Howard Soil & Water Conservation District

Soil & Water Resource Conservation Plan

2017-2022

Mission: To provide leadership and education for protecting, enhancing and utilizing the soil and water of Howard County.

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I. Introduction

Howard County's Soil and Water Resource Conservation Plan is a comprehensive long-range assessment of soil and water resources within the Conservation District and is a plan of action consistent with recent changes in Iowa law. The plan was developed by the Howard Soil and Water Conservation District (HSWCD) with technical assistance provided by the USDA Natural Resources Conservation Service (NRCS), the Iowa Department of Agriculture and Land Stewardship - Division of Soil Conservation & Water Quality (IDALS-DSCWQ) and various other local, state and federal agencies. Local public input was used to finalize the plan.

The systematic planning process we have used was designed to insure the highest probability of desired accomplishments, with the fewest undesirable side effects.

The plan you are holding: 1.) provides a basic inventory of soil, water and related natural resources within Howard County; 2.) discusses the condition of these resources; 3.) explains some key factors which limit conservation practices, and explains how each might be addressed; 4.) identifies Howard SWCD objectives, goals and priorities; and, 5.) sets out a course of action to achieve the desired results.

The Howard SWCD Commissioners have been designated to carry out a vital conservation policy established by the State Legislature. This policy is "to integrate the conservation of soil and water resources into production of agricultural commodities to insure the long-term protection of the soil and water resources of the State of Iowa…" In addition, the Howard SWCD has signed a Basic Memorandum of Understanding with the United States Department of Agriculture, and with the USDA NRCS. Both of these memoranda require the Howard SWCD to have a Long Range Plan to provide guidance and program direction for USDA and Natural Resources Conservation Service employees.

Howard County's Soil and Water Resource Conservation Plan is aimed at successfully achieving these important state and federal obligations, and securing a future of strong agricultural production and environmental protection.

II. Purpose

The major purpose of the Howard Soil and Water Resource Conservation Plan is to assure proper direction and guidance for the future efforts of the Howard SWCD program. Secondly, completion of the planning process, and finalization of our plan, also allows the Howard SWCD Commissioners to apply for grants and other sources of funding. With this plan, we also meet requirements and guidelines of various federal and state agencies as they apply to Soil and Water Conservation Districts.

A third purpose of our plan is to meet requirements of the Iowa Code, which pertain to the operation of Soil and Water Conservation Districts. Fourthly, the Howard SWCD plan focuses on long-range conservation priorities and provides the basis for future budgeting and staffing decisions.

This plan is to be periodically updated and/or amended to match changing natural resource conditions; and the changing needs and priorities of local citizens.

III. Preface & Credits

Planning for the long-term conservation of Howard County's soil, water, and related natural resources is not a single, simple task; rather it is a necessary ongoing process, if orderly development and utilization of these precious resources is expected.

This long-range plan reflects our current objectives and priorities as we set out to meet the future land and water needs of local citizens. The Howard SWCD Commissioners recognize that with constant economic and environmental change, the operating strategies for our total HSWCD program needs to be regularly re-evaluated, and periodically revised.

The present planning process is being provided by the Commissioners of the Howard Soil and Water Conservation District for all local 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 toward planning and implementing this conservation program. Only with the cooperation of everyone, can we hope to complete this most important work before some of our natural resources are irreversibly destroyed.

The Howard Soil and Water Conservation District Commissioners appreciate the inter-agency cooperation needed to develop this long-range plan. First the Commissioners would like to thank the staff of the USDA NRCS; USDA Farm Service Agency; Iowa Department of Natural Resources; IDALS-DSCWQ; Iowa State University Extension Service; Howard County Environmental Health; Iowa Department of Transportation; U.S. Geological Survey; and the Iowa Department of Economic Development.

Secondly, credit should go to those who contributed the public input which produced the objectives, goals, and priorities of our plan which include the Howard County Conservation Board, Howard County Extension Service, Howard County Farm Service Agency County Committee, Howard County Pheasants Forever Chapters, Howard County Farm Bureau, and local Howard County farmers and businesses.

IV. Organization & Authority

The Howard Soil and Water Conservation District was organized on February 12, 1952 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 in May 1949, revised and transferred to 161.A in 1993. The boundaries of the District and the county are the same.

The District is a subdivision of state government, and governed by five locally elected Commissioners, who are elected on the general ballot and serve four year terms. The Commissioners can appoint as many Assistant Commissioners as they deem necessary. HSWCD 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 IDALS-DSCWQ.

Additional authorities have been given the Soil and Water Conservation District since it was founded. Some of these additional authorities defined in Chapter 161.A are as follows:

1. Sub-districts 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 of an existing drainage district.
2. The Commissioners of the Soil and Water Conservation District shall adopt reasonable regulations 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 161.A also provides for mandatory erosion control after due process.
3. The Soil and Water Conservation District 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 control.
4. Under Chapter 161.A, 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 assistant is provided to both the cities and the county upon request. Also, these authorities are within the Code of Iowa- Agricultural Energy Management and –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 assignments and unique leadership role in the implementation of this long-range plan. Active Memorandums of Understanding have been signed with:

USDA Natural Resources Conservation Service
U.S Department of Agriculture and the State of Iowa
U.S. Army Corp. of Engineers
Iowa State University Extension Service and Outreach Services
Howard County Farm Service Agency
Howard County Board of Supervisors

The HSWCD Commissioners also provide sponsorship and direction to programs administered by other agencies which directly affect the operations, objectives and priorities of the District. There are a number of such agencies which have programs available that can assist the Howard SWCD in carrying out this Soil and Water Resource Conservation Plan.

V. General Description- Howard Soil & Water Conservation District

The total area within the District is 473.25 square miles or 302,880 acres. Roughly 98% of the total acres in the district is land, and the other 2% is water. 96% of the district is classified as rural and 72% is classified as prime farmland. The major industries in the county are: an industrial filter manufacturing plant, a trailer manufacturer, a corn processing plant, and a raw milk processing plant.

Howard County's population in 2010 was 9,566 with a population density of 20.2/square mile. Cresco, the county's largest city and county seat, has a population of 3,868. About 60% of the residents of the district live in the 7 communities within the county and the other 40% live in rural settings. The population is 49.6% male and 50.4% female. Residents are 98.1% white, 1.2% Hispanic or Latino, 0.3% black, and 0.4% other.

Howard County net cash farm income of operators per farm increased from $52,887 in 2007 to $114,766 in 2012. Median household income across all households within the county was $47,300 from the years 2010-2014. This compares to a mean household income of $52,716 for all Iowans during the same years.

2012 land use totals and percentages are as follows:

Cropland	273,269 acres	90.22%
Pastureland	9,939 acres	3.28%
Woodland	7,842 acres	2.59%
Recreation & Wildlife	2,738 acres	0.90%

In 2012, 16,193 acres (481 farms) were in the Conservation Reserve, Wetlands Reserve, Farmable Wetlands, or Conservation Reserve Enhancement Programs. In 2007, there were 23,062 acres (526 farms) in these programs.

600 tracts of land (12,500 acres) are classified as highly erodible (HEL) for 2014 USDA farm bill purposes. 591 of these tracts (11,450 acres) have conservation plans developed (98%), and will continue to be implemented between 2017-2022. The majority of the soil erosion rates on HEL land will be at "T" or less.

Howard County has three watersheds: Upper Iowa River, Turkey River, and the Upper Wapsipinicon River. The Upper Iowa River and the Wapsipinicon River pass through the county on their way to the Mississippi River. Other creeks are: Watsons, Staff, Beaver, Mead, Elk, Spring, Nichols, Small, Minor, Mullen, Chihak, Otter, and Bohemian. (Appendix 1) All water consumption in the county is from groundwater through private wells and 8 public wells.

299,927 acres were in farms in 2012. Characteristics of operators in 2012 were as follows: 793 farms operated by males and 90 farms operated by females. 454 indicated that farming was their primary occupation. 623 operators lived on the farm, and 260 did not live on the farm. The average age of principal operators is 56.5 years old.

