Olympic Peninsula Cooperative Noxious Weed Control

2006 Project Report

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

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Executive Summary

Project Goal:
The goal of this project is to stop the spread of noxious weed species, reduce existing populations, and prevent the introduction of additional invasive plants throughout Clallam and Jefferson Counties. The primary aim is to coordinate and standardize weed control efforts across many jurisdictional boundaries to more effectively minimize the negative impacts of noxious weeds on watershed function, wildlife habitat, human and animal health, and recreational activities.

Project Overview:
This project is a comprehensive program for noxious weed control on the North Olympic Peninsula. On National Forest lands, the project involves monitoring and treating sites previously identified, as well as survey and identification of new sites, particularly at focus areas like Botanical Areas, campgrounds, trailheads, rock sources and roads scheduled to be decommissioned. On non-federal lands, this project focuses on oversight and implementation of the 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.

2006 Project Goals:
1. Increase the amount of control work performed.
2. Begin herbicide treatments on large National Forest sites as allowed
3. Revisit previously controlled sites and perform necessary followup control work.
4. Scope and prioritize weed sites for future treatment by the Weed Board or other cooperators.
5. Survey and treat rock sources and roads scheduled to be decommissioned in the near future.

2006 Resources:
Staff: Supervisor (4 hrs/wk, 9 months); Project Specialist (37.5 hrs/wk, 8 months), Field Technician (40 hrs/wk, 3 months).
Other participants: Clallam County Sheriff's/Road Department Chain Gang as time allowed

2006 Accomplishments:
- Recorded 145 new noxious weed sites (total 986).
- Surveyed 390 miles of road, totaling 946 acres.
- Removed 77,871 total weeds manually and treated a total of 26 acres (includes both manual and chemical treatments).
- Coordinated the Jefferson County Noxious Weed Control Program for 9 months.
- Completed recommendations for future work including priority treatment sites for 2007.
- Compiled data for end of year reporting and upload to the NRIS database.

Conclusions and Recommendations:
In most areas, noxious weed infestations continue to grow in size and density. However, infestations are reduced in size and density at sites where control work is repeated regularly. Treatments are most effective on new, poorly established infestations, demonstrating that this project must continue to operate under a policy of early detection/ rapid response. Changes in project resources and focus make it difficult to compare this year's achievements to those of prior years. However, expanded herbicide treatments in 2006 have demonstrated the greater efficacy and efficiency of an integrated control strategy.

In the immediate future this project must continue to focus primarily on treatment, though new infestations must be controlled whenever found. With less focus on survey, a more efficient reporting method geared toward site revisits is highly desirable. While the Weed Board is not equipped to operate large-scale treatment crews, expert staff are ideal to act as supervisors for other collaborators controlling large sites. This will allow a smaller Weed Board crew the freedom to resurvey large areas and control a number of smaller sites while overseeing one or more larger projects. Finally, with Title II funding scheduled to sunset in 2007, a new funding source must be found soon to meet the continuing need for noxious weed control both on and off of federal lands on the North Olympic Peninsula.

Project Summary

Project Goal:
The goal of this project is to stop the spread of noxious weed species, reduce existing populations, and prevent the introduction of additional invasive plants throughout Clallam and Jefferson Counties. The primary aim is to coordinate and standardize weed control efforts across many jurisdictional boundaries to more effectively minimize the negative impacts of noxious weeds on watershed function, wildlife habitat, human and animal health, and recreational activities.

Project Overview:
This project is a comprehensive program for noxious weed control on the North Olympic Peninsula. Included are activities to survey, identify, and control noxious weeds, to coordinate action and communication between local, state and federal jurisdictions, and to raise public awareness of the impacts imposed by noxious weeds. This project also provides funding for the Jefferson County Noxious Weed Control Board and their local education, survey, and treatment programs. Work on this project began in 2002 and under current funding will continue through 2007.

On federal lands, the project involves monitoring and treating sites identified previously under this project and sites identified in the 1998 Olympic National Forest Integrated Weed Management Program Environmental Assessment (1998 EA). Additional components include surveying for and recording additional locations of noxious weed infestations, and developing a comprehensive control plan while implementing currently approved treatments, as resources allow. All noxious weed sites are mapped in ArcView GIS and entered into the National Forest Service NRIS TERRA database.

On non-federal lands, this project focuses on oversight and implementation of the Jefferson County Noxious Weed Control Board's (JCNWCB) program. Program goals include public education, monitoring of infested sites previously identified by JCNWCB staff, 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.

2006 Project Description:
This project implements control measures using the most effective treatments in accordance with the 1998 EA and state/county guidelines on state land and county rights-of-way. The focus is on areas where uncontrolled noxious weed populations on federal, state, county, and private land are spreading and hindering control activities elsewhere. The Clallam and Jefferson County Weed Boards provide the vital link to private landowners whose weeds threaten federal lands. On Forest Service lands, first and foremost, the project continues to work under a policy of early discovery and rapid response to prevent the establishment of new infestations wherever possible. For known sites, the emphasis is on controlling noxious weeds along roads and trails, in high use locations like campgrounds and trailheads, and in gravel pits. Due to heavy use or potential off-site movement of infested materials, these types of sites serve as the primary source of new weed invasions into previously uninfested areas. Special emphasis is also placed on Botanical Areas and similar critical sites, because of the severe threat that invasive weeds pose to these unique environs. Roads scheduled to be decommissioned in the near future are also targeted because of the difficulty of reaching these sites to control weeds after decommissioning. In addition to the Weed Board survey team, the Clallam County Sheriff's/Road Department Chain Gang performed weed control in 2006.

In 2006, the project focus for Forest Service lands was to:

1. Increase the amount of control work performed.
2. Begin herbicide treatments on large sites as allowed under the1998 EA and the National Forest Service Region 6 Invasive Species Environmental Impact Statement.
3. Revisit previously controlled sites and perform necessary followup control work.
4. Scope and prioritize weed sites for future treatment by the Weed Board or other cooperators.
5. Survey rock sources (pits) and all roads scheduled to be decommissioned in the near future.

2006 Project Accomplishments:

This year's work reflects changes in funding, staffing, project focus, treatment methods, and reporting, making it difficult to compare directly to previous years' accomplishments. Still, considering additional program constraints in 2006, it is evident that the inclusion of herbicide treatments allowed the project to accomplish at least as much noxious weed control as in previous years. Specific changes in program resources and reporting are listed below.

- A decrease in funding from previous years prevented the project from utilizing a WCC crew on larger sites. This greatly reduced the amount of manual treatment carried out from prior years.
- Clallam County Chain Gang priorities seemed to have been redirected by Forest Service staff this year, which resulted in less weed control accomplished by Chain Gang this year.
- This year's project shifted focus from manual control only, to an integrated manual and chemical control strategy. Chemical and manual treatments combined were more efficient than manual control alone.
- This year Forest Service reporting requirements mandated that the amount of treatment be reported as area treated. Number of weeds pulled (as reported in past years) does not compare directly with area treated, because the number of plants killed in any given area was only recorded for manual and not herbicide treatments. Previous reports did not differentiate between survey and treatment area; this year's report does. Therefore it is very difficult to compare 2006 accomplishments with those of prior years'.
- The NRIS Terra Invasive Plant Database requires a minimum infested area of 0.1 acre for each site entered. For consistency, all treatments reported under this project are also restricted to a minimum of 0.1 acres. Since many treatments were actually less than 0.1 acres in size, the total area of treatment carried out is artificially inflated.
    - This level of artificial inflation is the same for all sites recorded in NRIS, whether they were treated or not.
    - Areas surveyed are not inflation in this way, as these areas are not uploaded to NRIS.

If possible, accomplishment reporting in future years' reports should allow direct comparison to this report. This can be more easily accomplished if the Forest Service determines all data reporting requirements prior to the beginning of the 2007 field season.

2006 Project Resources and Performance:

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

- 1 Supervisor: 4 hrs/week, 9 months, licensed applicator
    - Supervised the project
    - Provided technical information and support, crew training, and assisted with field treatments
    - Participated in 2 planning meetings with Forest Service staff
    - Participated in new EIS planning/integration
    - Oversaw end-of-season reporting and planning for 2007 field season
- Field team: 1 project specialist, 37.5 hrs/week for 8 months; 1 field technician for 40 hrs./week for 3 months, both licensed applicators
    - Recorded 146 new noxious weed sites (total 986 sites)
    - Surveyed 708 acres along 292 miles of roads
    - Treated a total of 20 acres
    - Removed 21,116 noxious weeds manually, spot-treated 15 acres chemically
    - Entered all sites visited into the Forest Service NRIS TERRA database
    - Provided locational information on all new sites to Forest Service GIS analyst
    - Mapped all sites in ArcView GIS
    - Coordinated Jefferson County Noxious Weed Control Program for seven months
    - Created an annual end-of-season report
- Clallam Co. Sheriff's/Road Department Chain Gang, N/A weeks, N/A hrs./week
    - Removed 56,775 weeds

2006 Project Accomplishments Summary:

A summary of work preformed under this project from 2002-2006 is shown in the following table**. Direct comparisons between years are impossible without a clear understanding of program focus, funding, and treatment methods which varied from year to year.** Performance measures were initially developed to best reflect and describe the true work load. For example, initial work focused on discovering weed infestations; later emphasis was on prioritizing and treating known sites. Crew funding varied by year as did treatment method. Categories and totals demonstrate the resulting shifts. The lack of a WCC crew in 2006 resulted in a significant decrease in overall count of weeds removed manually, while herbicide treatments in the same year made up the difference in overall total treatment accomplished. Often reporting and documentation requirements changed with little warning. These issues, which are mentioned briefly under *2006 Program Accomplishments* at the beginning of this section, not only had a significant impact on overall accomplishments, but also have important future policy ramifications. The biggest question with any weed project is always, what next?

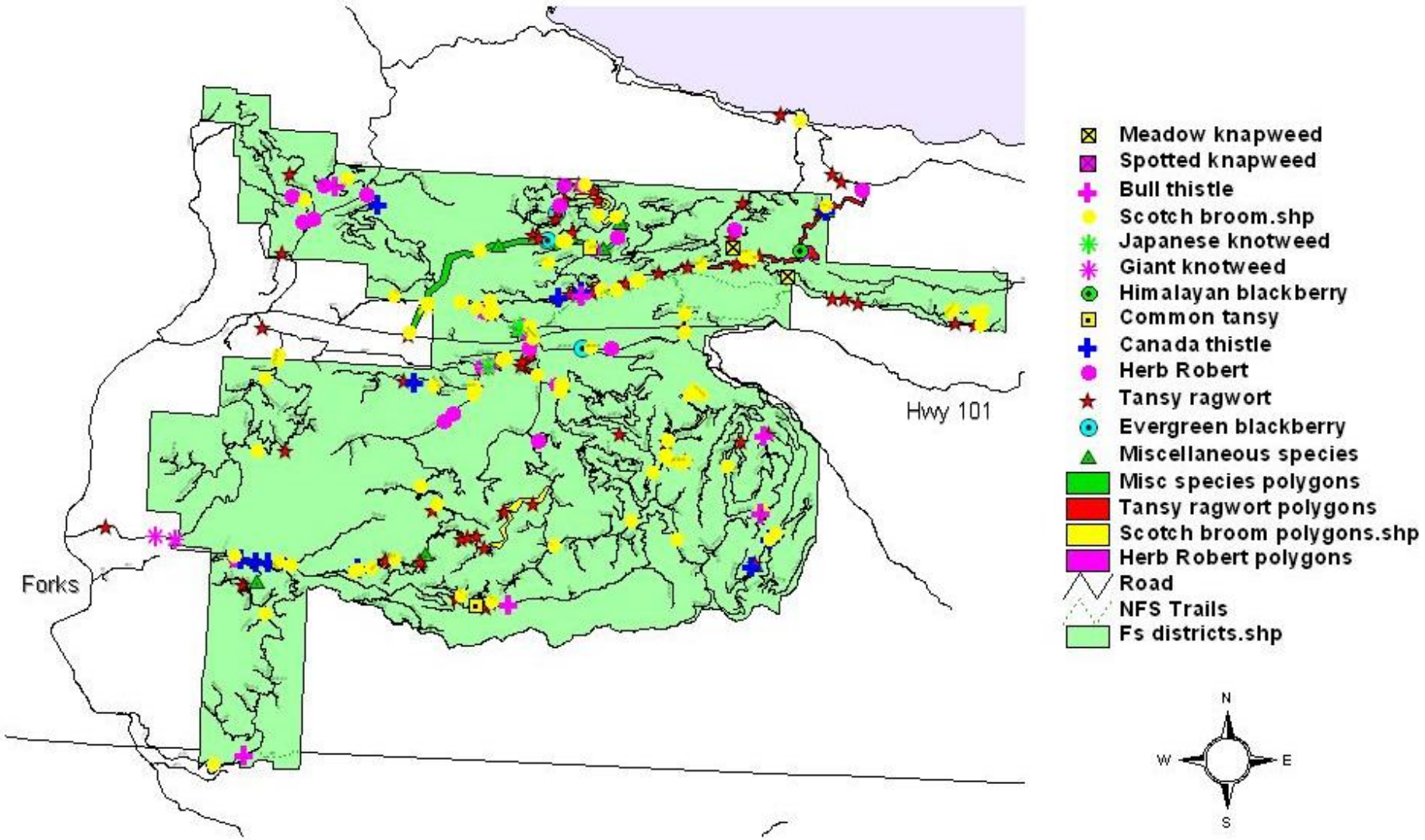
2002-2006 Accomplishments Summary Table

	2002	2003	2004	2005	2006	TOTAL
Miles of Roads Surveyed/Treated	192	702	265	113	N/A	**1,272**
Acres Surveyed/Treated*	233	851	321	137	N/A	**1,542***
Miles of Roads Surveyed	-	-	-	-	390.44	**390.44**
Acres Surveyed**	-	-	-	-	946.52	**946.52****
Acres Treated	-	-	-	-	25.95	**25.95**
New Sites/Total	122	497/619	147/766	74/840	147/986	**986**
By Crew						
# of Weeds Removed by Field Crew***	736	886	11,716	51,775	21,016****	**86,129*****
Acres Treated by Field Crew****	-	-	-	-	20.28****	**20.28****
# of Weeds Removed by WCC Crew	31,085	87,623	1,166,200	880,655	N/A	**2,165,563**
# of Weeds Removed by Chain Gang	8,286	102,748	112,858	108,225	56,775	**388,892**
Acres Treated by Chain Gang****					5.67****	**5.67****
TOTAL # of Weeds Removed	**40,107**	**191,257**	**1,290,774**	**1,040,655**	**77,791.00**	**2,562,793**

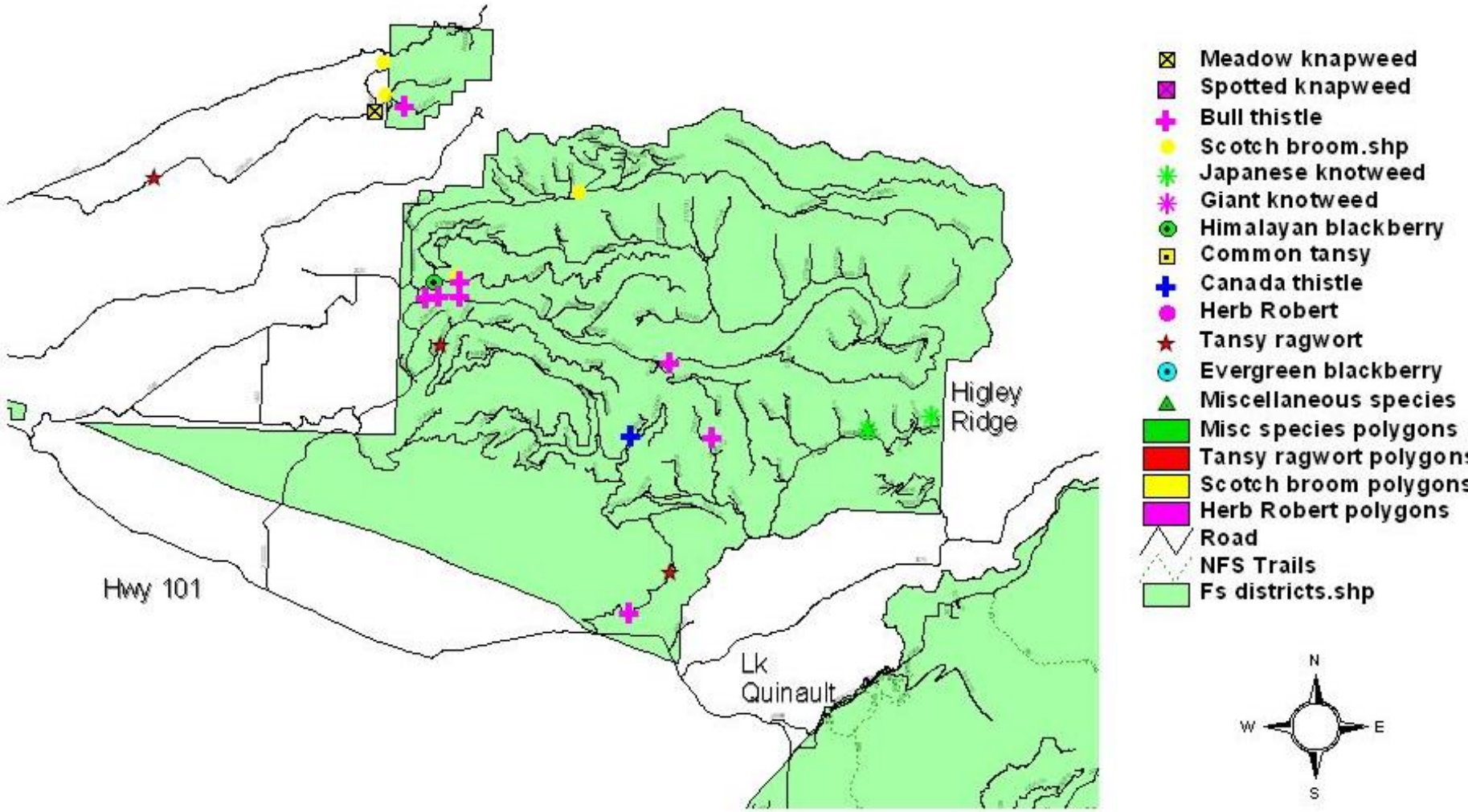
*Derived from miles surveyed/treated
**Derived from miles surveyed. Recorded as a separate value for 2006 only, previously combined in miles treated/surveyed and acres treated/surveyed
***# of Weeds Removed refers to manual only, does not account for chemical treatment
****This was a new reporting requirement that started mid-project. Acres Treated includes chemical and manual treatment. For the Chain Gang, each thousand plants were estimated to encompass .1 acre. Area was recorded on spray records for field crew.

