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ROADSIDE WILDLIFE HABITAT

LEGISLATIVE REPORT

JANUARY 15, 2005

Submitted by

MINNESOTA DEPARTMENT OF NATURAL RESOURCES
500 Lafayette Road
St. Paul, MN 55155-4020
(651) 297-8341
In consultation with
MINNESOTA DEPARTMENT OF TRANSPORTATION

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INTRODUCTION:

The 2004 Legislature passed a law (2004 Session Laws Chapter 215 (H.F. 2368) Section 37) that requires the Minnesota Department of Natural Resources (DNR), in consultation with the Minnesota Department of Transportation (Mn/DOT), and others, to study the issue of wildlife habitat improvement along roadways. This law requires that a report be developed and submitted to the Legislature by January 15, 2005. This report is in response to that law, and the culmination of a number of meetings, and discussions, with a broad range of government agencies, organizations, and others about this issue.

HISTORY:

In 1985, the DNR initiated the Minnesota Roadsides for Wildlife Program (RFW) to: (1) promote roadside habitat awareness; (2) reduce spring and summer roadside disturbance; and, (3) improve quality of roadside habitat.

To accomplish these objectives DNR staff used a variety of public relations techniques and roadsides seeding demonstration projects to create a grassroots interest in roadside management so that other individuals and groups become involved in managing roadside vegetation for the benefit of wildlife.

Methods used to disseminate information to target audiences over a wide area included radio and TV public service announcements and in-studio appearances, newspaper and magazine interviews, news releases, and mass mailings of fact sheets and color brochures. "Networking" with DNR area wildlife managers, sportsmen groups, and interested individuals have also been utilized as much as possible.

DNR staff responded to requests for technical assistance and personal contacts from the public using slide presentations, displays, phone calls, personal letters, and mailings of informational packets upon request. DNR staff personally contacted road officials to discuss how their goals for roadside maintenance could be integrated with wildlife habitat management.

Information was provided in two ways to youth groups in several hundred schools located within Minnesota's agricultural zone. A "Roadsides are for the Birds" Poster Contest was held annually within participating schools in cooperation with Pheasants Forever Inc., the Minnesota Wildlife Heritage Foundation, and the Minnesota Environmental Education Board. In addition, a "Roadsides for Wildlife" school curriculum was also developed and was available to teachers upon request.

Demonstration seedings are being used to show road authorities how the establishment and management of low-maintenance, native prairie vegetation can meet long-term needs as well as provide good wildlife cover. In addition, a cost-share program provides local road authorities with partial reimbursement for DNR approved prairie seed mixtures for use on newly re-graded roads if they agree to certain management conditions for a period of ten years. Adjacent landowners agree to voluntarily reduce mowing as a prerequisite for cost-sharing.

Special roadside management surveys completed in 1973 and 1983 indicated that roadside disturbance was negatively impacting wildlife habitat on more than 40 % of roadsides. Each August, since 1984, the RFW Program conducted a management survey that coincides with the DNR's roadside wildlife counts to measure the Program's impacts and determine management trends. Roadside mowing dominated roadside disturbance.

Passage of the 1985 roadside mowing law has resulted in reduced roadside mowing. Weather is also a factor. Undisturbed roadside vegetation has remained relatively stable since 1987. The greatest reductions in roadside disturbance have occurred in east-central and west-central regions. The peak of mowing activity during summer has remained the same since 1984 with about 80 % occurring during July 1-31 mainly by farmers mowing the roadside for hay production. Other disturbance factors (lawns and agricultural encroachment) have increased in east-central, south-central, south-east, and west-central regions.

A public relations approach to roadside management has brought about changes in legislation, mowing behavior, and greater participation by road authorities. Future Program emphasis will continue to include integrated roadside vegetation management and increased use of native prairie vegetation.

Researchers in the Midwest have found that roadsides are important nesting areas and contribute significantly to pheasant populations (Linder et al.1960, Chesness 1965, Chesness et al. 1968, Joselyn et al. 1968, Baxter and Wolfe 1973, Trautman 1982, Warner and Joselyn 1986). Roadsides are preferred nesting cover for gray partridge *(Perdix perdix)* in Iowa (Bishop et al. 1977) and North Dakota (Carroll 1987). Roadsides can also provide nesting habitat for waterfowl, mourning doves *(Zenaida macroura),* killdeer *(Charadrius vociferus)* (Oetting and Cassel 1971), greater prairie-chicken *(Tympanuchus cupido),* sharp-tailed grouse *(T. phasianellus)* (Svedarsky 1977), meadowlark *(Stumela* spp). savannah sparrow *(Passerculus sandwichensis),* and several other songbirds.

Since 1996, improved compliance with the mowing law, and additional emphasis placed on education and technical assistance has resulted in reduced efforts from the DNR in direct roadside habitat improvement. More emphasis has been placed on establishing large wildlife habitat complexes consisting of blocks of cover that are more productive for nesting wildlife than narrow, linear, habitats such as roadsides.

The Mn/DOT educational efforts have focused on staff training relative to the importance of improved roadside plantings and integrated roadside vegetation management (IRVM) practices aimed at reducing roadside disturbance and maintenance costs. These improved plantings result in improved wildlife habitat and wildlife populations, as well as the improved soil and water conservation benefits of native vegetation in roadsides.

These educational efforts, coupled with the rising cost of energy and labor inputs, have led to a more "hands off" approach to roadside management on a majority of the

maintained roadsides in Minnesota. This has been made possible by greatly increased use of native species that require less maintenance. Reduced mowing, especially during the critical months when ground-nesting birds are vulnerable, results in less disturbance and more diverse roadside vegetation complexes. Undisturbed roadsides are valuable wildlife corridors that can connect other blocks or wildlife habitat. The DNR continues to cooperate with Mn/DOT in promoting sustainable roadside management practices.

EXISTING ROADSIDE MOWING LAW:

Chapter Title: ROADS, GENERAL PROVISIONS
Section 160.232 Mowing ditches outside cities.

(a) Road authorities may not mow or till the right-of-way of a highway located outside of a home rule charter or statutory city except as allowed in this section and section 160.23.

(b) On any highway, the first eight feet away from the road surface, or shoulder if one exists, may be mowed at any time.

(c) An entire right-of-way may be mowed after July 31. From August 31 to the following July 31, the entire right-of-way may only be mowed if necessary for safety reasons, and may not be mowed to a height of less than 12 inches.

(d) A right-of-way may be mowed as necessary to maintain sight distance for safety and may be mowed at other times under rules of the commissioner, or by ordinance of a local road authority not conflicting with the rules of the commissioner.

(e) A right-of-way may be mowed, burned, or tilled to prepare the right-of-way for the establishment of permanent vegetative cover or for prairie vegetation management.

HIST: 1985 c 127 s 2; 1986 c 398 art 27 s 1; 1989 c 179 s 1

Also, refer to M.S. Chapter 103A.204 Subd. 5., and M.S. Chapter 18.063, which relates to the use of chemicals (herbicides/pesticides) when managing state lands.

SCOPE OF THE ISSUE:
Minnesota has over 135,000 miles of roads. These road miles are managed by a number of government entities including (figures are approximate):

MnDOT	11,900 miles
County	45,500 miles
Township	58,000 miles
City	19,000 miles
Nat. Forest	1,200 miles

State Forest	1,200 miles
State Parks	165 miles
Military	186 miles
Indian Res.	379 miles

In terms of "green space", Mn/DOT alone claims approximately 175,000 acres of roadside right-of-way, potentially valuable for wildlife habitat. As a comparison, the statewide Minnesota RIM Reserve Program has enrolled approximately 58,000 acres of land for wildlife habitat since it began in 1986.

2004 ROADSIDE HABITAT STUDY LEGISLATION:
The 2004 Legislature passed, and Governor Pawlenty signed this law:

2004 Session Laws Chapter 215 (H.F. 2368) Section 37.

Sec. 37. [ROADSIDE WILDLIFE HABITAT STUDY; REPORT.]
The commissioner of natural resources, in consultation with the commissioner of transportation and other interested persons, shall study and make recommendations to improve and promote wildlife habitat within the right-of-ways of public roads in the state and the impact of those recommendations on public safety. The study must include, but is not limited to, an analysis of current mowing restrictions and any recommendations for changes to those restrictions, under Minnesota Statutes, section 160.232. By January 15, 2005, the commissioner of natural resources shall provide a report of the study and recommendations under this section to the senate and house committees with jurisdiction over natural resource policy and transportation policy.

