												
2850124	1	0.2		0.2															

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2850120	3	8.6		3		0.2	CYSC										2.8	3.2	SEJA HYPE CIVU CYSC4 GERO
2850093	1	0.1		0.1															
2850090	1	1		1															
2850010	3	3	5,352	3	5,352	0.9	RULA SEJA												
2850000	6	32	67,334	22	67,334	0.6	CYSC GERO RULA SEJA							5	6	SEJA	7.2	3	SEJA
2845200	1	0.28		0.28															
2845150	1	0.2		0.2															
2845120	2	4	84	2	84		CYSC SEJA	2	1.9	CIVU CYSC SEJA									
2845090	2	1	12	1	12		CYSC SEJA												
2845073	3	4.5		1							1.5	2	CYSC				1	2.09	SEJA CYSC4 CIAR4 CIVU CEDE5 DIPU DACA4
2845070	4	13.6	1,860	6	1,860		CYSC	6	4	CEDE CYSC SEJA CIAR CIVU							1.6		

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2845040	1	0.3	160	0.3	160		SEJA												
2845000	5	20.4	12,378	5	12,378	0.7	SEJA	10									5.4		
2840150	1	1	1	1	1		SEJA												
2840130	1	1		1															
2840120	2	2.67		1.27													0.2	1	CIVU HYPE GERO SEJA
2840084	1	0.25		0.25															
2840080	2	4.09	1	0.89	1		RULA										0.3	1	CIVU CIAR4 LALA4 SEJA
2840071	2	2	36	2	36		BORAG SEJA												
2840070	2	4	5,753	4	5,753		CYSC SEJA												
2840036	1	3.5												3.5	1	CEDE CIAR SEJA			
2840035	1	1												1	0.6	CIAR CIVU HYPE			
2840034	2	4		2										2	2.5	CEDE CIAR CIVU GERO SEJA			

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2840030	2	6		3										3	7.5	CEDE CIAR CIVU HYPE SEJA			
2840000	6	30	10,010	11	10,010		CIAR CYSC SEJA	10						2	2.5	CIAR CYSC GERO HYPE LEVU SEJA comfrey	2.8	3	SEJA
2830034	1	0.33		0.33															
2830032	1	1		1															
2830030	1	2		2															
2830000	4	20.5	1,250	10	1,250		CEBI	5			5.5	0.2	SEJA						
2820000	5	24	2,274	4	2,274	0.2	SEJA	4			4	2	SEJA CIAR CEDE	4	14	CIAR CIVU HYPE SEJA	2.25	3	CEDE5 LALA4 GERO CIAR4 CIVU HYPE SEJA
2810070	1	0.61		0.61															
2810000	2	8	10,190	8	10,190		CYSC SEJA												
2800351	4	6.5						3	2	CEDE5 CYSC4	1.5	1	CEDE				0.8	1.5	**GERO** SEJA CEDE5 HYPE

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2800350	1	3									3	4	CEDE CIAR CIVU				0.2	1.2	SEJA HYPE CIAR4 CIVU
2800310	4	1	4,655	1	4,655	0.2	CYSC												
2800290	2	1	2	1	2		CYSC SEJA												
2800270	1	1	310	1	310		CYSC SEJA												
2800262	1	0.6		0.6															
2800260	1	1.2		1.2															
2800250	3	5	92	5	92	0.1	SEJA												
2800240	1	0.8		0.8															
2800220	1	1.2		1.2															
2800210	1	0.4		0.4															
2800145	1	0.3		0.3															
2800132	2	2	463	1	463	0.1	CEBI CEJA	1											
2800130	1	2						2	1.3	CEBI SEJA									
2800060	1	1		1															
2800010	5	6	10	1	10	0.1		2	1	GERO CIAR4 LALA4	1	5	GERO CIAR CIVU ILAQ80	1	11.5	GERO	0.6	5.1	GERO SEJA HYPE CIVU CIAR4

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2800000	10	211	70,321	89	70,321	1	CEDE CIAR CIVU CYSC GERO SEJA	62	83.3	CEBI CEDE5 CIAR4 CIVU CYSC4 GERO ILAQ80 SEJA DIPU	25	5.5	CIAR CIVU CYSC LALA SEJA	25	3.5	CIAR CIVU CYSC HYPE LALA PHAR SEJA	6.5	0.25	HYPE SEJA LALA4 DIPU CIAR4
2750020	1	1.5		1.5															
2750000	3	15		5							5	8	SEJA LALA CIAR CIVU CYSC	5	18	CIAR CIVU HYPE LALA SEJA			
2740110	1	1.5									1.5	1	SEJA CYSC CIAR CIVU CEDE						
2740075	2	1		0.5							0.5	1	SEJA CYSC CIAR CIVU CEDE						
2740072	4	2	200	1	200	0.1	CEBI	0.5			0.5	1	SEJA CYSC CIAR CIVU CEDE						

