

# **JOHNSON COUNTY BRUSH CONTROL POLICY**

This policy addresses the procedures and methods for the proactive management of woody vegetation adjacent to roads under the jurisdiction of the Johnson County Board of Supervisors. It is the duty of the Board of Supervisors and the Johnson County Secondary Road Department to maintain a county road system that is reasonably safe and convenient for public travel, and to manage roadside resources with an eye toward preservation of beneficial plant communities. In 1990, Johnson County adopted an Integrated Roadside Vegetation Management Plan to address these needs. Johnson County's Roadside Vegetation Management Program has and will continue to make progress toward providing a safe, low maintenance roadside using approved management techniques. In accepting responsibility for the roadway, Johnson County recognizes that even the most skilled and cautious driver is subject to errors or situations which may cause a vehicle to stray from the road surface. The recovery area allows for such situations and can allow vehicles to reenter the road surface without experiencing severe damage. Within financial and practicable limits, it is the Johnson County Secondary Road Department's intent to provide a road system that is reasonably safe and forgiving of human error. The number one concern for a brush removal policy is safety for the traveling and general public.

For the purposes of this policy, the traveled way is that portion of the road used for the movement of vehicles, exclusive of shoulders. The roadside is that portion maintained for safety and public convenience beyond the traveled way.

The roadside serves many purposes. Some of these purposes are to provide for: a space to escape or avoid accidents, improved sight distance, space for maintenance activities such as snow removal and storage, an area which allows for road drainage, areas to plant and manage prairie species for tree, weed and erosion control, areas for overhead and buried utility services, an area of valuable wildlife habitat, and for attempted preservation of existing native plant communities.

Johnson County's Integrated Roadside Vegetation Management Program uses several management techniques to meet all of these purposes and to provide a safe and environmentally sound roadway.

## **RIGHT OF WAY AREAS TO BE TREATED**

For the good of public safety and the traveling public, the Right of Way must be managed to reduce accident severity and to increase driver visibility. The majority of roads within Johnson County have a 66ft. Right of Way. Generally the traveled portion of the road (road surface) is approximately 25 feet wide, which leaves 20.5 feet of area on either side for maintenance and management activities. If not managed for the reasons above, brush and trees can take over the shoulder areas, encroach onto the traveled surface, obstruct driver vision, increase icing hazards, and impact the safety and convenience of the motoring public. In addition, brush growing too close to the road tends to cause snow-drifting problems in the winter, leads to root invasion and road surface heaving, and drainage pattern changes from diverted channels, which encourages erosion. Overgrowth of limbs and brush invoke a response from motorists to cross the centerline to avoid paint scraping and other damage to vehicles.

Tree and brush management priority shall be by road system, with the primary roads having the highest priority. Management priority shall be asphalt or concrete mats (paved), oil and chip seal roads, granular surface roads (gravel), and lastly, Level B Maintenance roads (dirt), in that order. The Johnson County Engineer or designee shall decide the degree of hazard exposure priority.

There are certain conditions within the Right of Way in which brush or trees present clear hazards. In these situations, the brush and trees which are in close proximity to the road surface must be removed. Trees within the Right of Way, but greater than 30 feet from the road surface present reduced hazard and may be considered individually.

Areas in which brush and trees must be managed to promote safety:

- 1). All brush and trees on the foreslope and ditch bottom must be removed
- 2). Brush at intersections must be removed to a minimum distance of 350 ft. to provide visibility of hazards or oncoming vehicles.
- 3). Brush must be removed around traffic warning signs to a minimum distance of 350 feet, allowing viewing at typical road speeds.
- 4). Brush on inside horizontal curves at points obscuring driver vision.
- 5). Brush on outside horizontal curves and trees in a target position for errant vehicles.
- 6). Trees and limbs overhanging road surfaces, creating icing or snow drifting hazards, providing too little vertical or horizontal clearance, or which cause a vehicle to move out of the proper lane must be either pruned or removed.

Trees/brush will also be considered for removal in these instances: Accident frequency (evidence of vehicle/tree accident) either from actual reports or scarring. Also to be considered for removal are problem species which encourage the spread of disease or which have been designated by USDA/IDALS or Johnson County, as invasive, noxious, or undesirable.

