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Monroe County

Soil and Water Conservation District

Soil and Water Resource Conservation Plan

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Preface

The Soil and Water Conservation District has responsibilities under state laws for carrying out a county-wide soil and water conservation program. Planning for the long-term conservation of our soils, water, and related resources is not a simple task; but is a necessary process when orderly development and utilization of our natural resources is expected.

The Monroe County Soil and Water Conservation District recognizes that with constant change, an operating strategy can seldom be long lasting and needs to be re-analyzed periodically. The update of our long-range program will reflect our objectives and priorities as we plan to meet the land and water needs of our people.

This program is being provided by the Commissioners of the Monroe County Soil and Water Conservation District for all individuals, groups, and units of government. It is an organized effort to develop and protect our soil and water resources for the benefit of all. Every governmental agency; civic, environmental, or community group; and each citizen can and is encouraged to make a meaningful contribution towards implementing this conservation program. Only through cooperation of everyone can we hope to complete this most important task before some of our resources are irretrievably destroyed.

The purpose of this plan for the Monroe County Soil and Water Conservation District is two-fold. The first is that the process of putting the plan together allows for inventories to be developed on the various soil and water resources within the District. The second

purpose is that the plan should be the focus of long-range development of the District's soil and water resources, as well as the basis for budgeting and implementation. Furthermore, this continuous process is easily updated and/or amended to fit the needs of the citizens the District serves.

The Monroe County Soil and Water Conservation District Commissioners appreciate the cooperation in developing this long-range plan. First the Commissioners would like to thank the representatives of the: U.S. Soil Conservation Service, Agricultural Stabilization and Conservation Service, Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation, Iowa State University Cooperative Extension Service, County Board of Supervisors, Iowa Department of Transportation, U.S. Geological Survey, and the Iowa Department of Economic Development.

Secondly, credit should go to those contributing the input that produced the objectives, goals, and priorities of this plan. These include: County Conservation Board, REAP Committee Members, Albia Newspaper, County Engineer, Chariton Valley RC&D, Cedar Creek Pheasants Forever, County Planning & Zoning Administrator, Farm Bureau and DNR: District Forester, Wildlife Biologist.

ORGANIZATIONS AND AUTHORITIES

The Monroe County Soil and Water Conservation District was organized at the request of local people interested in soil and water conservation. A charter was issued under the provisions of the Soil Conservation Districts' Law, Code of Iowa, Chapter 467A, on May 19, 1944. The boundaries of the District and the county are the same.

The District is a subdivision of state government governed by five locally elected Commissioners, who are elected on the general ballot and serve six year terms. District Commissioners are charged by the Iowa General Assembly with the restoration and conservation of the soil, water, and the related natural resources of the county. The District receives support services from the Iowa Department of Agriculture and Land Stewardship. Commissioners can appoint as many Assistant Commissioners as they deem necessary.

Additional authorities have been given the Soil and Water Conservation District since it was founded in 1944. Some of these additional authorities are:

1. Sub-districts (Chapter 467A, Sec. 13-41) of a soil and water conservation district may be formed for the purpose of carrying out watershed protection and flood prevention programs with the sub-district, but may not be formed solely for the purpose of establishing or taking over the operation an existing drainage district.

2. The Commissioners of the Soil and Water Conservation District shall adopt reasonable regulations (Chapter 467A, Sec. 42-53) to establish a soil loss limit or limits for the District and provide for the implementation of the limit or limits, and may subsequently

amend or repeal their regulations as they deem necessary. Chapter 467A also provides for mandatory erosion control after due process.

3. The Soil and Water Conservation District (Chapter 467B) advises and consults with counties and sub-districts upon the request of any of them or any affected landowners, and is authorized to cooperate with other state subdivisions, or instrumentalities and affected landowners, as well as with the federal government or any department or agency thereof, to construct, operate, and maintain suitable projects for flood or soil erosion.

4. Under Chapter 467C, the County Board of Supervisors can establish districts having for their purpose soil conservation and the control of flood waters. The establishment of these districts requires the approval of the Soil and Water Conservation District along with the Department of Natural Resources. This section includes the role of the District in representing the rural as well as urban interests in the administration of the Erosion Control Law and other programs in which the District is involved. The basic urban concern is to help urban areas with erosion control. Consulting assistance is provided to both the cities and the county upon request. Also, these authorities are within the Code of Iowa, Chapter 467E - Agricultural Energy Management and Chapter 467F - Water Protection Projects and Practices. However, the ultimate responsibility for soil erosion control rests with the District.

The District is authorized to request assistance from and enter into Memorandums of Understanding between themselves and other federal, state, and local entities to carry out their assignment and

leadership role in the conservation, development, and productive use of the county's soil, water, and related resources.

Active Memorandums of Understanding have been signed with:

U.S. Department of Agriculture (August 11, 1944)

U.S. Soil Conservation Service (August 11, 1944)

Monroe County Board of Supervisors

U.S. Army Corp. of Engineers

Iowa Cooperative Extension Service

Iowa Department of Agriculture and Land Stewardship,

Division of Soil Conservation

State Forestry Department, Iowa Conservation Commission

State Conservation Commission of Iowa

Lake Rathbun

Lake Miami

Southern Iowa Conservancy District

Des Moines River Conservancy District

Soap Creek 28E Agreement

Monroe County ASCS Committee

Agricultural Stabilization & Conservation Service

Farmers Home Administration

Federal Crop Insurance Corporation

The District also provides sponsorship and direction to programs administered by other agencies that directly affect the operations and objectives of the District. In addition, there are a number of agencies that have programs available that can assist the District in carrying out its long range program and annual plan of work.

GENERAL DESCRIPTION OF THE MONROE DISTRICT

The total area of the District is approximately 435 square miles or 278,400 acres. Roughly 99.4 percent of the total acres in the District is land, and the other 0.6 percent is in water.

The major industrial developments of the county range from Cargil, Heartland Lysin, A.Y.McDonald Inc., Bakers Grain & Feed, Chicago Rivet & Machine Company, Coltrain Implement, DeLongs Sportwear, G.B. Equipment Company, Goode Seed & Feed Company, Hawkeye Molding Company, Henderson Implement Company, Kness Mfg. Inc., L&S Tools Inc., Mahaska Farm Service Company, and Trophy Glove Company.

The demographics of the Monroe District can be divided into three distinctive groups. The first group is the percentages of urban and rural people living within the District. Forty-five percent of the residents of the District live in urban areas, based upon the fact that any town over 2500 population is an urban settlement. This then leaves 55 percent of the District's population in a rural setting. Further, five percent of rural population are rural non-farm. The second grouping of our population is by percent male and percent female. The population by gender in the District is 49 percent male and 51 percent female, and the percent of the District's operating units that are male are 86 %, and female are 14 %. Thirdly, the District can be broken down by race percentages. The percentages show 99 % White(Caucasian), <1 % Black and <1 % Asian,. The District's operating units are 100 % White.

The average income in the Monroe District is \$11,077, which is lower than the state and national average of \$14,028 and \$15,482 respectively (Based on 1987 averages).

The number of acres within the District that are specifically used for row crops based on 1989 data is 102,312 acres or approximately 37 percent. Also, 89 percent of these acres are designated Highly Erodible Land under the Food Security Act.

Acres in Production

	1954	1970	1989
Corn	43,246	30,139	32,000
Soybeans	7,567	18,270	19,500
Oats	21,798	5,001	7,700
Hay	28,398	28,910	43,500
Pasture	52,274	39,389	36,515

Corn production has dropped approximately 11,000 acres over the past 35 years. There has been a slightly higher increase of nearly 12,000 acres in soybean production. The shift in the production of those two commodities is probably due to the corn acreage reduction programs offered by the ASCS where the acres normally planted to corn are planted to soybeans.

The increase in hayland (15,000 ac.) was necessary to keep pace with the build up of cow-calf operations over the last 20 years.

Although cattle numbers have increased over the last 20 years pasture acres have decreased somewhat (2,874 ac.). This change is probably due to some steeper pastureland reverting back to woodland. The remaining acres have not increased due to an increased useage of sound pasture management techniques.

Urban usage of land within the District is roughly 1.06 percent or 2,951 acres. This is the portion of land area designated as part of a town or city equal to or exceeding a population of 2500.

Typically, Monroe County pastureland is a combination of open grassland interspersed with brushy droughs and woodlands. Wooded areas are used for grazing and limited timber cutting, either for marketable lumber or firewood.

The principal species of trees in the Monroe District are white oak, northern red oak, black oak, bur oak, shagbark hickory, bitternut hickory, white ash, green ash, eastern cottonwood, silver maple, basswood and black walnut.

Area with contracts in the Conservation Reserve Program (CRP) in the District is approximately 8 percent of the total acres, or 22,000 acres. Currently 30 percent of total farms in the District are enrolled in this program.

The transfer of land from agricultural uses to more intense uses of the land has not been significant in Monroe County.

Although some scattered development has occurred in Monroe County, much of the land conversion process has taken place adjacent to incorporated cities and in small clusters in rural areas.

The impact of regional service centers, slowed industrial growth nationwide and slowed new housing starts indicates that the rate of land use change in Monroe County should not be as great as has been experienced in the past.

