

Olympic Region, Area 1 Integrated Roadside Vegetation Management Plan

2022



Washington State
Department of Transportation
Maintenance Operations Division

Introduction

The Washington State Department of Transportation's (WSDOT) Olympic Region Area 1 manages 312 miles of freeway and highway corridor in Pierce and Thurston Counties. The main corridor in the area is Interstate 5 but the area also maintains portions of other limited access highways along State Routes (SR)16, 167 and 512, and US 101, as well as a number of secondary rural routes. The area is responsible for maintaining the more maintenance intensive roadsides in the Tacoma and Olympia urban areas. There are many secondary routes in the area in settings ranging from urban to rural in character, some are high in scenic quality. A map of the area is included as **Figure 1** on the following page.

The primary roadside vegetation management objectives are in relation to traffic safety and preservation of the highway infrastructure. Additionally, as a landowner WSDOT is required to control all listed noxious weeds that occur on the right-of-way by state law (RCW 17.10 and 15.15.010). It is important that WSDOT not only meet the legal requirements for weed control, but also consider the needs and concerns of adjacent landowners in this area.

With these priority objectives in mind, WSDOT practices an annually cycling process called Integrated Vegetation Management (IVM). Plans like this are maintained and updated annually for all areas of the state with an overall goal of establishing the most naturally self-sustaining roadsides vegetation possible. Adjustments are made year to year in each area plan based on monitoring the previous years' accomplishments and results, available budget, and prioritization of other highway maintenance activities.

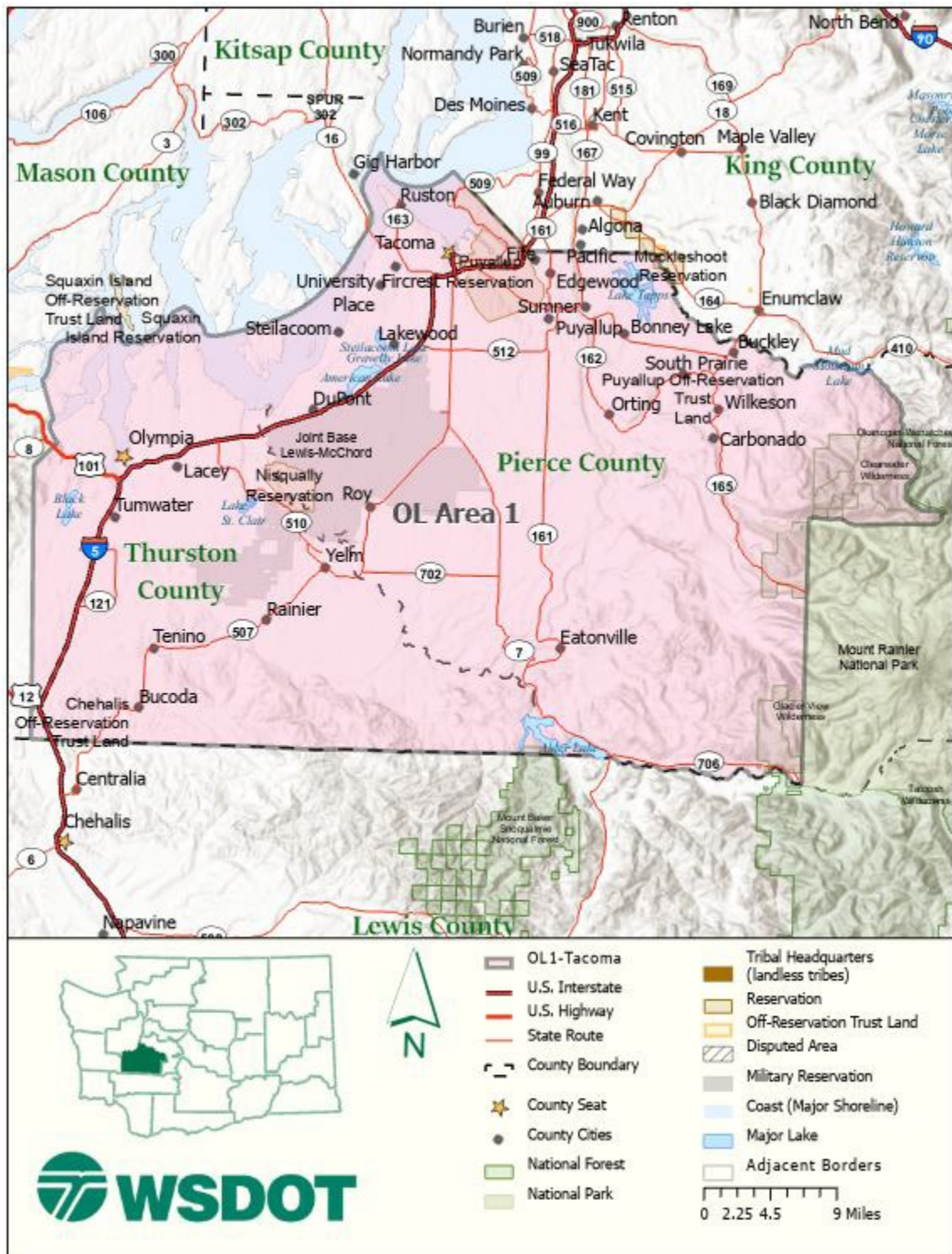
This plan serves as the guidance document for vegetation maintenance in Olympic Region Area 1 for the 2022 growing season. It identifies priority locations and prescribes treatments for accomplishing safety and weed control objectives through the use of a combination of seasonally-timed control measures. Each year's actions are designed as part of a coordinated multi-year strategy to minimize roadside maintenance requirements wherever possible. This plan also accounts for specific locations where maintenance tactics are adjusted due to environmental issues, neighboring properties, local partnerships, or restoration work done through WSDOT design and construction.