If the following conditions exist within the Right of Way, it may be possible to retain trees that would otherwise be considered for removal: 1). There are trees of Endangered/Threatened species, as defined by state or federal listings, 2). Trees are behind nontraversable backslopes or banks, 3). Trees are behind guardrails, providing a minimum of 4 feet of clearance from guardrail to tree, 4). Trees within the Right of Way which are greater than 30 feet from the traveled portion of the road, or 5). Where removal would adversely affect wetlands or water quality. Approved tree or shrub species, which, when located on the backslope, and are not causing drifting, icing, visibility problems, or other road hazards, should be left for wildlife habitat. A list of approved tree or shrub species is attached as Appendix A. Situations will be inspected individually by the Johnson County Engineer or designee. This guideline is subordinate to any federal or state requirements associated with road projects constructed to current engineering design standards.

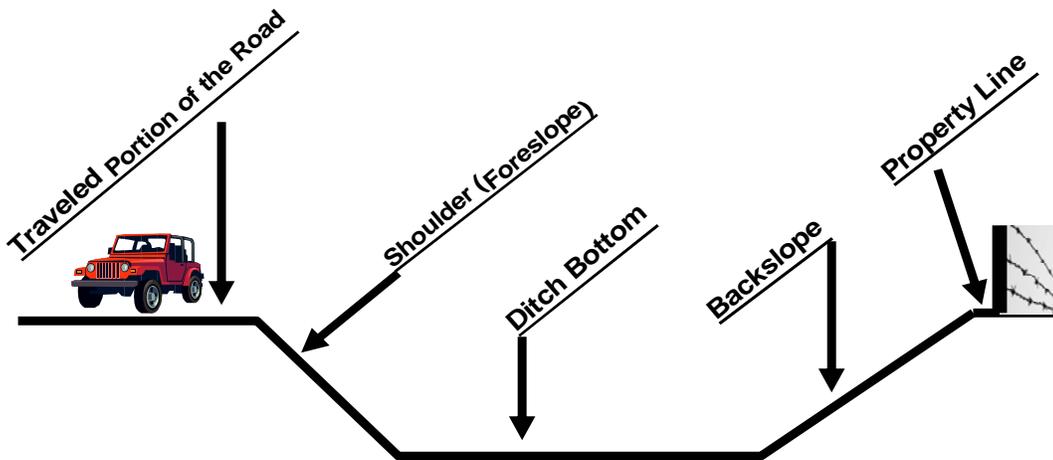
# Johnson County Brush Control Policy Summary

## Locations where brush and trees are managed in the County Right of Way

- 1). All brush and trees will be removed from the shoulder and ditch bottom.
- 2). All brush and trees will be removed at least 350 ft. from all intersections and in front of traffic warning signs.
- 3). All brush and trees on inside or outside corners.
- 4). All brush and trees in locations:
  - Obstructing driver vision
  - Causing drifting or icing hazards
  - Which make a vehicle move out of its appropriate travel lane
  - Which are in a target position for errant vehicles will be removed or pruned
- 5). Brush and trees overhanging the traveled portion of the road- 25 feet minimum height required.
- 6). Brush located on the backslope of the road which will exceed 4 (four) inches in diameter at maturity will be removed (ie. Elm, Mulberry, Oak, Boxelder, etc.).

## Possible Suitable Locations for Brush and Trees in Johnson County Right of Way

- 1). Brush and tree species with less than 4 (four) inch stem diameter at maturity, which, when located on the backslope, and are not causing a visibility, drifting, icing or other problem may be left. Requirements of #2 and #4 above must still be met for signs and intersections. Examples of suitable species are listed in the Brush Control Policy.
- 2). Brush and tree species with greater than 4 (four) inch stem diameter at maturity, which, when located greater than 30 feet from the traveled portion of the road and do not present a hazard for errant vehicles will be considered individually for management.
- 3). Brush and trees behind guardrails with at least 4 feet of clearance between guardrail and tree.