Maps of Weed Sites found 2002-2006

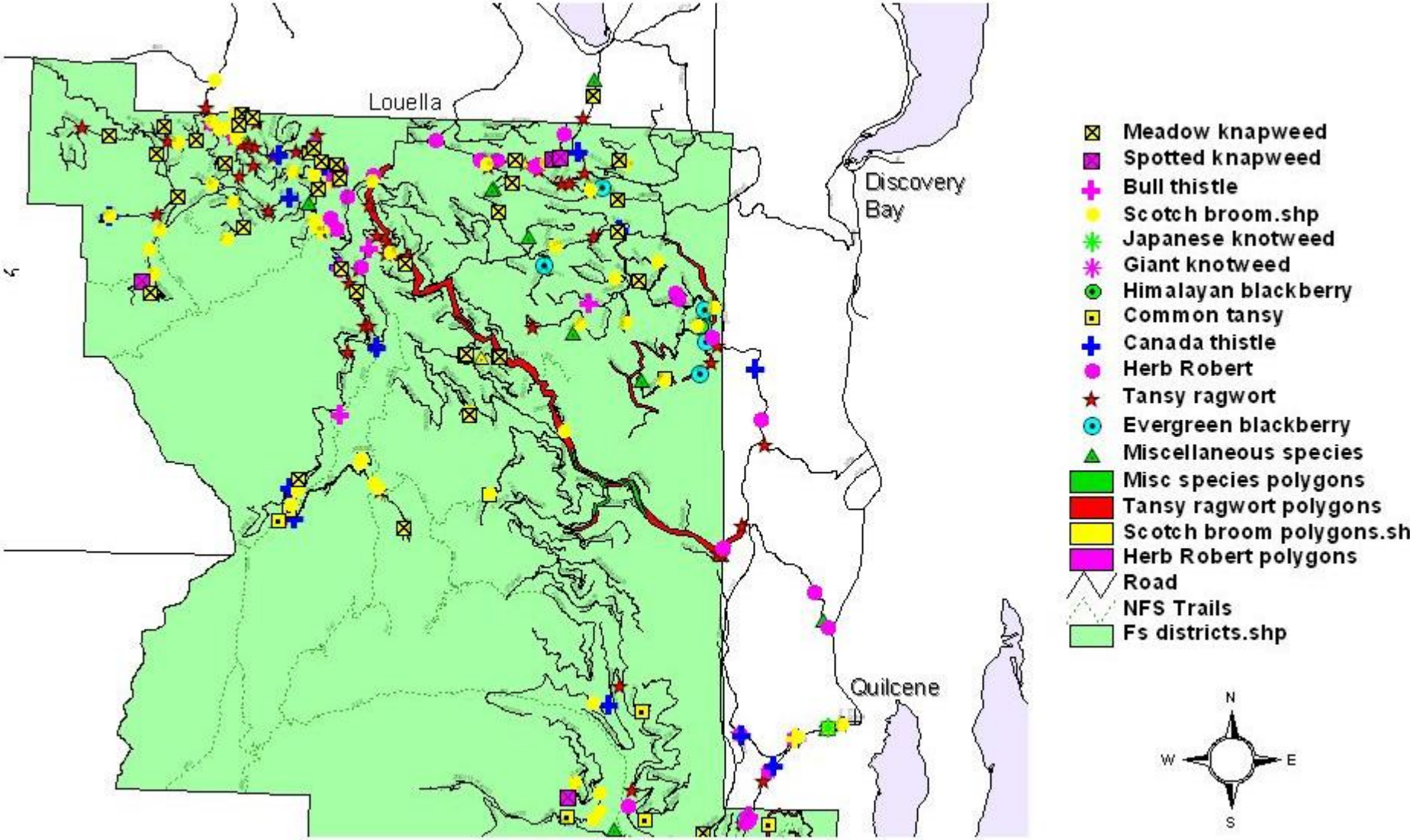
Pacific North District



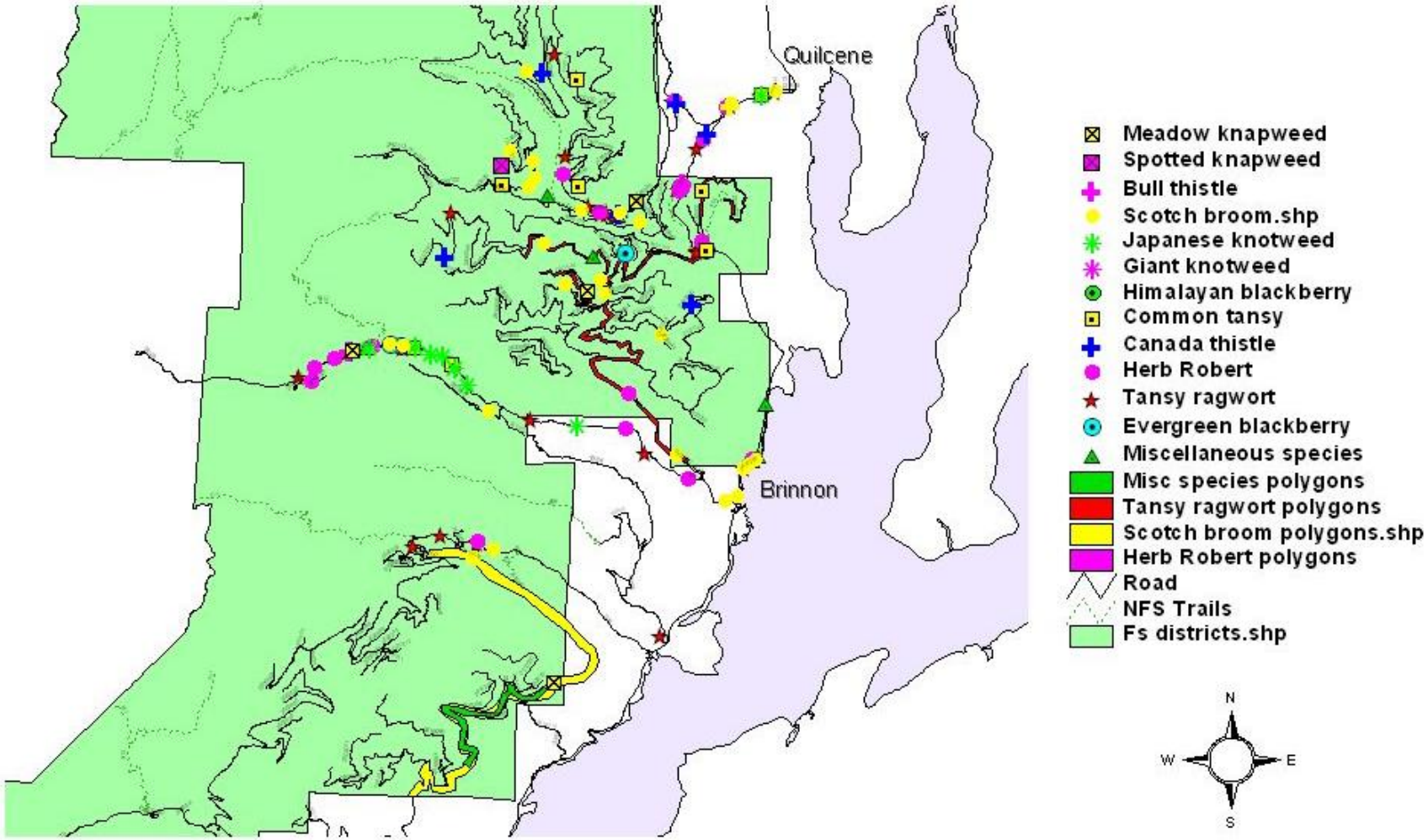
Pacific South District



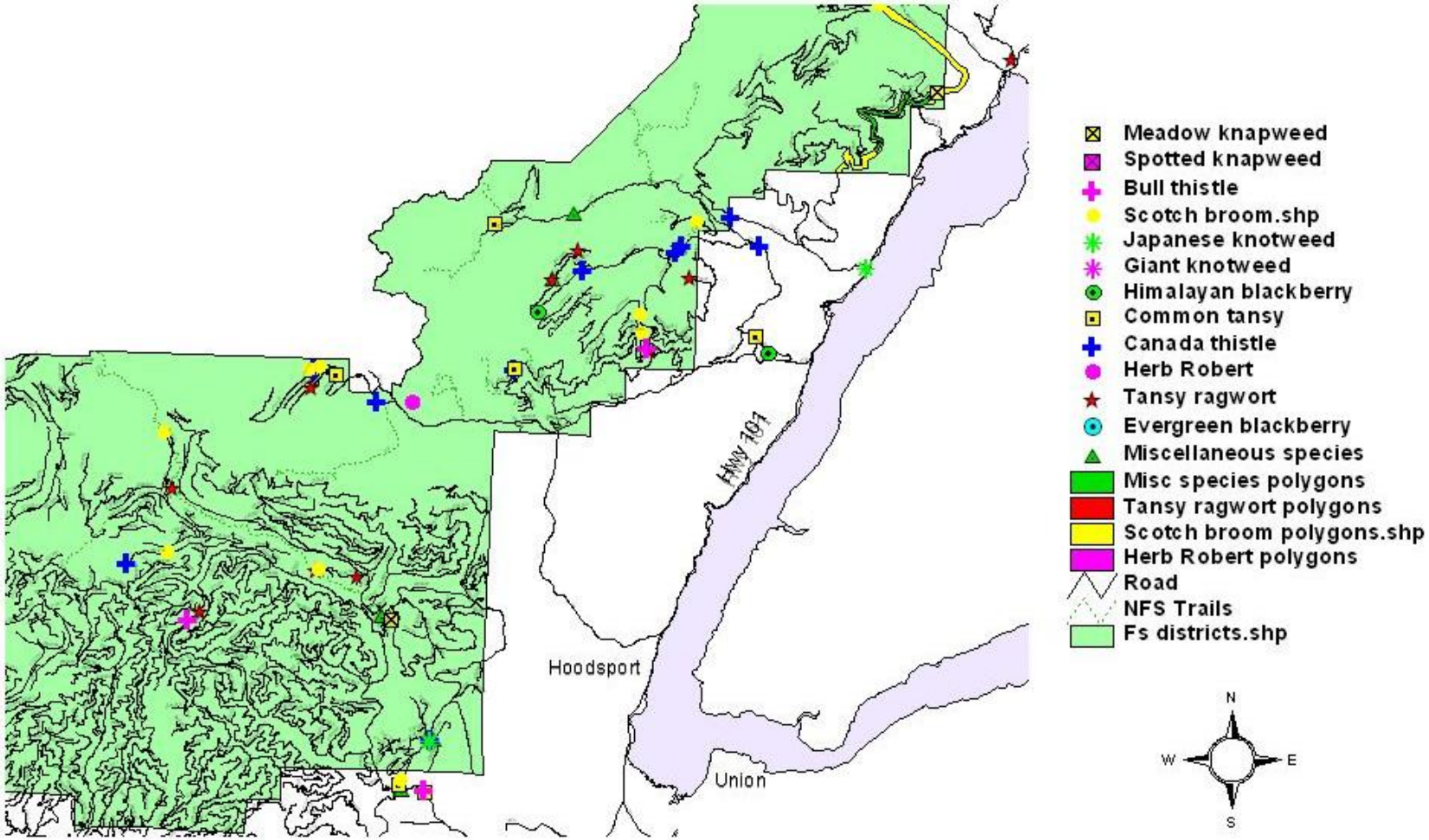
Hood Canal North District – North of Quilcene



Hood Canal North District – South of Quilcene



Hood Canal South District



Conclusions and Recommendations

Nature of the Problem:
In general, uncontrolled noxious weed infestations continue to increase in size and density. Sites of known infestations where control work is repeated regularly show decreasing size and density. Larger sites are more difficult to control in the long run, while smaller sites can be controlled very effectively with diligence. New, poorly established infestations respond best to control efforts and should remain the focus of this project. Overall descriptive statistics and conclusions about the nature of the problem are provided below.

- One site with a new invasive species, diffuse knapweed (*Centaurea diffusa*), was found in 2006, as well as 146 new sites of previously recorded noxious weeds.
- The total number of sites recorded under this project (2002-06) is now approximately 986.
- The most commonly found invasive species continue to be Scotch broom, tansy ragwort, herb Robert, and Canada thistle, though a significant number of meadow knapweed sites were also found.
- 34 rock sources were surveyed. Nearly all were infested with oxeye daisy and common catsear. Many supported populations of Scotch broom, Canada thistle, St. Johnswort, or herb Robert, and a few contained meadow knapweed, everlasting peavine, or knotweed. Depending on the intended use and weeds present, it may be necessary to treat some sites before removing rock to new locations. Alternatively, rock should be taken from sources that do not contain noxious weeds instead of infested sites. Complete survey results and recommendations are presented in Appendix D.
- The ends of spur roads are commonly infested sites, and may act as a source for new infestations. It is essential in both treatment and survey to work to the end of the road.
- Existing infestations are expanding. Herb Robert sites, in particular, are increasing in size and number at an alarming rate. Meadow and spotted knapweeds, tansy ragwort, common tansy, Canada thistle, everlasting peavine and reed canarygrass were all also recorded at a number of new and/or expanded sites.
- The extent of invasive plant populations in less accessible areas continues to be less well documented. Special effort was made in 2006 to survey, and if possible treat, all known roads scheduled to be decommissioned in the near future, though in many cases effective control was not possible.
- The large, remote area covered by this project makes travel time a significant limiting factor for fieldwork. Therefore it is essential that field crews be able to recognize invasive species and be prepared to conduct both survey and treatment, either manual or chemical, on any given day.

Future Direction of the Project:
In the final year of guaranteed funding under Title II, this project would be most effective focusing almost exclusively on treatment. Weed Board staff has extensive knowledge of everything from project history and infestation locations to weed identification and best treatment methods. However, the Clallam County Noxious Weed Control Program is not equipped to carry on 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 or small infestations, while serving as advisors and/or supervisors for other contractors, such as WCC, that are necessary to tackle larger control projects.

In the same vein, with the project focus shifting further toward treatment and away from survey, it is becoming apparent that the original survey-oriented reporting system is no longer the most efficient method for recording accomplishments. Retaining flexibility is imperative to an effective program and an overly developed documentation protocol detracts from the efficacy of the on-the-ground weed control work. A more efficient protocol for reporting revisits and treatment accomplishments would prevent the work from getting bogged down in unnecessary documentation while still providing effective records to satisfy Forest Service granting requirements and to allow the project to move forward into the future.

Additional project development recommendations are listed below.

Program Development

- The current lack of funding beyond 2007 will make effective long-term control difficult in most areas. Stable weed control funding needs to be secured.
- Control crews must be thoroughly trained and their work monitored. High staff turn-over makes this task very difficult in the course of the short field season. Funding limitations additionally abbreviate staff positions. Increased funding could provide both improved year-to-year continuity and an improved weed control program in Jefferson County lands that are adjacent and directly connected to the Olympic National Forest.
- Before Title II has expired, the Forest Service should consider implementing alternative long-term partnerships with local weed boards to utilize their expertise in the weed control arena.
- Communication and cooperation with other agencies and partners is vital. Only excellent communication between this project and the Forest Service will allow enough project flexibility to be responsive to Forest Service requests and priorities.
- It is important that an agency-wide commitment be made to a noxious weed control and prevention program, and that this commitment be communicated agency-wide.

Treatment and Survey

- The large size of the project area and remoteness of many sites necessitates that field crews be fully trained and equipped at all times to perform survey and both mechanical and chemical treatments.
- As the project focuses more and more on treatment it will become necessary to return to all roads at some point both to check on the efficacy of treatments and to search for new infestations. This could be best accomplished under this project by dividing the Forest into four sections and conducting two complete surveys of one section each year, once in early or mid summer, the second later in the season. This would be the most efficient way to set aside the necessary field time for early detection and rapid response while focusing primarily on treating known sites forest-wide.
- Widely dispersed treatments that do not remove all invasive species from a given location are an excellent measure to prevent less common species from spreading, but will make completion of any specific area very difficult. In addition to ongoing forest-wide treatment, this problem can be addressed by selecting a single road or area in which all noxious weeds of all species will be removed. This area could then be expanded from one year to the next, gradually accomplishing a much larger task.

Documentation

- The Forest Service must identify all reporting forms or programs that will be used prior to the treatment season, and if necessary, provide training and/or equipment for using programs or completing forms. Once the season has begun, stopping fieldwork to reenter data in a different form causes an unacceptable loss of field time from which the project would be unlikely to recover within the year.
- **A simple reporting procedure** for treatment is essential to allow project goals to be achieved. The NRIS database is not appropriate for this task at this juncture in the project. **Excessive or inefficient reporting** simply leads to less work accomplished on the ground and does not advance the project in any way. **A single, simple, standardized reporting program** that integrates data collection for both treatment and inventory is **highly desirable**. Information such as site location and size, weed species, treatment method, and amount of work performed should be sufficient for both new sites and revisits of known infestations.

Treatment Recommendations:

With the imminent completion of the Olympic National Forest EIS, chemical control of invasive species will become available in many areas. This will allow effective treatment of many larger sites and certain weed species that do not lend themselves to non-chemical methods. While this project will continue to consider all treatment options in all cases, the most effective treatments for a small Clallam County Noxious Weed Control Board crew will likely utilize herbicides on a regular basis. With this in mind, specific and ongoing recommendations are detailed below.

- Early detection and prevention must be emphasized. This allows for the greatest number of control options to be considered. More agency personnel as well as visitors need to learn to identify and report invasive plants to facilitate this effort.
- Rock Sources that contain noxious weeds should be treated before being utilized.
- Both substantial initial treatment efforts and **sustained followup** are necessary for successful control of noxious weed infestations. Not only is it necessary to continue treatments year after year, but multiple treatments to the same site during a single growing season provides substantially improved weed control.
- In many cases, the overwhelming size of invasive plant infestations needs to be reduced before manual and mechanical methods become feasible. For example, the size of herb Robert infestations often makes manual control impractical, and treatment with an herbicide may be necessary.
- For species with a particularly large or rhizomatous root system (knotweeds, Canada thistle, reed canarygrass, everlasting peavine, etc.) manual control is impractical if not impossible. Herbicide will be necessary to control these species in the long run.
- Restoration or specific future management goals should be part of all control plans.
- Specific arrangements for disposal of plants removed during manual treatment need to be completed and communicated throughout and between all agencies involved prior to the start of manual control work.
- Certain forest maintenance tasks create noxious weed contaminated wasted that should be documented and monitored.
- Ongoing monitoring of treatment work, as well as repeat surveys of previously uninfested areas will be essential as the project focuses more and more on treatment.