As of the 2022 season, the information contained in this plan document can be geographically referenced by crews in the field using iPads and the Highway Activity Tracking System (HATS). Accomplishments and results will also be tracked geographically through this new system. This development in WSDOT maintenance management will greatly improve the agency's success in properly executing planned actions, monitoring and documenting results of treatments, and in measuring cost and results over time.

WSDOT welcomes input from local public and private entities on its weed control and vegetation management activities. Wherever appropriate the agency is looking for opportunities to cooperate and partner with others in managing the roadside. Please direct any questions, comments, or suggestions to the Olympic Region Area 1 Superintendent – Jeff Hastings, Assistant Superintendents Kyle Aslakson or Ryan Stafford, or the State's Roadside Asset Manager – Ray Willard.

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Olympic Region, Area 1 Map
Figure 1

Olympic Region, Area 1 IVM Work Plan – 2022

The section outlines the overall approach and geographic distribution of roadside vegetation management requirements throughout the maintenance area in 2022. Information is organized in relation to four groups of activities defined in the WSDOT Maintenance Accountability Program (MAP) for the performance of roadside vegetation maintenance activities: **Control of Vegetative Obstructions**, **Noxious Weed Control**, **Nuisance Weed Control**, and **Landscape Maintenance**. Safety Rest Area Operations and Drainage and Stormwater Maintenance. Specific locations as noted in this work plan are also mapped in the Highway Activity Tracking System (HATS) for reference by maintenance in the field.

Safety First

Safety of our employees, the traveling public, and the environment are WSDOT's highest priorities and key to our success. Pre-Activity Safety Plans (PSAP) are developed for all activities and crews review, discuss, and sign these plans at tailgate meetings, prior to each day's work. When applying herbicides, our licensed pesticide applicators read the entire label before using products and use the products strictly in accordance with label precautionary statements and directions. WSDOT has implemented additional agency specific environmental restrictions on some products, to minimize any risk to aquatic or terrestrial ecosystems. Applicators wear protective equipment applicable to the products being used and discuss any potential environmental and/or human health risks as part of the daily PASP meeting. Technicians inspect their calibrated equipment daily to ensure it is in proper working order. Herbicides are stored in locked facilities and kept in an organized condition.

