YAMHILL COUNTY
ROADSIDE VEGETATION
MANAGEMENT PLAN

Yamhill County Public Works Department

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EXECUTIVE SUMMARY

The Yamhill County Public Works Department (PWD) manages vegetation within the right-of-way to ensure safe and efficient travel on County roadways. This involves evaluating costs and effectiveness of vegetation control measures; minimizing impacts to water quality, and native plants and animals; working with diverse landowner interests; and complying with federal, state and local regulations and guidelines. Within its 716 miles (1,432 lane miles) of roads, public right-of-way encompasses 20 feet or more on each side of the road centerline, and vegetation is managed on the shoulders, foreslopes, ditches, and backslopes.

In 2014, the County Board of Commissioners appointed a Technical Advisory Committee (TAC) to update its 2005 roadside vegetation management policies. The TAC reports to the Road Improvement Advisory Committee (RIAC) and RIAC makes recommendations to the County Commissioners.

The TAC set several goals to guide policy development:

1. Ensure roadways are safe by removing potentially hazardous vegetation, including at bridges and culverts.
2. Reduce spread of noxious weeds and invasive plants.
3. Minimize negative impacts to species listed as threatened, endangered, or of concern.
4. Promote native plant communities.
5. Minimize negative impacts to water quality.
6. Work with property owners who want to maintain their own roadsides, and partner with others to identify and manage areas of special value or concern.
7. Communicate these goals and policies effectively.

Policies were developed for each goal using approaches that have consistently shown superior results. Best Management Practices were advanced for each of the County's primary roadside vegetation management activities, including ditch maintenance, brush-cutting, mowing, tree removal, planting, spraying, and noxious weed and invasive plant control. A program to permit landowners to manage their own roadside vegetation was defined, as was a program for groups with special expertise to assist PWD with identifying areas of special concern or high value for native plants and wildlife and to help the County implement this program. The Plan reaffirms the need to engage the public with easily accessible and understandable information and to implement an open and transparent vegetation management program.

Following adoption of the Plan in 2016, the Commissioners reappointed the TAC to assist PWD with implementation. The TAC developed a Roadside Vegetation Inventory program to inventory and document the condition of all County roadsides relative to erosion, invasive plants, and native plant communities. Continuation and expansion of this program will provide PWD with regularly updated information on which to base its management decisions. In 2021, the TAC reviewed the Plan with PWD staff to ensure that the document adequately addresses issues and to review PWD implementation. The TAC updated the Roadside Vegetation Management Plan in 2022 to respond to these discussions.

INTRODUCTION

Yamhill County faces many challenges in managing vegetation within its 716 miles (1,432 lane miles) of road right-of-way. These include: ensuring the safe and efficient movement of people, goods and services; protecting the public investment in its roads, road infrastructure, and right-of-way; minimizing negative impacts to water quality and to native plants and animals and their habitats; recognizing concerns of adjacent landowners; and complying with federal, state and local regulations and guidelines.

The following policy and practices update the 2005 Yamhill County Vegetation Management Policy and Best Management Practices and are designed to assist the Yamhill County Public Works Department to manage roadside vegetation in a consistent, conscientious, and cost-effective manner. Implementation depends upon County resources, and not all goals or objectives can be met in all circumstances. Progress on implementation of the policy, goals, and best practices will be evaluated on a regular basis, and results will be made available to the public. This Plan will be modified from time to time to reflect new approaches and improvements to road construction, maintenance, and vegetation management practices.

VEGETATION MANAGEMENT POLICY

Yamhill County will maintain its road system in a safe, efficient, economical, and ecologically sound manner.

VEGETATION MANAGEMENT GOALS

GOAL 1: PROTECT AND MANAGE THE ROAD INFRASTRUCTURE TO ENSURE THE SAFETY OF THE TRAVELING PUBLIC

PURPOSE: Remove hazardous and undesirable vegetation within or encroaching upon County road right-of-way (e.g., noxious weeds, invasive plants, brush, branches, and trees) to maintain sight distance and vertical and horizontal vehicle clearance for general public safety; maintain visibility and access to signs, guardrails, delineator posts, utility facilities, and other permitted structures within the right-of-way; maintain culverts and drainage; and ensure pavement and road structure integrity.

GOAL 2: REDUCE THE SPREAD OF NOXIOUS WEEDS AND NON-NATIVE INVASIVE PLANT SPECIES

PURPOSE: Control plants that crowd out desirable plants. Prevent roads from serving as corridors for the spread of noxious weeds and invasive plants to new areas.

