

The Oaks of McHenry County



McHenry County
CONSERVATION DISTRICT

18410 U.S. Highway 14, Woodstock, IL 60098
815.338.6223 www.MCCDistrict.org

Prepared by
McHenry County Conservation District



Our Mission

The McHenry County Conservation District exists to preserve, restore and manage natural areas and open spaces for their intrinsic value and for the benefits to present and future generations.

Our Vision

McHenry County Conservation District is a highly motivated and fiscally responsible organization composed of professional staff, volunteers, and Board of Trustees.

We aspire...

to promote the long-term viability of the county's biodiversity while encouraging and providing opportunities for responsible use of lands in concert with the natural resources.

We inspire...

respect for the land community by exposing people to the wonders of nature and the knowledge of sound environmental practices.

We recognize...

that accomplishing these efforts requires working cooperatively with both public and private initiatives to promote sound stewardship practices.

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Purpose Statement

In 2007, McHenry County Conservation District released the Natural Areas Protection Guide to assist stakeholders in making well-informed land use decisions, taking into consideration the ecologically sensitive nature of some properties.

Embedded in the Natural Areas Protection Plan was a call to preserve the county's oak ecosystems. The Oaks of McHenry County is an addendum to the first publication and serves as a proactive planning tool to identify and protect the last remaining oak groves and savannas across the county. These majestic grandfathers of the Midwest are a vanishing McHenry County legacy that will not survive without our intervention.

Both these guides encourage governing bodies to be flexible and open to sensible, ecologically sound development and recommends landowners, municipalities, public officials and other stakeholders work in partnership with the Conservation District to preserve the unique natural land and water resources of McHenry County.



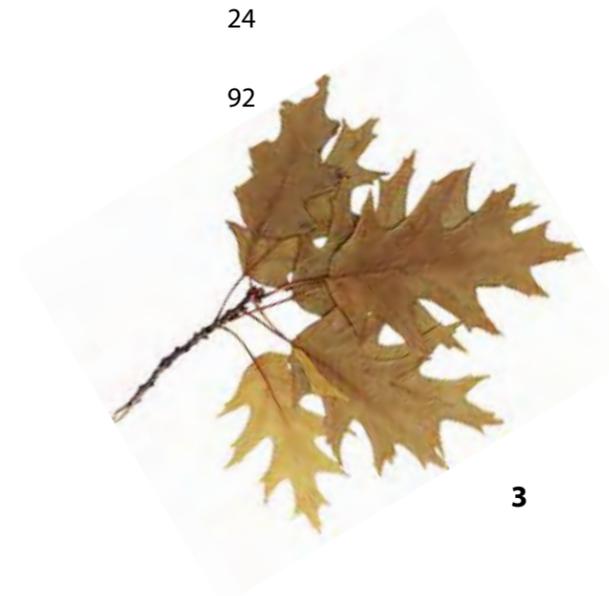
"If we start losing that connection to what the land means to us - our heritage - there is no hope for us. If we can't do something to preserve that, if we can't make some sacrifice now to protect that - then we really have to ask ourselves, what are we willing to protect?"

- Joe Beeson, Owner, Beeson's McHenry County Nursery Inc.

The Oaks of McHenry County

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The Oaks of McHenry County

Executive Summary

If we simply project future oak loss based on what has transpired over the past 172 years, the county could stand to lose the majority of the remaining 18,000 acres of mature oaks over the next three decades.

While the overall loss of oak tree cover since settlement is staggering in its scope, the reduction in the average size of remaining oak groves also carries profound ecological ramifications. Early nineteenth century oak stands covered tens of thousands of acres across contiguous areas. The Big Woods of McHenry County included multiple townships and contained over 30,000 acres. English Grove in Richmond and Burton Townships was 18,000 acres in size.

