

New Highway 20 Bridge: Natural/Engineering Wonder:

By Kirk Henderson

If you're not looking for it, you can shoot right across and not even see it. The Highway 20 bridge crosses the Iowa River 30 miles west of Waterloo. The valley at this point is deep and wide. It's also beautiful and full of wildlife, including some protected species.

Iowa Department of Transportation worked long and hard to minimize the impact of the bridge on the surrounding habitat, and in the process produced an engineering wonder: the first launched, steel I-girder highway bridge in the country. The bridge carries traffic straight over the valley some 137 feet above the river. That's how you miss it. The bridge barely dips down. The water is way below. And at 65 miles an hour you're across in 17 seconds.

Four concrete piers rising from the valley floor (none of which are located in the waterway) are evenly spaced at 302 feet apart. Ten 302 foot steel, I-girder bridge sections, each 29 feet wide, were built in a pit dug into the eventual roadway above the valley. The five sections needed for each side of the highway were pushed out (launched) end to end from the edge of the valley and onto the bridge piers. Rollers ease the way across the piers.

The weight of each section has to be immense. It is difficult to picture this process succeeding without some levitational force holding up the front end of the lead section. However they did it, it's done. It stands way above the valley floor like a 1500 foot long aquaduct or an old time railroad bridge only without the maze of timbers propping it up.

The price tag was \$20 million. Iowa DOT Construction Engineer Bob Younie says, "We built the minimum cost bridge that suited the area. Normal construction practices would not work in this spot. In our efforts to accommodate the natural features, we had tremendous cooperation and assistance from Duane Riecken and the Hardin County Conservation Board. They are a very good group



For more pictures and information: iowariverbridge.org

to work with. Duane understood there had to be some changes to the environment to get the bridge built. Yet he was a steadfast guardian for the area."

Motorists occasionally stop on the bridge to enjoy the view. Since that is dangerous and a driving offense, you have to find another way to get a good look. My uncle and I each paid \$20 at the Iowa Falls airport for an aerial view. That was pretty special.

Since then I've discovered the Sac and Fox Overlook. Take exit 181 from highway 20 and go 2 miles south on county pavement S56. Hardin County Conservation Board manages this area where locals come to see the valley with eagles and other birds soaring above. And now, about a mile off to the north, you see cars and semis being transported kind of eerily over the valley.

Next summer, I hope to see the bridge from the water. Hardin County Conservation Board Director, Duane Riecken suggests, "put in at the Hardin City access and canoe five miles to the Pine River Recreation area just above Steamboat Rock. You'll go under the bridge at about the half way point."

The Highway 330 diagonal is no longer the best way to get from UNI to Des Moines. And county road D35 is no longer the best route to Ames. Grundy County Engineer Gary Mauer says, "traffic on D35, especially semis, is greatly reduced. We are happy for it."

The bridge as transportation enhancement is a huge success for efficiency and aesthetics. Compromise was involved. Bill Watson did botanical survey work for the project and remembers thinking, "how peaceful it is in these woods."



Prairie-Seed-Producer Wannabes

By Kirk Henderson

As tough economic times continue, County Conservation Board budgets will shrink even more. To those in the prairie seed business, this might mean two things. It probably means one more government agency with less money to spend on native seed purchases. Hopefully it does not mean another government agency thinking of selling seed as a great way to generate income. Both of these things result in fewer sales for private growers. The first one is something growers have to live with. The second one they don't because it's illegal.

Conservation boards can grow seed for themselves. They cannot, however, sell that seed to anyone.

Iowa Code Section 23A.2 reads as follows:

1. State agencies or political subdivisions shall not, unless specifically authorized by statute, rule, ordinance, or regulation:
 - a. Engage in the manufacture, processing, sale, offering for sale, rental, leasing, delivery, dispensing, distributing, or advertising of goods or services to the public which are also offered by private enterprise unless such goods or services are for use or consumption exclusively by the state agency or political subdivision.

Prairie grass and wildflower plantings are key to soil and water conservation. Native plantings make up most of our habitat restoration efforts. It's in the best interest of all conservationists that Iowa have a healthy native seed industry.

Currently Iowa has several good companies producing and marketing native seed. These companies compete for the finite number of sales available each year. This healthy competition has resulted in favorable prices on Iowa Yellow Tag, Source-identified seed.

When a government agency puts seed on the market, whether it's sold to a grower or a landowner, not only are they breaking the law, they are ultimately jeopardizing the health of the seed industry. By doing so the conservation board potentially hurts conservation and may ultimately reduce its own tax base.

Maybe, to some degree, we are all prairie-seed-producer wannabes. That's understandable. It seems like a cool thing. If you are drawn to this, however, do it on your own time. Risk your own labor, land, equipment and facilities. Much of the romantic appeal will soon disappear. It will be replaced by respect for those surviving in the industry. If you produce a good product, we'll be glad to buy it.



New Program Buffers Roadsides, Reduces Soil Erosion

By Robin Huinker

Because of a constant battle with soil eroding into county roadsides, Des Moines County Roadside Management and Soil and Water Conservation District have recently teamed together in a new buffer program designed to help fight this unsettling problem. Officially beginning October 1, 2003, the buffer program was created to involve farmers in controlling the amount of soil that enters the ditches of Des Moines County.

A buffer strip is a 30 foot wide piece of land planted with prairie grasses along the inside edge of a farmer's fence. This strip is useful in holding soil so it will become less likely to fall into the ditches while farming is taking place in the field.

The buffer program is being funded by Des Moines County Roadside Management and the Des Moines County Soil and Water Conservation District; each will donate \$1,000 to the program. This \$2,000 will be used to purchase seed for the buffer strips. Of course this is not enough money to fund the entire program, and 25% of the cost is left up to each landowner. According to Roadside Manager Jeff Chase, most landowners pay for their 25% simply by putting in the seed they are given according to NRCS specifications and taking care of the upkeep; landowners are bound by a 10-year maintenance agreement. Landowners are allowed to hay their grasses and to mow them.

Each buffer strip planted must meet the specifications set by the NRCS to receive program funding. To become involved in the program, applications can be found at the Des Moines County Soil and Water District office. Roadside Manager Jeff Chase is very optimistic about the program's growth in Des Moines County because it is accessible to many Des Moines County landowners, "We don't have many restrictions, and it is possible for lots of people to become involved."

Lee County, just south of Des Moines County, is also involved in a similar program headed by the Lee County Soil and Water Conservation District.



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Robin Huinker, Editor

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Road Warrior *Damien Bond, Montgomery County*

By Kirk Henderson & Robin Huinker

Damien Bond, Montgomery County Roadside Manager says, "I've worked for the county for ten years. Four as Dave Carlisle's assistant, four as the unofficial roadside manager, and the last two as roadside manager and weed commissioner. I like roadside management because it involves doing something different every day and meeting lots of people. I was born and raised right here. The people are very nice. The employees have a good work ethic."



Working out of the Engineer's office, Damien is responsible for roadside spraying, seeding, and brush control. He coordinates jobs and equipment needs with the engineer. He also works alongside Ralph Jenkins who runs the brush mower. Damien says he and Ralph have a good time together and that, "Ralph is a fine gentleman to work with."

With the help of a Living Roadway Trust Fund grant, Bond is in the process of switching his spray program from an ATV rig to a 300 gallon, dual-chamber, chemical injection sprayer. "With just one guy spraying, it can be difficult to get around to as much of the county as I need to on the ATV. The territory is very different, very diverse. With the new sprayer I expect to cover more of the county, spray more effectively and greatly reduce my exposure to chemicals. Coming home smelling like chemicals makes me a little nervous."

Montgomery County also uses fire to manage some native roadside vegetation. "Burning projects are fun. I like to see the progress of a roadside after the burn," said Bond.

Damien was married just over a year ago, and enjoys fishing hunting and camping. He attended Kirkwood Community College for two years. In the future he hopes to do more public education because, according to Bond, "Lots of landowners don't know or don't understand what we are doing. I'm thinking maybe a booth at the county fair would help. More cooperation and appreciation would be nice." At the rate he is going, the '007' of roadside management won't be a 'secret' agent for long.

Upcoming Workshops - Native Roadside Vegetation Center

Native Plant Propagation, Thursday March 11, 9:00-2:00

Learn hands-on techniques for pre-treatment of seeds to induce germination; vegetative propagation from cuttings of stems, rhizomes, corms; soil mixes and amendments; and transplanting techniques. End the day with a Seed ID quiz and prizes.

Native Seedling Identification, Thursday April 29, 9:00-2:00

Learn identifying characteristics of some common native prairie seedlings, compare and contrast with look-alike weed seedlings using live specimens and hand lens. Participants will receive a copy of Dr. Laura Jackson's "Prairie Seedlings Illustrated, Vol. 1." Test your skills with a Seedling ID Quiz.

Each workshop is \$35 per participant, and includes lunch, packet of reference materials and handouts, and complimentary hand lens. Limited to first 30 participants. Call 319-273-3005 or email <iowa-ecotype-project@uni.edu> to register.

BARGAIN BOOKS

THE FARM AS NATURAL HABITAT: RECONNECTING FOOD SYSTEMS WITH ECOSYSTEMS EDITED BY DANA L. JACKSON AND LAURA L. JACKSON

This book, co-edited by UNI professor Laura Jackson, features interesting examples of alternative agriculture that can function as both healthful food, and as ecosystems of native species. This book can be ordered online at: www.islandpress.org or by calling 1-800-828-1302.

SYLVAN T. RUNKEL: CITIZEN OF THE NATURAL WORLD BY LARRY STONE AND JON STRAVERS

Sylvan Runkel touched many lives as a naturalist, teacher, conservationist, pilot, musician, and coauthor of wildflower guides. This new biography recounts memories from his life and provides insight into the heritage and experience that shaped his life. To order this book email:

Lstone@alpinecom.net or call Larry Stone at 1-888-807-1828

ROAD APPLES



- January 23-25, 2004: Pheasants Forever Annual Convention, Marriott Hotel in Des Moines. For more information call 641-774-2238 or email: jwooley@pheasantsforever.org
- January 26-28, 2004: Iowa County Conservation Board Employees' Winterfest (IACCBE) For more information contact James Devig at 515-382-7367 or email: jdevig@storycounty.com
- February 2, 2004 Urban Oak Decline Workshop
Sponsored by Iowa Arborist Association. For more information contact John Walkowiak at 515-242-5966 or email: john.walkowiak@dnr.state.ia.us
- February 12, 2004: Exotic and Invasive Species Workshop
For anyone dealing with exotic pests that impact the state's natural ecosystems. For more information contact John Walkowiak at 515-242-5966 or email: john.walkowiak@dnr.state.ia.us
- March 3, 2004: AFIRM Winter Meeting, Quality Inn, Ames. Open to all counties to discuss: IRVM and work zone safety, snowfence project update, dealing with difficult situations.. Contact Joe Kooiker at 515-382-7367 or email: JKooiker@storycounty.com
- March 3-5: Weed Commissioners' Annual Meeting, Quality Inn, Ames. Contact Mike Beumer, 319-472-2040.

Striped Skunk (*Mephitis mephitis*)

It's Not Easy Being A Skunk!

By Robin Huinker

It's not easy being a skunk and smelling so stinky, but that awful smell is the only form of defense for an otherwise very shy and unaggressive mammal. Killer of few, feared by many, this slow-paced black meanderer is only the size of a housecat, weighing in at around fourteen pounds. Known for its white on black coloring, the skunk is definitely not a believer in camouflage, it has better protection than that!

Skunks are night creatures, and spend their days sleeping in burrows under the ground, sometimes under your house. At nighttime they scurry across fields, prairies, and highways in search of food. Skunks are omnivores and will eat anything they can get their claws on, including bugs, frogs, bird eggs, small animals, fruits, or berries. Not afraid to kill for themselves, but rather opportunistic, the skunk likes to raid other animals' food supplies while they may be sleeping or out on business of their own.

The skunk is a solitary creature, usually living alone except during mating season in late winter/early spring when females may live together. Males usually live alone all year, with the exception of a quick visit to the den of a female to mate. Gestation usually takes 60-75 days after mating and skunk babies, called kits, are usually born blind and bald. A female may have as many as 4-7 babies at once.

Skunks don't have many predators for obvious reasons; they are most commonly preyed upon by the Great Horned Owl, coyotes, and dogs. Surprisingly enough, however, humans are actually the skunk's primary threat. Humans kill skunks many times by accident with cars, but some humans also kill skunks because they are very useful. Humans use skunk pelts for clothing, and use their potent fluid in many perfumes because of its lasting and clinging qualities. The skunk is also beneficial



alive for insect and rodent control. The only reason humans have to fear skunks is because they are the chief carrier of rabies in the United States, but most skunks are really just harmless.

So next time you see a skunk, don't be afraid, he is really very innocent and could even be benefiting you in the areas of insect and rodent control. And if by chance you do get sprayed while admiring the beautiful skunk, ammonia and tomato juice are the best for killing that stench!

Sources:

<http://wildwnc.org/af/stripedskunk.html>

<http://www.eduscapes.com/nature/skunk/index1.htm>

<http://www.bcadventure.com/adventure/wilderness/animals/skunk.htm>

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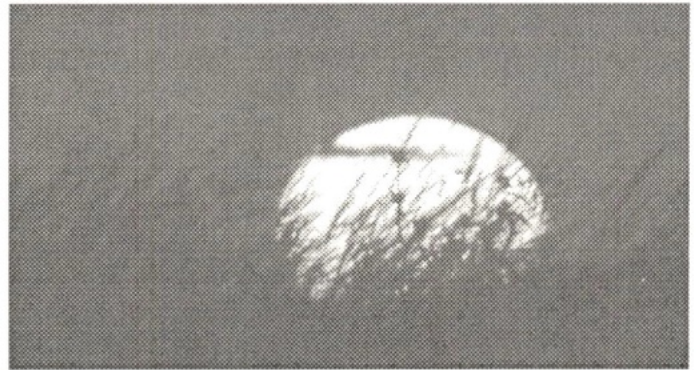
America's Lost Landscape: The Tallgrass Prairie

By Daryl Smith

America's Lost Landscape: The Tallgrass Prairie is a sixty minute documentary film designed for national broadcast on public television. The film tells the story of one of the world's great ecosystems and its transformation from natural landscape to farmland. The tallgrass prairie was once a prominent feature of the North American continent that was reduced, in less than a hundred years, to the vanishing point. The goal of this film is to inform and enlighten the general public about the historical, cultural and environmental aspects of the tallgrass prairie landscape, and to address questions about the future of agriculture in the former tallgrass prairie states of America.

A premier showing in April will mark the culmination of almost a decade of planning, writing, filming, editing and fund raising to produce this film. The idea for such a film evolved from 30 years of frustration that no good film was available to tell the story of the tallgrass prairie. All available films lacked a portion or portions of telling the complete story of this once vast ecosystem that is such an important part of America. As I unsuccessfully searched over the years for such a film, it became increasingly clear that the only alternative was to make such a film myself. To accomplish that goal, I teamed with David O'Shields of New Light Media, Inc., in Cedar Falls. David had produced documentaries and documentary segments that have been broadcast on public television networks of Alabama, Wisconsin, and Iowa. He proved to be a quick study and has really become quite knowledgeable about prairie during the time we have been working on the project. On the other hand, I have probably learned more about film making than I really needed to know.

The story of America's tallgrass prairie is rich and complex. At the time of Euro-American settlement in the 1830s, approximately 240 million acres of tallgrass prairie was a major landscape feature of North America. In one of the most astonishing alterations of nature in human history, most of the tallgrass prairie was converted to cropland in less than eighty years. The drastic alteration of this landscape contributed to the removal of the cultural imprint of the native populations that were attuned to the tallgrass prairie. Ramrod straight rows of corn and soybeans, cultivated by modern machinery, stand where a sea of tallgrass, inhabited by bison and elk, once stretched to the horizon. For the most part, present day Americans have little or no idea about the Midwest of one hundred-fifty years ago; the national subconscious has rarely extracted the biological and cultural history for examination and reflection. The tallgrass prairie region, as the major resource of agriculture, has played



and will continue to play a vital role in the future of our nation. Understanding and preserving this valuable resource and biological heritage is critical. With this in mind, the goal of *America's Lost Landscape: The Tallgrass Prairie*, is to inform and enlighten the general public about the historical, cultural, and environmental aspects of the tallgrass prairie landscape and speculate about the future of agriculture and tallgrass prairie in the Midwest. It addresses concern for the environment by considering how the tallgrass prairie has shaped the people who have inhabited it and what we can do to care for this valuable Midwestern resource.

It is our hope that Iowa Public Television will serve as the "presenting station" for national distribution via the Public Broadcasting Service. To extend and enhance the educational utilization of this film, we will distribute VHS/DVD copies through teacher workshops to schools, libraries and nature centers throughout the tallgrass prairie region and beyond.

The primary project staff are Daryl Smith, project director and executive producer, University of Northern Iowa; David O'Shields, producer and film director, New Light Media, Inc., Cedar Falls, IA; William Carlson, director of photography,

Continued on Page 3

Lost Landscape Premier

All are invited to the Iowa Premier of *America's Lost Landscape: The Tallgrass Prairie*. The viewing will take place April 30 at 7:30 in Lang Auditorium on the University of Northern Iowa campus. Admission is free, please call Daryl @ 319-273-2238 to RSVP and receive directions or parking information if needed.

Native Forbs, Why All the Fuss?

By Greg Houseal

We all have come to appreciate the relative ease of establishment, deep-rooted, soil-holding, water-infiltrating capacity, snow-trapping tendency, and wildlife cover benefits afforded by native grasses. So if native grasses alone are so great, why all the fuss about native forbs?

WEED MANAGEMENT! Ecologists have long theorized that species-poor communities are more easily invaded by new species than species-rich communities, in part because diverse plant communities more fully utilized resources of light, water, and nutrients than a similar site with low species diversity. Recent research is bearing this out.

A recent study by Montana State University extension looked at the effect of removing various functional groups of native plants (i.e. grasses, deep-rooted forbs, shallow-rooted forbs, and all vegetation) from several 10 ft² area plots on spotted knapweed invasion (Pokorny 2002). The results indicated that in plots with grasses removed but native forbs left undisturbed, only about 2 stems of spotted knapweed invaded after one year. However, in plots where grasses remained intact and only native forbs removed, an average of 8 times as many knapweed stems invaded the same size area. In other words, the presence of a diverse native forb component increased the plant community's resistance to knapweed invasion above and beyond what grasses alone provided. The only treatment resulting in greater knapweed invasion than removing native forbs was removing all vegetation (20 times more knapweed stems!). While the factors influencing weed invasion are complex, other recent studies are shedding light on the role of species diversity in community resistance to invasion (Tilman 1997, Davis et al 2000, Naem et al 2000).

All things being equal, a plant community is more susceptible to invasion whenever there is an increase in the amount of unused resources (light, water, nutrients). Of course, any disturbance that destroys or compromises existing vegetation can bring this about, i.e. heavy grazing, pest-outbreak, damage from herbicide drift, sediment deposits covering existing vegetation, ditch clean-outs, the list goes on. While weeds are a fact of life the first year or two after a native seeding, effective weed control initially and careful management early-on can head off a persistent weed problem. The best long-term hedge against weedy invasion just may be those native wildflowers you put in the mix, just because they're pretty...pretty darn good at weed suppression!

References:

- Pokorny, M.L. et al. (2002). (In review) Plant functional groups as a mechanism for invasion resistance. *Restoration Ecology*.
Naem, S. et al. (2000). Plant diversity increases resistance to invasion in the absence of covarying extrinsic factors. *Oikos* 91:97-108.
Tilman, D. (1997). Community invasibility, recruitment limitation, and grassland biodiversity. *Ecology*, 78(1):81-92.
Davis, M. et al. (2000). Fluctuating resources in plant communities: a general theory of Invasibility. *Journal of Ecology*, 88:528-534.

Location, Location, Location

By Dave Williams

One thing worse than planting prairie wildflowers in a recently cleaned out ditch may be letting the seed sit all summer in a mouse infested leaky shed that reaches 90 degrees in August. In the short time I worked with Kurt Baker in Cerro Gordo County, many ditches were re-cleaned in less than five years. Frequently, poor land use practices outside the right-of-way were the cause. Why use expensive prairie wildflower seed to re-vegetate these sites when they will be destroyed in a few years? Save ditch clean sites for planting inexpensive cool and warm-season grasses.

Ten years ago, Kurt and I selected ideal locations in ditches for wildflower plantings. Our criteria for selecting locations for wildflower plantings included: a well maintained fence - to reduce the potential of over-spray from the adjacent landowner, dry ditch bottoms with gentle slopes - to match soil conditions with the species we seeded and to accommodate the seeding equipment, and paved county roads with high traffic counts - to increase public awareness/viewing of these seeding projects. Because of the criteria we used then to plant wildflowers in the ditches, all of our seedings remain intact today. Ideal locations for planting prairie wildflowers exist in every section of every township in every county in Iowa's 600,000 acres of rights-of-ways. Plant your seed as if we all had to buy it ourselves.



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Robin Huinker, Editor

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Enhancement Seed for County Roadsides

By Kirk Henderson

Forty-four counties will soon dispatch someone from their conservation board or secondary road department to the Native Roadside Vegetation (NRV) Center at the University of Northern Iowa (UNI). They will return to their counties with 350 pounds of prairie grass and wildflower seed, their share of a \$200,000.00 Transportation Enhancement Program seed purchase. Over the next few months, the native seed will be planted in county road right-of-way (r-o-w). The plantings are part of these counties' Integrated Roadside Vegetation Management (IRVM) programs.



Most of the forty-four counties have a full-time IRVM Roadside Manager who will install the plantings. They will use specialized seeding equipment such as native grass drills and hydro-seeders purchased by the state's Living Roadway Trust Fund. The Transportation Enhancement Program and the Living Roadway Trust Fund are administered by Iowa Department of Transportation (DOT). These funding sources have been vital to the success of Iowa's county IRVM programs.

Section 314.22 of the Iowa Code, which outlines IRVM, begins by stating: *It is declared to be in the general public welfare of Iowa and a highway purpose for the vegetation of Iowa's roadsides to be preserved, planted, and maintained to be safe, visually interesting, ecologically integrated, and useful for many purposes.* The Enhancement seed each county receives will help fulfill this charge. A diverse mix of locally adapted species will create a stable plant community designed to protect the soil, help prevent weeds, restore our natural heritage, improve wildlife habitat and add visual interest to the landscape.

IRVM has been providing seed, equipment and education for roadside prairie restoration for fifteen years. Iowa now has a small army of experienced and motivated Roadside Managers distributed around the state. They are positioned to make the most of each county's 4,000 acre roadside resource. With Roadside Managers in place to use the seed and the Roadside Office at UNI to administer the seed purchase and distribution, IRVM makes

efficient use of this portion of Iowa's Transportation Enhancement funds. Every dollar received goes for seed.

Transportation Enhancement seed must be used in public road r-o-w. Even so, an IRVM presence in the county increases conservation planting activity beyond the r-o-w as well. Roadside Managers often serve as habitat chair for local Pheasants Forever chapters. Roadside Managers increase awareness by distributing educational materials and giving public presentations. Some are hired by landowners to do plantings on private land. And many assist in the establishment and management of other County Conservation Board recreation and wildlife areas.

To be eligible for a share of the seed, a county need only have an IRVM plan on file with Iowa DOT. Over the last seven years, sixty-six different counties have obtained seed at least one time. The chart below shows how Enhancement money has been used to purchase native seed for the counties.

A single, joint purchase on behalf of all counties results in much better prices than individual counties can get making small purchases on their own. The funds have also been used to encourage the production of Yellow Tag, Source-Identified seed. By guaranteeing at least a twenty percent premium for this seed, production by private growers has gone up and prices have come down. This year ninety-eight percent of the seed purchased is officially certified as to its source. The commitment to Yellow Tag seed also maximizes the amount of these public funds that are spent within the state.

There is much happening to feel good about in Iowa's roadsides. Not every county is participating as much as possible. It would be good to see more counties taking advantage of what is available, from both the Transportation Enhancement Program and the Living Roadway Trust Fund. To find out if your county is participating or for information on how to get your county involved, contact:

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Year	Enhancement Dollars Received	Pounds Purchased		Acres Planted	Species in Mix		Counties Participating
		Grasses	Forbs		Grasses	Forbs	
1998	\$142,000.00	4,350	540	362	5	23	31
1999	\$ 367,000.00	11,024	1,796	918	6	22	52
2000	\$ 388,000.00	15,288	1,870	1,274	5	28	55
2001	\$ 461,000.00	6,172	1,696	514	9	38	54
2002	\$ 461,000.00	19,681	3,108	1,640	10	40	55
2003	\$ 189,000.00	14,390	2,042	1,199	6	17	42
2004	\$ 200,000.00	17,639	2,186	1,469	6	24	44

Temporary Seeding Mixes for Native Plantings

By Bob Jacobson, Botanist/Plant Ecologist, MN DOT

Species Used & Why

We use three species in our wetland temporary seed mix, fowl bluegrass (*Poa palustris*), American slough grass (*Beckmannia syzigachne*) and annual rye grass (*Lolium italicum*). Both fowl bluegrass and American slough grass are native wetland species. The slough grass is an annual and fowl bluegrass is a perennial that establishes relatively fast and both will take pretty wet conditions. The annual rye-grass is essentially used as a filler because it is cheap and not too aggressive. The permanent seed mixes (generally sedge/wet meadow or wet prairie species) can be directly broadcast into the establishing temporary cover. One might think that the temporary cover would interfere with the establishment of the permanent mix species but in fact it may facilitate their establishment by keeping the soil surface moist and cooler than if the site were bare soil only and exposed to direct sunlight and wind. Keep in mind that many wetland sedges, rushes, bulrushes, grasses and forbs have very small seeds and should be placed on the soil surface and not buried like prairie grasses.

"My preference for using annual grains and/or grasses for temporary seeding rather than introduced legumes such as alfalfa and clovers has to do with shading."

Our upland temporary seed mixture contains oats (*Avena sativa*), ReGreen (*Triticum aestivum* x *Elymus trachycaulus*) and annual rye-grass (*Lolium italicum*). It is basically a shot-gun mix meant to grow any time of the year. The use of ReGreen rather than winter wheat provides an additional year of cover and it will take a little more shade than winter wheat if the project is in a wooded area of the state. The permanent seed mix (if prairie) can be interseeded into the temporary cover or if it is a woodland edge mix it can be broadcast seeded. My preference for using annual grains and/or grasses for temporary seeding rather than introduced legumes such as alfalfa and clovers has to do with shading. Annual grains will still allow sunlight down to native seedlings that are shorter whereas introduced legumes become too dense and smother out many native seedlings before they get established.

Wetland Restoration Temporary Mixes

Mixture UT1 (Upland Temporary)		
Common Name	Botanical Name	% of Mix
Oats	<i>Avena sativa</i>	40.00
Rye-grass, annual	<i>Lolium italicum</i>	20.00
ReGreenTM	NA	40.00
Total:		100.00
Rate: 40.0 PLS lbs per acre		

Mixture WT1 (Wetland Temporary)		
Common Name	Botanical Name	% of Mix
Slough grass, American	<i>Beckmannia syzigachne</i>	30.00
Rye-grass, annual	<i>Lolium italicum</i>	40.00
Bluegrass, fowl	<i>Poa palustris</i>	30.00
Total:		100.00
Rate: 20.0 PLS lbs/acre		

Roadside Temporary Mixes			
Mixture	Plant Species	% of Total	Rate (lbs/acre)
100B	Winter wheat	100.0	100.0
110B	Oats	100.0	100.0
120B	ReGreen	100.0	25.0
125B	ReGreen	92.0	23.0
	Partridge pea	8.0	2.0
Totals:		100.0	25.0
130B	Oats	40.0	40.0
	Winter wheat	40.0	40.0
	Rye grass, annual	10.0	10.0
	Alfalfa, annual	10.0	10.0
Totals:		100.0	100.0

Lost Landscape Continued

Carlson Media Services, Inc., Minneapolis, MN and Dayton Duncan, writer and consulting producer, Florentine Films, Walpole, New Hampshire.

The principle humanities and science scholar/consultants are: Andrew Burstein, Ph.D, History, University of Northern Iowa; William Clohesy, Ph.D, Philosophy, University of Northern Iowa; Anton Treuer, Ph.D, History, Bemidji State University; Wes Jackson, Ph.D, Biology, The Land Institute; David Hartnett, Ph.D, Biology, Kansas State University; Laura Jackson, Ph.D, Biology, University of Northern Iowa; Pauline Drobney, M.S., Biology, Neal Smith National Wildlife Refuge and Prairie Learning Center; and Paul Christiansen, Ph.D, Biology, Cornell College. Interviewees in the film include Lance Foster, landscape historian; Nina and Carl Leopold, children of Aldo Leopold; Richard Manning, author of *Grasslands*; Kirk Henderson, Roadside Program Manager, UNI Native Roadside Vegetation Center; Dayton Duncan, Pauline Drobney, Anton Treuer, Laura Jackson, Wes Jackson, and Daryl Smith.