GOAL 3: MINIMIZE NEGATIVE IMPACTS TO NATIVE SPECIES LISTED AS THREATENED, ENDANGERED, OR SPECIES OF CONCERN

PURPOSE: Follow conservation measures to comply with state and federal regulations that protect and enhance listed species and species of concern.

GOAL 4: PROMOTE NATIVE PLANT COMMUNITIES, ENHANCE EXISTING COMMUNITIES, AND ESTABLISH NEW COMMUNITIES ON NEW CONSTRUCTION AND ROAD IMPROVEMENT PROJECTS

PURPOSE: Use well-adapted, low-maintenance native plants to provide the benefits of limiting storm water runoff, reducing soil erosion and water pollution, providing habitat, and resisting weed invasion, for the lowest cost in the long term. Maintain the unique native plant communities in the roadside landscape that provide a regional identity and natural beauty. Preserve our natural heritage, recognizing that roadsides are the last refuge for many native plants and animals, including insect pollinators.

GOAL 5: MINIMIZE NEGATIVE IMPACTS TO WATER QUALITY

PURPOSE: Act as good stewards of water and land resources by minimizing erosion from runoff and pollution of waterways within County road right-of-way.

GOAL 6: WORK WITH PROPERTY OWNERS/MANAGERS OR GROUPS WITH SPECIAL EXPERTISE TO PRESERVE AND MANAGE VEGETATION IN A MANNER THAT DOES NOT NEGATIVELY IMPACT PUBLIC SAFETY OR ROAD INTEGRITY.

PURPOSE: Recognizing that adjacent property owners or their authorized agents may have an interest in management of certain roadsides, work with them to establish Private Maintenance Agreements (PMA) and ensure that these sections of public right-of-way are regularly maintained. Yamhill County may initiate designation of Special Maintenance Zones (SMZ) for identified roadsides requiring special County maintenance plans, or may partner with groups with special expertise to develop and implement such plans.

GOAL 7: EFFECTIVELY COMMUNICATE THE YAMHILL COUNTY ROADSIDE VEGETATION MANAGEMENT POLICY AND GOALS

PURPOSE: Establish a transparent and open process for sharing information on County roadside vegetation management.

TYPICAL ROAD SECTIONS AND MAINTENANCE ACTIVITIES

A typical road section is illustrated in Figure 1. General guidelines for road maintenance and vision clearance zones are included in Table 1. Recommended timing for maintenance activities is summarized in Table 2.