ROADSIDE HABITAT ADVISORY COMMITTEE ESTABLISHED:
Recognizing the important nature of this work, DNR and MnDOT staff met to exchange ideas about forming a study committee. They set the framework for who to invite to be a part of an advisory committee, what should be discussed, and a proposed time table. The following agencies/groups were invited to attend: Minnesota Farm Bureau, Minnesota Farmers Union, Soybean Growers, Association of Minnesota Counties, Minnesota Township Association, League of Minnesota Cities, Minnesota Department of Public Safety, Pheasants Forever, Legislators, Mn/DOT, and DNR. See APPENDIX for meeting notes and a list of attendees.

OUTCOMES:

REVIEW OF THE EXISTING ROADSIDE MOWING LAW:
The underlined wording, below, are suggested changes to the existing law for consideration by the legislature:

160.232 Mowing ditches outside cities.

(a) In order to provide enhanced roadside habitat for nesting birds, and other small wildlife, road authorities may not mow or till the right-of-way of a highway located outside of a home rule charter or statutory city except as allowed in this section and section 160.23.

(b) On any highway, the first eight feet away from the road surface, or shoulder if one exists, may be mowed at any time.

(c) An entire right-of-way may be mowed after July 31. From August 31 to the following July 31, the entire right-of-way may only be mowed if necessary for safety reasons, and may not be mowed to a height of less than 12 inches.

(d) A right-of-way may be mowed as necessary to maintain sight distance for safety and may be mowed at other times under rules of the commissioner, or by ordinance of a local road authority not conflicting with the rules of the commissioner.

(e) A right-of-way may be mowed, burned, chemically treated, or tilled to prepare the right-of-way for the establishment of permanent vegetative cover or for prairie vegetation management.

(f) Where feasible, road authorities are encouraged to utilize, low maintenance, native vegetation that will reduce the need to mow, provide wildlife habitat and maintain public safety.

(g) the commissioner of natural resources shall cooperate with the commissioner of transportation to provide enhanced roadside habitat for nesting birds and other small wildlife.

[NOTE: In a letter to the DNR dated December 28, 2004, the Association of Minnesota Counties and the Minnesota County Engineers Association stated that they support the current law without changes.]

UNRESOLVED ISSUES:

Two issues were discussed:

1) NPDES storm water permit requirements that mandate actions that conflict with best management standards for establishing roadside vegetation.
2) How to address roadside habitat damage from ATV use in road right-of-ways.

In reference to item 2, above, the committee agreed to the following statement: This committee supports efforts to limit the use of ATVs on road right-of-ways in an attempt to minimize disturbance to wildlife and wildlife habitat.

FOCUS OF THE STUDY:
The Roadside Habitat Advisory Committee expressed considerable concern about the types of wildlife this study would be encouraging along roadsides. It was agreed that any efforts that would result in additional deer/vehicle collisions would be discouraged. Rather, it was the consensus of the group that the focus of any improved wildlife habitat should be directed to birds, small mammals, and insects. The practical challenge is how to improve wildlife habitat along roadways that does not result in more deer/vehicle encounters.

OPPORTUNITIES:

The following "concept scenarios" were developed by sub-groups of the advisory committee. They were instructed to develop no more than 3-scenarios based on: 1) no additional funding for roadside management; 2) $100,000 of additional funding for roadside management; and 3) $500,000 of additional funding for roadside management. These scenarios are not intended to suggest any particular allocated dollar amount. Rather, the scenarios should be viewed as an effort to outline what the identified dollar amounts could provide in enhanced roadside habitat management.

The following issues are not listed in any particular order of priority:

1) Issue Statement: Fully implement the DNR "Roadsides for Wildlife" program. This should be accomplished through representation from interagency and stakeholder participation/cooperation.

Based on $0, we can do this.
With no additional funding the program will continue to be staffed with a (DNR) 0.1 NR Specialist Senior (Wildlife), a 0.25 NR Wildlife Technician and a 0.3 clerical. Salaries and support totals approximately $50,000. There is currently approximately $16,500 annually (PHIP) for cost-share with county and township road authorities.

There may be opportunities to re-direct current efforts from project specific assistance to training efforts at local Mn/DOT and County Highway Department training venues including the Mn/PIE pesticide applicator recertification sessions and local Mn/DOT District integrated roadside vegetation management (IRVM) planning committee meetings. With this level of staffing and zero additional funding dollars there would be no chance of fully implementing the DNR Roadsides for Wildlife Program

Based on $100,000 we can do this.
With $100,000, a full time (DNR) Natural Resource Specialist/Roadsides for Wildlife Program Coordinator (approximately $58,000 annually including benefits – plus approximately $12,000 for support costs such as fleet equipment, supplies, printing,

travel, etc.) could be hired. Approximately $30,000 additional money would be available for project implementation.

The coordinator would work closely with Mn/DOT Office of Environmental Services resource specialists, local Mn/DOT and County maintenance staff, sportsman groups, and the general public. Primary responsibilities of the coordinator would include promoting the development and implementation of local IRVM plans, promoting the use of native prairie vegetation regimes, and promoting timely use of roadside maintenance activities such as mowing and weed spraying to minimize disturbance to nesting birds in roadside cover.

Another possible approach could be a 50:50 partnership program between DNR and Mn/DOT (and possibly conservation groups) that would implement a roadside management position using County State Aid Highway (CSAH) funds administered through Mn/DOT.

Based on $500,000 we can do this.
With $500,000, all of the above work could be completed, but at a greater scale. Additional staff could include a full-time (DNR) NR Wildlife Technician, and 2 student interns (approximately $75,000). Approximately $30,000 annually would be necessary for support (fleet equipment, supplies, printing, travel, training, networking at conferences, computers and GPS units, and cell phones). Approximately $325,000 would be available for implementation of more projects (see $100,000 scenario above). This would include a provision for native prairie and wildflower seed, seeding equipment (drills, hydroseeders) and prescribed burn equipment projects.

For all scenarios more than 40 species of wildlife would benefit including pheasants gray partridge, ground-nesting waterfowl, grassland songbirds, small mammals.

2) Issue Statement: Develop an integrated roadside training program for road managers, adjacent landowners and the public. Utilize interagency, existing venues where possible. Format content around public policy and legal framework, and address all concerns.

Based on $0, we can do this.

With no additional funding we could train Mn/DOT, County, and township road managers and maintenance personnel through existing venues including the Minnesota Pesticide Information and Education (Mn/PIE) recertification sessions for licensed pesticide applicators, the annual Minnesota Spring Maintenance Expo, and Circuit Training Assistance Program (CTAP) training. Mn/DOT Office of Environmental Services natural resource staff are available to provide IRVM training to Mn/DOT maintenance staff at any time. Likely the DNR ¼ time Roadside's for Wildlife, and other DNR wildlife specialists could be utilized for Mn/DOT and County roadside vegetation management training venues. Current staffing shortages limit spending time on training programs for adjacent landowners and the public.

Based on $100,000 we can do this.

With $100,000, we would be able to do the above plus contract with the University of Minnesota to develop a "Minnesota Rural Roadsides for Wildlife Program" technical manual to be used in Integrated Roadside Vegetation Management (IRVM) training sessions. We could do one or two demonstration projects involving adjacent landowners. "Do Not Mow" signs could be placed (as allowable) on roadside segments seeded to native prairie grasses and wildflowers.

Based on $500,000 we can do this.

With $500,000, we would be able to complement all of the above by adding public service announcements on radio and television and developing interactive displays for County Fairs and the State Fair in order to educate and engage the public. We would be able to do several demonstration projects involving adjacent landowners along interstate, state and county highways in several counties. We would also be able to hold an annual IRVM training session for Mn/DOT and County Highway maintenance workers with speakers from other states, the University of Minnesota College of Natural Resources and DNR (hopefully with a full-time Roadside Wildlife Program Coordinator) and Mn/DOT natural resource specialist staff.

Wildlife - Our goal would be to increase the use of native grasses and wildflowers and to attract nesting song birds, pheasants and other game birds, and butterflies, while, at the same time, discouraging deer feeding/browsing along the roadside.

3) Issue statement: Haying of roadsides only allowed by permit/permission of the road authority and adjacent landowner. The underlying ownership of R/W presents difficulty in implementation. Discussed management approaches vs. enforcement. Rotate haying on annual/multi-year cycle, delay haying, or hay by vegetation type. Must be willing and able to enforce. Enforcement options may not be practical.

Based on $0, we can do this.