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2740070	3	7		4							3	1	SEJA CYSC CIAR CIVU CEDE						
2740060	4	18	33	9	33	0.2	CYSC	3			6	1	SEJA CYSC CIAR CIVU CEDE						
2740000	6	56		21				13	1.6	CEBI SEJA	12	2	CEDE CIAR CIVU CYSC SEJA				2.4	8.73	GERO HYPE CYSC4 SEJA CIAR4 CIVU LALA4 DIPU CEDE5
2730300	6	4.1	934	1	934		CYSC	1	3	CYSC LALA	1	5.3	CYSC RUDI PORE SEJA GERO CIAR	1	2	CYSC	0.1	7.66	PORE5 SEJA CYSC4 GERO LALA4 RULA HYPE
2730200	8	9	19,621	5	19,621		CIVU GERO SEJA	1	3	GERO	1	1	GERO	1	1.6	GERO	0.5	7.12	GERO HYPE
2730100	3	0.4	35	0.4	35		SEJA												
2730020	3	1		1															

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2730011	3	4	51	1	51		GERO							1	2	GERO SEJA	0.9	2	GERO SEJA HYPE ILAQ80
2730000	4	15	146,400	15	146,400		CYSC SEJA TAVU												
2700330	1	1		1															
2700140	1	1.2		1.2															
2700100	1	4.6		4.6															
2700090	1	1.99		1.99															
2700080	1	1									1	2	GERO SEJA LALA CYSC CEJA CIAR CIVU						
2700040	3	15.2									4	11.2	GERO SEJA CYSC HIAU BORAG ILAQ80 PRLA5 CIVU LAGA2 PHAR HEHE	4	10.5	CIAR CIVU CYSC GERO HYPE LALA SEJA	3.7	28.2	GERO SEJA DACA6 HYPE LALA4 ILAQ80 HIAU AEPO LAGA2

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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	9	92.5	4,201	37	4,201		SEJA TAVU	12	0.05	GERO	9	15	CEDE CIAR CIVU CYSC GERO LALA SEJA	9	4	CIAR SEJA	12.7	33.4	GERO CIVU CIAR4 HYPE LALA4 SEJA CYSC4
2650090	1	1.68		1.68															
2650050	2	0.9		0.9															
2650000	3	30	2	15	2		ARMI2										2.7	6.61	SEJA CIAR4 CIVU HYPE
2620060	1																2.8	3.1	SEJA HYPE CIAR4 CIVU CYSC
2620056	2	0.76	24	0.76	24		CEJA												
2620053	2	1.3		1.3															
2620051	2	0.89		0.89															
2620050	2	2.8		2.8															
2620043	1	0.7		0.7															
2620030	1	9.7		9.7															
2620000	4	47	39,464	35	39,464		CIVU CYSC GERO RULA SEJA	12											

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	No. Years Visited	Total Miles	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
2610200	9	16.1	3,676	11	3,676	0.2	CYSC GERO HEHE RUDI SEJA	2	3	CYSC SEJA	2	2	CYSC	1	0.1	SEJA	0.1	3	LALA4 **GERO** CYSC4 CIVU SEJA
2610050	1	1									1	1	GERO SEJA CIAR CYSC						
2610040	4	3	3,000	1	3,000		SEJA				1	2	GERO SEJA CIAR CYSC	1	4	GERO			
2610012	2	5.85	397	0.85	397	0.2	GERO										0.5	0.42	CYSC4
2610000	8	62	6,570	20	6,570	0.1	CEDE CIAR CIVU CYSC GERO RULA SEJA	16	0.5	CYSC SEJA	16	17	CIAR CYSC GERO POBO SEJA				2	42	GERO
2530000	3	8.5		5.7													4.4	1	GERO SEJA
2527000	1	1.2		1.2															
2510070	6	4	1,600	1	1,600	0.82	GERO				1	6.5	GERO	1	11	GERO	0.2	10	GERO
2510065	2	2		1										1	0.5	GERO HYPE SEJA			
2510012	2	2.7		1													1.7		

	Totals 2002-2011			SURVEY, MANUAL CONTROL AND LIMITED HERBICIDE 2002-2006				2007-2008			2009			2010			2011		
ROAD	**No. Years Visited**	**Total Miles**	**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	4	81	53	40	53	0.53	CEDE CYSC SEJA	31	13	CIAR4 CIVU GERO HYPE RUDI RULA SEJA	10	6.5	GERO SEJA						
2503000	1	9															3.7	11.7	GERO HYPE SEJA
2500000	3	23		4				16	0.75	POBO	3	3	GERO SEJA CIAR CYSC POBO						
2190220	1		251		251		COTON POCU												
2190200	3	42		4		0.1	POCU	38	1.7	CIVU CYSC4 DIPU POBO SEJA									
2190170	1	2		2															
2190000	2	24		14				10											
2100000	2	8	50	8	50		SEJA												
TOTALS		**3211.58**	**2695475**	**1499.2**	**2695475**	**28.53**		**829.8**	**351.02**		**310**	**249.53**		**222.5**	**291.81**		**236.92**	**334.25**	

