

# JOHNSON COUNTY NOXIOUS WEED POLICY

## INTEGRATED ROADSIDE VEGETATION MANAGEMENT

This policy addresses the control of invasive and noxious weeds within the Johnson County Secondary Road System public right of way. The County is required to control Primary and Secondary noxious weeds as listed in the *Code of Iowa*, Chapter 317, and by Board of Supervisors Resolution 04-26-01-01 *Stigmatizing Noxious Weeds* (see Appendix A).

### INTRODUCTION

In 1990, the Johnson County Board of Supervisors approved an Integrated Roadside Vegetation Management Program (IRVM) to better serve the public by using an integrated approach to roadside vegetation maintenance. Integrated Roadside Vegetation Management is a long-term approach to evaluating, developing, improving and maintaining vegetation on road rights of way. IRVM is also a decision-making and quality management process for maintaining roadside vegetation that integrates the following:

- needs of local communities and highway users,
- knowledge of plant ecology and plant processes,
- design, construction, and maintenance considerations,
- monitoring and evaluation procedures,
- government statutes and regulations, and
- technology,

...with cultural, biological, mechanical, and chemical pest control methods to economically manage roadsides for safety, environmental benefits, and visual quality.

The ultimate purpose of any Roadside Vegetation Management program is to provide a safe, healthy, and environmentally sustainable roadway, and also to preserve and improve aesthetics and native biodiversity along the county's secondary road system. IRVM is a program for accomplishing these objectives in the most economically and environmentally responsible manner possible. The IRVM program is based on the belief that Johnson County's approximately 5,000 acres of rights of way represent a significant resource worth managing by the most sustainable methods possible to the greatest benefit to the county. The IRVM objective is to manage vegetation along County rights of way using several tools, rather than relying on just one. These techniques include: planting of native prairie plants to outcompete weeds and trees, use of prescribed burning, use of mowing for safety, vision, and weed control, attempted preservation of native plant communities for competitive ground cover, and a spot herbicide application program.

Historically, the vegetation management practice was to blanket spray the roadside with herbicide to eliminate weeds. This killed the weeds, but also stressed, weakened, and often killed the desirable species, including native wildflowers, which created opportunities for more weeds to grow. Since that time, it has been shown that a spot application program, rather than blanket spraying, along with the previous techniques mentioned, gave a more economically maintained, and more environmentally friendly roadside. In the 1980's, the Johnson County Board of Supervisors decided to eliminate roadside herbicide applications for weed and tree control and to evaluate the effects of not using herbicides. Current vegetation management practices within the disturbance prone right of way are mowing, prescribed burning, and competitive seedings. Without the careful use of a spot herbicide application program, these methods are of limited effectiveness to control or eliminate some noxious weed species, and difficult to implement fully, because of time and manpower, on over 1800 miles of roadside.

### **WHY CONTROL NOXIOUS WEEDS?**

Noxious weeds are often exotic, introduced plant species which have no natural controls, spread rapidly, produce abundant seed, and can displace native plant communities. Noxious weeds quietly suffocate and lower diversity and quality of native plant communities. Once well established, most species of noxious weeds are very difficult, if not impossible, to control or eradicate, as well as being expensive and time-consuming to do so. A primary weed management goal is to keep plants from producing seeds and becoming well established. Without proper control, most of these exotic species can quickly expand their populations and encroach into farm lands, lawns, pastures, roadsides, etc. Because of the amount of disturbances in roadsides, coupled with plant communities which are not highly competitive, and generally poor soil conditions, weeds can move quickly into ditches. Roadsides can serve as an entry point for exotic species to rapidly travel into uninfested areas via vehicles, cargo, livestock, road maintenance equipment, etc. Noxious weeds degrade approximately 4000 acres of land per day in the United States. The Integrated Roadside Vegetation Management Program focuses its resources only on plant species which have been declared Noxious by the Code of Iowa or Johnson County, and encourages the growth of non-noxious and more competitive plants, often native prairie species. A complete list of noxious species is attached as Appendix A.

Noxious weeds need to be controlled because of their detrimental effects on agriculture such as lowered yield, decreased crop market values, decreased forage values, and competition for light, water, and nutrients. Noxious weeds can also amplify potential for run off and soil erosion, which can increase sedimentation and hurt water quality and fish populations. Land values and home aesthetics can also be reduced by unsightly noxious weeds and soil erosion. Noxious weeds can impair recreational opportunities, clog waterways, and can directly affect human and animal health.