Control of Vegetative Obstructions – 3A4

The work of this group of maintenance activities relates to the safety and operational requirements of the highway. These items are considered first priority in terms of the overall roadside maintenance needs. Vegetation management objectives and measured work activities in this category fall into four groups – **Pavement Edge Maintenance/Zone 1**, **Safety Mowing/Zone 2**, **Tree and Brush Control/Zone 2 and 3**, and **Hazard Tree Removal/Zone 3**.

Pavement Edge Maintenance/Zone 1

Work Operation: 1615

HATS Form: Pesticide Application

HATS Map Layer: Reference lines – Roadside Features/Spray Zone 1 Reference

This work includes the application of herbicides to road shoulders where necessary throughout the area. The objective of these applications in designated locations is preserving of a band of gravel shoulder adjacent to the pavement that is free of vegetation. This treatment is necessary in the mapped locations described below to provide visibility and maintainability of roadside hardware and guideposts, allow room for vehicles to safely pull off on shoulders, facilitate Stormwater drainage, and/or provide added visibility of wildlife approaching the highway.

Total Units of Planned Treatment

- Approximately **225 acres** of herbicide treatment will be applied to road shoulders throughout the area.

Locations of Planned Treatments

- Planned treatment sites are mapped in HATS
- Construction on I-5 MP 132.88-138.82
- Locations where bare ground treatments will be applied to all gravel shoulder sections include all shoulders within the area, with the following considerations:

Locations where only glyphosate only will be applied:

- US 101 MP 362-365 (City of Olympia Wellhead Protection Area)
- SR 510 MP 6-8.65 (City of Olympia Wellhead Protection Area)

Locations where no herbicide treatment is required:

- I-5 MP 109-114 (Where rolled shoulder pavement is present)

Treatment Methods

- Designated locations will be treated in mid to late spring with the following mixture of herbicides and adjuvants:

Blend R4:

- Roundup Pro Conc. @ 32 oz/acre
- Esplanade @ 5 oz/acre
- Lockdown SC @ 8 oz/acre
- Escort XP @ 1.5 oz/acre
- MSO @ 16 oz/acre

Wellhead Protection Areas:

- Roundup Pro Conc. @ 64 oz/acre
- MSO @ 16 oz/acre

Safety Mowing/Zone 2

Work Operation: 1625

HATS Form: Mowing Zone 2

HATS Map Layer: Reference lines – Roadside Features/Mowing Zone 2 Reference

This work includes routine mechanical cutting of all vegetation on the road shoulder in a band width immediately adjacent to pavement. Mowing is necessary in areas where taller growing grasses or other vegetation are present and must be annually or semi-annually cut back for visibility and maintenance of roadside hardware and delineators, to maintenance traffic sight distance at curves and intersections, and for improved visibility of wildlife approaching the highway. Mowing height for these operations is typically 6 to 8 inches above the ground.

Total Units of Planned Treatment

- Approximately **150 acres** of Zone 2 safety mowing will be conducted throughout the area.
- If there is adequate Zone 1 width and/or low growing grass established up to the pavement edge, the roadside will not be mowed.

Locations of Planned Treatments

Locations with increased mowing widths:

- I-5 MP 85.5 to MP 93 both directions will be mowed in late March because of ESA considerations. Prior to mowing that section will be conducted with spot treatment for nuisance weeds. The area will be mowed beyond 1 pass where the application was made.
- I-5 MP 116 to 139.50 Safety Mowing as needed to King County Line.
- SR 706 MP 0.10-13.4 mow wider than one pass for high animal kill corridor.
- Olympia Bike Trail I-5 MP 106 to MP 109 mowed twice a year.
- All areas with sight distance considerations such as gore points and intersections are mowed as needed for traffic safety

Treatment Methods

- Mowing will be done with multiple types of tractor mounted mowers including a 3-deck, 25 ft. total width mower, side arm mounted flail and rotary mowers, and orchard mowers.
- Mowing width varies between 4 and 24 feet as specified on the HATS maps.