PROGRAM HISTORY FROM 2002-2011-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.
- 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.
- 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 do our best to estimate re-treatments and subtract them from the total, however, the work involved should somehow be acknowledged.
- 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.
- This year 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".(For further discussion of FACTS forms and reporting, see Page XX
- This year we have, for the first time, broken down acres treated chemically and acres treated manually in the summary table. Number of acres treated chemically appears to have peaked in 2010 and decreased slightly this year. However, actual herbicide use increased greatly, mainly because we treated some very dense areas of herb Robert

APPENDIX D: POTENTIAL SURVEY AND TREATMENT SITES

Future Forest Service work should focus on FS Priority species, especially those with limited distribution in the forest.

- Allow sufficient time for multiple treatments of all herb Robert sites. Inspect and treat neighboring road spurs.
- Ensure thorough treatment of bishop's weed and periwinkle at Caretaker's Cabin and Snider.
- Eradicate orange hawkweed, yellow archangel, butter and eggs (yellow toadflax), spotted knapweed, sulfur cinquefoil and knotweeds.
- Meadow knapweed is poised to invade: We should ensure that **all** meadow knapweed sites are on the work plan in 2012 and make sure there is a corresponding Burnt Hill project, which is the likely source of knapweed in neighboring FS properties.
- Create a long term strategy to deal with everlasting peavine, especially in the 2878 road system.
- Try to include the ends of roads and small spurs in projects, since these areas often harbor weeds.
- Treat all campgrounds, pits, trailheads and special use facilities such as administrative sites and water diversions.
- Identify high-priority cross-boundary projects with other public land agencies.

At the end of the 2011 season we used GIS to compared shape files and tables of this year's treatments with our baseline weed survey files and tables and identified roads that still need survey or treatment. These are listed below along with some other sites that may have been overlooked. We would like to use a GIS-based map with overlaid treatments from previous years to direct next year's project list. **This should be part of our pre-season meeting.**

FS Road	Note	Weed(s)	Note (2011)
2277050	Does this road exist? ”		
2610000	Survey above Elkhorn Campground —herb Robert is rampant below-joint treatment with North Cascades EMPT?	GERO	
2610012	Consider special contractor project to coincide with planned LWD project.	GERO	
2620000 and spurs	Possible WCC project or contractor	SEJA	
2630000	Never surveyed	??	
2650000	MP 1.56- ARMI2 not noted in 2011, recheck to confirm	ARMI2—ck SEJA CIAR4 CIVU HYPE,	
2700010	Vague recollection from 2010	POBO10	
2700090	Survey due		
2800250	Survey due	SEJA	
2800270	Survey due	CYSC4 SEJA	
2800290	Survey due	SEJA CYSC4	
2800310	Schmidt Knob	CYSC4	
2800320	Close to known herb Robert infestation		
2800321	Survey due		
2800360	Survey due ”		
2840034			
2840036		CEDE5	
2840070	survey		
2840071	survey		
2840080	Close to known herb Robert infestation	CIVU CIAR4 LALA4 SEJA	CIVU CIAR4 LALA4 SEJA treated 2011
2840088	Survey due ”		Priority 2—not treated
2850000 2850080 2850100 2850105	Survey due		
2850090	Not completed in 2011	CEDE5—untreated for several years	On work plan, #1, not treated—high priority next year!!!
2851000		SEJA	Not on work plan, not treated
2860000	Not surveyed since 2004		Priority 2—not treated
2860011	East Crossing CG	GERO SEJA	Not on work plan, not treated
2877000	Pat's Prarie-need to go farther on this road.	CIAR, GERO on 040 spur	

FS Road	Note	Weed(s)	Note (2011)
2877040	28770000 may not have been surveyed	GERO	
3078	Olympic Hot Springs Road as it passes through ONF	POBO10 GERO	
2978000	Not checked in a long time.		
2900200	Pit	CYSC4 SEJA	
2923070 (to end of road)	Close to known herb Robert infestation	CIAR and RUDI treated 2009	
3000000	Bad herb Robert infestation--should be contractor	GERO	
3000300	Not sure of access ”	Likely GERO	
3000400	Not sure of access ”	Likely GERO	
3000450	Close to known herb Robert infestation	Likely GERO	
3006000	Bad herb Robert infestation-should be contractor. Closed midway	GERO RUDI2	
3068000		CEDE5 & SEJA. Treated 2007 and 2008	CYSC4 treated 2011
3068200	Off 3040, above Snider	CYSC4	Not on work plan, not treated
3008000			
3100700	Close to known herb Robert infestation. Closed		
3116000 (to end of road)	Close to known herb Robert infestation		
3116200	Survey due		

APPENDIX E: COUNTY ACCOMPLISHMENTS

(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. The County has a stable weed program, funded by an assessment.