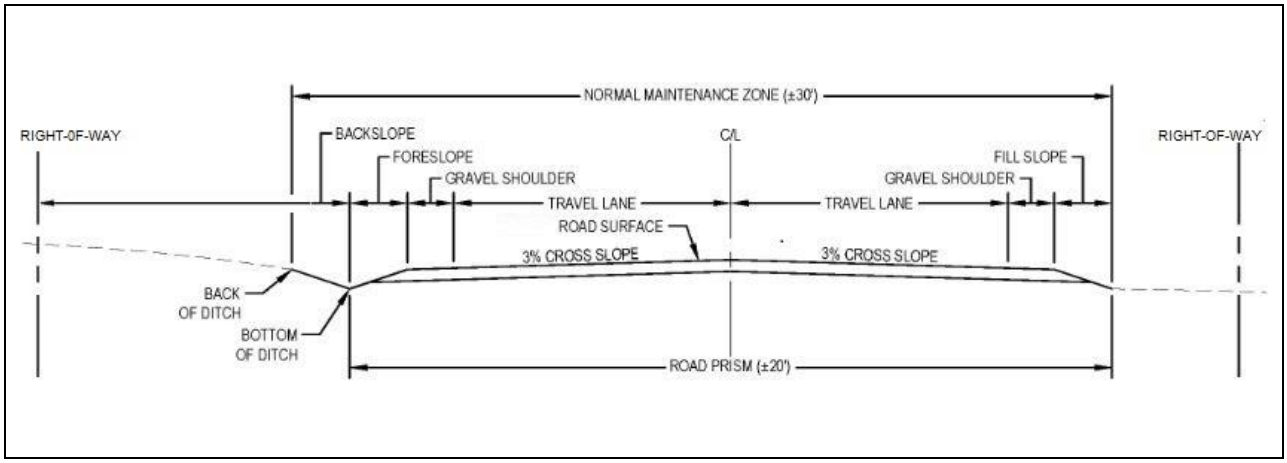

Figure 1. Typical Road Section for Gravel and Paved Surfaces

Road Section	Width	Maintenance Activities as Needed
Travel lane: paved or gravel surface	11-12 feet	• Pave or grade • Spray to clear road for surface treatment access or improvement projects
Gravel shoulder and foreslope: shoulder to bottom of ditch	Varies	• Spray next to paved roads to maintain a zone of low-growing vegetation or bare gravel • Limit broadcast spray zone to 2-3 feet from edge of travel lane; stay above ditch high water mark • Target spray for noxious weeds and invasive plants • Mow • Cut brush • Clean ditches and keep clear of debris • Maintain vegetative cover in ditches
Backslope: bottom of ditch to outside edge of right-of-way	Varies	• Mow, cut brush, remove trees, or target spray to: o Respond to emergency/hazardous circumstances o Maintain sight distance o Maintain vehicle clearance o Maintain visibility of signs, guard rails, permitted structures o Control noxious weeds and invasive plants • Clean ditches and keep clear of debris • Maintain vegetative cover in ditches

Table 1. Maintenance Guidelines

	Month	J	F	M	A	M	J	J	A	S	O	N	D
Maintenance Activity	Mowing (6 feet from edge of roadway)	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓
	Brush cutting	✓	✓	x	x	x	x	x	-	-	✓	✓	✓
	Broadcast spraying (2-3 feet from edge of paved roadway)	-	-✓	✓	✓	✓	✓	-	-	-	-	-	-
	Targeted spraying	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
	Large tree and brush removal	✓	✓	x	x	x	x	x	✓	✓	✓	✓	✓
	Drainage maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Seeding	-	-	✓	✓	✓	-	-	-	✓	✓	-	-
	Grading and gravel placement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Shoulder preparation and rocking	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Bridge vegetation management	-	-	-	✓	✓	✓	-	-	-	-	-	-

✓ Activities are not restricted during these months.
X Activities are recommended to be restricted during these months. Activity may occur after consultation with an expert to minimize negative impacts on native plant and animal species.
- Activities are generally not performed during these months.

NOTE: Times may differ to accommodate emergencies, weather conditions, or special circumstances.

Table 2. Recommended Schedule for Roadside Maintenance Activities

BEST MANAGEMENT PRACTICES

The following Best Management Practices (BMPs) are intended to achieve Yamhill County's policy and goals for roadside vegetation management and to embrace cost-effective and sound vegetation management practices that consider: traffic safety, water quality, erosion prevention, wetland protection, threatened and endangered species protection, native plant protection, noxious weed and invasive plant control, and regulatory requirements.

Adaptive management strategies should be followed in order to continually improve on these BMPs. Strategies could include trials or demonstration projects to explore new ideas and practices, such as ditch burning, controlled grazing, or implementing alternatives to removal of all roadside vegetation in the right-of-way by adjacent property owners. New and innovative ways to improve the maintenance and reduce the costs of vegetation management should be explored (e.g., use rotary mowers, weed wipers for targeted herbicide application, and seasonal timing of herbicides near sensitive areas).

General

1. Use an integrated approach to manage problem vegetation, including mechanical, chemical, cultural, and biological controls if available.
2. Maintain proper sight distance, line of sight, and vertical clearance for motorists consistent with the American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual.
3. Maintain visibility of and access to signs, guardrails, delineator posts, utility facilities, and other permitted structures within the right-of-way.
4. Develop and maintain a Geographic Information System (GIS) inventory of erosion, invasive plants, native plants (threatened and endangered species, species of concern, rare species in the County), and significant native plant communities, as well as hazards for maintenance equipment, and road infrastructure including culverts, for all land within the County road right-of-way.
    a. Create and maintain a County GIS roadside vegetation inventory map with Global Positioning System (GPS) coordinate locations on all mapped features.
    b. Characterize County roadside sections and prioritize for regular inventory and maintenance.
    c. Establish Special Maintenance Zones and develop BMPs and management plans for prioritized sections of roadways.
5. Develop and include standard contract and permit provisions to ensure compliance with BMPs by contractors, utilities, and others working in County road right-of-way.
6. Provide training on BMPs to PWD staff.

Ditch Management

Description: Ditches protect the integrity of the roadway, and are designed to drain water away from the road. However, soils exposed during cleaning are a source of sediment that washes into streams; narrow, V-shaped, or steeply sloping ditches create higher water velocity and increased erosion. Gravel from road shoulders can wash into the ditch causing clogging and ditch water

can contribute to downstream flooding. Ditches collect runoff from adjacent properties that often contain nutrients, pesticides, and live pathogens that can carry into streams. A properly designed and maintained ditch system is critical for protecting the quantity and quality of our water resources.