America's Lost Landscape: The Tallgrass Prairie is a co-production of The University of Northern Iowa (UNI) and New Light Media, Inc. The University of Northern Iowa serves as the fiscal agent to receive contributions. Fifty-two contributors have helped underwrite the cost of the film with contributions ranging from \$15 to \$100,000. Grants from the Living Roadway Trust Fund and the Wallace Genetic Foundation were instrumental in initiating the program. Major contributors include the McElroy Foundation, Young Family Foundation, REAP-Conservation Education Program, Living Roadway Trust Fund, Federal Highway Administration, Truax Company, Pioneer Hi-Bred Foundation, and Deere and Company.

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Lost Landscape Website: www.uni.edu/~lostland

Road Warrior

Joy Williams, Iowa DOT

By Robin Huinker

The Iowa Department of Transportation has always played a key role in the successes of the state IRVM program. Not often are the people of DOT recognized for their outstanding efforts. Joy Williams, Roadside Development Specialist is one of those important people.



Joy has been with the Iowa DOT for a total of fourteen years, the last ten consecutively. It is her duty to provide technical support to Iowa DOT employees, primarily in the areas of noxious weed control, brush control, and mowing. Joy is also a contact person for Iowa's herbicide certification program, acting as a go-between for IDALS, answering questions about laws and regulations, and also by teaching re-certification training courses. Joy provides training and administration to the vegetation management program and is active in roadside development, roadside projects, as well as participating in promotional avenues such as the Living Roadway book. Joy said that staying on top of issues is a very important part of her job, "I need to be available to deal with whatever comes up. The challenge is to be prepared to deal with whatever comes up and to anticipate what may be coming."

Joy travels across the state for a total of 20-30 days a year to investigate herbicide complaints, instruct training sessions, and to view and study test plots. Recently, Joy was involved in a trial study that tested the use of low-growing grasses in medians. This trial came about in an effort to decrease mowing in medians, while still satisfying highway patrol needs. The trial took place along Highway 330 and initial results will not be available until after the first complete year.

While Joy's job is interesting to her, she admits that at times it can become very frustrating, "DOT Vegetation Management operations are extremely budget dependent and even though we know we need to accomplish certain things, we can't always because we have no money...It's frustrating because things can't be done the way they should be done." On the other hand, Joy enjoys her job because of the time she gets to spend with the maintenance employees, "I like the interaction I have with the maintenance employees and hearing about their experiences on the job."

Joy has led a very mobile life until ten years ago when she finally settled down at the DOT. Over the years she has lived in many different, sometimes exotic, places. During high school, Joy lived in southern Chile. In Staples, Minnesota, at what is now Staples Technical College, Joy became the first woman to take classes in the school's water-well drilling program. In 1993, Joy travelled to Russia for a summer where she worked for a popcorn company, "It had been my childhood dream to go to Russia and live there long enough to see what it was really like." In 1996, Joy became Maintenance Agronomist for the Iowa DOT.

Joy is currently married to a wet-land ecologist and boasts of two friendly dogs, a pheasant-hunting dachshund and a lab/golden retriever mix. Joy also enjoys ten finches that live in an aviary in her home, "We have birds singing every day and that is really fun." In her free time, which she admits there isn't much of, Joy enjoys learning more about dogs and their uses for therapy, such as nursing home dogs and medical alert dogs. She also enjoys studying regional history and architectural eras.

BARGAIN BOOKS

Road Ecology: Science and Solutions by Richard T.T. Forman: Roads are as much a part of our landscapes as they are a part of our culture. This book brings together fourteen leading ecologists and transportation experts to articulate state-of-the-science road ecology principles and presents specific examples that demonstrate the application of those principles. This book is available through Island Press for \$32.50. To order this book visit www.islandpress.org

This book was featured at the AFIRM Winter Meeting.

The Gardener's Butterfly Book: A Guide to Identifying, Understanding and Attracting Garden Butterflies by Alan Branham: This book has chapters on Butterfly Gardening tips and a number of chapters on individual butterflies, covering many species of Iowa butterflies. The text is great and the photographs are wonderful, with many detailed closeups. This book was published by the National Home Gardening Club of Minnetonka, Minnesota, and is not found in bookstores. It is available for sale (\$29.95) from two Iowa sources: call Christian Camera of Decorah at 563-382-2906 or email chriscam@alpinecom.net or it can be found at Reiman Garden's Gift Shop on the campus of Iowa State University in Ames, Iowa.

BE SURE TO WATCH FOR...

**IRVM's New and Improved Website
coming to a computer near you
later this spring!**

ROAD APPLES



- March 23-36:** Fire Management Workshop, S-130/S-190 Certification. Native Roadside Vegetation Center, UNI. Subsidized by the Living Roadway Trust Fund, 319-273-2813.
- April 6-7:** Seed Pick-up, Native Roadside Vegetation Center, UNI. Counties come for their of the Transportation Enhancement native seed purchase.
- April 29:** Native Seedling Identification Workshop, Native Roadside Vegetation Center, UNI. Registration cost is \$35 per participant. Cost includes lunch, reference materials and hand-outs. Limited to 30 participants. Greg Houseal @ 319-273-3005 or email: iowa-ecotype-project@uni.edu
- April 30:** *America's Lost Landscape: The Tallgrass Prairie* Iowa Premiere, 7:30 pm Lang Auditorium, University of Northern Iowa. Admission free, please RSVP Daryl Smith @ 319-273-2238.
- June 4-6:** Loess Hills Prairie Seminar, Onawa, Iowa. For more information, email lbenne@cableone.net

Roadside Community Member

Brown-Headed Cowbird (*Molothrus ater*)

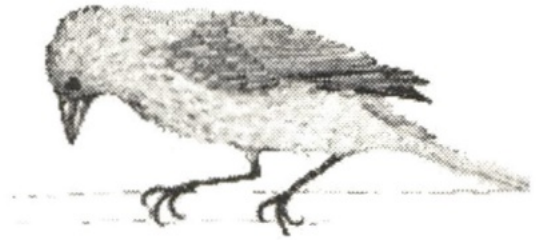
By Robin Huinker

Once referred to as the "buffalo bird," the Brown-Headed Cowbird (*Molothrus ater*) is now one of the most feared birds among the songbird community. Best known for its unusual egg-laying practices, this brood parasite is currently being blamed as a major cause in the declining migratory songbird populations and the endangerment of the Kirtland's Warbler.

Many years ago, the Brown-Headed Cowbird was a very mobile species, following buffalo herds across the United States, thriving off of the insects that lived around the herd and their droppings. Because of this get-up-and-go lifestyle, the cowbird did not have time to wait for its young to hatch, let alone until they could fly. So, like a responsible parent, the cowbird learned that they could lay their eggs in other species' nests to be incubated and hatched.

On average, the cowbird will lay forty eggs a year in the nests of other species of birds. Throughout the years, more than 100 other species have cared for and hatched the cowbird eggs successfully. Some of the most common hosts of the cowbird include: Yellow Warblers, Song Sparrows, Red-eyed Vireos, Chipping Sparrows, Eastern Phoebes, Red-Winged Blackbirds, and Common Yellowthroats. Most of these birds are able to recognize that the eggs are impostors, but because of the large sizes of the eggs smaller songbirds are unable to remove them from the nest. Some birds will abandon their nests because of the intruder, others will build more nest on top of the large egg and ignore it altogether. All species react differently to the cowbird eggs.

For those species who successfully hatch the baby cowbirds,



problems occur in the nest when the strange bird begins to develop, eating the most food, growing the quickest, and eventually the baby cowbird may eat the other babies in the nest.

The Brown-Headed Cowbird likes to live in open woodlands and fields. They feed on spiders, snails, and smaller insects in the spring/summer months, and grains, grasses, and forb seeds in the fall/winter months. Cowbirds migrate south for the winter, but usually return north in early spring with the Red-Winged Blackbirds.

The cowbird is best described as a small blackbird with a brown coloring on the head, the female is more brown than the male. On average the cowbird is 19cm in length.

The Brown-Headed Cowbird should be returning to Iowa soon, so warn your local songbirds about these secret egg-layers because breeding begins in April !

Sources:

<http://birds.cornell.edu/BOW/BNHCOW/>

<http://www.michigan.gov/dnr>

<http://museum.nhm.uga.edu/gawildlife/birds>

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Roadside Vegetation Center
University of Northern Iowa
Cedar Falls, IA 50614-0294
Roadside Digest

ROADER'S DIGEST

Vol. 15 No. 3 June 2004

Newsletter of Iowa's Integrated Roadside Vegetation Management Program

Roadside Management & Mulch More October 7 & 8 Harlan, Iowa



Thursday, Oct. 7

- 8:30 Registration & Exhibits
- 9:30 Welcome to Shelby County, Bryce Schaben
- 9:45 Mountain Lions in Iowa, Jim Mahaffy
- 10:30 Central Fiber Products update, Dale Deardorf
- 11:00 Hydro-Seeding Techniques
- Noon Lunch, Catered by Mickel's
- 1:00 Tour Mat-Ag's corn stover mulch plant
- 2:30 Return to Auditorium for HydRodeo, Hydro-Mulching Demonstration
- 5:00 Social Hour
- 6:00 Steak Fry, Catered by Mickel's
- 7:30 Entertainment from Funny-Bone Comedy Club

Registration Materials Will Be Mailed Soon!!

Friday, Oct. 8

- 6:30 Breakfast Buffet, Mickel's Restaurant
- 8:15 Native Seedling ID, Crash Course
- 9:00 Roadside Manager Discussion Panel, Hydroseeding Natives
- 10:00 Break
- 10:30 Iowa Compost Initiative, Al Rady
- 11:00 *America's Lost Landscape: The Tallgrass Prairie* film documentary
- Noon Closing Luncheon, Catered by Mickel's

Meetings will take place at Veterans' Memorial Auditorium in Harlan. Lodging is available at: Forrest Lodge (712) 755-5170 \$35/\$44, 59er Motel (712) 755-5999 \$45/\$54, HiWay Motel (712) 755-2181 \$37/\$42, NEW! Motel 6 on I-80 (712) 343-6507

2004 Roadside Conference

DNR UPDATE: ATV LEGISLATION

By David Downing, Snowmobile & ATV Program Manager, IDNR

Few of the large bills proposed during the last two legislative sessions created more misunderstandings and confusion than SF297. SF297 was intended to update and revise existing snowmobile and ATV code, which was outdated by time, advances in technology, and a large increase in the number of ATVs being sold and operated in the state.

SF297 splits snowmobiles (321G) and ATVs (321I) into separate sections of the Iowa code. As ATV numbers increased, the change was necessary to recognize differences between the machines and the recreational activities.

SF297 removes ATVs from the ditches under all but two primary conditions. ATVs may be operated in the ditch area on county designated routes and for incidental farm use as defined under 321.234A.

ATVs are not allowed to operate in ditches under most conditions. There are two primary exceptions:

Designated Routes

ATVs may operate on the road or ditch area on a designated route that has been created and approved by the local jurisdiction (DOT and County Board of Supervisors). This process assures input from local property owners and concerned citizens.

Designated snowmobile routes have been successfully established in this manner for almost 30 years.

Agricultural use under 321.234A

ATVs shall be operated on a highway only between sunrise and sunset and only when the operation on the highway is incidental to the vehicle's use for agricultural purposes. A person operating an all-terrain vehicle on a highway shall have a valid driver's license and the vehicle shall be operated at speeds of thirty-five miles per hour or less. **New language in this section:** *modifies the agricultural exemption to allow owners of ATVs and their family members to ride in the ditch area adjacent to their property. NOTE: The other conditions of operation outlined in the agricultural exemption (321.234A) still apply.*

Reason: Currently ATVs that are registered can run in most ditch areas, with or without snow cover. Environmental damage has been reported across the state. The Iowa Off-Highway Vehicle Association (IOHV) has recognized that having ATVs operating in any ditch, regardless of the conditions has been creating damage to our resources, thus the IOHV has favored banning most ditch riding.

Other ATV issues addressed by this legislation include: providing for annual registration of ATVs and snowmobiles, increasing registration fees to \$15 per year, changing mandatory accident reporting to \$1000 or more in value, providing for multi-use cost share, eliminating dual titles, and creating an electronic non-resident registration program.

Fireline

The Flood of 2004 By Kirk Henderson

A survey sent to the 46 counties receiving transportation enhancement seed showed, among the 27 responding counties, a total of 27 acres of seeding washed out by the heavy rains, one acre per county. Fortunately many counties hadn't gotten any seed in the ground before the rains hit. If the 46 counties lost a total of 46 acres, that's only three percent of the 1700 acres' worth of seed distributed. Looking back, it's probably good when you can hold off seeding until June when our weather settles down.

According to the Army Corps of Engineers, Iowa led the nation in damage due to flooding for the decade of the nineties. Maybe this is because we have good rainfall and lots of rivers. Our towns are located along rivers and we farm lots of low places. When it floods we lose crops and couches.

Other states have rivers and rainfall. Why did Iowa have the most flooding? (All prairie enthusiasts know the answer to this one.) Prairie vegetation holds rain drops on its vast leaf surface area. Prairie vegetation slows runoff with sturdy stems that stand up to moving water. Prairie vegetation facilitates the infiltration of water into the ground with deep, extensive root systems. To produce row crops we removed all but one tenth of one percent of Iowa's prairie vegetation. Now, when we get over two inches

of rain, most of the water runs off into the ditch. We shaved the fuzz off the tennis ball and now it holds no water. **It is no coincidence that the state with the most altered landscape also leads the nation in damage due to flooding.**

To lead in dollars worth of damage, something valuable must be lying in the path of all that water. Iowa has almost as many miles of rural roads as Texas. On its way to the streams and rivers, most storm water runoff passes through county road ditches washing out roads and bridges as it goes. According to a very preliminary damage assessment from Iowa Homeland Security and Emergency Management Agency, the recent flooding caused almost \$15,000,000.00 in damage to our county roads and bridges. And these numbers could easily go higher.

For years we've been proclaiming the virtues of prairie vegetation. This year Dr. Mahdi Al-Kaisi of Iowa State University is conducting a study to measure infiltration rates of planted prairie vs brome grass. The project is funded by Iowa Department of Transportation's Living Roadway Trust Fund. The results may point to a solution for our most-expensive-in-the-nation flooding. We are doing a great job restoring native vegetation in roadsides and as filter strips along streams. We must take our efforts further up the watershed to reduce the runoff that washes out roads, bridges and crops, fills basements and shuts down businesses.

Picture permanent strips of native vegetation criss-crossing every farm field in the state. Runoff would be reduced, infiltration increased, aquifers recharged and soil saved.

2004 Iowa Ecotype Project Adding Four New Species

By Greg Houseal



*Native Roadside Vegetation Center,
University of Northern Iowa*

Four species made the list for collection this year, two early summer ripening species and two late fall species, to spread out your seed collecting fun! The two early season species are American or purple

vetch (*Vicia americana*), a low, sprawling viney legume; and porcupine grass (*Stipa spartea*), a cool season grass of dry to mesic prairies. Look for the seeds of these beginning in mid-June.

The two late flowering species are sweet coneflower (*Rudbeckia subtomentosa*) and smooth blue aster (*Aster laevis*). These species may not seed until late September into October. Pheasant hunters may want to take along a couple of small paper bags, just in case. Besides, a rooster's sure to flush just when you're reaching for that last ripe seedhead.

Remember, seed must be from remnant populations in Iowa. For more information about how to collect seed and a copy of the seed collection label, please call our office (319) 273-3005 or visit our website at <http://www.uni.edu/ecotype/>, then click the link "Contributing Remnant Seed". As always, thank you for your contributions of seed!



A workshop for engineers only.
**Engineering with Native
Vegetation**

July 22, NRV Center, Cedar Falls

For more information call Kirk Henderson @
319-273-2813



Vol. 15, No. 3
June 2004

Robin Huinker, Editor

Roader's Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

The UNI Roadside Program is a part of the Native Roadside Vegetation Center at the University of Northern Iowa. It is funded by the Iowa Department of Transportation Living Roadway Trust Fund with support from the University of Northern Iowa.

All programs and services are offered on a non-discriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.

For a free subscription to *Roader's Digest* and additional information contact:

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Cedar Falls, IA 50614-0294
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Society for Ecological Restoration
Natural Areas Association
Lady Bird Johnson Wildflower Center
Soil & Water Conservation Society

Road Warrior

Duane Stohlman, Iowa County

By Robin Huinker



Duane Stohlman has been the Roadside Manager in Iowa County for almost four years, but his relationship with the county goes way back - Duane was born and raised there. After school Duane was employed by the Iowa County Conservation Board. After that he was employed by Iowa DOT working with fellow Road Warrior Joy Williams, managing roadsides in Linn, Iowa and Johnson counties. During his time with DOT, Duane decided he liked working in roadsides, and when he heard Iowa County was looking for a full-time Roadside Manager he jumped at the opportunity.

Duane's responsibilities as a Roadside Manager include many of the usual duties: weed control, seeding, and brush control. Duane is also the Weed Commissioner of Iowa County, which he says goes "hand-in-hand" with his Roadside Management position because he can quickly spot and deal with landowners violating weed laws while performing his usual roadside duties.

Located under the engineer, Duane will occasionally work with the engineer's office when a project comes up, however, he is mostly responsible for finding or creating his own projects. Duane finds it very advantageous to be located under the engineer, commenting, "I feel it puts me closer in contact with the roads department. I always know what they're doing, where they're mowing, and things like that."

Recently Duane has discovered the benefits of bailing natives. This innovative approach involves bailing native prairie grasses and forbs and then using the bales to mulch rural roadside areas. The prairie mulch will act as a cover to prevent soil erosion, and if planted with additional seed, will possibly prevent seed movement. Duane says he is excited about the project and what it means for future roadside management, "I've got six big round bales of native grasses that I'm going to be spreading out on the Iowa County Park. I am really excited about this project."

Other projects underway for Duane include seeding ditches that were cleaned last fall, guard rail spraying and management, as well as smaller seeding projects that will be planted with Iowa County's share of this year's Enhancement Seed.

Duane says he really enjoys his job in Iowa County; he enjoys being out on the roads, seeding areas, and being involved in hands on activities. It will be interesting to see the impact Duane's native grass bailer has on the future of roadside management. It is innovations such as this, that prove Iowa's Roadside Management program is moving forward and should make Duane very proud to be such an integral part of this progress.

ROAD APPLES

July 22: Engineering with Native Vegetation Workshop, NRV Center, Cedar Falls, Iowa. For more information call Kirk Henderson @ 319-273-2813

July 24: Tour the Prairies of Butler County with Daryl Smith and Greg Houseal, NRV Center. For more information, see page 2.

July 24: Operation Wildflower 2004: Iowa's Tallgrass Prairies. For more information call

Marianne Klinsky @ 515-232-6091 or email klinskyjm@mid-iowa.net

August 8-12: North American Prairie Conference, Madison, Wisconsin

Sept. 8-10: 2004 National Roadside Conference, Point Clear, Alabama. For more information visit www.nrvma.org

October 7-8: 2004 Roadside Conference, Harlan, Iowa

Bargain Books

New IRVM Website!

<http://www.uni.edu/irvm>

Be sure to check out IRVM's new website featuring an updated news and events page, a list of county contacts, links and resources, and of course tons of great information about IRVM. Topics about IRVM include how to get a program started in your county, and why roadside managers are important to a program.

Mushrooms in Your Pocket: A Guide To the Mushrooms of Iowa by Donald M. Huffman & Lois H. Tiffany. This is the latest addition to the Pocket Guide Series from the University of Iowa Press. Features the forty-three species of Iowa mushrooms using color photos, common & scientific names, descriptions, and common locations. To order contact U of I Press @ 800-621-2736 or uiowapress.org

"The Prairies of Butler County"

Saturday, July 24, 9:00 AM - 3:00 PM

Join Daryl Smith and Greg Houseal of the Native Roadside Vegetation Center, for a tour of Butler County's unique prairies. The first stop and meeting place will be the small-but-diverse 3-acre Clay Prairie State Preserve, managed by the University of Northern Iowa Biological Preserves Board. This prairie was part of the Butler Center cemetery and home to 98 prairie species such as New Jersey tea, wild quinine, tall green milkweed, and prairie Indian plantain. The next stop will be the 40-acre Leeper Prairie, actively managed by BCCB, this area features a hill-side

seep. After a lunch stop at Heery Woods State Park, we'll visit nearby Wolters Prairie. This 40 acre BCCB natural area has both upland prairie and a wet slough, and a small wetland in the extreme northeast corner. Historically hayed, it's a forb-rich prairie with lots of diversity.

Meet us at Butler Center Cemetery, 3 miles south of Allison on Hwy. 14, then 1/2 mile east on C45, south side of the road. Bring a lunch, water, and dress for the weather. If you have questions, please call Greg at (319) 273-3005.

Roadside Community Member

Roadside Asparagus (*Asparagus officinalis*) and Other Roadside Edibles

By Robin Huinker & Kirk Henderson

"My neighbors often smile when they see me by the roadside with my asparagus knife and pail. They think it is much simpler to merely buy the asparagus one wants at the supermarket. But I have a secret they don't know about. When I am out along the hedgerows and waysides gathering wild asparagus, I am twelve years old again, and all the world is new and wonderful as the spring sun quickens the green things into life after a winter's dormancy."

- Euell Gibbons, *Stalking the Wild Asparagus*

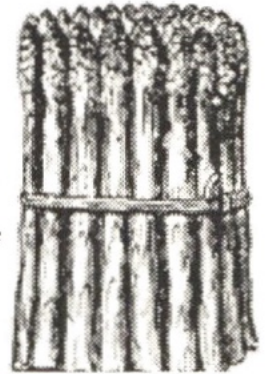
Domestic plants escape from gardens as birds scatter seeds up and down the fence rows. Now roadsides are considered by many to be among the finest sites when it comes to foraging for food. According to Chris Henze, Johnson County Roadside Manager, "We have a lot of asparagus scattered around the county roadsides, especially around old homesteads. I'd make a map of the locations, but some county truck already drove by and picked it all."

In late winter and early spring, last year's dead stalks stand out with their familiar Christmas tree shape, central stem and a straw color that is a shade lighter and a little brighter than the other dead plants. Skilled foragers make mental notes of the locations where the long green stalks topped with small scale-like leaves will appear later in spring.

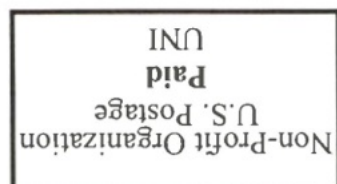
Walt Wickham of Clinton County says, "A couple years back, we had a guy on our spray crew that would mark asparagus

patches on a map. He would go back after work and pick the asparagus. Most of the locations were near long abandoned farm sites." The Crawford County Roadside Department also admits to keeping a map of the treasured asparagus spots in the roadsides so they can return year after year and harvest the roadside dainties.

Sprouting in April, the Wild Asparagus is able to grow over five inches in only twenty four hours! Hunters will find the asparagus varying in diameter and height, with varying bunch sizes as well. Perennial roots will keep sending up new shoots when stalks are cut as soon as they appear. You have to be quick. "I see quite a bit of asparagus in the ditches," says Jeff Chase of Des Moines County. "People are pretty protective of the locations." Also carefully guarded are the locations of other roadside edibles, such as apple trees, wild plums, morel mushrooms, wild grapes, and raspberries.



Source: Gibbons, Euell. *Stalking the Wild Asparagus*. New York: David McKay Company, Inc., 1962.



Roadside Digest
Native Roadside Vegetation Center
University of Northern Iowa
Cedar Falls, IA 50614-0294

Counties Must File New Plans

By Kirk Henderson

To maintain eligibility for Living Roadway Trust Fund (LRTF) grants and Transportation Enhancement seed, counties must sign and return a new Integrated Roadside Vegetation Management (IRVM) plan. A committee is developing a standard plan to be used by all counties. The plan will be mailed out in March and is due back prior to the August 31 LRTF application deadline.

Steve Holland, who administers the Living Roadway Trust Fund for Iowa Department of Transportation, says, "Many of the plans on file are fifteen years old or more. It's time for counties to renew their commitment."

The Integrated Roadside Vegetation Management program and Living Roadway Trust Fund were established in the late 80's. The IRVM program has been successful and demand for the funding remains high. Currently there are 82 counties with plans on file with Iowa DOT. In some cases, the County Engineer or the County Supervisors that approved the plan are no longer around. Some of the current policymakers don't even know they have a plan.

Resubmitting IRVM plans is an opportunity for new engineers and supervisors to learn what IRVM is all about, what it can do for their county and what can be purchased with LRTF monies. Getting counties to file new plans will prove helpful in

"Many of the plans on file are fifteen or more years old. It's time for counties to renew their commitment."

the ongoing process to increase county participation in the program.

Roadside Managers attending the March 2nd meeting of the Association For Integrated Roadside

Management in Iowa

will have a chance to comment on the plan at that time.

A questionnaire is also being developed to go with the plan. It will help the statewide IRVM committee evaluate a county's commitment to IRVM at the time LRTF grant applications are considered for funding. The questionnaire will be updated and included each year when LRTF applications are submitted.

The standard plan being developed is strictly for LRTF and seed eligibility purposes and is not meant to replace a county's roadside management plan of operations.



Photo shows snow banked up inside a stand of prairie grass. A wide strip of prairie grass traps snow thereby increasing storage capacity of the roadside.

A Living Snow Fence

By Rob Roman

The Iowa Department of Transportation is in the second year of a four year study of the effects of various herbaceous native species and the management techniques used on those species on blowing and drifting snow along roadways. Linn County Secondary Road Department is coordinating the study, both on county roads and state highways.

In August 2003, Iowa DOT received \$50,000.00 from the Federal Highway Administration for a study of living snow fence technology appropriate for use in the Midwest. This study will produce a manual of best management practices for living snow fences that includes site selection guidelines, recommended plant species and establishment practices. The study will address the use of native herbaceous species, not trees and shrubs, as the living snow fence plant materials.

This study will look at which Iowa native species, or mixtures of species, offer the best capabilities to drift snow, store snow, and prevent blowing/sifting. The effect of mowing widths along shoulders will be compared, as well as the performance of non-native species to that of native species.

Ten locations were selected within Linn County to be included in the study. Seven locations are rights-of-way with established vegetation. Three locations were planted in June 2004. Study areas include rights-of-way that vary in width from 66 feet to over 200 feet. Traffic count varies from roadways with 40 vehicles per day to roadways with over 7,000 vehicles per day. Side-by-side study plots range from 400 to 600 feet in length.

All plots within a study area have consistent surface grades, consistent backslope heights and consistent adjacent land use. Information will be gathered using photographs and stick readings. Weather data and material and labor costs for snow and ice control will also be recorded.

Road Warrior

Bryce Schaben, Shelby County

By Robin Huinker

A successful roadside program relies heavily on an enthusiastic and outgoing roadside manager. Bryce Schaben fits this description perfectly. And the results are quite positive.

Before hosting the 2004 Roadside Conference, Shelby County was one of those far off, little known strongholds of IRVM. But after visiting Harlan we have a clearer picture of the active and well supported program Bryce has developed. To understand how this came about, I think we need to start by examining the man partly responsible for this success story - Bryce Schaben, Shelby County Roadside Manager.

Bryce is a native of Shelby County and now lives just outside of Harlan. He is married to a middle school science teacher, Carrie, and has three children, Jacob, 14, Josh, 12, and Jess, 8. He graduated from Peru State College in 1989 with a degree in Wildlife Ecology and Biological Science. In 1990, Bryce used his degree to become a Park Ranger for Shelby County Conservation. In 1995, Bryce increased his marketability by graduating from the Iowa Law Enforcement Academy. He decided to return to nature in 1999 when he took over the Roadside Management Department in Shelby County. "I love this job because I can have a direct impact on the habitat of the county and I do not have to put up with whining campers!"

For the past 8 years, the Shelby County roadside program has been located under the County Conservation Board. This past spring, however, Bryce's program was moved to the Secondary Roads Department with the intent of saving money. Bryce says he hasn't seen any real cost differences so far, but personally he likes being under the county conservation board better because there he feels more like a "conservationist working with a natural resource." But in the end he says, "I don't really think it matters what department you're under, as long as all parties are open minded and willing to work together."

Another driver for success, is having the support of a strong community. In Shelby County, roadside management is received fairly well. Bryce says, "We have done a good job showing people and reminding them how much money we are saving the county by doing things in-house. There are those who don't like the tall grass



in the roadside, but just as many or more that do." He also says that the flowers are very well received and a huge selling point. Educating the community can be a difficult task, but Bryce manages to spread the word through a prairie establishment and management class he teaches at Iowa Western College once a year. He also performs a few night burns in the spring for the public to enjoy and sponsors a prairie hike in the summer. He says attendance has been very good for all of these activities.

