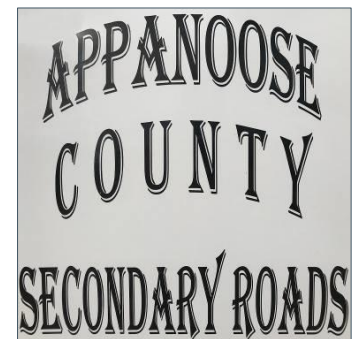


# Integrated Roadside Vegetation Management Plan



## Appanoose County

Approved by Appanoose County Board of Supervisors: April 17, 2023



# Table of Contents

Page

<b>1. Preface .....</b>	<b>4</b>
Version 1 March 23 <sup>rd</sup> , 2023 .....	4
Contributors to the Plan .....	4
<b>2. Executive Program Elements.....</b>	<b>5</b>
Plan Objectives .....	5
Goals .....	5
Program History.....	5
IRVM Decision Making Process .....	6
Program Type .....	6
Area Map .....	6
<b>3. Jurisdictional Recognition and Approval .....</b>	<b>7</b>
Management .....	7
Board of Supervisors .....	7
Iowa Code and Administrative Rules – State Laws and Regulations .....	7
Local Laws and Regulations .....	7
Permitting.....	7
Obstructions, Nuisance, and Enforcement .....	8
<b>4. Program Organizational Structure.....</b>	<b>9</b>
Staff Organization Chart .....	9
Staffing Needs.....	10
Succession Plan.....	10
<b>5. Public Involvement .....</b>	<b>11</b>
Education and Outreach .....	11
Communication Mechanisms .....	11
<b>6. Inventory and Analysis.....</b>	<b>12</b>
Natural Resources .....	12
Equipment .....	13

<b>7. Program Operations .....</b>	<b>14</b>
Annual Operations.....	14
Work Area Types .....	14
Vegetation Types for Specific Users .....	15
Special Projects.....	15
Training.....	15
Safety .....	15
<b>8. Methods .....</b>	<b>16</b>
Vegetation Establishment .....	16
Ongoing Maintenance .....	16
Urban vs Rural Implications.....	17
<b>9. Material Procurement .....</b>	<b>18</b>
Sourcing .....	18
Material Handling and Storage.....	18
<b>10. Budget .....</b>	<b>19</b>
Funding .....	19
<b>11. Program Evaluation .....</b>	<b>20</b>

List of Figures

Page

Figure 1. Appanoose County Area Map.....	Exhibit 1
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# 1. Preface

## Update/Version

Version Date: April 17, 2023

Adopted April 17, 2023 by Appanoose County Board of Supervisors

## Contributors to the Plan

Plan developed by:

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With Support from:

- ▶ Nate Shilling- Assistant to Engineer
- ▶ Hannah Wiltamuth- Co-Director/Naturalist
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## 2. Executive Program Elements

### Plan Objectives

The purpose of the Appanoose County Integrated Roadside Vegetation Management (IRVM) Plan is to provide a long-term strategy for managing vegetation in the county owned rights-of-way. Road corridors that exist in the county are designed to transport people and goods safely and efficiently from one location to another. The primary purpose of roadside vegetation along these corridors is to hold soil in place without creating hazards. This plan will work to promote safer conditions for vehicles, control erosion, brush control, limit sedimentation, animal welfare and develop natural areas for roadside beautification through cost effective techniques.

### Goals

Appanoose County's vegetation management goals must meet certain safety and functional requirements before aesthetic, recreational, or economic considerations can be addressed.

