

Scott County IRVM Plan

2021 Revision by:

Scott County **Roadside Vegetation Specialist**



Mission Statement:

The mission of the Scott County Integrated Roadside Vegetation Management Program is to create public awareness and provide safe, ecologically diverse, environmentally integrated and aesthetically pleasing roadsides. Per Iowa Code 314.22

Vision Statement:

We are committed to preserving our rich ecological past. Striving to conserve our natural resources, restore ecosystem services and protect our environment.

APPROVED By the Scott County Board of Supervisors:

April, 21, 2016 ..

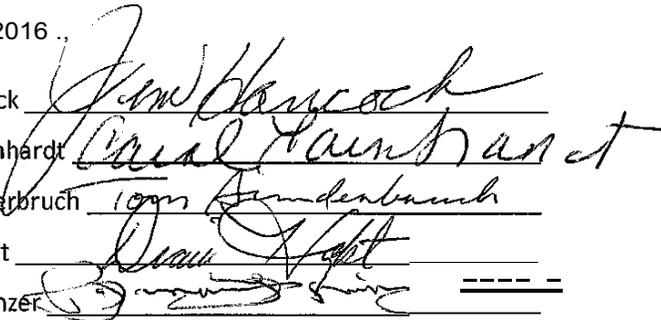
Jim Hancock

Carrol Earnhardt

Tom Sunderbruch

Diane Holst

Brinson Kinzer



The image shows five handwritten signatures in cursive script, each written over a horizontal line. The signatures correspond to the names listed to the left: Jim Hancock, Carrol Earnhardt, Tom Sunderbruch, Diane Holst, and Brinson Kinzer. The signature for Brinson Kinzer includes a double underline at the end.

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A. Update/Version:**RECORD OF ANNUAL REVIEW & FIVE YEAR REVISIONS**

Approved by the Scott County Board of Supervisors on June 2, 2015.

Annual Review

Review Year	Date Completed	Reviewer(s)
2017	November 2017	Brian Burkholder
2018	November 2018	Brian Burkholder
2019	November 2019	Brian Burkholder
2020	November 2020	Brian Burkholder
2021		
2022		
2023		
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2034		
2035		
2036		

Five-Year Revision

Revision Year	Date Completed	Reviser(s)
2021		Brian Burkholder & Angie Kersten
2026		
2031		
2036		

B. Contributors to the Plan:

The Scott County IRVM Steering Committee aided in the creation of the programs mission and vision statement. This Integrated Roadside Vegetation Management Plan was created by the Scott County IRVM Task Force. The Scott County IRVM Steering Committee recommends that the Scott County Board of Supervisors adopt this plan.

This plan was adopted by the Scott County Board of Supervisors on April 21, 2016.

II. Executive Program Elements:

A. Goals:

The Scott County IRVM Program has numerous short and long term goals that will be accomplished as the program ages. These goals are listed below.

Short Term Goals: Inventories

- Acquire Transportation Alternatives Program (TAP) Seed.
- Secure funding for yearly Living Roadway Trust Fund Grants.
- Begin the development of a network of interconnected right-of-way prairie plantings along Scott County's Secondary Roads System.
- Develop public awareness for IRVM through public presentations, Workshops, Social Media, County Website and displays.
- Effectively control noxious and invasive weeds in Scott County ROW.
- Effectively control brush and trees in Scott County ROW.
- Maintain an informative and interesting IRVM website page on the Scott County website.
- Develop a policy and permit for no spray signs.
- Begin work on right-of-way encroachment issues.

Long Term Goals:

- Continue the Development of a network of interconnected right-of-way prairie plantings along all of Scott County's hard surface roads.
- Set up and maintain a prairie seed production plot that focuses on propagating rare native Scott County prairie plant species.
- Develop a broader network of support for the Scott County IRVM Program.
- Preserve and manage remnant prairie plant communities in the ROW through monitoring, prescribed fire and brush removal.
- Develop a bird nest box program that coincides with highway ROW plantings.
- Manage ROW to reduce the overall brush, tree, noxious weed and invasive weed cover.
- Develop a neighborly policy for dealing with right-of-way encroachment issues.

B. Program History:

Scott County is required by the State of Iowa to uphold sections of Iowa Code that pertain to noxious weed destruction. The state maintains a list of these weeds and the board of supervisors is tasked with their destruction. In order to efficiently combat noxious weed infestations, the board of supervisors appoints a Weed Commissioner to carry out these duties. The Scott County Weed Commissioner is the Scott County Engineer, the Scott County Secondary Roads Department Director.

Integrated Roadside Vegetation Management began in Scott County in 1993 but no IRVM management plan was filed. The program consisted of blanket and spot spraying, brush cutting and seeding native grass. Seeding was done in a few ditches but most areas were around bridges. In 2013 Scott County entered into an agreement with Clinton County to share IRVM equipment, materials, labor, and the services of their Roadside Manager. The county then established an IRVM steering committee in 2015 to develop a program for Scott County that would then be filed with the State of Iowa. The program is based on Scott County's needs and requirement but is still flexible enough to share services with surrounding counties.

C. IRVM Decision Making Process:

Several individuals are involved in the IRVM decision making process in Scott County. A Roadside Manager will work directly with the County Engineer to make decisions about the IRVM program. They determine what the equipment and supply needs are for the program, if grants are available to aid in a purchase and what projects will be completed in a given year. If a grant has been obtained, a formal resolution from the Scott County Board of Supervisors is needed to approve it. The Roadside Manager also works with the IRVM Steering Committee to determine the needs of the program. Although this committee does not have the final say, their opinion is valued and considered.

D. Executive Summary:

Scott County Integrated Roadside Vegetation Management restores and reconstructs native vegetation in county right-of-way to produce a cost-effective solution to roadside weed and erosion control. The Scott County Integrated Roadside Vegetation Management Plan was developed to provide detailed information on how the IRVM program functions in Scott County. It is also meant to be a guide for new IRVM employees to gain an understanding of what the program encompasses. This plan contains a significant amount of information regarding the IRVM program and how it functions. The beginning sections cover program goals, history and a general overview of how the program operates. Later sections detail what the IRVM program does. This includes all of the procedures that go into restoring or reconstructing native vegetation effectively.

E. Area Map:

An area map of Scott County can be found in Appendix B.

F. Program Type:

The Scott County IRVM program is housed in the Secondary Roads Department. The IRVM program is being developed in accordance with this plan. The intent is to update this plan as it is implemented. Scott County may share services such as personnel and equipment, with other municipalities in order to save expenses.

III. Jurisdictional Recognition:

A. Management:

Several individuals are involved in managing the IRVM program:

Roadside Manager:

The Roadside Manger is the primary manager for the IRVM program. This individual works in the Secondary Roads Department with the Scott County Engineer and IRVM Steering Committee when setting goals and making decision that impact the program. The job description for the Roadside Manager can be found in Appendix A Section 1.

County Engineer:

The County Engineer is the secondary manager for the IRVM program. This individual oversees the Roadside Manager and aids in setting goals and making decisions that impact the program.

Board of Supervisors:

The Board of Supervisors oversees the County Engineer and Roadside Manager. This group of individuals is involved in making high level decisions regarding the IRVM program and receives an annual report regarding the success of IRVM within the county. Annually, the board of supervisors appoints the County Weed Commissioner.

IRVM Steering Committee:

The IRVM Steering Committee meets 2 times annually or as needed and was created to support and promote IRVM activities within the county. Though this group does not have any direct management responsibilities, their input is used when making decisions regarding IRVM.

B. Iowa Code:

Sections of Iowa Code that pertain to the IRVM program and Weed Commission are listed below. Actual code sections are available by click the link as shown.

[314.17](#) Mowing on Interstates, Primary Highways, and Secondary Roads

[314.19](#) Reseeding open ditches

[314.21](#) Living Roadway Trust Fund

[314.22](#) Integrated Roadside Vegetation Management

[317](#) Iowa's Noxious Weed Law

[Rule 21-Chapter 58.4](#) Updated Noxious Weed List

C. Permits:

Permits related to Scott County roadsides are listed below. The actual permit forms can be found in Appendix D. No IRVM or Weed Commission permits have been made at this time but will be added here after they are created. Driveways and utilities and plantings

IV. Program Organizational Structure:

A. Staff Organization Chart:

Ideally the employees involved with IRVM will be Scott County employees. It is possible that some or all of the employees will be employed by another municipality and shared with Scott County. It is also possible that if Scott County is employing these individuals, other municipalities will be sharing their services.

More detailed information on job descriptions can be found in Appendix A.

1. Management:

Roadside Manager: The Secondary Roads Department will employ 1 Roadside Manager.

B. Possible Staffing Needs:

1. Staffing:

A. Full Time:

Roadside Technician: The Secondary Roads Department would ideally employ 1 Roadside Technician.

B. Part Time/Seasonal:

Seasonal Spray Truck Driver: The Secondary Roads Department would ideally employ 2 Part Time/Seasonal Spray Truck Drivers.

Seasonal Roadside Conservation Technician:

Roadside Management is a field that is difficult to access for young professionals that are building their resumes for future employment in the field of natural resource management. Scott County could benefit from hiring on a Seasonal Roadside Conservation Technician. This individual would help accomplish tasks that time does not warrant and the job would provide an excellent learning experience for someone interested in Roadside Management.

Roadside Management Internship:

Opportunities may arise for Scott County to utilize internships from our local universities. Many require internships for successful completion of Bachelors or Masters Degrees. By offering these opportunities, Scott County could benefit by receiving extra help at no cost and providing on the job experience for college students.

2. Training/Education:

Training and educational requirements for new Scott County IRVM employees are listed below.