Best Management Practices

1. Keep ditches shallow, no deeper than needed to carry anticipated water flows.
2. Remove as little material as possible to reestablish the flow line of the ditch.
3. Avoid creating V-shaped ditches that concentrate flow, become more incised, and erode sediment. Where possible, reshape ditches to a shallow, trapezoidal, or rounded profile that allows routine mowing.
4. Do not scrape vegetation from backslopes or foreslopes unless necessary to properly reshape the ditch. Where possible, leave vegetated strips in the downhill section of the ditch to trap sediment. Plant and hydroseed where needed to reestablish vegetation quickly.
5. Maintain native vegetation in ditches whenever possible.
6. Install check dams, such as biobags with biodegradable mesh, to slow water velocity and capture sediment, especially in ditches that carry significant runoff.
7. To the extent possible, maintain a vegetated strip between the shoulder and the ditch.
8. Work with other agencies, such as the Yamhill Soil and Water Conservation District (SWCD), to encourage adjacent property owners to responsibly manage the quality and quantity of runoff from their properties into roadside ditches.
9. Adopt a program to address and implement Total Maximum Daily Load (TMDL) for mercury in the Willamette Basin.

Brush Cutting, Mowing, and Tree Removal

Description: These activities remove noxious weeds and other problem vegetation on County right-of-way to maintain road integrity, sight distance, vertical and horizontal vehicle clearance, and general public safety.

Best Management Practices

General

1. Limit mowing and other methods of vegetation removal to the area from the edge of the travel lane to the foreslope edge of the ditch, except where problem plants, sight distance, vehicle clearance, drainage, or public safety is of concern.
2. Trim branches that enter the right-of-way to achieve an 18-foot minimum vertical clearance.

Water Quality

1. Prevent or reduce pollutants and sediments from entering surface waters to improve water quality and comply with federal, state, and local regulations.
2. Deposit excess material above the 100-year floodplain and not within 75 feet of a stream, wetland, or riparian area.
3. If trees providing shade or bank stabilization within 50 feet of water bodies are determined to be a risk to public safety, remove the trees and replace with new trees at a 2:1 ratio in an area that will not pose a future threat to the roadway or bridge structures.
4. Refuel, repair, and clean equipment at least 25 feet from water bodies.
5. At bridge heads, remove brush on either side, either end, and under the structure only as needed to maintain sight distance and safety of the structure or to control noxious weeds and invasive plants. Maintain adequate air flow to prevent moisture build-up on wood, steel, and concrete bridge components.
6. Remove 10 feet of brush, upstream, downstream, and on each side of culverts that are 6 inches in diameter or greater. Removal of invasive plants may extend beyond this limit.

Wildlife

1. Minimize impacts to migratory birds and other wildlife by not mowing on the backslope and by avoiding brush cutting during major nesting periods (March through the end of July), except where sight distance or public safety is of concern.
2. Leave brush cut in riparian areas in place for wildlife habitat where doing so does not interfere with sight distance, create safety issues or fire hazards, involve invasive plants, or hinder the proper functioning of highway features (e.g., drainage).
3. Install beaver screens where necessary to maintain free-flowing culverts. Work with property owners to eliminate water backup resulting from beaver dams that undermine roads.

Native Plant Species

1. Follow management plans for Special Maintenance Zones.
2. Where significant populations of native plants have been GIS mapped, avoid brush-cutting or mowing in the area until the plants have set seed.
3. Consider requests to forego maintenance on significant areas of native plants; consult with resource experts as needed.

Shoulder, Foreslope, Ditch, and Backslope Spraying

Description: The purpose of applying herbicides along the roadside is to eradicate or reduce the growth of noxious weeds, invasive plants, sight-obstructing brush, and other undesirable vegetation. Generally, tree stumps are hand-painted with an herbicide labeled for this purpose, shoulder spraying is truck-applied, and targeted foliar spraying is applied by truck or on foot using a backpack sprayer. 2,4-D is specifically not used by the County because of its risks to sensitive crops that may be in close proximity. Herbicides used include selective and non-selective foliar-active and pre-emergent (soil residual) chemicals. No restricted use herbicides are used.

Best Management Practices

Regulations

1. Comply with all labels, laws, rules, and regulations.
2. Require PWD staff and contractors who mix or apply herbicides to carry a current public applicator license or be supervised by a licensed person.
3. Require annual training for PWD staff who mix or apply herbicides.
4. Maintain a record-keeping system that documents the date, amount of chemical applied, location of application, temperature, and wind speed at the beginning and end of application.
5. Apply only when wind speeds are within Environmental Protection Agency (EPA) label guidelines.
6. Dispose of empty herbicide containers in accordance with EPA guidelines.
7. Carry supplies to contain small spills (absorbent materials, bags, shovel, etc.) and follow established guidelines for spill containment.

