

Integrated Vegetation Management (IVM) Case Study

Washington State Department of Transportation (WSDOT)

Scope: All state highways and roadsides covering 7000 miles and 100,000 acres of urban, rural, forest and open range land.

Highlights: Unique site-specific management of 24 Management Areas. Focus on ongoing maintenance for preventive management. Herbicide use has decreased as a result of careful planning and more precise application.



One of the benefits of using a true Integrated Vegetation Management approach for roadsides is it allows nature to do as much of the work as possible; when maintenance inputs are needed, they include the best combination of tools and timing to selectively control unwanted plants, allowing any desirable vegetation to thrive and provide competition.

- Ray Willard, IPM Coordinator, WSDOT

Purpose

To develop and maintain functional and aesthetically-pleasing roadsides with the lowest possible lifecycle costs by developing self-sustaining roadsides. Long-range planning has been identified as a key to success, with a minimum of 5-7 years of focused plant establishment and weed control needed for new projects, followed by implementation of an ongoing, documented IPM plan, and crew training for site-specific maintenance processes.

Creative Solutions

Pilot Projects and Case Studies

WSDOT has worked with the University of Washington in recent years to study alternatives for pavement edge management and maintenance of urban freeway roadsides, based on the analysis of case studies throughout the state. Over the past 10 years the agency has developed and refined individual plans for the 24 Management Areas in the state. Each of these 24 individual plans are available on the WSDOT web site and are used to track the budget, activities, successes, resources allocated and results achieved for each unique area.

What Gets Measured, Gets Managed

Since 1997 WSDOT has been tracking performance of safety, weed control, and other metrics through their Maintenance Accountability Process (MAP). Once a year, field inspections are made of randomly selected sections of highway. The results of WSDOT's work are measured, recorded and compared to the MAP criteria to determine the level of service delivered. WSDOT also tracks herbicide use based on pounds of active ingredient used and acres treated.



Benefits

- Overall vegetation management results are holding steady without budget increases, despite added work.
- Area Management Plans guide crew activities and track progress.
- Herbicide use has decreased as a result of careful planning and more precise application.

Critical Factors for Success

- Support from top leadership/management
- Tailored planning process and documentation tools for each area.
- Two full-time dedicated coordinators (eastern region and western region).
- In-house full-time position dedicated to IT and GIS.
- Annual crew training tailored to local Management Area needs, in addition to basic applicator licensing.
- Customized database for tracking all pesticide applications, weather conditions, and other factors.
- Geographic Inventory of weeds and other vegetation issues needing attention.
- Participation in several Cooperative Weed Management Areas around the state; coordinators meet with local communities and land owners to coordinate management of invasive species.
- A Roadside Policy Team is convening to inform the future of Integrated Vegetation Management policy.

Results

Overall, the volume of herbicide use has decreased by 70% between 2003 and 2008, and has remained relatively stable since then.