The major bodies of water within the District include: Des Moines River, Miami Lake, Lahart Area, Albia Waterworks Park, Cottonwood Pits, and the following creeks: Cedar, Greys, Avery, Soap, Miller,

White, English, Norman and Inghram. Albia Waterworks Park is the only one of the above listed water sources that serves as a public water supply and serves the city of Albia. There are approximately 2,600 ponds in the county consisting of approximately 1,300 acres of water.

Ownership status of the land within the District consists of two types. The first type of ownership is the land that is owned and operated by the person who uses or lives upon it. The second type is land that is rented or leased to another party. The percentages of land owner operated and leased or rented in the District is 55%, and 45% respectively.

INVENTORY OF SOIL, WATER, AND RELATED NATURAL RESOURCES

SOIL RESOURCES

Frequent reference will be made to the existing Monroe County Soil Survey, completed in September 1984. It will be the source for much of the soils data presented throughout this section.

SOIL RESOURCES USED FOR AGRICULTURAL PRODUCTION

The soil resources used for agricultural purposes are 260,344 acres. Of this total acreage, 58 %, is used for corn, soybeans, oats and wheat. Pasture and hayland is located on 80,517 acres. Woodland acres in the District total 46,200.

Loss of potential productivity caused by soil loss is a concern on land used for agriculture. Excessive soil losses will limit production in the future. The following explains the soil loss rates and time limits on reducing soil loss for each agricultural use.

A. CROPLAND

Approximately 102,312 acres are used for corn and soybean production. Soil losses on these acres increases as the acreage of row crop, land slope, and soil erodibility increases.

Of the 136,015 acres of cropland 107,015 acres has an erosion rate above acceptable levels. Erosion could be reduced to acceptable levels on 14,000 acres of class 2E soils by Conservation Tillage and Contouring.

93,015 acres need more intensive treatment assuming that current farming trends continue and FSA Plans are implemented. The 93,015 acres will need Resource Management Systems that include combinations of structural and management type practices. These practices include

crop rotated with meadow, terraces, contour row patterns, conservation tillage and no-till, sediment and water control basins, grassed waterways and grassed field borders. These practices have been included in Resource Management Systems scheduled for completion under agreed to FSA Plans.

The average soil loss per acre year on cropland is nearly 15 tons. Over the last 100 years it is estimated that one half of the original 12 inches of top soil on class 3E soils has been lost. At the 15 ton rate losses equate to 1.2 inches of top soil every 12 years. To go beyond 20 years at current erosion rates will significantly reduce the productive capability of the soil in Monroe County.

If the 93,015 acres needing complete resource management systems had only contouring and conservation tillage applied it would reduce the average annual soil loss to 10 tons/acre/year. By applying only those practices within the next 5 years landowners could almost double the length of time the soil would retain its productive capability.

20,000 acres of highly erodible land are currently enrolled in the Conservation Reserve Program. At least for the term of the contract (10 Years) these acres will be adequately treated. Beyond the contract period these acres could revert back to cropland and would need complete resource management systems for adequate treatment.

B. PASTURE AND HAYLAND

Currently 80,517 acres are used for pasture and hayland. Pastureland consist of mainly bluegrass, bromegrass and woodland interspersed throughout most pasture field seedings. Hayland is generally legume or legume-grass mixtures. Alfalfa, red clover,

bromegrass, orchardgrass, and timothy are the most commonly seeded species used by themselves or in combination as a mixture.

Approximately 18,500 acres are overgrazed to the extent that soil losses are in excess of tolerable limits. These areas are typically located on slopes greater than 16%, and have very shallow top soil (average) of 5 inches. Overgrazed pastures average no more than 60% ground cover and have soil losses of 9 tons/acre/year.

$$9 \text{ ton/ac/yr.} \times 2000 \text{ lbs.} \times 1 \text{ ac.} \times 1 \text{ cu. ft.} \times 12" = .058 \text{ in./yr.}$$

$$1 \text{ ton} \quad 43560 \text{ sq.ft.} \quad 85 \text{ lbs.} \quad 1'$$

The productivity of these soils will be reduced when the topsoil thickness is reduced from 5 inches to 3 inches.

$$2 \text{ inches} = 34 \text{ years}$$

$$.058 \text{ in./yr.}$$

Proper pasture and hayland management must be applied at the rate of 544 acres per year in order to maintain current productivity.

$$18,500 \text{ acres} = 544 \text{ ac./yr.}$$

$$34 \text{ years}$$

The high cost of fertilizer and fencing has weakened pasture management in the county, along with the clearing and revegetation of woodlands too steep to properly manage with farm equipment.

Program emphasis should be on proper management of existing pastureland and discourage the creation of new pasture at the expense of existing woodland.

C. WOODLANDS

The 1990 U.S. Forest Service Forest Survey results show that Monroe County currently has approximately 46,200 acres of woodland. These acres include commercial woodland that is not pastured as well

as woodland that is pastured but is still above a determined level of stocking. This acreage indicates a reverse in trend from the previous survey results which saw many acres of woodland in the county cleared for pasture and cropland. Acreage had dropped from 71,000 acres in 1954 to 34,400 in 1974.

Less than 10% of the acreage is under effective management and probably somewhere around 50% of the acreage is exposed to grazing. The grazing slows tree growth, causes damage to roots and tree bases, and seedlings are trampled and/or eaten.

Approximately 15,000 acres warrant some timber stand improvement in the form of pruning and releasing young crop trees and/or fencing to exclude livestock.

District program emphasis will stress proper land use of woodland acres through conservation planning and through promotional efforts coordinated through the District Forester. 75% cost-share incentives will be offered to landowners for timber stand improvement and tree planting through the R.E.A.P. program.

D. GULLY EROSION

Gully erosion can be found wherever there is concentrated water runoff. Although gully erosion occurs over a much longer period of time as compared to sheet and rill erosion, the resulting damage to fields is much more dramatic visually and more costly and complex to correct the actively eroding areas.

Grade stabilization structures and sediment and water control basins are used to control gullies at the points of active erosion. Approximately 6,800 acres of cropland are affected by gully erosion. To date 1,361 acres of gullies have been seeded to waterways or are

controlled by sediment and water control basins. The remaining 5,439 acres of gullies needs to be controlled.

Acceptable Rate of Gully Control

5,439 ac. = 181.3 ac./yr.

30 years

Application Rate Needed

Grassed Waterways

3,837 ac. = 127.9 ac./yr.

30 years

Sediment and Water Control Basins

(1,602 acres needs to be protected with Sediment and Water Control Basins. Each 300' of Basin protects 0.2 acres so 8,010 basins are needed.)

8,010 No. = 267 basins/yr.

30 years.

Grade Stabilization Structures

1,496 Structures = 50 structures/yr.

30 years

WATER RESOURCES

A. Water Quantity

Water resources within the Monroe County Soil and Water Conservation District have contributed largely to the development of the District.

In the past small streams served as generators of power for lumber and grain mills and as transportation routes. Today these streams are very important for livestock water, fish and wildlife habitat, and recreational areas.

There are approximately 137 miles of perennial streams in the District. All of the perennial streams are located in the rural setting. Streams that are considered perennial streams located in the District include Cedar Creek, 57.5 miles; Whites Creek, 25.5 miles; Bluff Creek 7.5 miles; Grays Creek, 10.0 miles; Miller Creek, 11.5 miles; Avery Creek, 16.5 miles; Soap Creek, 7.0 miles; and Des Moines River 1.0 mile. The number of acres classified by the SWCD into priority watershed and/or area status is 32,394 acres. This translates into about 12 percent of the area being considered a priority watershed and/or area (see map in the appendix).

There are 55.0 acres of open water at the Albia Waterworks Park that serves as public water supply for the city of Albia. The city of Eddyville operates a municipal system supplied by wells. The remainder of Monroe County, including the incorporated cities of Lovilia and Melrose, receive their water supply from the Rathbun Regional Water Association. Monroe County has approximately 1,300 acres of farm ponds used primarily for livestock water, fishing and wildlife. Surface runoff provides water for the ponds. Lake Miami is

the only publicly-owned lake in the district. The lake has a surface area of 140 acres and 4,032 acres of watershed. Lake Miami is located in the northcentral portion of the county in Bluff Creek township. Areas that are under water in the District constitute 1,522 acres or 0.6% of the districts total acres.

Wetlands in Monroe District will be protected to fullest extent possible. This is to be supplemented by advising landowners of their opportunity to utilize these areas in order for them to be beneficial to wildlife or suitable land uses. As of now there are 15,854 acres of wetlands in the District. This translates to 6 percent of the total area of the District.

B. Water Quality-Agricultural Nonpoint Source Pollution

Nitrogen fertilizer usage, animal wastes, and lagoons all contribute to increased nitrate levels in the districts groundwater. Pesticide runoff and infiltration through soil contributes to the presence of pesticides in groundwater.

Needs include open lot runoff control for beef cattle, better management of livestock manure, integrated pest management, demonstrations on herbicide banding etc., and more use of soil samples.

RECREATION and WILDLIFE RESOURCES

Monroe County Conservation Board has designated approximately 220 acres to recreation and park areas. Eighty-five acres are owned by the county and are located around Lake Miami. The remaining 135 acres are owned by the state. These acre amounts have been stable for the past 10 years. There are currently no plans for new acquisition of land.

Wildlife habitat in Monroe District has seen increases in the deer population over the past 10 years. Turkey numbers increased from 1973 to the early 1980's. The population has been stable for the past seven years. Other wildlife species have not seen major fluctuations in recent years. Organizations that promote the conservation of wildlife include Ducks Unlimited and Pheasants Forever.

MINING and MINERAL RESOURCES

For many years Monroe County was one of the leading coal producing counties in the state. Currently mining has ceased but the coal resources of the county are far from depleted. Almost 885 million tons of coal is estimated to have been originally present in Monroe County in an area of about 129,270 acres. An additional area of about 33,800 acres may contain coal 14 inches or more thick. There are no other significant mineral resources listed for the county.

LAND MANAGEMENT

Practice	Total Needs	Accomplished to Date	Total Remaining to be Done	F.S.A. needs by 1995
Done				
Conservation Tillage	107,305	107,252	53	1,339
Contour System Farming	122,807	70,807	52,000	1,231
Terraces	20,600,000	2,174,955	18,425,045	143,937
Grassed Waterways	5,000	1,311	3,689	74
Grade Stabilization				
Structures	3,896	2,600	1,296	0
Field Border	22,000,000	151,395	21,848,605	87,535

The Monroe District has 4 corporate animal waste facilities. All four facilities are confined hog feeding operations starting with feeder pigs and raising them to finished marketable weight. The facilities use a combination of under facility storage pits, animal waste lagoons, irrigation equipment for surface spreading and waste wagons. All facilities are currently functioning under DNR permits and regulations.

E. FACTORS LIMITING PRACTICE APPLICATION

1. Terrace Systems including Sediment & Water Control Basins.
 - A. Cost too much - Slow return on money invested.
 - B. Landowners reluctant to follow terrace system layout on contour.
 - C. Terrace benefits are long term and not easily identified or cost justified.
2. Conservation Tillage including No-Till Systems.
 - A. High cost of updating equipment.
 - B. Landowners lack knowledge to successfully carry out Conservation No-Till systems.
 - C. Landowners not willing to change traditional tillage practices.
3. Contour farming.
 - A. Landowners reluctant to follow non-parallel contour layout.
 - B. Contour benefits are not easily identified or justified by landowners.
 - C. Contour systems require grassed waterways and grassed Field Borders removing land from production.
4. Grassed Waterways.
 - A. Annual Maintenance requirements.
 - B. Difficulty in herbicide application so as not to injure waterway seeding.
 - C. Difficulty in maintaining stable outlets.

5. Grade Stabilization Structure.

- A. Reluctant to install because of high construction cost.

6. Pasture & Hayland Management.

- A. Lack of adequate fencing and water supplies to perform rotational grazing.
- B. Shortage of warm season pasture for summer grazing.
- C. High cost of pasture improvement, including liming, fertilizing, weed and brush control, fencing and pond construction.

7. Woodland Management.

- A. Lack of marketable timber in existing stands.
- B. High cost of timber stand improvement.
- C. High cost of fencing to eliminate woodland grazing.

8. Nutrient Management.

- A. Lack of knowledge to carry out successful nutrient management programs.
- B. Landowners reluctant to spend time gathering nutrient management information.

9. Pesticide Management.

- A. Lack of knowledge to carry out successful nutrient management program.
- B. Landowners reluctant to spend time gathering nutrient information.

10. Animal Waste Management Systems.

- A. Most livestock feeding operations too small to require permit. Landowners reluctant to invest in system not required.
- B. Landowners reluctant to apply animal waste systems that comply with DNR regulations, because of continued DNR monitoring after system is applied.

F. ACTIONS NEEDED TO OVERCOME THESE LIMITING FACTORS

1. Terrace Systems.

- A. Increase landowner awareness of State and Federal programs which provide funding assistance for Terrace systems.
- B. Hold contour terrace demonstrations to show farmability.
- C. Review increased FSA plan flexibility with landowners.

2. Conservation Tillage including No-Till systems.

- A. Prepare listing of custom No-Till operations.
- B. Hold Conservation Tillage and No-Till demonstrations.
- C. Provide cost-share incentives for Conservation Tillage and No-Till systems.

3. Contour Farming.

- A. Hold Contour demonstration to show farmability.
- B. Review increased FSA plan flexibility with landowners.
- C. Review potentials for using Waterways and Field Borders as set aside in ASCS farm programs.

4. Grassed Waterways.

- A. Hold demonstrations stressing benefits which outweigh the negative aspects of annual maintenance.
- B. Encourage through demonstration the establishment of native grasses in waterways.
- C. Hold demonstrations to show the Waterways and Sediment and Water Control Basin construction to achieve stable outlets.

5. Grade Stabilization Structure.

- A. Increase landowner awareness of State and Federal cost-share assistance available for structure assistance.

6. Pasture and Hayland Management.

- A. Encourage fencing through demonstrations of a rotational grazing system.
- B. Demonstrate grazing system using warm season grasses.
- C. Demonstrate a grazing system which utilizes an adequate liming, fertilizer and weed control program.

7. Woodland Management.

- A. Hold demonstration on timber stand improvement to achieve marketable timber.
- B. Inform landowners of REAP funding available for timber stand improvement.

8 & 9. Nutrient & pesticide management.

- A. & B. Hold demonstrations educating and encouraging the use of integrated pesticide and fertilizer management.

10. Animal Waste Management Systems.

- A. & B. Hold demonstrations encouraging Animal Waste system which show efficient and safe ways of handling animal wastes and provide sources of cost-share assistance.

DISTRICT OBJECTIVES, GOALS, AND PRIORITIES

OBJECTIVE: I Reduce soil erosion in Monroe County to the District's established Soil Loss Limits.

GOAL: 1. Reduce Soil Loss on 14,000 acres of Class 2E cropland with Conservation Tillage and Contouring.

ACTION ITEMS:

RESPONSIBILITY:

- | | |
|--|--|
| 1. Annually conduct one contour conservation tillage and no-till demonstration. | Commissioners, SCS and Extension Service |
| 2. Annually update listing of custom no-till operators and provide to landowners. | Commissioners, SCS and Extension Service |
| 3. Annually, consider designating maximum percentage of State Cost-Share funding for conservation tillage, no-till, and contour and inform landowners of funding availability. | Commissioners |

GOAL: 2 Reduce Soil Loss on 93,015 acres of cropland using combinations of structural and management practices.

ACTION ITEMS:	RESPONSIBILITY
1. Bi-annually publicize in Albia Newspapers and KLBA Radio Station the availability of State Cost-Share funds for Soil Conservation practice application.	Commissioners SCS
2. Identify and develop model farm or farms to annually demonstrate Resource Management Systems for cropland. Utilize RC&D assistance for possible grants for implementation.	Commissioners, SCS Extension Service Chariton Valley RC&D
3. Conduct once annually information education meeting for CRP landowners concerning alternatives for land coming out of CRP contracts.	Commissioners, SCS Extension Service Chariton Valley RC&D

GOAL: 3 Maintain Pasture and Hayland productivity by promoting the application of sound Pasture & Hayland Management techniques to 550 acres annually.

ACTION ITEMS:	RESPONSIBILITY
1. Develop model farms to annually conduct pasture and hayland management technique demonstrations.	Commissioners, SCS Extension Service
2. Give cost-share priority for the establishment of warm season grasses.	Commissioners

GOAL: 4 Reduce Gully Erosion on 5,400 acres of cropland promoting the use of Grassed Waterways, Grassed Stabilization Structures and Sediment and Water Control Basins.

ACTION ITEMS:	RESPONSIBILITY:
1. Utilize model farm (Goal 2- Action Item 2) to demonstrate useage and benefits of practices listed above in Goal 4.	Commissioners SCS
2. Give priority consideration to cost-share applicants solving cropland Gully Erosion problems.	Commissioners
3. Target \$15,000 of Districts	Commissioners

cost-share allocation for structures
associated with the counties
secondary road system and cropland.

OBJECTIVE:II Protect and Improve the Woodland Resources of the County.

GOAL: 1 Promote Timber Stand Improvement on 15,000 acres
of Woodland in Monroe County.

ACTION ITEMS:

RESPONSIBILITY

1. Develop model Woodland Stands
to annually hold Timber Stand
Improvement demonstrations.
2. Develop and maintain a list of
landowners with potential T.S.I.
(Timber Stand Improvement)
woodland to funnel woodland
promotional activities through.

Commissioners
District Forester, SCS
Extension Service
Chariton Valley RC&D
Commissioners, SCS
District Forester
Extension Service

OBJECTIVE III: Protect and improve the surface and ground water
resources of the County.

GOAL: 1 Protect and improve Lake Miami water quality by
treating watershed area.

ACTION ITEMS:

RESPONSIBILITY

1. Annually apply for special Lake
Funds to offer to landowners in
watershed.

Commissioners

2. Maintain list of landowners and projects and update annually. Commissioners, SCS

3. Contact by letter annually each landowner in watershed offering them cost-share assistance. Commissioners

GOAL: 2 Protect and improve Albia City Reservoir water quality by treating watershed area.

ACTION ITEMS:

RESPONSIBILITY

1. Maintain list of landowners and projects and update annually. Commissioners, SCS

2. Contact by letter annually each landowner offering them cost-share assistance. Commissioners, SCS

3. Develop special REAP project for Water Quality Improvement of Reservoir. Commissioners, SCS

GOAL: 3 Protect and improve Water Quality of Soap Creek Watershed Structures by treating watershed area.

ACTION ITEMS:

RESPONSIBILITY

1. Maintain list of landowners and projects and update annually. Commissioners, SCS

2. Contact by letter landowners in Commissioners
watershed offering them cost-share
assistance.

3. Identify and submit special REAP Commissioners, SCS
projects for structure watersheds
over 800 acres.

GOAL: 4 Protect and improve Water Quality of Rathbun Lake by
treating watershed area.

ACTION ITEMS:

RESPONSIBILITY:

1. Maintain list of landowners and Commissioners, SCS
projects and update annually.

2. Annually contact by letter Commissioners, SCS
landowners in the watershed,
offering them cost-share
assistance.

GOAL: 5 Increase landowner use of integrated Pest and Nutrient
Management programs.

ACTION ITEMS:

RESPONSIBILITY:

1. Annually conduct a pest and Commissioners, SCS
nutrient information- Extension Service
education meeting for landowners.

- | | |
|----------------------------------|--------------------|
| 2. Utilize an integrated | Commissioners, SCS |
| pest and nutrient management | Extension Service |
| program at Model Farm for annual | |
| demonstration purposes. (See | |
| Model Farm-Objective 1, Goal 2, | |
| Option item 2.) | |

OBJECTIVE: IV Protect and improve the Wildlife and Recreation
Resources of the County.

GOAL: 1 Provide Resource and technical assistance to the Monroe
County Conservation Board, DNR and local wildlife
organizations.

ACTION ITEMS:

RESPONSIBILITY:

- | | |
|-----------------------------------|---------------------|
| 1. Meet annually with the County | Commissioners, SCS, |
| Conservation Board to identify | County Conservation |
| projects and assistance needed | Board |
| for the year. | |
| 2. Meet annually with DNR Rathbun | Commissioners, SCS, |
| Unit Game Manager to identify | DNR |
| projects and assistance needed | |
| for the year. | |

- | | |
|--|--|
| 3. Meet annually with the Cedar
Creek Pheasants Forever Chapter
and the Albia Chapter of Ducks
Unlimited to review upcoming
projects and identify assistance
needed for the year. | Commissioners, SCS,
Ducks Unlimited,
Pheasants Forever |
| 4. Meet with Chariton Valley RC&D
Board annually to identify
assistance needed for Walleye
production ponds and other
Omega projects. | Commissioners, SCS
Chariton Valley RC&D |

DISTRICT POLICIES

It will be the policy of the Monroe Soil and Water Conservation District to:

1. Offer all programs and services, on a nondiscriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.
2. Provide equal opportunity in SWCD Board and committee make up on a nondiscriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.
3. Provide equal opportunity in employment on a nondiscriminatory basis without regard to race, color, national origin, religion, sex, age, marital status or handicap.
4. Adopt and use the SCS Technical Guide as the Monroe SWCD standards.
5. Provide assistance based on a signed Cooperative Agreement.
6. Provide assistance to critical erosion areas on the following priority basis:
 - a. Lake Miami Watershed
 - b. Soap Creek Watershed
 - c. Rathbun Lake Watershed
7. Service Soil Conservation practices in the following priority order:
 - a. Terraces
 - b. Grade Stabilization Structures

8. Use the SCS Field Office Technical Guide Soil Loss Tolerance values as the acceptable Soil Loss Limits for the County.
9. To utilize a priority rating system for administration of State Cost-Share funds. (See Priority Rating Sheet in Appendix.)
10. To publish the SWCD Annual Report during the official observance of Soil and Water Conservation Week.
11. Review 5 Year Plan and complete Annual Work Plan in July.
12. Meet at least once annually in January with the County Board of Supervisors and County Engineer to review Road Structure Plan #142 and other County/District projects.

STATEMENT OF ADOPTION

We, the Commissioners of Monroe Soil and Water
Conservation District, adopt this program on the
23rd day of May, 19 91.

Ed. Mahoney

Bob McGinnis

Chairman

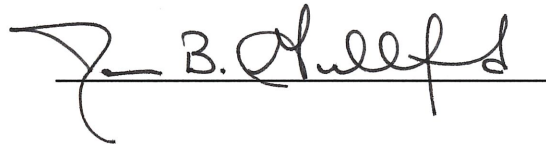
Frank McDaniell
[Signature]

Francis Hamilton

Commissioner

STATEMENT OF APPROVAL

This plan of the Monroe Soil and Water Conservation District was reviewed and approved by the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation on June 25, 1991.

A handwritten signature in cursive script, appearing to read "J. B. Gulef", is written over a horizontal line.

Director

Division of Soil Conservation

COST-SHARE PRIORITY CHECKLIST

APPLICANT _____	POINTS
PRACTICE APPLIED FOR _____	
TERRACE OR STRUCTURE PROJECT	_____
PROTECTING PUBLIC FACILITY	_____
WATER QUALITY BENEFITS/ + 50 ac. w/s structures	_____
+ 20 ac. w/s terraces	_____
SUMMER CONSTRUCTION JULY 1 - SEPTEMBER 1	_____
2 OR MORE YEARS NO COST-SHARE	_____
ORGANIZED W/S AREA (SOAP CREEK, RATHBUN LAKE)	_____
NEW SOIL DISTRICT COOPERATOR (1 YEAR PRIOR)	_____
GROUP PROJECT	_____
TOTAL POINTS	_____
TOTAL AMOUNT	-----
50% COST-SHARE	

MAPS

- Map 1 General Soil Map
- Map 2 Priority Watersheds
- Map 3 Waterways and Water Bodies
- Map 4 Forest Land
- Map 5 Unconsolidated Materials
- Map 6 Mineral Resources
- Map 7 Airport and Railroad Transportation Facilities
- Map 8 Highway Location and Type
- Map 9 Major County Recreation Resources

NOTICE OF FILING OF
SOIL AND WATER RESOURCE CONSERVATION PLAN

Monroe Soil and Water Conservation District
Soil and Water Resource Conservation Plan

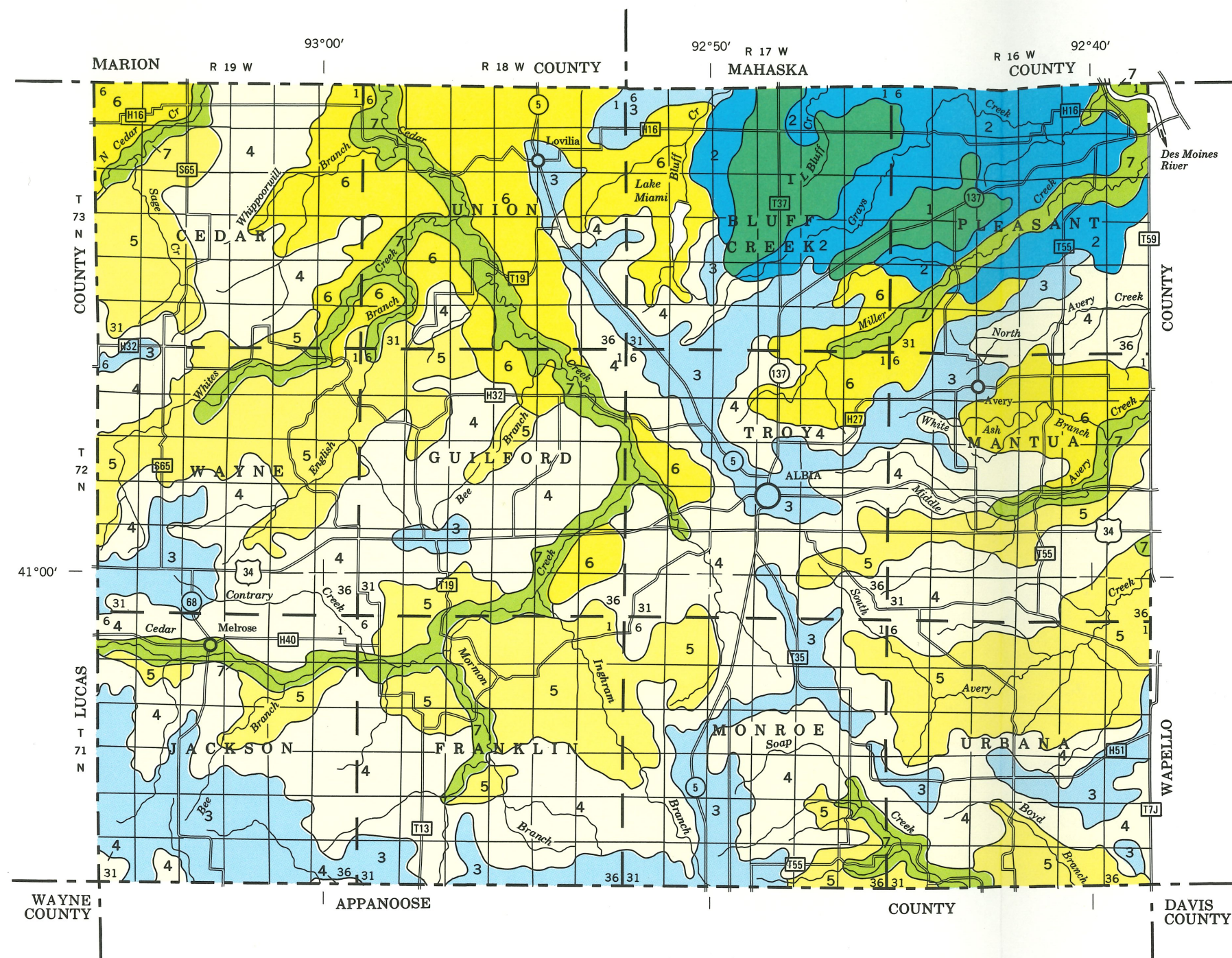
✓ FILE NO. 102
BOOK 241 PAGE 179
92 JUL 16 PM 12:11
55%
MARY LOU RINEHART
RECORDER
MONROE COUNTY, IOWA

Monroe County

Soil and Water Conservation District

Soil and Water Resource Conservation Plan

YOU ARE HEREBY NOTIFIED that the Monroe Soil and Water Conservation District has adopted a soil and water resource conservation plan which was approved by the State Soil Conservation Committee and signed by the director of the Division of Soil Conservation on June 25, 1991. The plan is available for your inspection during normal business hours, Monday - Friday, 8:00 a.m. - 4:00 p.m., at the district office located at 14B 2nd Ave West-Albia (address). This notice is given pursuant to the requirements of Iowa Code section 467A.7(20)(b)(1991), and House File 2112, 74th G.A., 2nd Sess., Section 1 (Iowa 1992), or as subsequently amended.



LEGEND

- 1 OTLEY-MAHASKA association: Nearly level to moderately sloping, moderately well drained and somewhat poorly drained, silty soils formed in loess; on uplands
- 2 LADOGA-GOSPORT association: Gently sloping to steep, moderately well drained, silty soils formed in loess and residuum of acid shale; on stream benches and uplands
- 3 ARISPE-HAIG-GRUNDY association: Nearly level to moderately sloping, moderately well drained to poorly drained, silty soils formed in loess; on uplands
- 4 PERSHING-GARA-ARMSTRONG association: Gently sloping to steep, well drained to somewhat poorly drained, silty and loamy soils formed in loess and glacial till; on uplands
- 5 WELLER-LINDLEY-KESWICK association: Gently sloping to very steep, moderately well drained and well drained, silty and loamy soils formed in loess and glacial till; on uplands
- 6 PERSHING-GOSPORT-LINDLEY association: Gently sloping to very steep, well drained to somewhat poorly drained, silty and loamy soils formed in loess, glacial till, and residuum of acid shale; on uplands
- 7 LAWSON-NODAWAY-COLO association: Nearly level and gently sloping, moderately well drained to poorly drained, silty soils formed in alluvium; on bottom land

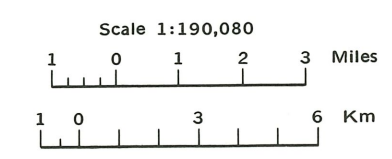
* The texture terms in the descriptive headings refer to the surface layer of the major soils in the associations.

Compiled 1982

Map #1

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
IOWA AGRICULTURE AND HOME ECONOMICS EXPERIMENT STATION
COOPERATIVE EXTENSION SERVICE, IOWA STATE UNIVERSITY
DEPARTMENT OF SOIL CONSERVATION, STATE OF IOWA