General

1. Favor mechanical and biological control of undesirable plants over chemical controls, whenever possible.
2. Choose the most environmentally benign herbicides at the lowest doses within EPA recommendations to achieve vegetation management goals.
3. Base spray decisions on weather conditions, terrain, soil types, adjacent vegetation, adjacent land uses, and presence of water in ditches.
4. Use lowest pressure compatible with adequate coverage to reduce drift.
5. Inspect spraying equipment, calibrate sprayers, and check nozzles for uniform spray patterns at least once a year; replace worn nozzles.
6. Rotate herbicides and/or alternate herbicides with mechanical/manual control methods to prevent herbicide resistance.
7. Do not spray the ditch bottom except to treat invasive species.
8. For paved roads only and where necessary, spray non-selective herbicides for a vegetation-free shoulder from the pavement edge to the roadside edge of ditch, a maximum of 2-3 feet.
9. Target spray herbicides as needed to control noxious weeds and invasive plants.
10. Refrain from applying non-selective herbicides beyond the foreslope, except for targeted control of invasive plants.
11. Take care to avoid spray drift onto foliage of non-target shrubs and trees.
12. Replant using native grasses, trees, and shrubs whenever possible.
13. Periodically update and post a list of chemicals commonly used by PWD on County roadsides on its website for information and transparency to the public.

Water Quality

1. Adjacent to water bodies, use only herbicides that are permitted for aquatic use.
2. Use targeted spray within 25 feet of flowing water.
3. Use targeted spray within 25 feet of bridges only if vegetation control is critical to the function of the structure, and mechanical control is not practical.
4. Maintain vegetative cover in the foreslope, ditch, and backslope to minimize erosion.

Native Plant and Wildlife Species

1. Do not apply herbicides to known locations of Federal or State-recognized threatened or endangered plants or species of concern, except as provided in their Special Maintenance Zone management plans.
2. Do not apply herbicides to Special Maintenance Zones, except as provided in their management plans.
3. Consider foregoing spraying for significant areas of native plants that have been GIS mapped; consult with resource experts as needed.

Activities in Areas with Priority Noxious Weeds and Invasive Plants

Description: Working with the Roadside Vegetation Management Technical Advisory Committee, the PWD developed a list of noxious weeds and invasive plants that are targeted priorities for control; the list is included in the Yamhill County Roadside Vegetation Management Plan Technical Supporting Document. The document also includes a list of herbicides that PWD considers as options from among those labeled for use on roadsides. The document is posted on the PWD website and will be regularly updated. PWD also cooperates with the SWCD to address noxious weeds. The SWCD Noxious Weed List is updated annually and is available at http://www.yamhillswcd.org/weeds.

Best Management Practices

1. Prevention is the most effective and cost-effective method of controlling noxious weeds and invasive plants. It is important to avoid inadvertently transporting seeds or portions of plants that could propagate new plants elsewhere.
2. Map the location of reported noxious weed and invasive plant infestations on a Yamhill County road GIS overlay(s). Coordinate this effort with SWCD.
3. Work with the Yamhill County Road Improvement Advisory Committee during development of the annual Capital Improvement Projects list to identify all projects within known areas of invasive plants and noxious weeds for special care during construction or maintenance.
4. In any known location of invasive or undesirable plants where soil will be moved, including new construction, ditching, grading, paving, or other shoulder work:
    a. Stockpile soil moved during work on the site and return it to the site, if possible.
    b. Where soil must be removed from the site, monitor the dump site for at least three years and ensure that any weeds detected are promptly controlled.
    c. Do not allow members of the public to take the soil for private use.
    d. At the completion of the project, map where any soil removed from the site was placed so it can be monitored.
5. Before leaving an infested site, clean soil and plant material from workers' clothing and footwear, vehicles, and equipment using a broom, blower, and/or other tools to detach

mud and soil from tires, wheel wells, etc. Do not take vehicles or equipment to another project site before a thorough cleaning.
6. To keep contaminated soil localized as much as possible, where invasive plants or noxious weeds are present on only a portion of a project site, operate earth-moving or maintenance equipment in the clean portion first and finish in the infested area.
7. Mark both ends of known infested areas, and develop management plans for each area.
8. Coordinate with SWCD to monitor infested sites and to enlist adjacent landowner assistance in regular monitoring and control of infested areas.
9. Maintain a list of priority invasive plants that warrant special attention for Yamhill County roadside maintenance efforts and recommend control measures. Regularly update this list, in coordination with SWCD.
10. Maintain a list of herbicides that PWD considers options from among those labeled for use on roadsides, with descriptions of their effects on plants, their potential uses and use restrictions, and their risks to human health and the environment. Regularly update the list as a resource for PWD maintenance staff and as information for the general public.
11. Use the list of priority invasive plants and the list of herbicides in decisions on maintaining County roadsides.

