

## ANNUAL REPORT

### Lane County Integrated Vegetation Management Program 2019

*Prepared for:*

LANE COUNTY BOARD OF HEALTH

*Prepared by:*

Lane County Department of Public Works  
Road Maintenance Division  
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*Lane County Department of Public Works has prepared this annual report to comply with the requirements of Lane Code 15.530*

## I. Herbicide Use

In October 2016, the Board of County Commissioners adopted Ordinance 16-07, the Roadside Integrated Vegetation Management Policy (RIVMP), developed from consensus-based recommendations of the Vegetation Management Task Force for limited, data-driven herbicide use within our Lane County road rights-of-way (ROW). Per the new ordinance, mechanical and manual control methods continue to be the primary tools used within the Integrated Vegetation Management Program (IVMP). All herbicide applications continue to focus on the maintenance of overgrown guardrails, noxious weed control, and any direct stump applications for “stump-sprouting” tree species. All herbicide products used within these high priority areas derives from a Permitted Product List reviewed and approved by the Board of Health for use by the Department of Public Works Road Maintenance Division, meeting specific criteria in accordance with Lane Code 15.510(6). These important steps help highlight Lane County Public Works’ commitment to control methods that promote environmental health and public safety in a targeted, limited-use herbicide program using the lowest risk products available.

Three herbicide products have been approved by the Board of Health for targeted control of roadside vegetation in accordance with the RIVMP within Lane County rights-of-way: Vastlan (triclopyr), Milestone (aminopyralid) and Ecomazapyr 2SL (imazapyr). Table 1 displays the concentrations and quantities of herbicide product applied to County roadways during the reporting period January 1, 2019 to December 31, 2019 for roadside vegetation management. These applications focused on the use of Vastlan for overgrown guardrail maintenance, Milestone for spotted knapweed control in partnership with the Department of Agriculture and the Forest Service, and Ecomazapyr for the knotweed species complex and puncturevine control measures.

Table 1 -- *Herbicide use by treatment type & rate per acre*

Product used	Active Ingredient	Concentration/Rate per acre	Amount used per treatment type	Treatment type	Total used
Milestone	aminopyralid	@5oz/ac	6.86oz	Noxious weed	6.86oz
Ecomazapyr 2SL	imazapyr	@64oz/ac	60.36oz	Noxious weed	60.36oz
Vastlan	triclopyr	@64oz/ac @64oz/ac	61.46oz 926.31oz	Noxious weed Guardrails	987.77oz
<b>Total</b>					<b>1054.99oz = 8.24 gallons</b>

Table 2 further breaks down the total herbicide product used into monthly totals by concentration, treatment type and whether noxious weed control or overgrown

guardrail maintenance. Due to the limited nature of qualifying stump-sprouting tree species, not all trees removed from the ROW are candidates for herbicide stump treatments. As a result, no stump treatments within Lane County ROW's were performed during the 2019 reporting period.

Table 2 -- Herbicide use by month, rate & treatment type

Month	Amount used		Application Rate	Product name	Treatment type
	2018	2019			
Rates are based on label specifications for use on targeted species within the ROW					
May	3.39oz	--	@64oz/ac	Ecomazapyr 2SL	Noxious weed
June	7.00oz	--	@7oz/ac	Milestone	Noxious weed
		6.86oz*	@5oz/ac	Milestone	Noxious weed
		4.90oz	@64oz/ac	Ecomazapyr 2SL	Noxious weed
		23.54oz	@64oz/ac	Vastlan	guardrail
July	6.50oz	--	@7oz/ac	Milestone	Noxious weed
		9.39oz	@64oz/ac	Ecomazapyr 2SL	Noxious weed
		34.78oz	@64oz/ac	Vastlan	guardrails
August	60.57oz	14.05oz	@64oz/ac	Ecomazapyr 2SL	Noxious weed
		--	@48oz/ac	Ecomazapyr 2SL	
		178.86oz	@64oz/ac	Vastlan	guardrails
September	7.68oz	32.02oz	@64oz/ac	Ecomazapyr 2SL	Rails + Noxious weed
	368.59oz	505.97oz	@64oz/ac	Vastlan	Rails + Noxious weed
October	19.00oz	--	@48oz/ac	Ecomazapyr 2SL	Noxious weed
	282.47oz	37.54oz	@64oz/ac	Vastlan	guardrails
CFWWC application**		12.75 oz	@32oz/ac	Imazapyr	Noxious weed
Total	968.9 oz = 7.6 gallons	1054.99 oz = 8.24 gallons			

\*Milestone product supplied by Oregon Department of Agriculture for joint application

\*\*Imazapyr product supplied by Coast Fork Willamette Watershed Council (CFWWC) through partnership agreement for knotweed treatments in the Cottage Grove area by outside contractor; not included in totals

## II. Proposed Non-Listed Herbicide Use

No non-listed herbicides are proposed for use during the 2020 reporting period. During this reporting period use of any non-listed herbicide products would only occur by specific authorization by the Board of Health after the Director of Public Works has determined that a specific condition or emergency exists in accordance with Lane Code 15.510(3)(d) warranting its use.

