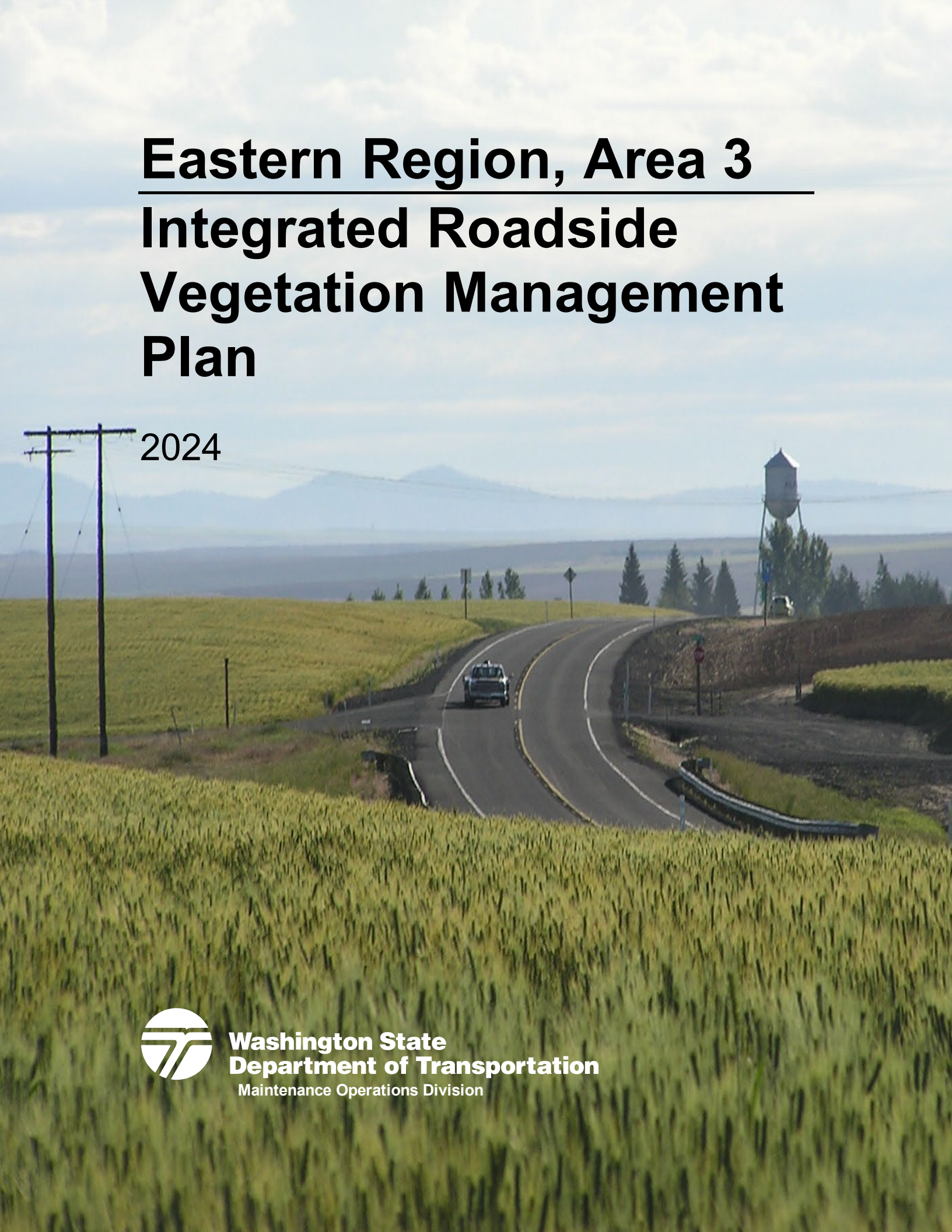
Eastern Region, Area 3

Integrated Roadside Vegetation Management Plan

2024



Washington State Department of Transportation

Maintenance Operations Division

Introduction

The Washington State Department of Transportation's (WSDOT) Eastern Region, Area 3 manages **995 miles** of roadside right-of-way throughout Lincoln and Adams counties. The state highway system in this area includes portions of I-90, US2, US395, SR25, and SR21, as well as a number of other secondary state routes. A map of state highways and routes in this area is shown on the following page.

The primary roadside vegetation management objectives are in relation to traffic safety, employee 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 Eastern Region Area 3 for the 2024 growing season. It identifies priority locations and prescribes treatments for accomplishing safety and weed control objectives through a combination of integrated, 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.

The information contained in this plan document can be geographically referenced by crews in the field using iPads and the agency's Highway Activity Tracking System (HATS). Accomplishments and results are also tracked geographically through this system, providing site specific reference of historic actions and results. 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 other vegetation management activities. Wherever appropriate the agency is looking for opportunities to plan and cooperate with others in managing the roadside. Please direct any questions, comments or suggestions to the Eastern Region Area 3 acting Superintendent – Kurt Kaufman, or the State's Roadside Asset Manager – Ray Willard.