2007 Work Plan Recommendations:

A preliminary list of sites to treat in 2007 is presented in Appendix F. This list is ordered based on prioritization of known weed sites based on the number of the following categories they fall into.

- **2006 Forest Service priorities (see Appendix C for a complete list)**
- **County requirements and priorities (see Appendix K for the Washington State Weed List)**
- **Sites treated under this project in previous years (2002-06)**
- **Sites listed as priorities for WCC work in the 2005 final report**
- **Sites listed for chemical control in the 1998 Olympic National Forest Invasive Plant Environmental Assessment**

Rational – Continuing control work begun in prior years is essential, particularly at new sites where infestations are not yet well established. In addition, sites that have been recognized as significant problems in the past must not be overlooked, and are included in the list under the 1998 Environmental assessment and the 2005 WCC priority categories.

- **Campgrounds and trailheads**

Rational – High use areas, particularly campgrounds and trailheads, are important because seeds hitchhiking on clothing, vehicles, stock, etc. are likely to establish at and spread from these locations.

- **Rock sources**

Rational – One of the major sources of new weed infestations is new construction, especially from seeds and plant fragments in gravel, so all previously documented weed sites in rock sources are considered for treatment. **It should be noted** that very few gravel pit infestations have been formally reported under this project. Additional weed treatments at rock sources not listed in Appendix D should also be considered a priority for the 2007 season. A rock source survey summary with recommendations is included in Appendix D

- **Roads scheduled to be decommissioned**

Rational – Road decommissioning and subsequent regrowth of the forest canopy may in itself eradicate infestations of some weed species, but others, most notably herb Robert, knotweeds, English ivy, English holly, and English laurel, may persist and be made nearly inaccessible to future treatment if not dealt with prior to decommissioning.

- **National Forest Service Botanical Areas**

Rational – Botanical Areas are intended to be reserves of rare, native flora and habitats; invasives should be removed whenever possible.

- **Sites recorded for the first time in the past two years (2005-06)**
- **Sites harboring weeds that are relatively uncommon in the forest**

Rational – This project must continue to operate with early detection and rapid response as the most efficient weed control strategy. Weeds that are not widely distributed should be targeted for control or removal whenever possible. Although the project will focus almost entirely on treatment of known sites rather than additional survey, treatment of sites newly discovered in 2007 that can be easily controlled will often take precedence over sites listed in Appendix F.

Appendix F shows treatment sites that were chosen, then prioritized based on the number of times they fell into certain categories. Although this table gives an indication of the relative importance of treatment at each site, it cannot include all of the necessary parameters that must be considered when planning for actual treatment. This list does not, for example, take into account weed species, elevation, size of site, or ease of access. Field personnel must consider these and other factors as they select sites during the treatment season. In addition to the prioritized list, it is recommended that the following sites receive first priority for control in 2007, as time and resources allow:

Followup – Herbicide Treatment Sites for 2007:

Road ID	Site Description	Weed Species
2190200	Higley Ridge/D-78 Landing	POCU6
2510070	Collins Campground	GERO
2755070		CEBI2, SEJA
28	Entire Road	SEJA
2800310	Schmith Knob	CYSC4
2870	Six trailheads along Dungeness Rd	CIAR4, CIVU, GERO, HYPE, LALA4, PHAR3
2870050	All of spurs 050, 056, 058, 059	CEJA, CIAR4, HYPE, LALA4
2870059	Cranberry Bog Botanical Area	CIAR4, GERO, PHAR3
2880050	Dungeness Forks Campground	GERO
2870	Lost Mtn Rd to Palo Alto Rd	CEJA, CYSC4, LALA4, SEJA
30		LIVU
3000250		GERO
3040	South and north ends, respectively	CYSC4, SEJA
3040800	Snider Work Center	ARMI2, GERO, ILAQ80, POCU6

***Followup – Manual Treatment Sites for 2007**:*

Road ID	Site Description	Weed Species
2740072	End of spur – poor condition road	CEBI
28	A number of sites	CEBI2, CEJA, CYSC4
2800132	End of spur	CEDI3
2880	At a culvert crossing	GERO

Large sites and sites containing persistent perennial weeds that have not been treated in the past:

Road ID	Site Description	Weed Species
--	Bonidu Elk Opening (off Rd 29)	CIAR4, PHAR3
--	Buckhorn Wilderness Meadows/Camp Handy area	CIAR4
--	Falls View Campground (off SR101)	GERO
--	Quilcene Ranger Station	CYSC4, POCU6
2610200	Seal Rock Campground	CYSC4, HIAC10
2875	Slab Camp	CEJA
28		GERO, LALA4
2610	Dosewallips Rd AND River	POCU6
2740		LALA4
2870	Dungeness Rd - between trailheads	CIAR4, CYSC4, LALA4
2900	Focus on north and south ends	CYSC4, HIAU, POSA4, SEJA
2923		CYSC4, HIAU, SEJA
2755	Off Woods Rd	SEJA
3000200		CYSC4, LALA4, PHAR3
3000215		CYS4

Note that neither the above list nor the list in Appendix F is exhaustive. There are other sites in the database that should not be overlooked. In addition, all areas must be monitored for new infestations so that these can be targeted first and foremost to prevent their becoming established.

Specific treatment recommendations for each species encountered are given in Appendix H. 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 soon as possible as well.
- 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 most 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 specific species and the location (altitude, aspect, etc).

2006 Data Collection and Reporting Protocols

1. Team and Project Dates

Data were collected by coordinator Cathy Lucero, control specialist Jeff Gabster, and field technician Ross McDorman. Fieldwork began on May 3, 2006 and continued through September 29, 2006.

2. Invasive Species Recorded

Surveys focused on Class A and B-designate weeds on the Washington State Noxious Weed List (see Appendix K). 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) or when the infestation was of notable size. Exceptions were made for especially invasive species, such as herb Robert or knotweeds, which can threaten undisturbed areas. These species were always recorded, and controlled whenever feasible. Forest Service staff directed the project toward additional species of concern as necessary. See Appendix J for a complete listing of species recorded. Surveys were not intended to document all non-native species.

3. Data Collection

In the field, weed site data were recorded on a modified Olympic NF Invasive Plant Inventory Data Collection Form (see pgs 27-28). Minor modifications to this form allowed for collection of county noxious weed data as well as Forest Service data. A copy of the survey form is provided on pgs 27-28. Herbicide treatments were documented on a standard Herbicide Application Record form found in the Washington State University Laws and Safety manual (version 1) (see pg 29). Survey data for rock sources were recorded on a separate Pit Survey Table form (see pg 30), since data were recorded for each pit examined, regardless of whether weeds were found. All weed site and herbicide treatment data were entered into RangelandPC and submitted to Forest Service staff for upload to the NRIS Terra database. Pit survey data were not entered into RangelandPC (and thus can only be obtained from this report) because the NRIS database is not designed to record null survey information. The specifics of data entry for each form are described below.

Olympic NF Invasive Plant Inventory Data Collection Form (see pages 20-21)

a. Site ID field (30 characters) contains the concatenation of the following:

Year	YYYY
Month	MM
Day	DD
Township	TT
Range	RR
Section	SS
Qtr. Section	QQ
Road ID	XXXXXXX (all 7 characters required, fill with zeros (0) or spaces)
Weed Code	CCCCCCC (typically 4-5 characters, leave extra space blank for codes less than 7 characters)
Complete Site ID	YYYYMMDDTTRRSSQQXXXXXXXCCCCCCC
Example Site ID	20050917241001SE2170000CIVU

i. The Road ID for trails surveyed is a “T” and the trail number (fill to 7 characters with spaces), e.g: T823□□□.

ii. The Road ID for botanical areas (BA) surveyed is the abbreviated name of the BA, e.g: South Fork Calawah River Botanical Area = SFCRBA.

iii. Road IDs for non Forest Service roads were denoted by a two-letter prefix and the road number. County road numbers were preceded by “CR” and state highway routes received the prefix “SR”.

iv. In the case of identical Site IDs (e.g. two (or more) separate sites of the same weed found on the same day, on the same road, and in the same quarter quarter section), the second or subsequent site simply received an additional number (second site gets 2, third gets 3, etc.) at the end of the original Site ID in the first available open

weed code character space (e.g. 20060701281118NW2923000CEJA and 20060701281118NW2923000CEJA2).

v. **Revisits** are entered into Rangeland PC with the **original Site ID**. All other information (e.g. date in the date field, not the date embedded in the Site ID) is entered based on the actual revisit.

b. Locational information was primarily recorded as road number and milepost (typically recorded to the nearest 0.05 mi. as estimated from the vehicle trip odometer). The legal description of township, range, section, quarter section, and quarter quarter section was then determined based on road and milepost and either a GIS database or a Forest Service brown line map. Milepost numbers and any additional useful on-the-ground information (e.g. at turnout) were recorded under site comments.
c. Location at site, site address, owner information, parcel number, site ID, database record number, and contact information were intended for county sites and were not recorded at Forest Service sites.
d. Aspect and slope were not recorded. Elevation was estimated from GIS or brown line maps.
e. Dominant plant life form type was selected from the list; dominant species were considered optional.
f. Site comments included locational information (e.g. milepost) and/or directions to the site.
g. Phenology, life form, and distribution were selected from the lists.
h. Infested area was always noted with a minimum size of 0.1 acres (due to NRIS Terra constraints). Gross area was only recorded for very large sites with low cover class and/or scattered patchy distribution. Infested area, cover class, and distribution were sufficient to characterize most sites. Note that the definitions of infested and gross area vary slightly from those used in previous years.
    i. *Infested Area* was defined as the sum of the areas of all separate patches of the weed (not including the area between patches; including the space between plants within a single patch of low cover class) within one site.
    ii. *Gross Area* was defined as the total area of a box (polygon or circle) circumscribed about all of the separate patches of a weed within one site. It is effectively equal to infested area plus the total area between individual patches.
i. Daubenmire cover class was selected from the list based on a visual estimate of weed canopy cover within the *infested* area.
j. Distance to water was estimated visually if water was near enough to be a significant factor. This field was left blank for most upland sites that were far removed from water.
k. Associated species were included only if they stood out for any reason.
l. Comments included any additional information, particularly treatment action taken.

Herbicide Application Record (see page 22)

a. Application data (applicators, location, date and time, herbicide, application rate and method, etc) were recorded as instructed on the form. Location was generally recorded as road number(s) and milepost(s).
b. Weed information was included in the Comments section, typically in a list of all species that were targeted with herbicide.
c. In almost all cases herbicide applications were revisits of previously known sites, so an existing Site ID was already assigned to the site.
d. Each application site was entered into RangelandPC directly from the spray record form.

Pit Survey Table (see page 23)

a. All pits visited were surveyed on foot; manual treatment was immediately carried out if feasible.
b. Pit ID numbers were recorded for previously known sites. ID numbers were taken from a Forest Service pits GIS layer.
c. If possible, Latitude and Longitude data were collected using a Garmen (Model: GPS 12XL) GPS unit.
d. In all cases road number, milepost, and all non-native plants found were recorded.
e. Additional site comments and treatment recommendations were provided whenever possible.

f. Pit data were not entered into RangelandPC as the NRIS database does not easily record null surveys. Pits with high priority weed species were entered into RangelandPC as a weed site.

4. RangelandPC Data Entry for NRIS Terra Database:

a. All site data collected were entered into RangelandPC files and submitted to Forest Service staff for upload to the NRIS Terra database. The exceptions were data collected for pits that contained no weeds or only low priority non-native species; these data were not entered into RangelandPC.
b. The NRIS Terra database allows a minimum entry of 0.1 acres in the Infested Area field. Since many sites were well under 0.1 acres, the total infested area for the project reported to NRIS Terra is likely artificially inflated above the actual infested area found.
c. Site revisits, records of weeds found at previously recorded sites, were entered into separate RangelandPC files from new sites. Revisits were entered using the original Site ID, but the actual date of the revisit was entered into the Date Found field.
d. New sites were also recorded into a separate spreadsheet that included Site ID, road number, and beginning and ending milepost numbers. This spreadsheet was submitted separately to Forest Service GIS staff so that the Forest Service invasive plants coverage could be updated and linked to all available NRIS Terra data.

5. Road Survey and Treatment (see Appendix A):

The project focus was on treatment of known infestations, especially at sites that had received treatment in the past. Survey and/or location of new infested sites was a secondary priority. However, survey was carried out while en route to planned control sites.

a. Roads were generally "windshield" surveyed, i.e. roadsides were scanned for weeds while driving.
b. Trailheads, campground parking areas, and gravel pits were surveyed on foot whenever found.
c. Typically, 10 feet on both sides of each road was surveyed. The distance surveyed was recorded in the field and the area surveyed was calculated using the following formula.

$$\frac{\text{miles surveyed} \times 5280 \text{ ft/mi} \times 10 \text{ ft/roadside} \times 2 \text{ roadsides/survey}}{43560 \text{ ft}^2\text{/acre}}$$

d. Note that distances and areas surveyed are cumulative. Two surveys on the same road on separate days were recorded twice. This is justified because many plants are only visible on a windshield survey at a specific time of year.
e. Weed sites were combined whenever possible to cut down on the number sites entered, thereby increasing the amount of time available for fieldwork. Patches of the same species on the same road that were separated by less than 0.5 mi were recorded as a single site (with a low cover class).
f. Whenever possible, small weed infestations were treated manually when found.
    i. Treated area for manual sites was calculated as infested area × percent cover class, with a minimum of 0.1 acres recorded for any treatment site, as constrained by NRIS Terra requirements. Thus the area treated reported is likely artificially inflated.
    ii. For all manual control carried out, the number of weeds pulled was also recorded, in keeping with the accomplishments reporting in previous year-end reports from this project. For large sites, the number of weeds pulled was estimated by extrapolation of the number of weeds pulled in 15 min.
    iii. In cases where individual weeds were widely scattered along a length of roadway, only the number pulled was recorded. This was an attempt to minimize the artificial inflation of the area treated statistic since areas treated in these cases were negligible.
g. Where allowed and deemed to be safe, effective, and efficient, herbicide treatments were applied.

i. Area treated was estimated as 1000 square feet per gallon of spray mix applied. Totals less than or equal to 0.1 acre were reported as 0.1 acre. Because most sites selected for herbicide treatment had large infestations of invasives, the artificial inflation of area treated was minimal in this case.
ii. No measurement of the number of plants treated was made, artificially deflating this statistic overall, thereby making any comparison to accomplishments of previous years difficult. This data was not required and was not collected in favor of accomplishing more treatment.
iii. All foliar herbicide applications were made using 1.5% Aqua Neat (glyphosate) and 0.375% Agri-dex (surfactant), except when targeting woody brush or knotweed species, where 5-8% Aqua Neat and 1.5% Agri-dex was used. Cut-stump applications for woody shrubs and trees used 100% Aqua Neat.
iv. A legal notice listing all sites under consideration for herbicide treatment (see Appendix E) was published in the Peninsula Daily News on 7-21-2006, more than 1 week before any herbicide applications. Herbicide applications were carried out between 7-31 and 9-12-06.
v. On-site postings (see Appendix E) were in place at least 24 hours before and after herbicide application, and at least 1 week prior to application in high-use areas like campgrounds and trailheads.

6. ArcView plotting:

Weed sites were mapped in ArcView GIS on a laptop computer so that a real-time map was available to the field crew throughout the season. 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.

a. Sites were plotted as points for individual sites. Where practical, multiple sites on a road of the same species were turned into a linear polygon. Each point or polygon was identified with its Site ID.
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. Point and polygon layers were joined with the database (table) from the NRIS TERRA system.

7. Recommendations for WCC work for 2007 (see Appendix G):

Due to decreases in funding and increases in crew costs, it was not possible to hire a Washington Conservation Corps this year to conduct large-scale weed removal, as has been done in the past. However, a list of potential sites for 2007 WCC crew work is provided in this report (Appendix G). Prioritization was based heavily on recommendations from previous years, though 2006 observations and treatments were also considered. Additional points concerning the process of crew time estimation are provided below. Site prioritization will be described under Future Recommendations (see pgs 21-22).

a. Work crew size assumed to be 5 members, including the crew supervisor.
b. A workweek is composed of four 10-hour days.
c. Estimated time required for a job does not include travel time.
d. Specific control instructions will be provided to the crew for each site.

8. Data Reporting

Data recorded in the field were entered into Rangeland PC and submitted to Forest Service Staff for upload to the NRIS Terra database. Special emphasis was placed on survey of rock sources this year, so particular attention was paid to recording this survey information. Unfortunately, there is not any effective way to enter null survey data (i.e. data for pits that did not contain any weeds of note) into NRIS Terra. A great deal of additional field data was collected during the season, which, like the rock source data, cannot be effectively uploaded to the NRIS database. For the most part, this information is collected in this report as described below. In addition, copies of all field survey forms and spray records were also submitted to Forest Service staff; copies have been retained in the Clallam County Weed Board office.

a. Maps of all Forest Service weed sites recorded during the course of this project are displayed on pgs 13-17.
b. A master list of the roads surveyed and treated over the course of this project is shown in Appendix A. 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. It also lists the area of treatment, by road, completed in 2006.
c. The 2006 prioritized site list shows all sites that were considered for treatment at the beginning of the season (see Appendix C). It also notes what treatment was completed at each site, which includes both manual and chemical control. Note that many new and/or small treatment sites, especially along roadsides are not listed here.
d. A summary of the rock source surveys is shown in Appendix D.
e. Survey results for roads scheduled to be decommissioned are shown in Appendix C.
f. Copies of the legal herbicide application notice placed in the paper of record (Peninsula Daily News) and the on-site notices are shown in Appendix E. The legal notice was printed in the paper more than 1 week prior to the first herbicide application. On-site postings were required 24 hours before and after application, and at least 1 week prior to application in high-use areas like campgrounds and trailheads.
g. Lists of high priority sites based on this year's work are shown under Recommendations (pgs 21-22). A more complete list of sites recommended for treatment in the future is presented in Appendix F. Prioritization of the sites listed in Appendix F is based on the number of priority categories into which the site fell. These priorities give an indication of the relative importance of the site, though other factors like size of site, species present, time of year, elevation, etc, must also be considered before beginning treatment at a given site.
h. A preliminary list of sites to consider for WCC work is given in Appendix G. This list is based on the analogous list from the 2005 report with the addition of large sites recorded in 2006.
i. Control recommendations for each invasive species identified during the course of this project are given in Appendix H.
j. Chain Gang Work is a summary of weed control work performed by the Clallam County Sheriff's Chain Gang during the 2006 season (see Appendix I). Note that the total number of weeds pulled by the Chain Gang is somewhat reduced from previous years, primarily due to staff turnover and the additional focus placed on direct weed board staff involvement in treatment work in 2006.
k. Each non-native weed species reported and entered into the NRIS Terra database during the course of this project are listed in Appendix J.
l. The Washington State Noxious Weed List is updated annually in the WAC Chapter 16-750 Appendix K shows the 2006 State Weed List. 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.