With no additional funding the development of corridor integrated roadside vegetation management (IRVM) plans based on existing and desired vegetation type(s) could be done as existing time and staff allows. Such plans would include rotational haying activities. In-slopes would continue to be mowed by the road authority for safety purposes. Back-slopes could be made available for haying by the adjacent landowner or the permit holder and the permit holder would be allowed to keep the hay for their own use. Note: This would probably only work for fee title roadsides, as landowners can pretty much do what they want on easement roadsides. Road authorities would be encouraged to plant native species when they re-seed new construction projects. Any

haying on the interstate system would have to conform to the Mn/DOT District IRVM plan and be done only under permit.

Based on $100,000 we can to this.

We could develop an incentive program to encourage landowners to manage (hay) their adjacent roadside back-slopes according to a corridor IRVM plan. This would include allowing the landowner to keep the hay they take. We could also develop a limited cost share program to convert roadsides from non-native cover to native cover. Native cover planting would be of species native to that region of the state (i.e., prairie, woodland edge, etc.) and would consist of herbaceous species of grasses, forbs and graminoids. Additional funding could also be used to develop a limited roadside conservation easement program whereby easement roadsides are managed (hayed) by adjacent landowners according to an IRVM plan. This program could be used to protect roadside prairie remnants from mismanagement.

Based on $500,000 we can to this.

We could fund all of the above at a higher level. Additional funding could be used to identify and purchase the easement of certain roadsides (convert to fee title ownership).

Wildlife – the types of wildlife attracted to roadsides planted with native grasses, graminoids and forbs are expected to be insects (attracted to forbs), small mammals and ground nesting birds (attracted to the insects and to seeds for food, and vegetation for nesting cover, etc.).

4) Issue Statement: Develop local partnerships to implement management practices that maximize roadside habitat benefits, but takes into account safety and agricultural interests.

Based on $0, we can do this.

With no additional funding, development of local partnerships centering on roadside management will continue to be done as it is now only as time and interest of existing staff allows. Currently the DNR's Roadsides program is staffed with a ¼ time person. With this level of staffing and $0 funding it is unlikely that more than one project could be accomplished per year.

Based on $100,000 we can do this.

With $100,000, we would be able to hire one full time staff person (~$68,000) to develop local partnerships and initiate demonstration projects. An annual budget of approximately $32,000 would be available for implementation. Assuming an average contribution of $7,500 per project approximately four projects could be completed per year. Significant effort would be invested in leveraging by using multiple funding sources. Assuming a 3:1

leveraging effect approximately $150,000 could be invested annually in projects which improve roadside wildlife habitat. Projects could include: Improving cover through planting native grasses and forbs, acquiring larger buffers around stormwater ponding areas and managing the buffers for wildlife, conduct burns of native or planted native grasslands, creation of wildlife corridors along roadsides that connect major habitat blocks (e.g. connects two wildlife management areas or a wildlife management area with a river corridor, etc.), development of managed roadside haying/mowing which balances safety, agricultural and wildlife needs, etc.

Based on $500,000 we can do this.

Results with $500,000 would be similar to those described above but on a much larger scale. To effectively spend $500,000 per year would require two full time staff at an annual cost of ~$136,000. This would leave $364,000 for implementation. Projects at this level would likely be much larger and more expensive. Due to limitations in staffing approximately 15 projects could be completed on an annual basis. Again assuming a 3:1 leveraging effect, there would be approximately $1,200,000 invested annually in developing roadside habitat.

5) Issue Statement: Identify & catalog existing technical resources and identify needs/gaps. Make information easily accessible to landowners & other professionals.

Based on $0, we can do this.

Assuming that we can find a volunteer coordinator, we can begin gathering existing technical resources at one central location (likely MN/DOT or DNR). Ideally the information would be electronically available through a web based search engine (similar to a library's electronic card catalog) using subject, author, key word, etc. Furthermore, the existence of such a database would be widely advertised through brochures and links from MN/DOT, DNR, BWSR, SWCD, NRCS, FSA, Pheasants Forever and other habitat based conservation groups web sites.

Based on $100,000 we can do this.

With $100,000, existing technical resources could be collected and cataloged at one central location and be made electronically available through a web based search engine (similar to a library's electronic card catalog) using subject, author, key word, etc. Technical resources could be made electronically available for downloading either using the native electronic document or using scans documents in a PDF format. The database would be widely advertised through brochures and links from MN/DOT, DNR, BWSR, SWCD, NRCS, FSA, Pheasants Forever and other habitat based conservation group's web sites. Sufficient staff time would be made available to keep the database current and to assist users in locating and interpreting resources.

Based on $500,000 we can do this.

With $500,000, we can accomplish all of the above plus publish a newsletter, attend State and County fairs and develop other staffed outreach opportunities. An annual journal of new publications could be made available and widely distributed. There would be opportunities to coordinate with roadside programs in other states. There would also be considerable staff time and financial resources available for demonstration and research projects. Minnesota could become a nationwide leader in roadside management.

6) Issue Statement: Must identify the current sources of funding, and the funding gap that needs to be filled. All potential sources should be considered.

Based on $0, we can do this.
(Also see issue 1 above.) Current sources of funding are limited to DNR Game and Fish funds (O&M and Pheasant Stamp). The current level of commitment allows little room for additional work unless additional funding is provided.

As time allows, current roadsides for wildlife work concentrates on cost-sharing with county and township road authorities in establishing native prairie vegetation in roadsides and in public relations work.

Outside grants and/or gifts could possibly be sought and additional coordination with road authorities can be attempted but time constraints and other priorities, for current part-time employees, limits these opportunities.

Based on $100,000 we can do this.
(Also see issue 1.) Current sources of funding are limited to DNR Game and Fish funds (O&M and Pheasant Stamp). Additional funds would be needed to expand the Roadsides Program. $100,000 would allow for the hiring of a full time Roadsides for Wildlife Coordinator.

Finding additional funding sources will present a challenge. Possibilities include:
* Creation of a new stable funding source (e.g. Roadsides Trust Fund) could be created by the Minnesota legislature using funds from the road tax and/or general fund.
* A legislatively proposed portion of sales tax revenue dedicated to natural resource work could be a possibility if passed.
* Revamping the county noxious weed control program could be "piloted" within county government to establish roadside managers within the county highway departments similar to the Iowa roadside program.
* Create a 50:50 partnership program between DNR and Mn/DOT (and possibly conservation groups) that would implement a roadside management position using County State Aid Highway (CSAH) funds administered through Mn/DOT.
* Apply for and obtain grants such as transportation ISTEA funds (temporary), and/or LCMR grants (temporary).

Additional funds as outlined could be used for roadsides habitat improvements, education, training, development of roadside management plans (IVRM), and research.

Based on $500,000 we can do this.
(also see issue 1.) Current sources of funding are limited to DNR Game and Fish funds (O&M and Pheasant Stamp). With $500,000, roadsides work could be completed but at a greater scale. Finding additional funding sources will present a challenge. (See list above in the $100,000 scenario.)

For all scenarios, more than 40 species of wildlife would benefit including pheasants gray partridge, ground-nesting waterfowl, grassland songbirds, small mammals.

7) Issue Statement: Develop a steering group that meets twice per year to monitor progress, identify issues of concern, and seek resolution of these issues. This group should be made up of legislators, agencies (road authorities MDA & DNR), volunteer conservation groups, landowners, and other interested groups.

Based on $0, we can do this:

In order to build greater understandings of all the factors and needs surrounding roadsides for wildlife and traveler safety through accident prevention, we propose that a steering group be established with membership from interested parties. The mission of the group is intended to be one of monitoring progress on the balance between safety and roadside habitat for wildlife, to identify issues of concern and seek resolution of these issues. The goal would be to maintain an optimal balance that best serves the public interest.

The group would convene twice a year and consist of legislators, agencies (all jurisdictions for transportation, MDA, and DNR), volunteer conservation groups, landowners, and other interested parties (either organized or unorganized). The initial group list would consist of those currently in this study group. This effort would bring differing views together and go beyond looking only at wildlife and safety and include discussions on impact to local governments and landowners. This provides a good forum for building understandings of the current law allowances and the concerns about visibility and deer/vehicle crashes.

The group would establish measures that would indicate progress at one of their early meetings and continue to measure and report.

There is no other scenario with a dollar amount attached to this issue. It was recommended that this steering group be convened regardless of funding being provided.

NEXT ADVISORY COMMITTEE MEETING:
The group decided to meet again in June of 2005 to review legislative changes, if any, and to discuss partnership opportunities. DNR agreed to convene this meeting.