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Eastern Region, Area 3 – Vicinity Map
Figure 1

The section outlines the overall approach and geographic distribution of roadside vegetation management requirements throughout the maintenance area in 2024. Information is organized in relation to three major groups defined in the WSDOT Maintenance Accountability Program (MAP) for the performance of roadside vegetation maintenance activities: **Control of Vegetative Obstructions**, **Noxious Weed Control**, and **Nuisance Weed Control**. A section on **Safety Rest Area Operations** is also included. 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 well-organized locked facilities.

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 in terms of the overall roadside maintenance needs. Vegetation management objectives and work activities in this category fall into four groups – **Pavement Edge Maintenance/Zone 1**, **One Pass 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

- Apply approximately **550 acres** of herbicide treatment to road shoulders throughout the area.

Locations of Planned Treatments

- Planned treatments are mapped in HATS layer – **Zone 1 Treatments**.
- All shoulders in the area will be treated with a 4' width banded application of soil residual and non-selective herbicides.
- Fall residual treatments will be made to all shoulder.
- Pit site floors and piles are included in Zone 1 treatment acres

- SR231, MP 35.5-39.5 is a sensitive area along the creek, and will be treated with Glyphosate only @ 32 oz./acre, once or twice as needed during the growing season.

Treatment Methods

- Herbicides are applied using a truck mounted power spray system calibrated to deliver a 4-foot band of spray mixture on a flat surface adjacent to the paved shoulder. The resulting width of treated shoulder may be wider than 4 feet in areas with steeper shoulder slope.
- Herbicide mixtures:
  465310 Davenport
  Mix by hand –
  - Esplanade @ 7 oz/acre
  - Oust @ 5 oz/acre
  - MSO @ 2 oz/acre

  465320 Ritzville
  Blend R4 –
  - Roundup Pro Conc. @ 32 oz/acre
  - Esplanade @ 7 oz/acre
  - Lockdown SC @ 8 oz/acre
  - Escort XP @ 1.5 oz/acre
  - In Place

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, controlling snow drift, 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

- Less than **20 acres** in select locations throughout the area

Locations of Planned Treatments

- Identified areas where sight distance and/or snowdrift control is needed
- Some areas are being mowed in combination with herbicide treatment and showing success

Treatment Methods

- Tractor mounted mowing deck

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 pruning of brush and trees or tree branches behind guardrail, encroaching on or overhanging traffic operations, and/or 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.

Total Units of Planned Treatment

- Less than **10 acres** will be treated throughout the area.

Locations of Planned Treatments

Occasional trimming of encroaching branches:

- SR 174, MP 27-30
- SR 21, MP 99-102
- SR 25, MP 17-19
- SR 231, MP 36-39

Treatment Methods

- Trim with hand tools as necessary
- May try to borrow an arm mower for some of the heavier growth

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

- Less than **25 trees** per year on average

Locations of Planned Treatments

- All trees in the area will be continually evaluated for risk to the highway and adjacent property and removed as necessary.

Treatment Methods

- Cut with chain saws
- Leave debris to decompose on site when appropriate or removed to nearby out of sight locations.

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 and Planned Treatment**. **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.

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.

Designated Species Known to Exist on WSDOT Right of Way

- See **Appendix A** for a list target weed species and notes describing treatment of each species

Total Units of Planned Treatment

- Approximately **1,000 acres** will be treated with herbicides
- Less than **5 acres** will be pulled by hand

Locations of Planned Treatments

- Many designate species are present throughout long stretches of corridor and will be treated throughout the area when visible in spring and early summer, prior to seed production whenever possible.
- The area crews will be using HATS to map points where highest priority reoccurring infestations occur during the 2024 season, treatment strategies for these sites will then be developed for implementation beginning in the 2024 growing season.
- Pit sites are included when making noxious weed treatments, including bare ground treatments

Treatment Methods and Timing

- Treatment notes for all target species are included in **Appendix A**
- Treat throughout the area when visible in spring and early summer, prior to seed production whenever possible.
- Herbicide mix for early season treatments:
    - E2 @ 40 oz/acre
    - (or Mix Weedmaster and Vista)
    - Tordon 22K @ 32 oz/acre
    - MSO @ 32 oz/acre
    - Drop the Tordon when treating just kochia
- Herbicide mix for kochia treatments:
    - Weedmaster @ 32 oz./acre
    - Vista @ 16 oz/acre
    - In Place @ 5 oz./acre
- Herbicide mix:
    - Weedmaster @ 32 oz/acre
    - Tordon 22K @ 32 oz/acre
    - In-Place @ 8 oz/acre

Nuisance Vegetation Control – 3A3

Nuisance vegetation control takes place only in a select set of carefully prioritized locations throughout the area. These locations are delineated on maps in HATS as polygon outlines in Zone 3. Locations are prioritized to take place where there is heightened local interest in the visual appearance and condition of the roadside vegetation. Typical locations include: wider

areas along limited access freeways in urban and suburban areas, freeway interchanges for local urban centers, environmentally sensitive areas, and areas where neighbors are willing to partner with WSDOT on management efforts. Because nuisance weed control activities are not related to safety or legal requirements, and are primarily undertaken to improve the visual appearance of the roadside, they are considered the last priority vegetation management needs.