The 2005 GIS layer reveals a fragmented landscape of small isolated oak groves, often separated by large areas of agricultural or developed land. The oak study identified 2,888 remaining oak stands upon its conclusion. Of these, only 157 were 25 acres in size or larger. When viewed as a nested sample, the numbers become even more telling.



The Oaks of McHenry County

Historical Context

One hundred and seventy years ago, as widespread Euro/American settlement began to engulf the rolling swell and swale topography of McHenry County, nearly one third of the county's landscape supported oak dominated ecosystems. Oak natural community types were varied and ranged from open savanna to denser forest determined by topographic location and the return interval of natural and Native American set wildfires. But these ancient groves had already experienced intense ecological forces by the time the first eastern settlers viewed them in 1837 including glacial ice, prolonged drought and landscape scale fires.

As the glaciers of the Wisconsin Ice Sheet began to recede, approximately 18,000 years ago, a rich system of landforms was left in their wake. Kames, kettles, end moraines and outwash plains created one of the most varied and visually diverse parts of Illinois. As the ice steadily retreated northward, a series of natural communities re-colonized the newly exposed surface of the land. These included tundra, taiga (coniferous forest) and finally a rich and ecologically diverse hardwood forest that supported many tree species more typical of today's eastern deciduous forest.

As the influence of the glaciers continued to wane, local climatic patterns began to reflect a drier pattern. Periodic drought became more common, fueling more frequent wildfires. On gently rolling portions of the McHenry County landscape, fire intensity was higher and forests began to disappear, replaced by more fire tolerant grasslands. On more rugged portions of the landscape, tree diversity declined in the face of continued dry conditions and increasing fires. Over many thousands of years, natural selection favored tree species able to withstand these intense ecological forces. For McHenry County this selective process gave rise to vast wooded ecosystems dominated by oak species.

"It was a world that was once filled with intense and frequent fires where only the hardiest of trees could survive. The hardiest of trees in those landscapes were the oaks. But, when we take away the once frequent fires, it becomes an easier life for all trees and the woodlands quickly fill in with brush and other species. Very quickly, the oaks stop reproducing. Their reproduction is based on the openness that comes with a fire landscape. The result is thousands of acorns, but because there is so much shade, the oak trees can not reproduce."

- Tom Simpson, Restoration Ecologist, McHenry County Conservation District



The Oaks of McHenry County

Oak Communities

Four basic oak communities occurred across the McHenry County landscape as intensive settlement pressures began in 1840. These community types existed in a complex interplay with native prairies and wide spread wetlands. Terrain, fire-return intervals and grazing by large ungulates such as bison and elk also influenced their distribution.

Barrens

On more level portions of the landscape, native grassland replaced wooded communities in most circumstances. However, in many areas oaks persisted in an ecological dynamic with frequent fire as part of a native shrub dominated community known as barrens. Barrens were named by early settlers for the stunted appearance of the timber and a corollary belief that such areas must have poor soils incapable of sustaining tree growth; hence they must be “barren” or deficient in some manner. In truth, the stunted oak bushes and hazelnut copses of the barrens reflected a short fire return interval that prevented mature trees from becoming established.

The multiple stemmed oaks that dominated these areas were the result of top kill from wildfires. The massive root system on these former trees continued to send forth re-sprouts after each fire. Several hundred-year-old root plates supported ten-foot high oak grubs that belied the age of the below ground portion of the plant. Barrens were widespread in McHenry County

prior to 1870 and occurred in every township. As roads and fields prevented wildfires from spreading, these barrens grew into mature oak stands. Many of the even aged oak groves that dot the landscape of the county date to the period of fire suppression in the first two decades after settlement began and owe their origin to clusters of oak grubs released by the cessation of fire as an ecological force after 1850.

Today, barrens are extremely rare in McHenry County, with a few very small examples scattered along railroad right-of-ways or other areas where fires occurred frequently enough to allow the ecological dynamic to continue after settlement.