Sample Invasive Plant Inventory Data Collection Form

20060911.pdr

Olympic NF/Clallam and Jefferson County Noxious Weed Control Boards
Invasive Plant Inventory Form
Adapted from NF/pg NRIS TERRA Form
July 2003 cld

Fill out one form for each weed, and attach a map to each form. Site ID must be unique for each form.

Site ID: Region 06, Forest 09, District: (circle) 01 Hoodsport 03 Quinault ~~02 Quilcene~~ 05 Soleduck

Twnshp (2): 28W Range (2): 03W Section (2): 10 Qtr. Section (2): SW (NE, NW, SE, SW) Qtr Qtr: SE

Initials (2): MM Road ID (6): 2800132 Ownership: FS

Weed PLANTS Code (4): CEDI3 *Common Name:* Diffuse Knapweed

Weed Class: A B+ Bs Cs Date (MM/DD/YYYY): 09/16/06

Primary Examiner (Last, First, Middle): McDorman Land Use: Roadside

WA State County (Circle) 009 Clallam 031 Jefferson Compliance Date

Location at site: _____

Site Address: _____

Owner and Owner Address: _____

_____

Parcel #: _____ Situs ID: _____ Land ID: _____

Previous Contact? ____ Contact? ____ Name: _____

Aspect (deg) ____ OR ALL Average Slope (%) ____

Elevation (ft) _____ min _____ max OR _____ average

Circle *Dominant Life Form: AL Algae, FB Forb, GR Graminoid, LC Lichen, NP Nonvascular plant, SH Woody shrub, SS Subshrub, TR Tree

3 Dominants	PLANTS Code	Scientific Name.

Site Comments (Directions, description, aerial photo # and aerial photo date, etc)

End of Road

Infestation Density (1-5): ____

Infestation Size in Acres (≤1, 1-5, 5-10, 10-20): ____

* Must make address based on nearest possible – then estimate

Sample Invasive Plant Inventory Data Collection Form, continued

Circle one each for phenology, life form, and distribution of the weed.

Phenology		Grasses		Forbs and Shrubs
	G1	Leaves Partially Developed, no heads	F1	Vegetative, rosette, pre-flowering
	G2	Inflorescence inside the sheath	(F2)	Flowering
	G3	Inflorescence partially or fully extended	F3	Fruiting
	G4	Seeds maturing or mature	F4	Senescent or dormant
	G5	Senescent or dormant		
	RG	Regrowth		

Life Form						
	AL	Algae	LC	Lichen	SS	Sub-shrub
	(FB)	Forb	LI	Woody liana	TR	Tree
	FU	Fungus	NP	Nonvascular plant	UN	Unknown
	GR	Graminoid	SH	Woody Shrub	VI	Herbaceous Vine

Distribution				
	(CL)	Clumpy	SE	Scattered even
	SP	Scattered patchy	LI	Linear

*Infested Area (acres) _____, 1_____ Gross area (ac) _____

(Infested area is REQUIRED. Minimum size is 0.1 acre. Use Gross Area ONLY when portions of polygon are uninfested. Minimum Gross Area ≥ 1 acre. Gross Area x % of land occupied by weeds = Infested Area.)

*Weed Canopy Cover of Infested Area

Daubenmire Cover Class				OR	Estimated percent cover _____		
T	0 – 1%	(2)	5.1 – 25%	4	50.1 – 75.0%	6	95.1 – 100%
1	1 – 5.0 %	3	25.1 – 50.0%	5	75.1 – 95.0%		

Horizontal Distance to Water (ft) _____ Vertical Distance to Water (ft) _____

as crow flies, not slope distance

Associated Species	PLANTS Code	Scientific Name
	_____	_____
	_____	_____
	_____	_____

Comments: ~~Survey~~ pulled all found (453) +10 Meadow Knapweed

Map: **North**

Sample Pesticide Application Record

State of Washington
Department of Agriculture
Olympia, Washington 98504

PESTICIDE APPLICATION RECORD (Version 1)

15

NOTE: This form must be completed same day as the application and it must be retained for 7 years (Ref. RCW 17.21)

1. Date of Application - Year: 2006 Month: Aug Day: 28 Time: 12:15 - 4:30 pm
2. Name of Person for whom the pesticide was applied: Tom Zieglstrum
   Firm Name (if applicable): USFS
   Street Address: 1835 Black Lake Blvd SW Suite H City: Olympia State: WA Zip: 98512
3. Licensed Applicator's Name (if different from #2 above): Jeff Gabster License No. 71347
   Firm Name (if applicable): Clallam County Nox. Weds Ctrl Tel. No. 360 417 2442
   Street Address: 223 E. 4th St, Suite 15 City: Port Angeles State: WA Zip: 98362
4. Name of person(s) who applied the pesticide (if different from #3 above): Ross McDorman, Cathy Lucero, Darry Stumbaugh License No(s). if applicable: 72443, 56527, 72786
5. Application Crop or Site: FS Botanical Area
6. Total Area Treated (acre, sq. ft., etc.): 2 acre
7. Was this application made as a result of a WSDA Permit? ☒ No ☐ Yes (if yes, give Permit No.) #
8. Pesticide Information (please list all information for each pesticide in the tank mix):

a) Product Name	b) EPA Reg. No.	c) Total Amount of Pesticide Applied in Area Treated	d) Pesticide Applied/Acre (or other measure)	e) Concentration Applied
Aqua Neat	228-365	176 oz	2 oz / 1000 ft²	1.5%
Agri-Dex	N/A	44 oz	0.5 oz / 1000 ft²	0.375%
Dyna Mark	N/A	44 oz	0.5 oz / 1000 ft²	0.375%
			/	

9. Address ***or exact location*** of application. NOTE: if the application is made to one acre or more of agricultural land, the field location must be shown on the map on page two of this form.
   Cranberry Bog Botanical Area off FS Rd # 2870
10. Wind direction and estimated velocity during the application: NW 2-5 mph
11. Temperature during the application: 70° F
12. Apparatus license plate number (if applicable): N/A
13. ☐ Air ☒ Ground ☐ Chemigation
14. Miscellaneous Information: Hand application by backpack targeting reed canarygrass, Canada thistle, herb robert.

AGR 4226 (Rev. 4/99)

Sample Rock Source Survey Form

USFS PITS surveyed - 2006

Pit ID	Latitude	Longitude	Road ID	Milepost	Date	Weeds	Notes/Comments	Recommendations
87	N 47°49'00.3"	W 122°54'15.6"	CR 3039	.02	06/27/06	SEJA GIRO CYSCH CIAR4 CIVU		
89	N 47°49'29.3"	W 122°53'12.9"	SR 101	295.3	6/27/06	~~RACU6~~ ~~FAVU~~ SEJA CYSCH	~~LALA4~~	
137	N 47°58'02.9"	W 124°17'56.2"	2900000	5.7	6/28/06	CYSCH		
132	N 47°56'26.0"	W 124°16'27.0"	2937000	2.4	6/28/06	LEVU PRUNI2 HyRA3		
121	No coverage		2923060	.4	6/28/06	None	overgrown	
136	N 47°56'48.8"	W 123°12'15.0"	2875000	5.9	7/5/06	None (except daisy)		
137	N 47°58'20.4"	W 123°11'19.6"	2875070	.1	7/5/06	~~None~~ CYSCH		
139	N 47°58'30.7"	W 123°11'11.8"	2875000	2.65	7/5/06	CESJA		Spray
10	N 48°05'20.7"	W 124°02'51.8"	3040000	11.4	7/11/06	(except daisy)		gravel use acceptable
20	N 47°53'07.2"	W 122°54'38.6"	2700000	~~16.9~~ 16.97	7/12/06	LALA4 SEJA CIAR4 CIVU (except daisy) HyPE		Spray it all

Appendix A: Roads Surveyed/Treated

The following table shows survey and treatment work for each year since the initiation of the project in 2002, as well as totals for the entire project. The numbers of weeds pulled and areas treated below include work carried out by the Weed Board crews, WCC crews, and the Clallam County Sheriff's Department Chain Gang. There is no differentiation between crews for 2002-05 work. However, for 2006, all work carried out by Weed Board staff is in plain text, Chain Gang work is in italics, and work on the same plants along the same road carried out by both crews is in bold. Since area of treatment was not required for reporting in the past, it is only listed for 2006. Further, since Chain Gang work was only reported as number of weeds pulled, area of treatments has been estimated at 0.1 acre per 1000 weeds, rounded up.

The primary focus of the project has shifted from survey toward treatment since 2002. The specific focus for each year is listed below.

- 2002: Weed Board staff familiarization with the Olympic National Forest road system. Begin learning which noxious weeds threated the health of the forest. Begin the formal survey of the Pacific and Hood Canal districts, learn documentation and mapping processes, and begin control efforts.
- 2003: Survey as many roads as possible and document findings. Continue control efforts. Roads in Mason and Grays Harbor Counties (numbered 2500000 or lower) were surveyed as part of a Botanical Areas survey.
- 2004: Survey any roads not previously completed, monitor prior control sites, and perform as much new control work as possible.
- 2005: Increase the amount of control work preformed and continue to monitor prior control sites, repeating treatments as necessary.
- 2006: Focus primarily on control work, including herbicide applications on selected sites. Also survey and treat as many rock sources as possible. Continue monitoring prior control sites and repeating as treatments as necessary.

For definitions for the Forest Service weed species plant codes, see Appendix J.

				2002			2003			2004			2005			2006			
ROAD	No. Years Visited	Total Weeds Removed '02 - '06	Total Miles Surveyed '02 - '06	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Area treated (acres)	Weed Species Removed
SR101	2	-	2.00		-			-			-		1	-	HIAC10 GERO	1.00	4	0.10	SEJA
CR5695	4	8,499	4.98	1.66	5,532	SEJA CIAR4 CYSC4	1.66	2,967	CYSC4 SEJA	1.66	-			-		-	-	-	
CR5331	1	-	8.24													8.24	-	-	
CR3057	1	-	1.90													1.90	3	0.10	SEJA
CR3039	1	4,800	1.10		4,800	GERO		-			-			-		1.10	159	0.10	SEJA, CYSC4, GERO
CR2515	1		0.40													0.40	-	-	
CR2500	4	35,074	25.05	7.85	-		7.85	35,074	GERO CYSC4	7.85	-			-		1.50	-	-	
CR2274	1	-	3.70													3.70	-	-	

				2002			2003			2004			2005			2006			
ROAD	No. Years Visited	Total Weeds Removed '02 - '06	Total Miles Surveyed '02 - '06	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Area treated (acres)	Weed Species Removed
CR2071	1	-	1.80													1.80	15	0.20	SEJA
CR2065	3	22,049	8.52	0.01	5,564	CYSC4		-			-		4.4	16,485	CYSC4 SEJA GERO	4.11	-	-	
3116000	2	-	10.00	5	-		5	-			-			-			-	-	
3100420	1	-	0.60		-		0.6	-			-			-			-	-	
3100400	1	-	2.90		-		2.9	-			-			-			-	-	
3100300	1	-	5.00		-		5	-			-			-			-	-	
3071015	1	-	0.60		-		0.6	-			-			-			-	-	
3071000	2	60	1.20	0.6	60	CYSC4	0.6	-			-			-			-	-	
3071000	2	-	3.40	1.7	-		1.7	-			-			-			-	-	
3068200	3	815	7.20		-		2.4	-		2.4	80	CYSC4	2.4	735	CYSC4		-	-	
3068190	2	-	0.40		-		0.4	-			-			-			-	-	
3068000	3	30	2.40		-		0.8	-		0.8	-		0.8	30	SEJA		-	-	
3068000	3	491	29.10		-		9.7	86	SEJA	9.7	250	CYSC4 SEJA	9.7	155	CEJA SEJA		-	-	
3067000	1	1,402	3.53		-		3.53	1,402	SEJA CYSC4		-			-			-	-	
3050011	1	-	1.50		-		1.5	-			-			-			-	-	
3050000	1	2	3.80		-		3.8	2	SEJA		-			-			-	-	
3040900	1	-	0.50		-		0.5	-			-			-			-	-	
3040800	2	54,709	0.55		-		0.1	-			-			54,709	POCU6 GERO	0.45	-	1.85	POCU6, ARMI2, GERO, ILAQ80
3040595	2	370	1.00		-		0.5	370	CIVU	0.5	-			-			-	-	
3040595	2	3	3.00		-		1.5	-		1.5	3	SEJA		-			-	-	
3040200	1		0.02													0.02	-	-	

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3040115	2	-	1.20		-		0.7	-			-			-		0.50	95	0.10	GERO
3040100	2	-	2.80		-		0.5	-			-			-		2.30	8	0.30	SEJA, CYSC4
3040100	1	-	1.80		-		1.8	-			-			-			-	-	
3040025	3	1	0.50		-		0.2	-			-		0.2	1	RUDI2	0.10	-	-	
3040012	1		0.31													0.31	2	0.10	CYSC4
3040011	2	-	0.77		-		0.7	-			-			-		0.07	-	-	
3040 st 15888	1		0.12													0.12	-	-	
3040 st 17000	1		0.02													0.02	-	-	
3040000	4	-	39.10	5.5	-		5.5	-		5.5	-			-		22.60	255	1.30	CYSC4, SEJA
3040000	3	-	25.50	8.5	-		8.5	-		8.5	-			-			-	-	
3040000	4	35,136	28.80	7.2	-		7.2	3,877	SEJA CYSC4 GERO	7.2	30,519	CYSC4 SEJA GERO	7.2	740	GERO SEJA		-	-	
3006300	1	-	4.10		-		4.1	-			-			-			-	-	
3006011	1	-	1.20		-		1.2	-			-			-			-	-	
3006000	1	-	7.80		-		7.8	-			-			-			-	-	
3000401	1	-	1.00		-		1	-			-			-			-	-	
3000400	1	-	2.20		-		2.2	-			-			-			-	-	
3000400	1	-	2.30		-		2.3	-			-			-			-	-	
3000395	1	-	0.20		-		0.2	-			-			-			-	-	
3000300	1	-	3.50		-		3.5	-			-			-			-	-	
3000260	1	-	0.70		-		0.7	-			-			-			-	-	
3000250	2	-	9.45		-		3.9	-			-			-		5.55	10	1.20	CYSC4
3000220	1	-	2.80		-		2.8	-			-			-			-	-	

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3000215	2	-	3.60		-		0.6	-			-			-		3.00	-	-	
3000200	2	-	3.00	1.5	-		1.5	-			-			-			-	-	
3000200	3	-	32.67	3	-		3	-			-			-		26.67	6	0.20	SEJA
3000200	2	-	7.00	3.5	-		3.5	-			-			-			-	-	
3000011	1	-	0.70		-		0.7	-			-			-			-	-	
3000000	3	-	35.21	1.43	-		1.43	-			-			-		32.35	553	1.00	CYSC4
3000000	3	14,745	22.50	7.5	2,743	CYSC4	7.5	-		7.5	12,000	GERO RULA CYSC4		2	SEJA		-	-	
3000000	3	867,800	33.90	11.3	-		11.3	-		11.3	867,800	CYSC4 GERO CIVU		-			-	-	
2978085	2	-	1.10		-			-		1.1	-			-			-	-	
2978040	2	-	0.30		-			-		0.3	-			-			-	-	
2978035	2	-	0.10		-			-		0.1	-			-			-	-	
2978030	2	-	0.60		-			-		0.6	-			-			-	-	
2978030	2	-	0.70		-			-		0.7	-			-			-	-	
2978025	2	-	0.30		-			-		0.3	-			-			-	-	
2978025	2	-	0.80		-			-		0.8	-			-			-	-	
2978015	2	18	1.60		-			-		1.6	18	CYSC4		-			-	-	
2978011	2	-	0.40		-			-		0.4	-			-			-	-	
2978000	2	3,604	4.70		-			-		4.7	3,604	CYSC4 SEJA		-			-	-	
2932070	1	12	0.90		-		0.9	12	CYSC4		-			-			-	-	
2932050	1	-	0.30		-		0.3	-			-			-			-	-	
2932040	1	-	0.40		-		0.4	-			-			-			-	-	

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2932035	1	-	0.20		-		0.2	-			-			-			-	-	
2932031	1	-	0.50		-		0.5	-			-			-			-	-	
2932030	2	-	1.40		-		1.3	-			-			-		0.10	-	-	
2932000	4	1,970	14.60	3.8	-		3.8	20	LEVU CYSC4	3.8	1,950	CYSC4		-		3.20	143	0.30	CYSC4
2931200	1	-	2.50		-		2.5	-			-			-			-	-	
2931190	1	-	1.70		-		1.7	-			-			-			-	-	
2931000	1	1	11.90		-		11.9	1	SEJA		-			-			-	-	
2929070	2	525	2.90		-			-		2.9	525	GERO RULA CYSC4		-			-	-	
2929000	2	-	2.20		-			-		2.2	-			-			-	-	
2929000	2	-	3.10		-			-		3.1	-			-			-	-	
2929000	2	-	4.40		-			-		4.4	-			-			-	-	
2923100	1		0.20													0.20	-	-	
2923070	1	2	5.20		-		5.2	2	SEJA		-			-			-	-	
2923060	1		0.80													0.80	-	-	
2923000	3	106	41.14		-		13.7	83	SEJA CIAR4 HIAU	13.7	23	CYSC4		-		**13.74**	**1,328**	**0.50**	**SEJA, CYSC4**
2922000	1	-	12.60		-		12.6	-			-			-			-	-	
2920210	1	-	0.20		-		0.2	-			-			-			-	-	
2920020	1	-	1.40		-		1.4	-			-			-			-	-	
2920000	1	-	1.40		-		1.4	-			-			-			-	-	
2920000	1	-	1.80		-		1.8	-			-			-			-	-	
2920000	1	-	5.70		-		5.7	-			-			-			-	-	
2918110	1	-	0.80		-		0.8	-			-			-			-	-	