### III. Proposed Herbicide Use

Proposed herbicide uses for the 2020 reporting period will be in accordance with the Lane County Right-of-Way Management Prescription Plan (2018), limiting uses to priority noxious and invasive plant control, management of overgrown guardrail vegetation and any necessary stump treatments after tree removal within the right-of-way. Guardrail maintenance, typically the control of aggressive growth and subsequent encroachment into the roadway of Himalayan blackberries, proves to be the number one issue in vegetation control faced by the Road Maintenance Division. Control efforts are anticipated to show an initial increase of guardrail treatments over the early years of the program before seeing an annual decline in needed treatments as better vegetation control is gained with improved management associated with herbicide use. Proposed noxious and invasive weed control will focus on areas defined through working partnerships and priority species control such as the knapweed and knotweed complexes found within Lane County rights-of-way.

### IV. Cost of Herbicide Application

Lane County Department of Public Works has incurred costs stemming from labor, equipment and product use associated with the herbicide portion of the Integrated Vegetation Management Program. These costs include tasks related to the herbicide applications themselves, as well as efforts in signing roads for advance public notice. Table 3 breaks down cost descriptions into personnel costs, which include labor and benefits for the individual staff, operation overhead, which includes the costs per employee to run Lane County operations and lastly, additional equipment costs which include hardware/supplies, vehicle use and fuels. Costs associated with the actual amount of herbicide product applied have been tallied separately and displayed in Table 4, found on page 5. Those costs have been broken down into dollar amounts per ounce of product used and the total costs associated with each product.

*Table 3 - Total costs associated with herbicide applications*

Herbicide Application Type	Personnel Costs	Operation Overhead	Equipment Costs	Totals	Labor Hours	Cost per Hour
Guardrail	\$11,891.90	\$9,805.11	\$1,789.60	\$23,486.61	375	
Noxious Weed	\$3,383.69	\$2,898.80	\$611.42	\$6,893.91	95	
Applicator license costs			\$1,216.00	\$1,216.00		
<b>Totals</b>	<b>\$15,275.59</b>	<b>\$12,703.91</b>	<b>\$3617.02</b>	<b>\$31,596.52</b>	<b>470</b>	<b>\$67.23</b>

Table 4 -- Cost per ounce of herbicide product used

Product	Cost per Ounce	Ounces Used	Total Cost
Milestone*	\$2.16	6.86	\$14.82
Vastlan	\$0.77	987.77	\$760.58
Ecomazapyr	\$0.36	60.36	\$21.73
<b>Total</b>		<b>1054.99oz</b>	<b>\$782.31</b>

\*Milestone product supplied by Oregon Department of Agriculture & not added to total costs

## V. Non-herbicide Control Methods

The majority of non-herbicide vegetation management accomplishments that occurred throughout the 2019 reporting period were comprised of routine roadside vegetation maintenance activities such as mechanical mowing and brushing activities. Table 5 provides the major mechanical control methods utilized and the roadside mile accomplishments associated with each.

Table 5 -- Non-herbicide routine maintenance activities

Routine Maintenance Activities	Roadside Miles
Mechanical Brushing	436
Safety Strip Mowing	2841
Full Width Mowing	2199
Top-trimming Activities	95

In recent years, several alternative management techniques and methods outside the scope of routine vegetation maintenance have been explored by the Lane County Road Maintenance Division with varied results. These included excavation projects (noxious weed vegetation and soil removal and disposal), Waipuna hot foam applications, textile fabrics and even an attempt at seed bank removal by vacuuming. The overall success of control methods were ultimately driven by scale, with large scale control projects proving costly and logistically ineffective, while some methods just simply did not work. Small scale site methods utilizing manual controls, grubbing and textile fabrics proved feasible but were dependent on project logistics and targeted species present. Lane County continues to monitor and review the long term effectiveness of past projects while remaining knowledgeable on current control methods through ongoing educational opportunities. Table 6, found on page 6, provides an overview of both successful and unsuccessful non-herbicide control methods utilized by the IVMP.