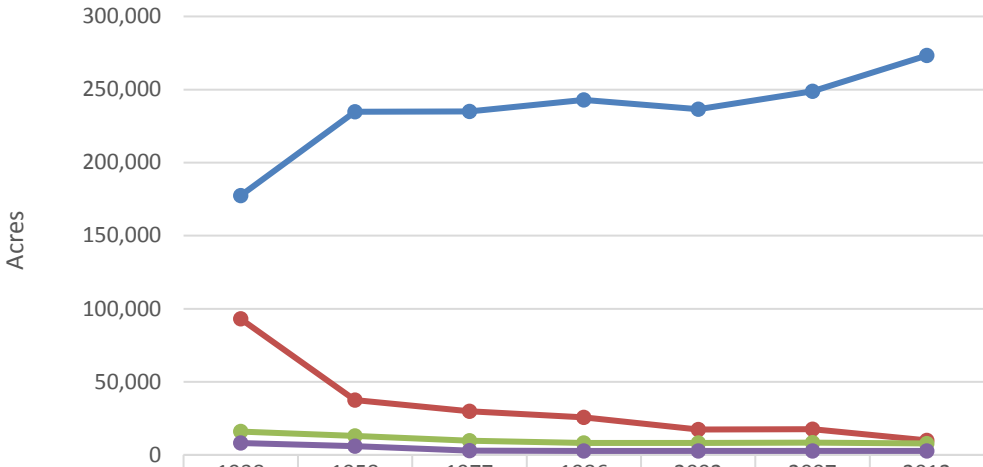
VI. Inventory of Soil, Water & Related Natural Resources

1. Soil Resources

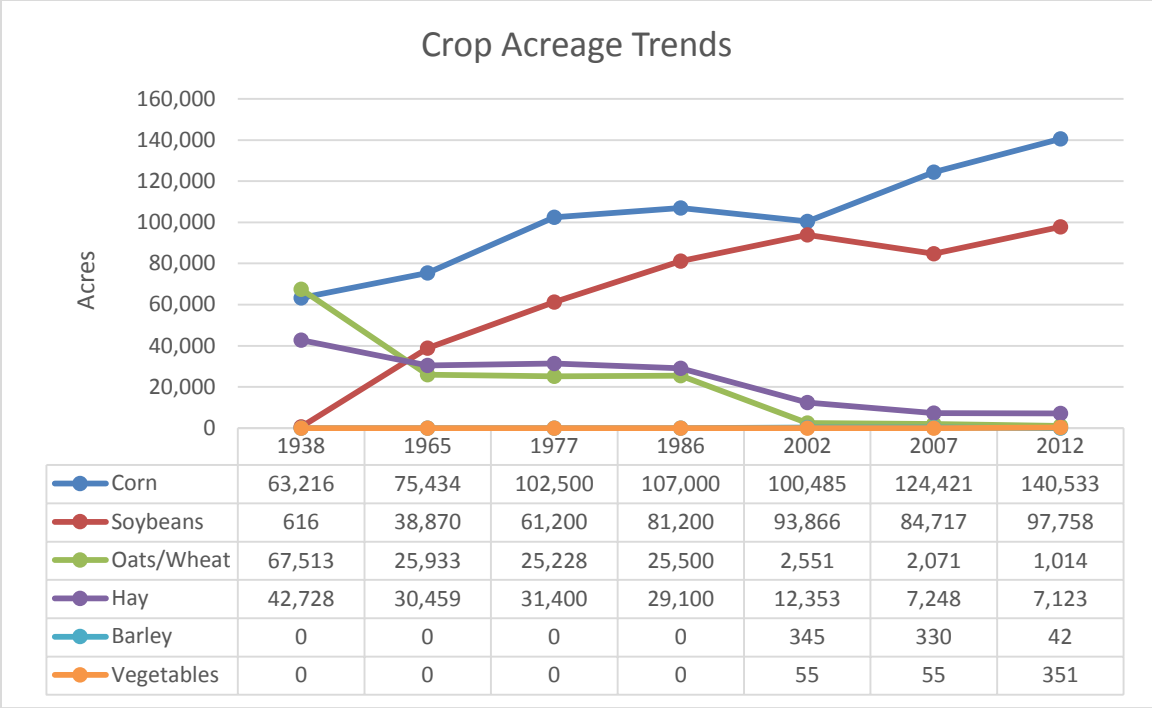
Reference will be made to the existing Howard County Soil Survey, issued in December 1974. It will be the source of much of the soils data presented throughout this section. (Appendix 2). Loss of potential productivity caused by soil loss is a concern on land used for agriculture. Excessive soil losses will limit production in the future. The following explains the soil loss rates and general condition of the soils in the County.

A. Cropland

Agriculture in Howard County in the last 50 years has changed dramatically. Mixed farming operations with dairy, beef, hog, sheep, poultry, and crop farming enterprises with hay have changed to intensive row crop farming (mainly corn and soybean production). Fewer operations have livestock; however livestock farming is still a very significant part of Howard County agriculture, particularly hog operations. Dairy and beef have decreased in numbers. As this change has occurred, mainly poorly drained soil areas used for pasture, woodland and wildlife were drained and converted to row crop production. Hay and oat production decreased dramatically, while soybean and corn production increased dramatically (see below).

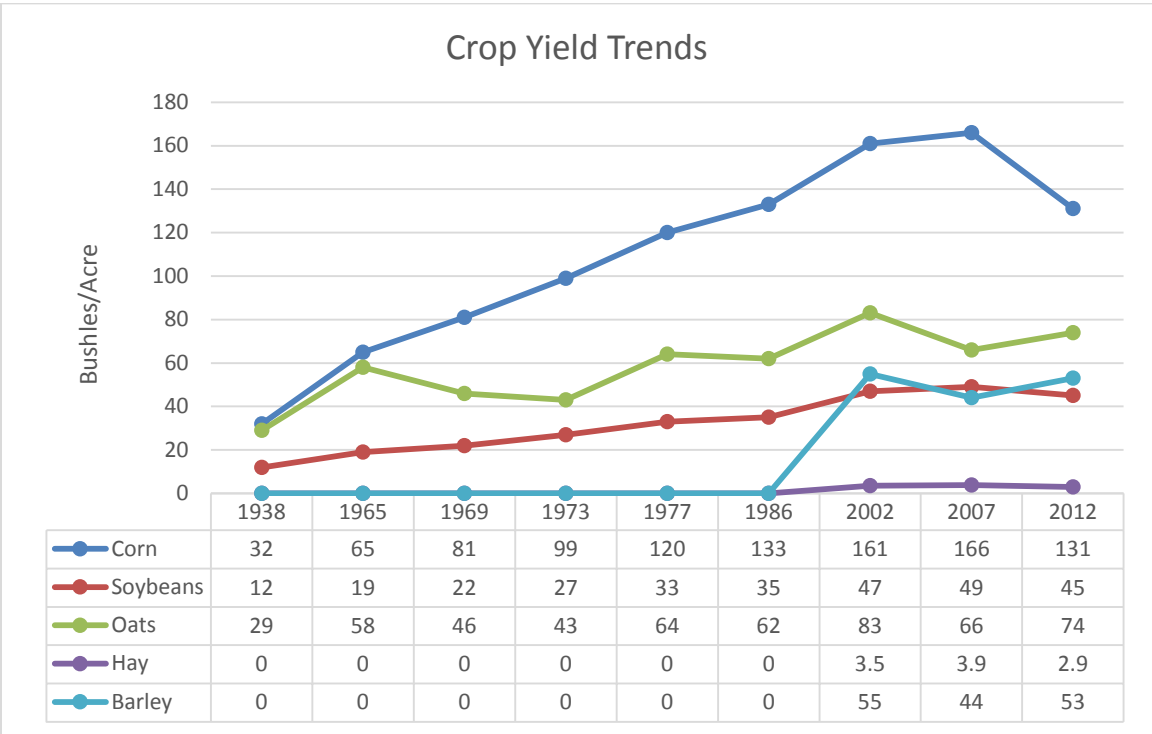


	1938	1958	1977	1986	2002	2007	2012
Cropland	177,473	234,868	235,000	242,800	236,615	248,796	273,269
Pasture	93,024	37,464	29,850	25,800	17,386	17,663	9,939
Woodland	15,960	12,916	9,800	8,284	8,077	8,458	7,842
Recreation & Wildlife	8,130	5,995	2,893	2,784	2,738	2,738	2,738



	1938	1965	1977	1986	2002	2007	2012
Corn	63,216	75,434	102,500	107,000	100,485	124,421	140,533
Soybeans	616	38,870	61,200	81,200	93,866	84,717	97,758
Oats/Wheat	67,513	25,933	25,228	25,500	2,551	2,071	1,014
Hay	42,728	30,459	31,400	29,100	12,353	7,248	7,123
Barley	0	0	0	0	345	330	42
Vegetables	0	0	0	0	55	55	351

(0 indicates data not available)



	1938	1965	1969	1973	1977	1986	2002	2007	2012
Corn	32	65	81	99	120	133	161	166	131
Soybeans	12	19	22	27	33	35	47	49	45
Oats	29	58	46	43	64	62	83	66	74
Hay	0	0	0	0	0	0	3.5	3.9	2.9
Barley	0	0	0	0	0	0	55	44	53

(0 indicates data not available)

These changes in agriculture have produced higher soil erosion rates and more water quality concerns in the county.