## HOW WEEDS ARE CONTROLLED

Johnson County will provide regular, ongoing training on various noxious weed control methods to employees. Training will be on topics such as: traffic and equipment safety, weed and plant identification, safe and correct use of herbicide application equipment and products, IRVM fundamentals (i.e. prescribed burning, prairie planting, etc.), seeding and mowing techniques, etc. The County is committed to providing education to employees about right of way vegetation management and ways to improve roadsides. Training will be conducted by the Roadside Vegetation Manager or by using other training professionals.

Of the 99 counties in Iowa, over half now have IRVM programs. These counties have adopted roadside vegetation management plans to better serve the public by using several of the techniques outlined below.

**Competitive Seeding-** Planting of native prairie vegetation or other hardy perennial plants, where feasible, to help control encroaching brush and weeds, and to reduce long-term area maintenance costs.

**Prescribed Fire-** Using controlled burning to manage noxious weeds. Expanded use of spring and fall burning can help to eliminate seeds and stress weeds. Prescribed burning works best in combination with competitive seeding to help establish warm season prairie grasses to outcompete some of the weeds. Burning can also be a valuable management tool to improve restored or remnant prairie areas, in place of, or in conjunction with, other weed management methods.

**Mowing-** Mowing is an effective tool in controlling population growth and seed production of most noxious weeds. However, several tough perennial weeds (eg. Canada Thistle- *Cirsium arvense*) are insufficiently controlled by mowing and continued growth or spread may be stimulated in some species. Infested areas may require repeated mowing to reduce weed seed production and plant vigor. Mowing may be used in areas of the roadside which are not too steep or too wet to use equipment. Mowing works best in combination with competitive seeding to help establish warm season prairie grasses to outcompete some of the weeds.

**Chemical-** A critical tool employed by IRVM programs is a spot herbicide application program designed to control and reduce noxious weed populations. A spot application program:

- 1). Targets and treats specific noxious weeds,
- 2). Identifies growth characteristics and cycles,
- 3). Uses herbicides labeled specifically for that weed species and location,
- 4). Uses appropriate equipment to minimize drift and off site movement,
- 5). Attempts to minimize disturbance to beneficial plant communities, and
- 6). Weighs the effectiveness and safety of all management activities.

A spot application program reduces the amount of herbicide entering the roadside, while giving improved weed control results. In addition, preliminary use of herbicides can help to establish prairie

plantings with less costly labor by controlling competition and speeding up prairie grass and wildflower growth. Careful use of herbicides for prairie plantings and weed control can improve grass stand success and establishment times, which result in less soil erosion, and lowered maintenance costs from seedbed preparation and mowing. Every effort will be made to avoid using herbicides on naturally occurring native plant communities or prairie reconstructions. All applicators of herbicides for noxious weed control will be required to be licensed by the State of Iowa, Category 6, Right of Way Herbicide Application. In addition, all applicators will receive annual training on the topics listed above.

### **ROADSIDE MAINTENANCE AGREEMENT**

A Roadside Maintenance Agreement (see attached), available from the Roadside Vegetation Manager, allows property owners to manage vegetation within the right of way adjacent to their property without the use of spot herbicide applications. Vegetation must be maintained in accordance with Johnson County Brush Control & Noxious Weed Policies. The property owner may request this annual Agreement which explains the property owner's responsibilities in order to avoid the spot herbicide application. Organic producers, beekeepers, etc. are encouraged to obtain Roadside Maintenance Agreements, and post official County signs at property borders.

### **CONCLUSION**

Johnson County needs to take a strong stand to control weed invasion from the right of way onto private land, and weeds from private lands encroaching into the right of way. Millions of dollars are spent yearly on weed control in Iowa, and landowners are justifiably concerned about noxious weeds in the right of way. Many rural residents with noxious weed problems are not controlling weeds on their property because they perceive the adjacent right of way is infested.

This policy is proposed because of the need to proactively control noxious weeds in accordance with Iowa's Noxious Weed Law and Board of Supervisors' Resolutions. Weed control in the past has been a subject for many debates. Using all of the weed management techniques outlined in this policy, Johnson County's Integrated Roadside Vegetation Management Program can provide a more economically maintained, environmentally friendly roadside for residents to enjoy.