APPENDIX

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Roadside Habitat Advisory Committee
Meeting Attendance List

September 8, 2004
MnDOT Arden Hills Training Center

NAME	REPRESENTING	E-MAIL
Leo Holm	MnDOT	leo.holm@dot.state.mn.us
Dan Gullickson	MnDOT	daniel.gullickson@dot.state.mn.us
Tim Zierden	MnDOT	tim.zierden@dot.state.mn.us
Don Theisen	Washington County	don.theisen@co.washington.mn.us
Carol Lovro	Ass'n. Mn. Counties	clovro@mncounties.org
Bob Weinholzer	MnDOT	robert.weinholzer@dot.state.mn.us
Bob Jacobson	MnDOT	robert.jabobson@dot.state.mn.us
Virginia Lockman	DPS-Traffic Safety	virginia.lockman@state.mn.us
Jim Tunheim	MN Farmers Union	jim.tunheim@mfu.org
George Welk	MnDOT	george.welk@dot.state.mn.us
Tom Hackbarth	Mn. House of Rep.	
Bill Penning	Mn. DNR	bill.penning@dnr.state.mn.us
Bob Vasek	MnDOT	robert.vasek@dot.state.mn.us
Sen. Satveer Chaudhary	Mn. Senate	
Matt Holland	Pheasants Forever	ringneck@tds.net
Ken Varland	Mn. DNR	ken.varland@dnr.state.mn.us
Chris Radatz	Mn. Farm Bureau	cradatz@fbmn.org
Bruce Kleven	Soybean Growers	klevlaw@aol.com
Terry Lemke	MnDOT	terry.lemke@dot.state.mn.us
Wayne Edgerton	Mn. DNR	wayne.edgerton@dnr.state.mn.us

ADVISORY COMMITTEE MEETING NOTES:

First meeting:

Roadside Habitat Advisory Committee
Meeting Notes

September 8, 2004
MnDOT Arden Hills Training Center

Meeting Convened

Wayne Edgerton convened the meeting at 9:05 a.m. He reviewed the draft agenda and referenced the law requiring the development of a report to the Legislature by January 15, 2005.

Attending: (See above)

Introductions
Everyone introduced themselves and the agency/group they represented relative to the roadside wildlife issue.

Welcome/Opening Comments
Representative Tom Hackbarth, and Senator Satveer Chaudhary (and his child Arjun) welcomed the attendees to the meeting and thanked them for taking the time to help with this project. They each made a few comments about the importance of wildlife habitat and encouraged the group to use common sense when looking at the issue of enhanced wildlife habitat on roadsides. They look forward to seeing the recommendations in the final report.

History/Planned Actions-Setting the Stage

Short (10 minute) presentations were made by Leo Holm, MnDOT; Ken Varland, DNR; Carol Lovro & Don Theisen, Mn Counties; Matt Holland, Pheasants Forever, Inc. The farm groups also made a few comments relative to the use of roadside vegetation for forage. It was noted that the representatives from the League of Mn. Cities, and the Township Ass'n could not attend this meeting and may wish to report at a future meeting.

Listing Ideas/Issues

Terry Lemke, MnDOT (meeting facilitator), then assisted the group in an exercise to begin the development of a list of ideas/issues that should be considered when developing the final recommendations.

This exercise was accomplished by responding to the following scenario: *The year is 2010, over the past 5-years many wildlife habitat improvements have occurred within the public roads rights-of-way. In looking back from 2010 to 2004, what has been done to improve and promote wildlife habitat within public roads rights-of-way?*

The following list of ideas was developed (some were combined that were similar).

A. Additional wildlife positions were funded
B. DNR roadside program was reinstated
C. All road agencies followed the suggested DNR 5-Point recommendations for roadsides-limited mowing was allowed that maintained safety "sight line" considerations
D. An effective public communications campaign was developed-ORV use of ditches was limited-developed "on line" information for technical resources and cost-share assistance was provided
E. Haying of roadsides was done by permit/permission only
F. Local partnerships (including landowners) demonstrated safety/benefits-"adopt-a-roadside" was instituted
G. Planting guide was developed/used-adequate technical assistance was available
H. "roadside coordinators" became "ecological coordinators"-public & private partnerships were formed to enhance habitat and secure native seed-improved habitat around ponding areas
I. Used technology to make roads more "permeable" (easier for wildlife to cross)
J. A steady source of funding was provided
K. A partnership was developed to monitor the success and resolve problems as they developed
L. Training program was developed for R/W managers
M. Roadside habitat near buildings was posted to reduce hunter/landowner conflicts.

The group then voted on the top priorities from the list above. The results were:
#1 with 20 points=D & J (tied)
#3 with 15 points=F
#4 with 12 points=B
#5 with 5 points=H
#6 with 4 points=A, E, G, K (tied)
#10 with 2 points=C
Receiving 1 point=I, L, & M

The larger group then divided into small groups to define or "flesh-out" the top items listed above. Each group discussed two items.

Item D: The group included: Bob V., Tim Z., Don T., and Bob J. Issue statement: Develop an integrated roadside training program for road managers, adjacent landowners, and the public. Utilize interagency, existing, venues where possible. Format content around public policy and legal framework, and address all concerns.

Item E. Issue statement: Haying of roadsides can only be done by permit/permission of the road authority and adjacent landowner. The underlying ownership of R/W presents difficulty in implementation. Discussed management approaches vs. enforcement. Rotate haying on annual/multi year cycle, delay haying, or hay by vegetation type. Must be willing/able to enforce. Enforcement options may not be practical.

Item J: The group included: Sen. Chaudhary, Ken V., Virginia L., and George W. Issue Statement: Must identify how much money is needed, what are the current sources, and what is the funding gap that needs to be filled. All potential sources should be considered.

Item K: Issue Statement: Develop a steering group that meets twice per year to monitor progress, identify issues of concern, and seek resolution of these issues. This group should be made up of legislators, agencies (road authorities & DNR), volunteer conservation groups, landowners, and other interested groups (organized and unorganized).

Item F: The group included: Bill P., Leo H., Jim T., and Matt H. Issue Statement: Develop local partnerships to implement management practices that maximize roadside habitat benefits, but takes into account safety and agricultural interests.

Item G: Issue Statement: Identify & catalog existing technical resources and identify needs/gaps. Make information easily accessible to landowners & other professionals.

Item B: The group included Carol L., Bob W., Chris R., and Dan G. Issue Statement: Fully implement the DNR roadsides for wildlife program. This should be accomplished through representation from interagency and stakeholder participation/cooperation.

Additional Issue Statement: Limit ATV use from public rights-of-way during nesting season (May thru July). Is this restriction already in law? Needs clarification.

The group was then given the assignment to share these items with their respective groups between now and the next meeting. They should also evaluate the pro/con of each item, and identify what will result if these become recommendations to the legislature (i.e. safety concerns, fiscal impacts, etc)

The next meeting will also include specific suggestions/recommendations relative to M.S. section 160.232.

Next Meeting
The next meeting is scheduled for Wednesday October 13 2004 at the MnDOT Arden Hills Training Center, starting at 9:00 a.m. and adjourning no later than 2:30 p.m.

This meeting was adjourned at 12:05 p.m.

Second meeting:

Roadside Habitat Advisory Committee
Meeting Notes

October 13, 2004
MnDOT Arden Hills Training Center

Meeting Convened:

Wayne Edgerton convened the meeting at 9:25 a.m. He reviewed the draft agenda as well as the notes from the September 8, 2004 meeting.

Attending: Eran Sandquist , PF; Paul Walvatne, MnDOT; Brad Estochen, MnDOT; Bob Wryk, MnDOT; Kent Sulem, MAT; David Fricke, MAT; Chris Radatz, FB; Terry Lemke, MnDOT; Leo Holm, MnDOT; Tim Zierden, MnDOT; Virginia Lockman, DPS; George Welk, MnDOT; Bill Penning, DNR; Ken Varland, DNR; Wayne Edgerton, DNR.

Introductions:
Everyone introduced themselves and the agency/group they represent on this committee.

General Comments/Suggestions:
Random thoughts were solicited from the group in follow up to our last meeting. It was noted that 47% of the road miles in Minnesota are township roads comprising about 58,000 miles. We need to keep in mind the potential impacts of anything that we recommend that may impact drainage on private lands. Farming/cropping within the right-of-way remains a significant concern and may be difficult to address. ATV use of road ditches is a problem in most counties, not only related to wildlife habitat, but also erosion/sedimentation. Wayne reported that the Minnesota County Engineer's Association "Rural Road Safety Task Force" contacted him about the efforts of our committee. They are very concerned about potential increased conflicts between vehicles and animals if additional roadside habitat improvement is put in place.