B. Pastureland

The majority of pastures contain some type of cool season grass which provides adequate forage during the spring and fall grazing season. There is a shortage of quantity and quality of forage during the summer grazing months. Also, many of the pastures are located in very poorly drained areas and produce forage of poor quality. Most pastures are overgrazed resulting in loss of soil cover and damage to forage cover. There is a need for more pasture management including practices on rotational grazing, proper fertilization and renovation to improve seedings.

C. Woodland

Approximately 518 acres are publicly owned. The remainder is under private ownership and control. The major tree species include oak, hickory, hard maple, and basswood on the uplands, and elm, ash, black walnut, silver maple, and cottonwood on the stream benches. The majority of the woodlands are not managed for wood production. Many of the smaller, easily accessible woodlots are grazed to the extent that natural reproduction is almost non-existent and serious soil compaction is occurring. Some timber cutting is currently occurring annually, but in most cases without regard to proper forest harvesting techniques. The amount of woodland in the county is already small (2.7% of the total land). Woodlands have been converted to cropland and other uses in the past and this practice still continues to some degree.

The major concerns with woodland are preservation, better management of the remaining woodlands and planting more new areas. REAP cost share has helped cover the cost of woodland management practices like timber stand improvement, fencing for cattle exclusion, and tree planting including wood chip mulching and use of tree shelters. REAP has been very helpful but the current practice rates have not kept up with contractor expenses. This is something that should be looked at in the future.

D. Gully Erosion

Reference will be made to the NRCS Highly Erodible Soils and Hydric Soils. (Appendices 3 & 4). Gully erosion is found wherever there is concentrated water runoff. Gully erosion, the most visible form of water erosion, is not limited to steeply sloping fields. Even nearly level fields where sheet erosion is not a problem can have severe gully erosion, and people often are not concerned about it until it gets this bad. Not only has gully erosion caused damage to cropland, it often damages existing tile systems. Some tile are becoming shallow and are breaking down and blowing out because gully erosion has uncovered them.

MLRA 105	12,140 ac	x 1.5%=	182.1
MLRA 104	230,660 ac	x 2.5%=	5766.5
total acres affected by ephemeral gully erosion that need to be treated			5948.6

Ephemeral gully erosion will be controlled by seeding grassed waterways or controlled by terraces and structures or other measures.

E. Streambank Erosion

There are 132 miles of DNR designated rivers in the county. Approximately 30% of the total streambank length has active eroding streambanks. 132 mi.x30%=39.6 mi. streambank erosion.

F. Urban Erosion

The amount of urban land in the county is minimal with the largest area around Cresco. Excessive runoff from major rain events is discharged through storm sewers and outlets onto agricultural land around Cresco. Karst features surrounding the city of Cresco also represent opportunities for contamination of the ground water (Appendix 5). An active sinkhole on the west side of town is utilized to dispose of surface water discharge. In addition, the waste water treatment facility for the city of Cresco discharges into Silver Creek which is a high quality cold water stream and leads to the Upper Iowa River which is a major recreational water body.

2. Water Resources

A. Water Quantity

Water, in many ways, has greatly affected the development of Howard County. The poorly drained soils located over most of the county, restricted the intensity of farming until recent years when subsurface drainage tiling became a common land improvement practice.

On the other hand, the small streams became sources of power for several grist mills. These mills were important to local farmers as sources of lumber and the conversion of grain to livestock feed and human food products.

Today, the streams are no longer needed to power mills, but for many, they are still very important. Livestock water, wildlife habitat, and recreational activities are the current major uses of Howard County's water resources.

Before 2006, only 2,276 miles of Iowa streams were protected for recreational uses like swimming, fishing and wading. Only about 12,000 miles were designated to protect fish and other aquatic life. Now, the Iowa DNR has extended protection to about 26,000 miles of perennial streams for both recreational use and for aquatic life. The IDNR's current rulemaking effort, which proposes to designate these streams for recreational use, will protect thousands of miles of streams that never had any level of protection before 2006. The key for the IDNR designated uses is as follows:

HH = human health
C = drinking water supply

Recreational:
A1 = primary contact recreational use
A2 = secondary contact recreational use
A3 = children's recreational use

Warm Water:

B(WW-1) = large interior and border rivers

B(WW-2) = smaller, perennially flowing streams

B(WW-3) = intermittent stream with non-flowing perennial pools

Cold Water:

B(CW-1) = waters which temperature and flow are suitable for coldwater species

B(CW-2) = small channeled streams, headwaters, springs not suitable for coldwater species

Stream Name	Rec Use	Aquatic Life Use	Length (Mi)
Chihaks Creek	A2	B(CW-1)	1.4
Bohemian Creek	A1/A2	B(CW-1)	4.9
Chihaks Creek	A2	B(CW-1)	1.1
Nichols Creek	A1/A2	B(CW-1)	4.2
Beaver Creek	A1/A2	B(CW-1)	9.9
Staff Creek	A1/A2	B(CW-1)	7.6
Turkey River	A1	B(WW-1)	6.1
Turkey River	A1	B(WW-1)	3.9
Upper Iowa River	A1	B(WW-1)	15.2
Wapsipinicon River	A1	B(WW-1)	10.1
Crane Creek	A1	B(WW-1)	0.8
Upper Iowa River	A1	B(WW-1)	15.0
Upper Iowa River	A1	B(WW-1)	1.6
Little Turkey River	A1	B(WW-2)	3.0
Little Wapsipinicon River	A2	B(WW-2)	2.9
Mead Creek	A2	B(WW-2)	1.4
Silver Creek	A2	B(WW-2)	1.8
Turkey River	A1	B(WW-2)	4.4
Unnamed Creek	A2	B(WW-2)	1.3
Unnamed Creek	A2	B(WW-2)	1.1
Unnamed Creek	A2	B(WW-2)	1.2
Unnamed Creek	A1	B(WW-2)	0.1
Watsons Creek	A1	B(WW-2)	0.4
Crane Creek	A1	B(WW-2)	22.7
North Branch Turkey River	A1	B(WW-2)	6.1
West Branch Turkey Creek	A1	B(WW-2)	1.5
Unnamed Creek	A1	B(WW-2)	1.1
Minor Creek	A1	B(WW-2)	0.4
Beaver Creek	A1	B(WW-2)	0.5

Waterbody Name	1/4	S	T	R	A1	B(WW-1)	B(LW)	HH
Lake Hendricks		19	99	14	X		X	X
Lime Springs Impoundment	NE	20	100	12	X	X		X
Lylah's Marsh County Park		23	98	14			X	X
Merrick Pond W.M.A.		5	97	14			X	X
Taylor Park Pond	NW	2	97	11			X	X
Vernon Springs Park Pond	SE	34	99	11			X	X

Most water consumption (human, livestock and other) in the county is from groundwater. The public wells are as follows:

Facility Name	Population
City of Chester	127
City of Cresco (2)	3,868
City of Lime Springs (2)	505
City of Protivin (2)	283
City of Riceville	740

The northeast part of Howard County is part of the karst/ shallow-to-bedrock soils area of northeast Iowa. There are over 600 sinkholes in the county, mostly in the northeast part of the county. The Rockton-Winneshiek soil association, which includes Sogn soil, is very shallow to creviced limestone bedrock. Sogn soil only has several inches of topsoil over limestone with many rock outcroppings. These soils can allow water pollutants direct access to groundwater. The city of Cresco is at the edge of this area. Certain soils have high pesticide and nutrient leach potential. They are Sogn loam, Lilah sandy loam, Sparta sandy loam, and Lamont sandy loam. Soils having high pesticide and nutrient runoff potential are: Sogn, Fayette, Downs and Winneshiek.