- ▶ Implement a long term, integrated management program that promotes desirable and self-sustaining plant communities within the Appanoose County Secondary Roads Department
  - Create a full-time position for a Roadside Manager
- ▶ Maintain safe, functional and environmentally improved corridors of travel throughout the county using native plants and proper management techniques
  - Control brush within County right-of-way
  - Reduce the presence of noxious weeds on County property and encourage cooperative efforts with adjoining owners of private property
  - Erosion and sediment control
  - Encourage animals to keep a safe separation from vehicular traffic
- ▶ Acquire equipment such as a hydroseeder, mulch tucker and cultipacker, seed drill, and UTV to spray effective chemicals as a control method of undesirable plants

### Program History

Appanoose County Secondary Roads has been clearing brush in right-of-way for many years as well as spraying for noxious weeds but cannot make progress without additional assistance in funding and labor. With road side projects, the County has been lacking in reestablishing erosion resistant plants. There has not previously been an established IRVM plan, so establishing this plan will improve the function and safety of the travel corridors.

## IRVM Decision Making Process

IRVM is proposed to be under the management of the County Engineer with input from the Appanoose County Weed commissioner. The Roadside Manager reports to the County Engineer but communicates with the Roads Superintendent for current county activities. The full-time Roadside Manager determines the day-to-day operations, sets priorities, carries out the business management duties, and performs work as needed. A budget and plan for the following year will be prepared by the Roadside Manager and approved by the Engineer. This will allow the Roadside Manager to coordinate with the County Roads Superintendent regarding construction projects while continuing to improve all roadsides around the county.

## Program Type

Appanoose County's IRVM program is housed and administered in the Secondary Roads Department. Funding will be initially sourced from Secondary Roads with the assistance of grants through Iowa Living Roadway Trust fund.

## Area Map

Please refer to Exhibit 1 in the Appendix.

## 3. Jurisdictional Recognition and Approval

### Management

The County Engineer has direct supervision of the Roadside Manager, and consults with them regarding large scale projects, gives frequent updates of ongoing IRVM maintenance and annual operations and reviews IRVM funding and budgetary needs on an annual basis. The Manager meets with the Roads Superintendent to discuss ongoing maintenance, the location of all projects completed by County personnel, and coordinates additional Secondary Roads employees when needed in larger scale tree and brush removal projects.

### Board of Supervisors

The Board of Supervisors aids in hearing public input in IRVM operations. Supervisors also review and approve budget for IRVM operations (within the Secondary Roads budget) on an annual basis.

### Iowa Code and Administrative Rules – State Laws and Regulations

Iowa Law Section 314.22 Integrated Roadside Vegetation Management

Iowa Law Section 314.17 Mowing on Secondary Roads

Iowa Law Section 317.11 Weeds on Roads

Iowa Law Section 318.3 Obstructions in the ROW

### Local Laws and Regulations

Local laws, regulations, and policies pertaining to IRVM in Appanoose County reflect that of the Iowa Code; as well as any other State and Federal regulations that are specific to the management activities that occur within the jurisdiction of the Roadside Department.

### Permitting

Permits are filed in the County Engineer's Office. Permits are filled out by the applicant, then submitted to the County Engineer for approval. Permits relevant to the IRVM program include:

- ▶ No Spray Management Agreement
- ▶ No Mowing Agreement
- ▶ Entrance Permit
- ▶ Work in Right of Way Permit

## Obstructions, Nuisance, and Enforcement

The Program will work to eliminate physical or visual obstructions that create unsafe roadways from brush, nuisance vegetation, unauthorized signs and unauthorized use of rights-of-way. Regular viewing of roads and ROW's by Roads Superintendent, Engineer and maintenance staff, plus reports from public, help identify work needs. While focus is on improving and preserving established roadsides through communication and cooperative efforts with property owners, law enforcement may be called upon to assist with areas that involve non-cooperative parties