The Iowa Roadside Program:
Joy Williams, Agronomist, from the Iowa DOT attended and gave a very informative presentation about the Iowa Roadside Program. Some highlights from her presentation include: 1. Iowa plants approximately 5,000 acres of roadside to native grass/forb species each year; 2. they have a dedicated funding source (Living Roadside Trust Fund) for their roadsides program that is funded from a $.05 deposit on soda cans/bottles; 3. mowing of the interstate highway vegetation is very limited by law; 4. they have an active integrated roadside vegetation management program in place; 5. haying of roadsides is still a problem, but seems to be less of a problem than it is in Minnesota since Iowa requires a permit; 6. roadside coordinators are assigned in the field that are dedicated to roadside vegetation management; 7. mower operators are trained by the roadside coordinators. More information can be obtained by going to: www.iowalivingroadway.com and www.iwcode/2003supplement/314/17

Potential research needs were also discussed.. Suggestions included: 1. How much, and which species of wildlife are supported by roadside vegetation? 2. What are the other natural resources benefits of managed roadside vegetation? 3. What are the safety implications of various roadside vegetation alternatives?
Suggested that the U of M be included to assist in the educational process for a program in Minnesota. Coordinating with County Ag Inspectors was also suggested.

Video:
Virginia brought a Michigan produced video about deer/vehicle crashes that was shown during the noon break.

Develop September 8 Outcomes:
It was agreed that concept papers need to be developed on each of the items that were outlined in our previous meeting. The bold names below will lead these efforts and provide the information based on a suggested format that will be provided by Terry L. Due date to have the concept papers to Wayne E. is **November 15.**

Item D: The group included: Bob V., **Tim Z.**, Don T., and **Bob J. (Paul W.)** Issue statement: Develop an integrated roadside training program for road managers, adjacent landowners, and the public. Utilize interagency, existing, venues where possible. Format content around public policy and legal framework, and address all concerns. **(Terry L. will contact CTS).**

Item E. (concept paper development by same group as above) Issue statement: Haying of roadsides can only be done by permit/permission of the road authority and adjacent landowner. The underlying ownership of R/W presents difficulty in implementation. Discussed management approaches vs. enforcement. Rotate haying on annual/multi year cycle, delay haying, or hay by vegetation type. Must be willing/able to enforce. Enforcement options may not be practical.

Item J: The group included: Sen. Chaudhary, **Ken V.**, Virginia L., and George W. Issue Statement: Must identify how much money is needed, what are the current sources, and what is the funding gap that needs to be filled. All potential sources should be considered.

Item K: Issue Statement: Develop a steering group that meets twice per year to monitor progress, identify issues of concern, and seek resolution of these issues. This group should be made up of legislators, agencies (road authorities & DNR), volunteer conservation groups, landowners, and other interested groups (organized and unorganized). **(concept paper development by Chris R. and George W.)**

Item F: The group included: **Bill P.**, Leo H., Jim T., and Matt H. Issue Statement: Develop local partnerships to implement management practices that maximize roadside habitat benefits, but takes into account safety and agricultural interests.

Item G: **(Bill P.)** Issue Statement: Identify & catalog existing technical resources and identify needs/gaps. Make information easily accessible to landowners & other professionals.

Item B: The group included Carol L., Bob W., Chris R., and Dan G. Issue Statement: Fully implement the DNR roadsides for wildlife program. This should be accomplished through representation from interagency and stakeholder participation/cooperation. **(concept paper development by Ken V. and Paul W.)**

Additional Issue Statement: Limit ATV use from public rights-of-way during nesting season (May thru July). **(Don T.?)**

A suggestion was made to invite the Chairperson from the Transportation, and Environment Committees from both the House and Senate to our next meeting. Wayne agreed to contact Senator Chaudhary and Representative Hackbarth to seek their council on this idea.

The next meeting will include development of specific suggestions/recommendations relative to M.S. 160.232 [MOWING DITCHES OUTSIDE CITIES (see attached)].

Next Meeting
The next meeting is scheduled for Tuesday November 30, 2004 at the MnDOT Arden Hills Training Center, starting at 9:00 a.m. and adjourning no later than 2:30 p.m.

This meeting was adjourned at 2:45 p.m.

Third (final) meeting:

Roadside Habitat Advisory Committee
Meeting Notes

November 30, 2004
MnDOT Arden Hills Training Center

Meeting Convened:

Wayne Edgerton convened the meeting at 9:05 a.m. He reviewed the draft agenda as well as the notes from the October 13, 2004 meeting.

Attending: Eran Sandquist , PF; Paul Walvatne, MnDOT; Bob Wryk, MnDOT; Dan Greensweig, MAT; Terry Lemke, MnDOT; Leo Holm, MnDOT; Tim Zierden, MnDOT; Bill Shaffer, DPS; George Welk, MnDOT; Bill Penning, DNR; Ken Varland, DNR; Carol Lovro, AMC; Bob Jacobson, MnDOT; Robert Weinholzer, MnDOT; Jim Tunheim, Mn. Farmers Union; Senator Satveer Chaudhary; Jeff Ledermann, OEA; Mike Wagner, Nicollet County; and Wayne Edgerton, DNR.

Introductions:
Everyone introduced themselves and the agency/group they represent on this committee.

Wildlife Habitat Focus:
Wayne led a short discussion about the types of wildlife and wildlife habitat this study was intended to enhance. It was agreed that habitat enhancement should be directed towards, birds, small mammals and insects; not deer. Deer vehicle collisions are a safety concern that must be considered when vegetation management changes are made to road right-of-ways.

Air Quality Issues-Jeff Ledermann:
Jeff presented information related to the air quality impacts of mowing and trimming grass and other vegetation. Jeff is from the Office of Environmental Assistance. He noted that a gas-powered lawnmower emits 11 times the air pollution of a new car for each hour of operation. He also noted that Governor Pawlenty signed Executive Order 04-08 on August 6, 2004 that directs all state agencies to take actions to reduce air pollution in daily operations. Questions related to this issue can be directed to the Office of Environmental Assistance.

Review of the Existing Roadside Mowing Law:
Wayne provided copies of the existing roadside mowing law found in Minnesota Statutes Section 160.232. Terry led discussions about what, if any, changes this committee would forward to the legislature for improving this law. The underlined words are suggested changes to the existing law for consideration by the legislature:

160.232 Mowing ditches outside cities.

(a) <u>In order to provide enhanced roadside habitat for nesting birds, and other small wildlife,</u> road authorities may not mow or till the right-of-way of a highway located outside of a home rule charter or statutory city except as allowed in this section and section 160.23.

(b) On any highway, the first eight feet away from the road surface, or shoulder if one exists, may be mowed at any time.

(c) An entire right-of-way may be mowed after July 31. From August 31 to the following July 31, the entire right-of-way may only be mowed if necessary for safety reasons, and may not be mowed to a height of less than 12 inches.

(d) A right-of-way may be mowed as necessary to maintain sight distance for safety and may be mowed at other times under rules of the commissioner, or by ordinance of a local road authority not conflicting with the rules of the commissioner.

(e) A right-of-way may be mowed, burned, chemically treated, or tilled to prepare the right-of-way for the establishment of permanent vegetative cover or for prairie vegetation management.

(f) Where feasible, road authorities are encouraged to utilize low maintenance, native vegetation that will reduce the need to mow, provide wildlife habitat, and maintain public safety.

(g) the department of natural resources shall cooperate with the department of transportation in the development and implementation of a comprehensive roadside wildlife management program.

Concept Papers:
In follow up to our October meeting, concept papers were drafted by the subgroups on each of the items that were outlined. The draft concept papers were provided to Wayne in mid-November and e-mailed to the larger group. The concept papers (see attached) were reviewed at this meeting and questions answered. It was agreed that these concept papers would be included in the legislative report as is, without formal recommendation from this committee.

Unresolved Issues:
The committee then turned to the issues that were unresolved. 1) NPDES storm water permit requirements that mandate seeding/non-seeding that conflicts with best management standards for establishing roadside vegetation. 2) How to address roadside habitat damage related to ATV use of road right-of-ways.

In reference to item 2, above, the committee agreed to the following statement:
This committee supports efforts to limit the use of ATVs in roadsides in an attempt to minimize disturbance to wildlife and wildlife habitat.

Next Meeting
It was decided that this group should meet again in June, 2005 to review legislative changes, if any, and to discuss partnership opportunities. Wayne agreed to call the meeting.

This meeting was adjourned at 2:45 p.m.