Wetlands at one time covered approximately ¼ (approximately 75,000 acres of hydric soils) of the county. Most have now been drained and are cropped. Estimated total wetland acres Is 8,000. 20% of tracts have wetlands on them.

There are nine legal drainage districts in the county of which eight are active: numbers 2, 3, 4, 6, 7, 8, 10, 12 (Appendix 6). These are located in the Saratoga and Howard Center townships.

B. Water Quality

The 2012 Iowa Non-point Source Assessment Report prepared by the IDNR shows that non-point pollution is impacting most streams and rivers in Howard County to such a degree that their designated uses are only partially supported. Siltation from soil erosion in agriculture is the cause. Nutrients, pesticides, and bacteria were also concerns.

The Howard County Environmental Health office offers well testing kits. Water quality, both surface and groundwater, is impaired in Howard County. Intensive row crop farming and

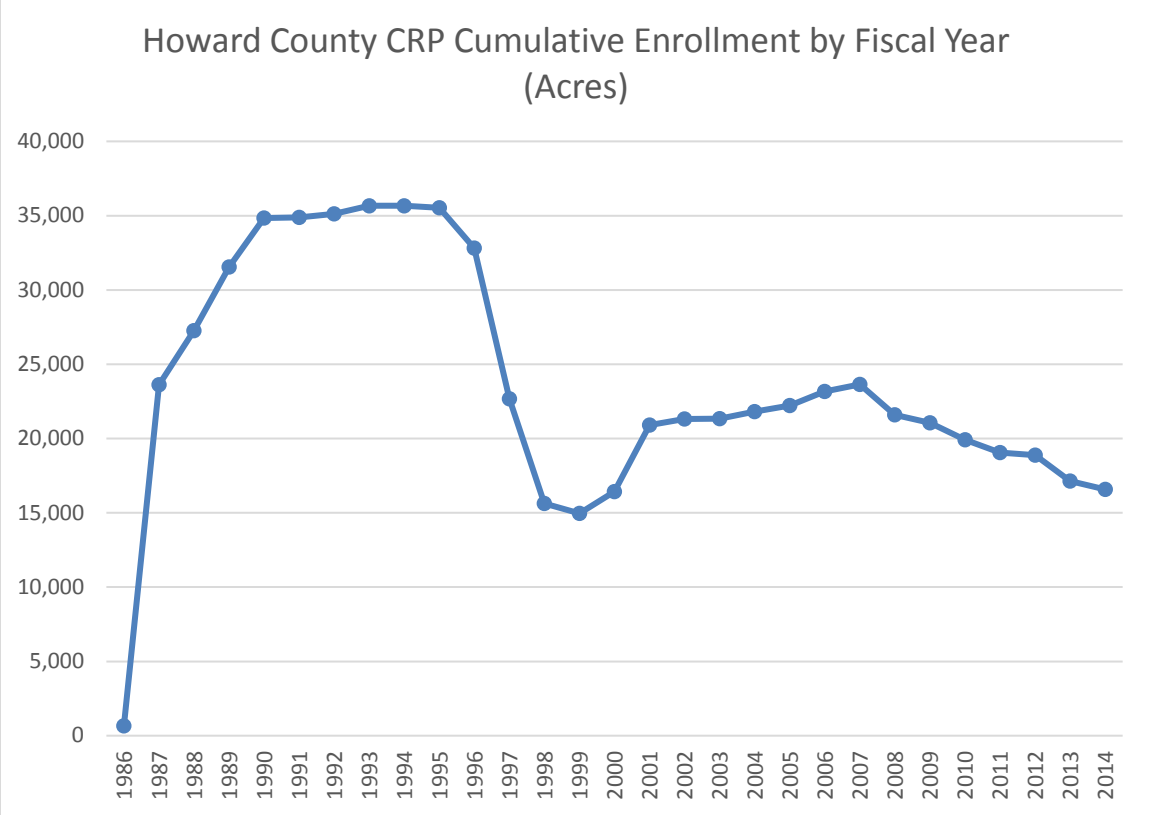
livestock operations contribute pollutants; sediment, nutrients (especially nitrate), bacteria, and pesticides. Past land use conversion to more intensive row cropping and drainage of wetlands have been a factor in increasing the potential for water resource concerns.

3. Recreation and Wildlife

Wildlife habitat and thus wildlife populations have dramatically decreased in the last 30 years in Howard County. Populations in decline are Pheasants, Monarch butterflies, and Long ear bats. Presently there are approximately 2,738 acres of wildlife land. The increase in row crop acreage and drainage of wetlands are the main causes of the decline.

The Howard County Conservation Board manages 33 recreational and natural resources areas in the county totaling 1,824 acres. In addition, there are 36.5 miles of recreational trails. There are also 805 acres of Iowa DNR managed land in the county.

The enrollment of land into the conservation reserve program (CRP) has had a significant positive impact on wildlife populations. These programs have been beneficial to wildlife, and extensions and/or improvements to these programs will help. More wetland restorations, tree planting projects for cover, pollinator plantings, and food plots are needed.



4. Mining and Mineral Resources

There are 13 active aggregate sources in the county. Eight produce crushed stone, and five produce sand and gravel.

VII. Land Management

Conservation of the soil, and the water which helps make it productive, is the primary concern of the Howard SWCD. Quantities of Iowa Financial Incentives Program (state cost share) practices accomplished from 1/1/11 - 12/31/15 are shown in the following table.

Conservation Practice		
Bioswale	1.0	Unit
Cover Crop	5,456.4	Acres
Forest Stand Improvement	44.4	Acres
Grassed Waterway	71.3	Acres
No-Till/ Strip-Till	278.5	Acres
Sediment Basin	3.0	Units
Site Prep for Natural Regeneration	36.0	Acres
Streambank & Shoreline Protection	200.0	Feet
Terraces	34,596.0	Feet
Tree/Shrub Establishment	64.1	Acres
Waste Storage Facility	3.0	Units
Wetland	21.0	Acres
Windbreak	29.3	Acres

Quantities of Iowa Environmental Quality Improvement Practices (EQIP) practices accomplished from 2010-2015 are shown in the following table.

Conservation Practice	Number
Agrichemical Handling Facility	1
Comprehensive Nutrient Management Plan	15
Conservation Cover	1
Cover Crop	49
Diversion	2
Fence	2
Forest Site Preparation	1
Forest Stand Improvement	8
Grassed Waterway	7
Heavy Use Area Protection	6
Nutrient Management Plan	1
Pipeline	1
Prescribed Burning	10
Prescribed Grazing	1
Residue & Tillage Management - No-Till/Strip till/Direct Seed	23
Roof Runoff Structure	5
Seasonal High Tunnel System for Crops	1
Stream Habitat Improvement & Management	1
Streambank & Shoreline Protection	3
Subsurface Drain	3
Terrace	5

Tree & Shrub Establishment	8
Underground Outlet	17
Upland Wildlife Habitat Management	1
Waste Storage Facility	9
Waste Transfer	1
Watering Facility	4
Wetland Creation	1

1. Factors Limiting Conservation Practices

A number of factors are limiting the amount of soil and water conservation practices being applied within Howard County. We wish to see the following factors eliminated, or greatly reduced. When considered in various combinations, these have a significant impact on vital resources in our county. These factors were compiled from a public survey:

- Lack of incentives to convert crop land into conservation reserve program. (Cash rents higher than CRP rental rate).
- CSP funding does not provide enough dollar/acre payment to participate.
- Farmers not utilizing field windbreaks to prevent wind erosion.
- Lack of volunteers to assist with practice planning, layout and certification.
- Operators only concerned about short term profits which may not be the best for long term survival.
- There is not a lot of incentive to put in perennial crops unless you have livestock that eats hay. It is hard to get people started on crops that aren't corn & beans.
- Corporations that influence lawmakers. Manipulation of regulations & inadequate monitoring of hog confinements.
- Availability of contractors to install conservation practices.
- Very high yield goals for beans & corn.
- Too many regulations and rules to put land into conservation programs (State and Federal). If farmers want to put into a program they should be able to.
- Conversion of tree and shrub areas to cropland decreases wildlife habitat.
- Lack of farmer awareness on strip-till/no-till planters.
- It is difficult to farm around terraces.
- Political will at the State level. Lack of State funding.
- Lack of legal requirements both for local owners as well as absentee land owners to comply with good practice, voluntary compliance seems inadequate for wide-spread improvement.
- Age of farmers.
- Cost to apply structural conservation practices.
- Farmers and staff not aware of new conservation practices (cover crops, grass strips, no-till/strip-till) and the positive effects.