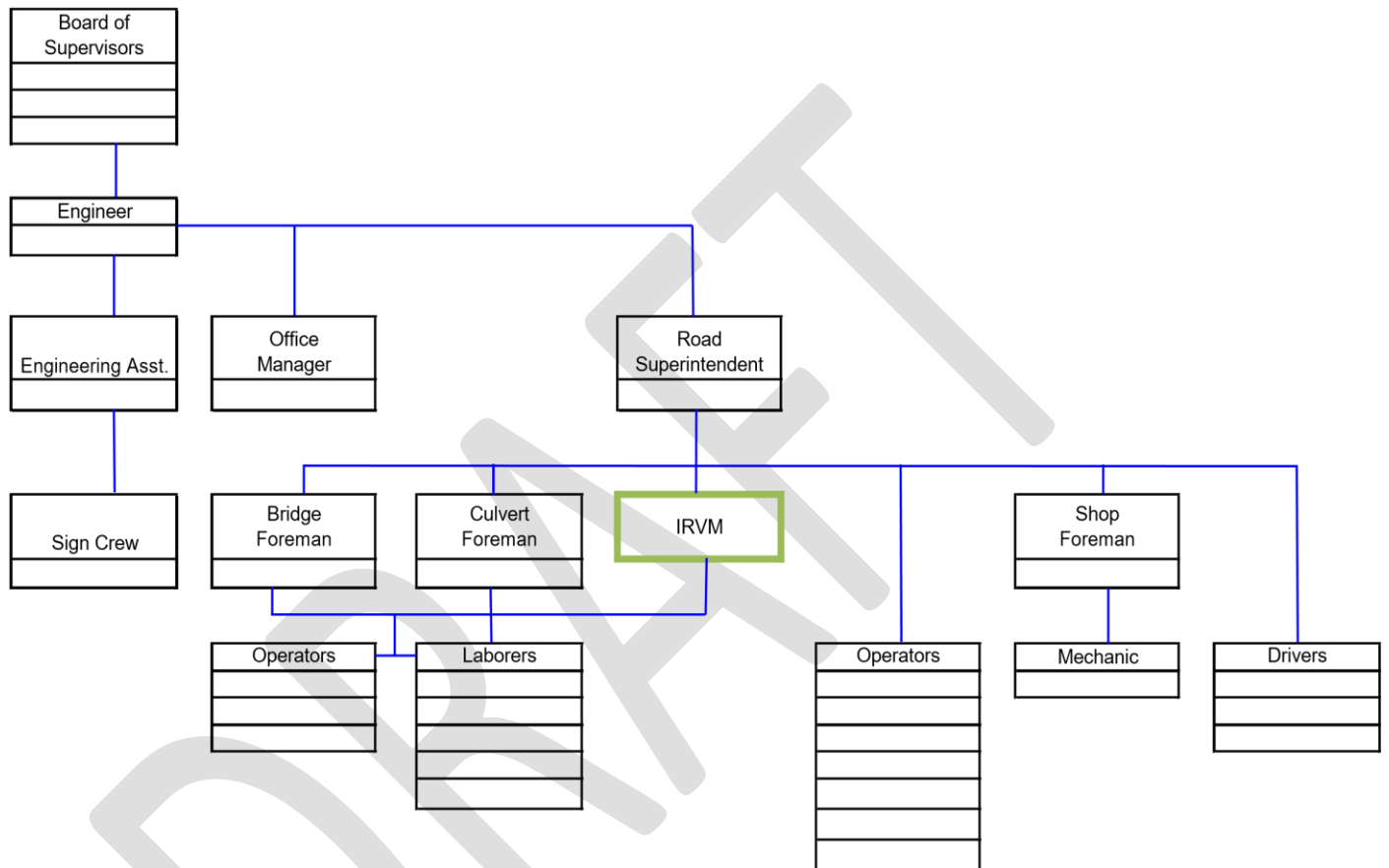
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# 4. Program Organizational Structure

## Staff Organization Chart

- ▶ Appanoose County Secondary Roads Organization Chart



## Staffing Needs

Appanoose County's IRVM plan requires workers to be available for seeding, spraying, erosion control, mowing and brush cutting. Staff will be utilized when schedules are free from typical road maintenance activities. Currently, two of secondary roads maintenance employees are certified pesticide applicators, with the intent to certify more employees.

## Succession Plan

First step would be to hire or identify from current personnel, a full time Roadside Manager. An annual review of the plan progression should be scheduled between the Board of Supervisors, County Engineer, and/or management staff responsible for the program, Roads Superintendent and the Roadside Manager. The objectives and goals should be evaluated with growth in the program to mesh with the efforts of Conservation and Secondary Roads Departments.