Savanna

As the ruggedness of topography increased in wooded areas of the county, the density of oaks per acre also increased. This phenomenon was a result of increased fire protection, especially on north and east facing slopes. Savanna communities supported older oaks in a widely scattered open grown growth pattern. The understory and ground layers of such areas was described by many early journals as pleasing and colorful due to the many diverse niches for both prairie and woodland shrubs, flowers and grasses to grow in.

Savannas experienced periodic fire, as did all oak communities in McHenry County, but at a longer fire return interval than barrens communities. As a result, trees were able to reach maturity more frequently. Bur oak (*Quercus macrocarpa*) dominated many savannas due to its thick fire resistant bark. But other oaks, including white (*Q. alba*) and black (*Q. velutina*), were common as well.

Many savannas persisted as pasture for small family dairy farms into the mid twentieth century. While these areas experienced intense loss of the native ground cover and shrub layer, mature oaks continued to survive within them and the grazing activity of cattle maintained an open structure. As family farms declined in the county, many of these savanna areas have been lost to residential development or become overgrown with invasive brush species.

Woodland

On even steeper portions of the landscape, oaks were able to achieve a higher density per acre than in more moderately rolling localities. In these areas oak savanna was replaced by oak woodland. Oak woodlands, while still characterized by an open structure, were more shaded than savanna areas. As a result, a defined shrub layer existed typified by hazelnut, viburnums and scattered other trees such as shagbark hickory (*Carya ovata*). The ground layer in oak woodland communities supported more shade tolerant species than savannas and the straight growth pattern of trees reflected the increased competition for light.

Oak woodlands, including those in the Big Woods, a large continuous block of timber along the Marengo Ridge in western McHenry County, were extremely common. Numerous oak species including bur, white, black, red (*Q. rubra*) and scarlet oak (*Q. coccinea*) dominated these communities arranged in a complex pattern based on soil moisture regime, slope aspect and degree of shading. Many McHenry County oak woodlands that survived initial clearing in the 19th

century have been and continue to be utilized as pasture and fuel sources.