2. Action Needed to Overcome Limiting Factors

These solutions were compiled from a public survey:

- Contacting our senator/legislature to appropriate funding for new requirements of ground water and future conservation practices/programs.
- Examples of successful windbreaks. Trees help clean air and reduce wind erosion.
- Place 10-20% of environmentally sensitive ag ground in Conservation Practices (seeded to perennials).
- Stricter penalties for people that pollute, litter, and leach chemicals into the ground.
- Encourage County government to provide free drop off places for people who are too cheap to dispose of things properly.
- Create a strip of buffalo grazing land north to south to regenerate that great black soil we once had. Covered with prairie grass.
- Need a local market for livestock and hay to improve accessibility and profit.
- Local decision-making & control related to hog confinements. Those living near these confinements should have decision making power.
- Increase number of contractors, improve efficiency of current contractors.
- Incorporate rotational grazing and subsidize animal husbandry to help implement these practices.
- Increase incentives/cost sharing to install conservation practices.
- Reduce/simplify the rules to put it in to conservation programs to increase participation.
- Programs to increase woodland areas.
- Increase cost share rates/ tax incentives for terraces and waterways to be put in.
- Better funding. Better education. Negative incentives for non-compliance. State level bipartisan support to require at least minimum conservation practices for all agriculture/forest/pasture land owners. Positive incentives for the same owners. Lack of enforcement of conservation plans/ outdated plans.
- Let participants graze CRP.
- The CRP rental payment should reflect the number of acres contracted (higher # of acres=higher payment).
- Make terraces eligible for CRP.
- State should provide more REAP money for windbreak restorations.
- Landowners should incorporate conservation practices into their lease agreements.

VIII. Howard SWCD Policies

It will be the policy of the Howard SWCD to:

1. Provide technical assistance in planning, applying and maintaining conservation practices on the land, in-so-far as personnel and facilities permit. The commissioners reserve the right to set priorities for providing services when requests exceed the available resources.
2. Encourage the group approach to land treatment when more than one decision maker is involved.
3. Coordinate conservation activities and resource development programs with the efforts of other partners which may function within our District.
4. Cooperate with other soil conservation districts and governmental units in multi-district resource development programs.
5. Carry out an information and education program to acquaint people with the District and its program. The District will work with Extension Service, Vo-Ag Departments, schools and community groups in promoting an environmental education program in the county.
6. Administer any public cost-share funds available to the District for use in assisting producers in applying needed soil conservation practices.
7. Provide resource inventory and evaluation information to units of government having resource planning responsibilities within the District.
8. Provide soil survey data and interpretation of the soil survey to producers and others working in Howard County.
9. Hold regular monthly meetings of the District commissioners. Special meetings will be called as necessary. All meetings are open to the public.

IX. Howard SWCD Objectives, Goals & Priorities

The Howard SWCD Commissioners have developed the following priorities to address the conservation issues identified in this plan. We intend to pursue actions under each of the following major objectives on a planned schedule throughout the next five years. A more detailed annual work plan will be developed to meet these goals.

Objective #1: Develop and implement effective watershed projects to protect soil & water quality, and other natural resources.

Goals & Actions	Responsibility
Identify local partners in the Turkey River watershed and conduct outreach	HSWCD staff
Continue water sampling in the Turkey River watershed	HSWCD staff
Engage local partners in the Silver Creek watershed and outreach	HSWCD staff
Continue water sampling in the Silver Creek watershed	HSWCD staff
Hold the Annual Project Review in conjunction with a County Partner's meeting (Legislators, Representatives, Secondary Roads, Historical Society, Economic Development, Conservation Board, Chamber, Farm Bureau, Pheasants Forever, Board of Supervisors, ISU Extension)	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Evaluate outreach effort, conduct field days and use every public gathering as an opportunity to share information about the project	Commissioners HSWCD staff IDALS Conservation Assistant
Conduct a media campaign, engage community organizations in discussions and make residents of the watershed aware of conservation practices available	Commissioners HSWCD staff IDALS Conservation Assistant
Publish a Silver Creek Water Quality Project newsletter on a quarterly basis and mail to all rural watershed landowners and residents	Commissioners HSWCD staff IDALS Conservation Assistant
Support the Turkey River Watershed Management Authority	Bart Wilson Harlan Hickle
Support the Upper Wapsipinicon Watershed Management Authority	Glen Pietan Irene Lund
Support the Upper Iowa Watershed Alliance	Mike Lewis Mike Natvig
Attend the Northeast Iowa RC&D meetings	Harlan Hickle
Promote urban conservation practices	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Promote pastureland practices	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Create a "Conservation Mile" tourism campaign in the Silver Creek watershed with brochures and signs	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff

Objective #2: Assist landowners & operators to improve water quality, reduce erosion, reduce flooding potential, and improve wildlife habitat.

Goals & Actions	Responsibility
Make information available to customers regarding financial assistance and technical support (newspapers, newsletter, Facebook page, website)	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Promote the Nutrient Reduction Strategy by hosting an ag waste management and nutrient management field day	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Host and/or promote a cover crop field day	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Strive to develop "whole farm plans" for each producer we work with; that will ultimately result in education about their farm, what resource concerns they have, and possible programs that may be available to assist them	HSWCD staff NRCS staff
Promote CRP to customers and conservation organizations (Pheasants Forever, Ducks Unlimited)	Commissioners HSWCD staff
Review cost share priorities for IFIP & EQIP	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Pursue additional supplemental State and EQIP funding and special project funding	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff

Objective #3: Fund raising to support technical staff and conservation implementation.

Goals & Actions	Responsibility
Annual Booster Club with categories based on donation amount	IDALS Conservation Assistant Commissioners
Research other grant and fundraising opportunities	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Recruit volunteers to assist with special projects and office workload	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
Meet with Board of Supervisors to highlight HSWCD accomplishments and request annual monetary donation	Commissioners HSWCD staff
Meet with Pheasants Forever to highlight HSWCD accomplishments and request annual monetary donation	Commissioners HSWCD staff

Objective #4: Conduct a strong conservation education and outreach program.

Goals & Actions	Responsibility
Conduct annual Arbor Day outdoor classroom for all 3rd graders in the Howard-Winneshiek school district & purchase trees for participants	Commissioners HSWCD staff IDALS Conservation Assistant Volunteers
Conduct annual Natural Resources Day outdoor classroom for all 5th graders in the Howard-Winneshiek school district	Commissioners HSWCD staff IDALS Conservation Assistant Volunteers
Promote Soil and Water Conservation week (newspapers, newsletter, Facebook page, website)	Commissioners IDALS Conservation Assistant
Sponsor scholarships for graduating High School seniors and college students who are pursuing a degree in agriculture or natural resources	Commissioners IDALS Conservation Assistant
Publish annual report (newspaper, newsletter)	IDALS Conservation Assistant HSWCD staff
Howard County Fair booth display	HSWCD staff
Publish regular articles (newspapers, Facebook page, website)	HSWCD staff IDALS Conservation Assistant NRCS staff
Attend ag and conservation organization meetings with a display booth (Pheasants Forever, Ducks Unlimited, Dairy Days, etc.)	HSWCD staff
Assist with conservation tour for High School Environmental Studies class	HSWCD staff
Ensure that Civil Rights and Outreach responsibilities are upheld in all outreach, education, customer service and employment practices	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff
At least one commissioner attend the CDI Annual meeting	Commissioner
At least one commissioner attend the CDI Spring Regional meeting	Commissioner
Host public Conservation Tour of local practices	Commissioners HSWCD staff IDALS Conservation Assistant NRCS staff

X. Statement of Adoption

We, the Commissioners of the Howard Soil & Water Conservation District, adopted this Soil & Water Resource Conservation Plan on the 21st day of June, 2016