Tree and Brush Control/Zone 2 and 3

Work Operations: 1622, 1625, 1626

HATS Forms: Pesticide Application for spray applications, and three sub-forms under Tree/Brush Control –Trimming Mechanical, Trimming Manual, and Mowing

HATS Map Layer: None

This includes safety and traffic operations related work in Zone 2, such as periodic side-trimming or removal of brush and trees or tree branches encroaching on or overhanging traffic operations, and impacting sign visibility. Also included is work in Zone 2 and 3 when selectively controlling emergent early succession tree species – to prevent them from growing into mature hazard trees within striking distance of the road. Removal of mature-sized dead, diseased, dying or structurally defective and hazardous trees is also included in this activity group.

Total Units of Planned Treatment

- Approximately **30 acres** will be trimmed mechanically
- Less than **10 acres** will be trimmed manually throughout the area.
- Approximately **30 acres** will be treated with herbicides

Locations of Planned Treatments

- SR 7 Both directions MP 47.5 to MP 52 for site distance.
- I-5 MP 85.5 to MP 93 both directions will be mowed in late March because of ESA considerations. Prior to mowing that section will be conducted with spot treatment for nuisance weeds. The area will be mowed beyond 1 pass where the application was made.
- I-5 MP 116 to 139.50 Safety Mowing as needed to King County Line.
- I-5 MP 88 to 93 SRA sewer line maintenance road.
- SR 7 Both directions MP 47.5 to MP 52 for site distance.
- SR 706 MP 0.10-13.4 mow wider than one pass for high animal kill corridor.
- Olympia Bike Trail I-5 MP 106 to MP 109 mowed twice a year.
- Other areas may be mowed at the direction of area management

Treatment Methods

- Side arm mounted mowing heads, skid steer mower, man-lift, hand held saws, pole saws, and chippers.
- Herbicide applications are made late in the growing season to maximize effectiveness and avoid “brown-out”
- Prescription for tree and brush herbicide treatments:
 - Garlon 4 @ 196 oz/acre
 - Spreader 90 @ 16 oz/acre
 - Blazon-Blue @ 66 oz/acre

Hazard Tree Removal/Zone 3

Work Operation: 1628

HATS Forms: Hazard Tree Removal – Individual Tree Removal, Stand Removal, and Cleanup Fallen Trees

HATS Map Layer: None

Trees within and adjacent to the right of way are routinely monitored by maintenance staff for potential risk to the highway and/or neighboring structures. Individual and stands of trees exhibiting structural or health defects and identified as a potential imminent threat, are removed as soon as possible.

Total Units of Planned Treatment

- There are typically less than **150** mature hazard trees removed throughout the area each year.

Locations of Planned Treatments

- Tacoma Area 1 will complete and review hazard tree assessment in early fall, track locations and species of trees that are remove because of their concern.
- Priority removal locations to be determined by area management.

Treatment Methods

- Qualified and experienced tree fallers within WSDOT, assistance from WA State Parks and small contracts when needed.
- Fallen trees and debris left to decompose on site whenever possible.

Noxious Weed Control – 3A2

This group of activities includes control of non-native invasive weed species as defined by state law and individual county designation. This group of activities is second priority vegetation management work after safety related objectives have been addressed. While all Class A, B, and C noxious weed species as listed in RCW 17.10 are considered potential targets for WSDOT noxious weed control, the agency is currently not funded to achieve 100% control of all noxious weeds. Therefore, the top priorities for weed control are focused on locations and species that are more limited in distribution on the right of way – where there is a chance of successful eradication. To prioritize control of species that are already widespread in the area, WSDOT works with the local county noxious weed boards and coordinators, to annually review and determine which species and locations will be specifically targeted.