It is anticipated that the objectives can be reached or at least established as achievable goals without substantially increasing local expenditures. A comprehensive review of the program should be performed within four years of the adoption of this plan.

## 5. Public Involvement

### Education and Outreach

As part of Appanoose County's IRVM Plan, the staff will continue to develop public awareness of the benefits of proper roadside management. The Roadside Manager will provide educational presentations to public and private groups upon request. Staff vehicles are also stocked with IRVM handouts for disbursement in the field.

### Communication Mechanisms

- ▶ Board of Supervisors Annual Report and reviews
- ▶ Facebook
- ▶ County Website
- ▶ Personal contacts when a significant project is to be undertaken
- ▶ School and community service group presentations

## 6. Inventory and Analysis

### Natural Resources

- ▶ Tools
  - Digital Camera – Year to year visual record keeping
  - Paper spray records are filed indicating roads treated each day as well as weather conditions, chemicals used and the rate of application
  - To the extent practical, digital record keeping will utilize GPS data and GIS technology to track IRVM progress
  - CAD map of living ditching map/grading project list to develop seeding projects
- ▶ Vegetation
  - Numerous hazard trees, brush encroachment, and drainage issues have been surveyed utilizing the ICEA Service Bureau work orders system. This work order map will allow tracking of vegetation issues and will be a continuous practice.
- ▶ Watersheds
  - Soap Creek and Chariton River are the two primary watersheds in Appanoose County, with Rathbun Lake located on the Chariton River.
- ▶ Field Tile in Roadsides
  - Field tile outlets in ROW's will be documented as an opportunity to establish more water needy vegetations variety.
- ▶ Soils
  - Soils vary from rich topsoil to hard pack clays within Appanoose County. Proper choices of grasses and ground cover based upon soils will be critical.
- ▶ Erosion Issues
  - SUDAS standards and details, along with the Iowa DOT criteria will be utilized to encourage new or replacement vegetation.
- ▶ Wildlife
  - While wildlife is considered desirable, efforts will be to encourage their presence at a safe distance off of the roadside.
- ▶ Special Road Designations
  - The Scenic Bypass and Mormon Trail are present in Appanoose County. IRVM will work with Appanoose County Secondary Roads to sign the features for historic preservation.

## Equipment

Appanoose County has a variety of equipment available for performing yearly operations. Currently there is no equipment designated specifically to the IRVM program. All brush cutting, seeding and spray equipment have been purchased by the Secondary Roads Department with the intent to apply for Living Roadway Trust Funds grant money to help expand the fleet.

As other equipment is identified that can assist in our abilities to successfully and economically carry out the IRVM plan, they will be considered for additions to our fleet. While most current equipment is stored inside during the off season, in the future it will be advantageous to build a structure to store equipment and materials in order to extend the life of equipment and store larger amounts of live seed and materials.

Conversations with Appanoose County Conservation staff have taken place in early 2023 leading to a cooperative atmosphere and intent to share equipment and expertise in the initial stages of the IRVM Plan implementation.

- ▶ Brush Removal Equipment
  - Stihl Chainsaws
  - 2008 Chipper
  - 2015 Brush head attachment for excavator
  - 2022 Brush head attachment for excavator
  - 2014 John Deere boom mower with a forestry head
  - (2) Caterpillar skid loaders with attachments
- ▶ Spraying Equipment
  - Truck sprayer
  - Yamaha Mule with attached sprayer (shared with Sheriff Department)
  - Backpack sprayers
- ▶ Mowing Equipment
  - (3) John Deere and Schulte batwing mowers
  - (2) Diamond and Tiger mowers
  - Ferri Flail Mower
- ▶ Seeding Equipment
  - 1995 Ford water truck
  - Broadcast seeder
  - 1977 International tractor with tiller
  - Land Pride straw crimper

## 7. Program Operations

### Annual Operations

This is a probable schedule of activities for a typical year.