Bart Wilson
Commissioner

Michael Natvig
Commissioner

Michael Lewis
Commissioner

Glen Pietan
Commissioner

Harlan Hickle
Commissioner

Statement of Approval

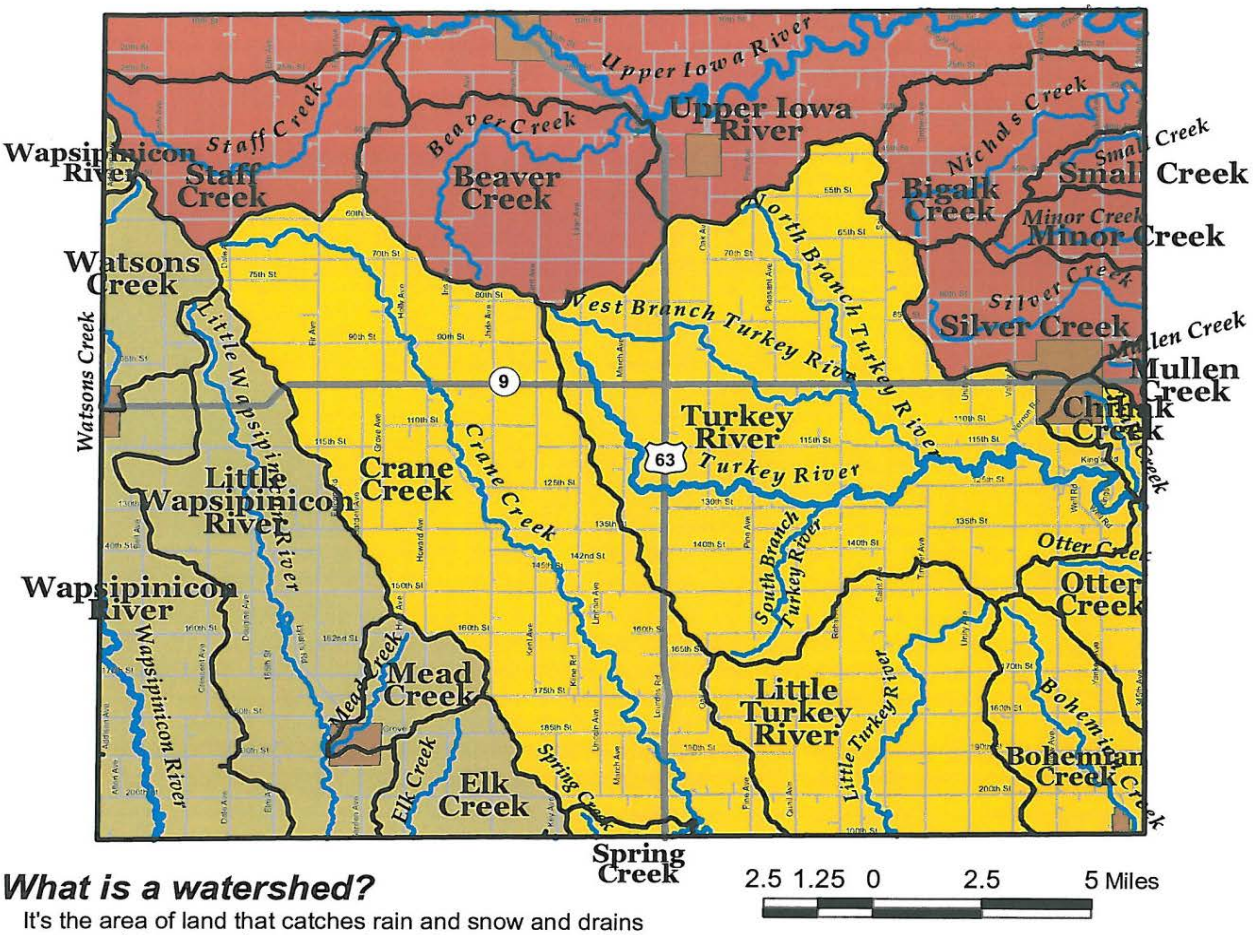
The Howard Soil & Water Conservation District's Soil & Water Resource Conservation Plan was reviewed and approved by the Division of Soil Conservation & Water Quality, Iowa Department of Agriculture and Land Stewardship on _____, 2016.

_____

James Gillespie
Director
Division of Soil Conservation & Water Quality
Iowa Department of Agriculture and Land Stewardship

XI. Appendices

1. Watersheds and Creeks of Howard County, IA



What is a watershed?

It's the area of land that catches rain and snow and drains or seeps into a marsh, stream, river, lake or groundwater.

What's your watershed?

You're sitting in a watershed right now. Locate your home on the map above to find your watershed. Some cross county, state, and even international borders. Watersheds come in all shapes and sizes. Some are millions of square miles, others are just a few acres. Just as creeks drain into rivers, watersheds are nearly always part of a larger watershed.

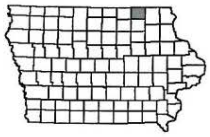
LEGEND

Howard County's Major Watersheds

- Upper Iowa River
- Turkey River
- Upper Wapsipinicon River
- Howard Co. Sub-Watersheds

What is nonpoint source pollution?

Unlike pollution from factories and sewage treatment plants, nonpoint source pollution comes from many different areas with no particular place of origin. Nonpoint source pollution (or polluted runoff) occurs when water runs over land or through the ground, picks up pollutants, and deposits them in the river, lake, bay, or groundwater.



These pollutants include:

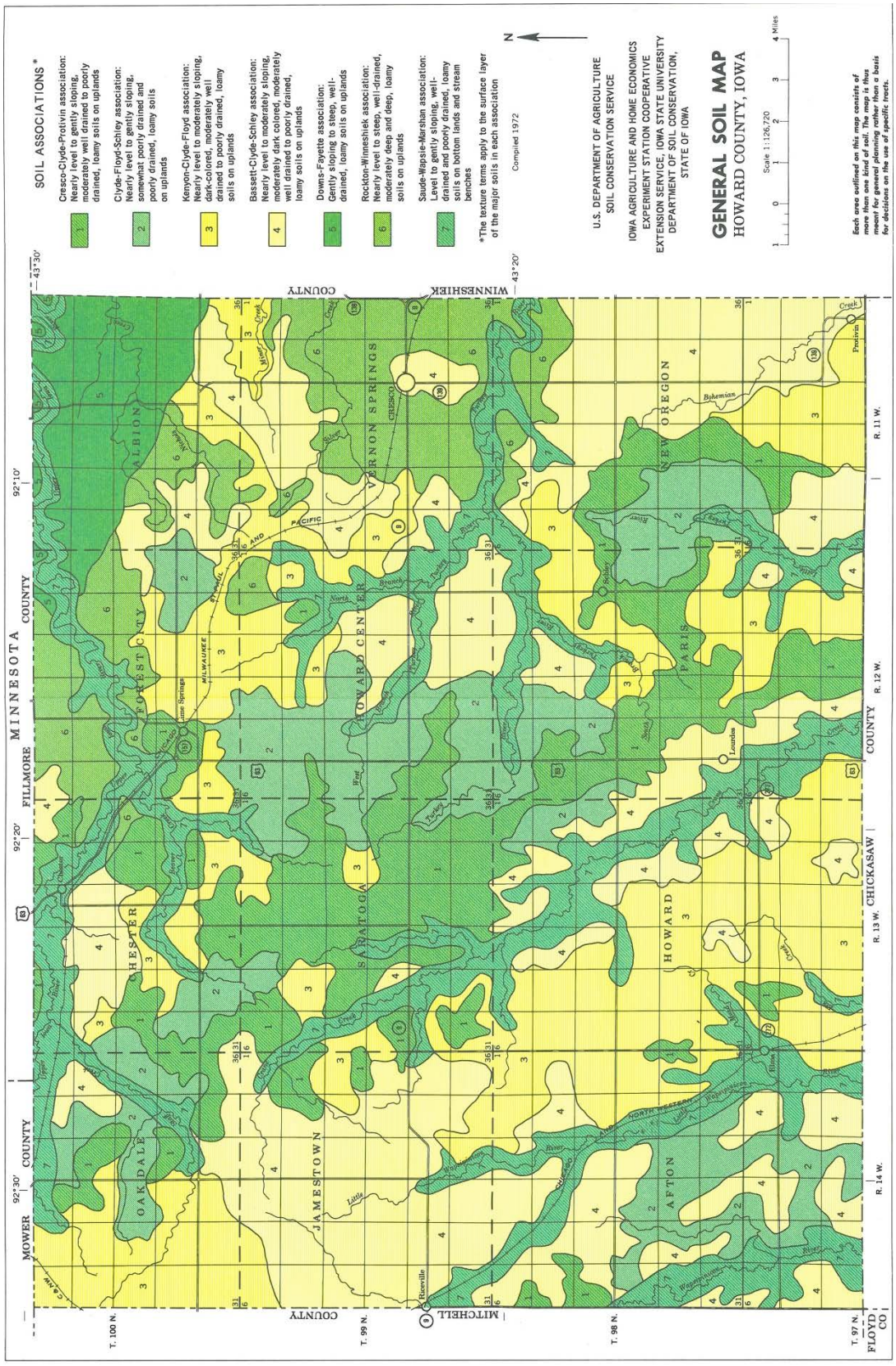
- Excess fertilizers, herbicides, and insecticides from farms, cities, and suburban streets
- Oil, grease, and toxic chemicals from urban runoff and energy production
- Sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks
- Bacteria and nutrients from livestock, pet waste, and faulty septic systems

Increased runoff from rainwater and changes to stream flow such as creek straightening and dams can also adversely affect watersheds.