To prioritize, plan, and track noxious weed control, WSDOT maps and monitors weed infestations in three categories: **Priority**, **Planned Treatment**, and **General Reference**. **Priority** locations are where Class A noxious weed species exist on the right of way, and complete eradication is required by state law. **Planned Treatment** sites are locations where there are new, and/or limited distribution infestations of Class B and C noxious weed exist, and eradication is possible. **General Reference** sites are recorded for reference only to document the presence of noxious weed species which are more commonly occurring in the local area. **General Reference** points are currently hidden and not in use.

Noxious Weed Control

Work Operations: 1616, 1618, 1641, 1699

HATS Forms: Pesticide Application (for spray applications,) and three sub-forms under Noxious Weed Control General– Manual/Mechanical, Seed/Fertilize/Mulch, and Biological

HATS Map Layer: Reference Points – Roadside Features/Noxious Weed Control Priority, Noxious Weed Control Planned Treatment, and Noxious Weed Control General Reference

Operations are prescribed throughout the season to prevent the spread of any legally designated noxious weed species, and to reduce or eliminate populations wherever possible. Integrated treatment plans combine field monitoring and an integral mixture of seasonally timed control methods with proven effectiveness on designated species. Successful plans are consistently implemented over a series of years and annually adjusted as necessary based on field observations. Care must be taken in all cases to avoid damage to surrounding desirable/native vegetation.

Target Species list for planned treatment in Olympic Region Area 1:

Common Name/Botanical Name	Treatment Notes
Gorse/ <i>Ulex europaeus</i>	Control has been executed on all known infestations and sites are being monitored.
Slender flower thistle	
Shiny geranium	

Purple loosestrife/ <i>Lythrum salicaria</i>	Control has been executed on all known plants and sites are being monitored.
Hawkweed sp./ <i>Hieracium sp.</i>	Hot spots have been mapped in HATS and sites are treated annually in early summer.
Knotweed sp./ <i>Polygonum sp.</i>	Target infestations have been mapped in HATS and sites are treated annually after most plants have flowered.
Ragwort tansy/ <i>Senecio jacobaea</i>	Heavily infested locations have been identified for early season treatment, then in early summer when plants are in flower crews conduct hand-pulling and seed disposal.
Common reed/ <i>Phragmites</i>	
Rush skeletonweed/ <i>Chondrilla juncea</i>	EDRR locations have been mapped in HATS and sites are treated annually in early spring. All visible plants are then treated when flowering throughout the summer.
Toadflax Dalmatian/ <i>Linarea dalmatica</i>	EDRR locations have been mapped in HATS and sites are treated annually in late summer.
Hemlock, poison/ <i>Conium maculatum</i>	EDRR locations have been mapped in HATS and sites are treated annually in early spring. All visible plants are then treated when flowering throughout the summer.
Knapweed sp./ <i>Centaurea sp.</i>	EDRR locations have been mapped in HATS and sites are treated annually in early spring. All visible plants are then treated when flowering throughout the summer.
Butterfly bush/ <i>Buddleia davidii</i>	EDRR locations have been mapped in HATS and sites are treated annually in late summer.

Total Units of Planned Treatment

- Approximately **15 acres** to be treated with herbicides.
- Up to **10 acres** will be controlled with mechanical tools or by hand.
- Locations of Planned Treatments
- Timing and location to be determined from field reviews and new locations from spread of seedlings.
- Reference HATS layer – **Noxious Weed Control General** includes Thurston and Pierce County data points for species location and distribution.
- Planned treatment targets include:

Treatment Methods and Timing

- Seasonal timing is critical to successful reduction in weed populations. However, in some cases the only possible treatments are made simply to control seed production, rather than to reduce populations. Seasonal target species and herbicide prescriptions include:
 - Early Season Targets**
 - Tansy ragwort, poison hemlock, shiny geranium, rush skeletonweed, gorse and Canada thistle
 - Late Season Targets**
 - Knotweed, blackberries, butterfly bush, and scotch broom
- Prescriptions for herbicide treatments for noxious weed treatments include:
 - Crossbow 96 oz/acre
 - Escort XP @ 2 oz/acre
 - Spreader 90 16 oz/acre