GENERAL SOIL MAP MONROE COUNTY, IOWA



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

HIGHWAY LOCATION & TYPE

 Paved Surface

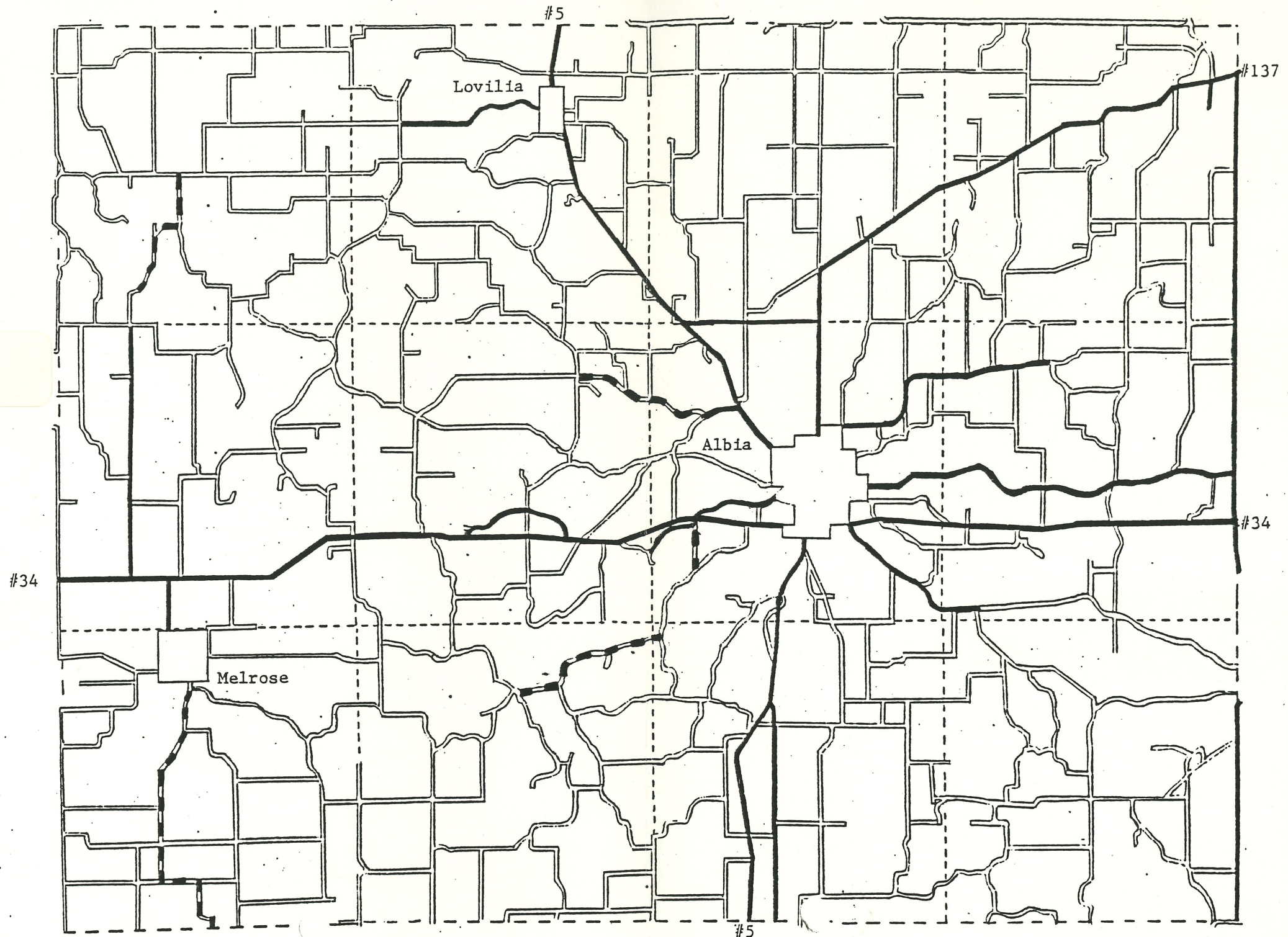
 Bituminous Surface

 Gravel Surface

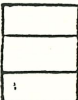
Map #8

 County Boundary

 Township Boundary

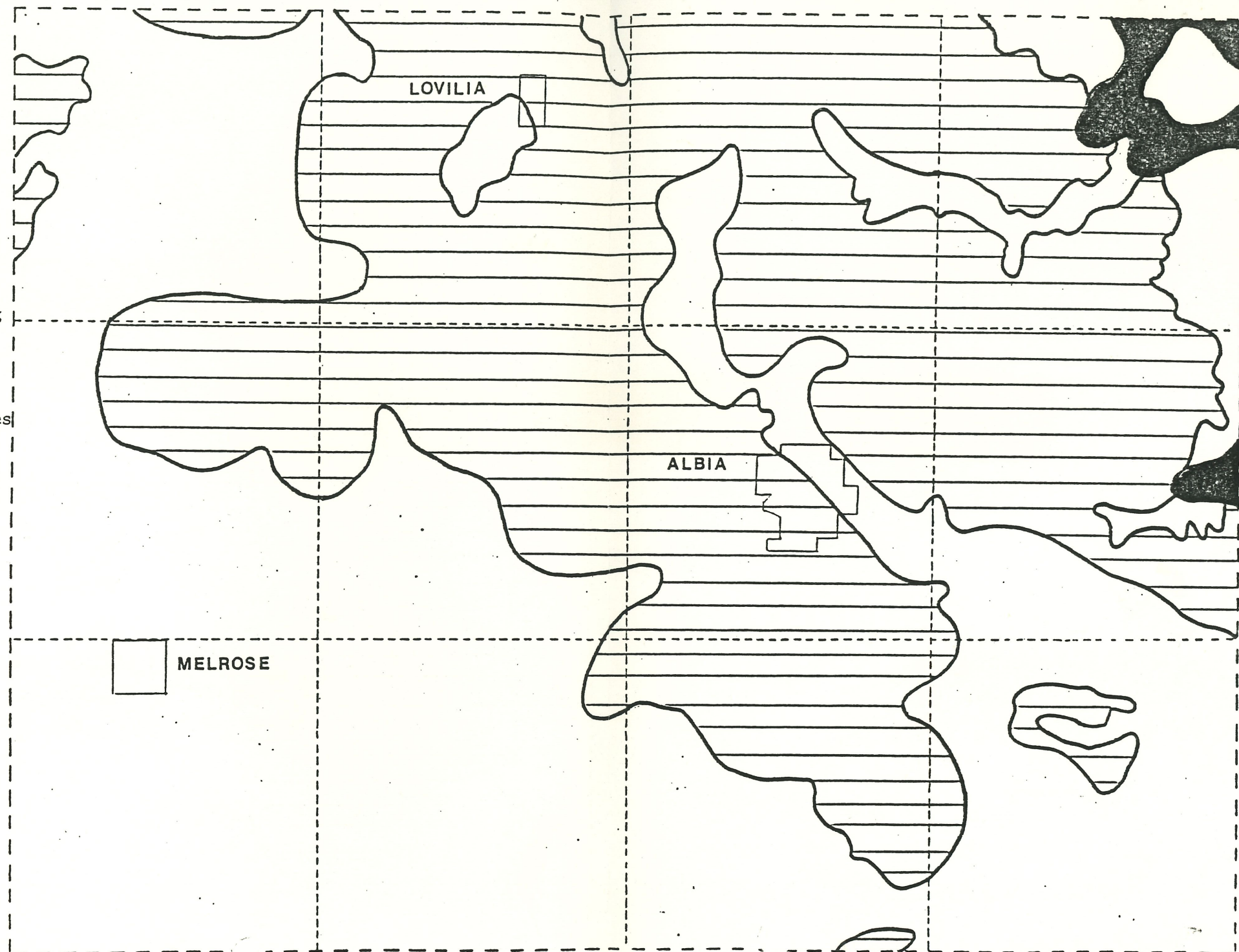


MINERAL RESOURCES

-  Areas Underlain by Measured or Inferred Coal Reserves
-  Areas Underlain by Potential Coal Bearing Rock Formations
-  Areas Showing No Potential Coal Reserves

Map #6

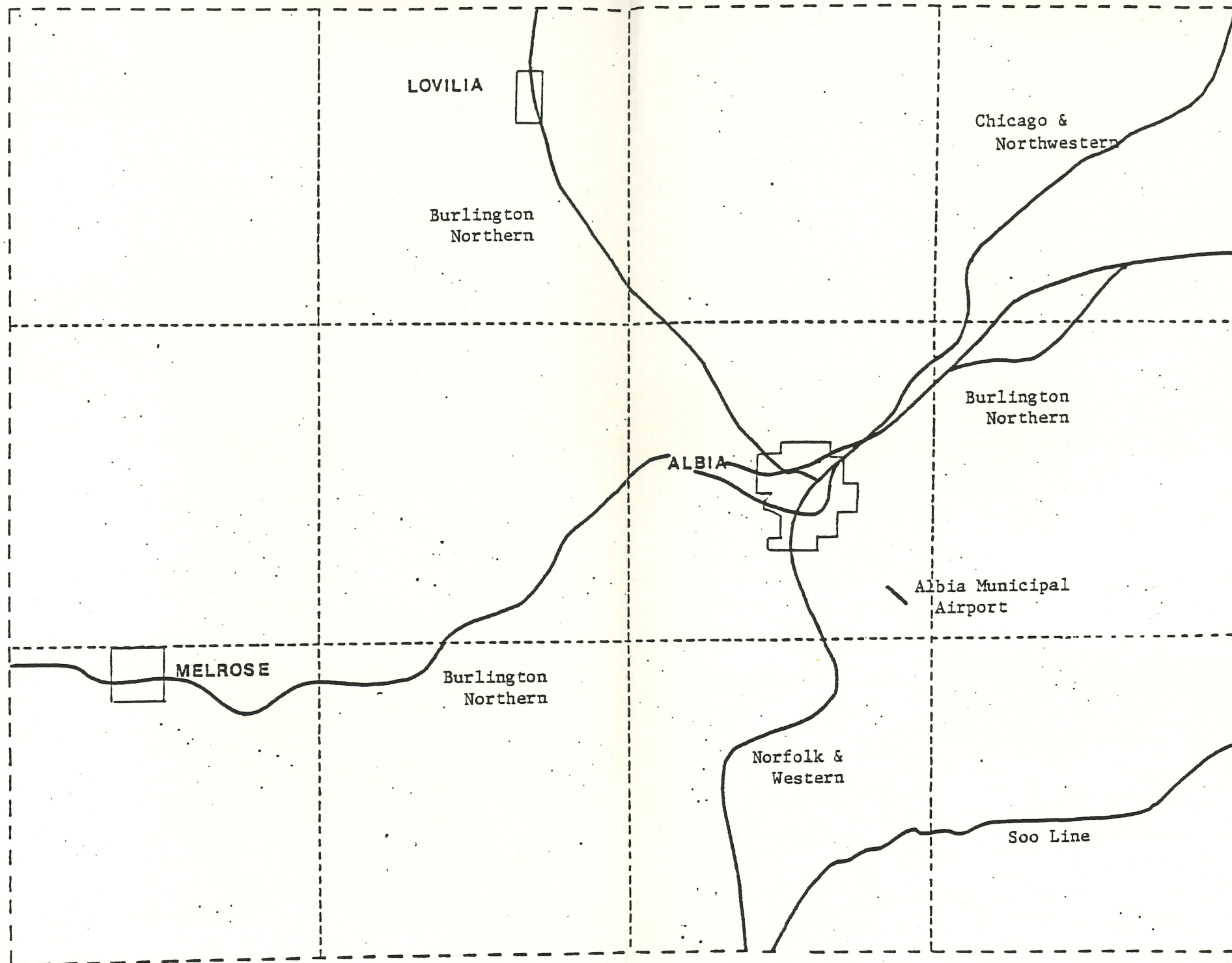
- - - County Boundary
- - - - - Township Boundary



AIRPORT & RAILROAD
TRANSPORTATION FACILITIES

Map #7

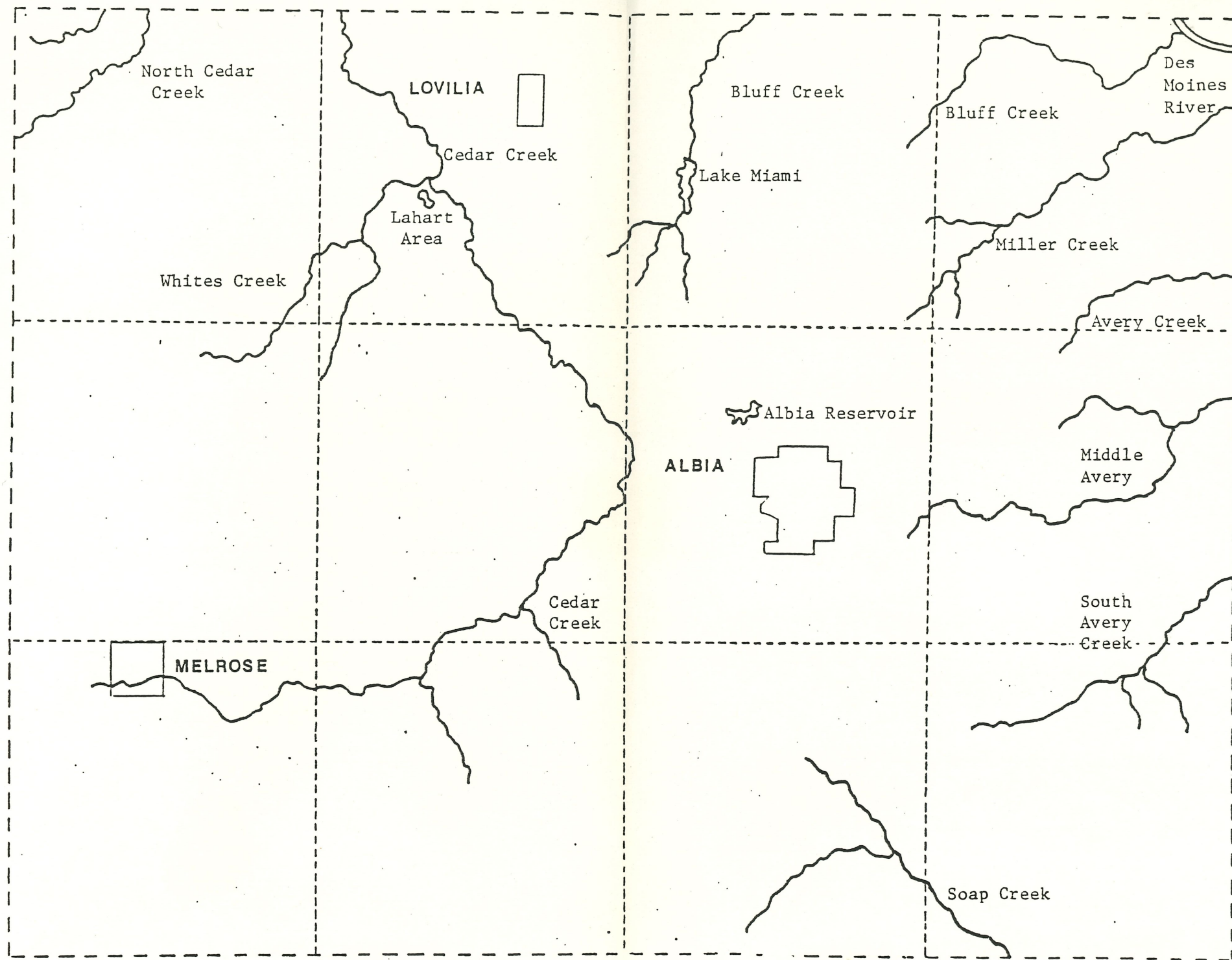
- - - County Boundary
----- Township Boundary