Clallam County 2011 Snapshot	
Number of Known Weed Species	67
Number of Regulated Weed Species	43
Most Common Weeds	tansy ragwort, poison hemlock, knapweeds
Least Common Weeds	garlic mustard, hoary alyssum, hairy willowherb, purple loosestrife, sulfur cinquefoil, giant hogweed, gorse
Total Number of Sites (Regulated Species Only)	1,810
Number of Landowner Contacts	1,034
Educational Events	23
Public Contacts (Phone Calls or Walk-Ins)	742
Web-Site Hits	1,314
Volunteer Weed Events	3
Area of Weeds Controlled by Weed Board Staff	4 solid acres—over 10,550 individual plants removed.

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

The weed control program is poorly funded, and has relied extensively of Title II funding and help from Clallam County to remain viable. Jefferson County Road Department has had a no-spray policy for 20 years but in 2009 the Weed Board was able to get permission to spray certain weeds on county roads. This flexibility was valuable when a new infestation of common hawkweed was discovered on a county road. Additionally, Weed Board staff sprayed meadow knapweed, knotweed and orange hawkweed on county roads in 2011. The wild chervil population is increasing and is beyond the capacity of Weed Board staff to control. DOT will spray it next year, under contract to the Weed Board

Jefferson County 2011 Snapshot	
Number of Known Weed Species	48
Number of Regulated Weed Species	37
Most Common Weeds	tansy ragwort, poison hemlock, knapweeds
Least Common Weeds	purple loosestrife, sulfur cinquefoil, milk thistle, giant hogweed, gorse
Total Number of Sites (Regulated Species Only)	540
Number of Landowner Contacts (est.)	250
Educational Events	5
Weed Pulls	7

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 Washington State Parks) and hundreds of private landowners. Six workshops for landowners with knotweed were offered during 2011, covering knotweed ID, impacts and control and safe herbicide use. Equipment and supplies were made available to landowners who attended the workshop.

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 twice a year to exchange information and strategize effective knotweed control on the Peninsula.

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

APPENDIX F: CONTROL RECOMMENDATIONS BY WEED SPECIES-CHANGE

Bishop's weed

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, particularly 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, 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 will be most 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,
CEBI2	spotted knapweed	*Centaurea stoebe*	Manual removal very small sites; spot application with selective herbicide - clopyralid preferred
CEDE5	meadow knapweed	*Centaurea jacea x nigra*	Foliar herbicide application with selective herbicide - clopyralid preferred
CEDI	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
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
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
DACA6	wild carrot	*Daucus carota*	Manual removal; spot herbicide application
GERO	herb Robert	*Geranium robertianum*	Manual removal for small infestations; spot herbicide application where feasible;
HEHE	English ivy	*Hedera helix*	Manual removal; cut stump or foliar herbicide application
HIAU	orange hawkweed	*Hieracium aurantiacum*	Spot spray with selective herbicide in late spring or summer; - clopyralid preferred - possible manual removal for very small infestation

Plant Code	Common Name	*Botanical Name*	Control Recommendation
HYPE	St. Johnswort	*Hypericum perforatum*	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.
ILAQ80	English holly	*Ilex aquifolium*	Manual removal; cut stump or foliar herbicide treatment
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	*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
RUDI	Himalayan blackberry	*Rubus discolor*	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	comfrey	*Symphaticum officinale*	Minimal occurrence; spot herbicide application
TAVU	common tansy	*Tanacetum vulgare*	Spot herbicide application

APPENDIX G: WEED SPECIES REPORTED ON FOREST SERVICE LAND IN CLALLAM OR JEFFERSON COUNTIES, 2002-2011

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


English holly

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
meadow knapweed	*Centaurea debeauxii*	CEDE5
diffuse knapweed	*Centaurea diffusa*	CEDI
spotted knapweed	*Centaurea stoebei*	CEBI2
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*	HISA
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
Japanese knotweed	*Polygonum cuspidatum*	POCU6
giant knotweed	*Polygonum sachalinense*	POSA4
Bohemian knotweed	*Polygonum x bohemicum*	POBO10
sulfur cinquefoil	*Potentilla recta*	PORE
Himalayan blackberry	*Rubus discolor*	RUDI2
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 JeffersonCounties, Not Yet Detected on FS Lands

wild chervil	*Anthriscus sylvestris*
hoary alyssum	*Berteroa incana*
poison hemlock	*Conium maculatum*
spurge laurel	*Daphne laureola*
hairy willowherb	*Epilobium hirsutum*
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.**

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

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 a high priority. 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.