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2918100	1	-	3.30		-		3.3	-			-			-			-	-	
2918000	1	-	9.00		-		9	-			-			-			-	-	
2918000	2	2,315	11.00	5.5	-		5.5	765	SEJA CYSC4		-			1,550	CYSC4 SEJA		-	-	
2912060	2	3	2.80		-			-		2.8	3	SEJA		-			-	-	
2903000	1	78	6.80		-		6.8	78	SEJA CYSC4		-			-			-	-	
2902375	1	-	0.80		-		0.8	-			-			-			-	-	
2902300	1	-	0.60		-		0.6	-			-			-			-	-	
2902000	3	2,500	1.11		-			-		1.1	2,500	CYSC4		-		*0.01*	*1,627*	*0.20*	*CYSC4*
2902000	1	48	1.80		-		1.8	48	SEJA CYSC4		-			-			-	-	
2902000	1	-	2.50		-		2.5	-			-			-			-	-	
2900990	2	5,300	2.40		-		1.2	5,050	CYSC4	1.2	250	GERO		-			-	-	
2900950	1	-	0.10		-		0.1	-			-			-			-	-	
2900650	1	-	1.20		-		1.2	-			-			-			-	-	
2900540	1	-	2.00		-		2	-			-			-			-	-	
2900200	2	54	0.70		-			-			-		0.7	54	SEJA CYSC4		-	-	
2900070	1	-	0.40		-		0.4	-			-			-			-	-	
900070	1	-	2.30		-		2.3	-			-			-			-	-	
2900015	1	-	0.10		-		0.1	-			-			-			-	-	
2900000	2	-	8.00		-		3.4	-			-			-		4.60	420	0.30	SEJA, GERO, HIAU
2900000	2	-	3.71		-		3.7	-			-			-		*0.01*	*15,253*	*2.00*	*CYSC4, SEJA*
2900000	1	1,074	13.90		-		13.9	-			-			1,074	CYSC4 GERO		-	-	
2900000	2	595,386	22.60		-		11.3	170	HIAU	11.3	11,700	CYSC4 HIAU GERO		583,516	HIAU GERO SEJA		-	-	

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2900000	4	52,092	24.00	6	8,286	POSA4 CYSC4 SEJA	6	27,406	SEJA CYSC4 CIAR4	6	14,775	SEJA CYSC4 GERO	6	1,625	SEJA CYSC4		-	-	
2880050	5	247,264	0.60	0.1	1,860	GERO		-		0.1	3,900	GERO	0.1	241,504	GERO	0.30	7,740	0.50	GERO
2880000	4	8,700	18.45	1.81	2,100	GERO	1.81	-		1.81	6,600	SEJA		-		13.02	1,223	0.30	GERO
2878123	1	-	0.20		-		0.2	-			-			-			-	-	
2878120	1	2,170	1.05		-		1.05	2,170	CYSC4		-			-			-	-	
2878110	1	-	0.90		-		0.9	-			-			-			-	-	
2878109	1	-	0.27		-		0.27	-			-			-			-	-	
2878108	1	-	0.13		-		0.13	-			-			-			-	-	
2878102	1	-	0.40		-		0.4	-			-			-			-	-	
2878100	1	-	1.59		-		1.59	-			-			-			-	-	
2878085	1	-	0.90		-		0.9	-			-			-			-	-	
2878080	1	-	1.40		-		1.4	-			-			-			-	-	
2878060	1	127	0.40		-		0.4	127	CYSC4		-			-			-	-	
2878050	1	-	0.60		-		0.6	-			-			-			-	-	
2878000	2	1,344	4.07		-		4.06	1,340	CYSC4		-			4	CYSC4	*0.01*	*1,627*	*0.20*	*CYSC4*
2877100	1	-	0.30		-		0.3	-			-			-			-	-	
2877052	1	-	0.29		-		0.29	-			-			-			-	-	
2877050	1	-	1.00		-		1	-			-			-			-	-	
2877050	1	-	1.65		-		1.65	-			-			-			-	-	
2877040	1	-	0.51		-		0.51	-			-			-			-	-	
2877040	1	-	0.78		-		0.78	-			-			-			-	-	

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2877000	1	-	4.60		-		4.6	-			-			-			-	-	
2875090	1	-	0.10		-		0.1	-			-			-			-	-	
2875070	2	-	2.60		-		2	-			-			-		0.60	-	-	
2875020	1	6	0.50		-		0.5	6	CYSC4		-			-			-	-	
2875000	2	-	8.20		-		2.3	-			-			-		5.90	238	0.40	CEJA
2875000	1	30	3.60		-		3.6	30	CEJA		-			-			-	-	
2870270	1		3.50													3.50	-	0.28	CIAR4,CIVU
2870230	3	18	3.97										1.41	18	SEJA	2.56	20	0.30	CIAR4,CIVU, HYPE
2870150	1		0.60													0.60	-	-	
2870130	1		0.70													0.70	1	0.10	CYSC4
2870110	1	729	0.30		-		0.3	729	CYSC4		-			-			-	-	
2870059	4	19,529	2.40		-		0.48	-		0.48	20	CEJA	0.48	19,509	CIAR4 CIVU SEJA CEJA CYSC4 GERO	0.96	-	-	
2870058	3	-	2.60		-		0.5	-		0.5	-			-		1.60	-	2.55	GERO,CIAR4, PHAR3
2870056	3	14	2.10		-		0.7	10	CEJA SEJA	0.7	4	CEJA		-		0.70	-	0.10	
2870050	4	110	15.70		-		2.8	16	SEJA HYPE	2.8	-		2.3	94	SEJA	7.80	-	0.80	CEJA, CYSC4, GERO, CIAR4, LALA4, CIVU
2870030	3	78	5.10		-		1.7	4	CEJA CYSC4	1.7	39	SEJA CEJA	1.7	35	SEJA CEJA		-	-	

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2870000	5	1,963	142.47	9.9	50	SEJA		-		9.9	101	SEJA CYSC4	9.9	1,812	SEJA GERO CYSC4	112.77	1,890	3.13	CEJA, SEJA, CYSC4
2860120	1	-	1.60		-		1.6	-			-			-			-	-	
2860011	2	2,708	0.40		-			-			-		0.4	2,708	SEJA GERO		-	-	
2860000	4	54,000	49.45	16.15	-		16.15	-		16.15	50,500	GERO CIVU	1	3,500	CIVU		-	-	
2855100	2	-	2.40		-		1.2	-		1.2	-			-			-	-	
2855070	4	103	2.40		-		0.3	-		0.3	103	CEBI2 RULA	0.3	-		1.50	1,976	0.52	GERO, SEJA, CEBI2
2855070	2	3,418	2.60		-		1.3	1,127	SEJA CIAR4		-		1.3	2,291	CEBI2 GERO SEJA CYSC4		-	-	
2855032	2	1	1.60		-		0.8	-		0.8	1	RULA		-			-	-	
2855030	2	19,200	5.40		-		2.7	-		2.7	19,200	SEJA		-			-	-	
2855000	3	51,701	9.90		-		2.7	6,156	CEJA SEJA	2.7	45,545	CEBI2 CYSC4 CIVU GERO SEJA		-		4.50	246	0.40	SEJA
2852150	2	25	1.29		-			-		1.29	25	CYSC4		-			-	-	
2852090	2	1,550	0.40		-		0.2	1,550	SEJA CIAR4	0.2	-			-			-	-	
2852000	3	45,331	5.41		-		2.7	5,550	SEJA CIAR4	2.7	39,781	SEJA CEJA RULA GERO		-		*0.01*	*2,274*	*0.30*	*SEJA*
2851090	2	-	1.20		-		0.6	-		0.6	-			-			-	-	
2851080	2	1,660	3.20		-		1.6	-		1.6	1,660	TAVU CYSC4 SEJA		-			-	-	
2851000	3	4,750	8.21		-		4.1	-		4.1	-			4,750	SEJA	*0.01*	*5,340*	*0.60*	*SEJA*
2850124	1	-	0.20		-		0.2	-			-			-			-	-	
2850120	2	-	2.81		-		2.8	-			-			-		*0.01*	*1,400*	*0.20*	*CYSC4*

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2850093	1	-	0.10		-		0.1	-			-			-			-	-	
2850090	1	-	1.02		-		1.02	-			-			-			-	-	
2850010	3	12	3.21		-		1.6	-		1.6	12	RULA		-		*0.01*	*5,340*	*0.90*	*SEJA*
2850000	4	61,544	22.21	7.4	-		7.4	35,889	GERO SEJA CYSC4	7.4	10,555	SEJA GERO RULA		15,100	SEJA GERO	*0.01*	*5,790*	*0.60*	*SEJA*
2845200	1	-	0.28		-		0.28	-			-			-			-	-	
2845150	1	-	0.20		-		0.2	-			-			-			-	-	
2845120	1	84	1.70		-		1.7	84	SEJA CYSC4		-			-			-	-	
2845090	2	12	1.00		-		0.5	11	SEJA	0.5	1	CYSC4		-			-	-	
2845073	1	-	0.90		-		0.9	-			-			-			-	-	
2845070	1	1,860	1.60		-		1.6	1,860	CYSC4		-			-			-	-	
2845040	1	160	0.30		-		0.3	160	SEJA		-			-			-	-	
2845000	2	5,204	4.61		-		4.6	5,204	SEJA		-			-		*0.01*	*7,174*	*0.70*	*SEJA*
2840150	1	1	0.64		-		0.64	1	SEJA		-			-			-	-	
2840130	1	-	1.10		-		1.1	-			-			-			-	-	
2840120	1	-	0.73		-		0.73	-			-			-			-	-	
2840120	1	-	1.27		-		1.27	-			-			-			-	-	
2840084	1	-	0.25		-		0.25	-			-			-			-	-	
2840080	1	-	0.73		-		0.73	-			-			-			-	-	
2840080	1	1	0.89		-		0.89	1	RULA		-			-			-	-	
2840071	2	36	2.00		-		1	1	SEJA	1	35	BORAG		-			-	-	
2840070	2	5,753	3.54		-		1.77	3	SEJA	1.77	5,750	SEJA CYSC4		-			-	-	
2840034	1	-	1.44		-		1.44	-			-			-			-	-	

				2002			2003			2004			2005			2006			
ROAD	No. Years Visited	Total Weeds Removed '02 - '06	Total Miles Surveyed '02 - '06	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Weed Species Removed	Survey Miles	Total # of Weeds Removed	Area treated (acres)	Weed Species Removed
2840030	1	-	3.04		-		3.04	-			-			-			-	-	
2840000	2	10,010	10.80		-		5.4	9,085	CIAR4 SEJA CYSC4	5.4	925	SEJA		-			-	-	
2830034	1	-	0.33		-		0.33	-			-			-			-	-	
2830032	1	-	1.00		-		1	-			-			-			-	-	
2830030	1	-	1.80		-		1.8	-			-			-			-	-	
2830000	2	1,250	9.90		-		4.95	-		4.95	1,250	CEBI2		-			-	-	
2820000	2	-	4.01		-		4	-			-			-		*0.01*	*2,274*	*0.20*	*SEJA*
2810070	1	-	0.61		-		0.61	-			-			-			-	-	
2810000	2	10,190	8.02	4.01	-		4.01	10,190	SEJA CYSC4		-			-			-	-	
2800310	4	2,155	0.60		-			-		0.25	1,550	CYSC4	0.25	605	CYSC4	0.10	2,500	0.20	CYSC4
2800290	2	1	0.30		-			-			-		0.3	1	SEJA CYSC4		-	-	
2800270	1	310	0.47										0.47	310	SEJA CYSC4		-	-	
2800262	1	-	0.60		-		0.6	-			-			-			-	-	
2800260	1	-	1.20		-		1.2	-			-			-			-	-	
2800250	3	7	4.60		-		1.1	-			-		1.1	7	SEJA	2.40	85	0.10	SEJA
2800240	1	-	0.80		-		0.8	-			-			-			-	-	
2800220	1	-	1.20		-		1.2	-			-			-			-	-	
2800210	1	-	0.40		-		0.4	-			-			-			-	-	
2800145	1	-	0.30		-		0.3	-			-			-			-	-	
2800132	1	-	0.60		-			-			-			-		0.60	463	0.10	CEDI3, CEJA
2800060	1	-	1.10		-		1.1	-			-			-			-	-	
2800010	1	-	1.10				1.1	-			-			-			10	0.10	

				2002			2003			2004			2005			2006			
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2800000	5	60,883	88.87	14.5	4,007	SEJA CIAR4 CYSC4 GERO	14.5	13,295	SEJA CYSC4 CIAR4	14.5	7,750	CIAR4 CIVU SEJA	14.5	35,831	SEJA CEJA	**30.87**	**9,438**	**1.00**	**SEJA, CYSC4**
2750020	1	-	1.50		-		1.5	-			-			-			-	-	
2750000	1	-	4.90		-		4.9	-			-			-			-	-	
2740075	1	-	0.47		-		0.47	-			-			-			-	-	
2740072	2	-	0.80		-		0.4	-			-			-		0.40	200	0.10	CEBI2
2740070	2	-	4.00		-		3.05	-			-			-		0.95	-	-	
2740060	2	-	8.64		-		5.8	-			-			-		2.84	33	0.20	CYSC4
2740000	3	-	20.42	6.85	-		6.85	-			-			-		6.72	-	-	
2730300	2	934	1.10	1.1	834	CYSC4		-			-			100	CYSC4		-	-	
2730200	4	19,621	5.10	1.7	470	GERO SEJA		-		1.7	2,502	GERO SEJA	1.7	16,649	GERO SEJA CIVU		-	-	
2730100	3	35	0.40	0.2	5	SEJA		-		0.2	30	SEJA		-			-	-	
2730020	3	-	1.20	0.6	-			-		0.6	-			-			-	-	
2730011	1	51	0.90		-		0.9	51	GERO		-			-			-	-	
2730000	4	146,400	15.20	3.8	1,465	SEJA CYSC4	3.8	3,675	SEJA	3.8	140,020	SEJA TAVU	3.8	1,240	SEJA		-	-	
2700330	1		1.00													1.00	-	-	
2700140	1	-	1.20		-		1.2	-			-			-			-	-	
2700100	1	-	4.60		-		4.6	-			-			-			-	-	
2700090	1	-	1.99		-		1.99	-			-			-			-	-	
2700000	4	4,201	36.64	11.6	1	TAVU	11.6	-		11.6	4,200	SEJA		-		1.84	-	-	
2650090	1	-	1.68		-		1.68	-			-			-			-	-	
2650050	2	-	0.90		-			-		0.9	-			-			-	-	

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2650000	2	2	15.00		-		7.5	2	ARMI2	7.5	-			-			-	-	
2620056	2	24	0.76		-			-		0.76	24	CEJA		-			-	-	
2620053	2	-	1.30		-			-		1.3	-			-			-	-	
2620051	2	-	0.89		-			-		0.89	-			-			-	-	
2620050	2	-	2.80		-			-		2.8	-			-			-	-	
2620043	1	-	0.70		-		0.7	-			-			-			-	-	
2620030	1	-	9.70		-		9.7	-			-			-			-	-	
2620000	3	39,464	34.86		-		11.62	15,287	SEJA CIVU CYSC4 GERO	11.62	10	RULA	11.62	24,167	SEJA CYSC4 GERO CIVU		-	-	
2610200	5	3,454	8.90	1.6	680	CYSC4	1.6	124	CYSC4 SEJA HEHE	1.6	150	HEHE RUDI GERO	1.6	2,500	CYSC4	2.50	222	0.20	CYSC4
2610040	2	3,000	0.40		-			-			-		0.4	3,000	SEJA		-	-	
2610012	1		0.85													0.85	397	0.20	GERO
2610000	2	50	0.50		-			-			-		0.5	50	CYSC4		-	-	
2610000	5	6,520	19.60	4.1	-		4.1	61	SEJA	4.1	2,531	GERO SEJA CYSC4 RULA	4.1	3,928	SEJA CIVU CIAR4 GERO CYSC4	3.20	2	0.10	CEJA
2530000	2	-	5.70	5.7	-			-			-			-			-	-	
2527000	1	-	1.20		-		1.2	-			-			-			-	-	
2510070	3	1,600	1.10	0.1	1,600	GERO		-			-			-		1.00	-	0.82	GERO
2510065	1		0.15													0.15	-	-	
2510012	1		1.10													1.10	-	-	
2510000	1	-	0.20		-		0.2	-			-			-			-	-	

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2510000	2	-	34.76		-		1.8	-			-			-		32.96	8	0.53	CEJA,CYSC4
2510000	1	45	4.60		-		4.6	45	SEJA		-			-			-	-	
2500000	1	-	0.20		-		0.2	-			-			-			-	-	
2500000	1	-	0.98		-		0.98	-			-			-			-	-	
2500000	1	-	1.20		-		1.2	-			-			-			-	-	
2500000	1	-	1.32		-		1.32	-			-			-			-	-	
2500000	1	-	1.46		-		1.46	-			-			-			-	-	
2500000	1	-	4.16		-		4.16	-			-			-			-	-	
2500000	1	-	4.54		-		4.54	-			-			-			-	-	
2480000	1	-	0.91		-		0.91	-			-			-			-	-	
2480000	1	-	1.54		-		1.54	-			-			-			-	-	
2480000	1	-	5.27		-		5.27	-			-			-			-	-	
2471022	1	-	0.42		-		0.42	-			-			-			-	-	
2471020	1	-	0.88		-		0.88	-			-			-			-	-	
2471013	1	-	2.60		-		2.6	-			-			-			-	-	
2471000	1	-	0.15		-		0.15	-			-			-			-	-	
2471000	1	-	0.23		-		0.23	-			-			-			-	-	
2471000	1	-	0.70		-		0.7	-			-			-			-	-	
2471000	1	-	0.76		-		0.76	-			-			-			-	-	
2471000	1	-	1.97		-		1.97	-			-			-			-	-	
2469022	1	-	0.59		-		0.59	-			-			-			-	-	
2469022	1	-	0.63		-		0.63	-			-			-			-	-	