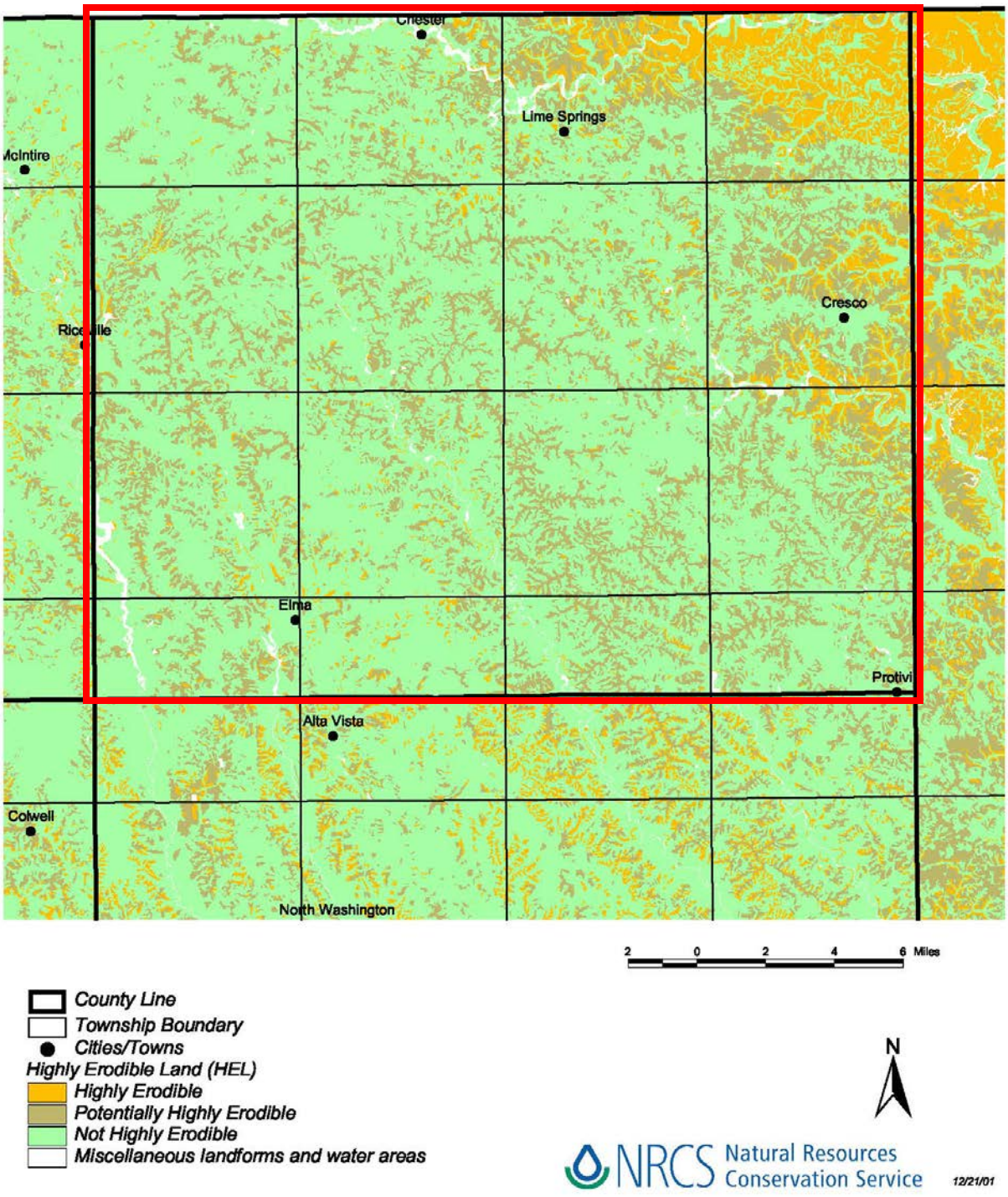
Howard Soil and Water Conservation District
311 7th St. SW Suite 2
Cresco, IA 52136
563-547-3040

Printed 2005

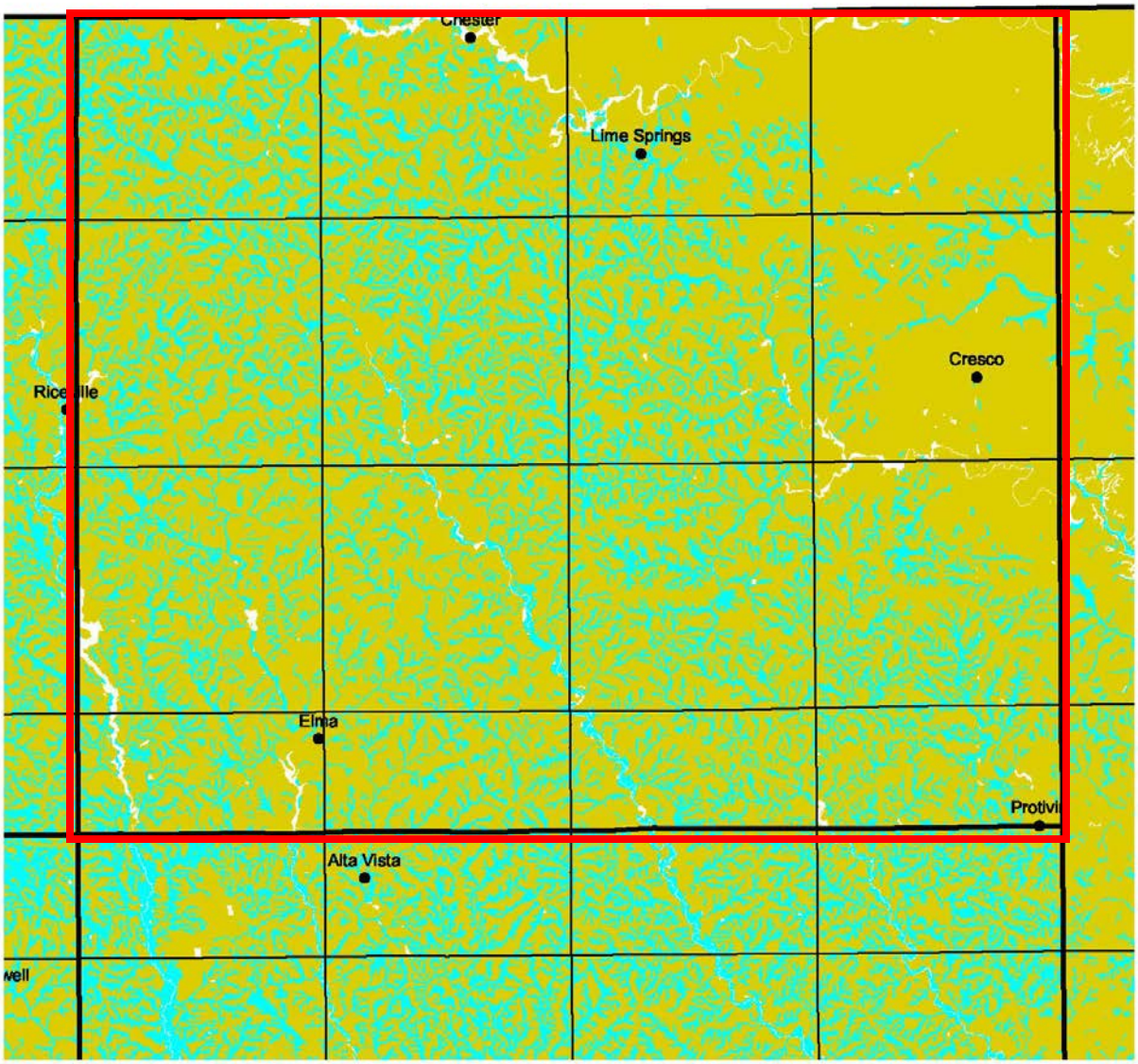
2. General Soil Map of Howard County, IA