Planting

Description: Careful purchase and placement of plants enhances soil stabilization and beautification programs, and requires knowledge of appropriate plant materials and planting methods for roadside vegetation projects.

Best Management Practices

1. After ditching and shaping of right-of-way, establish low-maintenance vegetation for erosion control and maintenance of water quality.
2. Replant areas where soil has been removed and where colonization by invasive plants or noxious weeds is likely.
3. Establish plant species on backslopes selected for stability and to control erosion. Use more common and affordable plants on foreslopes and roadsides.
4. Use low-growing plants, such as grasses, in areas with sight distance limitations.
5. When available, use native seed of known origin that is free of noxious weeds and invasive plants.
6. Prior to planting, control existing vegetation to achieve good seed-soil contact and to reduce competition from weeds germinating from seeds in the existing soil.
7. To reduce erosion, use planting techniques that minimize the disturbance of soils, such as hydroseeding, manual planting, and no-till planting.
8. Plant sterile or non-competitive non-native species when necessary to control erosion and to compete with invasive species until desired vegetation is established.
9. Avoid the use of excess fertilizers that can run off into waterways.

Coordination

Description: For a variety of reasons, some property owners request the authority to maintain vegetation within the right-of-way adjacent to their property as an alternative to County

maintenance. Groups with special expertise may also request the opportunity to maintain segments of right-of-way that support plant or wildlife habitats of special concern. The County supports these requests as long as private actions or inactions do not compromise public safety, and they are consistent with the overall Best Management Practices.

To maximize limited staff and resources, it is important to work with other local, state, and federal jurisdictions and agencies and to share access to information that may be of interest or value to Yamhill County residents. For example, PWD shares GIS and roadside vegetation inventory data with the SWCD and the Greater Yamhill Watershed Council to further mutual objectives.

Best Management Practices

1. Maintain a Private Maintenance Agreement Permit Program for the right-of-way where a landowner or authorized agent whose property is adjacent to a County roadside may request a permit to manage the roadside vegetation.
2. Follow management plans for Special Maintenance Zones, including zones created by the Habitat Conservation Plan for Kincaid's lupine and Fender's blue butterfly.
3. Encourage those working within County road right-of-way to use adaptive management practices.
4. Establish a process by which local groups with special expertise may assist in training PWD staff to identify species and habitats of concern within the right-of-way, to recommend Special Maintenance Zones, or to partner on issues to maximize conservation opportunities.
5. Coordinate with governmental agencies and others involved in roadside maintenance in an integrated approach to vegetation management.

Communication

Description: It is important to provide easily accessible and understandable information to the general public to maintain an open and transparent vegetation management program.

Best Management Practices

1. Regularly post and update the following information on roadside vegetation policy and management on the County webpage:
    a. Forms and instructions to apply for Special Maintenance Zones and Private Maintenance Agreements.
    b. Special Maintenance Zone and Private Maintenance Agreement locations.
    c. List of priority target invasive plants and herbicides commonly used by PWD.
    d. Timely information, prior to spraying, on general spraying schedules, areas to be sprayed, and herbicides to be used.
2. Provide a mechanism for public questions, comments, and requests, and a process to appeal staff decisions on maintenance activities.
3. Annually review complaints, procedures, and other related issues to improve and update vegetation management procedures.
4. Share links to other agencies and group websites or contact information.

Implementation

Description: Although the details of implementation of this Plan are PWD responsibility, some implementation strategies are important to managing Yamhill County roadsides.

Best Management Practices

Roadside Vegetation Inventory (RVI)

1. Inventory and document all County roads on a five-year rotation cycle and regularly evaluate the impact of current roadside vegetation management practices.
2. Include RVI data when evaluating and selecting annual Capital Improvement Projects and when making other management decisions.
3. Provide electronic equipment in PWD vehicles to enable in-the-field access to RVI data and approved roadside vegetation management plans.

Staff Training

1. Conduct training to emphasize the goal and objectives and to review Best Management Practices for all PWD staff who are involved in activities that affect roadside vegetation.
2. Provide on-going training in use of in-vehicle electronic equipment for PWD staff responsible for all aspects of roadside vegetation management.
3. Include Best Management Practices in training and orientation for new PWD management and maintenance employees.

Regular Review

1. Regularly review the Yamhill County Roadside Vegetation Management Plan to incorporate updated management practices and to evaluate implementation strategies.
2. Maintain a broad-based citizen committee with varied expertise to assist in development and evaluation of implementation strategies, and to participate in Plan review.