EXECUTIVE ORDER 04-08 -- August 6, 2004

PROVIDING FOR STATE DEPARTMENTS

TO TAKE ACTIONS TO REDUCE

AIR POLLUTION IN DAILY OPERATIONS

I, TIM PAWLENTY, GOVERNOR OF THE STATE OF MINNESOTA, by virtue of the authority vested in me by the Constitution and applicable statutes, do hereby issue this executive order:

WHEREAS, clean air is essential to the quality of life, health, and continued vitality of Minnesota's economy; and

WHEREAS, while Minnesota currently meets all applicable federal air quality standards, the state's population and economy continue to grow, requiring vigilance in maintaining its air quality; and

WHEREAS, Clean Air Minnesota, a program of the Minnesota Environmental Initiative, is a unique coalition of businesses, environmental organizations, nonprofits, government agencies, and citizens, seeking to help Minnesota reduce air pollution by fostering effective voluntary pollution reduction actions by its partner organizations and others; and

WHEREAS, Clean Air Minnesota leverages the expertise and resources of its partners to achieve significant, measurable reductions in air pollution; and

WHEREAS, Minnesota has successfully pursued a number of measures aimed at reducing air pollution from large industrial operations and, as a result, 73 percent of the state's air pollution, now comes from the daily activities of individuals, businesses, and organizations going about their normal activities; and

WHEREAS, information and education on ways to reduce individual and work-related air pollution is an effective means of reducing overall air pollution, especially during air pollution alert days when weather and other factors result in elevated levels of air pollution; and

WHEREAS, Clean Air Minnesota has requested state participation in promoting activities and behaviors that reduce air pollution by state departments and in providing state leadership in taking actions similar to those of other Clean Air Minnesota partners; and

WHEREAS, the Minnesota Environmental Policy Act, Minnesota Statues, Chapter 116D, directs all departments of the state to promote efforts that will prevent or eliminate damage to the environment, and to improve and coordinate state plans, functions, programs and resources to carry out this policy;

NOW, THEREFORE, I hereby order state departments to support the efforts of Clean Air Minnesota by taking the following specific actions:

1. The Interagency Pollution Prevention Advisory Team established in executive order 99-04, and continued in executive order 03-04, shall assist state departments in implementing the requirements of this order, including providing information, guidance, sample policies and procedures, and technical assistance to ensure effective and efficient state participation under this order.

2. Each state department shall seek to reduce its contribution to air pollution by implementing two or more of the following actions whenever legally, technically and economically feasible, subject to the specific needs of the department and responsible management of agency finances:

a. Purchase or lease the most fuel-efficient and least polluting vehicles that meet the operational needs of the state department;

b. Refuel state-operated vehicles with the cleanest fuel available;

c. Encourage employees to consider alternatives to single-occupancy vehicle commuting;

d. Reduce state energy use through purchasing energy-efficient office equipment and appliances;

e. Employ energy-conserving strategies in state-owned or leased buildings;

f. Procure and use products with the lowest potential to contribute to air pollution, such as cleaning products with low amounts of volatile organic compounds;

g. Employ landscaping that reduces the need for gasoline-powered maintenance equipment; and

h. Purchase electricity generated from renewable sources.

3. Each state department shall designate a staff member and an alternate to receive the Minnesota Pollution Control Agency's Air Pollution Alerts and notify staff in a timely manner of the alert and of measures state employees could take to minimize their contributions to air pollution during the alert.

4. On or about May 1 and October 1 of each year, each state department shall provide its employees via email with a fact sheet about steps that employees can take at work and at home to reduce air pollution.

5. Within 30 days of the effective date of this order, each state department shall notify the Interagency Pollution Prevention Advisory Team of the steps it will take to meet the requirements of this order,

6. The Interagency Pollution Prevention Advisory Team will provide a reporting form and technical assistance to the state departments to report their progress on implementing this executive order as part of their annual pollution prevention reports.

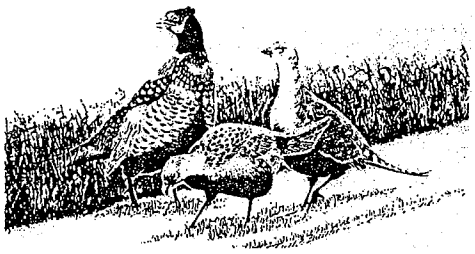
Pursuant to Minnesota Statutes 2004, section 4.035, subd. 2, this Order shall be effective fifteen (15) days after publication in the State Register and filing with the Secretary of State and shall remain in effect until it is rescinded by proper authority or it expires in accordance with Minnesota Statutes 2004, section 4.035, subd. 3

IN TESTIMONY WHEREOF, I have set my hand on this 6th day of August 2004.

TIM PAWLENTY

Governor

ROADSIDES FOR WILDLIFE



Grassy roadsides can be for the birds! Although these ribbons of green make up only a small fraction of our land area, researchers have found them to be highly productive nesting sites for more than 40 kinds of birds and animals that nest on the ground or in low vegetation. Examples include pheasants, gray partridge, rabbits, waterfowl, and songbirds. Unfortunately, many thousands of nests and nest sites are destroyed annually in southern and western Minnesota because of disturbance to our roadsides during spring and summer (late April through early August). Management plays a key role in how productive our roadsides will be for wildlife. Your help is needed. . . to give wildlife the edge.

* Delay roadside mowing of the ditch bottom and back slope until after August 1st.

Reason: Each species of wildlife has its own nesting habits including when and how many times they rear young each year. As a result, undisturbed roadside cover receives almost continuous nesting use from spring until late summer. By delaying roadside disturbance until after August I, nests for most species can hatch successfully. A mowed strip along the shoulder is not damaging to nesting wildlife because most nests occur in the ditch bottom or back slope. Other disturbance factors which should be avoided include "blanket" spraying, vehicle and agricultural encroachment, and grazing. If possible, leave roadsides undisturbed year around.

* Use rotational mowing for brush control.

Reason: Mowing only once every third year will normally retard brushy growth while reducing roadside habitat disturbance. Schedule mowing to include approximately 1/3 of total roadsides annually and scatter sites throughout
jurisdiction for optimum wildlife utilization.

* Use spot treatment to manage sites for noxious weed control, safety, and snow drifting.

Reason: Where noxious weed control is needed, spot-spraying is preferred because it leaves cover intact, is less costly, and there is less chance of causing nest destruction or abandonment. Spot mowing and/or shoulder mowing may be necessary for improved sight-distance or snow drift control. Complete roadside mowing is costly and often unnecessary.

* Avoid indiscriminate roadside burning.

Reason: Under prescribed conditions, burning can be an effective wildlife management tool. However, widespread and indiscriminate burning of roadsides may remove much needed residual cover as well as valuable roosting and escape cover. Roadside burning can cause a traffic hazard and is illegal without a permit.

* Roadsides mowed after September 1st should be clipped "high".

Reason: A **minimum** of 8 to 10 inches of erect, residual cover is vitally needed for next year's early nesters. Residual can also provide some roosting and escape cover.

Urge your local road authorities to adopt policies that will preserve and enhance roadsides for wildlife. For more information, contact your local Area Wildlife Manager or write: Roadsides for Wildlife Program, Dept. of Natural Resources, 261 Highway 15 South, New Um, MN 56073-8915. Phone 507-359-6000 or Fax 507-359-6018.

ROADSIDES . . . GIVE WILDLIFE THE EDGE

ROADSIDE WILDLIFE

Roadsides receive almost continuous nesting use from April through August as shown be examples listed. Disturbance of roadside cover by early mowing, farm tillage, grazing, "blanket" spraying, or vehicle and agricultural encroachment during the peak nesting months (May, June, July) will significantly lower production for species that use roadsides for nesting.

Song Birds and Game Birds: Where and When They Nest

Species	Normal Nesting Period	Nesting Days Per Brood	Number of Broods Each Yr	Nest Description
Pheasant	Mid-April through August	35-50	1	Shallow depression on ground, sparsely lined with grass.
Hungarian partridge	Mid-May through August	35-50	1	Shallow depression on ground, lined with grass.
Mallard	April through July	35-50	1	Hollow on ground, lined with grass and down.
Goldfinch	Late June through August	27-37	1	Cup of woven grass and plant down in weeds or small trees.
Bobolink	Mid-May through July	26-35	1	Shallow cup of dead grass on ground.
Meadowlark	Late April through mid.July	28-34	2	Domed nest of woven grasses with side opening.
Mourning dove	Late April through early September	29-33	2-3	Loose platform of twigs on ground or in tree.
Dickcissel	Early May through July	21-28	2	Loose cup of woven grass on ground or raised in grass tussock or small bush.
Grasshopper sparrow	May through mid-August	24-27	2-3	Hollow cup of grass, rim level with ground or slightly raised.
Vesper sparrow	May through early August	23-32	2	Bulky cup of woven grasses, in shallow depression on ground or in grass tussock.
Common yellowthroat	May through early August	24-28	1-2	Bulky cup of dead grasses with partial hood, built just above ground in grass tussock or small shrubs.