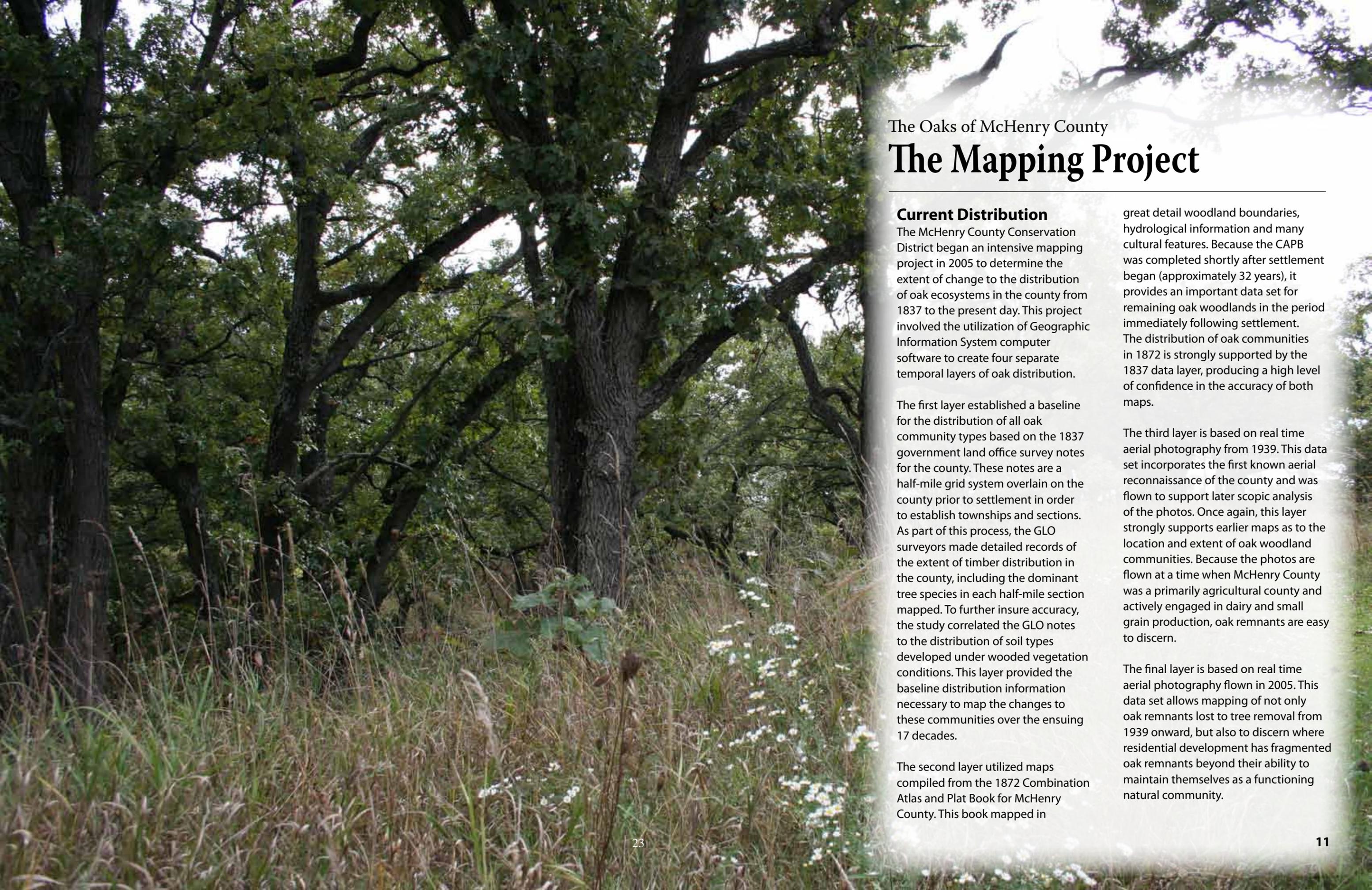
Oak woodland remnants are found throughout the county today, but are in precipitous decline due to residential development, lack of management and invasive species problems such as gypsy moths.

Forest

The most fire protected portions of the McHenry County Landscape supported true oak forest with high oak densities per acre. These areas were not widespread and tended to be clustered in very rugged terrain, on the east sides of larger streams and in areas with large natural firebreaks such as lakes and open water wetlands. The few true oak forests present in the county at the time of settlement were generally dominated by more shade tolerant oaks such as white and red oak. Tree growth patterns were straight and reflective of high shade conditions.

These true forests included a rich ground layer of wildflowers, shade tolerant grasses and sedges within well-defined layers. Many of these areas were selectively logged after settlement for the timber resources they contained.

Oak forest remnants are extremely rare in McHenry County. The few remaining examples are located in very rugged topography that was difficult to utilize for other purposes. Examples can be found along the Marengo Ridge, near the Fox River and along some portions of Nippersink Creek.



The Oaks of McHenry County

The Mapping Project

Current Distribution

The McHenry County Conservation District began an intensive mapping project in 2005 to determine the extent of change to the distribution of oak ecosystems in the county from 1837 to the present day. This project involved the utilization of Geographic Information System computer software to create four separate temporal layers of oak distribution.

The first layer established a baseline for the distribution of all oak community types based on the 1837 government land office survey notes for the county. These notes are a half-mile grid system overlain on the county prior to settlement in order to establish townships and sections. As part of this process, the GLO surveyors made detailed records of the extent of timber distribution in the county, including the dominant tree species in each half-mile section mapped. To further insure accuracy, the study correlated the GLO notes to the distribution of soil types developed under wooded vegetation conditions. This layer provided the baseline distribution information necessary to map the changes to these communities over the ensuing 17 decades.