This year's Roadside Conference was, once again, a huge success. No one will forget playing around at the Hydrodeo, or witnessing the botched hydro mulch demo. To make a conference like this truly successful takes a great amount of effort on behalf of the host county and roadside manager. Bryce was this year's host and had a great time helping to plan the conference and attending it. Bryce has a few words of wisdom he would like to pass on to any other roadside managers thinking they would like to host a future Roadside Conference: "By being host, it really forces you to get involved and that certainly made the conference more exciting! Don't sweat it. Kirk is really great to work with! He is very organized and has done this so many times that he sees ahead of time what needs to be done or changed. And, he does most of the work!"

So what makes a successful roadside program? After following the Bryce Schaben model for success, we can see that a successful program comes from hard work, enthusiasm, a supporting and helpful team, an open mind, and the willingness to relax sometimes and have a little fun.

Bargain Books

The Grasses of Iowa

<http://www.eob.iastate.edu/research/iowagrasses/>

This new website can help visitors identify Iowa grasses. *Grasses of Iowa* is an ongoing project at Iowa State University, under the direction of Dr. Lynn Clark, Department of Ecology, Evolution, & Organismal Biology. This project is funded by the Fred Maytag Family Foundation. This project also includes an update of the soon to be re-published book, *The Grasses of Iowa*, by Dr. Richard Pohl.

Where the Sky Began:

Land of the Tallgrass Prairie by John Madson

Originally published in 1982, this classic is now back in print to rekindle the passion of longtime prairie enthusiasts! Written by an Iowa native, this book has proven time and again to be captivating and eloquent. This book is available through the University of Iowa Press 1-800-621-2736 or online at www.uiowapress.org



ROAD APPLES

Dec 7-9: Engineers' Conference, Scheman Continuing Ed Center, Iowa State University, Ames

Jan 14-16: Pheasant Fest, Omaha, NE. For more info, visit www.pheasantsforever.org

Jan 23-26: IACCBE's Winterfest, Five Sullivan Brothers Convention Center/ Ramada Inn, Waterloo

Feb 8-10: Prescribed Fire Conference, Quality Inn,

Ames. For more info: http://prcd.org/inl/prescribed_fire.htm

March 2: Association for Integrated Roadside Management in Iowa (AFIRM) Winter Meeting, Quality Inn, Ames

March 2-4: Iowa Weed Commissioners' Meeting, Quality Inn, Ames

July 22-23: Iowa Prairie Conference, Cedar Rapids Indian Creek Nature Center.

WORKSHOP PARTICIPANTS RESPOND TO THE QUESTION: “WHY DO YOU WANT TO RESTORE PRAIRIE?”

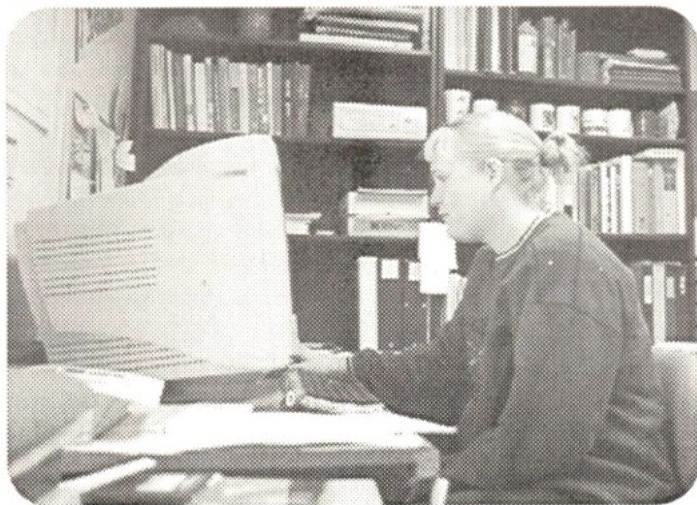
There are a lot of benefits to using prairie species in roadsides. We tend to condense these benefits into bulleted sound bites for rapid firing at policymakers hoping some hit home before they duck or tune us out. Sometimes we lose sight of the intangible and almost ineffable aspects of what is nicest about prairie.

Below is a compilation of the responses to the question: *Why do you want to restore prairie?* The question was posed to participants at the “Introduction to Fire Behavior and Fire Safety Workshop” hosted by the Southeast Iowa Sierra Club. The list is reprinted with permission from the Winter 2004 issue of the *Iowa Sierran* newsletter. Forget about roadsides for a minute and think about landscapes.

1. Prescribed burning restores prairie ecosystems, which are valuable because of the rich diversity of plant and animal life they support.
2. Choosing prairie as a method to maintain property reduces mowing and the resultant pollution.
3. Prairie plants are especially useful for flood control. The root matrix acts as a sponge slowing water runoff.
4. Prairies help prevent the permanent loss of topsoil.
5. Prairies build soil.
6. Prairie is exceptionally good at filtering nutrients from water, thus reducing water pollution.
7. Prairies are magical places.
8. Restoring prairie is meaningful simply because it brings

Congratulations and Thank You Robin!

Robin Huinker, *Roader's Digest* editor and all around computer guru for the Roadside Office the past year and a half, has graduated. She is moving on to begin her new life in Boone as community relations director for a local bank and is also planning a May wedding. My appreciation for her help is exceeded only by my separation anxiety over her leaving. We wish Robin the best.



back what was here.

9. Prescribed burning, done correctly, supports native ecosystems. Therefore, participating in this activity we find our place in nature. We become stewards of the land.

10. Prairies are beautiful.

11. Prairies often have an influence on people who walk through them. One person mentioned that she feels a sense of wholeness when she enters a prairie.

12. Keeping our prairies alive and healthy is important for the future of mankind because there are medicinal properties in the many species of plants that we have not yet discovered.

13. Large prairies play an important role in giving us the experience of something vast like the experience of the ocean.

14. Burning the landscape exposes the features of the land, the geology.

15. Many people feel a strong attraction to openness to the degree that some would call it a genetic imprint. Prairie feeds our need for openness.

16. Prairie restoration leads us forward reaching for a system of ever more complexity and diversity. A goal would be to recreate a habitat that would support native species such as the buffalo and prairie chickens.

Tell a county supervisor to plant natives in a roadside because it creates a sense of wholeness? Convince an engineer we're making his roadsides magical? Probably not. Still, these qualities are key to prairie's broad appeal and are good to recall when the practical side starts to take over.

NRV Center Takes on USDA NRCS Prescribed Fire Training Contract

The Native Roadside Vegetation Center at the University of Northern Iowa has been hired by the Natural Resources Conservation Service to provide fire training for NRCS employees. "It's an overview of prescribed burning and the benefits of fire in vegetation management", according to NRV Center Director Daryl Smith. "For a sixteen hour workshop, we cover a lot of ground. Participants become more knowledgeable about fire management and we get to build on our relationship with the agency. We're enjoying the people a lot."

Topics covered in the sixteen hours of training include: fire ecology, fire behavior, vegetation response to fire, fire weather, planning and conducting a prescribed burn, fire effects on wildlife, fire effects on soils and hydrology, fire safety, smoke management and interpreting fire to the public. Weather permitting, participants get to observe a practice burn and possibly get some hands on experience.

The training was necessitated by USDA administered programs encouraging the use of native vegetation. Prescribed fire is a management option for landowners. The two hundred employees that came through the level I workshops are better prepared to talk fire to the public. Those that come back for level II training will be approved to write prescriptions for small burns. Those completing levels III and IV will be approved to write prescriptions for larger and more complex burns and review level II burn plans.

Are You Using Compost Yet?

By Al Rattie & Ron Alexander, R. Alexander Associates, Inc.

This is the first in a series of articles that will be published about the Iowa commercial composting industry, and the strong interest on the part of the Iowa Department of Natural Resources (IDNR) in helping the State to recycle larger volumes of organic residuals. The IDNR knows that these organic residuals can be processed into high quality compost products, and used in place of non-renewable, or imported products. They have even established a rebate program, providing funds to both compost users and producers, to help stimulate the market demand and use of compost. The finished compost can, however, only be truly considered as recycled IF markets exist to absorb all that is produced. That is our primary mission.

In an effort to expand compost markets, the IDNR has sponsored a two-year project, which began in April 2003. The project team, consisting of IDNR, R. Alexander Associates, Inc., and Iowa commercial composters, met to develop ideas about how to most effectively and efficiently spread the word about the many benefits; environmental, agronomic and financial, that can be realized when compost is specified and used in place of topsoil or peat moss. The subsequent articles in this series will describe the many uses of compost in different landscape applications, and help you participate in this important project.

Compost provides many benefits to the soil, plants, environment, and the "pocketbook" of the user. It is readily available in most parts of the state and should be considered in every project where either topsoil or soil amendments will be used. Let's look at some basic information about compost as an introduction to this topic.

What is Compost? Compost is the end product resulting from the controlled biological decomposition of organic material. This organic matter is broken down and sanitized through the generation of heat resulting from the intense activity of millions of microbes growing and reproducing. Good quality compost is stabilized to the point where it is beneficial to plant growth and bears little physical resemblance to the organic residuals from which it came. These organic residuals may include yard trimmings, biosolids, manure, food and other related feed stocks. Compost is used primarily for its soil conditioning properties, but can also provide significant levels of plant nutrients, both macro and micro, since it is typically applied in relatively large quantities.

How is Compost Produced? All compost, regardless of the original organic feedstock, is produced through the activity of

aerobic (oxygen requiring) microorganisms. These "bugs" need oxygen, moisture and food in order to grow and multiply. Their activity generates heat, water vapor and carbon dioxide as they transform raw organic residuals into a stable soil conditioner. The natural decomposition process is greatly accelerated when these resources are maintained at optimal levels by controlling the feed stock "recipe" and properly managing the daily activities of the composting process.

The US EPA has established public health and safety standards that facilities composting specific residuals must meet in order to be approved for general distribution. The state of Iowa also has a set of standards that must be met. These product safety "checks and balances" assure you that not only will you have a very safe product, but also have one that will be effective for a variety of soil conditioning applications.

Compost Benefits and Applications The use of compost, as previously mentioned, can provide many benefits. It improves the physical, chemical and biological properties of the soil and media to which it is blended.

Benefits:

- * Improves the soil structure, porosity and bulk density - creating a better plant root environment
- * Increases moisture infiltration and permeability of heavy soils - improving drainage and reducing erosion and runoff
- * Improves the moisture holding capacity of light soils - reducing water loss and nutrient leaching and helping to conserve water
- * Improves and stabilizes soil pH - creating a better environment

"Compost provides many benefits to the soil, plants, environment, and the 'pocketbook' of the user."

for overall plant health
* Improves cation

exchange capacity (CEC) of soils - improving their ability to retain nutrients for plant use

- * Supplies a variety of macro and micro nutrients - reducing initial fertilizer needs in some applications
- * Supplies significant quantities of organic matter - the essence of healthy soil
- * Supplies beneficial microorganisms to the soil - improving nutrient uptake and suppressing certain soil-borne diseases
- * Binds and degrades specific pollutants - a new, pollution reducing benefit

Compost can be used on the soil surface as a topdressing material or an erosion control product, as part of a planting mix, as a soil amendment, or even as a mulch. Contact Al Rattie via email at Turlife@aol.com (215-258-5259) or Ron Alexander at HYPERLINK "mailto:alexassoc@earthlink.net" alexassoc@earthlink.net (919-367-8350) to learn more.

Hyd-Rodeo at the Harlan Corral Turned out OK

The 2004 Roadside Conference hosted by Shelby County October 7-8, featured a hyd-rodeo competition. Thanks to Bowie Hydro-Seeder representative Larry Barch, (someone who has actually seen a hyd-rodeo before) the event came off just fine. The weather cooled off late in the afternoon so staying dry became a priority for participants (and the audience) as they went through the paces, loading bales and knocking down targets with the water cannon. According to innocent bystander Mike Saltzgaver. "I was in the audience. Next thing you know I'm half drenched. Fortunately I had a change of clothes." Cerro Gordo was charged no penalty as the judge ruled incidental contact. In the Photograph the team from Des Moines County, Jeff Chase and Brian Hand, demonstrates amazing strength and endurance.

Photo courtesy of Paul Walvatne, MN DOT





An Opportunity New County Supervisors May Not Know About

By Kirk Henderson

Counties can get help from the state enhancing roadsides. Iowa puts more wildflowers in roadsides than does any other state. To appreciate why we make so much of roadsides, pretend you are a ground nesting bird. Where in this state are you going to find land not farmed or mowed or disturbed in some kind of way during nesting season? The shortage of land available for so called non-productive uses increases the interest in what we do with our roadsides.

The good news? Our extensive network of farm to market roads gives us 500,000 acres of county road right-of-way in which to restore something natural. It gets better. Counties can get help from the state, a lot of help, obtaining native prairie grass and wildflower seed and the equipment needed to plant and manage it in their roadsides.

Sixteen years ago the Iowa legislature created Section 314.22 of the Iowa code outlining a program called Integrated Roadside Vegetation Management (IRVM). The opening line of Section 314.22 states:

It is declared to be in the general public welfare of Iowa and a highway purpose for the vegetation of Iowa's roadsides to be preserved, planted, and maintained to be safe, visually interesting, ecologically integrated, and useful for many purposes.

For the most part we have since stopped abusing our roadsides with over use of herbicides. The negative is under control. Still, many counties have not gotten busy pursuing the positives. For them the promise of Section 314.22 has not been fully realized.

Go back to the part about- *visually interesting, ecologically integrated, and useful for many purposes*. For a long time prairie ecologists have been saying, "doesn't it make sense to use our native vegetation when planting roadsides? After all these are the plants that evolved here over thousands of years and are adapted to local growing conditions?" Eureka! Roadside prairie restoration pretty much takes care of everything 314.22 was talking about. (Cue the Angels singing in the background.)

Prairie grasses and wildflowers have structure, different heights, different shapes and different colors blooming throughout the season. A diverse mix of these plants includes species suited to the whole range of moisture conditions found in a typical ditch. They are uniquely adapted to thrive in our long, hot summers. They do well in poor roadside soils. Their deep, fibrous roots hold soil and crowd out weeds. And they provide excellent food and cover for ground nesting birds.

Over the passed seven years about 50 counties a year have received wildflower seed through UNI paid for by Enhancement funds from Iowa DOT. The DOT's Living Roadway Trust Fund has purchased native grass drills for 50 counties. For half the counties in the state, the program has been great. For the rest of the state, better late than never. Talk to your county engineer. He probably has future projects suitable for native vegetation. For help getting started call 319-273-2813 or email kirk.henderson@uni.edu.

Mark Your Calendars:
2005 Roadside Conference
Hosted by Dallas County
September 8 & 9
Stoney Creek Inn
West Des Moines



Vol. 16, No. 1

January 2005

Robin Huinker, Editor

Roadside Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

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Society for Ecological Restoration
Natural Areas Association
Lady Bird Johnson Wildflower Center
Soil & Water Conservation Society

Roadside Community Member

By Robin Huinker

The Eastern Red Cedar (*Juniperus virginiana*)

The Eastern Red Cedar (*Juniperus virginiana*) is one of the oldest living trees in Iowa. How long has the Eastern Red Cedar been in Iowa? Well, a 450 year old tree was found some years ago by conservationists in Linn County. But old cedars like this aren't only found in Iowa. For years they have been the most widely distributed tree-sized conifer in the Eastern United States. The red cedar can grow in a variety of soils, from swampy wetland soils to dry rocky soils, making it abundantly popular.

The Eastern Red Cedar varies in color from bluish green to bronze. Female trees produce quarter inch blue, berry-like cones or fruit on their branches that contain one to four seeds. These are eaten by birds and other animals and "spread" across the land. Male trees produce sesame seed size tan conelets on their branches that produce pollen, released at the end of winter. The most interesting characteristic of the Eastern Red Cedar, however, is that the same tree can have two different types of leaves; one type is scalelike, while the other is needlelike.

Roadside managers commonly think of the Eastern Red Cedar as a nuisance because they can grow almost anywhere and, as

they grow, they become a visual obstruction and have to be removed from roadsides. The red cedar can grow 40-50 feet tall, depending on the soil it is situated in. When they invade

remnant prairie, notably in the loess hills of western Iowa and goat prairies of northeast Iowa, cedars will shade out and smother the herbacious native species.

Aside from being prairie invaders, red cedars protect soil against wind erosion. Also, they provide a good home for many birds, such as the cardinal. Many animals, such as quail, pheasant, rabbits, fox, raccoon, and deer, eat the fruit off of the female trees. Probably best known for its pleasurable aroma, the red cedar also has very strong, durable wood, great for building chests, closets, posts and more. The familiar potent smell comes from the cedar wood's oil, which has been used in medicines and perfumes for decades.

Sources: <http://www.gpnc.org/eastern.htm>

<http://www.encyclopedia.com>

<http://www.forestry.about.com>

Forest and Shade Trees of Iowa, Donald Farrar, Vander Linden, Peter J. 1984, Iowa State University Press.



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University of Northern Iowa
Cedar Falls, IA 50614-0294

19th Annual Roadside Conference:

What's in the Bag? A Celebration of Native Seed

September 8th & 9th, 2005

Stoney Creek Inn, Johnston, IA.

What goes into producing quality native seed? Gain an appreciation for the whole process. Not so you can go home and grow your own, but to help you value the product in the bag, the precious commodity that is real native seed from Iowa.

Featuring:

Allendan Native Seed, Production fields and facilities tour.

Dallas County/Iowa DNR Native seed production area.

Eileen Wuebker, Iowa Crop Improvement Assn

Representing the certifying agency for growers producing Source-Identified, Yellow-Tag Seed. Ms. Wuebker will explain what's behind this designation assuring the geographic origin and area of adaptation for native seed.

Tim Gutormson, Midwest Seed Services,

Formerly with the seed testing lab at ISU. Mr. Gutormson operates a private seed testing lab in Brookings, SD. He'll describe his operation and discuss PLS and seed testing issues of concern to the native seed end user.

Dr. Shawn Schottler, Science Museum of Minnesota,

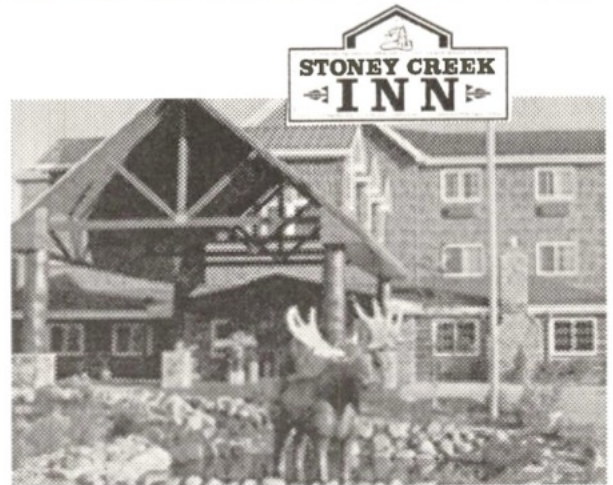
St. Croix Watershed Research Station. Testing the effect of seeding density, grass to forb ratios, and spring vs fall planting in maximizing floristic diversity in prairie reconstructions. Based on research presented at last year's North American Prairie Conference in Madison, WI.

Gregory Houseal, Native Roadside Vegetation

Center, UNI. From state preserves to the smallest roadside remnant, seed collection strategies for Iowa Ecotype Project source material.

Dr. Tom Rosburg, Drake University,

Prairie Restoration Versus Homogenization: Preserving Regional Diversity. The great diversity of Iowa's native prairie was a product of landscape variation and biogeographical processes. Dr. Rosburg will discuss the importance of maintaining this regional diversity when designing seed mixes for restoration.



Reservations: 515-334-9000

Request Roadside Conference room block and \$69.00 conference rate.

Registration form will be sent out in June.

Enhancement Seed for County Roadsides

Iowa DOT's Transportation Enhancement Program is funding a \$184,000.00 purchase of native seed. The fifty-two counties receiving a share will pick up their seed, May 4th & 5th at the University of Northern Iowa NRV Center.

Two seed mixes are available: a forb rich mix of forty species for use on larger, more high profile projects and a less diverse mix of 14 species for ditch cleanouts and other less prominent sites.

This project offers growers a 25 percent preference on bid prices for Iowa Yellow Tag, source-identified seed. Each county receives all species individually bagged to mix as needed. The seed will plant 1350 acres of county road right-of-way at an average cost of \$136.00 per acre.

Fireline *Burn Those Ditches!*

By Kirk Henderson

What kind of burn season did you have? A recent survey shows 437 acres of county road right-of-way received prescribed burn management in 2004. That's not a lot of burning considering ten thousand acres of county road right-of-way have been seeded to natives over the past 15 years. And since 75% of that burning was done by only eight counties, it appears many plantings will never be burned.

In light of this absence of fire, we seem to have three options- give up seeding natives (no way), pretend fire isn't really necessary (good luck) or go on living with the uncomfortable contradiction of prairie without fire. The fourth and best option, burn more ditches, just isn't happening.

Iowa Department of Transportation's Living Roadway Trust Fund has helped counties purchase backpack pumps, flappers, drip torches, and quite a few nice pickup mounted pumper units. This funding is still available. LRTF has sponsored prescribed fire workshops and certified over one hundred people in S-130/190.

No matter how much help LRTF offers, counties have limited personnel. Each year allows for only so much burning and roadsides are often not the priority. This spring was a classic example of the challenges involved in getting things burned. People were caught off guard by the early warmup and subsequent early growth of native wildflowers. Wind and rain wiped out one day after another.

Uncontrolled forces will always be a factor. Our job is to be ready. Don't

Any meeting or nonburn-related event during April and May, tell the people you'll be there unless conditions are right for burning.

let lack of preparation or personal ambivalence get in the way. When conditions are good be ready to slide down the pole and hit the ground burning.

Relative to other burns, most county roadside burns are easy to manage. Fire conforms to steep roadside slopes like no machinery

can. Roadsides are prone to invasion by nasty plant species and are beset by endless disturbances to the soil. A management tool like fire, one that encourages desirable vegetation, is even more valuable in roadsides.

The late Jock Ingels said, "Burn Baby, Burn! If you sincerely want to include fire in your IRVM tool chest, then be ready. Make fire your top priority. Any meeting or non-burn related event during April and May, tell the people you'll be there unless conditions are right for burning. Make them understand. Everything else is secondary.

Remember your management objectives and think fire whenever you can. Burn those ditches! Burn'em in the spring. Burn'em in the summer. And burn'em in the fall. Let them call you a "pyro". That's okay. Burn with caution and stoke those ditches with a warm, steady glow. See if you don't burn more acreage next year.

This excerpt from "Siftings" by Jens Jensen, 1939, was sent to us by Gary Heineman of Sloan, IA:

Along our railroad rights-of-way one meets the last stand of these prairie flowers. What a wealth we would have if our prairie roads could be lined with this rich carpet of colors, miles of flowers reflecting their colors in the sky above,

An 1884 Danish immigrant, Jensen worked for a time in Iowa as a day-laborer and later became a well-known landscape architect in Chicago. See Bargain Books, opposite page.

Roader's in Washington

Since the first Roader's Digest came out in December, 1989, we've been sending several copies of each issue to Iowa Department of Transportation Librarian Hank Zaletel. Hank wanted at least three copies of any publication the Roadside Office produced using state funds. Figuring Hank has lots of friends, we send him 15 copies. Someone at the State Library of Iowa Documents Depository recently informed me they receive some of those copies and forward one to another documents depository in Iowa City and another onto the Library of Congress. Somewhere in Washington, D.C. on a little piece of microfiche *Roader's Digest* and the activities of Iowa's IRVM program are on record. Thanks Hank.

Vol. 16, No. 2

May 2005



Kirk Henderson, Editor

Roader's Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

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Natural Areas Association
Lady Bird Johnson Wildflower Center
Soil & Water Conservation Society
Association For Integrated Roadside Management
in Iowa

Road Warrior

Harold Pollmeier, Henry County

By Kirk Henderson

My first Roadside Conference was the one in Cedar Falls. If that was 1997, I started in roadsides about six months before that. Prior to that I worked as truck driver and rod man for the survey crew, also with Henry County. We did all of our surveying in house at that time. When the IRVM program started roadsides were officially 30% of my time. Driving trucks for road maintenance was 30% and survey crew 40%.

The Roadside Program has evolved to the point where my job is 60% roadside management and 40% engineering- survey and inspection work. I'm certified in asphalt paving and portland concrete paving and structures. I received about 200 hours training through Iowa DOT. I do very little work with maintenance anymore. Maybe on rare occasions when we are short handed or it's a rain day. Rainy days are used more for catching up in the office now.

I work directly under the Engineer and have a real good working relationship with him. Our offices are about twenty feet apart. One way or another, by leaving notes or sticking my head in his door, we communicate probably three times per week.

Phase II of NPDES storm water runoff regulations has created an opportunity. I now work with the Engineer coordinating on our pollution prevention plan. As vegetation specialists, roadside managers have access to mulch suppliers and the latest sediment control technology. We also do seeding. Seeding, permanent and temporary, is a big part of pollution prevention. Doing seedings in house through the IRVM program gives us more control, a better chance at timeliness than when contracted out. That makes our pollution prevention



plan more effective. During the first two years, less than ten percent of my seedings were native vegetation. Now at least a third of our seedings are native.

Burning is intended to be a part of my job now. I helped Des Moines County burn some joint right-of-way. In February I took the S-130/190 wildfire certification training. My first native seedings are in their fourth growing season and starting to look good. I really wanted to burn them this year, remove the residue and encourage the native grasses to green up faster and continue with a vigorous growth, discourage brush and other invasive species. Timing and personnel issues, four people off two weeks, preempted any burning this spring.

For weed control we have a 500 gallon Spraytronics unit purchased from Des Moines County 3 years ago. I use Escort and Tordon 22K for noxious weed control. I use the same combination at a higher rate for brush control. We are actually doing less spraying and more mechanical cutting for brush. I work with the Road Superintendent coordinating brush cutting. We have a twenty foot boom mower for small brush and in winter we run two cutting and chipping crews using a twelve inch chipper purchased with fifty percent Living Roadway Trust Funds.

I have farmed all my life. I grow corn, beans and alfalfa and have a 20 head beef cow/calf herd on 120 acres my wife and I purchased. We live on the farm six miles outside Mt. Pleasant.

Fifteen years ago I was working in a factory, very dissatisfied with my job. I had no idea fifteen years later I'd be so satisfied with my career and doing something I want to do until I retire. This all happened through the county and the internal promotion to roadside manager.

To counties considering starting a roadside program, I want to say, "it's okay to start small. Start small in a manner that suits you and build a program that fits your situation."

ROAD APPLES

June 3-5: Loess Hills Prairie Seminar, still the most unique and special family event on the prairie calendar. 1-800-352-9040.

July 16: Operation Wildflower 2005. Iowa's Tallgrass Prairies Speakers and field trips. Stratford, IA. 515-232-6091. klinskyjm@midiaowa.net

July 20-23: 2005 Midwest Environmental Education Conference: "The Winds of Change." North Iowa Area Community College, Mason City. www.niacc.edu/meeec

July 22-23: Iowa Prairie Conference, The Prairies of Tomorrow: Communication, Culture & Diversity. Indian Creek Nature Center. Cedar Rapids 1-319-362-0664.

Aug 31: Living Roadway Trust Fund application deadline and new IRVM plan submission deadline.

September 8-9: 19th Annual Roadside Conference, Dallas County hosting. See front page for details. 319-273-2813.

Bargain Books

Siftings by Jens Jensen, originally published in 1939, reprinted in original format. Looking for inspiration? This little book holds thoughts and writings from the long career of Jens Jensen, father of the *prairie style* of landscape architecture. As a young man Jensen saw Iowa in 1884. He loved the prairie, recognized something important was being lost and worked to design with native plants during his career with the Chicago Park District. Landscaping the homes of Chicago's rich and famous, he associated with Frank Lloyd Wright and Louis Sullivan. This is one of those books that can further develop your personal philosophy. From \$11.95 used, Amazon.com

Prairie: A Natural History by Candace Savage, October, 2004. "provides a comprehensive, non-technical guide to the biology and ecology of the prairies of North America. Color photos, line drawings and maps illustrate the beauty and diversity that is prairie."

Roadside Community Member: *Prairie Remnant*

Excerpts from *Measuring Wilderness: The Geometry of Landscape* by Greg Houseal

I once came upon a small sward of native sod, perhaps six feet wide and thirty feet long, tapering to a point at each end, caught in a fence row between gravel road and hybrid corn. It brought to mind an image from third-grade of streaks of word fragments remaining behind as the teacher hastily erased the chalkboard after our lesson. Here was a streak of the original writing of prairie landscape, a bit of Iowa wild, nearly erased, left intact purely by chance, like the railroad prairie at our farm.