Typical Road Cross Section and Locations

## TREATMENT METHODS

Johnson County will provide regular, on going training on various brush and tree control methods to employees. Training will be on topics such as: traffic and equipment safety, tree and plant identification, safe and correct use of herbicide application equipment and products, proper pruning techniques, IRVM fundamentals (i.e. prescribed burning, prairie planting, etc.), seeding and mowing techniques. 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 appropriate training professionals.

**Mechanical-** Physical removal of trees and brush with large equipment (excavators, bulldozers, etc.), or hand cut with chainsaws, etc. Brush control may be either by mechanical means or hand cutting consistent with the physical and cost restraints of limited equipment, time, personnel, and funds for this purpose. Naturally occurring remnant prairies will have brush removed by hand. Reconstructed prairies will be subject to listed management methods, with the goal of avoiding disturbance to beneficial plant communities.

**Mowing-** Mowing of small trees or brush and chemically treating stumps (when practical) to prevent resprouting. This may entail mowing of foreslope, ditch bottom, or backslope, which are infested with brush and small trees. Ditch bottom and backslope mowing will take place primarily in the late summer through early spring, with the exception of brush in locations causing road hazards. Brush on backslopes will be mowed when it is in appropriate safe zones, as defined by this policy.

**Prescribed Burning-** Using controlled fire to stunt or kill small brush species and to prevent woody encroachment into remnant or established prairie locations. This is generally not effective on larger trees (i.e. >2-3 inches diameter).

**Chemical-** Using a spot herbicide application program with IRVM goals to control small brush within the Right of Way. The spot application is designed to target specific problem species to avoid disturbance to more beneficial plant communities. The herbicides used will be only those approved by appropriate state and federal agencies for this purpose and in this location. All applicators shall receive annual training on herbicide use and safety, and plant identification. Herbicides shall be applied only by state licensed and properly trained or supervised personnel, using appropriate equipment, and shall be applied in a timely fashion, with the intent of killing, or significantly retarding, woody plant growth. This includes cut stump, frill, basal bark, and limited foliar applications. Foliar applications shall be limited to spot spraying of small individual brush in problem locations. No blanket foliar spraying will be done. Foliar applications will only be used in areas where other treatment methods are ineffective. No foliar application for woody species control will be done in naturally occurring remnant prairies. A Roadside Maintenance Agreement, available from the Roadside Vegetation Manager, allows the property owner 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 responsibility 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.

**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. This method shall be used in large brush removal areas as time and funds permit.

**Tree Pruning-** The purpose of tree pruning is twofold. The primary purpose is to remove limbs necessary to obtain appropriate horizontal and vertical roadside recovery area (above the road and roadside), and to preserve or extend the life of the tree. Tree pruning shall also take place to increase sunlight onto the road surface to aid in snowmelt. Trees shall be pruned to obtain a minimum of 25 feet vertical clearance. This allows taller vehicles, such as school buses, farm equipment, or dump trucks to use the road without damage to the vehicle or tree. If possible, and where feasible, trees in front of dwellings shall be pruned to increase horizontal and vertical clearance, rather than direct removal. Brush which is growing close to the road, where the driver feels they must move out of their lane to avoid it, must be removed or pruned. Trees which originate from private property and overhang the roadway shall be pruned back to the Right of Way line using accepted arboricultural practices, where feasible. The secondary purpose of pruning is to remove dead, dying, or weakened tree limbs, which, in the opinion of the County Engineer or designee, present a hazard.

**Stump Removal-** Where trees exceeding six inches in diameter are removed, the remaining stump shall not exceed four inches above ground level. Stump removal for other than hazardously positioned trees should be considered lower priority than tree removal or pruning, but it is the intent that stumps shall be flush cut and treated with herbicide to prevent regrowth.