For all areas designated to receive Nuisance Vegetation Control, multi-year treatment plans have been developed. The actions contained in these plans will be executed and tracked in relation to specific Zone 3 polygons for **Nuisance Vegetation Control Zone 3,** referenced on HATS maps and described below.

Nuisance Vegetation Control
Work Operations: 1611, 1612, 1641, 1699
HATS Forms: Pesticide Application (for all spray applications), and 3 sub-forms under Nuisance Veg. Control General – Manual/Mechanical, Biological, and Seed/Fertilize/Mulch
HATS Map Layer: Reference polygons – Zone 3 Nuisance Reference

Maintenance activities in each identified location are planned and tracked as multi-year treatment strategies utilizing monitoring and the most effective combination of control methods – with a goal of establishing desirable vegetation that requires only minimal maintenance. Care must be taken in all cases to avoid damage to surrounding desirable/native vegetation. In some cases, soil enhancements may be used as well as seeding or planting of beneficial competition species. Successful plans are consistently implemented over a series of years and annually adjusted as necessary based on field observations.

Total Units of Planned Treatment

- Approximately **80 acres** will be mowed
- Approximately **80 acres** of nuisance weed species will be treated with herbicide in winter/spring 2024

Locations of Planned Treatments

- I-90, Ritzville and Sprague interchanges

Treatment Methods and Timing

- Evaluation of last year's treatments will be conducted in spring when weed rosettes are visible.
- Spot spray 2 to 3 times between May and July for emergent kochia and Russian thistle.
- Combine mowing in late season with follow spray for soft residual and selective broadleaf the following winter/spring
- Herbicide mix:
    - Esplande @ 5 oz/acre
    - Milestone @ 7 oz/acre
    - Oust XP @ 3 oz/acre
    - In Place @ 8 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 Eastern Region Area 3

- Sprague EB/WB lagunes
- Schrag EB/WB lagunes
- Hatton Coulee SR26
- Telford US2 No irrigation on lawns
- Keller SR21
- 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 3 crew with some assistance from the rest area attendants.
- All pesticide applications made in SRA facilities are posted for public notification.
- Applications made to SRA sewage lagoons for control of vegetation within stand water
- Routine landscape related work requirements include:
    - Annual startup and winterization of irrigation.
    - Weekly mowing and routine edging of lawn areas or as needed
    - Weed control in lawns and in planting beds throughout the site

Noxious Weed Targets on WSDOT Right of Way in Eastern Region Area 3:

Common Name/Botanical Name	***Treatment Notes***
Buffalobur *(Solanum rostratum)*	Occasional infestations, usually escapes from bird feeders. Control where visible in conjunction with summer seasonal weed patrols.
Bugloss, Annual *(Anchusa arvensis)*	Mainly on SR231, sites will be mapped and treated in the spring.
Bugloss, Common *(Anchusa officinalis)*	Mainly on SR231, sites will be mapped and treated in the spring.
Johnsongrass *(Sorghum halepense)*	All known infestations have been controlled and mapped for continued monitoring of regrowth.
Meadow sp. *(Centaurea jacea)*	Control where visible in conjunction with summer seasonal weed patrols
Knapweed, Russian *(Acroptilon repens)*	SR2, 21, 23, 25, 28, 231, 174 sites will be mapped and treated in the spring.
Knotweed, Japanese *(Polygonum cuspidatum)*	SR2 – Stormwater pond near Davenport is the only known occurrence. Site will be mapped but has been controlled in previous years and is being monitored for regrowth.
Kochia, *(kochia scoparia)*	Control where visible in spring follow up to Zone 1 treatments
Leafy Spurge *(Euphorbia esula)*	SR2 and SR231 have infestations that will be mapped and treated in the spring, and treated again in the late summer if there is regrowth
Perennial Pepperweed *(Lepidium latifolium)*	Known infestation sites will be mapped and treated in conjunction with summer weed patrols.
Perennial Sowthistle *(Sonchus arvensis ssp.)*	Control where visible in conjunction with seasonal weed patrols.
Phragmites/*Phramites austalis*	Control at all occurances
Puncturevine *(Tribulus terrestris)*	Weed boards will help with control and mapping reoccurring infestation sites.
Rush Skeletonweed *(Chondrilla juncea)*	Control where visible in conjunction with seasonal weed patrols, map outlying infestation sites for control in spring of 2024.
Thistle, Musk *(Carduus nutans)*	Weed boards will help with control and mapping reoccurring infestation sites.
Thistle, Scotch *(Onopordum acanthium)*	Weed boards will help with control and mapping reoccurring infestation sites.
Toadflax, Dalmatian *(Linaria dalmatica)*	Bio controls are working well on this plant in most areas. Only target if plants are not being impacted by bio-control agents.
Yellow Starthistle *(Centaurea solstitialis)*	Weed boards will help with control and mapping reoccurring infestation sites.