...the networks of roads are imposed grid like on the scale of landscape. It was the convergence of this bewildering array of intersecting constructs, in fact, the very instruments of subjugation and domination of the land, that was responsible for safeguarding for over a century the rectilinear patch of relict prairie along the railroad tracks across the gravel road from our two-story farmhouse. Yet this patch of irony, regardless of shape or size, held a certain attraction for us, a patch of delightful wildness in an otherwise domesticated landscape. Here the railroad, built in 1879 with horse-drawn equipment, paralleled the later-built gravel road creating a wider than normal right-of-way. Rootstock and seed bank remaining after road construction and from adjacent undisturbed land allowed prairie to re-colonize the area over a century ago. As kids we referred to the big bluestem, sunflower, yellow cone-flower and other plants along the track, growing over our heads, as 'weeds'. Not knowing then, as I learned much, much, later, that nearly 100 species of native prairie plants resided there, we simply recognized it as a piece of ground not plowed, not grazed, not hayed, but largely ignored by grown-ups. My mother yelling after us 'watch out for

snakes!' only added to the allure and whetted our appetite for wildness. We built forts and hide-a-ways from dried stems, learning quickly that some 'horseweeds' (annual giant ragweed) pulled easily, while others (perennial saw-tooth sunflower) could not be



pulled out of the ground by any force of will. Passing cars were intrusions into our

'wilderness' and could break the spell, and so we neutralized them by incorporating them into the 'wild-scape' of our minds. Like the cows in the Gary Larson cartoon, someone yelling 'car!' was our signal to dive like scared groundhogs into the nearest clump of vegetation or culvert, thus preserving our 'wilderness' experience. Occasionally railroad crews invaded to check rails or spray the 'weeds' growing directly in the railroad bed. Worse yet, the county road crew came to blanket spray the ditches to control brush. Prized patches of wild plums, grapes, elderberry, or mulberry were safe-guarded by hand-painted 'Do Not Spray' signs, put there by folk who knew the superior taste of wild jellies, jams, and pies. There was no defense against marauding raccoons, however, nor against boys entangled in this roadside wilderness.

The railroad through our farm went bankrupt in 1979, exactly 100 years after it was built, a mere heartbeat of the earth. The tracks were removed and the land offered for sale to adjacent property owners. My father bought the piece that ran along the gravel road. Not yet knowing it was prairie, and resisting the urging of neighbors to level it for cropland as they had done, he let it be, simply admiring it for what it was, a bit of disheveled nature. Perhaps this bit of wildness was a balm for his soul, or simply a reminder of his own childhood's wilderness.

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Native Roadside Vegetation Center
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Cedar Falls, IA 50614-0294

Digester's

Newsletter of Iowa's Integrated Roadside Vegetation Management Program

Vol. 16 No. 3 • September 2005

A look forward: new roadside managers

by Taylor Gerling

MEET THE NEW FACES OF COUNTY ROADSIDE MANAGEMENT FROM around the state. Whether brought on to head up new programs or carry on those already in existence, these new roadside managers are sure to bring new energy to the program.

Wes Gibbs can now be found working for Jones County.

Sherlyn Hazen is Buchanan County's new roadside manager.



Gibbs



Hazen



Gooder



Hoskinson



Van Patten

Jason Gooder now works with Franklin County's IRVM program.

Ben Hoskinson presides over Mahaska County's program in his new

position.

Barb Van Patten is working hard to create a great IRVM program in Keokuk County.

Where are they now?

Looking in on former roadside managers

by Taylor Gerling

IT'S TIME TO CATCH UP WITH SOME FORMER MANAGERS AND SEE WHERE THEY are now. Many of them are using skills they obtained working with IRVM in their new positions.

Chris Snyder, Mahaska County's first roadside manager, made a smooth transition to working for Cargill Corn Milling by utilizing many of the same skills he acquired as working with the county's Integrated Roadside Vegetation Management.

Elton Root, former roadside manager for Madison County, stayed on with his county. He now works for Madison County Health and Zoning Office.

Bret Grundmeier took his experience as a roadside biologist for Shelby County and moved north. He's currently a State Conservation Officer for the Department

of Natural Resources in Minnesota, serving at the Mora station in east central Minnesota.

Greg Schmitt, former roadside manager for Buchanan County, now acts as a private lands biologist for the Iowa Department of Natural Resources.

Joe McGovern went from being a roadside manager for Story County to a prime position with the Iowa Natural Heritage Foundation. Working with this conservation group, Joe acts as the land stewardship program director.

Walt Wickham, former Clinton County roadside manager, is now the director of the Clinton County Conservation Board, located in Grand Mound, IA.

Kurt Baker went from Cerro Gordo roadside management to the native seed industry and is now the director for the

Wapello County Conservation Board.

Scott Gebers, former Webster County roadside manager, has moved on to Cherokee County, where he serves as the director for the Cherokee County Conservation Board.

Dave Williams, who served as the Cerro Gordo roadside manager at one time, is now working with the Iowa Ecotype Project at UNI.

Brad Halterman, the one-time roadside manager for Des Moines County, is now serving Guthrie County Conservation Board as the natural resource manager.

Brian Fankhauser recently left his job with Hamilton County to accept the position of land stewardship specialist with the Iowa Natural Heritage Founda-

see **Former** page 2

Former Roadside Managers Cont.

tion.

Brad Woodson, former Lee County roadside manager, now works for the McHenry County Conservation District in Illinois as a restoration ecologist.

Don Dahl, former Des Moines County roadside manager, currently works for Lynn County as its roadside vegetation management aide, after initially moving to the Cedar Rapids area to pursue a career in carpentry with a family member.

Tom Billerbeck, who used to be Franklin County's roadside manager, now works for the Wildlife Section of the Iowa Department of Natural Resources, as a wildlife technician for the Maquoketa Wildlife Unit.

Chad Paup, former Guthrie County roadside manager, started his position with the Department of Natural Resources wildlife section in 2003. He acts as a private lands biologist for southwest Iowa.

Dave Carlisle, former Montgomery County roadside manager, now works as a conservation agent for Northwest Missouri Department of Conservation.

Mike Webb, once the Guthrie County

roadside manager, now works with Cerro Gordo County Conservation.

Russ Bennett, who used to work for Johnson County, now lives in New Mexico, puttering in the mountains and desert, occasionally taking the time to catch trout.

David Webber, who used to work for Story County, has gone back to school. He is currently finishing his PhD in Water Resources Engineering.

Chris Bass, former Muscatine County roadside manager, is now the conservation board director for Sac County.

Blake Deiber, still with Crawford County, currently builds bridges and roads with the secondary roads department.

Gerry Vande Vorde, with Buchanan County for six years, is currently a compliance investigator for the Iowa Department of Agriculture and Land Stewardship. He also raises livestock and is still an auctioneer.

Dave Steere, formerly with Butler County, lives in Waverly where he is self-employed with a forestry and prairie restoration business.



Road Apples

October

5-7 National Roadside Vegetation Management Association Annual Conference, Tulsa, OK.

13 Seed Harvest and Cleaning Workshop, NRV Center, UNI, 319.273.3005, gregory.houseal@uni.edu

November

3 Native Seeding Workshop, NRV Center, UNI, 319.273.3005, gregory.houseal@uni.edu

December

5-9 S-130/S-190 Fire Training Workshop, NRV Center, UNI, Erik Olson, 712.456.2151

6-7 Engineer's Annual Conference, Scheman Center, Ames.

January

9-12 S-290 Fire Training Workshop, NRV Center, UNI, kirk.henderson@uni.edu

Bargain Books

Midwest Woodlands & Prairies is a new quarterly magazine about what people are doing today to promote the health of native ecosystems. Story subjects share their experiences in caring for woodlands, savannas, wetlands, prairies and all related biological communities, including wildlife.

Midwest was launched a year ago by Rollie Henkes, former agricultural journalist. A one-year subscription is \$14 and sample copies are available on request.

Midwest Woodlands & Prairies
P.O. Box 713
Monona, IA
563.539.4145



Roadside's Digest

Taylor Gerling, Editor
Vol. 16, No. 3
September 2005

Roadside's Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

The IRVM Coordinator's office is located in the Native Roadside Vegetation Center at the University of Northern Iowa. It is funded by the Iowa Department of Transportation Living Roadway Trust Fund with support from the University of Northern Iowa.

All programs and services are offered on a non-discriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.

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Natural Areas Association
Lady Bird Johnson Wildflower Center
Soil & Water Conservation Society
Association For Integrated Roadside Management in Iowa

Warrior

Dave Poole, Monona County

by Taylor Gerling

AFTER WORKING AS THE ROADSIDE MANAGER FOR MONONA COUNTY for nearly 10 years, Dave Poole can't believe how much his county's program has grown – but he certainly appreciates the countless individuals who've made it happen.

Poole, who started working for the county in 1979 and got appointed to secondary road foreman in '90, became Monona's first roadside manager when the program took off in '96. The program itself sprung up shortly after the county paved a new road and requests were made for the subsequent roadside to be planted with natives.

For a man who's lead the county program from the beginning, however, Poole gives ultimate credit for Monona County's success to the phenomenal teamwork of a lot of people.

"This program isn't about me – it's about my crew. They do more work than I do; they really work hard. I couldn't do it without them," Poole said.

Along with touting a hardworking

crew that makes things happen, Poole credits various other groups with helping make his county's roadside program such a success.

From the local Pheasants Forever chapter to the county conservation department, area groups help Monona's IRVM program by furnishing seed and assisting them in burning an average of 10 to 20 acres every year.

This decade-old roadside program has seen countless changes over the years. For Poole, witnessing a shift in attitudes toward the program has been one of the most rewarding elements of growing with the program.

"At first most people were negative," Poole said. "Ten years later, people's attitudes have completely changed – it's kind of rewarding to drive through the county and see your plantings."

Along with adjusting their practices over the years – switching from blanket to spot spraying, for instance – Poole's crew has worked hard on planting back a lot of their own seed, especially within the last four years. Rather than rely

completely on seed provided from other locations, they've been striving to harvest as much of their own seed as possible for plantings on the roadsides and conservation parks.

"We're trying to stay as much as possible to the local ecotypes as we can," Poole said.

With so many changes happening within the program, Poole has felt the need to grow with it to continue to work effectively. Having little knowledge of native plants when the program was started – growing up on a farm, Poole regarded natives as weeds – he felt the need to educate himself as much as possible. So, rather than college courses, Poole took his education into his own hands and read everything he possibly could to ensure the full development of his program.

Today, after 10 years of planting natives throughout his county, Poole has a clear idea of the rewards of his self-education and work:

"The best part is seeing the native prairies back in the roadsides for future generations."

Feature Article Ecotype Project introduces new species

by Greg Houseal

THIS YEAR MARKS THE 15TH YEAR FOR THE IOWA ECOTYPE PROJECT, once an innovation now an institution?...Well, hardly, but much has been accomplished: over 2,356 collections of native seed have been made by diverse people from diverse remnants.

The list of volunteers who have contributed seed to the project reads like a Who's Who of Iowa acronyms, including affiliates of IPN (Iowa Prairie Network), INPS (Iowa Native Plant Society), I-DNR (Department of Natu-

ral Resources), USDA-NRCS (Natural Resources Conservation Service), TNC (The Nature Conservancy), INHF (Iowa Natural Heritage Foundation), I-DOT (Iowa Department of Transportation), INSGA (Iowa Native Seed Growers Association) and last but certainly not least IRVM Road Warriors and students and staff of the UNI Roadside Office/NRVC (Native Roadside Vegetation Center).

TYVM (Thank You Very Much).

Currently 48 species are being increased for the project, totalling 144

'ecotypes' (48 spp x 3 provenance zones). To date, 33 species of 81 'ecotypes' have been released to certified native seed producers in Iowa and Minnesota.

Over 63,000 lbs. of Iowa Ecotype Project seed were produced by commercial seed producers in 2003, and that amount increases each year. This year's candidates are Virginia wildrye (*Elymus virginicus*), New Jersey tea (*Ceanothus americanus*), and wild quinine (*Parthenium integrifolium*).

Any contributions of seed of these species would be greatly appreciated.

Roadside Community Member Northern Leopard Frog



HAVE YOU EVER HEARD THE FROGS LIVING ALONG THE ROADSIDES laughing at you?

Don't take it personally: the Northern Leopard Frog, also known as the Plains Leopard Frog, produces notes that are often described as a chuckle. Unfortunately for these elusive amphibians, however, they don't have too much to laugh about these days.

Despite a knack for evading predators with their quick movements, these frogs are disappearing throughout North America – both within numerous states and Canada – partially due to the destruction of their natural habitats. Now, the Northern Leopard Frogs in Iowa are more fortuitous: their numbers are much higher in the state – but the decline is seen even here as habitats disappear in the heartland and these frogs face additional dangers.

Fortunately for the Northern Leopard, this is a moment where one of the many benefits of roadsides shines through. Displaced animals, like the Northern Leopard Frog, have been able to find a new home in the native plantings along roadsides. When not living near bodies of water during certain parts of the year,

these frogs can be found in old fields, meadows, grassy-sedge woods roads – and now grassy roadside ditches. When staying far away from a water source for so long, they absorb dew to keep their skin moist.

However, it can't go without saying that the roadside as a home also presents some dangers. A concern for these roadside frogs is the hazardous traffic encountered while crossing a highway. In recent years, "critter crossings" – special crossings above and below roads – have been created in an effort to protect animals living near high-traffic roads. Special walls designed for amphibians and reptiles make it impossible for the vast majority of these animals to ascend the barrier and get onto the potentially deadly road.

So, can you spot the laughing Northern Leopard Frog? This medium-sized frog comes in two shades – green and brown – with distinctive dark spots ringed with lighter spots. A Northern Leopard Frog can also be identified by its pale underparts and a white stripe running along the upper jaw and back to the shoulder.

This spotted amphibian remains in a sticky situation, however. Despite

widespread deformities – most widely documented in Minnesota – and a rapid dip in numbers, conservationist groups remain occupied with more at risk animals, leaving these frogs to fend for themselves.

Sources:

The Ministry of Water, Land and Air Protection Frogwatch Program Web site: <<http://wlapwww.gov.cb.ca/wld/frogwatch/whoswho/facshs/northlep.htm>>

"Critter Crossings: Linking Habitats and Reducing Roadkill" by the Federal Highway Administration, 2000

Iowa Herpetology Web site <http://herpnet.net/Iowa-Herpetology/amphibians/frogs_toads/N.leopardFrog.html>

Earlham College <http://www.earlham.edu/~sheaal/northernleopardfrog.htm>

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Digester's

Newsletter of Iowa's Integrated Roadside Vegetation Management Program

Vol. 16 No. 4 • February 2006

National roadside event comes to Iowa

by Kirk Henderson

IOWA HAS BEEN CHOSEN TO HOST THE ANNUAL CONFERENCE OF THE NATIONAL ROADSIDE VEGETATION MANAGEMENT ASSOCIATION (NRVMA).

NRVMA board members from Alabama, Texas, Minnesota and Kentucky were in Des Moines for a two-day planning meeting last month.

NRVMA Executive Director John Reynolds said, "Our goal is to put together a program that gives the Iowa roadside people a chance to tell about some of the great things they've been doing and for them to hear what's going on in other states."

Conference attendees will hear presentations covering a wide range of vegetation management practices and issues. Some will be very familiar to Iowans and some will be kind of different.

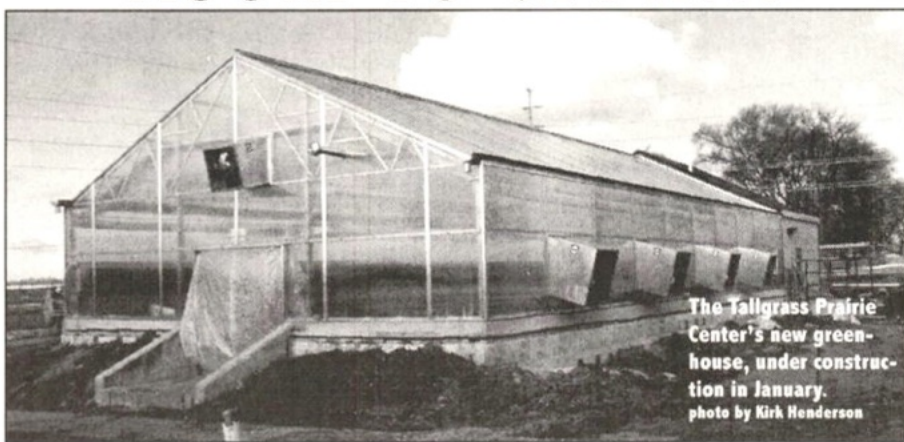
It's all helpful and adds to everyone's perspective. We've been working for three years to make this happen. We wanted to make it easy for Iowa roadside managers to get in on a national event.

This conference will replace the regular Iowa roadside conference and is a nice way to top off 20 years of roadside conferences in Iowa.

A grant from Iowa DOT's Living Roadway Trust Fund will defray part of the cost of each Iowa attendee's registration, as the national conference costs a little more.

We want as many people as possible to be able to attend. The event will take place at the downtown Marriott in Des Moines, Oct. 11-13.

Room To Grow...



The Tallgrass Prairie Center's new greenhouse, under construction in January.
photo by Kirk Henderson

Center gains greenhouse, new name

by Taylor Gerling

THE IOWA ECOTYPE PROJECT (IEP) IS ON THE GROW.

Established to help meet the demand for competitively priced seed of Iowa origin, the IEP recently received funding to create a new greenhouse close to home.

Accustomed to sharing a greenhouse with the biology department at the University of Northern Iowa, this new facility should help the program expand, says IEP Project Manager Greg Houseal.

"We simply outgrew our old facility," Houseal said. "Our own greenhouse means we can grow more plants and carry over plants into the summer that aren't ready to be transplanted yet."

Along with using the 1800 square-foot greenhouse to propagate seeds for IEP, they will also be able to use the space for research and teaching native-plant propagation workshops. The

accompanying headhouse will accommodate workspace and storage to help take the stress off of existing facilities used by IEP.

On a similar note, the Tallgrass Prairie Center sprouted overnight, so to speak.

The Center, rather than being a new addition to Iowa's conservation facilities, is actually the new designation of the Native Roadside Vegetation Center.

After deciding to change the name, the Center's employees took to the task of renaming the facility and creating a new persona to match.

The result: a new building name that instantly put the name in better tune with the facility's operations, Daryl Smith, director of the Center, said.

The Tallgrass Prairie Center is home to the Integrated Roadside Vegetation Management Program, the Iowa Ecotype Project and the Prairie Institute.

W^{Road}Warrior

Jake Ford, Adair County

by Taylor Gerling

ADAIR COUNTY ROADSIDE MANAGER GERALD (JAKE) FORD BELIEVES patience is the key. Ford, who has been a roadside manager for the last four years – and weed commissioner for the past 18 – knows that just as plants take time to grow, people take time to accept new ideas. Along with being patient with his fledgling natives, he tries to be patient with the public as they slowly accept his role in the county.

"Don't get discouraged," Ford advised. "Plantings take time. People do too."

For Ford, communicating with the public is just one of his many duties, along with clearing brush, staving off weeds, and planting seed – 103 acres in the summer with the help of a single assistant, Cindy Thompson. Helping the public understand the importance of the roadside program, however, is sometimes the hardest part.

"It's always a challenge trying to get the public to understand what we're really trying to accomplish," Ford said. "But they're coming around."

When the IRVM program came to Adair County several years ago, Ford was acting as the county's weed commissioner, and he welcomed a program that would get the roadsides seeded, hopefully establishing something other than weeds in his

domain.

When the board of supervisors offered him the job of taking over the program at its inception, however, Ford was hesitant to accept the position.

"They asked me if I wanted the job and I didn't think I was qualified," Ford said, noting that after he turned the board down, they brought in someone else to act as roadside manager during those initial years.

The program would come back to him eventually though, and after the first roadside manager left, Ford accepted the new position and has been handling Adair's roadsides ever since, more recently with the support of his county engineer, Nick Kauffman.

"There's a reason Mother Nature put these plants out there," Ford said about the natives he now uses in the roadsides. "Mother Nature has given us so much, it's time we give something back. She doesn't like the bare ground."

Despite all that he's gotten out of the program however, Ford feels it's almost time to move on, retire, and spend his days working on other projects. Though he may be leaving soon, however, he hopes to see the program continue for a long time.

"I really enjoy the IRVM program a lot," Ford said. "I think it's really beneficial and I hope they continue it because natives are what needs to be out there."

New warriors join programs in Marion, Palo Alto Counties

Chomping at the bit to begin their first full season as county roadside managers, Tim Stowell and Ted Dykstra are the latest addition Iowa's road warriors.

Dykstra will act as the roadside manager for Marion County, starting up a new program in Iowa.

Stowell will be replacing Aaron Steffen as roadside manager for Palo Alto County.



Stowell

Dykstra



Roader's Digest

Taylor Gerling, Editor
Vol. 16, No. 4
February 2006

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Natural Areas Association
Lady Bird Johnson Wildflower Center
Soil & Water Conservation Society
Association For Integrated Roadside Management in Iowa

Fireline

Roadside Planting, or Remnant?

by Kirk Henderson

A STRIP OF NATIVE VEGETATION CONNECTS THE CENTRAL IOWA town of Steamboat Rock with the entrance to Pine Lake State Park two miles to the south. It's growing in the roadside along Hardin County black top S56. The prairie grasses and wildflowers are on both sides of the road.

That's a definite clue that this is a planting and not a prairie remnant. Otherwise, except to the more astute observer, it's getting harder and harder to tell.

Doug Sheeley did the planting in 1991. He was the Hardin County roadside biologist at the time. He used a Truax drill and planted a mix of 32 species of native grasses and forbs. The planting was featured on the 1995 IRVM calendar/poster. Al Ehley photographed the installation.

Al went back for more pictures during the first or second growing season.

The first set of photos shows Doug

planting into typical roadside clay subsoil. Shots taken towards the end of the first growing season show a good stand of partridge pea stabilizing much of the site. The next round of photos shows a planting in the early stages of development with scattered black-eyed Susans and grayheaded coneflowers. I've been thankful for these slides over and over as they've been used for about a hundred presentations and shown up in numerous brochures.

Photos from my visit in August 1996 show a successful and attractive prairie planting and a roadside totally stabilized by a mature stand of native vegetation. Seven native legumes are conspicuous: white wild indigo, roundheaded bushclover, purple and white prairie clover, Illinois bundleflower, partridge pea and lead plant. The series of photographs officially documents this is a planting, not a remnant.

We like to say we are not trying to create prairies in the ditches. Rather we are using native plant species to serve a roadside purpose, holding the soil and helping to keep out weeds. Sometimes we get plantings that look as good as the best prairie reconstructions anywhere. But they are plantings plain as day, man-made and with a uniform appearance, in spite of their increasing species diversity.

But wait a minute, or more accurately, wait five or six more years. Revisiting Doug's planting in 2003 was a different experience. The site had developed a new character. It possessed a degree of charm and gave off more of a prairie feeling. What happened? The raw look of the early developmental stage was gone. Large specimens of white wild indigo, lead plant and compass plant were

lending a dignified presence.

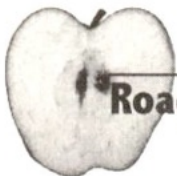
And a kind of sorting, naturalizing had occurred as species sought out preferred habitats up and down the slope.

But uh-oh, on the back slope birds planted a mulberry tree from the telephone wire above. Smooth brome grass sneaked in and is now masquerading as part of the plant community. And some fool dumped a few large chunks of concrete in the ditch. That sounds pretty bad. But actually, these last changes, though detrimental, somehow add further to the real prairie feeling of the site. The site is more intriguing due to combined effects of aging and a measure of deterioration.

The sad irony of the state of prairie in Iowa is that now that it's been a little abused and invaded, it looks more like a prairie remnant. Kind of distressed and hanging on in some out of the way place is more typical. Now that the roadside planting matches the botanists' search image for degraded remnant, it beckons, "crawl around on me. You might find something interesting."

At this stage botanists beware. A new remnant sighting triggers juices of discovery. A general state of excitement ensues. If you shout "Eureka!" and it's not really a remnant, it still makes a sound. Don't be embarrassed. You've just paid a roadside manager the highest compliment.

It would be great to live 50 more years to see how all of our plantings turn out. Only time will tell whether the aging process of native roadside plantings advances towards too much chaos or towards an eventually settled, naturalized state with many natives still intact.



Road Apples

March

1 Association for Integrated Roadside Management meeting, Ames, Iowa

2-3 Weed Commissioners' Annual Meeting, Ames, Iowa

April

27 Seedling Identification Workshop, Cedar Falls, Iowa, Tallgrass Prairie Center, Greg Houseal, 319.273.3005

June

2-4 Loess Hills Prairie Seminar, Onowa, Iowa, Gloria Kistner, 1.800.352.9040

6-11 Midwest Wildfire Training Academy, Jefferson City, Mo., Gail Kantak, 515.233.1161

October

11-13 National Roadside Vegetation Management Association (NRVMA) Annual Conference, downtown Marriott, Des Moines, Iowa

Bargain Books

The Man Who Planted Trees, Jean Giono

Barnesandnoble.com, \$6.00

A fictional piece about a man who acted alone to transform the barren landscape of southern France by planting 100 acorns a day.

Central Region Seedling ID Guide for Native Prairie Plants, Missouri Dept. of Conservation, \$5

Second print will be available in a couple of months. To order, call 573.522.4115.

Roadside Community Member

Side-oats Grama

by Taylor Gerling

SIDE-OATS IS A SURVIVOR. THIS WARM-SEASON perennial, preferring full sun and dry conditions, can prosper in even the most dismal of situations.

Drought resistant due to the rapid extension of the root system deep into the ground's subsurface levels, this grass can grow readily on a variety of soils, including clay-loam, loess, gravel, rocky material and sand.

Indeed, side-oats will often experience not only survival in such conditions, but also incredible growth where competition from taller grasses is scarce. Typically comprising a relatively minute portion of the vegetation population, side-oats can expand to cover 10 to 60 percent of the population in dry ridges, steep banks and slightly disturbed areas.

In fact, side-oats has the ability to readily invade places exposed due to the death of other species, deaths caused not only

by drought, but also by fire and grazing as well. Side-oats quickly spreads after such disturbances by self-seeding and lateral spread of rhizomes. The plant's awnless seeds are carried into burned areas by the wind, allowing for the possibility of massive flowering due to the plant's excellent seedling vigor.

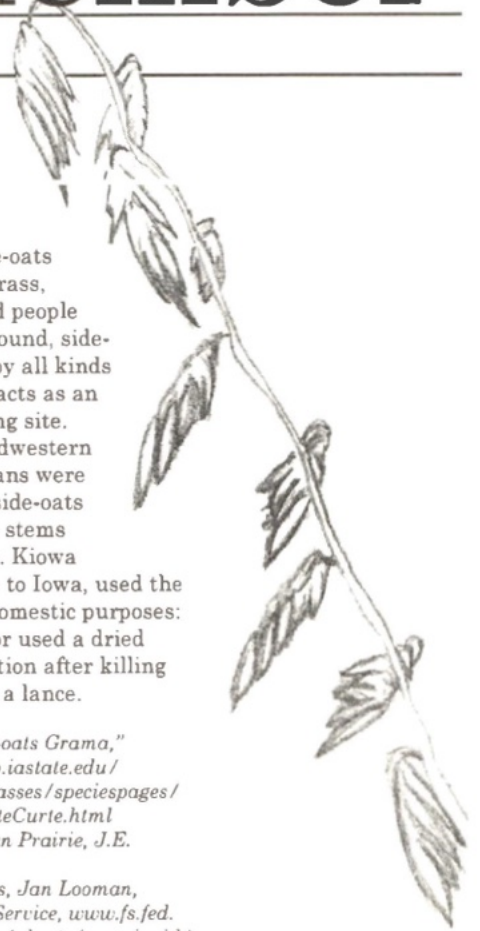
Barring extreme disturbances, this plant's only real enemies are taller plants and trees. For a plant in need of full sun, such shade can prove detrimental to the growth of this tough plant.

Along with its hardy attributes, this grass has many other distinguishing features that make it unique. Perhaps the most noticeable is the plant's inflorescence (arrangement on the stalk): the spaced out seeds tend to fall to one side of the stalk, giving the grass its representative name. Likewise, the plant has dry, curled, whitish basal leaves at its base that are quite characteristic.

It is these features that have made side-oats such a useful grass, for animals and people alike. In the ground, side-oats is grazed by all kinds of critters and acts as an excellent nesting site.

Likewise, Midwestern Native Americans were known to pull side-oats and bundle the stems to form brooms. Kiowa Indians, native to Iowa, used the grass for less domestic purposes: a Kiowa warrior used a dried stem as decoration after killing an enemy with a lance.

Sources: "Side-oats Grama," <http://www.eeob.iastate.edu/research/iowagrasses/speciespages/BouteCurte/BouteCurte.html>
North American Prairie, J.E. Weaver,
Prairie Grasses, Jan Looman,
USDA Forest Service, www.fs.fed.us/database/feis/plants/graminoid/boucur/management_considerations.



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Roadside's Digest
Tallgrass Prairie Center
University of Northern Iowa
Cedar Falls, IA 50614-0294



Canada Thistle Control in Native Seedings

by Greg Schmitt, Iowa DNR Private Lands Biologist and former Buchanan County Roadside Manager

Canada thistle is one tough customer. Unfortunately, there is no silver bullet to use in keeping your prairie reconstruction or natural area completely free from Canada thistle. No magic herbicide or cultural, biological or mechanical practice alone exists that will totally rid your prairie of this Hydra of the noxious weed world.