The second layer utilized maps compiled from the 1872 Combination Atlas and Plat Book for McHenry County. This book mapped in

great detail woodland boundaries, hydrological information and many cultural features. Because the CAPB was completed shortly after settlement began (approximately 32 years), it provides an important data set for remaining oak woodlands in the period immediately following settlement. The distribution of oak communities in 1872 is strongly supported by the 1837 data layer, producing a high level of confidence in the accuracy of both maps.

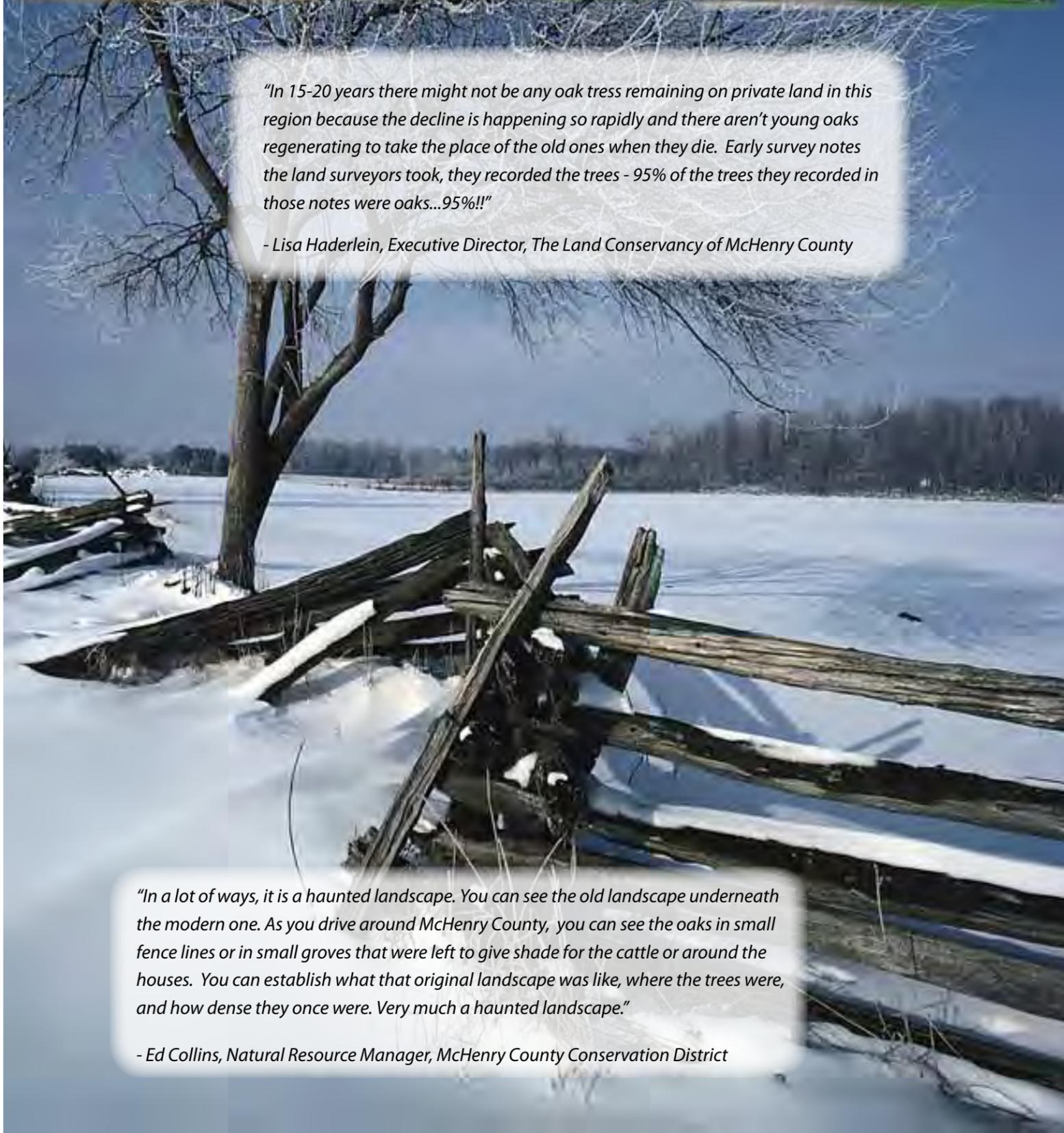
The third layer is based on real time aerial photography from 1939. This data set incorporates the first known aerial reconnaissance of the county and was flown to support later scopic analysis of the photos. Once again, this layer strongly supports earlier maps as to the location and extent of oak woodland communities. Because the photos are flown at a time when McHenry County was a primarily agricultural county and actively engaged in dairy and small grain production, oak remnants are easy to discern.