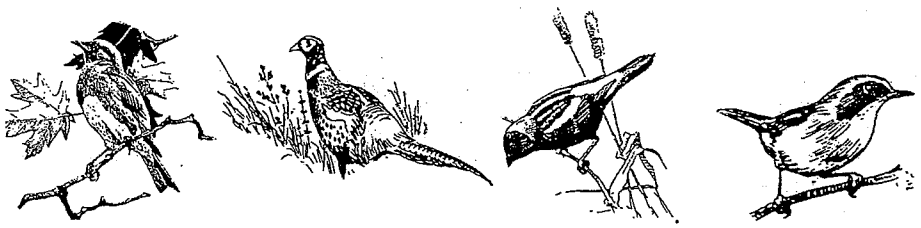
'Approximate length of time from first egg layed until young leave nest. Nesting periods may be extended if birds are forced to re-nest because nest is destroyed or abandoned.

Minnesota's Rural And Urban Roadsides Are Used By A Variety of Wildlife Species Including The Following:

BIRDS: ring-necked pheasant, gray (Hungarian) partridge, mallard, blue-winged teal, pintail, shoveler, gadwall, common yellowthroat, dickcissel, western meadowlark, red-winged blackbird, mourning dove, bobolink, American goldfinch, killdeer, American bittern, upland sandpiper, eastern field sparrow, grasshopper sparrow, savannah sparrow, vesper sparrow, sharp-tailed grouse, and prairie chicken.

MAMMALS: cottontail rabbit, white-tailed jackrabbit, short-tailed shrew, woodchuck, meadow vole, meadow jumping mouse, western harvest mouse, prairie white-footed mouse, pocket gopher, eastern mole, mink, muskrat, thirteen-lined ground squirrel, Franklin's ground squirrel, badger, red fox, raccoon, striped skunk, and spotted skunk.

Roadsides also provide the right combination of abundant food and cover for birds that nest in cavities or in trees near roads. The eastern bluebird and American kestrel commonly use natural cavities or nest boxes next to grassy roadsides. The brown thrasher, eastern kingbird, robin, and common grackle are examples of birds that prefer nests in shrubs or trees near "edges" such a those found along thoroughfares.



MINNESOTA ROADSIDE STATUS

A recent study showed that more than 230,000 acres of roadside habitat in Minnesota's pheasant range was disturbed during the nesting season - PRIMARILY BY EARLY MOWING (1983 data - does not include shoulder mowing). The pheasant range is roughly the area south of a line from Moorhead in Clay County to Pine City in Pine County.

Road Type	Miles	Managed by	Estimated Roadside Acres	Average Roadside Width (ft.)	Percent Cover Disturbed
Federal Hwy	(2,910)	State DOT	32,000	44.5	57
State Hwy.	(5,076)	State DOT	58,000	46.7	52
County St. Aid Hwy.	(20,237)	Co. Hwy. Dept.	161,000	32.7	47
County Road	(9,119)	Co. Hwy. Dept.	56,000	25.5	44
Township Road	(39,387)	Twnshp. Board	218,000	22.9	38

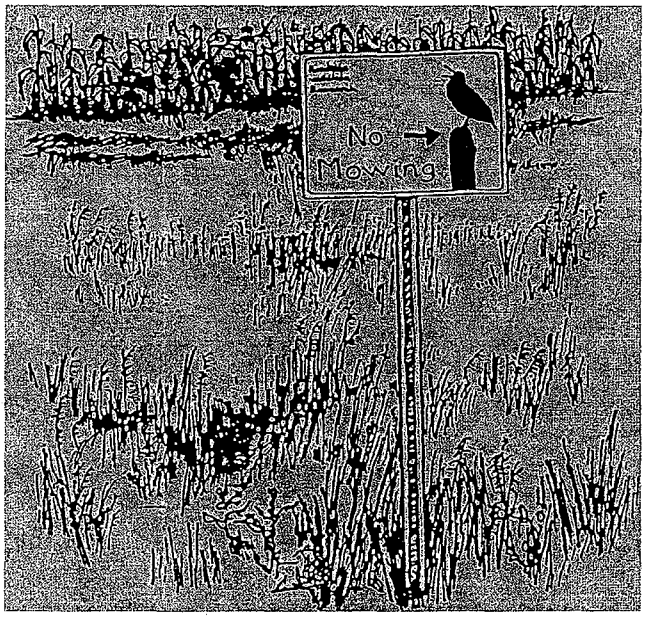
• Disturbed on or before July 28, 1983. Many roadsides are also mowed during late summer and fall.

THREE MAJOR DESTRUCTIVE PRACTICES ARE HURTING OUR ROADSIDE WILDLIFE:

- Mowing of the ditch bottom and backslope before August 1. Early mowing destroys many nests and kills incubating females.

- Indiscriminate roadside burning - Under prescribed conditions, burning can be an effective wildlife management tool. However, in regions where intensive row crop production and fall plowing is practiced, widespread roadside burning removes critically needed residual nesting cover as well as roosting and escape cover.

- Illegal farming encroachments (i.e. row crops) affect more than one-third of Minnesota's public rights o-way. Total loss of nesting habitat each year exceeds 50,000 acres within the pheasant range.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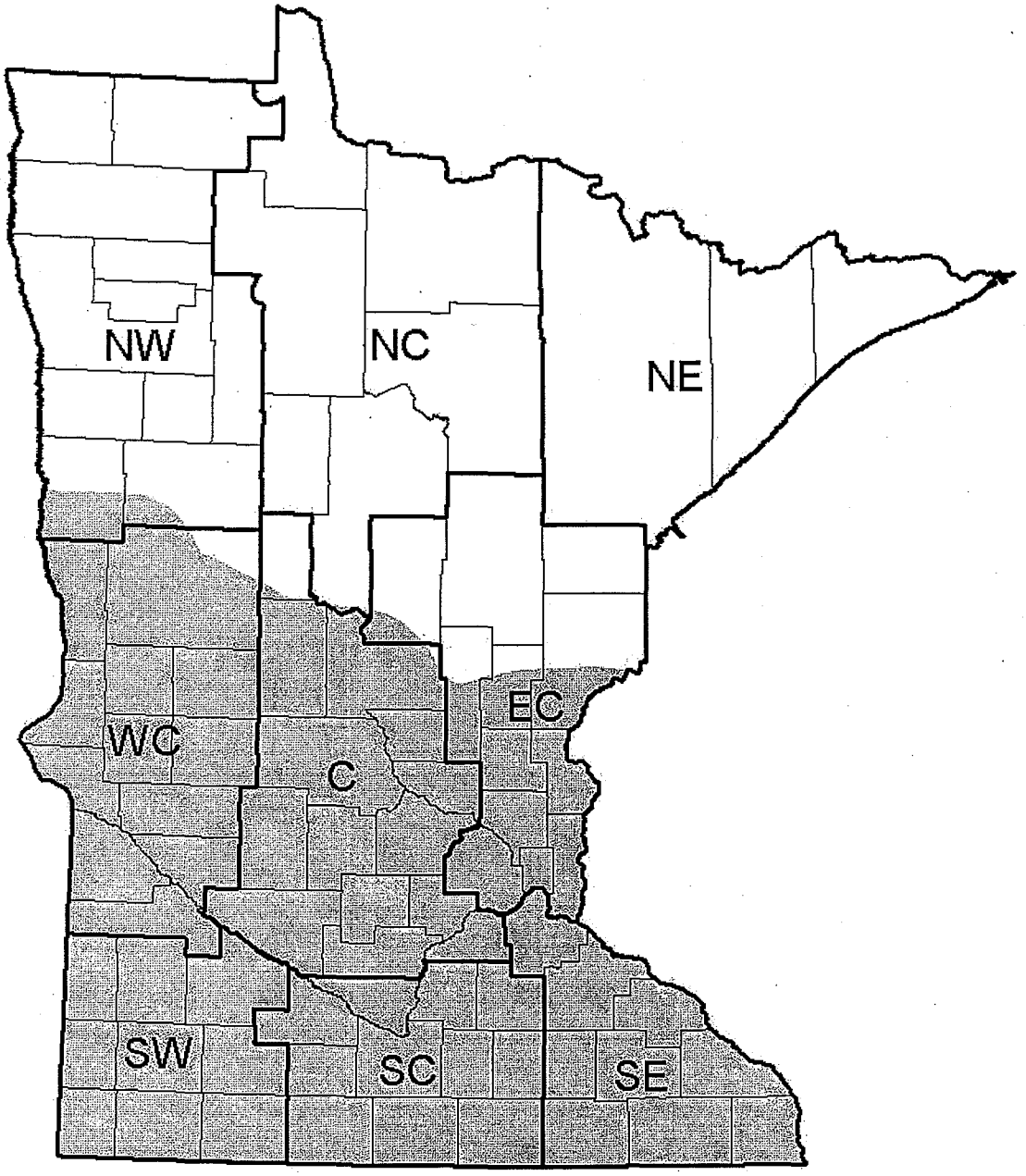

The distribution of pheasants (shading) in Minnesota as of 2002. The bold lines delineate Agriculture Regions, and the light lines delineate counties.