Mow it down or till it up, and it spreads through root buds. Spray it with the latest and greatest herbicide, and you're likely to kill something beneficial. Burn it at the wrong time, and it will come back stronger. Don't do anything, and it will release seeds that will spread in the wind and are able to germinate 20 years later, even after being submerged in water for 4 years.

But, all is not lost. Unless your planting is only a few acres, total eradication is not economically feasible or even possible. However, control is certainly an attainable goal. It's kind of like playing against Michael Jordan. You can't stop him; you can only hope to contain him.

To kill thistle, we have to understand thistle. Extensive research has provided us with a few facts about our nemesis of the natural area.

1. Canada thistle is a perennial that spreads by seeds and rhizomes. Root fragments only five inches long can produce shoots.
2. It has a relatively high light requirement. Death occurs when light is reduced to 20 percent of full sun.
3. Shoots emerge when the soil temperature reaches 41 degrees F. Warm season grasses don't get going until about 50 degrees F.
4. Root reserves are lowest just before flowering (bud stage) and greatest in early fall.

Continued on Page 4

Living Roadway Trust Fund Grants Fund Roadside Manager Professional Development



Participants in a Certified Professional in Erosion and Sediment Control review session organized by the Iowa Storm Water Education Program and Iowa Association of Municipal Utilities: Ben Hoskinson, Larry Sorensen, Kirk Henderson, James Devig, Jim Uthe, Andy Friederichsen, Jon Steege, Chris Henze, Wes Gibbs, Jeff Chase, Joe Kooiker, Sherlyn Hazen. This is one of four Professional Development workshops for Roadside Managers funded by the Living Roadway Trust Fund. Grants were also obtained for training in Prescribed burning, Wetland Delineation and GPS/GIS Arcview.

2007 Roadside Conference Room Reservations:

This year's conference, "Make it Grow" is September 13-14 hosted by Buchanan County at the brand new Heartland Event Center in Independence. Room reservations may be made only by calling the Country Inn and Suites, 1-319-334-6400. Request the roadside conference rates, standard rooms \$69.00, suites \$79.00.

Road Warrior

Remembering Bob Jacobson

Kirk Henderson, IRVM, University of Northern Iowa

Roadside management lost one of the great advocates for native plants when Minnesota DOT's Bob Jacobson died suddenly in January. It is rare to find someone who really knows and cares about native plants who is also working to solve the challenges of reconstructing prairie in road right-of-way. Speaking as someone charged with providing technical information for Iowa counties, Bob was an invaluable resource. I don't know how many times I called him over the years. He shared information generously. He came to Iowa and spoke at our annual conference three times. We try to bring in new people. But we'd have a topic to cover and ask, "who can handle it?" Bob. Who can we trust? Bob. Who will give a good talk and also hang out with us? Bob.

Following are proper words of recognition from a few of Bob's many friends and colleagues.

Leo Holm, P.E. Bonestroo Stormwater Compliance Team

I hired Bob for MN DOT in 1987. He was still in his Masters program at the University of Minnesota. We needed a field botanist to conduct native plant inventories in our roadsides. Bob was a botanist in the classical sense and a big believer in research. He was not comfortable singing the praises of native plants unless he had the data to back it up. He initiated, I don't know how many research projects (15 according to the MN DOT Research Newsletter). He had great curiosity and liked to have a lot of things going on- 4,5,6 balls in the air at once. He did a lot of work at the Spring Peeper Meadow. This seemed to trigger his interest in wetland restoration. He did much of the field work because he always had to see things for himself. And if you went along, you stepped into Bob's world. The world was Bob's laboratory.

Professor David D. Blesboer, Department of Plant Biology, University of Minnesota

What better could be said about someone other than "He was a good man!" I knew Bob from the time he entered graduate school until he passed away. In graduate school, I was a member of his graduate committee. He



taught for me several times as an assistant in my general botany classes, and we socialized frequently at that time and until he passed away. We got to know each other very well. It was a great personal relationship. Why?

Bob was *unpretentiously* a scientist, a friend to all, worked incessantly to promote the planting of native species, intimately knew every species that he recommended for plantings, and gave willingly and unselfishly of his time to anyone who asked. For people who knew Bob, the adjective unpretentious extended to the way he dressed. He gave the impression of a common man, and yet a man who could and would speak to anyone who needed his help. His manner and his dress endeared him to nearly everyone. Bob was genuine. No suits, no ties, no fancy shoes. Get into the field and make things work. It helped him spread the gospel of using native plantings and finding biological solutions for the environmental problems we face as a society. His resolve gave him a national reputation among the people who are like-minded and work toward solving some knotty environmental problems.

Bob, because of his personality, had many friends. I counted myself as one of them. He remained my friend even though at a professional meeting, I ambushed him in one of my presentations by pelting him with eggs and squirting him with water in front of a rather large audience...all to make a point about the biology of plants. He took it in stride and forgave me soon afterward by buying me a beverage at Sweeney's, his favorite hang out. He was like that.

I can give no better and sincere praise for Bob Jacobson than this: "He was a good man!"

Professor Irls Charvat, Department of Plant Biology, University of Minnesota

Bob Jacobson always got excited when a new roadside project opened up. My students and I were fortunate to have worked with Bob on Mn/DOT projects and to have benefited from his excellent assistance and support. Bob was most interested in the establishment

of native grasses and forbs along roadside right-of-ways. He was the go to expert for information about native plant establishment, and he determined the native plant mix used at MnDOT sites and at many other restoration sites. Then too, symbiotic fungi that form mutually beneficial relationships with the roots of many prairie plants fascinated Bob. These mycorrhizal fungi serve as biofertilizer by facilitating the uptake of nutrients for the plant; and the plant provides carbohydrates to the fungus. One of the first projects we did together was at an Mn/DOT restoration site near Cambridge, MN. Bob wanted to incorporate mycorrhizal inoculum into the site and to determine if the inoculum benefited the native plants. Our findings indicated that 15 months after planting, fungal inoculation resulted in significantly greater cover by native plant species than seen in control plots. At our site, mycorrhizal inoculation was beneficial to the prairie restoration effort by encouraging earlier, more extensive establishment of the planted species (Smith, Charvat, and Jacobson. 1998. Can. J. Bot. 76: 1947-1954). From then on, we continued to work together at restoration sites until his untimely passing earlier this year. Bob worked with many research labs and other groups studying restoration practices. He encouraged biologists to do more research on complex restoration problems such as the containment of invasive species by biocontrol. Bob's passing is a great loss not only to his family, friends and colleagues, but also to the wider ecological and restoration communities. Bob, Mr. Native Plant Expert, is irreplaceable.

Paul Walvatne Minnesota Department of Transportation Office of Environmental Services

Not a day goes by without multiple reminders of Bob's big role in our lives. He had lots of research efforts going and a couple of days ago I received a 125 page draft final report to review for one of them. And of course we had quite a bit of tension on seed mixes in the last few years as NPDES quick fixes caused a trend towards more cool-season introduced grasses being used much to the chagrin of Bob. We miss him dearly. One thing he just got in place with our Department of Administration was some new mixes (all native, of course) that just got locked into contract a week or two ago.

Kirk Henderson

One time a bunch of us traveled to Minnesota for a conference of his. On the second day we were on the bus tour and through my aching head I heard Bob announce over the PA, "we tried to provide a little beer for everyone yesterday, but the guys from Iowa drank it all." Thanks Bob. We'll do our best to continue your fight against the "nozzle heads".

Fireline

Native Roadside Plantings Outlast Just About Everything Longevity and Legacy

by Rob Roman Linn County Roadside Manager

I planted my first herbaceous mix native to the Continent of North America in 1981 at Abbe Creek School, believed to be oldest standing brick schoolhouse in Iowa, a historical site managed by the Linn County Conservation Board. The school is located on land claimed by William Abbe, the first European settler in Linn County. The planting consisted of cultivars of several grasses, purchased from our good friends and pioneers in the native seed industry to the South and West. In those days, I thought if it was native to this country, it had to have a Bison on the bag.

I planted my first herbaceous mix native to the State of Iowa in 1987. These were live plants purchased from a company in Muscatine, grown from seed collected from Iowa prairie remnants. This was an addition to the same planting at Abbe Creek School Museum.

After 25 years there have been a few changes. The building itself has had a bit of shoring, new shutters and roof I believe. The parking lot has been rebuilt. All the signing has been replaced at least once. The rest room has been replaced. And the prairie; still there, better than ever, not only the same planting - but also the same plants! The turf grass adjacent to the native planting also reached a milestone this

year, the 500th mowing since 1981 (25 years X 20 times per year by my best estimate).

Our first native herbaceous planting here in Secondary Roads was in 1991; fifty species, funded by Iowa DOT's Living Roadway Trust Fund. Thanks to Howard Bright, Jim Truax and Jeff Hodges for helping us on that one. Guys, you will be smiling when you hear the planting has lasted longer than the tractor that planted it. Our W-51 85HP 4WD was new that year as well, however it no longer serves the taxpayers of Linn County. It finally developed too many problems and was replaced with a new unit a couple years back. And the planting; better than ever. Still a public hunting area for the Iowa Department of Natural Resources.

Many a seed has been harvested from the area for IDNR or Linn County roadway plantings. Lately, we've been baling prairie hay from the site and using that to provide a percent cover for erosion control along roadway maintenance projects. In October of this year, the Iowa Crop Improvement Association certified the site to be included in the new Noxious Weed Seed Free Forage and Mulch Program. This program complies with the Weed Free Forage Standards developed by the North American Weed Management Association.

We have native herbaceous roadway plant-

Continued on Page 4

The Tallgrass Prairie Center
at the
University of Northern Iowa
presents

America's Lost Landscape: The Tallgrass Prairie

Narrated by
Annabeth Gish

Written and Directed by
David O'Shields
Executive Producer: Daryl Smith
Edited by Clayton Condit

COMING
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9 PM Central



Check your local listings.

Native Plant Propagation Workshop



When:

- Thursday, April 19, 2007
- 9:00 AM - 2:00 PM

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Cedar Falls, IA 50614
412 W. 27th Street, 1/4 mile West of
UNI Dome

To reserve one of 30 slots: Mail, Phone (319.273.3005), or Fax (319.268.0668)

Email - gregory.houseal@uni.edu

Registration information is due before April 5th

Canada Thistle cont'd from Page 1

5. Average seed production is 1,500 seeds per plant.

Control Methods: The absolute best way to fight thistles in a prairie seeding is to do as much control and eradication before even planting any native grasses or forbs. Minimize tillage to prevent raising more weed seed and then apply glyphosate 2 or 3 times to emerging weeds as an excellent way to start a prairie planting. Planting an area to glyphosate-resistant corn or beans for several years before seeding natives is another method to prepare the seed bed.

An integrated approach using a combination and/or repetition of control practices is the best method to contain already established Canada thistle populations in natural areas. In most cases an herbicide application is part of all management techniques.

Tillage- Not an option. See number one above.

Hand Pulling- This is probably only an option in very small areas or early infestations.

Mowing- Canada thistles can be managed by diligent mowing, if you're willing to mow in June, July, August and September at 7 to 28 day intervals for four years! Keep in mind that root reserves are lowest at bud to bloom. A mowing in mid-to-late June, followed by a

herbicide application in the fall before a killing frost, is your best way to utilize mowing to reduce thistle patches. Do not mow thistle plants lower than eight inches. Surprisingly, removing ALL thistle leaves stimulates root growth.

Burning- Burning by itself doesn't work unless you burn every year in late April or early May. Unfortunately, you will also suppress many native forbs. A burn followed by an herbicide application at the bud-to-bloom stage works better than just spraying. The burn will enhance native species and also the age of the thistle stand, making your herbicide more effective.

Spraying- Spraying alone can control Canada thistle infestations. However, herbicide applications need to be done multiple times in the same growing season, and it is very difficult not to harm desirable forb species. Some better herbicides utilized to control thistles are glyphosate (Roundup), clopyralid (Stinger), triclopyr (Grazon) and 2,4-d amine. Products that use a combination of these active ingredients are also available and more effective. A precise spot application at bud to bloom (late June) and then again at fall regrowth (late September) for 2 successive years will greatly reduce a thistle population.

Some things to keep in mind when using herbicides: Follow label directions. Use recommended rates; more is NOT better. Use a non-

ionic surfactant. Apply herbicide as precisely as humanly possible, and at the time the label recommends; most times this is bud-to-bloom or early regrowth/rosette stage.

Competition- Any management practice that increases the health of native prairie seedings will help in the fight against Canada thistles. One study has shown that Switchgrass can crowd out thistles by shading and root zone competition. Unfortunately, it took about 8 years to finally accomplish this intended task. It would seem then, that the best way to keep thistles at bay in natural areas would be to give in and just plant a thick stand of prairie grasses that can be sprayed with a broadleaf herbicide. But, giving in is not an option. The best option is to meticulously deplete the seedbed of weeds like Canada thistle and then plant MORE forbs. Planting the most diverse mix possible for all growing zones above and below ground to be occupied, leaves very little room for Canada thistle to prosper.

Reprinted from *Seeds of Diversity*, Iowa DNR Prairie Resource, December 2006 newsletter

Fireline cont'd from Page 3

ings that have outlasted our road surfaces. Our 30 specie right of way planting near Buffalo Creek Park on D-62 (1993-LRTF) is better than ever. The traveled portion of the transportation corridor immediately adjacent to the roadside has been resurfaced twice since that time.

The second year we received seed from the Tallgrass Prairie Center, 1998 I believe, we planted 13 acres on Secrist Road in eastern Linn County. The Gazette even did a feature story of this planting on the front page of the "Iowa Today" section in July of 2003. This was a new grade in 1998. This year the traveled portion of the roadway was resurfaced. A wider surface required more fill on the foreslopes. Our native planting even outlasted the grade of the road. Don't worry State of Iowa LRTF Advisory Committee, you didn't pay for the project twice. We bought the native seed to plant this year's disturbance.

With our experience of native plantings going back to the 1960's, we even included in our Integrated Roadside Vegetation Management Program in 1993 the wording "emphasize the establishment of adaptable and long-lived vegetation, primarily native species." Much has changed as far as the availability of material

"In my experience, our native plantings are better 10, 20, even 35 years after they are installed. As a department, I'm not sure I can say that about anything else that we do."

since House File 723 was introduced in the Iowa General Assembly in 1989. The 2006 Native Species Seed Directory from the Iowa Crop Improvement Association lists over 150 species in production with Iowa genetics.

Dr. Paul Christiansen and Dr. David Lyon seeded a new grade north of Lisbon with natives in 1971 as part of a research project for Linn County and the Iowa Department of Transportation. We toured the site and discussed the project in 1995 when Linn County hosted the annual Iowa Roadside Conference. After 35 years, the project is an excellent planting. In my experience, our native plantings are better 10, 20, even 35 years after they are installed. As a department, I'm not sure I can say that about anything else that we do. And cost? If you are seeding, fertilizing and mulching and your seed mix is brome-alfalfa or fescue-trefoil, you are spending more money on straw which provides a function for the taxpayer for a couple of weeks to a couple of months, than you are on seed, which will provide a function for the taxpayer for at least 35 years (our North Washington Street planting). Native plantings are cheap for the benefits they provide.

Roder's Digest

Brent Butler, Editor
Vol. 19 No. 1
March 2007

Roder's Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

The IRVM Coordinator's office is located in the Tallgrass Prairie Center at the University of Northern Iowa. It is funded by the Iowa Department of Transportation Living Roadway Trust Fund with the support from the University of Northern Iowa.

All programs and services are offered on a non-discriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.

For a free subscription to Roder's Digest and additional information, contact:

Roder's Digest
Tallgrass Prairie Center
University of Northern Iowa
Cedar Falls, IA 50614-0294
319.273.2813
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Member:

- National Roadside Vegetation Management Association
- International Erosion Control Association
- Society for Ecological Restoration
- National Areas Association
- Lady Bird Johnson Wildflower Center
- Soil & Water Conservation Society
- Association for Integrated Roadside Management in Iowa

Seed Harvesting Realities

by Linn Reece Hardin County Roadside Manager

Approximately five acres of Ander's Wildlife area were harvested for prairie seed in the fall of 2005. The property is owned and managed by Hardin County Conservation. Pheasants Forever and Ducks Unlimited contribute funding for habitat improvement on the area. We "strip" combined the restored prairie to leave shooting lanes for hunters and still produce seed in the bag. Parts of the area had been restored to prairie several years ago. They have developed into nice mixtures of prairie plants.

In two afternoons with an Allis Chalmers combine we harvested 600 pounds of bulk material from one of these areas. One time through our Clipper fanning mill removed the bigger stems, leaves, and empty pods leaving 467 pounds. From this remaining amount, native seed producer Carl Kurtz helped us analyze how much good seed we actually had. Under his supervision we randomly selected a teaspoon of the material and separated trash

from good seed using a 3x - 7x variable power dissecting microscope.

We found 11% of the sample was good grass seed and 6% was good forb seed for a total of 17% good seed. Based on that percentage we were able to extrapolate that, for example, a seeding rate of 10 pounds per acre would require 56 pounds of material. Carl has enough experience that he can tell if the seed has a good probability of growing by looking at the condition of the forb seeds and by feeling with tweezers for the plumpness of the grass seed. His results have consistently been within one per cent of the findings from professional seed testing labs who checked for viability of seeds from the same samples. Quite amazing!

It will probably take us a few more samples (years) to become that proficient. Computing our little pile of seed into dollars with grass figured at \$12.50 per pound and forbs at \$50 per pound (probably low dollar amounts) we had a total value of \$2037.57. Not bad for a few great hours in the sunshine on a beautiful fall day.

Not Everything Stays in Vegas

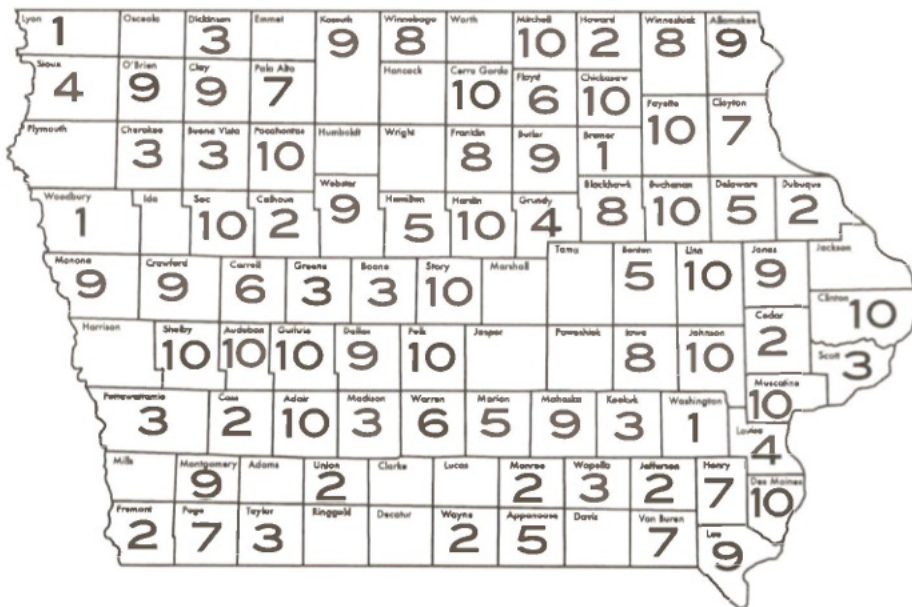
While my husband and I were visiting Las Vegas, the gentleman at the next slot machine asked where I was from. His face lit up when I said I was from Iowa. He told me that he had family in Northern Iowa and that he loved driving through Iowa because we had so many wild flowers growing all along our highways, that it was a different color each time he drove through. There we were in Sin City talking about our beautiful Iowa Roadsides.

Unsolicited testimony by:
Shawna Mikesell
Office Manager
Coleman Moore Company
Des Moines, Iowa

*Living Roadway Trust
Fund Summer Meeting,
July 13th in Sac City. Stay
tuned for details.*

10 Years of Transportation Enhancement Seed

The 78 counties that have received seed and the number of years they received it, 1998-2007



50 counties will travel to UNI in April to get their share of a \$200,000 seed purchase funded by Iowa DOT's Transportation Enhancement Program. This marks the tenth year IRVM has received this hugely important funding, enough seed to plant approximately 1200 acres per year.

Bargainbooks

Prairie Seedling and Seeding Evaluation Guide, \$15.00

Written by Paul Bockenstedt of Bonestroo's Natural Resources Team and illustrated by Mark Müller, the guide is the result of collaboration among more than 15 project partners including the Minnesota DNR, Iowa DOT, Pheasants Forever, Iowa DNR, and several other State agency and nonprofit partners in the Upper Midwest.

The guide can be purchased from Bonestroo's web site www.bonestroo.com For larger orders call (800)880-4700.

Seedling ID Guide for Native Prairie Plants Central Region, \$6.00

Produced by the USDA-NRCS Plant Materials Center at Elsberry, MO & Missouri Department of Conservation.
(877)521-8632

Roadside *Community* member:

by Ryan L. Welch

Childrenianum ruralensis

March is already upon us. That means that the final storms of winter are exiting and spring will be here before we know it. This is also when young minds begin to wander as warmer days invite them toward outdoor adventure. For children living in rural areas, this curiosity about the outdoors may lead them to investigate their roadsides.

What they find will likely depend a great deal on what Iowa county they are exploring. Many of Iowa's rural roadsides have been converted to native plantings, but many more have not. A child doesn't care if it's native, but diversity possibly adds much to the attraction of a roadside. These scraps of unused land hold unforeseen wonders to children throughout the year. They are great places for children to collect frogs during the wetter parts of spring. During the summer months we would be fascinated by the many insects, especially lightning bugs, which we

could catch in one of grandma's mason jars. These were often used as lanterns for our late night expeditions. The ditches were always a source of quick bouquets to give to mom or grandma especially if we were in the doghouse. During the winter months when the ditches were full of snow they offered a great sledding track, or places to build large snow forts that we would defend with a plethora of snowballs we had painstakingly made all day long. As a rural child we may not have lived in the ditch, but it was certainly a large part of our world.

In many cases, this is where children can get their first glimpses of a larger world. A world that, thanks to roadside plantings, they will be able to recognize, identify with, and explore across this state. As the first flowers of the prairie begin to bloom, so will the imaginations of fu-

ture prairie enthusiasts. This is especially true if they are exposed to prairies early and often throughout their life. This can be in their roadsides, or through school prairie plantings. Many of these, by the way are done in cooperation with many county roadside programs with funding from LRTE.



Artwork: Andrea Welch

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D i g e s t

Newsletter of Iowa's Integrated

Roadside Vegetation Management Program



Vol. 20 No. 1 September 2008

2008 Roadside Conference: 2 Events in 1

Sept. 25

Equipment Show & Demonstration

(Sac City Chautauqua Building & Grounds)

Featuring:

- Greenscape Conservation Seeder- Prepares soil, drops and lightly covers seed and firmly presses soil. Not a drill nor PTO driven.
- Foton Compact Tractor
- Kincaid 1200 Pro Hydro-Seeder
- Agco RT Series Tractor- Never touch a clutch, Full power at half throttle, great fuel savings.
- Dultmeier GPS equipped, multi-chemical injection roadside sprayer
- Dow AgroScience Continuum, Prescription Control & Container Management Herbicide System
- Bowie Imperial 1500 Hydro-Seeder
- Danko Brushwacker 250 gal. Skid Unit for Controlled Burns
- Trimble GPS
- Tiger Corp. Boom mower
- Rhino DB150 Telescoping, side-mounted boom mower

Special One-Day Registration- \$50.00

Includes Lunch in Sac City & Banquet in Carroll

Sept. 26

Featured Speakers

Carrollton Inn, Carroll, Iowa

8:30 **Connie Mutel** will speak on her new book, "The Emerald Horizon: The History of Nature in Iowa"

9:30 **Dr. Cindy Cambardella** of the USDA Soil Tilth Lab will discuss her research comparing qualities of Ag & Prairie Soils.

10:30 Break

10:50 **Nancy Anania** of Iowa Department of Transportation's Office of System's Planning will describe their Transportation Enhancement Program.

11:20 **Joe McGovern** of the Iowa Natural Heritage Foundation will discuss his work with the foundation protecting prairie remnants including some right-of-way related work.

Noon Awards luncheon

Special One-Day Registration- \$50.00

Includes 7 am breakfast and lunch

Last minute registrations can be made by calling 1-319-273-2813 or email kirk.henderson@uni.edu

however, allowed the duo to do the work without outsourcing.

According to Uthe, "This project probably saved the county (upwards of) \$2000.00," as compared to a contracted delineation of a different area a couple years back.

"It took a day for the field-work and about 2 to 3 days for the report," said Uthe, "and wouldn't have been possible without James' experience." The process involved looking at the site's vegetation, soils and hydrology. The delineation was an important contribution in the eyes of Dallas County Engineer, Jim George, "The IRVM program is very valuable to us. We appreciate their work, and we receive many positive comments from the community."

For the Roadside Manager looking to gain additional experience on such related topics, the Living Roadway Trust Fund has been funding professional development workshops, such as Wetland Plant ID, so more Roadside Managers will feel comfortable doing delineation work in the future.

For more information on Professional Development Workshops, please contact Kirk Henderson at 319-273-2813. A Wetland Delineation Manual can be found at www.wes.army.mil/el/wetlands/wlpubs.html, and Section 404 of the Clean Water Act is located on the EPA's website at www.epa.gov/cgi-bin/epaprintonly.cgi.

Wetland Delineation by Dallas County IRVM

By Angie Lake

Dallas County Roadside Biologist Jim Uthe and Assistant Biologist James Devig combined their professional experience and inside roadside know-how to complete a Wetland Delineation for the proposed replacement of the county's North Raccoon River bridge on Highway P46.

Section 404 of the EPA's Clean Water act requires a Wetland Delineation application to be completed before a permit to build or replace a bridge can be issued and outside contractors are usually sought. Devig's background in wetland restoration projects and Uthe's familiarity with the area,

Fireline

FUNDED BY *the Living Roadway Trust Fund:*
Celebrating our 20th year

By Kirk Henderson

In 1970 a planting of five native grasses was considered a prairie reconstruction. The grasses were called "the big 5" and included big bluestem, little bluestem, Indiangrass, sideoats grama and switchgrass, (Canada wildrye has since replaced switchgrass in "the big 5"). Such plantings were rare and highly esteemed among natural resource managers. As late as 1987, during Iowa's first roadside conference, people still ooh'd and aah'd when the tour bus stopped by a roadside planted to these same five native grass species.

It was an exciting (and simpler) time, spreading the word about a new concept, Integrated Roadside Vegetation Management and the great potential for roadsides as a place to restore prairie and improve habitat and hailed by all as a good thing.

To kick off LRTF's 20th season, 25 people climbed onto a hayrack in the rain (obviously a bunch of Roaders) for a chance to see the first roadside planting funded by LRTF. As Jim Cuddeback's tractor pulled us along the shoulder of the Washington County pavement, the planting stretched out before us. There it was, in all its glory, looking healthy and totally native. The big five were proudly waving in the breeze supported by patches of purple prairie clover and Illinois bundle flower, 25 species in all.

There are older roadside plantings. Linn County has one Paul Christiansen and David Lyons did in 1972. That's why Linn County roadside manager Rob Roman can say, "planting prairie is the only thing we do in the road department that looks better after 35 years." What's especially noteworthy about the Washington County planting is that, as the first LRTF funded project, it marks the beginning of an era in which counties began to do more roadside prairie plantings, and with greater species diversity.

I got one of those calls the other day. The ones from another state where the caller has heard about what's going on in Iowa roadsides and they want to know all about it. After I happily explain how it all came about, the guy says, "unusual that transportation money was a catalyst for this kind of change. We haven't done that in our state." The same day, I got one of those emails. "Help! The school board is going to vote Monday night on whether to mow off the roadside prairie planting in front of our school."

For 20 years Steve Holland and Iowa DOT's Living Roadway Trust Fund have given us a great ride (even without the hayrack). There've been a whole lot more ups than downs. Challenges remain. And to those 17 counties that have still never used natives in a roadside planting, "I'll see you soon (funded by the Living Roadway Trust Fund)".



LRTF Summer Meeting attendees viewing first funded native roadside planting.

Road Apples

Roadside Conference

September 25-26

Sac City and Carroll, IA

Living Roadway Trust Fund Grant Review Meeting

October 3, Quality Inn Ames, IA,
515.239.1768

National Roadside Vegetation Management Association Annual Conference

October 15-17, Branson, MO,
nrvm.org

Tallgrass Prairie Center Seminar Series

September 10, Steve John, Support your local farmer; why a local bioenergy movement is needed and how to start one.

October 8, Justin V. Huisman, The effects of planting methods on seedling emergence and establishment in a Tallgrass Prairie reconstruction.

October 22, Tom Rosburg

November 5, Karl Delong, Responses of species to intense restoration of an oak hickory wood lot to a closed savanna.