Austrian fieldcress	*Rorippa austriaca*
blackgrass	*Alopecurus myosuroides*
blueweed	*Echium vulgare*
Brazilian elodea	*Egeria densa*
bugloss, annual	*Anchusa arvensis*
bugloss, common	*Anchusa officinalis*
butterfly bush	*Buddleja davidii*
camelthorn	*Alhagi maurorum*
common catsear	*Hypochaeris radicata*
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, polar	*Hieracium atratum*
hawkweed, queen-devil	*Hieracium glomeratum*
hawkweed, smooth	*Hieracium laevigatum*
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*

APPENDIX H: 2011 STATE WEED LIST

Class B Weeds - Continued	
knapweed, Russian	*Acroptilon repens*
knapweed, spotted	*Centaurea stoebe*
knotweed, Bohemian	*Polygonum bohemicum*
knotweed, giant	*Polygonum sachalinense*
knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
kochia	*Kochia scoparia*
lawnweed	*Soliva sessilis*
lepyrodiclis	*Lepyrodiclis holosteoides*
longspine sandbur	*Cenchrus longispinus*
loosestrife, garden	*Lysimachia vulgaris*
loosestrife, purple	*Lythrum salicaria*
loosestrife, wand	*Lythrum virgatum*
oxeye daisy	*Leucanthemum vulgare*
parrotfeather	*Myriophyllum aquaticum*
perennial pepperweed	*Lepidium latifolium*
perennial sowthistle	*Sonchus arvensis* ssp. *arvensis*
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*
swainsonpea	*Sphaerophysa salsula*
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 carrot	*Daucus carota*
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 or technical consultation.

absinth wormwood	*Artemisia absinthium*
babysbreath	*Gypsophila paniculata*
black henbane	*Hyocyamus niger*
cereal rye	*Secale cereale*
common groundsel	*Senecio vulgaris*
common St. Johnswort	*Hypericum perforatum*
common tansy	*Tanacetum vulgare*
curly-leaf pondweed	*Potamogeton crispus*
English ivy - four cultivars only	*Hedera helix* 'Baltica', 'Pittsburgh', and 'Star'; *H. hibernica* 'Hibernica'
evergreen blackberry	*Rubus laciniatus*
field bindweed	*Convolvulus arvensis*
fragrant water lily	*Nymphaea odorata*
hairy whitetop	*Cardaria pubescens*
*hawkweed, common	*Hieracium lachenalii*
hawkweeds, nonnative and invasive species not listed elsewhere	*Hieracium spp.*
Himalayan blackberry	*Rubus armeniacus*
hoary cress	*Cardaria draba*
jointed goatgrass	*Aegilops cylindrica*
old man's beard	*Clematis vitalba*
reed canarygrass	*Phalaris arundinacea*
scentless mayweed	*Matricaria perforata*
smoothseed alfalfa dodder	*Cuscuta approximata*
spikeweed	*Hemizonia pungens*
spiny cocklebur	*Xanthium spinosum*
thistle, bull	*Cirsium vulgare*
thistle, Canada	*Cirsium arvense*
white cockle	*Silene latifolia* ssp. *alba*
yellow flag iris	*Iris pseudacorus*
yellow toadflax	*Linaria vulgaris*

To help 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 is designed to:

- Prevent small infestations from expanding by eradicating them when they are first detected
- Restrict already established weed populations to regions of the state where they occur and prevent their movement to un-infested areas
- Allow flexibility of weed control at the local level 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

2011
Washington State Noxious Weed List

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

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

A legal notice preceding herbicide application on the Olympic National Forest was published in the Peninsula Daily News (PDN), which is distributed throughout both Clallam and Jefferson Counties. The notice appeared more than two weeks before the first herbicide application was carried out on 6/6/11. 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, triclopyr, clopyralid or imazapyr to noxious weeds or other invasive plant species at the following Forest Service sites in Clallam and Jefferson Counties between June 6 through November 1, 2011. 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, 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 Susan Piper, Wildlife, Botany, and Invasive Plant Program Manager at 360-956-2435, Joan Ziegltrum, Forest Ecologist and Botanist at (360)956-2320, or Cathy Lucero, Clallam County Noxious Weed Coordinator at 360-417-2442.