Training:

- Prescribed Fire: NWCG S-130, S-190, S-290
- Driving: Class B CDL with Air Brake and Tanker Endorsement
- Pesticide Application: Iowa Pesticide Applicators License, Core, 1A, 6

Education:

- Roadside Manager: Minimum 4-year degree in a natural resources related field. Preferred Master's Degree in a natural resources related field.
- Roadside Technician: Minimum 2-year degree in a natural resources related field. Preferred 4-year degree in a natural resources related field.

Succession Plan:

The Scott County Secondary Roads Department does not have a detailed succession plan for the IRVM program. If the Roadside Manager or Roadside Technician positions were to become vacant, a new individual will be sought for either of these positions. At the time a position is vacated, the interview committee should review the positions job description and update any sections as needed. This management plan will serve as the primary introductory material for new full time employees of the Scott County IRVM Program. If possible, the former Roadside Manager or Technician will provide training and guidance when a new individual is hired following a vacancy. However, it is unrealistic to expect this in every situation. A more complete succession plan will be developed as the IRVM plan matures.

V. Public Involvement:

A. Steering Committee:

Scott County established an IRVM Steering Committee on July 27th 2015. This committee was instrumental in developing Scott County’s IRVM program and remains active today. Its main purpose is to assist in the planning and implementation of Scott County’s roadside management efforts. A summary of this committee can be found in Appendix I. The goals of the IRVM Steering Committee have evolved following the establishment of a fully developed program. The committee now works as a part of a team with the Roadside Manager, Roadside Technician and County Engineer. The committee advises these individuals on all IRVM related issues through quarterly meetings.

B. Current Members:

The current members of the Scott County IRVM Steering Committee are: task Force

JoyceSingh	Brian Ritter	Heidi Woeber
CurtisLundy	John Arter	Amy Kersten
Dennis Tarasi	John Maxwell	Brittany Ackerland

C. Qualifications:

Qualifications for IRVM steering committee positions include the following background types:

- Native Vegetation
- Roadside Management
- Weed Management
- Environmental Sciences
- Conservation
- Agriculture / Farm Bureau
- Demonstrate an interest in one of the above stated backgrounds

D. Terms:

The members shall serve three-year staggered terms. Terms shall be on a calendar year basis. The initial appointments shall be as follows:

- 3 persons – 1-year term
- 3 persons – 2-year term
- 4 persons – 3-year term

E. Partners:

1. Scott County Conservation:

Scott County Conservation partners with the Secondary Road Department and the IRVM program for presentations, workshops, reconstruction projects, quarterly newsletters and other miscellaneous projects. Partnering may also be done to utilize key personnel for controlled burns and other IRVM Projects.

2. Neighboring Counties:

It may be cost effective to partner with neighboring counties to share equipment and personnel to expedite IRVM projects and planning in each county.

3. Adopt a Prairie Program(AAP):

This program allows residents to partnership with Scott County IRVM to re-establish native vegetation in the rural roadsides. There is also a link on the Scott County website with a link to a map allowing residents to view the current and future AAP locations.

F. Stakeholders:

The Scott County IRVM program is always looking for volunteers to help out with a variety of prairie related projects. Additionally, letters of support from other organizations help to show our community members that there is outside support for what we are doing.

G. Education and Outreach:

The Scott County IRVM program provides educational materials and opportunities for county residents in a variety of ways.

Public Presentations: Public presentations on IRVM and prairie-related topics are conducted annually by the Roadside Manager.

Public Workshops: Public workshops on IRVM and prairie-related topics are conducted annually by the Roadside Manager and may include other speakers.

Newsletters: A newsletter is compiled by the Roadside Manager annually for the Scott County Secondary Roads Department. Additionally, the Roadside Manager publishes articles in the Scott County Conservation Newsletter that is sent out quarterly.

Brochures and Other Materials: Brochures and other materials relating to IRVM are available through the Scott County IRVM program. These can be picked up at the Scott County Engineer's Office or by contacting the Roadside Manager.

Website: www.scottcountyiowa.com/roads

H. Communication Mechanisms:

The Scott County IRVM program communicates with the public through a variety of means. These are listed below:

Meetings: The Scott County IRVM Steering Committee meetings are open to the public and held 2 times annually or as needed. The meeting notices and minutes are published in accordance with the Scott County open records policies.

Electronic Media: The Scott County IRVM program utilizes Facebook and the Scott County IRVM Website to distribute information about the program and issues related to native vegetation.

VI. Natural Resources:

A. Tools:

Scott County's web based Geographic Information System allows individuals to browse maps and impose layers that provide data about Scott County. One valuable feature that is used by the IRVM program is the right-of-way overlay.

B. Vegetation:

1. Roadside Inventories:

A roadside inventory was conducted in Scott County in 2016 and completed in 2017.

[Click here to view the Final Inventory Report](#)

Scott County Inventory:

This survey will look for remnant populations of prairie plants as well as areas of considerable native vegetation. No remnants are currently known in Scott County. If remnants are found a species list will be compiled for each remnant. The compiled inventory documents can be found in Appendix E. There is also a link on the Scott County website with a link to an interactive map allowing residents to view species of plants and types of ecosystems along the rural roadsides.

2. Endangered, Threatened and Species of Special Concern:

Scott County is home to several species of conservation need. These species are classified into different categories based upon their risk of becoming extirpated in Iowa. Iowa Code 481B pertains to protections provided for these species. The following classifications are used in Iowa. Each classification will have a list of species that have been found in Scott County's roadsides. A list of Iowa's endangered, threatened and special concern plants and wildlife that can be found in Scott County is located in Appendix F.

Endangered:

Any species of fish, plant life or wildlife which is in danger of extinction throughout all or a significant part of its range shall be included.

Threatened:

Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range shall be included.

- [See page 30 for complete list](#)

Special Concern:

Any species about which problems of status or distribution are suspected, but not documented, and for which no special protection is afforded under this rule shall be included.

- [See page 30 for complete list](#)

C. **Water Bodies:**

Scott County is home to several water bodies. These are listed below.

1. Wapsipinicon River:

The Wapsipinicon River enters Scott County on its north border with Clinton County in Liberty Township. It then winds easterly and then eventually exits the county on its east border in the Mississippi River.

2. Mississippi River:

The Mississippi River flows along the entire eastern border of Scott County.

3. Mud Creek:

Mud Creek drains an extensive area of western Scott County covering four townships. It begins in Cleona Township near Durant and flows north east to the Wapsipinicon River.

4. Spencer Creek:

Spencer Creek drains an extensive area in eastern Scott County covering three townships. It begins just east of Eldridge and flows south east to the Mississippi River.

5. West Lake:

6. Lost Grove Lake:

7. Duck Creek:

VII. **Equipment:**

A. **Equipment Inventory:**

An equipment inventory for the Scott County IRVM Program will be listed below.

It will include when the item was purchased and what condition it is in and the owner if it is a shared item.

Equipment will be listed when the Inventory is completed.

1. Brush Cutting Equipment:

Chainsaws: 9 – Stihl

Weed Trimmers: 3 – Stihl

Pole Saw: 1 – Stihl

Wood Chipper: 1 – Vermeer BC1500 XL

Weed Mower – Walk Behind: 1 – Weed Wiper #24

Chaps: 10

Helmets: 2

2. Prescribed Fire Equipment:

*UTV:**Drip Torch:* 4*Red Dragon gas torch:* 1*Skid Sprayer:*1*Fire Swatter:* 12*Full body Suits:* 10*Noxex Shirts:*2*Nomex Pants:*2*Hard Hats:**Backpack Sprayers:* 6*Fire Helmet:* 2*Wind meter:*1*Leather Gloves:**Wind meter:*1

3. Spraying Equipment:

*Spray Trucks:**Trailer with Tank:* 1 – Dultmeier Bean Sprayer*Trailer with Tank:* TeeJet 535gal Sprayer

4. Seeding Equipment:

Hydroseeder: 1-Bowie 1100 Gallon*Seed Drill:* Truax Native Grass Drill 4 ft.*Seedavator:* 1- 5 ft.*Rotovator:* 1 – 5 ft.*Disc:* 1 – 7 ft.*Harrow:* 1 – 8 ft.*Gill:* 1 – 6 ft.*Broadcast Seeders:* 1 - 3pt mounted

4. Miscellaneous Equipment:

Skid Steer: 1 – BobcatT750*Skid Steer Attachments:* Diamond Mower Brush Cutter *Tractor:* John Deere 7220 with Side mower Case 125A with Side mower*Seed Storage:* Deep freeze with thermostat for seed storage.*Chemical containment Trays:* 4**B. Equipment Needed:**

New equipment purchases may become necessary as the Scott County IRVM program continues and the Inventory completed. Below are new equipment purchases that may be needed at some point in the programs future.

1. Chainsaw Equipment:

2. Prescribed Fire Equipment:

3. Spraying Equipment:

4. Seeding Equipment:

5. Building Improvements:

- Pesticide Storage Room

6. Miscellaneous Equipment:

- Weather Meter:

- Weather Meter Accessories:

Having a relatively new IRVM Program, Scott County is in the process of determining what equipment will be needed to operate our program most efficiently. As equipment needs are known, we will add them to our list.