4 PM, Tallgrass Prairie Center

For more information, contact Ryan Welch at rwelch@uni.edu.

Road Warrior

Dave Sedivec, Chickasaw County

Dave Sedivec is not your typical roadside manager. Equipped with a B.S. in biology from Northeast Missouri State University, now Truman State University, he has served Chickasaw County as roadside biologist for a little over twelve years, and unlike most roadside managers, Sedivec is located under the county conservation board rather than the secondary roads department.

Roadside managers are often responsible for cutting trees and brush in the right of way, but Dave claims to have the best roadside manager job because secondary roads performs most of the clearing, so he can concentrate on writing grants and preparing seeding with the conservation board. Dave says the biggest advantage to working with the conservation board as the roadside manager is the resulting strong relationship between the board and the secondary roads department. He says, "the cooperation between the conservation board and secondary roads has never been bet-

ter." All the credit for that, Dave says, belongs to the roadside program.

Sedivec is also a pioneer of sorts, being the first roadside manager in Iowa to use a Kincaid hydro-seeder, which is capable of filling from a pond making seeding easier and more efficient.

Besides being a roadside manager, Dave keeps himself pretty busy being a county park ranger, chief hunting instructor, dog trainer for DNR conservation camp, and recent business-owner of a company that molds plastic parts to be supplied to wild game call makers.

Dave loves the variety in his daily life that his different jobs offer. He explains that what he loves about being a part time roadside manager is learning from others because other roadside managers are very open about sharing information. Dave claims to be the most boring roadside manager ever, but that proves to be far from the truth.

Bargain Books

The Emerald Horizon The History of Nature in Iowa

Ecologist Cornelia Mutel writes an environmental history of Iowa while utilizing her background in science and natural history. Mutel focuses on what Iowa once was, an "emerald prairie" that "gleamed and shone to the horizon's edge," explaining how Iowa has attained its current landscape and urging Iowans to take more interest in restoring it. Available in bookstores or from the University of Iowa Press. \$27.50

Tallgrass Prairie Center Native Seed Production Manual

Written by Greg A. Houseal, Program Manager of the Iowa Ecotype Project, this manual is compiled from published accounts and coupled with production experience from the Tallgrass Prairie Center at the University of Northern Iowa. Highly recommended for anyone considering native seed production. Detailed information on nearly 50 species of the tallgrass prairie flora of the Upper Midwest. Spiral-bound. 122 pages. To receive a copy email: gregory.houseal@uni.edu. \$10.00



Roader's Digest

Jo Casey, Editor
Vol. 20 No. 1
September 2008

Roader's Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

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- Lady Bird Johnson Wildflower Center
- Soil & Water Conservation Society
- Association for Integrated Roadside Management in Iowa

Roadside Community Member:

Symphotrichum novae-angliae

By Jo Casey

Late August and September will arrive in style accompanied by a beautiful, vibrant wildflower named New England aster.

The New England Aster resembles a daisy with numerous petal-like rays surrounding a yellow center. This eye-catching wildflower possesses forty or more petals to each bloom, making this showy wildflower hard to miss. The only thing more impressive than the number of petals the New England aster has is its color, ranging from dark pink to intense purple.

Aggressive and needing competition, this plant is capable of leaping a two lane highway and growing in the other ditch. Compatible surrounding plants include Big Bluestem, Swamp Milkweed, Culversroot and Rigid Goldenrod. Butterflies and honeybees really enjoy New England Aster's company as well. This native wildflower flourishes in wet soil and semi-shade to full-sunlight.

Commonly found in roadside ditches, the wildflower can grow up to six feet tall with flowers one to two inches in diameter. The distinctive leaves are clasped around the hairy stem and when crushed, can smell like

New England Aster

Formerly: *Aster novae-angliae*



turpentine and spices.

When used in a small planting, pruning New England aster back with hedgetrimmers will prevent the flower from overshadowing other plants.

The New England aster is a gorgeous wildflower that is readily noticed and appreciated and can really make a statement when included in roadside plantings.

Regarding this plant's new genus designation, here is an excerpt from: *Why Are Plant Names Changing So Much?* By Alan S Weakley, University of North Carolina Herbarium. As science progresses and we gain new insights into the evolutionary relationships of plants, additional name change will occur. To me, it is worth the extra effort of learning new names to gain new appreciation of the connections among our flora—So, let's close with a bouquet of "asters" that have turned out not to be that closely related to one another, or to Aster: climbing aster (*Ampelaster carolinianus*), stiff-leaved aster (*Ionactis linariifolius*), tall flattopped aster (*Doellingeria umbellata*), whorled aster (*Oclemena cuminata*), common blue aster (*Symphotrichum cordifolium*), big-leaved aster (*Eurybia macrophylla*), and white-topped aster (*Sericocarpus linifolius*). Fortunately, we can appreciate our new understanding of the diversity of asters, and in common names at least, they are still "asters"!

Information found in the Iowa DOT *Iowa's Living Roadway Plant Profiler*, Ladd Oberle's *Tallgrass Prairie Wildflower: A Field Guide*, and J. Robert and Beatrice S. Smith's *The Prairie Garden: 70 Native Plants You Can Grow in Town or Country*.

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Roadside
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D i g e s t

Newsletter of Iowa's Integrated

Roadside Vegetation Management Program



Vol. 21 No. 1 January 2009

Roadsides Helping Bees Thrive

By Jessica Marshall, Discovery News, www.discovery-news.com

Roadsides may seem like the crummiest real estate around, but new research suggests that in fact they could serve as nature preserves for crucial pollinators, particularly native bees.

Roadsides planted with native plants hosted more than twice as many total bees and almost 50 percent more bee species than roadsides covered in non-native grasses, according to the study, published in Biological Conservation.

Jennifer Hopwood made the discovery while in graduate school in ecology at the University of Kansas in Lawrence. She started the research after picking up a book on roadside ecology from her colleague's desk and starting to read.

"I just became really interested in the idea that roadsides could be potential habitat for animals and could also be a haven for plant species," she said.

Several programs have restored the plants along roadsides in the Midwest to native species, which offer advantages over the non-native plants that were once recommended. Native plants have deep roots, so they help prevent erosion, and they require less mowing and herbicide use, which saves on maintenance costs, although the up-front cost of planting and establishing the native grasses is higher.

But Hopwood's primary interest was in bees, so she began investigating

bees' success in such habitats.

Hopwood collected bees from several roadside sites in Kansas that had been restored to native plants, and compared them with nearby, unrestored roadsides. Not only did Hopwood find that native plants hosted more than twice as many bees and almost 30 more types than



weedy sites, but she also found that this relationship held regardless of how many flowers were present.

"Even if there were a ton of exotic flowers, the roadsides that had native flowers in them still attracted more bees," Hopwood said.

The width of the roadside did not make a difference in Hopwood's findings, suggesting that even narrow roadsides can act as refuges for native bees.

The bees seemed to fare fine despite their proximity to speeding windshields: There were no fewer bees in plots next to heavily trafficked roads than in less-trafficked areas.

Native-planted roadsides, which are not tilled like agricultural lands, and which have more open ground than weedy roadsides, also provide good spots for native ground-nesting bees to settle in, Hopwood said. The findings suggest that the more than 10 million acres of roadside in the United States could serve as a valuable, interconnected source of habitat for native bees, whose populations have declined in recent years. Experts also have hopes for native bees to help with the crucial pollination of agricultural plants since honeybee numbers have crashed from colony collapse disorder.

"The idea of taking what people often refer to as junk land, and, with just a little bit of effort, creating this haven for these grassland species is a way to make a difference," said Kimberly Russell of the American Museum of Natural History in New York. "We're going to sprawl, but if you can do these little things to bring in native species, that's a really good thing.

"It's not going to cure everything," Russel added. "You can't say, 'OK, we've got the roadsides so we don't need to worry about prairie anywhere else.' But I think taking this kind of management seriously could go a long way."

County Living Roadway Trust Fund Grants Approved 2008

Adams	Roadside Inventory	\$4,500.00
Cerro Gordo	Storage facility	\$10,000.00
Clinton	GPS, hydraulic chemical pump	\$14,917.00
Dallas	Vicon broadcast seeder	\$2,796.00
Des Moines	Inventory second year	\$4,500.00
Des Moines	Sprayer	\$3,360.00
Fayette	Educational media equipment	\$1,000.00
Fayette	Seed Drill	\$6,435.50
Franklin	Seed Drill	\$5,000.00
Hardin	Brush Chipper	\$10,000.00
Iowa	Sprayer	\$8,000.00
Iowa Valley RC&D	Update Tama inventory	\$4,500.00
Iowa Valley RC&D	Update Poweshiek inventory	\$4,500.00
Jasper	Roadside Sprayer	\$14,275.63
Jefferson	Bowie Hydroseeder, Balebuster	\$41,184.00
Johnson	Scott Church Road planting	\$526.85
Johnson	Kent Park entryway planting	\$1,552.00
Johnson	Spray weather data logger	\$1,680.00
Johnson	8 ft. acreage rake	\$724.00
Jones	Grant Wood Trail plantings	\$2,025.00
Jones	Wetland plugs for mitigation	\$800.00
Jones	Laptop for roadside inventory	\$2,221.95
Jones	Trimble GPS and ArcPad	\$2,290.80
Linn	Educational materials	\$2,402.00
Linn	Artesian Road planting	\$763.45
Linn	Living snow fence shrubs	\$1,504.00
Linn	Seed Drill	\$10,000.00
Linn	Tailor Sprayer	\$4,552.00
Linn	Seed storage equipment	\$2,952.90
Mahaska	Clipper Eclipse seed cleaner	\$8,082.40
Marion	Bowie Hydroseeder	\$24,000.00
Montgomery	Trimble GPS and Arcview 9.3	\$5,339.00
Montgomery	Fire equipment	\$1,002.69
Page	Fire regime, two year	\$10,000.00
Palo Alto	Polaris ATV	\$3,500.00
Pottawattamie	Tree removal for restoration	\$19,750.00
Pottawattamie	Fire equipment	\$2,334.05
Pottawattamie	Finn Hydroseeder	\$24,000.00
Sac	Rough cut estate mower for ATV	\$2,240.00
Shelby	Seed Drill Greenscape 600	\$8,800.00
Story	Conference fees for interns	\$400.00
Story	Storage and feed shed	\$13,000.00
Washington	133rd Street planting	\$6,779.00
Webster	Gator ATV	\$3,400.00

Fireline

The Effects of Planting Methods and Granivory on Seedling Emergence and Establishment in a Tallgrass Prairie Reconstruction

By Justin V. Huisman

Research has shown improving seed-to-soil contact and incorporating the seed into the soil helps reduce seed losses due to water erosion, wind erosion, granivory and desiccation. And the native grass drill is generally regarded as the best way to establish native vegetation, largely due to the drill's ability to incorporate seed into the soil. My research looks at seed incorporation to improve the effectiveness of broadcast seeding as a method for establishing natives. I also attempted to measure seed losses due to granivory or seed predation by birds, insects and mammals.

In the fall of 2007, a previously row-cropped area was divided into 24 plots, 15 X 10m each. Plots were randomly subjected to one of 4 planting methods. All of the plots were broadcast seeded at a rate of 64 seeds/ft². Six of the plots were then raked, six were culti-packed, and 6 were both raked and culti-packed.

The biggest challenge was figuring out a way to measure incorporation. What we came up with was, first treating the seed with Day-Glo orange powder and then observing the plots at night under black light. Unincorporated seed showed up really well. And pre-testing showed the fluorescent powder did not affect the amount of seed predation or seedling emergence.

Following planting, 200 granivore exclosures (each one ~1ft² and 7 in tall with ½ in wire mesh on top) were placed in the seeded plots. Seed incorporation in the plots was quantified the night of the seeding and again one week later. We first tried using a black light powered by a generator; but shouting seed numbers over the noisy generator to the person doing the recording got old real fast. Fortunately we discovered a nifty little battery powered black light that clips to the un-



Clip-on battery-powered blacklight for seeing Day-Glo coated seeds.

derside of the bill of a baseball cap.

Seed count numbers showed that culti-packing could incorporate seed by as much as 62% and raking incorporated as much as 51%. I also found that one week after seeding, 21% of the seed was no longer visible in the broadcast only plots. A little of the seed may have been buried by blowing wind. There was no rain that week. A lot of expensive seed was probably eaten.

During the spring and summer of 2008, I counted native seedlings and weed seedlings. The seed incorporation treatments had no effect on weeds but it did effect the natives. The broadcast seeded plots that were raked and those that were culti-packed both showed 25% higher seedling emergence than plots that were broadcast seeded only and those that received both raking and culti-packing. The conclusion being that broadcast seeding alone does not incorporate seed enough but combined raking and culti-packing is doing too much. It's likely that it incorporated the seed too much or possibly damaged the seed. I also found that excluding seed predators increased seedling emergence by nearly 30%.

Overall I found using a single seed incorporation method yielded the most native seedlings and if there was a way to exclude granivores one could increase seedling emergence significantly.



Roader's Digest

Jo Casey, Editor
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Road Warrior

Wayne Thornsberry, Van Buren County

Tree and Brush Program Clears Way for Great Roadside Wildflower Plantings

By Kirk Henderson

What started as a brush control program for Van Buren County secondary roads department has become the best thing imaginable for native plantings, best thing that is besides having a local advocate perfectly positioned to make it happen.

Over the course of eight years former assistant engineer Wayne Thornsberry, now retired, helped create about 400 acres of really nice roadside wildflower plantings.

Wayne's family moved to Mount Sterling from Missouri when he was eight years old. As pretty much a life-long resident, he's involved in the community and proud of what they have accomplished. Thornsberry promotes the plantings for the betterment of the county and because he personally loves them. "I appreciate a good clean, native planting, not ones compromised by reed canary, crown vetch and birdsfoot trefoil." He loves the diversity, all the color and the butterflies and birds they attract.

"Although occasionally these invasives find their way back into plantings, for the most part the bulldozer clears all vegetation from the edge of the road all the way through the roadside to a few feet beyond where the fence line was or would be. This leaves a clean palette for seeding the natives. You don't get so much brome and whatever else is there moving quickly back into the ditch as when it's a ditch cleanout."

"We are not buying any right-of-way or paying landowners any money. This is strictly where the landowner is happy to have us come in and clear the trees and brush, reshape the backslope and plant the natives. Our practice of plant-

ing beyond the r-o-w would not work so well in counties where everything adjacent to the right-of-way is valuable farm land. But it makes for nicer plantings. The landowner agrees to maintain the area afterwards by mowing to prevent brush in the future. Sometimes this is a negative as a few landowners will mow too often to allow a nice wildflower display. Usually we try to anticipate this and plant traditionals where they want to keep it mowed all the time. But usually they are in the program because they want the wildflowers."

Tourism is the main force behind Van Buren County's healthy economy and growing population and Wayne is to the point now where he has done enough plantings to put together a roadside prairie tour brochure to add to the local attractions.

"You've got to change your thinking pattern and not be thinking in terms of such clear right-of-way. And people are under the wrong impression. Everyone thinks it's so expensive, but it's not. We seed 60 acres a year and buy two thirds of that seed ourselves from a good Iowa native seed producer for \$200.00 an acre. The rest of the native seed comes from the Transportation Enhancement program through Iowa DOT and UNI."

"I don't include a lot of little fancy wildflowers in what I buy, just a few things- coneflowers and butterfly weed and such. The beauty of it is in the grasses. They are powerful and cost less than seeding alfalfa. We promote it as a tourism thing because it's beautiful. To interest the board, you have to talk about it in practical terms. Seed something that can compete with the teal."

Road Apples

March 4, AFIRM Winter Meeting, Ames

March 5-6, Weed Commissioners Meeting, Ames

**Tallgrass Prairie Center, UNI
4 PM Seminar Series:**

Jan 28, Greg Schmitt, Iowa DNR Private Lands Program

Feb. 11, Paul Meyermann, UNI Native Landscaping

Feb. 25, Joe McGovern, INHF Land Stewardship

March 11, Jennifer Wahl, Graduate Student Biomass Research

Bargain Books

South Dakota State University has revised two books of interest to Midwestern botanists:

Grassland Plants of South Dakota and the Northern Great Plains by James R. Johnson and Gary E. Larson. \$19.95

Plants of the Black Hills and Bear Lodge Mountains by Gary E. Larson and James R. Johnson. \$36.95

Both books have lots of color photos and detailed text covering many species that occur in the tallgrass prairies of the Midwest as well as the Great Plains of western South Dakota. You can order copies of these books from South Dakota State University: Phone: 605-688-5628, Fax: 605-688-4018 E-mail: sdsu.bulletinroom@sdsu

New Living Roadway Trust Fund Deadline: June 1, 2009

Steve Holland's new phone number: 515.460.2953

Roadside Community Member: Feral Felines

Roadside Cats

By Jo Casey

Many people consider themselves either a “dog person” or a “cat person”. What about stray cats? They can be just as tame, or cuddly and adorable as domestic cats. Or is anybody a “feral cat person”? Born wild or gone wild, they are generally too defensive to get very close to. In either case, rather than living a life of luxury indoors, these felines fend for themselves and, like it or not, have become members of the roadside community.

To many, these animals are a nuisance. Hunters see them as competitors. Biologists worry about their impact on other species. They roam the ditches and fields and hunt like other wildlife, killing millions of birds, small mammals, reptiles and amphibians every year. They further decrease populations of creatures that are already suffering habitat loss, pollution and other societal impacts.

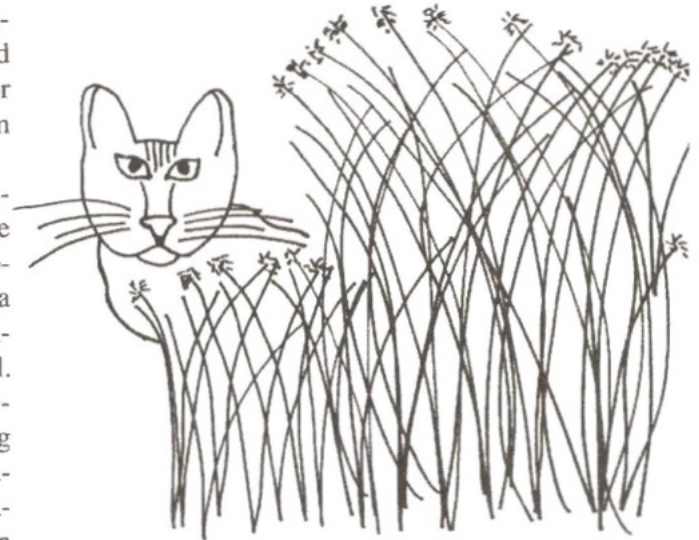
Roadside cats are especially annoying to trappers. Feral felines end up in traps set for raccoons, minks, otters, bobcats

and other animals providing furs of value. A stray cat takes away an opportunity to seize a valuable animal and is a nuisance to “take care of” once caught. Not a good deal for the cat either.

Certainly many of the cats seen in roadsides are the same ones we call farm cats when they are hanging around the farm yard. Many farmers consider them pets or working cats maintained to protect grain or feed stocks from vermin.

Because some feral cats were once domestic, reintroducing them into a home can occasionally be successful. Otherwise, to reduce the suffering and the negative impacts of cat populations, the American

Cat Project’s goal is significantly fewer cats in 20 years. Trap, neuter, release is one of the solutions. Good luck. Thanks to highly successful reproduction and our cultural tendencies, cats will be a part of the landscape, prowling and pouncing our roadsides for a long time.



Information obtained from <http://www.abcbirds.org/abcprograms/> and <http://www.bestfriends.org/nomorehomelesspets/resourcelibrary/feralindex.cfm/policy/cats/>

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D i g e s t

Roaders' Roadside Vegetation Management Program



Newsletter of Iowa's Integrated

Roadside Vegetation Management Program

Vol. 21 No. 2 April 2009

Roadsides Easy Target for GPS

Global Positioning System (GPS) technology is proving to be a valuable tool for roadside vegetation management. "Counties can use GPS and GIS technology to record and manage data for their seeding, spraying and burning activities, as well as to map sample locations and vegetation zones when working with wetland delineation and mitigation projects," says Jim Uthe, roadside manager for Dallas County. "With an antenna attached by a magnet to the top of our hydro-seeder, we pull up to an area, take a few seconds to enter data, and then drive along seeding and mapping as we go. It's a pretty slick way to keep track of where we planted. We also use it to map invasive species found in the county."

According to Uthe it took two seasons and two GIS short courses at Iowa State University to become proficient with the technology. "And I'm still learning," he says. "It's about like anything - If you don't sit down and work with it often, it is easy to forget."

The Living Roadway Trust Fund encourages counties to adopt the technology. Jeff Chase of Des Moines County says, "We purchased a Trimble GEO XH handheld unit with software and a laptop, all with the help of LRTF. Without LRTF we probably wouldn't have it now." Chase feels GPS/GIS really shines in the area of record keeping. "We have real data and a location to back everything up, not just a piece of paper. If there is a spray complaint we have a GPS record to confirm or deny any accusations. You can complete all your record keeping onsite and not have to go back to the office and do paperwork. We are using it for FEMA projects right now."

Sean O'Neill of Sac County says, "We have barely scratched the surface for its applications and usefulness. In 2005 we bought a Trimble handheld GEO XT unit with help from LRTF. We really like being able to map newly seeded areas so accurately."

GPS/GIS Training April 16 & 17, Ames

Thursday, April 16th- Basic introduction to GPS with Garmin GPS units supplied by the lab. This approach is lower cost and can provide good accuracy if survey grade is not required.

Friday, April 17th - ArcPad GPS. Participants must bring their own GPS unit with ArcPad on it.

Sign up for either day or both. Training begins at 8:30 each day and runs until 5:00 pm. All courses are held at the College of Design Extension GIS Laboratory, located in room 526 of the College of Design Building on the west side of the ISU campus.

Directions: Take 13th Street or Lincoln Way west to Hyland Ave. Go south from 13th or north from Lincoln Way to Pamell Drive and turn east. Go south on Bissell Road and park in the first lot on the east side of the road. The College of Design is across Bissell and to the southwest.

This training is usually \$250.00 per day and is being offered to us for \$150.00. Registration for roadside personnel to be paid by the LRTF professional development grant. Contact kirk.henderson@uni.edu for more information.

2009 Requested Seed Acreage		
COUNTY	DIVERSITY	CLEANOUT
Adair	20	40
Allamakee	10	
Black Hawk	30	
Boone	10	
Buchanan	20	40
Carroll	10	
Cerro Gordo	10	20
Chickasaw	10	20
Clinton		10
Des Moines	10	10
Fayette	10	10
Franklin		10
Guthrie		20
Hardin	10	10
Henry	10	
Ida	10	
Iowa	10	20
Jasper		40
Jefferson	10	10
Johnson	20	10

Jones	10	20
Linn	100	
Mahaska	20	
Marion	10	10
Mills	10	10
Mitchell	10	10
Montgomery		10
O'Brien		10
Page		10
Palo Alto	20	
Pocahontas	10	10
Polk	10	10
Pottawattamie	20	10
Poweshiek	10	
Sac	10	30
Shelby	10	20
Story	20	
Tama	10	
Washington	10	10
Webster	10	20
Winnebago	10	

12th Year For Enhancement Seed

Forty-one counties will receive a share of this year's native seed purchased with funds from Iowa DOT's Transportation Enhancement program. Counties choose from two mixes. The Diversity mix includes 40 plus species for creating a roadside prairie plant community. The Ditch Clean mix of 15 species is used where future sedimentation is likely to occur. Eighty-four counties have received a share of the seed at least once in the 12 years of the program. The funds pay for enough seed to plant about one thousand acres each year.

Fireline

Bergamot...and Bee balm... and Horsemint, Oh My!

(Three different names for the same native plant, *Monarda fistulosa*)

By Kirk Henderson

Native plants have a common name and scientific name. The scientific name indicates a plant's evolutionary relationship to other plants. Common names are, as someone once said, "anything you can get other people to start using." Plants often have more than one common name and these can vary from region to region potentially causing confusion. The precision of scientific names reduces any such ambiguity.

I've always enjoyed the descriptive nature of common names as some of the richest and most colorful language on the planet. When I heard recently that two state agencies are standardizing common names of native plants so their databases can talk to each other, part of me screamed,

"Hands off, you crazy bureaucrats! You're messing with the folklore now. This is sacred ground. Aren't scientific names defining enough?" I sensed the beginning of the end of all that is good and beautiful about common plant names.

I have since calmed down (mostly). Being a bureaucrat myself I appreciate the need for order and for sure the vast array of plant names is chaotic at times and to some extent as threatening as lions and tigers and bears. But, oh my! They are settling on one common name and one correct spelling, with hyphens properly placed for the 150 or so native plants specified in roadside seeding mixes today.

Still, I come here not to bash the bureaucrats, but to celebrate the names. I will synchronize my database with only a small part of me still coining slogans like "standardization equals sterilization." The rest of me is now more dedicated to appre-

ciating the heritage and tradition of great names on the prairie.

The names are powerful- rattle-snake master. They are iconic- compass plant. And they are descriptive- porcupine grass. Some are silly- large-flowered beard-tongue, while others are pure poetry- blue-eyed grass. They make kids giggle- bastard toadflax. They pay homage to people- golden Alexanders and they commemorate historical events- New Jersey tea.

I like to think these names are proof not all settlers plowed the prairie with complete indifference for the resident species. Somebody was in awe of these plants and maybe even loved them to arrive at such inspired names. And now the names are part of what draws you in.

False sunflower warns, 'don't be fooled'. Creamy indigo beckons with cool sensuality. The messages range from the promise of pasque flower to the threat of poison hemlock. All are fun to say.

And these are just the first tier of names. Most of these plants have a second and third name more colorful than the first, the ones the old timers seem to know. I pointed out spiderwort one time and my own mother said, "We used to call that snotweed." We can bureaucratize and standardize for the database all we want and the creativity of the names will remain as wide open as the prairie.

For *Monarda fistulosa* there will always be at least three good names from which to choose. I started out as a horseminter. For quite a while now I've mostly called it bergamot. But I think I will very soon switch to bee balm, just because I can.

"Common names are, as someone once said, "anything you can get other people to start using." Plants often have more than one common name and these can vary from region to region potentially causing confusion."



Jo Casey, Editor
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- Association for Integrated Roadside Management in Iowa

RoadWarrior

Chris Henze, *Johnson County*

By Jo Casey

Chris Henze makes use of his B.A. in Wildlife Ecology every day as Roadside Manager for Johnson County, improving habitat in the counties four thousand acres of road right-of-way. He received his degree from Northwest Missouri State and chose Wildlife Ecology as his emphasis because he “wanted to work outside, he loves wildlife and is an avid sportsman.” He is also sincerely interested in controlling invasive species.

Originally, he wanted to work with the DNR or Forest Service. He took advantage of the opportunity offered by the growing roadside program. His responsibilities as Roadside Manager and Weed Commissioner include all roadside plantings in warm and cool season species, erosion control, prescribed burning, weed control, herbicide application, roadside mowing, and brush control. Although Henze performs the same duties as most other roadside managers, his job is unique due to the make up of Johnson County’s population.

Johnson County is a mostly suburban county, but possesses one of the state’s larger cities, Iowa City, which is home to the University of Iowa. Navigating the political landscape can be challenging. Henze says people expect some county roadsides to be treated like an urban situation. Since the county is generally rural, Henze tends to treat everything with a more rural approach, whether it be gravel, pavement, or close to city limits.

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not allowed to use herbicides. Henze is now able to make use of some herbicide products which helps him be more effective and upsets some environmentally conscious residents. He appreciates their protective stand on the environment and in turn, is conscientious about the amount of herbicide being used.

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Road Apples

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Voices of the Prairie: Prairie Sounds, Savanna Sounds, and Mike and Amy Finders Band

Both CDs are supported and Funded by the Living Roadway Trust Fund

Recorded and edited by Mark Muller

For a free copy contact Iowa Department of

Transportation and Steve Holland at 515.239.1768

Roadside Community Member: *Phlox pilosa*

Prairie Phlox

By Jo Casey

Derived from the Greek term for “fire”, *Phlox pilosa* will arrive in April and be welcomed by butterflies, photographers, botanists and any other seekers of natural and radiant beauty.

Prairie Phlox is a native perennial characterized by flowers with five flaring lobes around each apex, which possess beautiful hues ranging from white to lavender to red. It blooms in spring and will stick around for one to two months. These months provide the moist to mesic conditions this wildflower requires to thrive and grow up to two feet tall.

The stems of Prairie Phlox are covered in fine hairs and can be sticky or smooth and most often generate a soft, pleasant scent. The leaves arranged oppositely around the short, hairy stem were once used for a few medicinal purposes. A concoction containing the leaves of *Phlox pilosa*



was once thought to cure eczema and “purify the blood.” The root of Prairie Phlox was often an ingredient in love compounds.

Friends of *Phlox pilosa* include bees, butterflies and skippers. The nectar attracts them and they become frequent visitors. Insects are not the only creatures that Prairie Phlox attracts; rabbits, deer, ground-hogs and livestock are also drawn to the wildflower’s pleasing aroma, which can threaten the existence of *Phlox pilosa* in areas overpopulated by these species.