Bockman Creek Subwatershed, including Mary Clark Pit (Rd 2902), and Bockman Pit (Rd 2902); **Canyon Creek /Pats Creek Subwatershed**, including Canyon Pit (Rd 2875), Ned Hill Quarry (Rd 2878123), Upper & Lower Caraco Quarry (Rd 2870), unnamed gravel pit (Rd 2870 x 2878 roads), the 28, 2870, 2875, 2877, 2878 roads and associated spurs, and Cranberry Bog; **Deep Creek Subwatershed**, including the 30, 3040 and 3067 roads and associated spurs; **East Twin River Subwatershed,** including the 3040 and 3068 roads and associated spurs; **Fulton Creek/Waketickeh Subwatershed**, including the 2503, 2510, and 25 roads and associated spurs; **Headwaters Sol Duc River Subwatershed**, including the 2918, 2920, 2931 roads and associated spurs; **Jimmy-come-lately Creek Subwatershed**, including the 28, 2840, 2850, 2855 roads and associated spurs, Coho Pit (Rd 2840070), Louella Rock pit (Rd 2800351), Luella LuLu quarry (Rd 2800360), Racoon Pit (Rd 2855070), unnamed gravel pit (Rd2845073 MP .9), and the Wolf Quarry 2 (Rd 2840130); **Little Quilcene River Subwatershed**, including the 27, 28, and 2820 roads and associated spurs, and the Bon Jon Quarry (28 road); **Lower Big Quilcene River Subwatershed**, including the 2620, 2650, 27, 2730, and 2740 roads and associated spurs, and Falls View campground; **Lower Boqachiel River Subwatershed** including the 2932 road and associated spurs; **Lower Dosewallips River Subwatershed**, including the 25, 2610, 2620, and 2630 roads and associated spurs; **Lower Duckabush River Subwatershed**, including the 2510 and 2530 roads and associated spurs; **Lower Elwha River Subwatershed**, including the 3050 road and associated spurs; **Lower Gray Wolf River Subwatershed,** including the 2870, 2875, and 2880 roads and associated spurs; **Matheny Creek Subwatershed** including 21 and 2160 roads and associated spurs, **SubwatershedMcDonald Creek/Siebert Creek Subwatershed**, including the 2877 road and associated spurs, and Pats Prairie; **Middle Dungeness River Subwatershed**, including the 28, 2820, 2830, 2860, and 2870 roads and associated spurs; **Middle Queets Subwatershed** including the 2180 road and associated spurs, **Middle Quinault Subwatershed** including the 2190 and 2140 roads and associated spurs, **Middle Sol Duc River Subwatershed,** including the 2923, 30, 3040, and 31 road and associated spurs; **North Fork Calawah Subwatershed**, including the 29, 2922, and 2923 roads and associated spurs, Calawah Pit (2900015 road), Bonidu meadow (near 29 x 2929 jxn), and the Grindstone Pit (2923070 road); **Pysht River Subwatershed,** including the 30, and 3116 roads and associated spurs; **Salmon River Subwatershed**, including the 21 road; **Snow Creek/Salmon River Subwatershed**, including the 2840, 2845, 2850, 2851, and the 2852 roads and associated spurs; **South Fork Calawah Subwatershed**, including 29, 2923, and 2932 roads and associated spurs, **Spencer Creek/Marple Creek Subwatershed**, including Seal Rock campground; **Upper Big Quilcene River Subwatershed**, including the 2650, 27, 2740, and 2750 roads and associated spurs; **Upper Dungeness River Subwatershed**, including the 2870 road and associated spurs; **Upper Sol Duc River Subwatershed**, including the 29, 2918, 2923, 2929, 2931, and 3071 roads and associated spurs, Klahowya campground, Littleton Horse Camp, Kloshe Nanitch Loop Trail, Bonidu Pit (29 road, MP 37.2), and Tom Creek Pit (2931 road); and the **West Twin River Subwatershed**, including the 30 and 3040 roads and associated spurs.

Onsite Posting Sample: The blank lines (planned/actual date of application and weed species targeted) were filled out by hand at the site.

NOTICE

The herbicides glyphosate, imazapyr, triclopyr, or clopyralid will be applied to this site between June 6, 2011 and November 1, 2011 to control noxious weeds, which threaten native vegetation and habit in this area.

Planned / Actual application date*: _____

Actual date of application contingent upon weather conditions.

Targeted Noxious Species: _____**

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

NO USE RESTRICTIONS ARE IN PLACE

Avoid contact with treated vegetation until after it has dried.

FOR MORE INFORMATION CONTACT:

Olympic National Forest
Joan Ziegltrum, Forest Ecologist
1835 Black Lake Blvd. SW, Suite A
Olympia, WA 98512-2435
(360) 956-2320
or
Clallam County Noxious Weed Control Board
Cathy Lucero, Noxious Weed Control Coordinator
223 East Fourth Street, Suite 15
Port Angeles, WA 98362
(360) 417-2442

Treatment Data Form

Olympic National Forest
2011 Invasive Plant Program

Ref #:	Circle Ref # you think should be a high priority for treatments next year.
291	

!! New Information for 2011!! Multiple Ref# can be recorded on a single Treatment Data Form if:
- All are in the same 6th field watershed
- All have the same job code
- Treatments occur on consecutive days

Rock pits are the exception; they ALWAYS get recorded on a separate Treatment Data Form.

General Activity Fields

Region	Forest	Owner	6th Field Watershed Name	District (circle one)*	Workforce (County Name, Contractor Name, WCC, USFS, etc.)
06	09	FS	Lower Big Quil	PAC-N PAC-S (HC-N) HC-S	Clallam/Jefferson

Method Code (circle one)	Equipment Code (circle one)	Job Code: (from spreadsheet)	Treatment Area Location Description (from spreadsheet):	Comments:
(700 Herbicide)	711 hand sprayer (712 backpack sprayer) 713 hack & squirt 716 injector 721 mobile ground sprayer 000 other	S2F66	List all Road number(s) with BMP & EMP and/or Site Name(s) treated: 2740 BMP 0.9 EMP 0.1	
100 Manual				

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

Site/Inventory Fields

Start Date	Stop Date	Application Site (circle one)			Total Manual Infested Acres Treated:	Licensed Applicator: Name and License #
9/15	9/15	(Road edge/ROW)	Campground	Admin Site	acres	
		Gravel/rock source	Trailhead	Other		
		Forest	Riparian		(DO NOT lump plants together)	

Weeds Treated : Use the 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)	% of area examined for weeds infested with this species (lump plants together – use cover classes 1 - 7[Y] listed below)
HYPE	2 acres	3
LALA4	2 acres	4
SEJA	2 acres	4
CIAR4 & CIVU	2 acres	3
GERO	1 acres	3
DIPU	2 acres	2
CYSC4 (also, 1 CEDES3 - trace)	0.5 acres	1

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

Admin Use Only
Activity Unit FACTS ID#: _____ Name: _____
Activity Subunit # _____ Name: _____

DailyLog

Application Date	Time Start	Time Stop	Application Area	Temp	Wind Speed	Wind Direction	Cloud Cover	Acres Treated within 150' of Water
9/15	9:45	3:30	2 Acres	58 F	0 MPH	—	100%	2

Volume Applied	UOM	Mix (oz/gal)	Dilutant	Remarks – Weather forecast.
30	Gal.	2 oz/gal	Water	

Herb Product Name	% Solution	Adjuvants	Product Rate	UOM
Garlon 3A	1.5%	Competitor	2oz/3gal	Oz/Ac
		Bloom Blue	1oz/3gal	Oz/Ac
				Oz/Ac

Daily Log (Day2)

Application Date	Time Start	Time Stop	Application Area	Temp	Wind Speed	Wind Direction	Cloud Cover	Acres Treated within 150' of Water
			Acres	F	MPH			

Volume Applied	UOM	Mix (oz/gal)	Dilutant	Remarks – Weather forecast.
	Gal.		Water	

Herb Product Name	% Solution	Adjuvants	Product Rate	UOM
				Oz/Ac
				Oz/Ac
				Oz/Ac

Daily Log (Day3)

Application Date	Time Start	Time Stop	Application Area	Temp	Wind Speed	Wind Direction	Cloud Cover	Acres Treated within 150' of Water
			Acres	F	MPH			

Volume Applied	UOM	Mix (oz/gal)	Dilutant	Remarks – Weather forecast.
	Gal.		Water	

Herb Product Name	% Solution	Adjuvants	Product Rate	UOM
				Oz/Ac
				Oz/Ac
				Oz/Ac

Ref #s:_____

APPENDIX I: PROJECT FORMS

- Rock Pit Inspection Form

Invasive Plant Inventory for Rock Sources, Olympic National Forest

A copy of this form is to be placed in implementation folders for projects utilizing this rock source

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 very small, isolated patches within or near the rock source.
- 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.

*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, 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.

Grace Bell — Signature

8/22/11 — Date

Name of Rock Source: Bon Jon Quarry **Ownership (circle one): Forest Service / Private**

Narrative of Pit Location (include, at minimum, road number and milepost for FS pits **OR** address/cross streets for private pits):
2800 Rd# milepost 4.6

Ref # (from project spreadsheet): 194

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: Grace Bell **Date of Inspection:** 8/22/11

Comments: Include, at minimum, a description of what parts of pit are usable, and what parts must be avoided. This information should also be shown in the sketch of the pit on next page.

- right area of pit is best area to extract.
- oxeye daisy covers pit
- peavine was only in lower entrance area of pit.
- Tansy ragwort was found mostly at the top of rock pit - was deflowered and sprayed.