- Blazon-Blue 66 oz/acre

Nuisance Vegetation Control – 3A3

Nuisance vegetation control includes control/management of weed species that are recommended but not mandated by state and/or county law. These maintenance activities also may address vegetation growth that presents a publically perceived negative visual impact. Because nuisance weed control activities are not legally mandated and they do not pose a safety risk, they are considered the last priority vegetation management needs. Maintenance funding currently only allows for control of nuisance weed species in designated higher profile areas such as urban freeway corridors and at interchanges or when they are growing alongside designated noxious weed species and control is incidental.

Nuisance Vegetation Control

Work Operations: 1611, 1612, 1699

HATS Polygon Feature-based Forms: Herbicide Application, Manual/Mechanical, Biological, and Seed/Fertilize/Mulch

HATS Map Layer: Reference polygons – Roadside Features/Zone 3 Nuisance Reference

Nuisance weed species are often treated incidentally to controls directed at designated noxious weed species in proximity. Other nuisance vegetation management is conducted in a select set of high profile interchanges and urban roadsides where the goal is establishing the lowest maintenance weed free roadside possible.

Total Units of Planned Treatment

- Approximately **15 acres** will be treated with herbicides for nuisance weed control as part of IVM treatments in prioritized Zone 3 areas.
- Approximately **15 acres** will be mowed for nuisance vegetation control in 2022.

Locations of Planned Treatments

- Reference HATS layer – **Roadside Features/Zone 3 Nuisance Reference**
- Primary focus areas for Nuisance Vegetation Control in Zone 3 includes:
 - I-5 – 56th St. Interchange and surrounding alignment
 - I-5 Hawks Prairie
 - I-5 Scatter Creek

Treatment Methods and Timing

- Multi-year IVM treatment plans for each planned location are described in the attribute notes attached to the Zone 3 polygons on HATS maps.
- Treatment strategies typically include the initial use of selective or wholesale mowing, and cutting and/or hand pulling to clear larger target species where present. In succeeding years regrowth of unwanted species is selectively treated with herbicide broadcast spraying, spot spraying, and hand pulling.
- Prescriptions for herbicide treatments:
 - Clorpyralid @ 96 oz/acre
 - Escort XP @ 2 oz/acre
 - Spreader 90 @ 16 oz/acre

Landscape Maintenance – 3A5

Landscape maintenance work includes all vegetation management activities that take place on roadsides within areas designated as formal urban planting areas where the intention is to enhance the appearance of freeways through urban centers. For these roadsides the goal is to maintain healthy plantings in all three zones and to control all weeds. Planted vegetation is intended to be preserved and enhanced over time through pruning, hedging, trimming, and fertilization where necessary.

Landscape

Work Operations: 1513, 1516, 1518, 1525, 1541, 1552, 1561, 1599

HATS Forms: Pesticide Application (for all spray applications), and six sub-forms under Landscape – Weed Control/Manual, Weed Control/Mechanical, Pruning/Hedging/Edging, Seed/Mulch/Plant/Fertilize, Mowing Lawn, Irrigation System Operations & Maintenance, and Other Maintenance as Approved by Superintendent

HATS Map Layer: Reference polygons – Roadside Features/Landscape Maintenance Reference

Landscape maintenance operations are only conducted in a limited number of locations as described below and mapped in HATS. Maintenance activities in each identified location are planned based on a multi-year treatment strategy. Treatment decision are based on monitoring and the proven most effective combination of maintenance actions, to keep plantings (and lawns if present) looking healthy and trimmed throughout the year.

Total Units of Planned Treatment

- There are approximately **35 acres** of formally landscaped roadside in Tacoma and Olympia.