- ▶ January to March
  - Tree and brush removal, budgetary meetings, equipment maintenance, inventory, order seed, order herbicides, write LRTF grants, compile maps, assist with road snow and ice removal, attend training and educational seminars
- ▶ April to October
  - Maintenance and construction area seeding operations, tree and brush removal, brush and noxious weed applications
  - Roadside mowing
  - Address weed complaints and spray for noxious weeds and woody encroachment with input from Weed Commissioner
  - Seasonal seeding of disturbed ROW's
  - Finalize fall/dormant season seeding plans
  - Obtain cover crop seed
- ▶ November to December
  - Tree and brush removal, equipment maintenance, dormant seeding, other duties as assigned

### Work Area Types

The majority of Appanoose County is rural with three typical types of adjacent land that will require different management practices in the ROW. Below are the three adjacent types

- ▶ Residential
  - The land is privately owned and is typically made up of a cool-season grass lawn. We will coordinate with land owners as needed.
- ▶ Farmland
  - This land is privately owned and is typically row cropped or pasture land. We will coordinate with the land owner before any management on adjacent ROW.
- ▶ Public Land
  - This land is owned by the Department of Natural Resources or United States Army Corp of Engineers. We will coordinate with the proper representative before any management on adjacent ROW.

## Vegetation Types for Specific Users

Our main concern is to control erosion as soon as possible after disturbing the soil. A seed mix that establishes a thick root system to help reduce erosion will be used. Selection of vegetation will be based upon plant performance, cost, availability, and distinct benefits of each type of plant.

## Special Projects

The Roadside Manager will work with the special projects of Appanoose County Conservation, IDNR, NRCS, USACE, and established wildlife associations whenever possible.

## Training

All persons spraying under the direction of the Roadside Manager will carry an up-to-date Iowa Pesticide Applicator Category 1 and 6 certification. Annual continued education for the license will be coordinated with Iowa State Extension and Iowa Department of Agriculture and Land Stewardship. Additional education is available with conferences and supplier meetings.

All staff is trained on county approved equipment safety standards.

## Safety

Working safely in the road right-of-way is the main goal in Appanoose County. All staff working within the right-of-way shall have training on every piece of equipment prior to use. Employees will be supplied with high visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication or equivalent. The personal protection equipment includes but not limited to boots, chaps, safety glasses/goggles, gloves, and hearing protection. When needed, traffic control can be provided through the Secondary Roads Department.

## 8. Methods

Appanoose County Secondary Roads Department utilizes the IRVM Technical Manual in much of its practices.

### Vegetation Establishment

- ▶ Site Preparation - Equipment is used to level the soil surface by breaking up dirt clods and removing debris. If seeding steep slopes, seedbed can be left rougher to reduce soil erosion when hydroseeding.
- ▶ Seed Mixes and Rates - Seed mixtures and rates are selected based on season and at the rate suggested by University of Northern Iowa's IRVM program.
- ▶ Seeding Techniques – Appanoose County determines on a site-by-site basis what type of seeding method to use based on the IRVM Technical Manual suggestion.
- ▶ Erosion and Sediment Control – Multiple erosion control devices and practices are utilized and in combinations. The most common, but not all-inclusive list include: Permanent Native Seeding, Cover Crop Seeding, hydro mulch, straw mulch, straw wattles, rock check dams, channel slope protection with revetment, silt fence, etc.
- ▶ Vegetation Maintenance- Maintenance includes: mowing, planting of temporary cover crops, and selective spot spraying
- ▶ Planting Evaluation and Documentation- Records of seeding dates, locations, planting conditions, mixtures and seeding rates will be kept on paper copies. These documents are to be reviewed when considering future seeding projects.
- ▶ Mowing- Establishment mowing will keep the tall weeds from overtaking the native plantings. A mowing height of 8 inches is desirable, but not less than 4 inches.
- ▶ Chemical Control for Noxious Weeds- Spraying from UTV mounted and hand sprayer applications to be used to prevent the most detrimental noxious weed growth.
- ▶ Tree and Brush Control- Trees and brush that affect the County roadway or ditch or are a safety concern, will be sprayed a year prior to removal. Any trees and brush that are not sprayed before removal will be sprayed with a Tordon equivalent. If soil is disturbed during the removal process, a seeding plan will be implemented.