Name of Rock Source: Bon Jon Quarry **Date inspected:** 8/22/11

Species present:

Present?	Code	Scientific Name	Common Name	Priority	% of infestation	Comments
	AEPO	*Aegopodium podagraria*	Bishop's weed, goutweed	1		
	ARMI2	*Arctium minus*	lesser burdock	2		
	BOOF	*Borago officinalis*	common borage	2		
	BRTE	*Bromus tectorum*	cheatgrass	1		
	BUDA2	Buddleja davidii	butterfly bush	1		
	CESTM	*Centaurea stoebe ssp. micranthos*	spotted knapweed	1		
	CEDE5	*Centaurea debeauxii*	meadow knapweed	1		
	CEDI	*Centaurea diffusa*	diffuse knapweed	1		
	CEJA	*Centaurea jacea*	brownray knapweed	1		
Yes	CIAR4	*Cirsium arvense*	Canada thistle	2	20%	
	CIVU	*Cirsium vulgare*	Bull thistle	2		
	COAR4	*Convolvulus arvensis*	field bindweed	2		
	CYES	*Cyperus esculentus*	yellow nutsedge	1		
	CYSC4	*Cytisus scoparius*	Scotch broom	2		
	DACA6	*Daucus carota*	Queen Anne's lace	2		
	GERO	*Geranium robertianum*	herb Robert, stinky Bob	1		
	HEHE	*Hedera helix*	English ivy	2		
	HIAU	*Hieracium aurantiacum*	orange hawkweed	1		
	HIPR	*Hieracium caespitosum*	meadow (yellow) hawkweed	1		
	HISA4	*Hieracium sabaudum*	European hawkweed	1		
Yes	HYPE	*Hypericum perforatum*	common St. Johnswort	2	20%	
	ILAQ80	*Ilex aquifolium*	English holly	2		
	LAGA2	*Lamiastrum galeobdolon*	yellow archangel	1		
Yes	LALA4	*Lathyrus latifolius*	everlasting peavine	2	10%	
	LASY	*Lathyrus xylvestris*	flat pea	2		
	LYPU2	*Lysimachia punctata*	large yellow loosestrife	1		
	LIVU2	*Linaria vulgaris*	butter and eggs	1		
	LYSA2	*Lythrum salicaria*	purple loosestrife	1		
	LYVU	*Lysimachia vulgaris*	garden yellow loosestrife	2		
	PHAR3	*Phalaris arundinacea*	reed canarygrass	2		
	POBO10	*Polygonum bohemicum*	Bohemian knotweed	1		
	POCU6	*Polygonum cuspidatum*	Japanese knotweed	1		
	POSA4	*Polygonum sachalinense*	giant knotweed	1		
	PORE5	*Potentilla recta*	sulphur cinquefoil	1		
	PRLA5	*Prunus laurocerasus*	English laurel	2		
	RUDI2	*Rubus discolor*	Himalayan blackberry	2		
	RULA	*Rubus laciniatus*	cutleaf blackberry	2		
Yes	SEJA	*Senecio jacobaea*	tansy ragwort	2	50%	
	TAVU	*Tanacetum vulgare*	common tansy	2		
	VIMA	*Vinca major*	bigleaf periwinkle	1		
	VIMI2	*Vinca minor*	common periwinkle	1		
If other priority species are present that are not listed above, write them down in the space provided on the next page.					this column (including what's on next page) should add up to 100%	

Species present that are not listed on previous page.			
Code	Common Name	% of infestation	Comments

this column (including what is on previous page) should add up to 100%

The following species are tolerated when present. However, please indicate if they are present in the rock pit:						
yes	DIPU	Digitalis purpurea	purple foxglove	Tolerate	Do not include in % of infestation.	
	HYRA3	Hypochaeris radicata	hairy catsear	Tolerate		
yes	LEVU	Leucanthemum vulgare	oxeye daisy	Tolerate		
	LOPE80	Lotus pedunculatus	big trefoil	Tolerate		
	PLLA	Plantago lancoelata	narrowleaf plantain	Tolerate		
	RARER	Ranunculus repens var repens	creeping buttercup	Tolerate		
	TAOF	Taraxacum officinale	common dandelion	Tolerate		

DON'T FORGET TO FILL OUT THIS SECTION!

Estimated size of pit: 1/4 **acres**
(**1 acre** = 43560 ft^2, or approximately 209 ft x 209 feet. **1/10 acre** = 4356 ft^2, or 66 ft x 66 ft, or approximately 435 ft x 10 ft)

Percent of pit occupied by invasive plants 3 **%**
(This percent should indicate the percent of the pit that is NOT usable as a rock source)

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?** 2010

Name of Rock Source:
Bon Jon

Date inspected:
8/22/11

Rock Pit Inspection: Bon Jon Quarry

Date of Inspection: 8/22/11 (include year)

Clallam County
28 road, MP 4.5
Approx 1.2 acres