VIII. Program Operations:

A. Annual Operations:

1. January:

- Attend the Appointments Meeting of the Board of Supervisors
- Submit IRVM Annual Report
- Facilitate IRVM Steering Committee Meeting as needed
- Attend Winterfest Conservation Conference
- Cut and Remove Brush and Trees from ROW
- Schedule IRVM Programs and Workshops Working with Conservation
- Prioritize Equipment Needs for the Present LRTF Grant Cycle
- Send out letters for Herbicide Bids
- Update SDS Folder with Current Chemicals on Hand
- Update IRVM Management Plan

2. February:

- Attend Tallgrass Prairie and Oak Savanna Regional Fire Conference
- Attend RT-130 Wildland Fire Refresher Course
- Cut and Remove Brush and Trees from ROW
- Review and Update GIS Mapping with GIS Analyst
- Prepare LRTF Grants for Present LRTF Grant Cycle and Submit (due in June)
- Schedule IRVM Programs and Workshops Working with Conservation

3. March:

- Attend Annual Weed Commissioners Conference
- Cut and Remove Brush and Trees from ROW
- Prepare News Posts for the IRVM Website
- Review IRVM Website Updates with the Scott County Webmaster

4. April:

- Ready Spray Trucks for Spray Season and Start Spot Spraying if Weather Permits
- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Conduct Prescribed Burns if Conditions Permit
- Facilitate IRVM Steering Committee Meeting as needed
- Post Noxious Weed Notice and Obstructions in the ROW in Papers
- Photograph Prairie Plant and Projects When Time Permits

5. May:

- Work Hours Change to 6:00 AM to 4:30 PM in May
- Begin Roadside Spot Spraying Operations
- Conduct Establishment Mowing on Prairie Reconstructions
- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Photograph Prairie Plants and Projects When Time Permits
- Conduct Prescribed Burns if Conditions Permit
- Respond to Weed Complaints

6. June:

- Continue Roadside Spot Spraying Operations
- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Monitor Seedling Establishment
- Photograph Prairie Plants and Projects When Time Permits

7. July:

- Begin Roadside Bare Ground Spraying Operations
- Prep Planting Areas
- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Begin Brush Spraying Operations
- Mow Weeds after July 15th for New Roadside Plantings

8. August:

- Continue Roadside Brush Spraying Operations
- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Collect Seed from Prairie Remnants and Reconstructions if time allows
- Respond to Weed Complaints
- Prep Planting Areas

9. September:

- Fall Spot Spraying Operations Begin
- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Collect Seed from Prairie Remnants and Reconstructions if time allows
- Attend Annual Roadside Conference and AFIRM Meeting
- Conduct Prescribed Burns if Conditions Permit
- Respond to Weed Complaints

10. October:

- Plant Ditch Clean-Outs and Adopt a Prairie Locations
- Continue Fall Spot Spraying Operations
- Collect Seed from Prairie Remnants and Reconstructions if time allows
- Winterize Spraying Equipment & Hydroseeder
- Facilitate IRVM Steering Committee Meeting as needed
- Do a Window Tour of Prairie Remnants and Reconstructions
- Respond to Weed Complaints
- Prepare Weed Commissioner Report
- Attend Herbicide Applicators Continuing Education Classes

11. November:

- Store All IRVM Equipment in IRVM Building
- Plant Ditch-Clean-Outs and Adopt a Prairie Locations if Weather Permits
- Conduct Prescribed Burns if Conditions Permit
- Cut and Remove Brush and Trees from ROW
- Submit Weed Commissioner Report

12. December:

- Attend Van Diest Herbicide Meeting
- Solicit Appointees for Retiring IRVM Steering Committee Members
- Cut and Remove Brush and Trees from ROW
- Plant Ditch-Clean-Outs and Adopt a Prairie Locations if Weather Permits
- Prepare IRVM Annual Report and Other Project Reports

B. Work Area Types:

The Scott County IRVM Program works primarily in rural areas. The only variation we have between work zones comes in when a dwelling is adjacent to the right-of-way. An explanation of how each work zone is handled is listed below.

1. Rural Adjacent to Agricultural Ground:

Rural right-of-way adjacent to agricultural ground allows Scott County to conduct work without numerous other considerations. Brush and tree removal, mowing, planting natives and spraying are able to be done as the county sees fit.

2. Rural Near Dwelling:

Rural right-of-way adjacent to or near a dwelling is treated differently than ROW adjacent to agricultural ground. The land owner is often consulted when brush and trees are removed and when a ditch clean-out that will involve planting native vegetation will occur. Spraying is usually not conducted near dwellings unless permission is given by the land owner.

C. Vegetation Types for Specific Uses:

Most plantings that occur in Scott County Roadsides utilize the Diverse Prairie Mix or Ditch Clean-Out Mix provided by UNI's Tallgrass Prairie Center. The Diverse Prairie Mix is used in larger ROW projects whereas the Ditch Clean-Out Mix is used primarily in ditch clean-outs. Rye grass may be used near Residences to be more lawn friendly.

D. Special Projects:

1. University of Northern Iowa Tallgrass Prairie Center Research:

The Tallgrass Prairie Center typically contacts counties with an IRVM plan in order to conduct research or initiate special projects. Scott County will evaluate any research or special projects that are proposed and cooperate if feasible.

2. Iowa DNR Prairie Resource Center Seed Production Plot:

The Scott County IRVM Program is willing to enter into talks with the Iowa DNR Prairie Resource Center to discuss construction of a seed production plot. This plot would produce prairie forb and grass seed that would supplement what the program receives from the Tallgrass Prairie Center. Plants are chosen based upon several characteristics. These include rarity, native to Scott County and ease of production.

3. Eastern Bluebird Nest Box Program:

Any development of an Eastern Bluebird nest box program will coincide with the reconstruction of prairie along hard surfaced roads. The Scott County IRVM program will collaborate with the Scott County Conservation Department to create and maintain the boxes. Since the Scott County IRVM Program is small, a limited number of nest boxes may be established so that maintenance and monitoring do not interfere with other duties. These nest boxes will be placed along highways that have large ROW widths.

4. SAU Roadside Inventory Research: Directed by Dr. Dennis Tarasi this is a grant funded program for identifying all plant species in 50 locations which the plots are 1 square meter in size and 1/4 mile apart. Locations help identify rare or threatened species along our rural roadsides and invasive species concerns. This program is funded for five years. Each year a different area in the County will be selected for inventory. The data collected will be added to the IRVM website inventory map.

IX. Prairie, Savanna, Forest and Wetland Remnant Management:

If any remnant plant communities exist in Scott County's approximately 5184 acres of right-of-way, the Scott County IRVM program is tasked with the management and preservation of these areas. A detailed description of prairie and forest remnant management procedures can be found below when completed.

A. Documentation:

No remnants have been found in Scott County's ROW. However, there may be some that remain to be discovered. It is the job of the Scott County IRVM program to document these areas when found. A list of remnants and their locations can be found in Appendix (E).

B. Inventory:

Conducting native plant inventories on remnants is one of the most important processes when considering management of a remnant. It allows you to know what plants are there and determine timeframes on when management should occur. The Scott County IRVM program will put together inventories for all of its remnants if any. These inventories can be found in Appendix (E).

C. Management:

1. Tree and Brush Clearing:

Prairie Remnants:

Most trees and brush are removed from prairie remnants as they were not present historically. However, it may be beneficial to leave the occasional native tree or shrub to diversify the plants in the landscape. Care should be taken to not allow these native woody species to become too dominant.

Savanna Remnants:

Savanna remnants are handled similarly to forest remnants. Non-native trees and shrubs are removed but desirable trees and shrubs are left if they do not pose a threat to the safety of the traveling public. It is difficult to maintain a proper distribution of trees in a roadside oak savanna remnant but care is taken to do so as best as possible.

Forest Remnants:

Forest remnants are handled differently than prairie remnants when it comes to tree and brush removal. Non-native brush and trees are always removed.

However, native trees and shrubs are managed in a way that promotes the historical distribution of these species within an area. One exception is in the case of brush dependent species such as Oval Ladies Tresses which thrive after large disturbances in woodlands. This species then requires brush and tree growth in order to persist at a site. However, if trees are causing safety concerns, then they may be removed regardless of their necessity in the community.

Wetland Remnants:

Wetland remnants are handled similarly to prairie remnants. Non-native trees and shrubs are removed where present. Additionally, any native trees and shrubs that compromise the remnant will also be removed.

2. Prescribed Fire:

Prescribed fire is an important tool used in managing remnant vegetation. Fire can be used to manage each type of remnant and support native plant growth. The timing and frequency of burns on each remnant will vary based upon the needs of the area. Burn plans for each remnant will be created at a later time.

3. Herbicide Application:

The application of herbicide in a remnant plant community will only take place as a last resort management effort if prescribed fire and other management strategies are ineffective. Herbicide application may be necessary if aggressive weeds or other non-desirable vegetation begin to compromise the remnant.

4. Seeding Native Vegetation:

If a remnant plant community requires seeding it will only be done with seeds from native plant species adapted to the conditions on the remnant (i.e. soil type, moisture, sun light etc.). Additionally, remnants will only be planted with seeds that come from local plant populations.

X. Vegetation Establishment:

Creating conditions that are conducive to native plant establishment are vital to the success of the planting. The following subsections contain information on how to properly prepare a seed bed, plant an area and control for erosion.

A. Procedures:

This section highlights the general order of procedures that take place when establishing native vegetation within the right-of-way.

- Scout the Site
- Prepare the Seedbed
- Plant the Site
- Control for Erosion
- Vegetation Establishment Maintenance
- Ongoing Maintenance

B. Site Preparation:

Site preparation enhances seed to soil contact. This helps ensure proper planting depth and can even provide erosion control. The following is derived from the IRVM Technical Manual.

1. Prior to Working the Site:

- Walk the site looking for gullies, culverts and other hazards (e.g. logs, stones, stumps, etc.)
- If weed growth is excessive, mow and disk stubble into the soil if possible.
- Check with Iowa One Call before disking.
- Calculate the size of the area to be planted and the amount of seed it will take.
- Size up the watershed and the site's erosion potential.

2. Seedbed Preparation for Drill Seeding:

- Ideal seedbeds are friable, firm and smooth.
- To reduce soil erosion, don't smooth up the site until just before planting.
- Relatively level sites can be worked with a disk, chain-tooth harrow or similar equipment.
- To avoid excess clodding, don't work the site while it's too wet.
- Cultipacking can help firm the seedbed and reduce clods.

3. Seedbed Preparation for Hydroseeding:

- Steep slopes can be ripped with a wide-track dozer.
- Directional tracking can be used to interrupt water flow.
- Seedbeds can be left rougher to reduce soil erosion.

- Work the site perpendicular to the slope to interrupt water flow.

4. Heavily Compacted Soils:

- Try to work the site to a depth of 3 in.
- A heavy disk might be necessary.
- Some sites may need to be worked with long bulldozer tines.

C. Seed Mixes and Rates:

Two seed mixes are used in the right-of-way plantings in Scott County. The first is a diverse prairie mix that is used in larger areas. The second is a ditch clean out mix that is used in smaller areas. Each of these mixes can be found in Appendix G. Seeding rates are determined based upon the quantity of seed available and where the project is located. Generally, right-of-way along hard surfaced roads is planted at a higher rate than those in more remote areas if plenty of seed is available.

D. Seeding Techniques:

Four seeding methods are used to plant native prairie seed. These include drilling, hydroseeding, broadcast seeding and hand seeding. The following descriptions come from the Iowa IRVM Technical Manual.

1. Drill Seeding:

Drilling is a one-step process, and is quicker and cheaper than hydroseeding. Drills do a better job of establishing native grasses and produce faster result overall. However, drills do not work well on slopes. At 3:1 or steeper, the drill will try to slide sideways causing the disk openers to dig in and bury the seed. Projects with silt fences present another challenge. Maneuvering a tractor and drill around these fences is difficult.

2. Drill Seeding Tips:

- Calibrate the drill in the shop and set the rate a little lighter than what you actually want. Bouncing over the ground, a drill set at 6.5 lb. to the acre might actually seed 8 lbs. to the acre.
- When planting very clean seed with an older drill, use a filler to slow it down. Bulk-harvested seed or fluffy little bluestem works well.
- For good seed distribution, use the small seed box for fine seed and the fluffy seed box for grasses, large forb seed and seed that hasn't been well-cleaned. Alternatively, sprinkle a portion of the forb seed on top of the other seed in the drill's middle hopper, then add more forbs every other round or two.
- Do not plant native seed deeper than $\frac{1}{4}$ in. Most native seed is small and lacks the energy to emerge if planted too deep.
- For uniform coverage, drill seed at a light rate and go over the area twice.
- Multiple passes packs the seed well and creates more rills that hold seed and interrupt water flow.
- To prevent seed from being buried too deep, disconnect the lower end of the drill's seed tubes. Some of the seed will land on the soil surface and not be buried in the furrow. Some people prefer to unhook only every other tube. Others unhook only the tubes coming from the small seed box.

3. Hydroseeding:

Hydroseeding is ideal for bridge approaches, cleanouts, culverts and wet or steep slopes. In most cases, the entire project can be hydroseeded from the shoulder.

Other hydroseeding advantages include:

- Hydromulch reduces soil erosion.
- The risk of seeding too deep is eliminated.
- Colored mulch on the soil makes a positive impact on the public.

4. Hydroseeding Tips:

- It's best to seed after a rain, not just before. Seed and mulch stick better on moist soils. Some moisture is captured under the mulch. Mulch needs time to set up before it rains.
- Increase overall seeding rate by 25% to compensate for seed damaged going through hydroseeder mechanics and for seed that gets hung up in the mulch.
- The "shadow areas" behind larger dirt clods sometimes get no seed. For better coverage, try to seed in two passes, one from each direction. Seed lightly - so the seeding rate is not doubled - at 7 to 8 mph, with flow rate reduced.

- An 800 gallon hydroseeder is the minimum recommended size. A 1,500 gallon hydroseeder can cover 1/3 acre per load. This yields about 1,000 lb./acre.
- Seed the area farthest from the road first.
- On steep slopes, try to embed the seed by using a more concentrated stream and holding the gun at a sharper angle.
- For the sake of efficiency, most county roadside managers apply seed and mulch in one pass. The “two-pass” method – seed applied first, hydromulch follow – results in better establishment since more seed is in direct contact with the soil.

5. Hydromulching Rates:

- 1,000 lb./acre – a token amount to help carry the seed and show what area has been seeded.
- 2,000 lb./acre – appropriate for most 3:1 slopes.
- 3,000 lb./acre – very heavy rate for long, steep slopes.

6. Broadcast Seeding:

Broadcast seeding is another viable option for establishing native vegetation. Seed is flung from a broadcast seeder and deposited on the surface of the soil.

7. Broadcast Seeding Tips:

- Broadcasting finer-seeded species prevents them from getting buried under too much soil.
- For very clean seed, the Vicon™ broadcaster can be adjusted down to the “nth” degree.
- For fluffy seed just open the gate a lot wider.
- A broadcast seeder on a 3-point is more compact than a drill and easier to get in and out of ditches.
- Broadcast seeders can be backed up to silt fences to sling seed on both sides.

8. Hand Seeding:

Scattering seed by hand followed by light raking is very effective for smaller sites and prevents fine seed from being planted too deeply.

9. Hand Seeding Tips:

- To improve distribution, mix the seed with some kind of carrier. Sand is best. Kitty litter or oats are also used.
- Mix the seed and carrier in a bucket and scatter it over the site by hand.
- Many wet prairie species have fine seed and should be seeded this way.

E. Erosion and Sediment Control:

Erosion control is an important aspect of the Scott County IRVM program. Controlling erosion helps in protecting water quality, the structural integrity of the roadways and germinating seed. In addition, implementing erosion control helps counties comply with National Pollutant Discharge Elimination System Phase II regulations. The following sections will cover types of erosion and control methods currently employed by Scott County Secondary Roads. This section should be updated as new erosion control measures are developed or more effective means are used.

1. Types of Erosion:

- *Splash Erosion*: Splash erosion occurs when rain drops dislodge exposed soil particles. These particles settle in soil pores and when dry, form a crust, reducing infiltration during subsequent rains.
- *Sheet Erosion*: Sheet erosion occurs in heavier rains on uniformly smooth soil surfaces. Dislodged particles become suspended and are transported downslope.
- *Rill Erosion*: Rill erosion occurs when slight differences in soil surface elevation cause runoff to concentrate and form a pattern of cuts or rills.
- *Channel Erosion*: Occurs in concentrated flow areas and is caused by downward scour due to flow shear stress. Many, if not all roadsides are conduits for concentrated flow.

2. Hydromulching:

Hydromulching is an erosion control process in which a slurry of various fibers is tank mixed with water and blown on an areas of bare ground. This is done through the use of a hydroseeder. A hydroseeder is a machine that is composed of a tank and spray unit that is either carried on a truck or trailer. Hydromulch is applied with or on top of seed to conserve soil moisture and reduce the effects of erosion. However, it is not a suitable solution for concentrated flow situations.

3. Wattles, Sediment Logs and Filter Socks:

Wattles and sediment logs are tubes of straw, coir or excelsior fibers encased in burlap or degradable plastic netting anchored by wooden stakes. Both filter sediment and slow water flow. Wattles and logs containing densely packed material – especially straw – are good as slope interrupters. Excelsior logs are more porous and less likely to float, so are better suited for ditch checks. Both are good for perimeter applications and inlet protection. Filter socks are degradable tubes filled with compost, generally used for perimeter control or at intervals along a slope to capture sheet flow. To enhance sediment control, polyacrylamide (PAM) may be added to the compost. PAM captures clay particles creating cleaner runoff. Wattles, logs and filter socks are usually easy to install and can be put on bare soil or over erosion control blankets.

4. Silt Fence:

Silt fences are geotextile barriers trenched into the ground and supported by posts. They are useful on perimeters and in channels with relatively low flow. Silt fences filter out small amounts of sediment as runoff passes through the fabric. They need to be kept clean to function properly and must be removed after final stabilization, but are easy to install and relatively low cost. Silt fences are not effective in high-volume flows and should not be used as a check dam. During moderate or heavy rains, a silt fence check dam will concentrate water from the entire channel, along with the water's energy. This concentration either goes around the outside of the fence or over the top at the lowest point. It can also go underneath the fence, causing erosion.

F. Vegetation Maintenance:

1. Establishment Mowing:

Establishment mowing is used to control weed growth during the first few growing seasons after a prairie is planted.

Year 1: Mowing is used during the first growing season to reduce competition. Mowing is done each time weed growth reaches approximately 10 inches in height and this vegetation will be cut to a height of approximately 4 to 5 inches.

Year 2 and Beyond: In the second growing season and beyond, mowing is done only where excessive weed growth occurs.

2. Prescribed Fire:

Prescribed fire can be used to help establish native vegetation. Stages of prairie establishment are listed below with how fire is used in each scenario.

Year 1: Prescribed fire is not used during the first growing season following a prairie planting.

Year 2 and 3: Prescribed fire can be used during the second and third growing season if sufficient fuel is present to conduct a burn. This will help in deterring weed growth and stimulate prairie plant growth.

Year 4, 5 and 6: Prescribed fire will be used during years 4 through 6 to deter weeds and promote prairie plant growth. Burn will occur during each of these years and hit weeds when they are the most vulnerable.

Year 7 and Beyond: Prescribed fire will continue to be used as a management tool from year 7 and beyond. The area will either be divided into three separate sections with one being burned every year or the whole area will be burned on a three year rotation

3. Spraying:

Spraying will be used sparingly when establishing native vegetation on a site. It is reserved for those instances where noxious or invasive weeds have taken over a significant portion of the planting area and is necessary to get these weeds under control.