### Ongoing Maintenance

Appanoose County will maintain paper records of all seeding applications, spray logs and brush removal projects. Every project will be monitored to ensure native seedings are established without noxious weeds or brush regrowth. Seed mixes and rates will be adjusted based upon prior seeding projects.



## Urban vs Rural Implications

Most of Appanoose County is a rural setting for roadside management. Tree and brush removal will be treated in the same manner in both rural and urban locations. In areas near residences, precautions will be used to prevent additional lawn disturbances and a lawn seeding mix will be used to restore any damaged soil.

The majority of the population in Appanoose County is agriculture based with a focus on their personal and farm needs. The initial plan will focus on serving their daily needs for safe ROW's. Controlling vegetation to improve farm operations will be a major component in the program. The areas near Rathbun Lake and Lake Sundown are subject to major traffic fluctuations and types of citizens who visit and reside in Appanoose County. Some adjustments of plan parameters will be necessary in these areas to accommodate additional traffic types including towed boats, campers, trailers, etc., temporary residents visiting from outside the County, as well as impacts from the increasing volume of traffic.

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## 9. Material Procurement

### Sourcing

For small projects Appanoose County will purchase Cover Crop and Cool Season grasses from local vendors throughout the County, and with larger quantities we will take quotes on items. Native Seeds will be purchased from approved vendors. When available, seeds will be requested from the Tallgrass Prairie Center.

Herbicides, fertilizer, mulch, erosion control products and other materials that are needed to complete jobs will be purchased locally if possible. However, the quality and desired variety of products takes priority over local sourcing.

### Material Handling and Storage

The viability of native seed decreases substantially when exposed to high temperature and high humidity. Native seeds will be purchased on an as needed basis until a storage room with a controlled environment is built.

The storage of other materials such as erosion control products, mulch and herbicide will be stored in Appanoose County Secondary Roads facilities. In winter months, herbicides are brought into heated buildings.

A storage facility for proper seed storage and herbicide storage will be essential to the program in the near future. The seed storage room will be humidity and temperature controlled to ensure the longevity of the seed. The herbicide storage room will be vented and have direct exterior access. It is anticipated to be done with funding from a grant through the Iowa Living Roadway Trust Fund.

## 10. Budget

### Funding

Initial funding will be through Appanoose County Secondary Roads Department budget. Line items anticipated to be accrued for IRVM plan related functions included primarily Road Clearing (07140) and Equipment Operations (07210). While these items are included in the Secondary Roads budget at this time, the roadside impact is currently in excess of \$250,000. It is the County Board of Supervisors intent to more efficiently use these funds to meet the objectives of the IRVM plan by focused, organized application of the Plan.

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## 11. Program Evaluation

Previously in Appanoose County, the efforts have been to cut brush where needed. Recently, the Secondary Roads Department began scheduling brush removal in advance of bridge replacement and paving projects to provide a finished corridor when the project is completed, and minimize disruption of seasonal wildlife. Seasonal mowing has been scheduled only for visibility concerns. Going forward, the IRVM efforts will be judged not only on the previous focus, but also including the following

- ▶ Soil stabilization
- ▶ Brush control
- ▶ Healthy variety of grass and wildflower species
- ▶ Roadside wildlife control
- ▶ Reductions in roadside expenses (long term)
- ▶ Community acceptance and support

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Exhibit 1.

# HIGHWAY AND TRANSPORTATION MAP APPANOOSE COUNTY IOWA

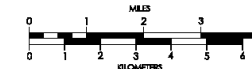


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In Cooperation With  
United States  
Department of Transportation

JANUARY 1, 2022



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### LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- STURBOUGH ROAD
- GRAVEL ROAD
- DIRT/DIRT ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- AIRPORT
- HYDROLOGY
- MIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES
- UNINCORPORATED PLACE
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND

