



Introduction

What is IRVM?

Integrated Roadside Vegetation Management is an approach to right-of-way maintenance that combines an array of management techniques with sound ecological principles to establish and maintain safe, healthy and functional roadsides. The IRVM tool chest includes judicious use of herbicides, spot mowing, prescribed burning, mechanical tree and brush removal and the prevention and treatment of disturbances to existing vegetation. IRVM's long-term objective is to reduce roadside maintenance by creating stands of durable, long-lived, native plants.

History

IRVM was introduced to Iowa in the mid-1980s in response to the need for groundwater and surface water protection. Prior to that time roadside weed control had relied exclusively on herbicides, with most counties employing an application method known as *blanket spraying*. Besides being expensive and potentially harmful, blanket spraying was an ineffective means of weed control, creating openings for weeds by stressing and weakening roadside grasses and eliminating beneficial broadleaf species. Iowa counties were spending a lot of money putting large amounts of herbicide into the environment and, at the same time, making little or no headway in the control of roadside weeds. Clearly, this type of roadside management proved unsustainable.

Another development of the mid-1980s was the Iowa Department of Transportation's use of native prairie grasses and wildflowers for erosion control. A few county conservation boards were also experimenting with this naturally adapted, alternative vegetation for roadsides. When the Iowa Legislature officially adopted IRVM in 1988, the cornerstone of the program became the establishment and protection of native vegetation in Iowa roadsides. The Living Roadway Trust Fund was created the following year, supporting state, city and county roadside projects.

Since that time over 100,000 acres of state and county road right-of-way have been planted to native vegetation. Diverse stands of 15-45 prairie grass and wildflower species – all naturally adapted to local growing conditions – provide stable, low-maintenance roadsides for Iowa.

IRVM Program

Goals

- Maintain a safe and effective road system.
- Provide responsible and sustainable vegetation management.
- Make the most of Iowa's immense, 700,000-acre, roadside resource.

Basic tenets

- Prevent soil erosion.
- Control undesirable species in roadsides.
- Do not rely exclusively on herbicides.
- Plant the best-adapted vegetation.

Progress to date

- Herbicide use in Iowa roadsides has been reduced to spot-spray application.
- Iowa DOT and half of Iowa's counties routinely plant native vegetation.

The challenge

- Get the remaining counties to place more of a priority on roadside vegetation. Many of these counties are not so much against IRVM as they simply are not inclined to do much of anything with their roadsides.

The road to success for county roadside management

- Create a full-time roadside manager position.
- Hire a conservation-minded individual to run the program.
- Give the roadside manager the power to succeed.

The Integrated Toolbox

- Utilize the principle of species diversity for a strong, weed-resistant plant community. No single species is adapted to all roadside conditions. IRVM employs a mix of species suited to the range of growing conditions in a typical roadside and the varying climate conditions of an Iowa growing season. Any roadside planted to a monoculture will develop gaps for weeds to exploit.
- Use herbicides sparingly. Overuse of herbicides weakens stands of grasses, allowing increased weed invasion. Careless use of herbicides also destroys beneficial broadleaf species that would otherwise help prevent weeds by occupying the same niche sought by broadleaf weeds.
- Make more effective use of herbicides by spraying smarter with better training, better timing and better technology.
- Prevent disturbances. Farm field runoff and herbicide over-spray are common disturbances from adjacent land that destroy roadside vegetation and cause more weeds. Work with individual landowners to enlist their cooperation in reducing these negative impacts.
- Conduct prescribed burns to promote healthy native vegetation. By burning native plantings every 3-5 years or so, trained and well-equipped crews use fire as the most effective means of managing fire-adapted prairie species.
- Mow patches of weeds to reduce seed production and seed dispersal.
- Use a variety of means to clear brush and trees before they block the vision of motorists, obscure signs and become dangerous obstructions to errant vehicles.

The Benefits of Native Vegetation

Iowa road departments plant native vegetation for a variety of reasons:

- Native plants are durable, long-lived perennials well-adapted to Iowa's climate and growing season.
- A diverse native planting adapts to a wide range of soil and moisture conditions.
- Native plants perform well in poor soils.
- Extensive, native plant root systems provide superior erosion control.
- Deep roots and dense, above-ground foliage reduce stormwater runoff by intercepting raindrops, slowing water flow and increasing infiltration.
- Extensive roots and decaying foliage further increase stormwater infiltration by adding organic matter to the soil, making it spongier and more absorbent.
- Root systems penetrate 6-8 ft. or deeper, enabling prairie plants to survive drought and high salt concentrations.
- Extensive root systems deprive weed roots of water, nutrients and space.
- Tall prairie vegetation shades out Canada thistle and other weed seedlings.
- A wide swath of prairie grass in the right-of-way traps blowing snow, increasing the storage capacity of the ditch and reducing the amount of snow deposited on the road.
- Native roadside plantings provide valuable food and cover for songbirds, game birds and small mammals.
- Native roadside plantings provide important habitat for agricultural crop pollinators.
- Native plants add color and natural beauty to the right-of-way.
- Tallgrass prairie roadside plantings restore a piece of Iowa's natural heritage.

Iowa's County IRVM Programs

In 2011, fifty counties had active Integrated Roadside Vegetation Management programs. Programs with a full-time roadside manager are shown below in green. Counties that seed some native vegetation and/or manage invasive species without a roadside manager are shown in yellow.



Iowa's IRVM programs operate within different departments:



Secondary Roads



Conservation Board



Independent

Chapter 1 provides information about IRVM program organization.