G. Planting Evaluation and Documentation:

Evaluating and documenting new roadside plantings is an important process for the Scott County IRVM program. This process is highlighted in the following subheadings.

1. Project Reports:

A project report will be created for new roadside plantings along hard surfaced roads that exceed 1 acre in size. This is done to document the procedures and other data associated with the establishment of these prairies. Details on how these reports are created can be found in the following bullet points.

- *IRVM Overview:*

This section provides a general overview of what the IRVM program does in Scott County. This includes a current mission and vision statement for the program.

- *General Information:*

This section provides general information on the project site, seeding plan and the importance of the project.

- *Project Details:*

This section provides details on the project area including the total acres planted, seeding rates, planting day details, the seed mix used and other details.

- *Research:*

This section highlights any research that was done in conjunction with the planting.

- *Management Overview:*

This section shows a broad step by step overview of how the planting will be managed over time.

- *Maps and Pictures:*

This section includes maps of the site as well as any other images that help to show how the site progresses over time.

2. Evaluation:

Evaluation of new native plantings is a recurring process that takes shape in several ways. For 1 acre plantings or larger along hard surfaced roads, project reports are created to keep track of how the site changes over time. Evaluations are documented in the project report and occur on a yearly basis.

However, project reports are not created for other plantings. These are evaluated by the Roadside Manager and Roadside Technician who prescribe management in person on a case by case basis.

3. Documentation:

Documentation of new native plantings is a recurring process that takes shape in several ways. For 1 acre plantings or larger along hard surfaced roads, project reports are created to keep track of management and other details. However, project reports are not created for other plantings. These are evaluated by the Roadside Manager and Roadside Technician who prescribe management in person on a case by case basis. No formal documentation is made besides the information needed to fill out the yearly report for TAP seed.

H. Mowing:

Mowing is an effective vegetation management option that can be used in a variety of scenarios. These scenarios are listed below and are adapted from the IRVM Technical Manual.

1. Establishment Mowing:

During the growing season, native seedlings remain small and can suffer losses due to competition by tall, thick weeds. Thus mowing is a necessary process that will be used to help establish native plantings.

- Mow the planting three or four times during the first growing season.
- Don't wait until weeds are too tall.
- A mowing height of 4 inches is good but to avoid scalping, 8 inches is better.

2. Mowing to Control Noxious and/or Invasive Weeds:

In some instances it may be necessary to mow off invasive and/or noxious weeds in established prairie plantings if the stands of undesirable vegetation threaten the resilience of the planting. If mowing is to take place, it will be conducted when noxious and/or invasive weeds are most vulnerable.

3. Mowing to maintain safety and sight distance: Mowing shall be done at intersection and along the foreslopes of Scott County Right of Way to establish adequate sight distance and a clear edge of the top of the foreslope.

I. Chemical Control for Noxious Weeds, Other Invasives and Bare Ground:

Scott County actively treats infestations of noxious and invasive weeds on a yearly basis. This is done by the Roadside Manager and Roadside Technician.

1. Chemicals Used:

Scott County uses several chemicals to treat weed infestations. These chemical are listed in the bullets below along with a description of what they are used for.

- *TerraVue*: Used to treat a 140 species of weeds. This is a new product that does not contain 2,4D or Dicamba and is basically non-volatile.
- *Milestone*: used in treating a variety of thistle species. Predominately used in roadsides spray trucks.
- *Plainview Herbicide*: Broad spectrum weed control for bare ground such as: guard rails and gravel shoulders.
- *Liberate*: 100% non-ionic surfactant that aids in herbicide efficacy.
- *Pathfinder II*: Ready to use stump treatment for aiding in blocking regrowth of brush.
- *Vastlan Herbicide*: Broad spectrum of brush, vine, and broadleaf weed control.
- *Escort XP Herbicide*: Selective to control noxious weeds and brush with low use rates.
- *Reign Drift Control*: Aids in reducing drift and improving coverage.

J. Tree and Brush Removal:

Iowa's noxious weed list includes a few woody species, and several non-listed trees and shrubs have become troublesome in non-agricultural land throughout the state. In roadsides, all trees and brush are potential safety hazards. The primary goal of county roadside tree and brush control is to provide safe roads for the traveling public. Safety goals include:

- Provide motorists unobstructed lines of sight.
- Ensure visibility of traffic control and warning signs.
- Eliminate immovable objects.
- Alleviate substantial and chronic drifting of snow.
- Reduce shade where it prolongs ice on the road.

1. Bat Conservation:

Bat conservation has become a serious issue in recent years. Bats utilize forested areas for foraging and roosting. Unfortunately, several bat species have seen severe declines in their populations due to disease and habitat loss. The Indiana Bat is listed as endangered under the federal Endangered Species Act. This allows certain protections for the bat. In the road right-of-way, trees with diameters over 4 inches are not cut in project areas between April 1st and October 15th.

K. Prescribed Burning:

Prescribed fire is an essential component of native vegetation establishment and management. Though challenges are associated with the process, prescribed burning can be executed safely and effectively in the roadside environment.

Prescribed fire is a management tool used for two main objectives:

- Discourages the growth of invasive and woody species.
- Invigorates the growth of native plants.

A timely burn can slow the growth and spread of weeds and small trees, both of which are susceptible to the intense heat associated with fire. Most native prairie species, on the other hand, have a positive response to fire. Historically, this ecological relationship was critical to the existence of the tallgrass prairie, and today it continues to be an essential management practice in roadside prairie remnants and plantings.

1. Training Requirements:

Scott County personnel hired after July 1, 2016 will be required to complete National Wildfire Coordinating Group (NWCG) S-130, S-190, L-180 and S-290 if they wish to participate in prescribed fires conducted through the Scott County IRVM program. These employees will also be required to maintain said certifications by attending Annual Fireline Safety Refresher (RT-130) each year. Further NWCG graining is encouraged but not required.

2. Personnel Requirements:

Staff requirements for roadside burns vary with the conditions at each site; the size of the crew depends on the size and complexity of the burn. As a general rule, two to four qualified people can safely execute most roadside burns. Burning alone or understaffed is not advised, so it may be necessary to coordinate efforts with other agencies. Secondary road maintenance crews, county conservation boards, local fire departments, and other county IRVM programs are possible partners.

3. Equipment:

Scott County owns a variety of prescribe fire equipment. An inventory of this equipment can be found in VII, the equipment section of this management plan. All ignition and fire-fighting equipment should be inventoried, inspected and tested prior to the burn season and immediately before each burn.

4. Public Notification:

Prior to a burn season, notify the public that trained personnel will be conducting prescribed burns in the ROW with specific management objectives in mind. A simple press release to the local media will do **or** contact local authorities informing them of the location. Adjacent landowners can be notified in person or by letter as part of the planning process. Any questions/concerns should be addressed at this time.

5. Burn Season Plan:

Goals and objectives for the upcoming burn season should be established in advance. This includes developing a list of potential burn sites and prioritizing that list. A simple spread sheet is a good way to compile and organize this data. There is often only a small window of time during which conditions are appropriate for prescribed burning. For this reason, it is critical to establish clear objectives, so sites of highest priority can be burned first. A reasonable goal for burning native prairie remnants or plantings is approximately once every 3-5 years and should be prioritized on the list accordingly. Some sites may require more frequent burns to address weed or brush infestations. Those should be moved higher on the list. As a general rule, any burn is better than no burn. While it is common to burn whenever conditions are favorable, the seasonal timing of a burn will have an impact on the plant community's response. A table describing appropriate burn times to achieve given vegetation management objectives is listed below.

Weed Control* Late Spring through mid June & Early to late Fall.

Brush Control* Winter for cutting and mid to late Summer for spraying.

Warm-season Grass Stimulation Mid to Late Spring

Cool-season Grasses Enhanced by early spring and fall burns. Suppressed by late spring burns.

Forbs Enhanced by early spring and fall burns

Routine Maintenance (thatch removal) Any time

***Research specific weed and brush species before using fire for management. Some may have a positive response.**

6. Burn Plans:

A complete burn plan, developed in advance, is the first step toward executing a successful burn. Each burn conducted by the Scott County IRVM program will have an associated burn plan. The following information should be included in each burn plan:

- Area to be burned
- Potential hazards
- Desired weather parameters
- Equipment and personnel requirements
- Firebreaks and anchor points
- Special concerns

7. Weather Parameters:

Weather is the most important outside factor affecting fire behavior, so it is essential to determine the weather parameters within which each burn can be safely executed. The following are reasonable guidelines for conducting most roadside burns.

- Temperature: 40-70 F
- Relative Humidity: 30-70 %
- Wind Speed: 5-15 mph
- Wind Direction: Away from the road and safety-sensitive areas.

8. Pre-Burn Checklist:

Prior to conducting a prescribed fire, the pre-burn checklist should be consulted to determine if the burn meets the prescription. A pre-burn checklist is as follows:

- Check weather forecast
- Observe adjacent land use activities and make notifications
- Collect on-site weather data
- Check equipment

- Install signage and traffic control measures
- Develop a plan of attack and brief personnel
- Assign duties
- Notify headquarters and local authorities

9. Post-Burn Checklist:

Following a prescribed fire, the post-burn checklist should be consulted to determine if the burn was successful in meeting the prescription and that the site is safe to leave. A post-burn checklist is as follows:

- No flames – no smoke
- All smoldering materials extinguished
- Firebreaks secured
- Personnel debriefed
- Weather data collected
- Local authorities notified of a successful burn

10. Record Keeping:

Complete records are necessary to support a prescribed burning program. Recording and compiling data for each burn will help establish future management objectives. Weather data collection is a vital piece of the data collection process. Weather data must be collected to ensure conditions are within the parameters of the burn plan. Hand-held weather units are inexpensive, accurate and the most effective means of monitoring on-site weather conditions. Hourly printouts are available from NOAA for specific areas.