WATERWAYS & WATER BODIES

Map #3

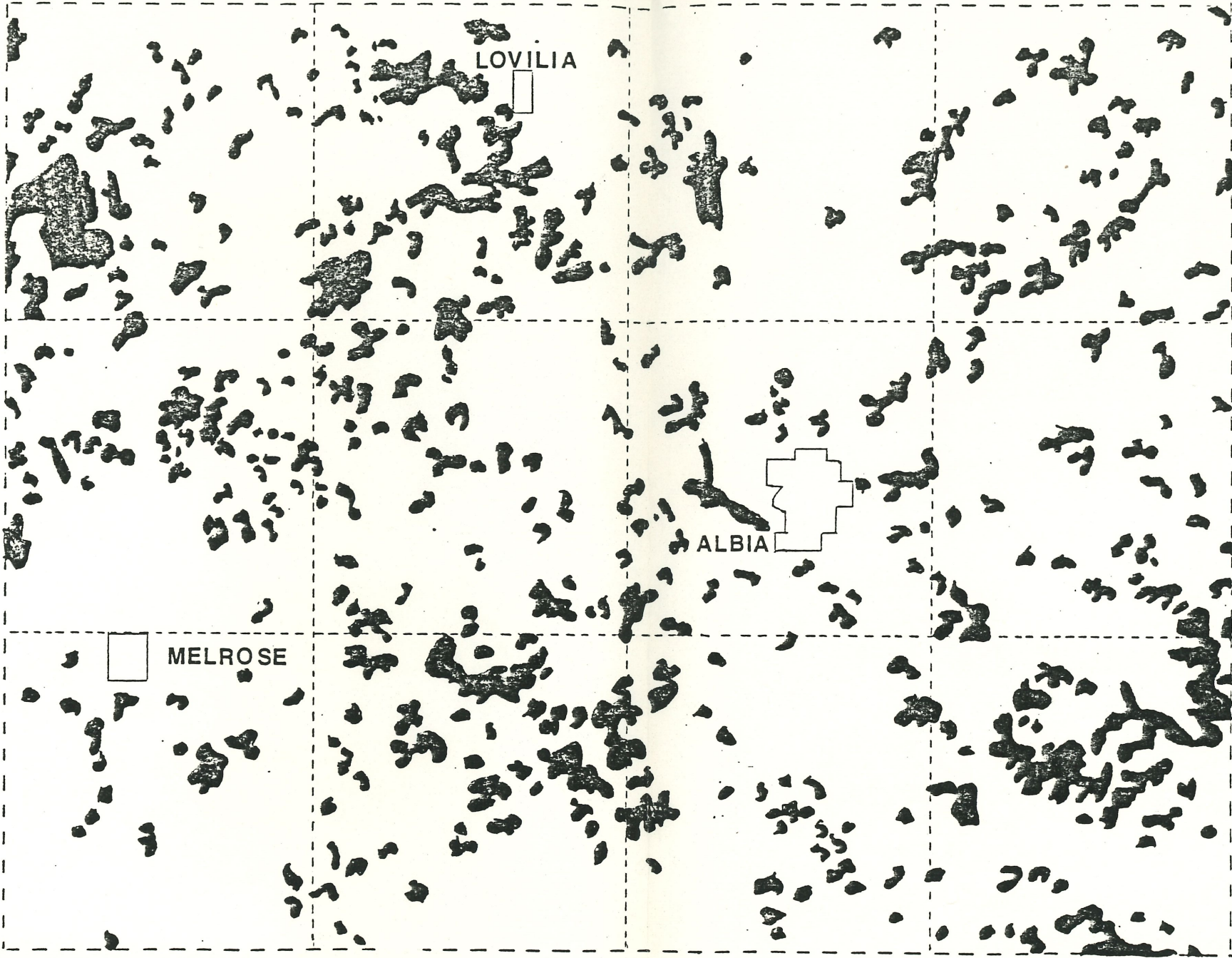
--- County Boundary
----- Township Boundary



FOREST LAND

Map #4

--- County Boundary
----- Township Boundary

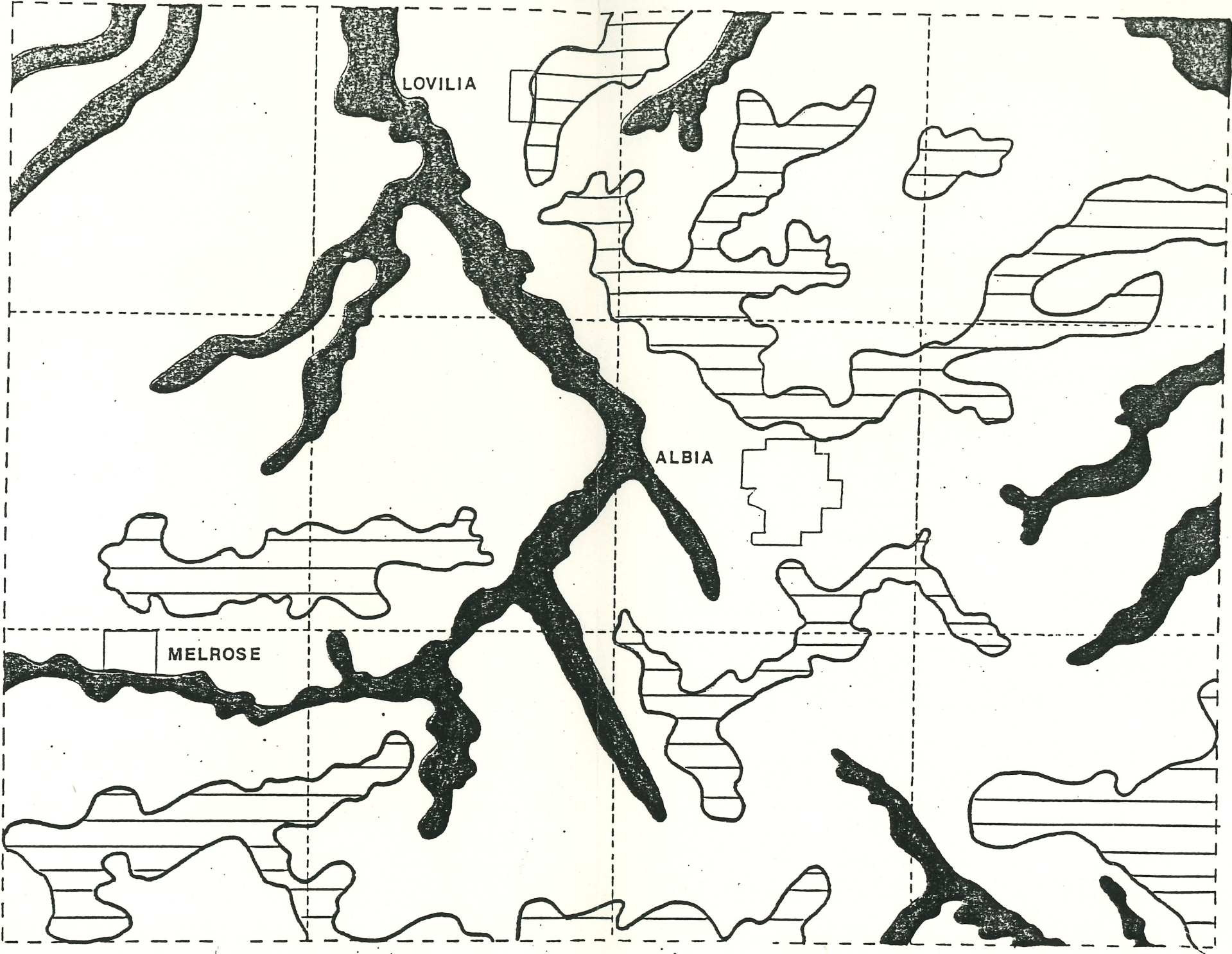


UNCONSOLIDATED MATERIALS

-  Areas Dominated by Loess
-  Areas Dominated by Till & Outcropping Paleosols
-  Areas of Complex Alluvial Deposits