The final layer is based on real time aerial photography flown in 2005. This data set allows mapping of not only oak remnants lost to tree removal from 1939 onward, but also to discern where residential development has fragmented oak remnants beyond their ability to maintain themselves as a functioning natural community.



"In 15-20 years there might not be any oak trees remaining on private land in this region because the decline is happening so rapidly and there aren't young oaks regenerating to take the place of the old ones when they die. Early survey notes the land surveyors took, they recorded the trees - 95% of the trees they recorded in those notes were oaks...95%!!"

- Lisa Haderlein, Executive Director, The Land Conservancy of McHenry County



"In a lot of ways, it is a haunted landscape. You can see the old landscape underneath the modern one. As you drive around McHenry County, you can see the oaks in small fence lines or in small groves that were left to give shade for the cattle or around the houses. You can establish what that original landscape was like, where the trees were, and how dense they once were. Very much a haunted landscape."

- Ed Collins, Natural Resource Manager, McHenry County Conservation District

The Oaks of McHenry County

Project Summary

In 1837 as McHenry County lay on the eve of settlement by European/American settlers, slightly over one third of the county's land mass was covered by one type of oak ecosystem or another. Detailed analysis of the first GIS layer indicates that about 143,000 acres out of the county's total land mass of 390,685 acres contained oak dominated natural communities.