The fiercely tinted Prairie Phlox could be a prominent member of the roadside community. The price of Prairie Phlox seed discourages people from including it in their seeding mixes. If you can get yourself to splurge a little, it will show up in your plantings.

Information obtained from http://www.illinoiswildflowers.info/prairie/plantx/pr_phloxx.htm, <http://www.npwrc.usgs.gov/resource/plants/wildflwr/species/phlopilo.htm>, and <http://www.kswildflower.org/details.php?flowerID=301>

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Road Warrior

By Becky Kauten

Scott Gebers is a born sportsman. Whether it's a season opener for wild game, or the search for prairie remnants in central Iowa, he is always on the hunt. His current position with Webster County IRVM allows Scott to be outdoors on a regular basis, and in touch with the natural elements he loves.

Originally from Holstien, Scott received a bachelor's degree in wildlife ecology and conservation from Northwest Missouri State University. He then began a part-time position at Stone Park in Sioux City, working for the Iowa Department of Natural Resources. His work landed him two years in Louisiana, as an assistant manager of a 40-acre wildlife refuge. His duties varied from banding waterfowl to working around oil wells and, of course, tagging the occasional alligator.

Eventually Scott was homeward bound. "Iowa lured me back," said Scott. "I missed seeing deer that weighed over 40 pounds, the change of the seasons and my family was here as well." Upon his return, Scott began his tenure with Webster County IRVM, and has remained for the past two-and-a-half years.

"One of the most trying tasks of our department is our work with ditch encroachment," said Scott. "We have farmers that habitually plant crops in the right-of-way. After it is planted, we have been known to go in and replant with native grasses and forbs, even though the chemicals applied by the farmers don't allow many varieties to grow." Farmers that are known for this practice tend to dislike the IRVM replanting practices. "I even

went so far as applying for a Living Roadway Trust Fund (LRTF) grant for a bulletproof vest to wear when planting these ditches," said Scott. "These farmers need to realize that the right-of-way was never intended to be farmland, nor would the results be much of a yield if it were.

A successful seeding project for Webster County IRVM included a five-mile strip of land near Brushy Creek. Approximately 40 acres were planted with seed purchased through ISTEAF funding. "Initially we were expecting 25-30 acres to get planted, but we were happily surprised by planting so many more acres. Next spring we plan on another seeding, a one-mile strip along highway 169, and who knows after that." Scott says he hopes to "get more involved in prairie reconstruction and replan-

ting. I really enjoy catching a glimpse of what the landscape used to look like," Scott continued. "To most people that may not seem like much, but to those of us that deal with it on a daily basis, it's everything."

In his years of conservation work, both in fisheries and wildlife as well as IRVM, Scott has learned that you can't have enough help. "It's always best to be in the good graces of as many people as possible -both within your organization, such as your County Engineer, Conservation Board and Supervisors, and the community at large," said Scott. "The bigger the team, the better the odds are that things will get done." He also advises new IRVM managers to keep the phone numbers of other IRVM managers close at hand. "You never know the kind of help you might need.

The next time you drive through Webster County and see a stand of bluestem or some colorful forbs in the ditches, think of Scott. If the sun is shining, he is probably out hunting -either tracking whatever is in season, or piecing together Iowa's natural history, plant by plant.



BARGAIN BOOKS

Soil Biology Primer

Back by popular demand this book is an introduction to the living component of soil and how it contributes to agricultural productivity, air, and water quality. The Soil and Water Conservation Society is now taking orders. A single copy can be purchased for \$6 and 2-100 copies can be purchased for \$4. To obtain your copy call (515)289-2331 Ext. 24.

A Practical Guide to Prairie Reconstruction-By Carl Kurtz

A step-by-step guide to prairie reconstruction from site selection through burning. Includes 20 color photographs and conservation guidelines from The Nature Conservancy as well as a reference list of Midwest seed sources, services, and books on prairie plant restoration and identification. Send \$12.95 plus \$4 shipping (\$1.00 for each additional book) to: University of Iowa Press, c/o Chicago Distribution Center, 11030 South Langley Avenue, Chicago IL 60628.

Road Apples



February

- 2-2 "The Practice of Restoring Native Ecosystems," Botanical Center, Des Moines. Sponsored by National Arbor Day Foundation. \$125 advance registration, 1-888-448-7337.
- 26-1 Integrated Roadside Vegetation Management's Fire Management Workshop. Cedar Falls, Iowa. Sponsored by Iowa DOT's Living Roadway Trust Fund. (Sold out).

March

- 7-9 Weed Commissioner's Conference at the Best Western Starlight Village, Ames. John Harri 1-515-242-5180.
- 10 12th Northern Illinois Prairie Workshop. 2001: A Land Odyssey An Exploration of prairie, wetlands, savanna and beyond. College of DuPage, Glen Ellyn, IL. For more information call 1-603-942-3948.
- 13-14 Shade Tree Short Course at the Scheman Center on the ISU Campus in Ames. Contact Deb Schmidt at 1-515-294-5961 for details.

April

- 18-20 "Seeds for the Future" A national wildflower and grass seed production workshop presented by Florida DOT, Federal Highway Admin., U. of Florida, Florida Federation of Garden Clubs & Keep Florida Beautiful. Rosen Plaza Hotel in Orlando, Florida. 1-850-922-7206.

Digger's



Newsletter of Iowa's Integrated

Roadside Vegetation Management Program

Vol. 21 No. 2 April 2009

Roadsides Easy Target for GPS

Global Positioning System (GPS) technology is proving to be a valuable tool for roadside vegetation management. "Counties can use GPS and GIS technology to record and manage data for their seeding, spraying and burning activities, as well as to map sample locations and vegetation zones when working with wetland delineation and mitigation projects," says Jim Uthe, roadside manager for Dallas County. "With an antenna attached by a magnet to the top of our hydro-seeder, we pull up to an area, take a few seconds to enter data, and then drive along seeding and mapping as we go. It's a pretty slick way to keep track of where we planted. We also use it to map invasive species found in the county."

According to Uthe it took two seasons and two GIS short courses at Iowa State University to become proficient with the technology. "And I'm still learning," he says. "It's about like anything - If you don't sit down and work with it often, it is easy to forget."

The Living Roadway Trust Fund encourages counties to adopt the technology. Jeff Chase of Des Moines County says, "We purchased a Trimble GEO XH handheld unit with software and a laptop, all with the help of LRTF. Without LRTF we probably wouldn't have it now." Chase feels GPS/GIS really shines in the area of record keeping. "We have real data and a location to back everything up, not just a piece of paper. If there is a spray complaint we have a GPS record to confirm or deny any accusations. You can complete all your record keeping onsite and not have to go back to the office and do paperwork. We are using it for FEMA projects right now."

Sean O'Neill of Sac County says, "We have barely scratched the surface for its applications and usefulness. In 2005 we bought a Trimble handheld GEO XT unit with help from LRTF. We really like being able to map newly seeded areas so accurately."

GPS/GIS Training April 16 & 17, Ames

Thursday, April 16th- Basic introduction to GPS with Garmin GPS units supplied by the lab. This approach is lower cost and can provide good accuracy if survey grade is not required.

Friday, April 17th - ArcPad GPS. Participants must bring their own GPS unit with ArcPad on it.

Sign up for either day or both. Training begins at 8:30 each day and runs until 5:00 pm. All courses are held at the College of Design Extension GIS Laboratory, located in room 526 of the College of Design Building on the west side of the ISU campus.

Directions: Take 13th Street or Lincoln Way west to Hyland Ave. Go south from 13th or north from Lincoln Way to Pamell Drive and turn east. Go south on Bissell Road and park in the first lot on the east side of the road. The College of Design is across Bissell and to the southwest.

This training is usually \$250.00 per day and is being offered to us for \$150.00. Registration for roadside personnel to be paid by the LRTF professional development grant. Contact kirk.henderson@uni.edu for more information.

2009 Requested Seed Acreage		
COUNTY	DIVERSITY	CLEANOUT
Adair	20	40
Allamakee	10	
Black Hawk	30	
Boone	10	
Buchanan	20	40
Carroll	10	
Cerro Gordo	10	20
Chickasaw	10	20
Clinton		10
Des Moines	10	10
Fayette	10	10
Franklin		10
Guthrie		20
Hardin	10	10
Henry	10	
Ida	10	
Iowa	10	20
Jasper		40
Jefferson	10	10
Johnson	20	10

Jones	10	20
Linn	100	
Mahaska	20	
Marion	10	10
Mills	10	10
Mitchell	10	10
Montgomery		10
O'Brien		10
Page		10
Palo Alto	20	
Pocahontas	10	10
Polk	10	10
Pottawattamie	20	10
Poweshiek	10	
Sac	10	30
Shelby	10	20
Story	20	
Tama	10	
Washington	10	10
Webster	10	20
Winnebago	10	

12th Year For Enhancement Seed

Forty-one counties will receive a share of this year's native seed purchased with funds from Iowa DOT's Transportation Enhancement program. Counties choose from two mixes. The Diversity mix includes 40 plus species for creating a roadside prairie plant community. The Ditch Clean mix of 15 species is used where future sedimentation is likely to occur. Eighty-four counties have received a share of the seed at least once in the 12 years of the program. The funds pay for enough seed to plant about one thousand acres each year.

Fireline

Bergamot...and Bee balm... and Horsemint, Oh My!

(Three different names for the same native plant, *Monarda fistulosa*)

By Kirk Henderson

Native plants have a common name and scientific name. The scientific name indicates a plant's evolutionary relationship to other plants. Common names are, as someone once said, "anything you can get other people to start using." Plants often have more than one common name and these can vary from region to region potentially causing confusion. The precision of scientific names reduces any such ambiguity.

I've always enjoyed the descriptive nature of common names as some of the richest and most colorful language on the planet. When I heard recently that two state agencies are standardizing common names of native plants so their databases can talk to each other, part of me screamed,

"Hands off, you crazy bureaucrats! You're messing with the folklore now. This is sacred ground. Aren't scientific names defining enough?" I sensed the beginning of the end of all that is good and beautiful about common plant names.

I have since calmed down (mostly). Being a bureaucrat myself I appreciate the need for order and for sure the vast array of plant names is chaotic at times and to some extent as threatening as lions and tigers and bears. But, oh my! They are settling on one common name and one correct spelling, with hyphens properly placed for the 150 or so native plants specified in roadside seeding mixes today.

Still, I come here not to bash the bureaucrats, but to celebrate the names. I will synchronize my database with only a small part of me still coining slogans like "standardization equals sterilization." The rest of me is now more dedicated to appre-

ciating the heritage and tradition of great names on the prairie.

The names are powerful- rattle-snake master. They are iconic- compass plant. And they are descriptive- porcupine grass. Some are silly- large-flowered beard-tongue, while others are pure poetry- blue-eyed grass. They make kids giggle- bastard toadflax. They pay homage to people- golden Alexanders and they commemorate historical events- New Jersey tea.

I like to think these names are proof not all settlers plowed the prairie with complete indifference for the resident species. Somebody was in awe of these plants and maybe even loved them to arrive at such inspired names. And now the names are part of what draws you in.

False sunflower warns, 'don't be fooled'. Creamy indigo beckons with cool sensuality. The messages range from the promise of pasque flower to the threat of poison hemlock. All are fun to say.

And these are just the first tier of names. Most of these plants have a second and third name more colorful than the first, the ones the old timers seem to know. I pointed out spiderwort one time and my own mother said, "We used to call that snotweed." We can bureaucratize and standardize for the database all we want and the creativity of the names will remain as wide open as the prairie.

For *Monarda fistulosa* there will always be at least three good names from which to choose. I started out as a horsemint. For quite a while now I've mostly called it bergamot. But I think I will very soon switch to bee balm, just because I can.

"Common names are, as someone once said, "anything you can get other people to start using." Plants often have more than one common name and these can vary from region to region potentially causing confusion."



Roader's Digest

Jo Casey, Editor

Vol. 21 No. 2

April 2009

Roader's Digest reports the activities of, and provides information for, Iowa counties implementing the Integrated Roadside Vegetation Management Program.

The IRVM Coordinator's office is located in the Tallgrass Prairie Center at the University of Northern Iowa. It is funded by the Iowa Department of Transportation Living Roadway Trust Fund with the support of the University of Northern Iowa.

All programs and services are offered on a non-discriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.

For a free subscription to Roader's Digest and additional information, contact:

Roader's Digest

Tallgrass Prairie Center

University of Northern Iowa

Cedar Falls, IA 50614-0294

319.273.2813

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- International Erosion Control Association
- Lady Bird Johnson Wildflower Center
- Soil & Water Conservation Society
- Association for Integrated Roadside Management in Iowa

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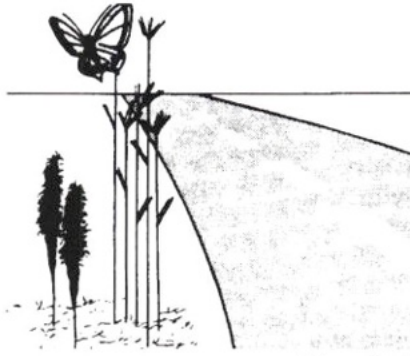
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ROADER'S DIGEST

Vol. 13 Issue 1 February 2001

Newsletter of the *Native Roadside Vegetation Center* at the
University of Northern Iowa

County Supervisors' Need-To-Know List, Roadside Vegetation Management

Maintaining four thousand acres of vegetated road right-of-way, the county is a neighbor to almost all rural residents. People rely on the county for roadside mowing, weed control, brush control, erosion control and vegetation establishment. With so much responsibility, it's important for the county to have a good roadside program in place. This means allocating sufficient resources and placing a professional in charge.

- 1. Safety comes first.** Sight line and clear zone maintenance are the bottom line. Shoulder mowing and tree removal afford necessary visibility and provide a vehicle recovery area. Excessive mowing stresses vegetation, tears grass on slopes, destroys nests, removes wildflower blossoms and strains the budget.
- 2. There's no quick fix.** Controlling roadside weeds and small trees and brush requires an ongoing effort. It will not be accomplished by making a big push for a couple years and then backing off.
- 3. There will always be weeds.** Getting rid of every weed is not the objective. Good roadside management includes having a strong sense of when to spray and resisting public pressure to spray more.
- 4. People love trees.** Sometimes it's necessary to eliminate trees in and adjacent to road right-of-way. Talking to landowners and explaining why a tree presents a hazard is time-consuming. Yet it must be done. The public deserves the consideration, and it can save everyone a lot of grief.
- 5. Natives are great competitors.** Our native prairie plants are adapted to Iowa's climate and growing conditions. They have root systems many times deeper and more extensive than brome or other pasture grass. With this competitive advantage, they do the best job holding the soil and denying weeds a place to start.
- 6. Prevention helps.** Effective weed control involves helping people understand the relationship between their activities and the presence of weeds. When snow plows throw gravel and agricultural activities move topsoil, roadside vegetation gets buried. The result is more weeds.
- 7. Roadsides are a valuable resource.** Your county's 4,000 acres of vegetated road right-of-way afford opportunities for quality-of-life enhancements such as beautifying the countryside with wildflowers, creating much-needed habitat for groundnesting birds and restoring our vanishing prairie heritage.
- 8. You get what you pay for.** A good roadside manager is worth his weight in gold. By hiring or designating a conservation-minded professional whose primary responsibility is roadside management, you get a sustained effort from an individual making a personal investment in how the county's roadsides are managed.
- 9. There's funding available.** Iowa DOT's Living Roadway Trust Fund helps counties purchase prairie grass and wildflower seed. Specialized seeding equipment and other items are also eligible.
- 10. And there's help.** For assistance with hiring a roadside manager or starting a roadside program, contact the Roadside Management Program at the University of Northern Iowa. We have sample budgets, position descriptions, management plans and LRTF applications designed to meet your county's needs.

Roadside Community Member-----Groundhog

by Nancy Grandgenett

The groundhog, also known as the woodchuck, is one of the best known wild mammals in America. A member of the squirrel family, the groundhog gets its name from its squat appearance, waddling gait and habit of living in the ground. Native Americans in the Delaware area once held the belief that ancient creatures called Lenni Lenape, who were originally animals living in Mother Earth, eventually emerged to hunt and live as men. The Lenni Lenape's ancestors were called Wojak which European settlers would later pronounce as woodchuck.

This common rodent varies in size from 16-27 inches and weighs anywhere from 4-14 lbs. being the lightest in spring when they are fresh from hibernation and heaviest in fall prior to the beginning of their hibernation period. They have short, powerful legs accompanied by a long, bushy, and somewhat flattened tail. The groundhog's long fur is coarse and grayish brown with a yellow or redish cast. The groundhog's average lifespan is approximately five years.

When North America was first settled, groundhogs were relatively scarce on the land. However, as the timbered areas opened and fence rows, as well as meadows increased, the groundhog began to prosper.

Groundhogs prefer living along edges of land where timbered areas are bordered by open land, or along fence rows and heavily vegetated gullies or stream banks. Groundhogs dig their burrows locating the main entrance beneath a tree stump or rock and adding a smaller side entrance a few feet away.

Toward the end of October and into early November, most groundhogs can be found curled up in a profound sleep in their underground nest. This sleep is so deep that even if the animal is warmed it requires several hours in order to awaken.

The tradition of Groundhog Day stems way back to the 1700's when the Germans began their settlement in America. German immigrants brought with them a custom known as Candlemas Day. This Christian custom required the clergy to bless candles and then distribute them to the people. The glow in the candles would foretell the weather of the weeks to come. The following verse is an Old English Song which was sung during the Candlemas Ceremony:

**If Candlemas be fair and bright
Come winter have another flight;
If Candlemas brings clouds and rain
Go winter, and come not again.**

The first official celebration of Groundhog Day began in Pennsylvania on February 2, 1886. Today the most popular celebration of Groundhog Day still takes place in Pennsylvania in a small town called Punxsutawney. Phil, the resident groundhog, can be found in his climate-controlled home located in the Punxsutawney library where he thrives on dog food and ice cream, weighing in at a healthy 15 lbs! On Groundhog Day Phil is taken to Boggler's Knob where he is then placed in a heated burrow underneath a simulated tree stump, located on a stage, before being pulled out at 7:25 a.m. to make his weather prediction. Since the release of the movie Groundhog Day Starring Bill Murray and Andie McDowell in 1993, 35,000 visitors (5 times the town's population of 6,700!), have come to Punxsutawney on Groundhog Day! Over the course of Phil's appearances there have been a number of highlights such as the ones listed below:

***During Prohibition Phil threatened to impose 60 weeks of winter on the community if he wasn't allowed to drink.

***1981 Phil wore a yellow ribbon in honor of American hostages in Iran. ***1986 Phil traveled to Washington D.C. to meet with President Reagan.

***1993 Columbia pictures released the movie "Groundhog Day" starring Bill Murray. ***1995 Phil appeared on the Oprah Winfrey Show.

Animals-B-Gone. Homepage. 13 Dec. 2000. <http://www.animals-b-gone.com/groundhog.html>

Missouri conservation. Homepage. 13 Dec. 2000. <http://conservation.state.mo.us/nathis/mammals/woodchuck/>

Punxsutawney. Homepage. 10 Dec. 2000. <http://punxsutawney.com/>

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Don't Bury Your Seed

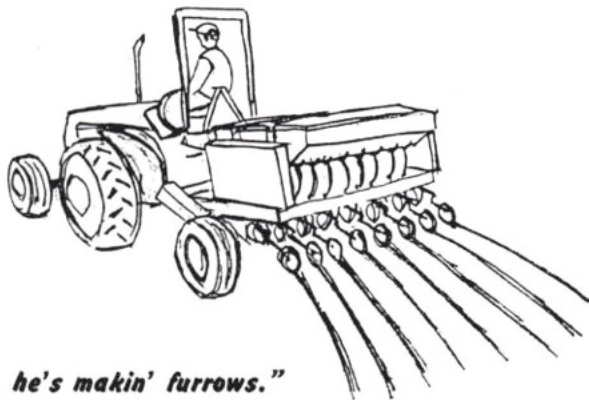
by Dave Williams



The long, cold, snowy winter here in Iowa is almost over. The ground is spongy from the snow thaw and soon we will be ready for spring planting. Many factors contribute to a successful prairie planting. Seeding depth is one of the most critical.

Germination is completed when the seed imbibes water and the process of cell division begins. The ability of seeds to germinate decreases with depth (Bliss and Smith 1985). A seed planted too deep becomes part of the seed bank. Eventually, if conditions for germination do not occur, the seed will die. Emergence is the process where the seed develops a coleoptile shoot that penetrates the soil surface. Leaves develop from the shoot and the seedling becomes independent of the seed for food. A seed planted too deep may germinate. If the coleoptile shoot cannot reach the surface, the seed will run out of energy and die (Berdahl and Varker 1984).

Maximum coleoptile shoot length varies between species. There is a direct relationship between seed size and shoot length. Smaller seeds have smaller shoot lengths. It is critical that small seeds be planted no deeper than their maximum coleoptile shoot length. The IRVM technical manual recommends a planting depth between 1/8" to 1/4" deep. A seed is just below the surface layer of soil at an eighth of an inch!



"Uh oh, he's makin' furrows."

coulters on the Truax drill only need to move the thatch on the surface and scuff the bare soil underneath. If the coulters are cutting into the soil and turning it over or if the drill is leaving ribbons of black soil in the seeded rows, seed is being drilled too deep. When planting, take the time to periodically check. Making furrows is not the goal. Scratch the ground with your fingers to verify that the drill is planting the seed at the proper depth.

Planting seed at the ideal depth can be a challenge in right-of-ways. I have envied farmers spring planting on flat ground as I seed a ditch cleanout with the drill sloughing downhill on steep slopes. Seed depth would increase from one side of the drill to the other. When planting in difficult sites it is important to remember the sage advice of Jim Truax, "Shallow is better!"

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- Berdahl, J.E. and R.E. Barker. 1984. Selection for improved seedling vigor in Russian Wildrye. *Can. J. Plant Sci.* 64:131-138.
- Bliss, D. and H. Smith. 1985. Penetration of light into soil and its role in the control of seed germination. *Plant, Cell Environ.* 8: 475-483.
- Henderson, Kirk and Carole Kern. 2000. Integrated roadside vegetation management manual. 2nd ed. Roadside Management Program, Univ. of Northern Iowa, Cedar Falls, Iowa.
- Packard, S. and C. Mutel. 1997. *The Tallgrass Restoration Handbook*. Washington, D.C.: Island Press.

In "The Tallgrass Restoration Handbook", Steve Packard recommends hand-broadcasting "very fine" seed. These seeds can be worked under the soil by rain splash. Small soil particles can be large boulders when compared to dust size seeds of Mountain Mint, Great Blue Lobelia, or Culvers Root.

Most county IRVM programs use Truax drills to plant native prairie grasses and forbs. According to Jim Truax "shallow is better" when planting prairie seed.

He recommends that the no-till trash



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Kirk Henderson, Editor
Nancy Grandgenett, Asst. Editor
Becky Kauten, Free-lance Writing

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ENHANCING GRASS STANDS WITH WILDFLOWERS

by Dave Williams



Many right-of-ways (ROWs) in Iowa are grass dominated plant communities with virtually no native wildflowers. Since the creation of the Integrated Roadside Vegetation Management (IRVM) program, many counties have seeded native prairie wildflowers in their ROWs. Today many of these plantings have wildflowers blooming during the entire growing season. This has been well received by the public, and as resource managers, we know that species-diverse plant communities have the potential to benefit more types of wildlife.

I have often wondered if native prairie wildflowers could be introduced into a ditch of Smooth Brome or prairie grasses without destructive site preparation. After two summers of counting thousands of tiny seedlings every two weeks, we believe it is possible to establish native prairie wildflowers into established grass plantings. In 1999, we hand-broadcast twenty-three wildflower species in a two-year research experiment. We did not use any herbicide or tillage to prepare the site. The first year we mowed every week starting at a height of 2" in early May, 4" in July, and 5" in August. Second-year mowings were done every other week at 5" and then 10" midsummer to the end of August. In the first growing season, twenty-two of the twenty-three species came up. Our wildflower seedlings emerged in a stand of prairie grasses so dense, my six foot tall son was completely hidden from view at ten feet away.

We believed that mowing the grasses frequently during the growing season would benefit the seeded wildflowers. We were right, but the benefits were not what we expected. The number of wildflower seedlings and the number of species were not effected by mowing at all. We did find however, that mowing increased wildflower root and shoot mass by three times. Mowing increased the number of flowering plants by forty-six times by the end of the second growing season. What mowing did in our experiment was to create more robust flowering plants. More flowering plants means more seed returned to the soil. Returning seed to the soil provides a potential wildflower seed source for re-colonization in the event of future disturbances.

So after enduring hundreds of chigger bites, fly bites, mosquito bites, ticks in my scalp and golf ball size garden spiders crawling on me, I can say with certainty that what is sowed is what will grow; and what is sowed grows better if it's mowed. A species diverse seed mix will produce a species diverse plant community.

NEW LOGO FOR IOWA ECOTYPE PROJECT



The Iowa Ecotype Project is proud to debut the new logo for the seed project-

NATURAL SELECTIONS:
species that belong, seeds that thrive

A modest grant from the UNI Small Business Development Center helped pay for its development. This logo has been printed onto a tag that will be attached to each bag of Iowa Ecotype Project seed

marketed by commercial seed growers. This will provide product recognition to the seed, and assure consumers that the seed is representative of regional Iowa prairie populations.

The new UNI Native Roadside Vegetation Center will mean an expanded and more effective program of getting remnant collected seed increased and into commercial Source-identified seed production in a shorter period of time. This in turn means more affordable, high-quality, genetically diverse, Iowa-origin seed will soon be available for prairie restorations along state and county roadsides, buffer strips, in parks and on private CRP ground. Your support of our efforts, either as a volunteer contributor of remnant seed, a commercial grower investing land, capital and labor, or purchaser of Source-identified seed are much appreciated. Thank you

Grea Houseal, Project Manager



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Kirk Henderson, Editor
Nancy Grandgenett, Asst. Editor
Becky Kauten, Free-lance Writing

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Many of us remember when the time to plant prairie was in late spring or early summer. Perhaps this occurred because there was time to clean and test seed harvested the previous year. I often felt there were fewer weed problems and that the chance of erosion from heavy spring rains was reduced.

Over the years I began to watch what nature was doing and discovered that most seed in the prairie is dropped on the ground in late summer or fall and is incorporated into the soil surface by fall rains and the freezing action of winter snow and ice.

In our established mixed stands we tend to see a dense undergrowth of seedlings after a spring burn. Species such as showy tick-trefoil and Golden Alexander can actually form a dense ground cover by early June. A spring burn of course adds fire scarification to the process which is very important for the legumes.

Grasses generally do not need cold, wet stratification to germinate, but many forb species require it. If these forbs are summer-planted without stratification, they may fail to germinate until the following season.

Fall plantings seem to emerge 6 weeks ahead of a spring planting and if you can simply broadcast the seed on the soil surface without tillage, they will have fairly good protection from heavy spring rains. Drilled soybean stubble is the perfect medium.

We have also noticed higher species diversity in fall plantings likely because everything has an equal start. Research has shown that some species such as tall blazing-star *Liatris pycnostachya* lose viability if kept over winter and thus they tend to respond dramatically to fall planting.

Don't be overly concerned that seeds will wash away in spring runoff. It appears that most species have a remarkable ability to stay put once they are on the soil surface, regardless of the vegetative cover.

If you have not tried a fall planting, do so this year. It has been the best change we ever made in successful planting of prairie.

Editor's Note: It's not too late for dormant seeding even after a light layer of snow. This makes it easier to see where you've broadcasted the seed. Sunlight will melt the seed into the snow. And once covered by additional snow, the bottom layer of snow can melt putting seed directly on the soil. Dormant seeding is best done in November or December after it's cool enough to keep seed from germinating until spring.

IRVM Open House

Make the most of our greatest resource! That's the philosophy behind a series of meetings called IRVM Open House. We have a bunch of well established, highly successful county roadside vegetation management programs. We also have a bunch of experienced, knowledgeable roadside managers. Now we are having meetings so newer roadside managers and people from counties considering IRVM can learn from these people. The meetings are small and informal. Participants don't even have to register. We announce the time and the place. If they are free that day, they show up. At the first meeting 15 people came, that was just right. If two people come that is just right too. Those two people will benefit a lot. The target audience is newer roadside managers, engineers and conservation board employees. People from counties with established programs are welcome. Everyone has something to contribute and everyone benefits from staying in touch. The first meeting was in August in Fayette County. The second meeting was in November in Dallas County. We will have one meeting every three months and will move them around the state. Watch for future announcements.