Locations of Planned Treatments

- Reference HATS layer – **Roadside Features/Landscape Maintenance.**
- Locations of designate formal landscape include:
 - I-5 MP104.73 – 104.83 IVY BED
 - I-5 MP105.04 – 105.2 SHRUB BED
 - I-5 MP105.24 – 105.5 SHRUB AND IVY BEDS includes the capitol interchanges
 - I-5 MP105.55 – 105.92 IVY BED
 - I-5 MP106.04 – 106.58 IVY BED
 - I-5 MP106.58 – 106.6 COTONEASTER AND IVY yearly light pruning with heavy pruning every 7 to 10 years as needed
 - I-5 MP106.6 – 106.66 IVY BED
 - I-5 MP106.66 – 107.58 SHRUB BED
 - I-5 MP107.64 – 107.91 ELEVATED SHRUB BED does not receive a casoron application
 - I-5 MP107.91 – 108.51 IVY AND SHRUB BEDS including the Sleater Kinney interchange
 - I-5 MP108.51 – 108.93 SHRUB BED identified as a shiny geranium sight. Also has a 6 to 6 foot grass fringe on the mainline side
 - I-5 MP108.93 – 109.28 SHRUB BEDS including the 109 interchange
 - I-5 MP111.39 – 112.04 SHRUB BEDS with grass fringe including the 111 interchange
 - I-705 area in and around downtown Tacoma and areas designated as formal landscaped areas.
 - I-5 MP108.94 – 109.12 WAX MYRTLE moderate pruning every 2 years. Nuisance and noxious control as needed
 - I-5 MP112.15 – 111.84 SHRUB BEDS with grass fringe mainline side includes the 111 interchange
 - I-5 MP109.24 – 108.9 SHRUB BEDS including 109 interchange
 - I-5 MP108.9 – 108.46 SHRUB BEDS identified as a shiny geranium class a noxious weed area
 - I-5 MP108.46 – 108.16 IVY BED with grass fringe mainline side includes Sleater Kinney interchange
 - I-5 MP109.28 to the interchange at 111 mowed back to the native tree line.
 - I-5 MP102.6 SHRUB BED. Trosper off ramp right side up to the stop light.

- I-5 MP102.6 – 102.7 IVY BED Gore to Gore at Trospen and interior of ramps.
- I-5 MP102.89 – 103.43 SHRUB BED.
- I-5 MP103.53 – 103.65 SHRUB BED Deschutes off ramp both sides
- I-5 MP103.98 – 104.31 IVY BED. 101 off ramp both sides
- I-5 MP104.38 – 104.5 SHRUB BEDS Includes 101 on ramp and Deschutes on ramp both sides
- I-5 MP108.16 – 106.87 SHRUB BEDS includes Pacific Ave. interchanges
- I-5 MP106.69 – 106.51 COTONEASTER WITH IVY yearly light pruning. Heavy pruning every 7 to 10 years as needed
- I-5 MP106.51 – 105.91 IVY BED
- I-5 MP105.81 – 105.39 IVY BEDS with elevated ivy including the capitol interchanges trim elevated ivy every 2 to 5 years as needed
- I-5 MP105.26 – 105.02 SHRUB BEDS Henderson on ramp both sides. Did not receive a casoron application in 2014
- I-5 MP105.02- 104.59 IVY BED
- I-5 MP104.46 – 104.27 IVY AND SHRUB BEDS includes the hwy. 101 interchange. North side of 101
- I-5 MP104.27 – 103.03 IVY AND ELEVATED IVY trim elevated ivy every 2 to 5 years as needed. Includes second Ave. interchange and south side of HWY 101
- I-5 MP102.94 – 102.79 IVY AND SHRUB BEDS includes new planting at Trospen and Trospen interchange
- SR 101 MP365.22 – 365.65 SHRUB BEDS this is both directions at black lake interchange.
- Other areas may be applied at the direction of area management

Treatment Methods and Timing

- Broadcast applications with pre-emergent late winter early spring.
- Mechanical and power tools in spring and summer months
- Prescriptions for herbicide treatments:
 - Pre-emergent
 - Casoron 150 lbs/acre
 - Post emergent
 - Mix 1:
 - Ranger Pro 64 oz/acre
 - Syltac @ 16 oz/acre
 - Mix 2:
 - Milestone @ 7 oz/acre
 - Syltac @ 16 oz/acre