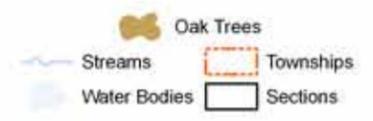
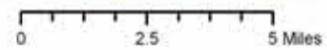
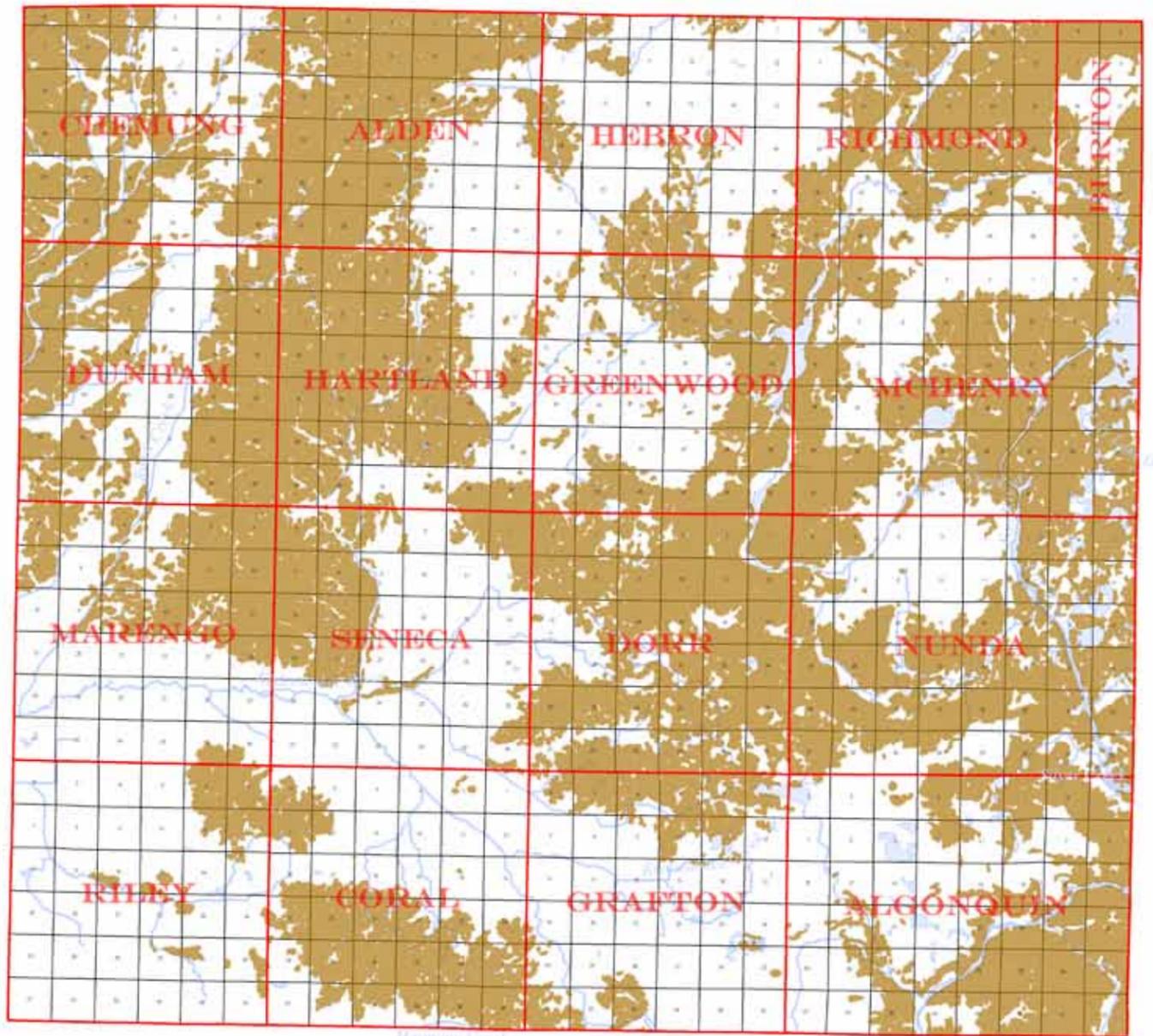
By 1872, a scant thirty-five years from the public land survey that subdivided the county for settlement, only 72,000 acres of oak ecosystems remained. The loss of just over half of the tree cover in McHenry County was due primarily to direct tree removal. A culture where wood was highly valued for many common necessities of life such as fuel, shelter and tools, insured that oaks would be heavily utilized by settlers arriving to claim land. Many wooded areas were cut simply to make room for agricultural fields and pastures.

As the twentieth century progressed, oak dominated communities continued to decline. Expansion of towns and transportation infrastructure development joined already established reasons for oak loss. By 1939, when the first aerial photography of the county was flown this loss had continued unabated. This GIS layer indicates an overall 82% loss of tree cover in the county from 1837 with a 62% loss in the years between 1872 and 1839. Of the original 143,000 acres of oaks documented in 1837, a scant 26,350 acres remained by 1939.