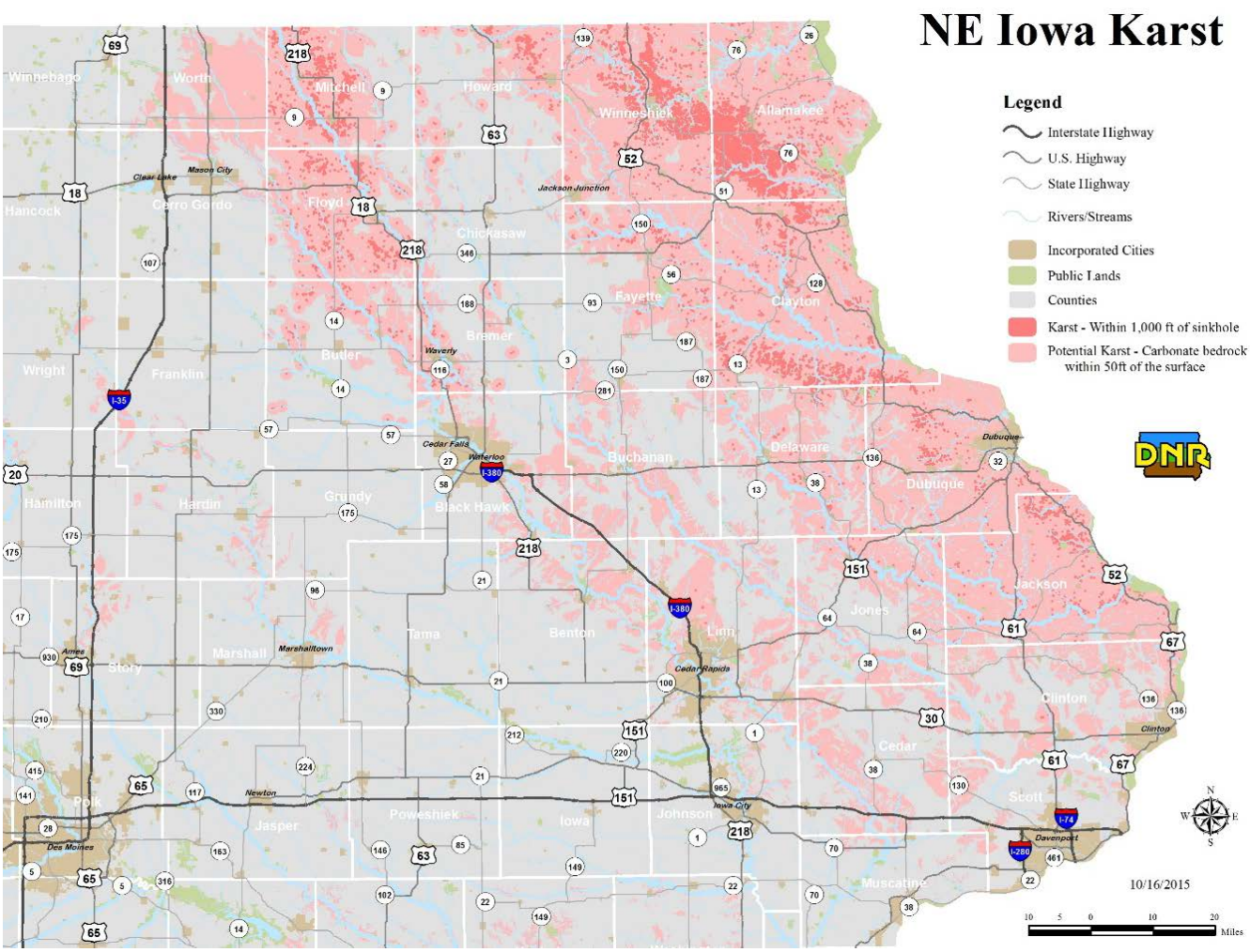
3. Highly Erodible Soils Map of Howard County, IA



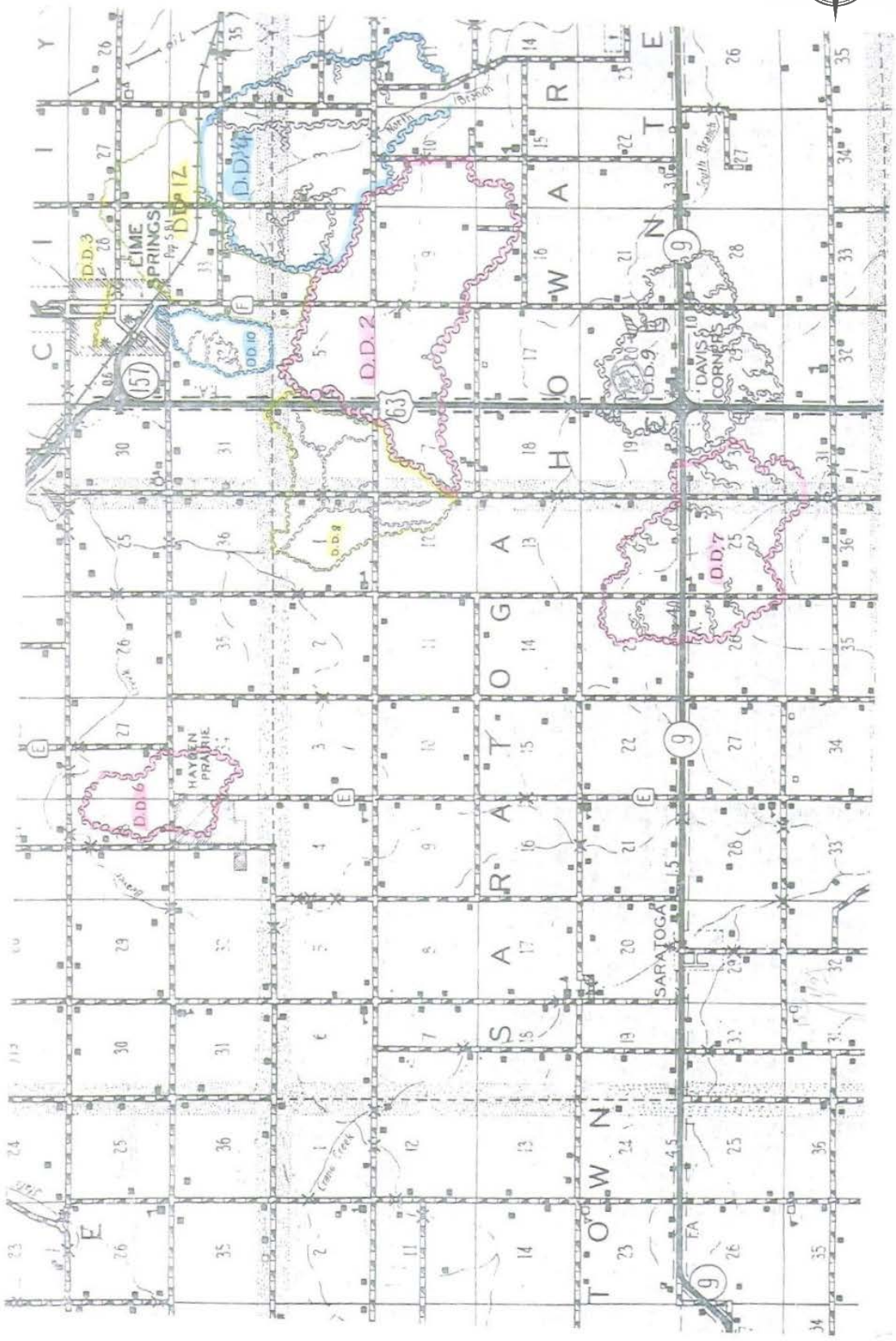
4. Hydric Soils Map of Howard County, IA



5. NE Iowa Karst Map



6. Active Drainage Districts



7. Hydrologic Unit Code (HUC) Map