APPENDIX A**NOXIOUS & INVASIVE WEED SPECIES TO BE CONTROLLED**

The Iowa Department of Agriculture and Land Stewardship and the Code of Iowa have declared 27 species of plants as noxious weeds which need to be controlled. Johnson County lists an additional 4 species of noxious weeds to be controlled. The following weeds have been declared noxious by the State of Iowa:

Buckhorn Plantain	<i>Plantago lanceolata</i>
Buckthorn	<i>Rhamnus</i> species
Bull Thistle	<i>Cirsium vulgare</i>
Butterprint (Velvetleaf)	<i>Abutilon theophrasti</i>
Canada Thistle	<i>Cirsium arvense</i>
Cocklebur	<i>Xanthium strumarium</i>
Field Bindweed	<i>Convolvulus arvensis</i>
Horse Nettle	<i>Solanunum carolinense</i>
Leafy Spurge	<i>Euphorbia esula</i>
Multiflora Rose	<i>Rosa multiflora</i>
Musk Thistle	<i>Carduus nutans</i>
Perennial Peppergrass (Hoary Cress)	<i>Cardaria draba</i>
Perennial Sow Thistle	<i>Sonchus arvensis</i>
Poison Hemlock	<i>Conium maculatum</i>
Puncture Vine	<i>Tribulus terrestris</i>
Purple Loosestrife	<i>Lythrum salicaria</i>
Quackgrass	<i>Agropyron repens</i>
Red Sorrel (Sheep Sorrel)	<i>Rumex acetosella</i>
Russian Knapweed	<i>Centaurea repens</i>
Shattercane	<i>Sorghum bicolor</i>
Smooth Dock (Pale Dock)	<i>Rumex altissimus</i>
Sour Dock (Curly Dock)	<i>Rumex crispus</i>
Tall Thistle	<i>Cirsium altissimum</i>
Teasel	<i>Dipsacus</i> species
Wild Carrot (Queen Anne's Lace)	<i>Daucus carota</i>
Wild Mustard	<i>Brassica kaber</i>
Wild Sunflower	<i>Helianthus annuus</i>

In addition to the State of Iowa Noxious Weed List, Johnson County lists an additional 4 species of noxious weeds. These species are listed below:

Japanese Knotweed	<i>Polygonum cuspidatum</i>
Marijuana	<i>Cannabis sativa</i>

Poison Ivy  
Wild Parsnip

*Toxicodendron radicans*  
*Pastinaca sativa*

### **INVASIVE WEED SPECIES WHICH MERIT MANAGEMENT CONSIDERATION**

New exotic weed pests are continually being discovered encroaching into the State of Iowa. Many of these weed species can be controlled early in the discovery phase, and before infestation. The IRVM Program and the County Weed Commissioner, while focusing on noxious weeds, also evaluates the spread and the environmental impacts of new weeds on Johnson County. If a weed species is considered to have a significant detrimental impact on the resources of Johnson County, the Weed Commissioner can seek to have that species declared noxious by the Board of Supervisors. That weed species can then be included as part of the overall weed management plan.

This is a list of plant species which are considered invasive or aggressive by the Johnson County IRVM Program and County Weed Commissioner. These species are unsuitable for use or growth in roadside plant communities. Because of concern for their spread into public right of ways, planting these species in adjacent private lands is discouraged. This plant species list is not all-inclusive, and may be edited to include or remove certain species as conditions or situations dictate.

Pampas Grass  
Garlic Mustard  
Crown Vetch

*Miscanthus* species  
*Alliaria petiolata*  
*Coronilla varia*

JOHNSON COUNTY

ROADSIDE MAINTENANCE AGREEMENT

I (we) \_\_\_\_\_, \_\_\_\_\_  
Name Address

ask Johnson County Secondary Road Department not to apply herbicides within the right of way adjacent to my (our) land located in Section \_\_\_\_\_, of Township \_\_\_\_\_.

Describe the area, road name, and location that you do not want herbicide applied to, *i.e.*, relation to buildings, length, direction, landmarks, etc:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In return, we ask permission to work within the public right of way to remove noxious weeds by burning, mowing, spraying, or planting competitive prairie species, and to remove brush by cutting and treating the stumps. A completed permit to work within the right of way must also be on file with the Secondary Roads Department. Official Johnson County Roadside Maintenance Agreement signs must be posted in visible locations at each end of the Maintenance Agreement area to define boundaries. Signs must be located a minimum of 15 feet from the traveled portion of the road, and must be a minimum of 4 feet above the ground. This agreement **does not** prohibit herbicide applications by utility companies or other entities. The applicant will be responsible for contacting all concerned utilities companies or other entities.

I (we) fully understand that I am (we are) to destroy State & County listed noxious weeds by June 1st, and remove all brush by November 30<sup>th</sup>, in accordance with Johnson County Noxious Weed and Brush Control Policies, or the same may be removed by Johnson County and this or future permits may be revoked. This agreement must be renewed annually, and is effective until 1 (one) year from date below.

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

\_\_\_\_\_  
Applicant & Phone Number

\_\_\_\_\_  
Roadside Vegetation Manager

\_\_\_\_\_  
Property Owner

\_\_\_\_\_  
Johnson County Engineer