Table 6 -- *Projects in review*

Non-herbicide Control Methods	
<u><b>Successful</b></u>	
Seeding Projects	Use of preferred seed types following shoulder construction and restoration, culvert installations
Public Outreach & Education	Website expansion and development Partnerships for noxious weed control and management Staff training and education
Management Alternatives	Small scale, limited use alternative control methods -- manual control, use of textile fabrics
<u><b>Unsuccessful</b></u>	
Mechanical/Manual Controls	Long-term, large-scale use for control of specific noxious weed species such as knapweed complex, knotweed complex, blackberry and false brome
Management Alternatives	Large scale textile fabric control Large scale excavation and disposal Mulching for noxious weed control Seed bank vacuuming

Because herbicide use is only one small part of the IVMP, the focus remains on the promotion of vegetation management practices that emphasize safeguards to reduce impacts to public health and the environment with the expectation of providing an overall reduction in future maintenance activities. Through the integration of various elements developed from continued monitoring and education efforts, these goals can be achieved through appropriate management objectives, prevention measures and treatment thresholds.

## VI. Planned Non-herbicide Control Methods

For the upcoming reporting period of 2020, Lane County Department of Public Works will continue to utilize mechanical tools as the primary method to manage roadside vegetation concerns. We will continue to investigate new tools that become available over the next twelve month period and continue with testing and evaluation of other non-herbicide control methods. Prioritization of management needs will determine what projects occur over the next 12 month reporting period.

**Planned Routine Non-Herbicide Control Methods:**

- **Mechanical Control:** This involves using brush mowers, grass mowers and the aerial lift truck to manage roadside vegetation, including noxious weed management and roadside tree care/management.
- **Manual Control:** This involves using County crews to manage roadside vegetation using manual tools and methods and includes small weed site management, Threatened and Endangered plant site preservation and other roadside vegetation management needs.
- **Seeding:** Lane County Public Works has continued to experiment with seeding efforts to minimize weed infestations and restore project areas after construction projects. We will continue these efforts for ongoing ditch maintenance to establish preferred community types over the coming annual reporting period.
- **Plantings and Restoration:** Lane County Public Works continues to plant and restore project areas after construction and large culvert projects. We will continue with these efforts over the coming annual reporting period.
- **Training and Education:** Lane County Public Works continues to utilize training and educational opportunities for staff members that work the Integrated Vegetation Management program at Lane County. These efforts will continue over the coming annual reporting period.
- **Biological Control:** This method employs biological control agents to manage weed populations that have established in areas within Lane County rights-of-way. There have been no new releases for several years but new agents are up for release on some high priority noxious weed species in the near future. Periodic monitoring of past agent releases (as it may take 10-20 years for a biocontrol agent to show control at a regional scale) and continuing education on future biocontrol opportunities will continue over the next annual reporting period.
- **Education & Public Outreach:** Lane County is working to improve and continue forward with efforts involving public education and outreach. We are developing strategies to educate the public about the County's worst weed invaders and develop projects to assist in management of these plant species County wide. These efforts include the development and expansion of the website as a public resource and to increase transparency through public notices and access to herbicide application data.
- **Partnerships:** Lane County Public Works has maintained both large and small partnerships over the years to assist in our County wide management efforts.



We will continue to develop and expand these efforts over the coming annual reporting period.

## VII. Program Elements

Although there has been no further testing of non-herbicide control methods during 2019, the County keeps up to date on current BMPs and specific species control methods for noxious weed management. Continued efforts focus on expanding species monitoring and the enhancement of resources such as our GIS database to meet Vegetation Task Force recommendations. Opportunities for partnerships and outreach endeavors in weed management are regularly being explored to assist in the prioritization of County control efforts for mutually beneficial outcomes. This includes providing publicly accessible data for improved transparency by providing accurate information for interested residents through our website. To further increase public service, county staff has focused continuing education efforts on relevant issues based on concerns raised through public feedback, including important topics such as pollinator protection measures. With these inputs, the County continues to utilize the adaptive management approach inherent to the IVMP by making changes that consistently better County practices.

As described in Table 7, the IVMP has implemented several programs and strategies that facilitate accuracy and accountability, benefiting both county staff and the public. The reestablishment of the No Spray Area Program provides residents on County roadways with a voice in proposed herbicide applications adjacent to their property, buffering their properties from adjacent right-of-way applications. By reaching out to County school districts, this same option has been given to parents of Lane County school bus riders to provide buffers to their children's bus stops from any adjacent herbicide applications. All No Spray Area enrolled parcels are mapped and locations readily available to road crews through our GPS enabled devices. Data collection is facilitated through real time uploads and offline syncing, providing accurate reflections of treatments and species inventories to publicly accessible mapped databases. The IVMP website is still a work in progress, but currently provides the public with access to posted advance notices for proposed treatment areas and monthly reports detailing previous applications.