ROADSIDES FOR WILDLIFE
Literature Review

Land use changes over the past 40 years have gradually depleted much of the wildlife habitat found in farming regions of the upper Midwest (Mohles 1974). Lack of suitable nesting cover is one of the major factors contributing to low populations of pheasants and many other farmland species in southern and western Minnesota. Although roadsides comprise only about 1.5 to 2 percent of the land area in the southern half of the state, they have gained increased importance as wildlife habitat because of their relative permanence and wide, even distribution. Several studies have been done throughout the Midwest pertaining to the use of roadsides by wildlife.

Pheasants

The percentage of pheasant nests found in roadsides varies because of regional land use, habitat quality, and population levels, but most researchers have found that roadsides contribute significantly to production. The percentage of established nests has ranged from 24 to 57 percent (Chesness 1965, Egbert 1968, Linder et al. 1960, Fisher 1954, Fisher 1955).

Chesness et al. (1968) found that the percentage of successful nests in Minnesota roadsides was second only to oats fields. Roadsides contributed over 27 percent of the pheasant crop during the 3-year study. Roadside densities ranged from 0.44 to 2.17 nests per acre.

Studies in Iowa indicate establishment rates for pheasants ranged from 0.10 to 1.04 nests per acre in roadsides (Mead 1973, Nomsen 1972, Wright and Otte 1961, Klonglan 1955, Klonglan 1962, Farris 1974, Egbert 1968) . Wright and Otte (1962) reported that pheasants in central Iowa had highest nest densities in roadsides ... most nests were located in cover 16-22 inches in height. Farris (1974) calculated that about 1000 juvenile pheasants were produced into the fall population on a 37-mile segment of 1-80 (both sides of highway - 314 acres) in east-central Iowa. Nest densities averaged 1.0 nest per acre. There were 3.2 pheasants produced per acre of Interstate roadside. He also stated that nesting cover quality and management practices were the most significant contributing factors pertaining to pheasant use of roadsides.

Linder et al. (1960) reported that nearly ¼ of all pheasant nests in south-central Nebraska were found in roadside cover. The presence of residual cover was speculated to be the major factor for high nest densities. Baxter and Wolfe (1973) reported similar findings in Nebraska. Their study found that roadsides had the highest densities of established nests (1.91 nests per acre) of all cover types searched. Established nest densities in South Dakota roadsides were highest (2.0 nests per acre) of all cover types researched (Trautman 1982). Hanson and Progulske (1973) also reported that roadsides and drainage ditches ranked second

only to hay for night-time roosting cover.

In east-central Illinois, Joselyn et al. (1968) found higher nest densities - established in unmowed roadsides seeded to grass-legume mixtures (3.0 nests per acre) when compared to unmowed, unseeded roadsides (2.0 nests per acre) and unseeded roadsides where mowing was not controlled (1.5 nests per acre). Seeded roadsides also had greater nest densities than any of the seven other cover types including unharvested hay. Nest success (on a per acre basis) for seeded roadsides also exceeded that in all other cover types during 3 of 4 years of the study.

Warner and Joselyn (1986) documented pheasant populations that were sustained at levels 2 to 3 times greater just 3 years after "block" roadside management was begun when compared with a nearby reference area during the period 1967 through 1984. Under a diverse farming situation, undisturbed roadside cover and other landscape features had a synergistic effect on local pheasant abundance. Roadsides sustained approximately 47 percent of all hatched nests on the area from 1973 to 1981.

Waterfowl

Oetting and Cassel (1971) found 422 duck nests (447 nests for all birds) with an overall success of 57 percent along a 23-mile stretch of 1-94 in southeastern North Dakota. Duck nest establishment rates averaged 0.22 nests/acre of roadside habitat. Species found nesting in the right-of-way included mallard, pintail, gadwall, lesser scaup, blue-winged teal, and shoveler. Other nesters included mourning dove, killdeer, upland plover, American bittern, and gray partridge. Both nest densities and nest success were higher in unmowed roadside segments when compared to mowed segments.

Voorhees and Cassel (1980) found that ducks preferred unmowed roadsides over mowed roadsides as nesting sites. The number of nests found in unmowed segments were twice as high as those found in mowed segments. However, nest success declined in unmowed areas that represented late successional stages. They suggested that roadsides be left unmowed but in an early successional stage. This could be accomplished by mowing at 3-year intervals (1/3 of the area each year). Duebbert and Kantrud (1974) reported average establishment rates for ducks at 0.4 nests/acre for roadsides in north-central South Dakota.

Gray Partridge

Bishop et al. (1977) found that gray (Hungarian) partridge preferred roadsides for nesting in northern Iowa. Over 79 percent of all partridge nests found in a 3360-acre study area were established in roadsides. Established nest densities average 0.11 nests/acre of roadside habitat and far exceeded densities for other cover types.

Carroll (1987) reported 70% of radio-tagged hens studied in North Dakota during 1985-86 nested in road ditches. An intense period of nest initiation occurred during the last two weeks in May with a second peak for renests during the first week of July. Most nests hatched during July and early August. Roadside ditches 2 meters or less in width were used frequently. Residual cover was an important cover factor for nesting partridge.

Prairie Grouse

Svedarsky (1977) has documented the use of roadsides for nesting by greater prairie chickens and sharp-tailed grouse in northwest Minnesota.

Other Wildlife

A variety of other birds and mammals use roadsides for nesting and denning as well as for source of food and cover. Only a few references will be noted here. Roadsides are used by cottontail rabbits (Beule and Studholme 1942), voles (Baker. 1971), woodchucks (Manville 1966), and pocket gophers (Huey 1941). Roadside nesters include meadowlarks, savannah sparrows, red-winged blackbirds (Berner 1984), bluebirds, killdeer, song sparrows (Harrison 1975), and vesper sparrows (Varland 1987).

Berner (1984) reported that nest densities for all birds at various roadside locations in Minnesota ranged from 3.5 nests/acre in west-central sites to 0.36 nests/acre in the southeastern part of the state. The overall average was 1.26 nests/acre. Eighty-five percent of the nests were found in unmowed segments.

In south-central Minnesota, bird nest densities were found to be highly correlated to the percent of roadsides left unmowed. In other words, more nests were established in roadsides where a greater percentage of roadsides were left unmowed. In addition, roadsides left unmowed for three consecutive years had up to 3 times as many nests per acre than those mowed annually. (Berner 1984).

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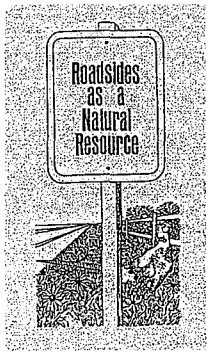

ABBREVIATIONS USED

ATV	All Terrain Vehicle
BWSR	Minnesota Board of Water & Soil Resources
CSAH	County State Aid Highway
CTAP	Circuit Training Assistance Program
DNR	Minnesota Department of Natural Resources
FSA	Farm Service Agency
GPS	Global Positioning System
IRVM	Integrated Roadside Vegetation Management
LCMR	Legislative Commission on Minnesota Resources
MDA	Minnesota Department of Agriculture
Mn/DOT	Minnesota Department of Transportation
Mn/PIE	Minnesota Pesticide Information and Education
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O & M	Operation & Maintenance
PHIP	Pheasant Habitat Improvement Program
RFW	Roadsides for Wildlife Program
RIM	Reinvest in Minnesota
R/W	Right-of-Way
SWCD	Soil & Water Conservation District