APPENDIX A: Definitions

ADAPTIVE MANAGEMENT: a process for continually improving management policies and practices, and learning from the outcomes of operational programs by experimentally comparing practices and evaluating alternative hypotheses about the system being managed.

BEST MANAGEMENT PRACTICE: a method or technique that has consistently shown results superior to those achieved by other means, is used as a benchmark, and may become better as improvements are discovered; i.e., today's best practice is a baseline for tomorrow's better practice.

BROADCAST SPRAYING: application of spray uniformly over a broad area, as opposed to a specific area or individual plants.

DIRECTED OR TARGETED SPRAYING: precise application of an herbicide to a specific area, specific plants, or parts of a plant.

ENDANGERED SPECIES: a species that is in danger of extinction within the foreseeable future throughout all or a significant portion of its range.

GEOGRAPHIC INFORMATION SYSTEM (GIS): a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

GLOBAL POSITION SYSTEM (GPS): a satellite-based radionavigation system owned, operated, and maintained by the United States Government. It provides geolocation and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.

GROUP WITH SPECIAL EXPERTISE: a formally recognized non-profit (501c3) or governmental organization with an adopted mission to protect water quality, native species, and/or habitats; for example, the Yamhill Soil & Water Conservation District, Greater Yamhill Watershed Council, and the Native Plant Society of Oregon.

HABITAT CONSERVATION PLAN: the importance of preserving rare species was legally recognized in 1973 when the Endangered Species Act (ESA) was signed into federal law. The purpose of the ESA is not only to protect species that have been listed as threatened or endangered, but also to conserve the ecosystems upon which those species depend. In aiming to protect species in danger of becoming extinct, the ESA prohibits actions that have the potential to result in a "taking" of any listed species. The term "take" under the ESA refers to any attempt or action involving the harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, or collecting of any listed species. Under this definition, the alteration of habitat that results in injury to, or death of, any listed species by preventing essential behavior (such as breeding, feeding or sheltering) is considered unlawful "harm."

A **Habitat Conservation Plan** is a required part of an application for an Incidental Take Permit, a permit issued under the United States Endangered Species Act (ESA) to entities undertaking projects that might result in the destruction of an endangered or threatened species. It is a planning document that ensures that the anticipated take of a listed species will be minimized or mitigated by conserving the habitat upon which the species depend, thereby contributing to the recovery of the species as a whole. In the context of roadside vegetation management, it outlines how State and Federally listed Threatened and Endangered plant species are managed along County right-of-way.

INTEGRATED VEGETATION MANAGEMENT (IVM): the practice of managing and promoting desirable, stable plant communities through the use of appropriate, environmentally sound, and cost-effective control methods.

- These methods may include a combination of chemical, biological, cultural, mechanical, and/or manual treatments.
  - **Biological**: using a natural predator to control a noxious weed or other unwanted vegetation.
  - **Chemical**: applying EPA-approved chemicals per product label.
  - **Cultural**: incorporating native or appropriate plant material to out-compete unwanted vegetation, using weed-free mulch, or modifying a land use practice.
  - **Mechanical**: using equipment, such as mowers, brushers, or chain saws.
  - **Manual**: weeding, brushing, hand removal.
- An IVM approach strives to manage vegetation and the environment by balancing benefits of control, cost, public health, environmental quality, and regulatory compliance.
- Adopting IVM on the right-of-way can reduce vegetation management costs; reduce utility customers' costs; improve native plant, animal, insect, and songbird habitat; and provide other ecological benefits (e.g., reduce runoff, control invasive species, create wildlife habitat).

INVASIVE PLANT: a plant that is not native to an ecosystem and, due to its fast growth and reproduction and lack of natural enemies, has the ability to spread aggressively, crowd out other plants, and create a single-species stand.

NATIVE PLANT: a plant that is indigenous to a region, ecosystem, or habitat; in Yamhill County, it is a plant that was indigenous to the Willamette River watershed prior to settlement by Euroamericans.

NON-SELECTIVE HERBICIDE: a chemical that kills all plants it comes in contact with.

NOXIOUS WEED: as defined by the Oregon Department of Agriculture (ODA), any plant designated by a Federal, State or County government as injurious to public health, agriculture, recreation, wildlife or property.

- "A" List – a plant of known economic importance that occurs in a county in small enough infestations to make eradication/containment possible; or is not yet known to occur, but its presence in neighboring areas makes future occurrence in a county seem imminent.
- "B" List – a plant of economic importance that is regionally abundant and needs to be controlled where found.