XI. Material Procurement:

A. Grants:

The Scott County IRVM program seeks out funding opportunities through grants to purchase equipment, conduct projects and further the goals of the program.

1. Living Roadway Trust Fund Grants:

The Scott County IRVM program will be eligible to receive grants from the Iowa Living Roadway Trust Fund once the plan is approved. The grants will be used primarily to purchase new equipment used for prairie reconstruction and management in the right-of-way.

A list of grants Scott County has received can be found in Appendix J.

B. Sourcing:

1. Seed:

The majority of seed used for roadside prairie reconstruction in Scott County comes from the Transportation Alternatives Program. This program was established in 2012 by Congress and is funded through a proportional set-aside of the Federal-aid Highway Program. Funds from this program are administered through the Iowa Department of Transportation. Additional seed comes from several other sources. The Scott County IRVM program harvests prairie seed from several of its roadside remnants and reconstructions. Any remaining seed that is needed is purchased from reputable native prairie plant vendors.

2. Erosion Control Materials:

Erosion control materials are purchased through local companies.

3. Hydroseeding:

Hydroseeder mulch and other materials are usually ordered through local specialized companies. This is due to the nature of the products needed for hydroseeding applications.

4. Herbicide:

Herbicide is purchased as needed for the Scott County IRVM program. This is done via a competitive bidding process. The lowest price is then selected as long as Vendors products are equals.

C. Storage:

1. Seed:

The viability of native seed decreases substantially when exposed to high temperature and high humidity. Scott County is in the process of building a seed storage room in a storage bay of its equipment storage facility. This will be done with funding from a grant through the Iowa Living Roadway Trust Fund. This seed storage facility will be climate controlled and designed to meet the guidelines set by the IRVM Technical Manual. These guidelines are listed below.

- A general rule of thumb is that temperature plus humidity should not exceed 100.
- Most seed will last a year at 50 degrees Fahrenheit and 50% relative humidity.
- For each 10 degree increase in temperature, seed longevity is halved.
- For each 1% increase in moisture content of the seed (not RH), longevity is also halved.

2. Erosion Control Materials:

Erosion control materials such as erosion control socks are stored in the IRVM equipment storage facility.

3. Hydroseeding:

Hydroseeding supplies such as wood mulch and tackifier are stored in the IRVM equipment storage facility.

4. Herbicide:

Herbicide is stored in one location in the Scott County Secondary Roads Department Complex. The herbicide containers are all placed in spill proof secondary containment trays.

XII. Research Opportunities:

An important aspect of the Scott County IRVM program is furthering knowledge regarding restoration, reconstruction and management of native ecosystems. Funding for research projects can be attained from LRTF. Research projects also provide an excellent opportunity to involve students in the Scott County IRVM program. This could lead to internships for students majoring in a natural resource related field. Potential research projects are listed below.

Remnant Management:

Managing prairie remnants is an important part of the Scott County IRVM program. As we do not fully understand sand prairie remnants and Scott County has several in the right-of-way, research projects may be devised to help us understand them better.

Seed Production:

To help increase the diversity of the seed mix we use when reconstructing right-of-way vegetation, Scott County will create a seed production plot to grow species that are not provided in the TAP seed mix. Research will be conducted on several species that will be grown to see how to best germinate, grow and manage these plants.

Native Short Grasses and Forbs on Road Shoulders:

When tall growing native grass and forb species are planted near road shoulders and not mowed, drifting following snowfall can occur in winter months. A study will be conducted to determine if planting shorter growing native grass and forb species near road shoulders would eliminate this problem. This would result in less mowing for counties and more cover and food for native insects and wildlife throughout the winter.

XIII. Program Evaluation:

Scott County Integrated Roadside Vegetation Management is a young program that has been set up for success. IRVM has progressed slowly in Scott County which has resulted in steady growth for the program. The Scott County IRVM program was initially derived from the Scott County Weed Commission which oversaw the destruction of noxious weeds within the county. This allowed the IRVM program to begin with equipment, facilities and positions.

There is a great deal of support for IRVM from members of our county government and county residents. This will allowed us to expand our program and become more efficient through new equipment purchases. A list of what is viewed as the strengths and opportunities for improvement for the IRVM program can be found below.

Strengths:

- Supportive IRVM Steering Committee that advocates for the program.
- Adequate equipment, facilities and positions to conduct IRVM activities.
- Supportive County Engineer.
- Detailed map of remnant vegetation and native grass inventories in Scott County ROW.

Opportunities for Improvement:

- Improve facilities to incorporate proper pesticide and prairie seed storage.
- Improve upon the public's view of IRVM. It is not bad but could be improved.
- Position descriptions should be updated to reflect IRVM principles.

XIV. Appendices:

A. Position Descriptions and Qualifications:

1. Roadside Manager Job Description:

Summary:

The Roadside Manager shall administer, develop, plan and conduct a program of vegetative habitat management that seeks to control unwanted vegetation and promote desirable vegetation on Scott County ROW and public drainage ditches and perform related duties as assigned by the County Engineer. The Roadside Manager is hired in the Scott County Engineer's Office to address the provisions of Section 314 of the Code of Iowa, the Integrated Roadside Vegetation Management Manual and Section 317, the Noxious Weed Law.

Essential Duties and Responsibilities:

- Planting and maintenance of native and introduced grass/forb communities in newly graded, cleaned out or otherwise disturbed sites on county ROW.
- Development of a program of public information and education to promote public understanding of IRVM and wise land use that contributes to the goals of the IRVM program.
- Inventorying and documenting plant communities and trends along county ROW.
- Managing those areas of native vegetation identified by the inventory process to improve their diversity and promote their continued health.
- Remove all trees and brush causing safety concerns along county roadways.
- All Weed Commissioner duties and responsibilities and performs other duties as assigned.
- Control of noxious weeds in rights-of-way and public drainage ditches.
- Serves as the trainer/inspector/manager for staff dealing with seeders, tractors, mowers, sprayers and other roadside management equipment.
- Performs administrative duties such as successful grant writing and writing reports for monthly and annual updates as requested.
- Serves on the Scott County IRVM Steering Committee. Attends and organizes meetings. Assists with the direction of the group's vision.
- Attends state and regional conferences relating to the field as directed.
- Assist to the best of your ability the enforcement of all Local, State and Federal laws pertaining to the operation of roadside vegetation management within Scott County and serves as a liaison for previously mentioned law enforcement agencies.
- Supervises staff. This includes assigning, checking, planning the work schedules of full-time, seasonal and volunteers.
- Establishes a long term plan for roadside development that meets the goals and objectives of the Secondary Roads and Scott County Conservation Departments. This includes long term budgeting for capital expenditures.
- Assists the County Conservation Department in the planting of park lands where applicable to promote the expansion of native prairie in the state of Iowa.

Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill and/or ability required.

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. Education and/or Experience: (Recommended upon hire but can be within 6 months)

- Maintain a valid pesticide applicator's license in Category 1A (Agriculture) and 6 (Right-of-way).
- Maintain a valid Class B Commercial Driver's License with air brake endorsement.
- Have a minimum four-year college degree in a natural resource related field with major course work in botany and wildlife or equivalent work related experience.
- Maintain NWCG Certifications S130, S190, S290 for prescribed fire.
- Ability to read, analyze and interpret general business periodicals, professional journals, technical procedures and governmental regulations.
- Ability to write reports for business correspondence and procedure manuals.

Technical Skills:

- Ability to utilize Microsoft Windows / Office Programs
- GIS and GPS equipment expertise as required for monitoring
- Demonstration of strong organizational skills
- Demonstration of good oral and written communication skills
- Knowledge of principles of land use and the environmental, social and economic problems that affect it.
- Ability to plan work, think conceptually, analyze data, observe and evaluate and make sound decisions and recommendations.
- Ability to work well with the public and private sectors on diverse roadside projects.
- Ability to identify native and introduced plant species including invasive or non-desirable plants.
- Knowledge of the principles of wildlife management/protection and conservation practices relating to roadsides.
- Ability to supervise and engage support staff to carry out program goals.
- Ability to operate and maintain power equipment.
- Ability to multi-task and prioritize job activities to achieve maximum overall results.

Physical Demands:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job the employee is regularly required to talk or hear. The employee is frequently required to stand, walk, use hands to finger, grasp, handle, feel, climb balance, stoop, kneel, crouch, crawl, push, pull and reach with hands and arms. The employee must frequently lift and/or move up to 10 pounds, occasionally lift and/or move up to 20 pounds and occasionally exert up to 50 pounds of force to move objects. The visual requirements for this position are similar to those classified as machine operations. This is a minimum standard for use with those whose work deals with machines such as lathes, drill presses, power saws and mills where the seeing job is at or within arm's reach. Also, mechanics and skilled tradespeople and those who do work of a non-repetitive nature such as carpenters, technicians, service people, plumbers, painters, mechanics, etc.

Work Environment:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. This worker is subject to outside environmental conditions year around. This worker is subject to extreme cold and extreme heat. The worker is subject to noise and hazards including moving mechanical parts, electrical current, working on scaffolding and high places, exposure to high heat or exposure to chemicals; conditions that may include fumes, odors, dusts, mists, gasses or poor ventilation; oils.

2. Roadside Technician Job Description:

SUMMARY: The Roadside Technician is responsible for the control and destruction of noxious weeds in the county. This involves the spraying of noxious weeds and controlling brush growing in the rights-of-way on county roads. Assists in seeding county roadway ditches and cutting brush and trees in the rights-of-way as needed.

ESSENTIAL DUTIES AND RESPONSIBILITIES include the following.

Other duties may be assigned.