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Kirk Henderson, Editor
Nancy Grandgenett, Asst. Editor
Becky Kauten, Free-lance Writing

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Seed Storage: Simple Measures Protect Big Investment

Paul Bockenstedt, graduate student in the UNI Biology Department currently coordinating seed collection and propagation for the Iowa Ecotype Project

Fireline

Of the many integral steps involved in a successful planting, the storage of seed stocks is perhaps the most overlooked. If you collect seed for your program that will be stored before planting, it's important that the most be made of the investment of your time and energy. Although each species is different, there are some general guidelines for seed storage.

Temperature and humidity play the greatest role in preserving seed viability. Seed life is doubled for every 10 degree decrease in storage temperature down to the freezing point. It is doubled for each

1% loss in seed moisture down to 5%. Maintaining conditions of 50 degrees and 5% seed moisture will allow for at least one year of storage with minimal loss of viability and vigor. Temperature and seed moisture effects are independent of one another.

Therefore, seed viability can be dramatically reduced if both of these factors stray far above the 50 degree and 5% moisture baseline.

Store seed in a constant environment.

Seeds transferred from a dry cool

Seed life is doubled for every 10-degree decrease in storage temperature down to the freezing point.

environment to a warm and humid one and back again face increased risk of viability loss, as well as fungal and insect damage. Seed should not be put into storage with a high moisture content. If this situation is unavoidable, be sure it is kept in areas of good air circulation, and store it in containers that allow for loss of excess moisture, such as paper or burlap bags.

Air circulation is important in both the drying and storage of seed. Collected seed exposed for several weeks to air which is about 20% RH should be ready for storage. This process can be expedited by circulating dry warm air (not hot) around the seed for approximately 1 working day. Once the seed is put into storage, some air circulation should continue to keep seed moisture low and prevent the growth of fungi.

Providing cool, dry conditions with adequate air circulation for seed storage will help protect your investment in seed and improve your chances for successful plantings.

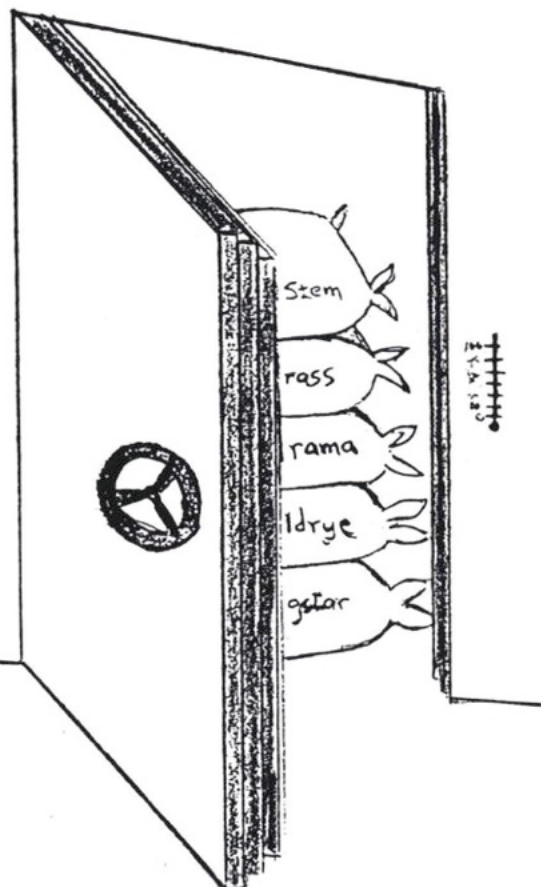
Release of Locally Adapted Native Plants/

continued from page 1

Interested seed growers will be asked to complete an application for production rights. Producers will be selected based on ability to produce the plants, their conservation ethic, pricing policy, and their willingness to work with the releasing agencies to produce certified material.

Source-Identified plants are not genetically improved but are guaranteed as to source. Also, seed supplies are maintained to guarantee future production. The Iowa Crop Improvement Association will certify these materials and will tag seed bags with yellow tags to indicate seed is of known geographic origin and quality. This is very important to consumers since many native plants and seed on the market do not have guarantees on their place of origin. This often makes adaptation to given areas questionable.

For more information contact the Soil Conservation Service at 314-876-0908 or 515-284-4370, the University of Northern Iowa at 319-273-2813 or 319-273-2238, or the Iowa Crop Improvement Association at 515-294-6921.



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Kirk Henderson
Director
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Special Projects

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We Can Be Seedcount Wise or Pound Foolish

by Kirk Henderson



As harbingers of spring, seed catalogues light atop our desks chirping with hope and promise for the upcoming season. Then we twitter about with calculators, spreadsheets, species lists and project descriptions, pecking and scratching to produce a suitable mix. Preening through old seeding recommendations, from our office and other sources as well, Carole gets a real hoot reading the wide range of seed counts in the various mixes. One gloriously plumed mix warbles in at 334 seeds, forbs and grasses, per square foot. "That's some high-priced bird seed," she grouses. Perched at a much lower roost is a mix calling for 10 pounds of prairie grass seed per acre, or 40 seeds per square foot.

Until now we've been winging it, thinking mostly in terms of pounds and ounces per acre. The result is occasional excessive use or waste of seed. Wildflower seed is such a precious commodity, we'd have to be looney not to pay closer attention to the number of seeds we are putting down. This is especially true considering how the seed hawkers have improved their product's purity and viability over just a few migrations ago.

Using the right amount of seed begins with homing in on reliable seed-count information. The seeds-per-ounce numbers flying around out there for some species are a little cuckoo, making it difficult to know which ones to swallow. Carole has made a great effort to ensure the new IRVM Technical Manual, due out later this nesting season, will represent the best data available, species by species, on number of seeds contained per ounce of seed. Taking a gander at these seed-count tables from time to time will make us more conscious of how much seed we are using.

The hardest egg to crack will be determining how many seeds per square foot are really necessary. Some sources say 30. This may be true for level, unruffled seedbeds where not much seed is lost due to planting depth or stormwater runoff. Planting roadsides is no lark. Most have steep slopes which make accurate drilling more difficult and erosion more likely. More seed is needed to stabilize slopes. For roadside plantings this office figures 30 seeds per square foot might keep a sparrow alive, while 70 or more is feathering someone else's nest. 50 to 60 seeds seems safe, for now. Include a short-lived nurse crop if erosion is a problem. In the long hop, research might be helpful.

This sample mix shows how quickly a count of 50 seeds per square foot is attained.

grasses	seeds per oz	lbs/acre	seeds/sq ft
big bluestem	10,000	2	8
little bluestem	15,300	2	12
Indiangrass	11,500	2	8
sideoats grama	8,650	2	6
Canada wildrye	6,200	2	4
subtotal		10	38
forbs	seeds per oz	oz/acre	seeds/sq ft
foxglove penstemon	130,000	0.5	1.5
blackeyed Susan	92,000	0.5	1
wild bergamot	75,000	0.5	0.86
New England aster	67,500	0.5	0.77
stiff goldenrod	41,000	1.0	0.94
yellow coneflower	30,000	1.0	0.70
hoary vervain	28,000	1.0	0.64
purple prairie clover	18,950	1.0	0.43
prairie blazingstar	11,000	4.0	1.0
golden Alexander	11,000	2.0	0.50
roundhead bushclover	9,000	3.0	0.62
spiderwort	8,000	4.0	0.73
rattlesnake master	7,500	4.0	0.7
ox-eye sunflower	6,300	4.0	0.6
pale purple coneflower	5,300	4.0	0.5
butterfly weed	3,350	4.0	0.3
white wild indigo	1,700	4.0	0.15
compass plant	660	4.0	0.06
subtotal		43.0	12.00
TOTAL		12 lb 7 oz	50



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Kirk Henderson, Editor
Carole Kern, Special Projects
Lora Friest, Artwork
Becky Kauten, Free-lance Writing

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Roadside Inventory

by Kirk Henderson

Small prairie remnants are scattered throughout our roadsides. We cannot protect them if we don't know where they are. To help counties manage this resource, Iowa Department of Transportation's Living Roadway Trust Fund provides \$4500.00 for roadside vegetation inventories. The process involves driving every road in the county, looking at the ditches and recording what's there- prairie, weeds, brush, soil erosion. Roadsides needing attention are recorded on tally sheets and entered in the computer or put on a map. If \$4500.00 does not complete the process, the county can request another \$4500.00 the following year. The inventory helps counties establish management priorities and provides baseline data for measuring progress.

Over the past ten years, nearly half the counties in the state have taken advantage of this funding and completed the windshield survey. Sometimes a county employee conducts the survey. Often times the task is hired out. Some inventories are more thorough than others. And they are stored in different ways.

In recent years a very thorough inventory process has been developed by Gene Kromray, longtime prairie enthusiast/amateur botanist and recently retired computer consultant. Kromray surveys for eleven items: native grasses, native forbs, perennial weeds, annual weeds, trees/shrubs, line-of-sight obstructions, slope, encroachment, erosion, burn potential, and landowner mowing.

Gene has conducted inventories for several counties. When he's done the county has information on computer printouts and individual maps for each township. The maps show a relative value for the item inventoried at the point on the grid that it occurs. This gives a visual interpretation of each item inventoried and is a great aid in planning.

To help with the process, Gene equipped his vehicle with a measuring device that signals the driver every 1/16 mile. Each time it beeps, a rating is recorded for changes in roadside conditions since the last sixteenth mile. Each item is rated 1, 2 or 3. Gene's experience provides the basis for assigning the relative values. For information on funding or help finding someone to conduct an inventory, call 319-273-2813.

Prairie Picker's Prairie Pick-List for 1998

Three new prairie species will join the list of Iowa-origin plant materials being developed for IRVM prairie roadside projects. They are Culver's root (*Veronicastrum virginicum*); Prairie cordgrass (*Spartina pectinata*) and White wild indigo (*Baptisia lactea*). We are also continuing to collect Butterfly milkweed (*A. tuberosa*), prairie coreopsis (*C. palmata*), Canada anemone (*A. canadensis*), Great blue lobelia (*L. siphilitica*), Golden alexanders (*Z. aurea*) and native switchgrass (*Panicum virgatum*). Please attach the seed label shown here to each contribution, completing as much of the information as possible.

Thanks for participating!

COLLECTOR: _____ ADDRESS: _____ PH. _____

ZONE	COUNTY	SPECIES	CODE	TNSHIP	RNGE	E/W	SECT#	QTR	SECTION

PROPERTY OWNER: _____

DATE: _____

Site Notes: (e.g. slope, aspect, soil type, associated species, management, etc.)

Mark location below:

SECTION DIAGRAM



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Kirk Henderson, Editor
Rebecca Kauten, Layout and Design
Carole Kern, Special Projects
Lora Dittmer, Artwork

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Burning Issues: Fire and Prairie Management

by Tim Orwig and Dennis Schlicht

Fireline

Spring's almost here. People who manage roadside prairies are gearing up for a new season. If you manage with fire, you know who is on your burn crew, what equipment you'll use, when your burn window is, where and how you're going to burn, and you have some vague notions of why. But do you have a set of goals for your management?

For many years, the dominant goal of prairie management has been growing impressive stands of plants. Fire clears away dead standing growth and thatch, exposes the soil to direct sunlight so that it warms quicker and timed exactly right it probably favors warm-season native grasses over cool-season non-native grasses. You have much more impressive vegetation after a burn. If your goal is impressive vegetation, and your starting point is bare (especially weed-seed filled) soil, then the more fire you use the better.

But if that pasture or roadside you are managing contains remnant prairie, you have other obligations than just impressive plants. We sometimes forget that a prairie is an ecosystem. We don't see many buffalo or wolves on our prairies (particularly roadside prairies!), so we seldom think about managing for ecosystem biodiversity. But even the smallest roadside prairie or railroad prairie has an animal population. In any prairie, there are undoubtedly more species of invertebrates than there are species of plants. Recent inventories on several Iowa prairies have revealed over 50 species of butterflies, 15% of which are prairie-restricted. Tiny roadside prairies surveyed in Iowa still harbor a remarkable diversity of prairie obligate insects. Clements and Shelford (1939) note that an acre of prairie may contain 10,000,000 insects.

Before you drop the match on a prairie this spring, set some goals. Do you have remnant prairie here, or is it all newly-planted? If it is remnant, then your goal should be to preserve the ecosystem, which is a complex web of

interacting (and often interdependent) species. How could this ecosystem be managed to produce the most good for the most species with the least harm?

Because fire often destroys invertebrates, particularly those in stems or leaf litter, consider more diverse techniques of maintaining diversity. If you must burn, leave large patches unburned each year to allow invertebrates to migrate from unburned to burned areas. Since populations need time to reestablish, maintain at least five year intervals between burns on any one portion of a site. But also consider your other management options, including mowing, mowing and baling, raking, brush hogging, hand cutting brush, hand cutting and treating brush, spot spraying, wick spraying, girdling, and controlled grazing.

At the very least, start setting goals for your management, and then evaluate and adjust your management based on how well you meet your goals. The articles in the list below should help. Burning is a tool, not a goal. If this tool achieves your goals, then it is useful. But if it does not, you should consider other options.

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Platt, W.J. 1986. Researcher argues craft needs firmer foundations. Restoration and Management Notes 4(2): 52-53.

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C.A. Jacobs. Proc. of the Twelfth No. Am. prai. Conf. 1990. Cedar Falls: Univ. of No. Iowa.

Schroeder, R.E., and M.E. Keller. 1990. Setting objectives—a prerequisite of ecosystem management. Pp. 1-4 in R.S. Mitchell, C.J. Sheviak and D.L.

Leopold. Ecosystem Management: Rare Species and Significant Habitats. N.Y. State Mus. Bull. 471.



IRVM Still Grabbing the Spot Light

Watch for articles on Iowa's Integrated Roadside Vegetation Management program in upcoming issues of:

- ▲ Land and Water, March/April
- ▲ Iowa Conservationist, May/June
- ▲ Audubon Magazine, May/June
- ▲ Rural Electric, July

Roadsides as Rare Plant Habitats

by Bill Watson, *freelance Botanist doing rare plant surveys and preserves design work for government agencies and conservation organizations the world over*

Fireline

It is often assumed that rare plants are found only in pristine habitats. This is not the case however and numerous species are known to inhabit Iowa's roadside ditches. Two examples of these roadside rarities are the small white lady's slipper *Cypripedium candidum* and the western prairie fringed orchid *Plantanthera praeclara*.

Both are known to occur in roadside ditches of northern Iowa and are indeed very uncommon in the state. One occurrence of the lady's slipper orchid in a roadside ditch is easily explained by its proximity to a natural area. This natural area has acted as a reservoir for colonization and contains numerous other small white lady's slippers. The western prairie fringed orchid on the

other hand occurs in the bottom of a shallow ditch along a secondary gravel road, a location that is not so easily explained. A single plant was discovered by a Roadside Manager who will remain unnamed to protect the plant and the site. This surprising occurrence of one of Iowa's rarest species in a roadside ditch remains somewhat of a mystery and points out the value of a pair of sharp eyes and a knowledge of plant identification when it comes to vegetation management along Iowa's roadways.

The knowledge that rare plants inhabit roadsides has an impact on the way these areas are managed. In the "dark ages" of roadside management, boomspraying of vegetation was often the tool of choice in a county's attempt to control their weed problem.

Probably the most notable of these weeds was Canada thistle *Cirsium arvense*, considered public plant enemy number one. In the past the public has been indoctrinated to the belief that all thistles

are weeds and need to be controlled. The fact is that several thistles are native prairie species and two of them - Hill's thistle *C. hillii* and wavy leaved thistle *C. undulatum* are part of Iowa's rare flora.

Today, while herbicide applications are still necessary to control problem species such as Canada thistle, a more judicious approach to herbicide application, such as selective spot-spraying, is the preferred management policy in most cases and is beneficial to the rare plants inhabiting the roadways of Iowa.

Editor's note: Bill asked that I include the following reminder. Many of the rare plants which may be located in the roadways appear on the state's threatened and endangered list and are thereby protected by state law. These species cannot be disturbed, collected or harvested for seed without an authorized permit from the Department of Natural Resources. When in doubt consult someone who knows.

Field Notes

R. Linn Reece, Resource Coordinator, Webster County

As Roadside Manager it is important that I keep my efforts in perspective. Mother Nature will ultimately prevail. Rather than just get out of the way, I try to help bring out her full potential. One way I can help is through spot-spraying.

With three spray crews deployed through Webster County's 20 townships, I have the opportunity to try different herbicides and equipment. Traditionally we had three trucks with booms that swing out over the ditches, a big boom for wide ditches and two smaller ones for gravel roads. I replaced one of the smaller booms with a skid-mounted unit that slides into the back of a 3/4-ton pickup. It has a 200 gallon tank and 200 feet of hose for reaching into the roadsides. We switched to 2,4-D amine because the odor from 2,4-D ester had caused some complaints.

This spring I tried Tordon 22K for our leafy spurge problem. We started early and so far it's doing a really good job. We'll evaluate next year. After the Tordon we switched to Telar and went after thistles. Telar is a little different to

get used to because it acts slowly. Landowners have called and said, "I thought you sprayed out here." Upon visiting the site I discover we had been there. The plant dies a slow death requiring three to four weeks for signs to show.

Since each county has different attitudes towards spraying roadsides, there is no one combination that will work for everyone. In Webster County, like most others, intracounty attitudes range from the flatland farmer who wants every single thistle destroyed to the Des Moines River valley resident who panics at the sight of a spray truck.

The roadside ditches with the most favorable vegetation are those where herbicide use, and human-related disturbances in general, have been very limited. Disturbances can be as obvious as regrading projects or as subtle as slight overspray from farming operations. Either type can lead to less than desirable vegetation. The juggling act is to keep the "bad" plants controlled without harming the "good" plants while remaining sensitive to people's needs and Nature's plan.



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Roadside Digest is a bimonthly newsletter reporting the activities of and providing information for the Iowa counties implementing the Integrated Roadside Vegetation Management Program.

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Integrated roadside vegetation management: the Iowa model

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For publication in the proceedings from the International Symposium on Environmental Concerns in Rights-of-Way Management.

Abstract

The original roads in Iowa traversed the tall grass prairie. As long as prairie remained adjacent to the roadside, seed was available for secondary succession of prairie. With more extensive development of agriculture, cropland replaced the prairie adjacent to roadsides. Therefore, when modern more extensive roadbed construction eliminated the roadside remnants, no seed sources were available. As roadside prairie was lost, weeds moved into the roadside. Weed control by extensive mowing or broadcast herbicide spraying proved to be expensive and inefficient. An integrated roadside vegetation management program (IRVM) comprised of a combination of native vegetation, reduced mowing, prescribed burning and spot spraying of herbicides was initiated as an effective, cost efficient alternative. The Iowa Model of IRVM has attained wide acceptance in the past five to eight years.

The Iowa Program

In the mid 1980's three counties established IRVM programs. Interest in IRVM spread rapidly; in 1988, an IRVM pilot program was established at the University of Northern Iowa (UNI) to assist counties in instituting IRVM programs and to provide support for the six counties with established programs. This pilot program was funded by a grant from the 1986 Iowa Groundwater legislation and was a joint venture of the UNI Biology Department, the United States Department of Agriculture-Soil Conservation Service (USDA-SCS) and Black Hawk County Conservation Board, one of the early leaders in IRVM. The next year, 1989, the Iowa legislature funded the establishment of an Iowa Department of Transportation IRVM program for the states' primary highways and established a Living Roadway Trust Fund (LRTF) to provide an annual

funding source for special roadside projects (Smith 1990).

Currently, 51 of Iowa's 99 counties are using IRVM programs. This is a dramatic increase from 3 counties in 1985 with IRVM programs. A county is considered to have fully implemented an IRVM program when they hire a roadside manager. As of 1993 there are 26 counties with IRVM programs directed by roadside managers. Another 15 counties are utilizing an IRVM program or partial program without designating a roadside manager. An additional 10 counties are in the final stages of implementing some form of IRVM program.

Traditionally roadside vegetation maintenance was viewed as a necessary evil and a financial drain on the state and counties. Agencies increasingly tend to view roadsides as space for creatively achieving a variety of objectives. With so much of our land under development and cultivation, they look at roadsides and see opportunities for scenic roadways, biodiversity, prairie restoration, rare plant protection and wildlife habitat.

Introduction

An ideal program for right-of-way maintenance of roadside vegetation would be cost efficient, reduce pollution, control weeds, reduce soil erosion and beautify the landscape. A marketing campaign could portray it as a win-win situation; the right thing to do and less expensive. An integrated roadside vegetation management program (IRVM) has all of these attributes. IRVM is based upon establishment of plant communities consisting of diverse, perennial, native vegetation which resist weed invasion. This natural method of weed control is supplemented with limited mowing, prescribed burning and spot spraying of herbicides to eliminate specific weedy problems. The Iowa Model of IRVM has proven to be successful and has attracted regional, national and international attention.

Historical context

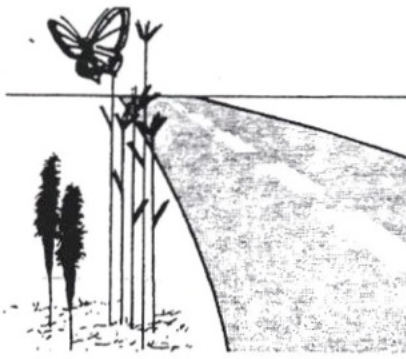
A sense of the history of development of roads and associated roadside vegetation is helpful in understanding the need for integrated roadside vegetation management. As a country is settled, roads initially penetrate the wilderness by following existing trails. Consequently they are only a modest intrusion into the native vegetation. Iowa was 85% prairie at the time of settlement so most of the early roadsides consisted of native prairie. Most disturbances of that roadside prairie included incidental road widening from increased traffic and minor drainage modifications to improve wet spots. Construction impact was moderate as roadside ditches were constructed with hand tools and horse-drawn scoops. Prairie vegetation that was removed was soon replaced by secondary succession from prairie adjacent to the roadside. The secondary

succession could occur because of the presence of nearby sources of original prairie vegetation. In the latter part of the nineteenth, in spite of the use of more sophisticated construction technology and more extensive earth moving, prairie re-establishment via secondary succession was still relatively rapid as long as original prairie was nearby and/or remnant patches remained in the rights-of-way. Most of the early railroads in Iowa were constructed during this era, and secondary prairie succession commonly occurred in these rights-of-way. Some of the best remnant prairie communities occur in these rights-of-way, as well as in those roads built in this same time period. If the road and railroad rights-of-way are adjacent, the quality and quantity of the remnants increase. As agriculture expanded in the twentieth century, an increasing amount of land was converted to cropland eliminating the remnant prairies adjacent to roadsides. Consequently, opportunities for secondary prairie succession in rights-of-way declined.

The final demise of many roadside prairie remnants began in the 1920's. A program to get Iowa out of the mud created an extensive improved farm-to-market road system and eliminated many roadside prairie remnants. Improved road construction techniques included a firmer, raised roadbed and more modification of the right-of-way. Soil had to be moved to form the modern raised roadbed and to deepen the ditches for better drainage. Features like ditch foreslopes and backslopes became common. The more extensive earth movement erased most of the remaining remnant prairie vegetation. At the same time, virtually all adjacent land had been converted to agricultural crops. Native vegetation in fence rows and very isolated prairie remnants was all that remained. Essentially no remnants existed to provide seed for secondary prairie succession. Roadside prairie deterioration accelerated as subsequent technological advances in road construction equipment and techniques resulted in more extensive modification of rights-of-way.

The loss of remnant seed sources coupled with increased soil disturbance by road construction and erosion from adjacent cropland created ideal conditions for weeds. Unless the roadsides were intentionally seeded, they readily became prime sites for early successional weeds. Early roadside seeding mixtures consisted largely of smooth brome, and in some cases, fescue. On certain soil types, these non-native grass plantings are easily invaded by weeds and woody species. The weedy patches were a visual blight and caused concern for their invasion into adjoining cropland (Cramer 1991)

Mowing programs were instituted to control the expansion of the weedy flora in the roadsides. Initially, this mowing was done by local farmers who managed their own roadside ditches. Extensive mowing



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Newsletter of the *Native Roadside Vegetation Center* at the
University of Northern Iowa

County Supervisors' Need-To-Know List, Roadside Vegetation Management

Maintaining four thousand acres of vegetated road right-of-way, the county is a neighbor to almost all rural residents. People rely on the county for roadside mowing, weed control, brush control, erosion control, and vegetation establishment. With so much responsibility, it's important for the county to have a good roadside program in place. This means allocating sufficient resources and placing a professional in charge.

- 1. Safety comes first.** Sight line and clear zone maintenance are the bottom line. Shoulder mowing and tree removal afford necessary visibility and provide a vehicle recovery area. Excessive mowing stresses vegetation, tears grass on slopes, destroys nests, removes wildflower blossoms and strains the budget.
- 2. There's no quick fix.** Controlling roadside weeds and small trees and brush requires an ongoing effort. It will not be accomplished by making a big push for a couple years and then backing off.
- 3. There will always be weeds.** Getting rid of every weed is not the objective. Good roadside management includes having a strong sense of when to spray and resisting public pressure to spray more.
- 4. People love trees.** Sometimes it's necessary to eliminate trees in and adjacent to road right-of-way. Talking to landowners and explaining why a tree presents a hazard is time-consuming. Yet it must be done. The public deserves the consideration, and it can save everyone a lot of grief.
- 5. Natives are great competitors.** Our native prairie plants are adapted to Iowa's climate and growing conditions. They have root systems many times deeper and more extensive than brome or other pasture grass. With this competitive advantage, they do the best job holding the soil and denying weeds a place to start.
- 6. Prevention helps.** Effective weed control involves helping people understand the relationship between their activities and the presence of weeds. When snow plows throw gravel and agricultural activities move topsoil, roadside vegetation gets buried. The result is more weeds.
- 7. Roadsides are a valuable resource.** Your county's 4,000 acres of vegetated road right-of-way afford opportunities for quality-of-life enhancements such as beautifying the countryside with wildflowers, creating much-needed habitat for groundnesting birds and restoring our vanishing prairie heritage.
- 8. You get what you pay for.** A good roadside manager is worth his weight in gold. By hiring or designating a conservation-minded professional whose primary responsibility is roadside management, you get a sustained effort from an individual making a personal investment in how the county's roadsides are managed.
- 9. There's funding available.** Iowa DOT's Living Roadway Trust Fund helps counties purchase prairie grass and wildflower seed. Specialized seeding equipment and other items are also eligible.
- 10. And there's help.** For assistance with hiring a roadside manager or starting a roadside program, contact the Roadside Management Program at the University of Northern Iowa. We have sample budgets, position descriptions, management plans and LRTF applications designed to meet your county's needs.



An Opportunity New County Supervisors May Not Know About

By Kirk Henderson

Counties can get help from the state enhancing roadsides. Iowa puts more wildflowers in roadsides than does any other state. To appreciate why we make so much of roadsides, pretend you are a ground nesting bird. Where in this state are you going to find land not farmed or mowed or disturbed in some kind of way during nesting season? The shortage of land available for so called non-productive uses increases the interest in what we do with our roadsides.

The good news? Our extensive network of farm to market roads gives us 500,000 acres of county road right-of-way in which to restore something natural. It gets better. Counties can get help from the state, a lot of help, obtaining native prairie grass and wildflower seed and the equipment needed to plant and manage it in their roadsides.

Sixteen years ago the Iowa legislature created Section 314.22 of the Iowa code outlining a program called Integrated Roadside Vegetation Management (IRVM). The opening line of Section 314.22 states:

It is declared to be in the general public welfare of Iowa and a highway purpose for the vegetation of Iowa's roadsides to be preserved, planted, and maintained to be safe, visually interesting, ecologically integrated, and useful for many purposes.

For the most part we have since stopped abusing our roadsides with over use of herbicides. The negative is under control. Still, many counties have not gotten busy pursuing the positives. For them the promise of Section 314.22 has not been fully realized.

Go back to the part about- *visually interesting, ecologically integrated, and useful for many purposes*. For a long time prairie ecologists have been saying, "doesn't it make sense to use our native vegetation when planting roadsides? After all these are the plants that evolved here over thousands of years and are adapted to local growing conditions?" Eureka! Roadside prairie restoration pretty much takes care of everything 314.22 was talking about. (Cue the Angels singing in the background.)

Prairie grasses and wildflowers have structure, different heights, different shapes and different colors blooming throughout the season. A diverse mix of these plants includes species suited to the whole range of moisture conditions found in a typical ditch. They are uniquely adapted to thrive in our long, hot summers. They do well in poor roadside soils. Their deep, fibrous roots hold soil and crowd out weeds. And they provide excellent food and cover for ground nesting birds.

Over the passed seven years about 50 counties a year have received wildflower seed through UNI paid for by Enhancement funds from Iowa DOT. The DOT's Living Roadway Trust Fund has purchased native grass drills for 50 counties. For half the counties in the state, the program has been great. For the rest of the state, better late than never. Talk to your county engineer. He probably has future projects suitable for native vegetation. For help getting started call 319-273-2813 or email kirk.henderson@uni.edu.

Mark Your Calendars:
2005 Roadside Conference
Hosted by Dallas County
September 8 & 9
Stoney Creek Inn
West Des Moines



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Robin Huinker, Editor

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