**Table 7 -- Continued implementation of IVMP projects**

2019 Continued Implementations	
Survey & Inventory	County wide GIS mapping of noxious weed and protected species at 3 year intervals Partnerships with agencies and local non-profits
Public Outreach & Education	Website expansion and development Increase in transparency -- public notices and herbicide spray reports No Spray Area Program for County school bus stops and ROW adjacent homeowner parcels Public input and feedback

As well, in order to provide continued support for County noxious weed management efforts, Lane County Public Works is currently exploring potential options for reproducing efforts at the County level associated with the Oregon Department of Transportation's (ODOT) Adopt-a-Highway component focusing on noxious weed removal. There has been strong public feedback concerning management and maintenance by local residents of vegetation behind guardrails to avoid scheduled County herbicide treatments in various locations. The legality and logistics behind such a program are currently in the early stages of exploration and holds the hope that this may be an avenue for public outreach and participation in control measures.

Roadside noxious weed inventories were included in the Vegetation Management Task Force recommendations and written into the IVMP requirements to be conducted every three years. During the 2019 reporting period, presence/absence surveys based on priority weed densities were performed along County road rights-of-way during July and August to assist in complementing and expanding the County noxious weed database for support in future management decisions. These results are currently being compiled and incorporated into the County GIS database and will be available for public exploration once completed.

Lane County is regularly exploring opportunities for cooperative efforts in noxious weed management.

- The County is currently partnered with the Coast Fork Willamette Watershed Council (CFWWC) to control Knotweed within the Coast Fork Willamette watershed. This partnership allows the CFWWC to maintain knotweed sites through herbicide applications within Lane County road rights-of-way in addition to their control efforts on private lands. While following all Lane Code RIVMP herbicide regulations, these efforts will assist the Council in providing a comprehensive attempt at reducing the existing populations and limiting the spread of knotweed within the watershed.
- Similar partnerships for outreach projects with local agricultural groups and the Oregon Department of Agriculture (ODA) are currently being explored to assist in building awareness and limiting the spread through the movement of farm equipment of the Early Detection/Rapid Response (EDRR) species, Puncturevine.
- Efforts associated with federal, city and county natural areas are being addressed to develop management plans, control measures and best management practices that will assist in limiting the spread of noxious weeds into these types of natural areas.

To help furnish an understanding of the limited nature of the RIVMP's herbicide program, Table 8, found on page 10, provides a breakdown of the total number of herbicide applications by treatment type in relation to the overall system counts. As mentioned previously in this report, herbicide use within Lane County rights-of-way are limited to overgrown guardrail maintenance, noxious weed management and direct stump applications for "stump-sprouting" tree species. Guardrail herbicide applications are performed only on rails which meet certain criteria when surveyed

prior to application. They can fall into one of three categories, treated high, treated medium or untreated guardrails. A high or medium vegetation ranking describes conditions behind and adjacent to the guardrail which exhibits aggressive or weedy vegetation that is either overgrowing the rail or encroaching within three to four feet of the rail feature and therefore receives an herbicide application. Those marked as untreated exhibit low growing, non-aggressive or native vegetation, or fall within a right-of-way enrolled in the No Spray Area Program and therefore receives no herbicide application.

The decision to utilize herbicides within the IVMP is guided by numerous factors and considered only one tool in the toolbox of Lane County's vegetation management approach. Although a small part of the overall vegetation program, herbicide use is the most regulated portion and deserves the most transparency regarding accessible information and resulting management prescriptions. Decision matrixes for each treatment type can be found within the Lane County Rights-of-Way Management Prescription Plan (2018) as a way to assist in furthering these transparency efforts. Lane County will continue to present accessible and accurate information in the hopes of providing insight on our vegetation management processes from planning and implementation through monitoring and review.

**Table 8 -- Number of herbicide applications by treatment type**

Treatment Type Activity	Number Surveyed		Number Treated		Total in System		% Surveyed		% Treated	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Guardrails	432	446	311	379	1643*	1668*	26%	27%	19%	23%
Noxious Weed Sites	--	--	41	54	1431	1450	--	--	3%	4%
Stump Treatments	--	--	--	--	--	--	--	--	--	--

*\*variations exist in annual totals based on existing infrastructure missing from County databases and splitting guardrails associated with No Spray Areas*

## VIII. Report Availability

Copies of this report are available at the Lane County Department of Public Works offices at 3040 N. Delta Highway, Eugene, Oregon, 97408. This report is also available from the Lane County website: <http://www.lanecountyor.gov/vegetation>