1. Operates equipment in the control and destruction of noxious weeds in the county.
2. Performs maintenance on equipment including, but not limited to, preparing trucks for use in the spring and for winter storage, cleaning, routine and preventative care.
3. Cuts, removes, piles, and burns brush, along with tree trimming, as needed.
4. Assists with new seeding along roadways including operating tractor, notill drill, hydroseeder and broadcast seeders.
5. Operates a heavy truck to plow for snow and ice removal, haul and spread granular surfacing materials and assist in road maintenance and construction projects.
6. Performs other duties as assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

EDUCATION and/or EXPERIENCE

High school diploma or equivalent
Class B Commercial Driver's License, Airbrakes and Tanker
Class IA + 6 Chemical Commercial Applicators license
Hazmat Certification

LANGUAGE SKILLS

Ability to read and interpret documents such as safety rules, operating and maintenance instructions and procedures manuals. Ability to write routine reports and correspondence. Ability to speak effectively before small groups of customers or employees of the County.

OTHER SKILLS AND ABILITIES

- Ability to multi-task and prioritize job activities to achieve maximum overall results
- Ability to operate heavy machines/equipment including, but not limited to, boom truck, spray equipment, dump truck, flatbed truck, snowplow, skid loader and power equipment.
- Ability to supervise assigned personnel in performance of their duties such that performance exceeds or meets expectations.
- Ability to perform manual labor.
- Ability to operate hand tools.
- Ability to give attention to detail.
- Ability to drive a manual transmission.
- Ability to work with others in the attainment of department duties and organization goals.
- Demonstration of good oral and written communication skills.
- Demonstration of strong organizational skills.
- Knowledge of roadway maintenance including snow/debris removal.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job the employee is regularly required to stand; walk; stoop, kneel, crouch, crawl, push or pull and reach with hands and arms. The employee is regularly required to use hands to finger, grasp, feel or sustain repetitive movements. The employee must constantly lift and/or move up to 20 pounds; frequently lift and/or move up to 50 pounds and occasionally exert up to 100 pounds of force to lift and/or move objects. The visual requirement of this job is similar to those classified as mobile equipment operators. This is a minimum standard for use with those who operate cars, trucks, forklifts, cranes and high lift equipment.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. This worker is subject to both internal and external environmental conditions including extreme cold and heat. The worker is subject to extreme cold temperatures below 32 degrees and to extreme heat- temperatures above 100 degrees. The worker is subject to conditions such as vibration, fumes, odors, dusts, mists, gasses or poor ventilation; oils and chemicals. This worker is subject to noise, hazards including moving mechanical parts, electrical current, working on scaffolding and high places, exposure to heat or chemicals. Depending on the month, this position is required to work non-regular hours, as needed, to assist in weed control, seeding, snow removal and/or removing trees and other objects from roadways after storms.

B. Area Map of Scott County:

SCOTT COUNTY IOWA



Prepared By
SYSTEMS PLANNING BUREAU
Phone: (515) 239-1664
WWW.IOWADOT.GOV/MAPS



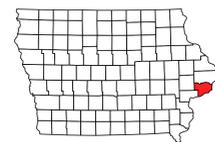
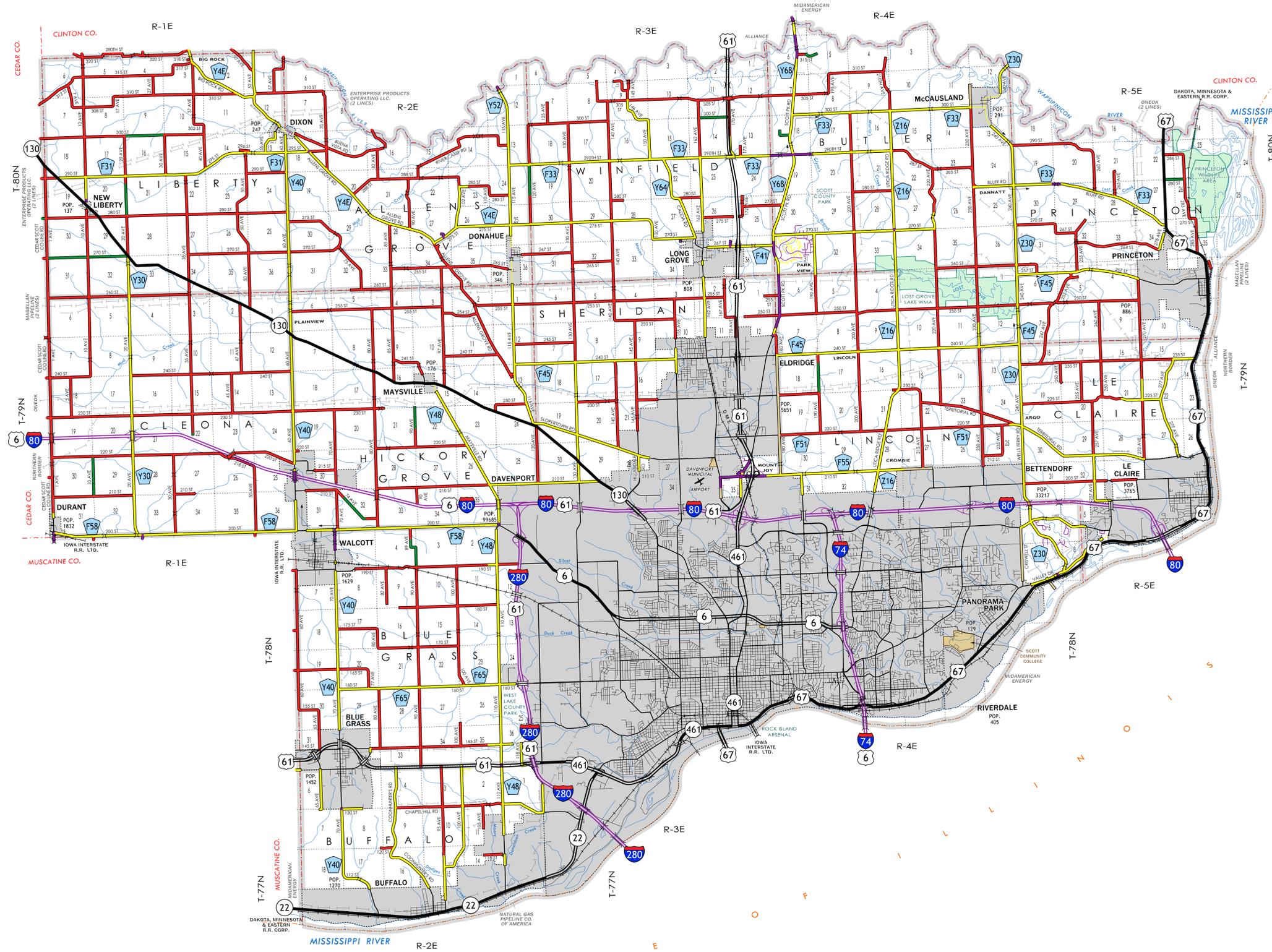
In Cooperation With
United States
Department of Transportation

JANUARY 1, 2020



LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAME
- UNINCORPORATED PLACE
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND



C. Permits:

Permits will be added to this Appendix Section as they are created.

D. Roadside Inventories:

1. SAU Roadside Inventory Research: To be added when available
2. Roadside Inventory and Remnant Inventory: Click for Final Report

E. Remnant Inventories:**F. Scott County Endangered, Threatened and Special Concern Plants and Animals:**

In the following list, S implies special concern; T implies threatened and E implies Endangered.

Summary by Species Report						
Total Unique Listed Species In Scott County: 57						
County	Common Name	Scientific Name	Class	State Status	Federal Status	Link To Species Profile
SCOTT	Central Newt	Notophthalmus viridescens	AMPHIBIANS	T		PDF
SCOTT	Bald Eagle	Haliaeetus leucocephalus	BIRDS	S		PDF
SCOTT	Barn Owl	Tyto alba	BIRDS	E		PDF
SCOTT	Peregrine Falcon	Falco peregrinus	BIRDS	S		PDF
SCOTT	Grass Pickerel	Esox americanus	FISH	T		PDF
SCOTT	Lake Sturgeon	Acipenser fulvescens	FISH	E		PDF
SCOTT	Butterfly	Ellipsaria lineolata	FRESHWATER MUSSELS	T		PDF
SCOTT	Creeper	Strophitus undulatus	FRESHWATER MUSSELS	T		PDF
SCOTT	Higgin's-eye Pearly Mussel	Lampsilis higginsii	FRESHWATER MUSSELS	E	E	PDF
SCOTT	Pistolgrip	Tritogonia verrucosa	FRESHWATER MUSSELS	E		PDF
SCOTT	Round Pigtoe	Pleurobema sintoxia	FRESHWATER MUSSELS	E		PDF
SCOTT	Sheepnose	Plethobasus cyphus	FRESHWATER MUSSELS	E	C	PDF
SCOTT	Spectaclecase	Cumberlandia monodonta	FRESHWATER MUSSELS	E	C	PDF
SCOTT	Yellow Sandshell	Lampsilis teres	FRESHWATER MUSSELS	E		PDF
SCOTT	Byssus Skipper	Problema byssus	INSECTS	T		PDF
SCOTT	Regal Fritillary	Speyeria idalia	INSECTS	S		PDF
SCOTT	Zebra Swallowtail	Eurytides marcellus	INSECTS	S		PDF
SCOTT	Indiana Bat	Myotis sodalis	MAMMALS	E	E	PDF
SCOTT	Northern Long-eared Bat	Myotis septentrionalis	MAMMALS		T	PDF
SCOTT	Southern Bog Lemming	Synaptomys cooperi	MAMMALS	T		PDF