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2469000	1	-	0.10		-		0.1	-			-			-			-	-	
2469000	1	-	0.54		-		0.54	-			-			-			-	-	
2469000	1	-	0.63		-		0.63	-			-			-			-	-	
2469000	1	-	0.67		-		0.67	-			-			-			-	-	
2469000	1	-	0.80		-		0.8	-			-			-			-	-	
2469000	1	-	1.46		-		1.46	-			-			-			-	-	
2469000	1	-	1.96		-		1.96	-			-			-			-	-	
2464000	1	-	0.15		-		0.15	-			-			-			-	-	
2464000	1	-	0.65		-		0.65	-			-			-			-	-	
2464000	1	-	0.90		-		0.9	-			-			-			-	-	
2464000	1	-	5.00		-		5	-			-			-			-	-	
2451115	1	-	0.32		-		0.32	-			-			-			-	-	
2451100	1	-	1.50		-		1.5	-			-			-			-	-	
2451100	1	-	4.70		-		4.7	-			-			-			-	-	
2451020	1	-	0.40		-		0.4	-			-			-			-	-	
2451017	1	-	0.30		-		0.3	-			-			-			-	-	
2451000	1	-	0.03		-		0.03	-			-			-			-	-	
2451000	1	-	0.67		-		0.67	-			-			-			-	-	
2451000	1	-	0.84		-		0.84	-			-			-			-	-	
2451000	1	-	0.90		-		0.9	-			-			-			-	-	
2451000	1	-	1.20		-		1.2	-			-			-			-	-	
2451000	1	-	1.42		-		1.42	-			-			-			-	-	
2451000	1	-	1.59		-		1.59	-			-			-			-	-	

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2441200	1	-	3.47		-		3.47	-			-			-			-	-	
2421000	1	-	0.13		-		0.13	-			-			-			-	-	
2421000	1	-	0.19		-		0.19	-			-			-			-	-	
2421000	1	-	0.19		-		0.19	-			-			-			-	-	
2421000	1	-	1.95		-		1.95	-			-			-			-	-	
2421000	1	-	2.08		-		2.08	-			-			-			-	-	
2419014	1	-	1.00		-		1	-			-			-			-	-	
2419000	1	-	0.31		-		0.31	-			-			-			-	-	
2419000	1	-	1.24		-		1.24	-			-			-			-	-	
2419000	1	-	2.53		-		2.53	-			-			-			-	-	
2419000	1	-	2.66		-		2.66	-			-			-			-	-	
2419000	1	-	3.44		-		3.44	-			-			-			-	-	
2401100	1	-	0.12		-		0.12	-			-			-			-	-	
2401033	1	-	1.08		-		1.08	-			-			-			-	-	
2401012	1	-	0.15		-		0.15	-			-			-			-	-	
2401000	1	-	0.59		-		0.59	-			-			-			-	-	
2401000	1	-	1.07		-		1.07	-			-			-			-	-	
2401000	1	-	1.21		-		1.21	-			-			-			-	-	
2401000	1	-	1.81		-		1.81	-			-			-			-	-	
2401000	1	-	1.85		-		1.85	-			-			-			-	-	
2401000	1	-	2.38		-		2.38	-			-			-			-	-	
2401000	1	-	3.19		-		3.19	-			-			-			-	-	
2361700	1	-	0.69		-		0.69	-			-			-			-	-	

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2361210	1	-	2.76		-		2.76	-			-			-			-	-	
2361200	1		0.67		-		0.67	-			-			-			-	-	
2361000	1	-	0.50		-		0.5	-			-			-			-	-	
2361000	1	-	0.90		-		0.9	-			-			-			-	-	
2361000	1	-	1.00		-		1	-			-			-			-	-	
2361000	1	-	3.50		-		3.5	-			-			-			-	-	
2353140	1	-	0.10		-		0.1	-			-			-			-	-	
2353140	1	-	0.30		-		0.3	-			-			-			-	-	
2353140	1	-	0.50		-		0.5	-			-			-			-	-	
2353140	1	-	0.60		-		0.6	-			-			-			-	-	
2353100	1	-	0.60		-		0.6	-			-			-			-	-	
2340088	1	-	0.96		-		0.96	-			-			-			-	-	
2340080	1	-	0.70		-		0.7	-			-			-			-	-	
2340000	1	-	0.46		-		0.46	-			-			-			-	-	
2340000	1	-	0.73		-		0.73	-			-			-			-	-	
2340000	1	-	1.11		-		1.11	-			-			-			-	-	
2300000	1	-	0.12		-		0.12	-			-			-			-	-	
2300000	1	-	0.26		-		0.26	-			-			-			-	-	
2300000	1	-	4.88		-		4.88	-			-			-			-	-	
2300000	1	-	7.47		-		7.47	-			-			-			-	-	
2190240	1	-	0.30				0.3	-			-			-			-	-	
2190220	1	251	0.00		-			-			-			251	POCU6 COTON		-	-	
2190200	1		3.50													3.50	-	0.10	POCU6

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2190170	1	-	1.59		-		1.59	-			-			-			-	-	
2190000	1	-	1.49		-		1.49	-			-			-			-	-	
2190000	1	-	1.70		-		1.7	-			-			-			-	-	
2190000	1	-	2.41		-		2.41	-			-			-			-	-	
2190000	2	-	8.44	4.22	-		4.22	-			-			-			-	-	
2180000	2	-	2.52	1.26	-		1.26	-			-			-			-	-	
2180000	1	-	4.24		-		4.24	-			-			-			-	-	
2180000	1	-	4.60		-		4.6	-			-			-			-	-	
2170020	1	-	4.28		-		4.28	-			-			-			-	-	
2170000	1	-	8.24		-		8.24	-			-			-			-	-	
2160000	2	-	4.70	4.7	-			-			-			-			-	-	
2160000	2	-	11.60	5.8	-		5.8	-			-			-			-	-	
2140000	1	-	1.70		-		1.7	-			-			-			-	-	
2140000	1	-	3.10		-		3.1	-			-			-			-	-	
2140000	1	-	7.20		-		7.2	-			-			-			-	-	
2120000	1	-	1.20		-		1.2	-			-			-			-	-	
2100000	1	-	2.84		-		2.84	-			-			-			-	-	
2100000	2	-	3.40	1.7	-		1.7	-			-			-			-	-	
2100000	2	50	7.40	3.7	50	SEJA	3.7	-			-			-			-	-	
TOTALS		**2,562,778**	**1249.79**	**192.48**	**40,107**		**701.76**	**191,257**		**264.92**	**1,290,774**		**90.63**	**1,040,640**		**297.62**	**77,792**	**26.68**	

Appendix B: 2006 Site List with Action Taken

This site list was submitted to Forest Service Staff prior to the beginning of the 2006 treatment. It was intended to prioritize many of the known sites for treatment and/or survey work throughout the season, though was not intended to be the exclusive work plan for the Weed Board field crew. Notably, all rock sources near areas where the crew was working were intended to be surveyed and weeds controlled if possible. In addition, the crew was continuously surveying for new infestations and spent a significant amount of time controlling new infestations, thereby reducing establishment of new sites. Action taken on each site in the list is shown, though this is not a complete summary of work completed for the year. Refer to Appendix A for complete survey and treatment data.

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
1	**1**	2870059	Cranberry Bog	Scotch broom, tansy ragwort, meadow knapweed, Canada thistle, bull thistle, reed canarygrass	Y	Y	Y			[Y]	Y	Y			6	Treated all - chemical
2	**2**	2730300	Quilcene Ranger Station	Bohemian knotweed, scotch broom	Y	Y	Y			(Y)	Y				5	Knotweed cut - could not treat
3	**2**	3040800	Snider Work Center	Bohemian knotweed	Y	Y	Y	Y		Y					5	Treated all - chemical
4	**3**	2870000	Gray Wolf Trailhead (834)	herb Robert	Y		Y		Y	(Y)					4	Treated all - chemical
5	**3**	2190200	D-78 Landing	Bohemian knotweed	Y	Y	Y			Y					4	Treated all - chemical
6	**3**	2870050	Off Lost Mtn. Rd.	Scotch broom, meadow knapweed, tansy ragwort	Y	Y	Y			[Y]					4	Treated all - chemical
7	**4**	2870230	Lower Dungeness TrHd (833.3)	Canada thistle	Y				Y	Y					3	Treated all - chemical

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
8	**4**	2870000	Dungeness TrHd (833.2)	Canada thistle	Y				Y	Y					3	Treated all - chemical
9	**5**	2870000	Tubal Cain TrHd (840)	Canada thistle	Y					Y					2	Treated all - chemical
10	**5**	2870300	Silver Cr Waytrail	Canada thistle	Y					Y					2	Treated at trailhead - chemical
11	**5**	3000200		herb Robert, reed canarygrass	Y					Y					2	Treated to MP 2.5 - chemical
12	**5**	3000250		herb Robert, reed canarygrass	Y					Y					2	Treated all - chemical
13	**5**	2923100	at 2923 fork	herb Robert	Y					Y					2	Surveyed for - could not find
14	**6**	3040025	.2 mi - walk (poss drv?)	Himalayan blackberry, ??	Y		Y							Y	3	Surveyed all - no weeds
15	**7**	2610012	Dose Rd. spur - 1.8mi - cond unknown	Canada thistle, ??	Y									Y	2	Surveyed to CMP sta. 25+22 - Treated some - manual

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
16	**7**	2700330	1.4 mi -cond unk	herb Robert	Y									Y	2	Surveyed all - scattered weeds: SEJA, CIAR4, LALA4, etc.
17	**7**	2740000	From spur 060 to end (at TrHd 841.1) >7mi	??	Y									Y	2	Surveyed all - few weeds - repeat survey in 2007 in July
18	**7**	2920020	1.4 mi - 4x4?	??	Y									Y	2	None
19	**7**	3040012	.32 mi - walk (poss drv?)	??	Y									Y	2	Surveyed to sta. 0+500 - cut down all CYSC4 (3)
20	**7**	3040100	2.22 mi - drive	??	Y									Y	2	Surveyed all - no weeds
21	**7**	3040115	.68 mi - drive	??	Y									Y	2	Surveyed all - no weeds
22	**7**	3040200	.47 mi - drive	??	Y									Y	2	Surveyed all - no weeds
23	**7**	3040000	unlabelled spur - station 15888 - near jct 2068 - .12mi - drive	??	Y									Y	2	Surveyed all - no weeds

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
24	**7**	3040000	unlabelled spur - station 17000 - near MP 11 - .33mi - walk	??	Y									Y	2	Surveyed all - no weeds - no spur at this location
25	**8**	2875000	Slab Camp Cr (TR 838)	tansy ragwort, Scotch broom, meadow knapweed	Y	Y	Y		Y						4	Surveyed all - Lots of CEJA - pulled small patches
26	**8**	2860011	East Crossing CG	herb Robert, tansy ragwort	Y		Y	Y	Y						4	None
27	**9**	2900000	at MP 36	orange hawkweed	Y	Y	Y								3	Treated all - manual x2 revisits
28	**9**	2870059	Off Lost Mtn. Rd.	Scotch broom, meadow knapweed	Y	Y	Y								3	Treated all - chemical
29	**9**	3068000	Off 3040, above Snider	Scotch broom, tansy ragwort, meadow knapweed	Y		Y	Y							3	None
30	**9**	2870030	Off Lost Mtn. Rd.	Scotch broom, meadow knapweed, tansy ragwort	Y	Y	Y								3	Surveyed all - lots of CYSC4
31	**9**	2610040	Dosewallips Rd.	tansy ragwort	Y		Y	Y							3	None
32	**9**	3040800	Snider Work Center	herb robert	Y		Y	Y							3	Treated most - chemical
33	**10**	3068200	Off 3040, above Snider	Scotch broom	Y		Y								2	None
34	**10**	2860000		Scotch broom	Y		Y								2	None

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
35	**10**	2870000		Scotch broom	Y		Y								2	Treated some - manual
36	**10**	2860000	Gold Creek extension	bull thistle	Y		Y								2	None
37	**10**	2650000	MP 1.56	lesser burdock	Y		Y								2	None
38	**11**	2870000	Off Lost Mtn. Rd.	tansy ragwort	Y										1	Treated most - manual
39	**11**	3068050	Off 3040, above Snider	any	Y										1	None
40	**11**	3068150	Off 3040, above Snider	any	Y										1	None
41	**11**	3068190	Off 3040, above Snider	any	Y										1	None
42	**11**	2860000	Gold Creek extension	Scotch broom	Y										1	None
43	**11**	2900000	Bonidu Elk Opening	Canada thistle, reed canary grass	Y										1	None
44	**12**	2900200	Pit	Scotch broom	Y		Y	Y			Y		Y		5	None
45	**13**	2610000	Dosewallips Rd.	bull thistle, Canada thistle, Scotch broom, tansy ragwort, herb robert	Y		Y	Y			Y				4	Treated some - manual
46	**13**	2900000	South Fork Calawah River Botanical Area	Canada thistle, Scotch broom, herb robert	Y		Y				Y	Y			4	None
47	**13**	2880050	Dungeness Forks Campground	herb robert	Y		Y		Y		Y				4	Treated some - manual x2 revisits
48	**14**	2740000	Tunnel Cr TrHd (841.1)	Canada thistle, tansy ragwort					Y	Y					2	Surveyed - no weeds

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
49	**14**	2750000	Upper Big Quil TrHd (833)	Canada thistle					Y	Y					2	None
50	**15**	2610200	Seal Rock CG	yellow hawkweed, herb robert, Scotch broom, Himalayan blackberry		Y	Y		Y						3	Treated some - manual
51	**15**	2730200	Falls View CG	herb robert, tansy ragwort, bull thistle			Y		Y		Y				3	None
52	**16**	2510000	entire rd sys - Duckabush and Fulton Ck	reed canarygrass, tansy ragwort, meadow knapweed, spotted knapweed		Y				Y					2	Treated some - chemical
53	**16**	2610050	Elkhorn CG	Bohemian knotweed		Y				{Y}					2	Surveyed - no weeds
54	**16**	2740110	Charlia Lks E Waytrail-WILDERNESS	spotted knapweed		Y				Y					2	None
55	**17**	3040800	West Snyder Rd	herb robert						Y					1	Treated some - chemcial
56	**17**	2180000	entire rd sys	herb robert						Y					1	None
57	**17**	2870270	Maynard Burn Trail	Canada thistle						Y					1	Treated all - chemical
58	**17**	TR 833.2	Buckhorn WILDERNESS Meadows-Camp Handy	Canada thistle						Y					1	None
59	**18**	2800000		meadow knapweed		Y	Y	Y							3	Treated most - manual
60	**18**	2190220	MP 0.20	cotoneaster, Bohemian knotweed		Y	Y	Y							3	Treated all - chemical

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
61	**19**	2855070	Off Woods Rd. MP 0.49, 0.71	spotted knapweed, herb robert, tansy ragwort, Scotch broom		Y	Y	Y							3	Treated all SEJA, some GERO and CEBI2 - manual
62	**20**	SR101	N. of Seal Rock CG	yellow hawkweed, herb robert		Y		Y							2	Marked for WSDOT to spray
63	**20**	2620056	MP 0.75	meadow knapweed		Y	Y								2	None
64	**20**	2830000	MP 0.61	spotted knapweed, meadow knapweed		Y	Y								2	None
65	**20**	2855000		spotted knapweed, meadow knapweed		Y	Y								2	Treated some - manual
66	**20**	2900000		giant knotweed		Y	Y								2	None
67	**20**	2923000	MP 4.57	orange hawkweed		Y	Y								2	Surveyed - did not find site
68	**21**	2800000		tansy ragwort			Y	Y							2	Treated some - manual
69	**21**	2800250		tansy ragwort			Y	Y							2	Treated all - manual
70	**21**	2800270		Scotch broom, tansy ragwort			Y	Y							2	None
71	**21**	2851000		tansy ragwort			Y	Y							2	None
72	**21**	2870230		tansy ragwort			Y	Y							2	Treated some - chemical
73	**21**	2878000		Scotch broom			Y	Y							2	None
74	**21**	2900200	West end	Scotch broom, tansy ragwort			Y	Y							2	None
75	**21**	3000000		tansy ragwort			Y	Y							2	None

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
76	**21**	2800290		tansy ragwort, Scotch broom			Y	Y							2	Surveyed all - some CIAR4
77	**22**	2900000	MP 36.3ish	herb robert, Scotch broom			Y	Y			Y				3	None
78	**23**	CR2065	Cooper-Ranch Rd.	herb robert				Y			Y				2	None
79	**24**	2855000		spotted knapweed, meadow knapweed		Y	Y								2	Treated some - manual
80	**24**	2870056		meadow knapweed		Y	Y								2	Treated all - chemical
81	**25**	2800310	Schmith Knob	Scotch broom			Y								1	Treated some - manual
82	**25**	2840071	MP 0.42	borage			Y								1	None
83	**25**	2851080	MP 1.31	common tansy, Scotch broom			Y								1	None
84	**25**	2855070	Off Woods Rd.	tansy ragwort			Y								1	Treated all - manual
85	**25**	2855070	Off Woods Rd. MP 0.01, 0.13	herb robert			Y								1	Treated some - manual
86	**25**	2900000	West end	tansy ragwort			Y								1	Treated some - manual
87	**25**	2918000		Scotch broom, tansy ragwort			Y								1	None
88	**25**	3040000	from Hwy 112 to 3068000	tansy ragwort, herb robert			Y								1	None (Treated some CYSC4)
89	**25**	2800000		tansy ragwort			Y								1	Treated some - manual

Item No.	Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Ctrl	New (05) Infestation	TrHd/CG	'98 EA Site	06 WCC Priority	Botanical Area	Pit	To be decommis-sioned	No. of Categories	Action
90	**25**	2700000	unk - 2700.140 MP 0.1?	tansy ragwort, common tansy			Y								1	None
91	**26**	CR2065	Cooper-Ranch Rd.	Scotch broom, tansy ragwort			Y				Y				2	None
92	**26**	2730000	Mt. Walker	tansy ragwort, common tansy			Y				Y				2	None
93	**26**	2620000	Rocky Brook Rd.	tansy ragwort, Scotch broom, herb robert, bull thistle, evergreen blackberry			Y				Y				2	None
94	**26**	2850000		tansy ragwort, herb robert			Y				Y				2	None
95	**26**	2852000	Road sys	tansy ragwort			Y				Y				2	None
96	**27**	2851080	MP 0.33	everlasting peavine											0	None

Appendix C: Forest Service Priorities with Roads Scheduled To Be Decommissioned

The following list was provided by Forest Service staff prior to the beginning of the 2006 treatment season. Action taken on each priority is also shown. Many of the priorities appear on the list because the roads are scheduled to be decommissioned, which would greatly limit accessibility for future treatments of any invasive infestations present.