## **TREE AND SHRUB PLANTINGS**

Trees or shrubs shall not be planted or allowed to grow in the Right of Way within 30 feet of the traveled portion of a public road. Existing trees or shrub plantings adjacent to a home or dwelling which have been planted in close proximity to the roadway, or are causing a vision problem, i.e. inside curves, intersections, or are causing a snow drifting or icing problem, will be removed. Landowners shall have the option to transplant these trees or shrubs, at their expense, out of the public Right of Way adjacent to their property. Landowners shall be notified to remove these trees or undesirable vegetation, with 30 days to complete the work (unless otherwise specified). This gives the landowner ample time to move the trees or vegetation to a more desirable location. If, after 30 days, the work has not been satisfactorily completed, a follow up letter will be sent, specifying the removal will be done by Secondary Roads when conditions permit. Tree and shrub species planted as part of the Adopt-A-Roadway Program landscaping section shall not exceed 4 inches in stem diameter at maturity. A list of these approved species is attached as Appendix A, and all species must be approved by the Roadside Vegetation Manager prior to planting. No tree or shrub species will be planted in naturally occurring remnant or reconstructed prairies.

## **OTHER CONSIDERATIONS**

An ongoing inventory of roadside vegetation resources and problems will be developed in order to facilitate better management. The inventory will contain information on prairie locations, areas of tree and brush infestations, noxious weed infestations, etc. This inventory process can help to identify areas which need special consideration and treatment, as well as problem areas which need attention. This inventorying process will also help to identify and protect naturally occurring remnant plant communities.

Trees/limbs within the Right of Way which are diseased/dead and could fall onto the roadway shall be removed. Trees which fall off of private property onto the roadway will be removed/trimmed within the borders of the public Right of Way. Trees which fall off the public Right of Way onto private land will be removed by the County. The County assumes no liability for damages caused by, or removal of, said trees.

Brush and trees removed within the Right of Way will be handled differently depending on situation and location. Brush will be either: chipped into roadside, chipped and hauled away, left in roadside, buried, hauled away, or burned. Low impact control methods shall be used, if possible, in areas of naturally occurring native plant communities including prairies, savanna, and wetlands.

This policy is proposed because of the need to address woody plant species within the County Right of Way. There is a clear need to have a set policy in regards to tree and brush removal, which is based on public safety, and sound environmental management practices. Using Integrated Roadside Vegetation Management to provide a proactive approach to brush and tree management is both publicly and environmentally friendly. Additionally, using several management tools for woody plant species control gives the IRVM program the flexibility needed to provide Johnson County with a safe and attractive roadside, along with improved wildlife habitat and erosion control.

## APPENDIX A

# JOHNSON COUNTY APPROVED SHRUB LIST 08-31-00

This list is a work in progress of trees and shrubs which are considered suitable within the Right of Way in the locations set forth in the Johnson County Brush Control Policy. This list is not all-inclusive, and may be edited to include or remove certain species as conditions or situations dictate. Emphasis will be placed on using native plant species with mature stem diameter of 4 inches or less. The Johnson County Engineer or designee should approve corrections or additions to this list.

### APPROVED NATIVE SHRUB SPECIES

Alleghany Blackberry	<i>Rubus allegheniensis</i>
American Black Currant	<i>Ribes americanum</i>
American Bladdernut	<i>Staphylea trifolia</i>
American Elder	<i>Sambucus canadensis</i>
American Hazelnut	<i>Corylus americana</i>
Atlantic Leatherwood	<i>Dirca palustris</i>
American Plum	<i>Prunus americana</i>
Beaked Filbert	<i>Corylus cornuta</i>
Black Haw	<i>Viburnum prunifolium</i>
Black Raspberry	<i>Rubus occidentalis</i>
Black Chokeberry	<i>Aronia melanocarpa</i>
Buffalo Currant	<i>Ribes odoratum</i>
Bunchberry Dogwood	<i>Cornus canadensis</i>
Canada Yew	<i>Taxus canadensis</i>
Carolina Rose	<i>Rosa carolina</i>
Common Buttonbush	<i>Cephalanthus occidentalis</i>
Common Juniper	<i>Juniperus communis</i>
Common Ninebark	<i>Physocarpus opulifolius</i>
Common Snowberry	<i>Symphoricarpus albus</i>
Cranberrybush Viburnum	<i>Viburnum trilobum</i>
Creeping Juniper	<i>Juniperus horizontalis</i>
Dwarf Bushhoneysuckle	<i>Diervilla lonicera</i>
Dwarf Chinkapin Oak	<i>Quercus prinoides</i>
Dwarf Wild Indigo	<i>Amorpha nana</i>
Early Wild Rose	<i>Rosa blanda</i>
Fragrant Sumac	<i>Rhus aromatica</i>
Gray Dogwood	<i>Cornus racemosa</i>
Hortulan Plum	<i>Prunus hortulana</i>