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SCOTT	American Speedwell	Veronica americana	PLANTS (DICOTS)	S		PDF
SCOTT	Earleaf Foxglove	Tomanthera auriculata	PLANTS (DICOTS)	S		PDF
SCOTT	Globe Mallow	Malvastrum hispidum	PLANTS (DICOTS)	S		PDF
SCOTT	Golden Aster	Heterotheca villosa	PLANTS (DICOTS)	S		PDF
SCOTT	Heart-leaved Plantain	Plantago cordata	PLANTS (DICOTS)	S		PDF
SCOTT	Hill's Thistle	Cirsium hillii	PLANTS (DICOTS)	S		PDF
SCOTT	Lake Cress	Armoracia aquatica	PLANTS (DICOTS)	S		PDF
SCOTT	Lance-leaved Violet	Viola lanceolata	PLANTS (DICOTS)	S		PDF
SCOTT	Low Hairy Ground-cherry	Physalis pubescens	PLANTS (DICOTS)	S		PDF
SCOTT	Mead's Milkweed	Asclepias meadii	PLANTS (DICOTS)	E	T	PDF
SCOTT	Orange Grass St. John's Wort	Hypericum gentianoides	PLANTS (DICOTS)	E		PDF
SCOTT	Purple Angelica	Angelica atropurpurea	PLANTS (DICOTS)	S		PDF
SCOTT	Rose Turtlehead	Chelone obliqua	PLANTS (DICOTS)	S		PDF
SCOTT	Schreber's Aster	Aster schreberi	PLANTS (DICOTS)	E		PDF
SCOTT	Sweet Indian Plantain	Cacalia suaveolens	PLANTS (DICOTS)	T		PDF
SCOTT	Valerian	Valeriana edulis	PLANTS (DICOTS)	S		PDF
SCOTT	Waterwillow	Decodon verticillatus	PLANTS (DICOTS)	E		PDF
SCOTT	Waxleaf Meadowrue	Thalictrum revolutum	PLANTS (DICOTS)	E		PDF
SCOTT	Bulrush	Scirpus pedicellatus	PLANTS (MONOCOTS)	S		PDF
SCOTT	Drooping Bluegrass	Poa languida	PLANTS (MONOCOTS)	S		PDF
SCOTT	Field Sedge	Carex conoidea	PLANTS (MONOCOTS)	S		PDF
SCOTT	Glomerate Sedge	Carex aggregata	PLANTS (MONOCOTS)	S		PDF
SCOTT	Grassleaf Rush	Juncus marginatus	PLANTS (MONOCOTS)	S		PDF
SCOTT	Great Plains Ladies'-tresses	Spiranthes magnicamporum	PLANTS (MONOCOTS)	S		PDF
SCOTT	Green's Rush	Juncus greenei	PLANTS (MONOCOTS)	S		PDF
SCOTT	Slender Dayflower	Commelina erecta	PLANTS (MONOCOTS)	T		PDF
SCOTT	Slender Fimbry	Fimbristylis autumnalis	PLANTS (MONOCOTS)	S		PDF
SCOTT	Slender Ladies'-tresses	Spiranthes lacera	PLANTS (MONOCOTS)	T		PDF
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SCOTT	Slender Sedge	Carex tenera	PLANTS (MONOCOTS)	S		PDF
SCOTT	Small White Lady's Slipper	Cypripedium candidum	PLANTS (MONOCOTS)	S		PDF
SCOTT	Tall Cotton Grass	Eriophorum angustifolium	PLANTS (MONOCOTS)	S		PDF
SCOTT	Ledge Spikemoss	Selaginella rupestris	PLANTS (PTERIODOPHYTES)	S		PDF
SCOTT	Northern Adder's-tongue	Ophioglossum pusillum	PLANTS (PTERIODOPHYTES)	S		PDF
SCOTT	Blanding's Turtle	Emydoidea blandingii	REPTILES	T		PDF
SCOTT	Copperbelly Water Snake	Nerodia erythrogaster neglecta	REPTILES	E		PDF
SCOTT	Eastern Massasauga	Sistrurus catenatus catenatus	REPTILES	E	C	PDF
SCOTT	Ornate Box Turtle	Terrapene ornata	REPTILES	T		PDF

G. ROW Seed Mixes:

1. Diversity Mix:

Forbs:

- Black-eyed Susan, *Rudbeckia hirta*
- Butterfly Milkweed, *Asclepias tuberosa*
- Canada Milkvech, *Astragalus canadensis*
- Compass Plant, *Silphium laciniatum*
- Fox Sedge, *Carex vulpinoldea*
- Golden Alexanders, *Zizia aurea*
- Green Bulrush, *Scirpus atrovirens*
- Grey-headed Coneflower, *Ratibida pinnata*
- Hoary Vervain, *Verbena stricta*
- Large-flowered Beardtongue, *Penstemon grandiflorus*
- Lead Plant, *Amorpha canescens*
- New England Aster, *Symphyotrichum novae-angliae*
- Ohio Spiderwort, *Tradescantia ohioensis*
- Ox-eye Sunflower, *Heliopsis helianthoides*
- Pale Purple Coneflower, *Echinacea pallida*
- Partridge Pea, *Chamaecrista fasciculata*
- Prairie Blazing Star, *Liatris pycnostachya*
- Prairie Sedge, *Carex bicknellii*
- Purple Prairie Clover, *Dalea purpurea*
- Rattlesnake Master, *Eryngium yuccifolium*
- Rough Blazing Star, *Liatris aspera*
- Round-headed Bush Clover, *Lespedeza capitata*
- Showy Tick Trefoil, *Desmodium canadense*
- Sneezeweed, *Helenium autumnale*
- Stiff Goldenrod, *Oligoneuron rigidum*
- Swamp Milkweed, *Asclepias incarnate*
- White Wild Indigo, *Baptisia alba*
- Wild Bergamot, *Monarda fistulosa*
- Wild Petunia, *Ruellia humilis*

Grasses:

- Big Bluestem, *Andropogon gerardii*
- Canada Wild Rye, *Elymus canadensis*
- Indian Grass, *Sorghastrum nutans*
- Rough Dropseed, *Sporobolus asper*
- Sideoats Grama, *Bouteloua curtipendula*
- Switch Grass, *Panicum virgatum*

2. Ditch Clean-Out Mix:

Forbs:

- Black-eyed Susan, *Rudbeckia hirta*
- Canada Milkvetch, *Astragalus canadensis*
- Grey-headed Coneflower, *Ratibida pinnata*
- Ox-eye Sunflower, *Heliopsis helianthoides*
- Pale Purple Coneflower, *Echinacea pallida*
- Partridge Pea, *Chamaecrisa fasciculata*
- Purple Prairie Clover, *Dalea purpurea*
- Rattlesnake Master, *Eryngium yuccifolium*
- Stiff Goldenrod, *Oligoneuron rigidum*
- Swamp Milkweed, *Asclepias incarnate*

Grasses:

- Big Bluestem, *Andropogon gerardii*
- Canada Wild Rye, *Elymus canadensis*
- Indian Grass, *Sorghastrum nutans*
- Little Bluestem, *Schizachyrium scoparium*
- Rough Dropseed, *Sporobolus asper*
- Sideoats Grama, *Bouteloua curtipendula*
- Switch Grass, *Panicum virgatum*

H. Noxious Weed Notifications:

1. Public Notice Destruction of Noxious Weeds:

Each owner and each person in possession or control of any lands in Scott County shall cut, burn or otherwise destroy all noxious weeds thereon, as defined in this chapter, at such times in each year and in such manner as shall prevent said weeds from blooming or coming to maturity, and shall keep said lands free from such growth of any other weeds as shall render the streets or highways adjoining said land unsafe for public travel. Noxious weeds shall be cut or otherwise destroyed on or before the following dates and as often thereafter as is necessary to prevent seed production:

Group 1, By May 11, 2015 for Leafy Spurge, Perennial Peppergrass, Sour Dock, Smooth Dock, Sheep Sorrel and Purple Loose Strife.

Group 2, By May 11, 2015 for Canadian Thistle, Russian Knapweed, Buckhorn, Wild Mustard and Buckthorn.

Group 3, By May 11, 2015 for European Morning Glory or Field Bindweed, Wild Carrot, Poison Hemlock, Multiflora Rose, Horse Nettle, Perennial Sow Thistle, Quack Grass, Butterprint, Puncture Vine, Cocklebur, Bull Thistle, Musk Thistle, Wild Sunflower, Shattercane, and Teasel. Each owner and person in the possession or control of any lands in Scott County infested with any of the following noxious weeds shall adopt a program of weed destruction described by the Weed Commissioner, which in five days may be expected to destroy and will immediately keep under control such infestations of said noxious weeds.

a. Primary Noxious Weeds: Quack Grass, Perennial Sow Thistle, Canada Thistle, Bull Thistle, Musk Thistle, European Morning Glory or Field Bindweed, Horse Nettle, Leafy Spurge, Perennial Peppergrass, Russian Knapweed, Buckthorn and Purple Loosestrife.

J. Grants:

1. Living Roadway Trust Fund Grants:

Scott County LRTF Funding History through FY 2021

DOTProjectNumber	Applicant	Award	Fiscal Year	Description	Type	
90-82-LR 17-333	Jon Burgstrum	\$5000.	2017	Roadside Inventory		
90-82-LR 17-332	Jon Burgstrum	\$2370.	2017	Electronics for data collecting		
90-82-LR 19-340	Brian Burkholder	\$1544.	2018	Prescribed Fire tools		
90-82-LR 19-339	Brian Burkholder	\$24000.	2018	Hydroseeder		
90-82-LR 20-319	Brian Burkholder	\$14289.75	2019	Roadside Sprayer		

Total LRTF Funding Awarded as of FY2021 \$47,203.75