County	Site Name	Weed Species	Comments	1998 Weed EA Site #	Action Taken
Clallam	Snider Work Center and road	knotweed	treated w/herbicide 2005	30	Treated 8/23-24/06
Clallam	Snider Work Center and road	herb Robert		30	Treated 8/23-24/06
Jefferson	D-78 landing, 2190-200 rd	knotweed	treated w/herbicide 2005	57	Treated 9/12/06
Clallam	29 road	orange hawkweed	Approx. MP 36	N/A	Treated 5/3/06
Clallam	Bonidu Elk Opening	Canada thistle		27	Did not attempt – cannot control CIAR4 manually
Clallam	Bonidu Elk Opening	reed canarygrass		27	Did not attempt – cannot control PHAR3 manually
Clallam	30-200 road	herb Robert		29	Treated 8/2-23/06
Clallam	30-250 road	herb Robert		29	Treated 8/2/06
Clallam	2923-100 road	herb Robert		33	Surveyed for 7/17/06– not found
Clallam	3040-200 road	?	.47 miles, walkable, sweep prior to decomissioning	N/A	Surveyed 7/11/06 – no weeds found
Clallam	3040-100 road	??	2.22 miles, drivable, sweep prior to decomissioning	N/A	Surveyed 7/11/06 – no weeds found, did not find CEJA site
Clallam	3040-115 road	??	0.68 miles, drivable, sweep prior to decomissioning	N/A	Surveyed 7/11/06 – no weeds found
Clallam	3040-025 road	??	0.2 miles, walk (possibly drivable), sweep prior to decomissioning	N/A	Surveyed 7/11/06 – no weeds found
Clallam	3040-012 road	??	0.32 miles, walk (possibly drivable), sweep prior to decomissioning	N/A	Surveyed 7/11/06 – no weeds found
Clallam	unclassified 3040 spur road at station 15+888	??	0.12 miles, drivable, located 15,888 meters from jtn of Hwy 112 (near jtn 3040 and 3068?)	N/A	Surveyed 7/11/06 – no weeds found

County	Site Name	Weed Species	Comments	1998 Weed EA Site #	Action Taken
Clallam	unclassified 3040 spur road at station 17+000	??	0.33 miles, walk, located 17,000 meters from jtn of HWY 112 (around MP 11?)	N/A	Surveyed 7/11/06 – no weeds found, no spur at this location
Clallam	gravel pits		I'll send maps	N/A	Surveyed 23
Jefferson	gravel pits		I'll send maps	N/A	Surveyed 9
Jefferson	2610 road near Dose washout	herb Robert		N/A	Surveyed – site not found (GERO is widespread along Dose River
Jefferson	2610-012	Canada thistle	Sweep prior to decommissioning. 1.8 miles	25	Did not attempt – cannot control CIAR4 manually
Clallam	2700-330 road	??	Sweep prior to decommissioning. 1.4 miles	N/A	Surveyed all – weeds including SEJA scattered along length
Clallam	2920-020 road	??	Sweep prior to decommissioning. 1.4 miles, need 4x4?	N/A	Did not reach

Appendix D: 2006 Rock Source Surveys

Rock Sources were surveyed on foot whenever possible. Latitude and longitude data were collected if possible for each site, and an ID number from a Forest Service rock source GIS layer was also used to identify sites. In a few cases, potential rock sources were identified and surveyed though they did not appear on the Forest Service GIS layer; ID numbers for these sites were omitted.

Pit ID	Latitude (N)	Longitude (W)	Road ID	Milepost	Date	Weeds	Notes/Comments	Recommendations
33			SR101	305.4	5/17/06		NOT FOUND	
89	47° 49' 28.3"	122° 53' 12.9"	SR101	295.3	6/27/06	pocu6, tavu, seja, cysc4, lala4	Need to treat some areas	Spray, especially knotweed and broom
82	48° 01' 11.9"	122° 59' 55.6"	CR5695	0.1	7/20/06	cysc4, hype, ciar4, lala4, pocu6, civu, phar4		Spray before use
87	47° 49' 00.3"	122° 54' 15.6"	CR3039	0.02	6/27/06	seja, gero, cysc4, ciar4, civu	Weeds in limited area	Spot spray
32			CR2500	0	5/17/06	cysc4	Well established in half of pit	Spray repeatedly
10	48° 05' 20.7"	124° 02' 51.8"	3040000	11.6	7/11/06	levu		Gravel use acceptable
17	48° 06' 50.9"	124° 05' 44.3"	3000200	1.8	7/25/06	levu		
123	48° 03' 55.3"	124° 11' 07.5"	3000000	0.15	7/25/06	cysc4, levu		
121			2923060	0.4	6/28/06		Overgrown, all native	Reopen mechanically, USE
132	47° 56' 26.0"	124° 16' 27.0"	2923000	2.4	6/28/06	levu, rudi2, hyra3	Mostly overgrown; mostly natives	
133	47° 58' 02.9"	124° 17' 56.2"	2900000	5.7	6/28/06	cysc4		
137	47° 58' 20.4"	123° 11' 19.6"	2875070	0.1	7/5/06	cysc4	Entire road is infested	Unusable - spray repeatedly
139	47° 58' 30.7"	123° 11' 11.8"	2875000	2.65	7/5/06	ceja	Very large infestation	Spray
136	47° 56' 48.8"	123° 12' 15.0"	2875000	5.9	7/5/06	levu	Very few weeds	Pit in great shape: USE
140			2870150	0.6	5/26/06	lala4	Pit unusable	Spray
145			2870000	1.5	5/26/06		NOT FOUND	
143			2870000	1.9	5/26/06	cysc4, levu, ciar4	Pulled all found (15)	

Pit ID	Latitude (N)	Longitude (W)	Road ID	Milepost	Date	Weeds	Notes/Comments	Recommendations
142			2870000	2.4	5/26/06	ciar4, rare3, levu	Very few weeds; access blocked	Pit in great shape: USE
			2870000	3.75	5/26/06		Not found	
	47° 56' 53.5"	123° 06' 34.9"	2870000	8.8	8/7/06	gero, ciar4, hype, civu, levu, seja		
	47° 53' 20.0"	123° 07' 36.0"	2870000	15.45	8/18/06	ciar4, levu, hype, civu	Pit likely loaded with weed seeds	Spray repeatedly
25	47° 59' 13.0"	123° 00' 12.7"	2850000	1.4	7/20/06	levu		
21	47° 53' 37.0"	122° 59' 40.9"	2800000	4.3	7/12/06	hype, lala4, cysc4, levu, seja	Small infestation	Spot spray
	47° 53' 45.9"	123° 00' 14.6"	2800000	4.8	7/12/06	ciar4, levu, seja	Relatively clean	
	47° 54' 29.6"	123° 00' 42.3"	2800000	5.8	7/12/06	levu, hype, cysc4, seja		
	47° 55' 07.7"	123° 01' 04.4"	2800000	6.8	7/12/06	levu, civu		
20	47° 53' 07.2"	122° 59' 38.6"	2700000	16.9	7/12/06	lala4, seja, ciar4, civu, levu, hype		Spray - broadcast
34			2620000	11.3	5/17/06	cysc4	Broom mixed with alder	Spray or pull with effort
5	47° 35' 49.1"	123° 02' 24.2"	2510000	3.4	8/9/06	levu, hype	Apparent current activity (Mason County)	Relatively clean, could be used
	47° 38' 37.5"	122° 58' 16.0"	2510000	12.3	8/9/06	levu, lala4, cysc4, seja, ceja, hype	Alders also growing into pit area	Spray for a number of years before use
31			2510000	20.76	5/17/06		NOT FOUND	
	47° 32' 37.8"	123° 49' 19.3"	2190200	3.5	9/12/06	pocu6, dipu, hyra		
33			SR101	305.4	5/17/06		NOT FOUND	

Appendix E: Herbicide Notification-Legal Ad and On-Site Posting

The 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 on 7-21-06, more than one week before the first herbicide application was carried out on 7-31-06.

The text of the legal notice in the PDN read as follows:

> The Pacific and Hood Canal Ranger Districts, Olympic National Forest may be applying herbicide containing glyphosate to noxious weeds at the following Forest Service sites in Clallam and Jefferson Counties between July 24 and October 20, 2006. Application will be conducted as planned in the Olympic National Forest Integrated Weed Management Program Environmental Assessment, which was completed in October of 1998. Caution notices indicating that glyphosate will be applied will be posted at the site of application at least 24 hours prior to application. People with questions about the application should contact Joan Ziegltrum, Forest Ecologist, at (360) 956-2320. PACIFIC RANGER DISTRICT SITES: D-78 Landing on Rd 2190200 (T24N, R09W, Section 28), Rds 3000200 and 3000250 (T30N, R11W), Rd 2923100 (T29N, R12W, Section 3), Snyder Work Center on Rd 3040800 (T30N, R11W, Section 28), and the 2180 Rd system (T24N, R10W). HOOD CANAL RANGER DISTRICT SITES: Cranberry Bog Botanical Area off of Rd 2870059 (T29N, R03W, Section 19), Gray Wolf Trailhead (834) on Rd 2870 (T29N, R03W, Section 31 and T29N, R04W, Section 36), the 2870050 road system (T29N, R04W, Section 23), Quilcene Ranger Station on Rd 2730300 (T27N, R02W, Section 24), Lower Dungeness Trailhead (833.3) on Rd 2870230 (T28N, R03W, Section 8), Dungeness Trailhead (833.2) on Rd 2870 (T28N,R04W, Section 36), Tubal Cain Trailhead (840) on Rd 2870 (T28N, R03W, Section 29 and T27N, R03W, Section 7), Silver Creek Waytrail off of Rd 2870300 (T28N, R03W, Section 32), Tunnel Creek Trailhead (841.1) on Rd 2740 (T27N, R03W, Section 34), Upper Big Quilcene Trailhead (833) on Rd 2750 (T27N, R03W, Section 15), the Duckabush/Fulton Creek road system (Rd 2510) (T25N, R03W, Section 10), Elkhorn Campground on Rd 2610050 (T26N, R03W, Section 20), Charlia Lakes East Waytrail off of Rd 2740110 (T27N, R04W, Section 25), Maynard Burn Trail off of Rd 2870270 (T28N, R04W, Section 35), and Buckhorn Wilderness Meadows along Tr 833.2 (T27N, R04W, Section 14).

Onsite Posting Sample:

Onsite postings were placed at each application site at least 24 hours prior to applications, and at least one week prior for high use sites (campgrounds and trailheads). The blank lines (planned/actual date of application and weed species targeted) were filled out by hand at the site.

NOTICE

The herbicide glyphosate will be applied to this site between July 24, 2006 and October 20, 2006 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, ecologist
1835 Black Lake Blvd. SW, Suite A
Olympia, WA 98512-5623
(360) 956-2320
or
Clallam County Noxious Weed Control Board
Jeff Gabster, weed control specialist
223 East Fourth Street, Suite 15
Port Angeles, WA 98362
(360) 417-2442

Appendix F: 2007 Potential Treatment Sites

The following table lists potential invasive weed treatment sites to target during the 2007 field season, ranked by the number of prioritization categories each site falls into. This gives some indication of the relative importance of known sites to each other. However, this table does not take any additional parameters (elevation, species, aspect, size of site, etc.) into account, and so cannot be relied on as a work plan for 2007. In addition, this list is not exhaustive; any sites that matched fewer than two categories were removed from the list. Many of the sites first discovered in 2006 do not appear in this table, though as described in the Recommendations section, many of these should be the prime targets in 2007.

Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Control	New (05-06) Infestation	Trailhead/ Campgrnd	1998 EA Site	2006 WCC Priority	Botanical Area	Rock Source	To be decommis-sioned	Number of Categories
1	2870059	Cranberry Bog	Scotch broom, tansy ragwort, meadow knapweed, Canada thistle, bull thistle, reed canarygrass	Y	Y	Y	Y		Y	Y	Y			7
2	3040800	Snider Work Center	Bohemian knotweed, herb Robert	Y	Y	Y	Y		Y					5
2	2900200	Pit	Scotch broom	Y		Y	Y			Y		Y		5
2	2870230	Lower Dungeness TrHd (833.3)	Canada thistle	Y		Y	Y	Y	Y					5
2	2870059	Off Lost Mtn. Rd.	Scotch broom, meadow knapweed	Y	Y	Y		Y	Y					5
2	2870050	Off Lost Mtn. Rd.	Scotch broom, meadow knapweed, tansy ragwort, Canada thistle	Y	Y	Y	Y		Y					5
2	2870000	Upper Dungeness Trailhead (833.2)	herb Robert, common tansy, Canada thistle, reed canarygrass		Y	Y	Y	Y	Y					5
2	2730300	Quilcene Ranger Station	Bohemian knotweed, scotch broom	Y	Y	Y			Y	Y				5
3	CR2071		English laurel, English holly	Y		Y	Y		Y					4
3	3040115		herb Robert	Y		Y	Y						Y	4
3	3040100	2.22 mi - drive	tansy ragwort, Scotch broom	Y		Y	Y						Y	4
3	3040012		Scotch broom	Y		Y	Y						Y	4
3	3000250		herb Robert, tansy ragwort, Scotch broom	Y		Y	Y		Y					4
3	2900000	South Fork Calawah River Botanical Area	Canada thistle, Scotch broom, herb Robert	Y		Y				Y	Y			4

Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Control	New (05-06) Infestation	Trailhead/ Campgrnd	1998 EA Site	2006 WCC Priority	Botanical Area	Rock Source	To be decommis-sioned	Number of Categories
3	2880050	Dungeness Forks Campground	herb Robert	Y		Y		Y		Y				4
3	2875000	Slab Camp Cr (TR 838)	tansy ragwort, Scotch broom, meadow knapweed	Y	Y	Y		Y						4
	2870300	Silver Cr Waytrail	Canada thistle	Y		Y	Y		Y					4
3	2870270	Maynard Burn Trail	Canada thistle			Y	Y	Y	Y					4
3	2870059	above Cranberry Bog	meadow knapweed, Canada thistle		Y	Y	Y		Y					4
3	2870000	Gray Wolf Trailhead (834)	herb Robert	Y		Y		Y	Y					4
3	2870000	Tubal Cain TrHd (840)	Canada thistle	Y		Y	Y		Y					4
3	2870000		meadow knapweed, herb Robert, tansy ragwort, common tansy, Scotch broom		Y	Y	Y	Y						4
3	2860011	East Crossing CG	herb Robert, tansy ragwort	Y		Y	Y	Y						4
3	2700330	1.4 mi -cond unk	tansy ragwort	Y		Y	Y						Y	4
3	2610200	Seal Rock CG	yellow hawkweed, herb Robert, Scotch broom, Himalayan blackberry		Y	Y	Y	Y						4
3	2610000	Dosewallips Rd.	bull thistle, Canada thistle, Scotch broom, tansy ragwort, herb Robert	Y		Y	Y			Y				4
3	2510000	Collins CG	herb Robert			Y	Y	Y	Y					4
3	2510000	Duckabush Rd.	meadow knapweed		Y	Y	Y		Y					4
3	2190200	Higley Ridge/D-78 Landing	Bohemian knotweed	Y	Y	Y			Y					4
4	CR2500	Dosewallips Rd.	Scotch broom	Y			Y					Y		3
4	CR2065	Cooper-Ranch Rd.	herb Robert, Scotch broom, tansy ragwort			Y	Y			Y				3
4	3068000	Off 3040, above Snider	Scotch broom, tansy ragwort, meadow knapweed	Y		Y	Y							3
4	3000200		herb Robert, reed canarygrass, Canada thistle, Scotch broom	Y		Y			Y					3
4	2900000	at MP 36	orange hawkweed	Y	Y	Y								3

Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Control	New (05-06) Infestation	Trailhead/ Campgrnd	1998 EA Site	2006 WCC Priority	Botanical Area	Rock Source	To be decommis-sioned	Number of Categories
4	2900000	MP 36.3ish	herb Robert, Scotch broom			Y	Y			Y				3
4	2870150		everlasting peavine	Y			Y					Y		3
4	2870056		meadow knapweed		Y	Y			Y					3
4	2870030	Off Lost Mtn. Rd.	Scotch broom, meadow knapweed, tansy ragwort	Y	Y	Y								3
4	2870000		herb Robert			Y	Y	Y						3
4	2855070	Off Woods Rd. MP 0.49, 0.71	spotted knapweed, herb Robert, tansy ragwort, Scotch broom		Y	Y	Y							3
4	2800132		diffuse knapweed		Y	Y	Y							3
4	2800000		meadow knapweed		Y	Y	Y							3
4	2740110	Charlia Lks E Waytrail-WILDERNESS	spotted knapweed		Y			Y	Y					3
4	2730200	Falls View CG	herb Robert, tansy ragwort, bull thistle			Y		Y		Y				3
4	2620000		Scotch broom	Y			Y					Y		3
4	2610040	Dosewallips Rd.	tansy ragwort	Y		Y	Y							3
4	2610000		meadow knapweed		Y	Y	Y							3
4	2510070		Scotch broom			Y	Y	Y						3
4	2510000		everlasting peavine, tansy ragwort, Scotch broom			Y	Y		Y					3
4	2190220	MP 0.20 N. of Seal Rock CG	cotoneaster, Bohemian knotweed		Y	Y	Y							3
5	SR101		yellow hawkweed, herb Robert		Y		Y							2
5	SR101	MP 295.3	Bohemian knotweed, common tansy, tansy ragwort, everlasting peavine		Y		Y							2
5	3000000		tansy ragwort			Y	Y							2
5	3000000		common tansy		Y		Y							2
5	2923100	at 2923 fork	herb Robert	Y					Y					2
5	2923000	MP 4.57	orange hawkweed		Y	Y								2
5	2900200	West end	Scotch broom, tansy ragwort			Y	Y							2
5	2900000		giant knotweed		Y	Y	Y							3
5	2900000		Canada thistle, Scotch broom, tansy ragwort			Y	Y							2
5	2880000		herb Robert			Y	Y							2
5	2878000		Scotch broom			Y	Y							2
5	2875000		Scotch broom			Y	Y							2
5	2870230		tansy ragwort			Y	Y							2
5	2870130		Scotch broom			Y	Y							2

Priority	FS Road	Location Description	Weed(s)	FS Priority	County Priority	Prior Control	New (05-06) Infestation	Trailhead/ Campgrnd	1998 EA Site	2006 WCC Priority	Botanical Area	Rock Source	To be decommis-sioned	Number of Categories
5	2860000	Schmith Knob	Scotch broom	Y		Y								2
5	2860000	Gold Creek extension	bull thistle	Y		Y								2
5	2855070		herb Robert			Y	Y							2
5	2855000		spotted knapweed, meadow knapweed		Y	Y								2
5	2855000		tansy ragwort			Y	Y							2
5	2852000	Road sys	tansy ragwort			Y				Y				2
5	2851000		tansy ragwort			Y	Y							2
5	2850000		tansy ragwort, herb Robert			Y				Y				2
5	2830000	MP 0.61	spotted knapweed, meadow knapweed		Y	Y								2
5	2800290		tansy ragwort, Scotch broom			Y	Y							2
5	2800270		Scotch broom, tansy ragwort			Y	Y							2
5	2800250		tansy ragwort			Y	Y							2
5	2800000		tansy ragwort, Scotch broom, everlasting peavine			Y	Y							2
5	2750000	Upper Big Quil TrHd (833)	Canada thistle					Y	Y					2
5	2740000	Tunnel Cr TrHd (841.1)	Canada thistle, tansy ragwort					Y	Y					2
5	2730000	Mt. Walker	tansy ragwort, common tansy			Y				Y				2
5	2620056	MP 0.75	meadow knapweed		Y	Y								2
5	2620000	Rocky Brook Rd.	tansy ragwort, Scotch broom, herb Robert, bull thistle, evergreen blackberry			Y				Y				2
5	2510000	entire rd sys - Duckabush and Fulton Ck	reed canarygrass, tansy ragwort, meadow knapweed, spotted knapweed		Y				Y					2
5	2190000		Scotch broom			Y	Y							2
5	2065000		Bohemian knotweed		Y		Y							2

Appendix G: Potential WCC Projects for 2007

This list is an unprioritized combination of sites brought forward from those recommended for the WCC, in the 2005 report. It includes other large infestations noted in 2006. The priority of each project will be determined by: the 2007 Forest Service Priorities list, sites that have been treated previously, or sites that are too large to control without an herbicide-enabled crew.