Safety Rest Operations – 7B1

All safety rest areas have planted areas and vegetation maintenance requirements throughout the facility. These are some of WSDOT’s most heavily accessed facilities and often one the first impressions of Washington State for the visiting public. The goal in maintenance of rest area landscape plantings is to present a well-kept appearance and plantings are intended to be maintained in a set condition throughout the year. For landscape treatments in these facilities the goal is to maintain healthy plantings in all three zones and to control all weeds. Planted vegetation is intended to be preserved and enhanced over time through pruning, hedging, trimming, and including irrigation and fertilization where necessary.

Safety Rest Area Landscape Maintenance

Work Operations: 1711, 1752, 1789, 1799

HATS Forms: Pesticide Application (for all spray applications)

HATS Map Layers: Formal Landscape and Natural Landscape polygons (coming soon to HATS)

Rest area landscape maintenance operations may be conducted by rest area attendants and/or maintenance area IVM specialists. Planting areas at all rest area sites are mapped as two sets of reference polygons in HATS showing areas with formal landscape plantings and those with naturalized plantings. Treatment plans are based on monitoring and evaluation of previous years' actions and results. Annually adaptive plans are based on the proven most effective combination of maintenance actions to keep plantings (and lawns if present) looking healthy and trimmed throughout the year.

Locations of Safety Rest Areas in Olympic Region Area 1

- Maytown – I-5 SB at MP 93.2 to 93.6
- Scatter Creek – I-5 NB at MP 90.6 to 91.1
- Polygons have been created for outlines on high and low maintained landscape areas throughout each site. These polygons will be incorporated with HATS in the future.

Treatment Methods and Timing

- Vegetation management activities within Safety Rest Areas is conducted by the Area 1 crew with some assistance from the rest area attendants.
- Routine landscape related work requirements include:
 - Annual startup and winterization of irrigation.
 - Weekly mowing and routine edging of lawn areas
 - Weed control in lawns and in planting beds around pedestrian areas
- Pollinator Research at Scatter Creek Rest Area:
 - Wildflower meadows have been established in areas beyond the direct building access
 - Mowing in these area is conducted once per year in September/October
 - Selective control of certain weed species is also required in these area and is conducted by hand either manually or with herbicide spot treatments

Stormwater Facilities Maintenance

Vegetation maintenance in stormwater management facilities is planned and measured separate from the other roadside activities described in this plan. Vegetation control actions in these facilities are defined in the "Owner's Manual" for each feature. Because these facilities are regulated by permit and require ongoing maintenance in order to function properly, necessary vegetation management actions in these facilities are prioritized separately from other roadside vegetation management needs.

As in all vegetation management activities, long-term vegetation maintenance requirements can be minimized by applying a multi-year IVM strategy to establish desirable vegetation and minimize the emergence and growth of unwanted species.

NPDES Maintenance

Work Operations: 1344, 1363, 1364, 1365, 1368, 1399

HATS Feature-based Forms: Stormwater Features List

HATS Map Layers: Stormwater Features

Before crews warrant the need to remove or treat vegetation from a Stormwater Facility several factors need to be considered. Crews shall review sections 3.9 and 3.9.1 of the Olympic Region Area 1 IVM Plan, section 5.5 of the Highway runoff manual, and review sections 1 through 4 of the Roadside Policy Manual an onsite visit with Region and/or HQ environmental office to determine what is the "Best Maintenance Practice" to a site specific plan or Owner's Manual.

- Locations of IVM needs in Stormwater facilities will be tracked through Highway Activities Tracking System. (HAT)
- All herbicide applications will tracked in the Pesticide Tracking Database
- Work will be determined by Typical and Non Typical Maintenance and the operation of the facility
- Facility restoration of sites over \$25,000
 - ✓ SR 101 Black Lake Blvd, SR 161 and SR 16 All work coordinated with HQ and Region Environmental Office