- "T" List – weed species selected annually by the Oregon State Weed Board (OSWB) from either the A or B list as top priority for prevention and control, and for which ODA must develop and implement a statewide management plan.

PLANT COMMUNITY: a group of plants growing together that interact with one another and with their physical environment. Community composition may vary over time and depends on a variety of environmental factors, such as soil type, water, climate, topography, fire, and the presence of other living things.

PRE-EMERGENT (SOIL RESIDUAL) HERBICIDE: a chemical applied prior to the emergence of a plant from the soil, intended to prevent seeds from germinating. The effectiveness of soil residual herbicides may be temporary or long term.

PRIVATE MAINTENANCE AGREEMENT (PMA): a contract between a landowner or authorized gent and County Public Works Department establishing a Special Maintenance Zone in which the adjacent landowner or applicant assumes, or assigns responsibility for, the vegetation management and maintenance, including guidelines for management agreed upon by both parties.

PROBLEM PLANT: a plant that is considered undesirable within a certain context; it grows where it is not wanted (e.g., it blocks sight distance or grows into road travel lanes) or is invasive (i.e., is able to reproduce rapidly and spread into new areas of potential habitat) in Yamhill County.

RIGHT-OF-WAY: all County roads are located on land that is referred to as the road right-of-way, which extends on both sides of the traveled road surface to include shoulders, foreslope, ditches, and backslope. The width of the road right-of-way and the road surface itself can vary a great deal, and the general rule of thumb is that it is 40 feet wide, approximately 20 feet on both sides of the center of the road.

SELECTIVE HERBICIDE: an herbicide formulated to control specific weeds or weed categories; a material that is toxic to some plant species but less toxic to others.

SPECIAL MAINTENANCE ZONE (SMZ): a section of County road right-of-way designated for other than routine maintenance activities.

- Landowners whose property adjoins the right-of way may submit an application, fee, and proof of insurance to have the right-of-way abutting their property excluded from any County maintenance activities, subject to a private maintenance agreement.
- Yamhill County may designate a Special Maintenance Zone that will be maintained by the County according to a special maintenance plan.

SPECIES OF CONCERN: an informal term used to refer to species that are in need of proactive protection, but for which insufficient information is available to list the species as threatened or endangered.

TARGET WEED: a weed that is new to Yamhill County or currently has limited distribution and is known to be highly invasive. Target weeds have a high priority for eradication or containment.

THREATENED SPECIES: any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

TOTAL MAXIMUM DAILY LOAD (TMDL): a planning tool designed to restore and maintain the quality of waters that have been identified as not meeting applicable water quality standards; the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant.

APPENDIX B: Yamhill County Roadside Vegetation Management Technical Advisory Committee

The Yamhill County Board of Commissioners appointed the Yamhill County Roadside Vegetation Management Technical Advisory Committee (TAC) to update policies and Best Management Practices to guide and assist the Yamhill County Public Works Department (PWD) to manage roadside vegetation in a consistent, conscientious, and cost-effective manner. The TAC reports to the Yamhill County Road Improvement Technical Advisory Committee (RIAC). Upon completion of its charge, the TAC provides recommendations to RIAC, who then make recommendations to the Board of Commissioners. The TAC met monthly from February 2014 through November 2015 to develop this Management Plan and implementing procedures. The TAC was reappointed to advise on implementation of the Plan and meets periodically to discuss and evaluate implementation strategies and results. In coordination with PWD staff, the TAC updated this Plan in a series of meetings in 2021 and 2022.

2022 Committee Members

Michal Wert, Chair
Retired, planning consultant
Member, Road Improvement Advisory Committee
Member, Native Plant Society of Oregon

Susan Aldrich-Markham
Retired, Oregon State University Field Crops Extension Agent and Professor Emeritus
Member, Native Plant Society of Oregon

Jordan Anderson
Resource Conservationist, Yamhill Soil and Water Conservation District
Board Member, Greater Yamhill Watershed Council
Member, Native Plant Society of Oregon

Dave Hanson
Naturalist/land owner, Gopher Valley area
Member, Native Plant Society of Oregon

Vern Holm
Retired, Western Invasives Network Coordinator

Mark Huff
Retired, US National Park Service ecologist/wildlife biologist
Owner, Stag Hollow Winery & Vineyard

Keith Nasman
Conservation Technician, Yamhill Soil and Water Conservation District

Sam Sweeney
Farmer, Dayton area

Staff

Mark Lago, Public Works Director
Vacant, Vegetation Management Coordinator
Casey Kulla, Board of Commissioners Liaison

APPENDIX C: References

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