NOTE: Estimating the amount of time a noxious weed control site will require is difficult. Most of the estimates in this list were originally developed for a manual control crew. 2007 will allow a mix of manual and herbicide treatments, as best suits the weed, site, and resources available. The man hours required for each site is an estimate based on 2006 experiences using herbicides, as well as information gained from experiences with WCC in 2004. In many cases, remoteness and travel to any given site, adds considerable time to complete a project.

.

			Priority Categories						
FS Road	Location Description	Weed(s)	FS Priority	Has had prior control	New infestation	Trailhead	Campground	Comments	5-man crew days required
2065	Cooper-Ranch Road	Scotch broom; tansy ragwort; herb Robert, knotweed		Y					2
2610.000	Dosewallips Rd.	bull thistle, Scotch broom, tansy ragwort, herb Robert; evergreen blackberry, knotweed		Y		Y		Entire road; Herb Robert infestations will only be controlled with herbicide	4
2620.000	Rocky Brook Rd.	tansy ragwort, Scotch broom		Y				Entire road	3
2620.000	Rocky Brook Rd.	herb Robert		Y				At milepost 9.5	2
2730.000	Mt. Walker	tansy ragwort, common tansy		Y		Y			1
2730.200	Falls View Campground	herb Robert		Y			Y		1
2730.300	Quilcene Ranger Station	Scotch broom, knotweed	Y	Y				Enormous project, cut stump	2
2850.000		tansy ragwort		Y					1
2610200	Seal Rock Campground	Scotch broom		Y			Y	Careful: Poison Oak	1
2880-050	Dungeness Forks	herb Robert		Y			Y	Treat early, before campground opens if possible	2

			Priority Categories						
FS Road	Location Description	Weed(s)	FS Priority	Has had prior control	New infestation	Trailhead	Campground	Comments	5-man crew days required
2870-059	Cranberry Bog	reed canarygrass. Canada thistle, herb Robert	Y	Y					1
Trail # 833.2	Camp Handy/Buck horn Meadows	Canada thistle		Y		Y		Remote, hike in, need Back Country Horsemen to carry water	1
2875 2870	Slab Camp Pits/Grey Wolf river bridge	meadow knapweed, everlasting peavine-if time left	Y	Y				Greywolf River bridge as time allows	2
3000-200 &215		Scotch broom, reed canary-grass, everlasting peavine	Y					To be decomissioned	3
3040		tansy ragwort		Y					1
2852.000		tansy ragwort		Y					1
2880.050	Dungeness Forks Campground	herb Robert	Y	Y			Y		3
SFCRBA	(South Fork Calawah River Botanical Area)	herb Robert	Y	Y					1
								Crew Days	**32**
								Weeks	**8.0**

Appendix H: Control Recommendations
By Weed Species

Control Recommendations Protocol:

1. These control recommendations are based on best management practices for our local forest.
2. The overall system burden of invasive plant species needs to be reduced before manual and mechanical methods become feasible in many cases.
3. Greater emphasis needs to be placed on prevention and early detection, continued surveys, early intervention, and incorporation of weed control into Forest Service projects such as road decommissioning, restoration, and routine road maintenance.
4. Effective noxious weed control depends on a combination of factors: plant biology, level of infestation, and location. These control recommendations reflect a consideration of Olympic National Forest conditions with currently available data.
5. For additional control recommendations, see Common Control Measures for Invasive Plants of the Pacific Northwest Region. (A NFS publication.)

Plant Code	Common Name	*Botanical Name*	Control Recommendation
BORAG	borage	*Borago officinalis*	Minimal occurrence; spot herbicide application
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
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
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
TAVU	common tansy	*Tanacetum vulgare*	Spot herbicide application
LIVU2	common toadflax	*Linaria vulgaris*	Spot herbicide application
CEDI3	diffuse knapweed	*Centaurea diffusa*	Manual removal for very small sites; foliar herbicide application - clopyralid preferred
ILAQ80	English holly	*Ilex aquifolium*	Manual removal; cut stump or foliar herbicide treatment
HEHE	English ivy	*Hedera helix*	Manual removal; cut stump or foliar herbicide application
RULA	evergreen blackberry	*Rubus laciniatus*	Cut stump or foliar herbicide application - triclopyr preferred
LALA4	everlasting peavine	*Lathyrus latifolius*	Foliar herbicide application - clopyralid preferred
CEJA	meadow knapweed	*Centaurea jacea x nigra*	Foliar herbicide application with selective herbicide - clopyralid preferred
GERO	herb Robert	*Geranium robertianum*	Manual removal for small infestations; spot herbicide application where feasible;
RUDI	Himalayan blackberry	*Rubus discolor*	Treat cut stump with glyphosate or foliar application as appropriate to site
	knotweed species	*Polygonum spp.*	Injection with glyphosate; and/or foliar application of glyphosate
CEJA	meadow knapweed	*Centaurea jacea x nigra*	Foliar herbicide application - clopyralid preferred
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
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.
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*	Selective or glyphosate in mid-June and mid-Sept.
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
CEBI2	spotted knapweed	*Centaurea biebersteinii*	Manual removal very small sites; spot application with selective herbicide - clopyralid preferred
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.
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 by April/May of 2nd year.
DACA6	wild carrot	*Daucus carota*	Manual removal; spot herbicide application
ANSY	wild chervil	*Anthriscus sylvestris*	Manual removal; spot herbicide application

Appendix I: Clallam County Sheriff's/Road Department Chain Gang Work Summary

In 2006, the Chain Gang continued its effort to control noxious weeds on National Forest lands in Clallam County. Their participation in this project is important for its success.

Weed – by date	Date	Road(s)	# of Plants Removed
tansy ragwort	1/06	2850	450
Scotch broom	3/06	2900	600
tansy ragwort	3/06	2900	650
Scotch broom	4/06	2850	1,400
Scotch broom	6/06	2900, 2902, 2878	4,880
tansy ragwort	6/06	2900, 2851, 2850010, 2850, 2800	26,700
Scotch broom	7/06	2900	3,700
tansy ragwort	7/06	2845	4,900
tansy ragwort	8/06	2900, 2852, 2845, 2820, 2800	11,370
Scotch broom	9/06	2923, 2900, gravel pit off 2900	2,125
TOTAL			**56,775**

Weed – by weed	Date		
Scotch broom	3/06	2900	600
Scotch broom	4/06	2850	1,400
Scotch broom	6/06	2900, 2902, 2878	4,880
Scotch broom	7/06	2900	3,700
Scotch broom	9/06	2923, 2900, gravel pit off 2900	2,125
Sub-total			**12,705**
tansy ragwort	1/06	2900	2,850
tansy ragwort	3/06	2900	650
tansy ragwort	6/06	2900, 2851, 2850010, 2850, 2800	26,700
tansy ragwort	7/06	2845	4,900
tansy ragwort	8/06	2900, 2852, 2845, 2820, 2800	11,370
Sub-total			**44,070**
TOTAL			**56,775**

Appendix J: Weed Species Reported, 2002-2006

diffuse knapweed *(Centauria diffusa))*

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

Common Name	***Botanical Name***	Plant Code
borage	*Borago officinalis*	BORAG
bull thistle	*Cirsium vulgare*	CIVU
Canada thistle	*Cirsium arvense*	CIAR4
common burdock	*Arctium minus*	ARMI2
common tansy	*Tanacetum vulgare*	TAVU
common toadflax	*Linaria vulgaris*	LIVU2
diffuse knapweed	*Centaurea diffusa*	CEDI3
English holly	*Ilex aquifolium*	ILAQ80
English ivy	*Hedera helix*	HEHE
evergreen blackberry	*Rubus laciniatus*	RULA
everlasting peavine	*Lathrus latifolius*	LALA4
giant knotweed	*Polygonum sachalinense*	POSA4
herb Robert	*Geranium Robertianum*	GERO
Himalayan blackberry	*Rubus discolor*	RUDI
Japanese knotweed	*Polygonum cuspidatum*	POCU6
meadow knapweed	*Centaurea jacea x nigra*	CEJA
orange hawkweed	*Hieracium aurantiacum*	HIAU
oxeye daisy	*Leucanthemum vulgare*	LEVU
purple loosestrife	*Lythrum salicaria*	LYSA2
reed canary grass	*Phalaris arundinacea*	PHAR3
rockspray cotoneaster	*Cotoneaster*	COTON
Scotch broom	*Cytisus scoparius*	CYSC4
spotted knapweed	*Centaurea biebersteinii*	CEBI2
St. Johnswort	*Hypericum perforatum*	HYPE
tansy ragwort	*Senecio jacobaea*	SEJA
wild carrot	*Daucus carota*	DACA6
wild chervil	*Anthriscus sylvestris*	ANSY
yellow hawkweed	*Hieracium caespitosum*	HICA10

Appendix K: WA State Noxious Weed List

Noxious weeds are non-native plants introduced to Washington through human actions. Because of their aggressive growth and lack of natural enemies in the state, these species can be highly destructive, competitive or difficult to control. These exotic species can reduce crop yields, destroy native plant and animal habitat, damage recreational opportunities, clog waterways, lower land values and poison people and livestock.

To help protect the state's resources, the Washington State Noxious Weed Control Board adopts a State Noxious Weed List each year. This list categorizes weeds into three major classes - A, B & C -according to the seriousness of the threat they pose to the state or a region of the state.

Class A Weeds: Non-native species with a limited distribution in Washington. Preventing new infestations and eradicating existing infestations is the highest priority. **Eradication is required by law.**

Common Name	Scientific Name
bean-caper, Syrian	Zygophyllum fabago
blueweed, Texas	*Helianthus ciliaris*
broom, Spanish	*Spartium junceum*
buffalobur	*Solanum rostratum*
clary, meadow	*Salvia pratensis*
cordgrass, dense flower	*Spartina densiflora*
cordgrass, salt meadow	*Spartina patens*
crupina, common	*Crupina vulgaris*
flax, spurge	*Thymelaea passerina*
four o'clock, wild	*Mirabilis nyctaginea*
goatsrue	*Galega officinalis*
hawkweed, yellow devil	*Hieracium floribundum*
hogweed, giant	*Heracleum mantegazzianum*
hydrilla	*Hydrilla verticillata*
johnsongrass	*Sorghum halepense*
knapweed, bighead	*Centaurea macrocephala*
knapweed, Vochin	*Centaurea nigrescens*
kudzu	*Pueraria montana* var. *lobata*
lawnweed	Soliva sessilis
mustard, garlic	*Alliaria petiolata*
nightshade, silverleaf	*Solanum elaeagnifolium*
*primrose-willow, floating	*Ludwigia peploides*
sage, clary	*Salvia sclarea*
sage, Mediterranean	*Salvia aethiopis*
spurge, eggleaf	*Euphorbia oblongata*
starthistle, purple	*Centaurea calcitrapa*
*sweetgrass, reed	*Glyceria maxima*
thistle, Italian	*Carduus pycnocephalus*
thistle, milk	*Silybum marianum*
thistle, slenderflower	*Carduus tenuiflorus*
velvetleaf	*Abutilon theophrasti*
woad, dyers	*Isatis tinctoria*

Appendix K: WA State Noxious Weed List, continued

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.

Common Name	Scientific Name
alyssum, hoary	*Berteroa incana*
arrowhead, grass-leaved	*Sagittaria graminea*
blackgrass	*Alopecurus myosuroides*
blueweed	*Echium vulgare*
broom, Scotch	*Cytisus scoparius*
bryony, white	*Bryonia alba*
bugloss, common	*Anchusa officinalis*
bugloss, annual	*Anchusa arvensis*
camelthorn	*Alhagi maurorum*
carrot, wild	*Daucus carota*
catsear, common	*Hypochaeris radicata*
chervil, wild	*Anthriscus sylvestris*
cinquefoil, sulfur	*Potentilla recta*
cordgrass, smooth	*Spartina alterniflora*
cordgrass, common	*Spartina anglica*
daisy, oxeye	*Leucanthemum vulgare*
elodea, Brazilian	*Egeria densa*
fanwort	*Cabomba caroliniana*
fieldcress, Austrian	*Rorippa austriaca*
floating heart, yellow	*Nymphoides peltata*
gorse	*Ulex europaeus*
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*
hedgeparsley	*Torilis arvensis*
helmet, policeman's	*Impatiens glandulifera*
herb-Robert	*Geranium robertianum*
houndstongue,	*Cynoglossum officinale*
indigobush	*Amorpha fruticosa*
knapweed, black	*Centaurea nigra*
knapweed, brown	*Centaurea jacea*
knapweed, diffuse	*Centaurea diffusa*
knapweed, meadow	*Centaurea jacea x nigra*
knapweed, Russian	*Acroptilon repens*
knapweed, spotted	*Centaurea biebersteinii*
knotweed, Bohemian	*Polygonum bohemicum*
knotweed, giant	*Polygonum sachalinense*
knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
kochia	*Kochia scoparia*
lepyrodiclis	*Lepyrodiclis holosteoides*
loosestrife, garden	*Lysimachia vulgaris*
loosestrife, purple	*Lythrum salicaria*
loosestrife, wand	*Lythrum virgatum*
nutsedge, yellow	*Cyperus esculentus*
oxtongue, hawkweed	*Picris hieracioides*
parrotfeather	*Myriophyllum aquaticum*
pepperweed, perennial	*Lepidium latifolium*
primrose, water	*Ludwigia hexapetala*
puncturevine	*Tribulus terrestris*
ragwort, tansy	*Senecio jacobaea*
saltcedar	*Tamarix ramosissima*
sandbur, longspine	*Cenchrus longispinus*
skeletonweed, rush	*Chondrilla juncea*
sowthistle, perennial	*Sonchus arvensis* ssp. *arvensis*
spurge, leafy	*Euphorbia esula*
spurge, myrtle	*Euphorbia myrsinites*
starthistle, yellow	*Centaurea solstitialis*
swainsonpea	*Sphaerophysa salsula*
thistle, musk	*Carduus nutans*
thistle, plumeless	*Carduus acanthoides*
thistle, Scotch	*Onopordum acanthium*
toadflax, Dalmatian	*Linaria dalmatica ssp. dalmatica*
watermilfoil, Eurasian	*Myriophyllum spicatum*

Appendix K: WA State Noxious Weed List, continued

Class C Weeds: Non-native weeds found in Washington. Many of these species are widespread in the state. Long-term programs of suppression and control are a county option, depending upon local threats and the feasibility of control in local area.

Common Name	Scientific Name
babysbreath	Gypsophila paniculata
beard, old man's	*Clematis vitalba*
bindweed, field	*Convolvulus arvensis*
butterfly bush	*Buddleja davidii*
canarygrass, reed	*Phalaris arundinacea*
cockle, white	*Silene latifolia* ssp. *alba*
cocklebur, spiny	*Xanthium spinosum*
cress, hoary	*Cardaria draba*
dodder, smoothseed alfalfa	*Cuscata approximata*
goatgrass, jointed	*Aegilops cylindrica*
groundsel, common	*Senecio vulgaris*
hawkweed, nonnative and invasive species not listed elsewhere	*Hieracium* spp.
henbane, black	*Hyocyamus niger*
iris, yellow flag	*Iris pseudocorus*
ivy, English	*Hedera helix* 'Baltica'
four cultivars only	*Hedera helix* 'Pittsburgh'
	Hedera helix *'Star*
	'Hedera hibernica 'Hibernica'
mayweed, scentless	*Matricaria perforata*
poison-hemlock	*Conium maculatum*
pondweed, curly-leaf	*Potamogeton crispus*
reed, common (nonnative genotypes)	*Phragmites australis*
rye, cereal	*Secale cereale*
spikeweed	*Hemizonia pungens*
St. Johnswort, common	*Hypericum perforatum*
tansy, common	*Tanacetum vulgare*
thistle, bull	*Cirsium vulgare*
thistle, Canada	*Cirsium arvense*
toadflax, yellow	*Linaria vulgaris*
water lily, fragrant	*Nymphaea odorata*
whitetop, hairy	*Cardaria pubescens*
willow-herb, hairy	*Epilobium hirsutum*
wormwood, absinth	*Artemisia absinthium*

A cooperative project between:

Clallam County
Noxious Weed Control Board

Jefferson County
Noxious Weed Control Board

Olympic National Forest