Indiangcurrent Coralberry	<i>Symphoricarpos orbiculatus</i>
Indigobush	<i>Amorpha fruticosa</i>
Juneberry	<i>Amelanchier alnifolia</i>
Leadplant	<i>Amorpha canescens</i>
Long-beaked Willow	<i>Salix bebbiana</i>
Low-bush Blueberry	<i>Vaccinium angustifolium</i>
Missouri Gooseberry	<i>Ribes missouriense</i>
Meadowsweet Spirea	<i>Spirea alba</i>
Mountain Alder	<i>Alnus incana</i>
Nannyberry	<i>Viburnum lentago</i>
Northern Arrowwood	<i>Viburnum molle</i>
New Jersey Tea	<i>Ceanothus americanus</i>
Pagoda Dogwood	<i>Cornus alternifolia</i>
Prairie Crabapple	<i>Malus ioensis</i>
Prairie Rose	<i>Rosa setigera</i>
Prairie Willow	<i>Salix humilus</i>
Prickly Gooseberry	<i>Ribes cynosbati</i>
Pussy Willow	<i>Salix discolor</i>
Redbud	<i>Cercis canadensis</i>
Red Raspberry	<i>Rubus strigosus</i>
Redosier Dogwood	<i>Cornus stolonifera</i>
Rough-leafed Dogwood	<i>Cornus drummondii</i>
Sand Cherry	<i>Prunus pumila</i>
Scarlet Elder	<i>Sambucus pubens</i>
Serviceberry	<i>Amelanchier arborea</i>
Shining Willow	<i>Salix lucida</i>
Shrubby St. Johnswort	<i>Hypericum prolificum</i>
Silky Dogwood	<i>Cornus amomum</i>
Silver Buffaloberry	<i>Sheperdia argentea</i>
Smooth Sumac	<i>Rhus glabra</i>
Staghorn Sumac	<i>Rhus typhina</i>
Wafer Ash	<i>Ptelea trifoliata</i>
Wahoo	<i>Euonymus atropurpurea</i>
Winterberry	<i>Ilex verticillata</i>
Witch Hazel	<i>Hamamelis virginiana</i>

## ACCEPTABLE NON-NATIVE SHRUB SPECIES

These species are included as horticultural possibilities for private landowners and will not normally be planted by Johnson County.

Bottlebrush buckeye	<i>Aesculus parviflora</i>
Bridalwreath Spirea	<i>Spiraea prunifolia</i>
Bush Cinquefoil (Potentilla)	<i>Potentilla fruticosa</i>
Flowering Almond	<i>Prunus triloba</i>

Forsythia	<i>Forsythia spp.</i>
Hydrangea	<i>Hydrangea arborescens</i>
Lilac	<i>Syringa vulgaris</i>
Mock Orange	<i>Philadelphus pubescens</i>
Nanking Cherry	<i>Prunus tomentosa</i>
Northern Bayberry	<i>Myrica pennsylvanica</i>
Potentilla	<i>Potentilla fruticosa</i>
Rose of Sharon	<i>Hibiscus syriacus</i>
Rugosa Rose	<i>Rosa rugosa</i>
Spicebush	<i>Lindera benzoin</i>
Weigelia	<i>Weigelia florida</i>

### UNACCEPTABLE SHRUB SPECIES

A list of unacceptable plant species is included below. Plant species which occur on this list are considered invasive or noxious, and are unsuitable for use within the Right of Way. This list is subject to additions or corrections, as more information and growth characteristics become available.

Autumn Olive	<i>Elaeagnus umbellata</i>
Barberry	<i>Berberis thunbergii</i>
Burning Bush	<i>Euonymus alatus</i>
Buckthorn	<i>Rhamnus species (All)</i>
Honeysuckle	<i>Lonicera species including japonica, tatarica; mackii; etc.</i>
Multiflora Rose	<i>Rosa multiflora</i>
Russian Olive	<i>Elaeagnus angustifolia</i>