Map #5

--- County Boundary
----- Township Boundary



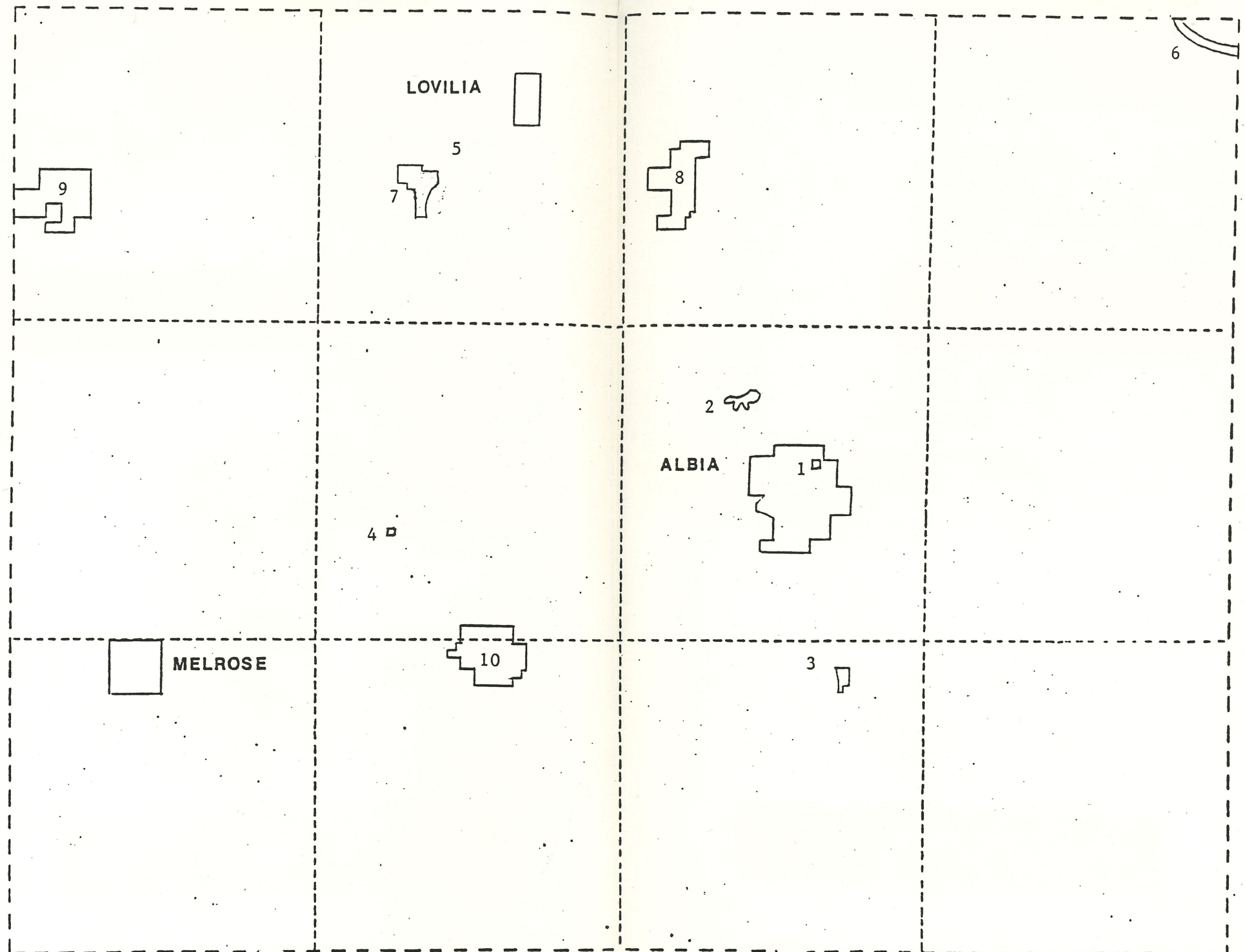
MAJOR COUNTY
RECREATION RESOURCES

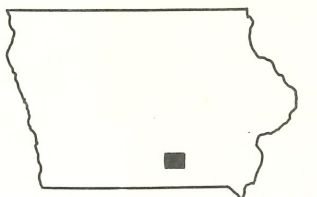
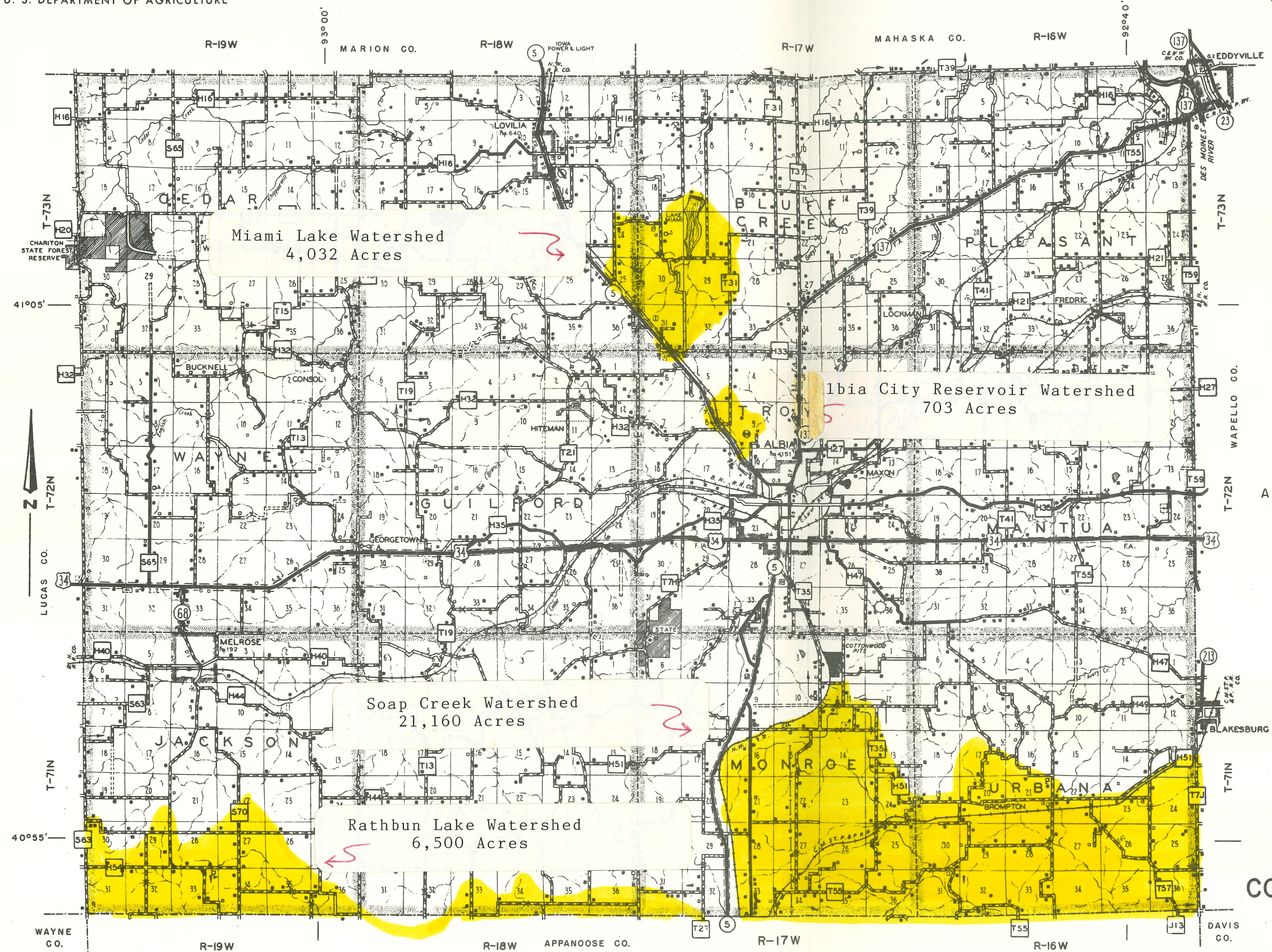
- 1 - Albia Sports Complex
- 2 - Albia Waterworks Park
- 3 - Cottonwood Pits
- 4 - Georgetown Rest Area
- 5 - Gladsen-Carmark Area
- 6 - Hardfish Access
- 7 - Lahart Area
- 8 - Miami Lake/Miami Lake
State Game Management Area
- 9 - Stephens State Forest
- 10 - Tyrone State Game
Management Area

Map #9

- - - County Boundary

----- Township Boundary





IOWA

TOTAL ACREAGE
APPROXIMATE 278,400

**MONROE
COUNTY
SOIL
CONSERVATION
DISTRICT
IOWA**

SOURCE:
1976 GENERAL COUNTY HIGHWAY MAP
POLYGONIC PROJECTION