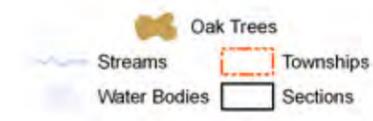
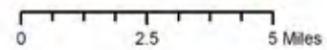
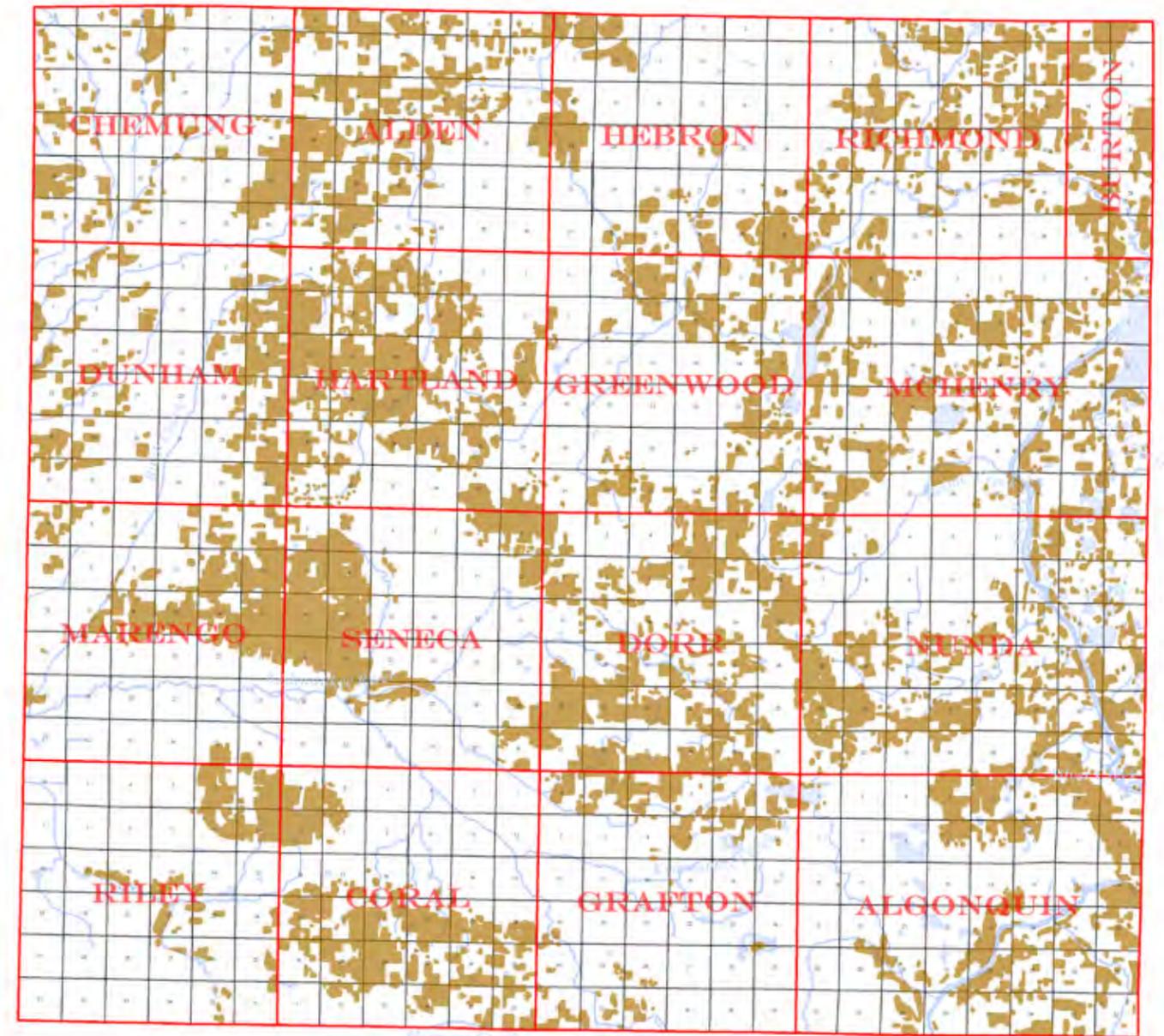
The final GIS layer developed for the project was based on 2005 aerial photography which was the most current available at the time of the research. While the rate of oak loss declined in the 66 year period between 1939 and 2005, it was still significant. An additional 8,350 acres of oaks disappeared, bringing the overall total loss over the past 172 years to 87%.

If we simply project future oak loss based on what has transpired over the past 172 years, the county could stand to lose the majority of the remaining 18,000 acres of mature oaks over the next three decades.

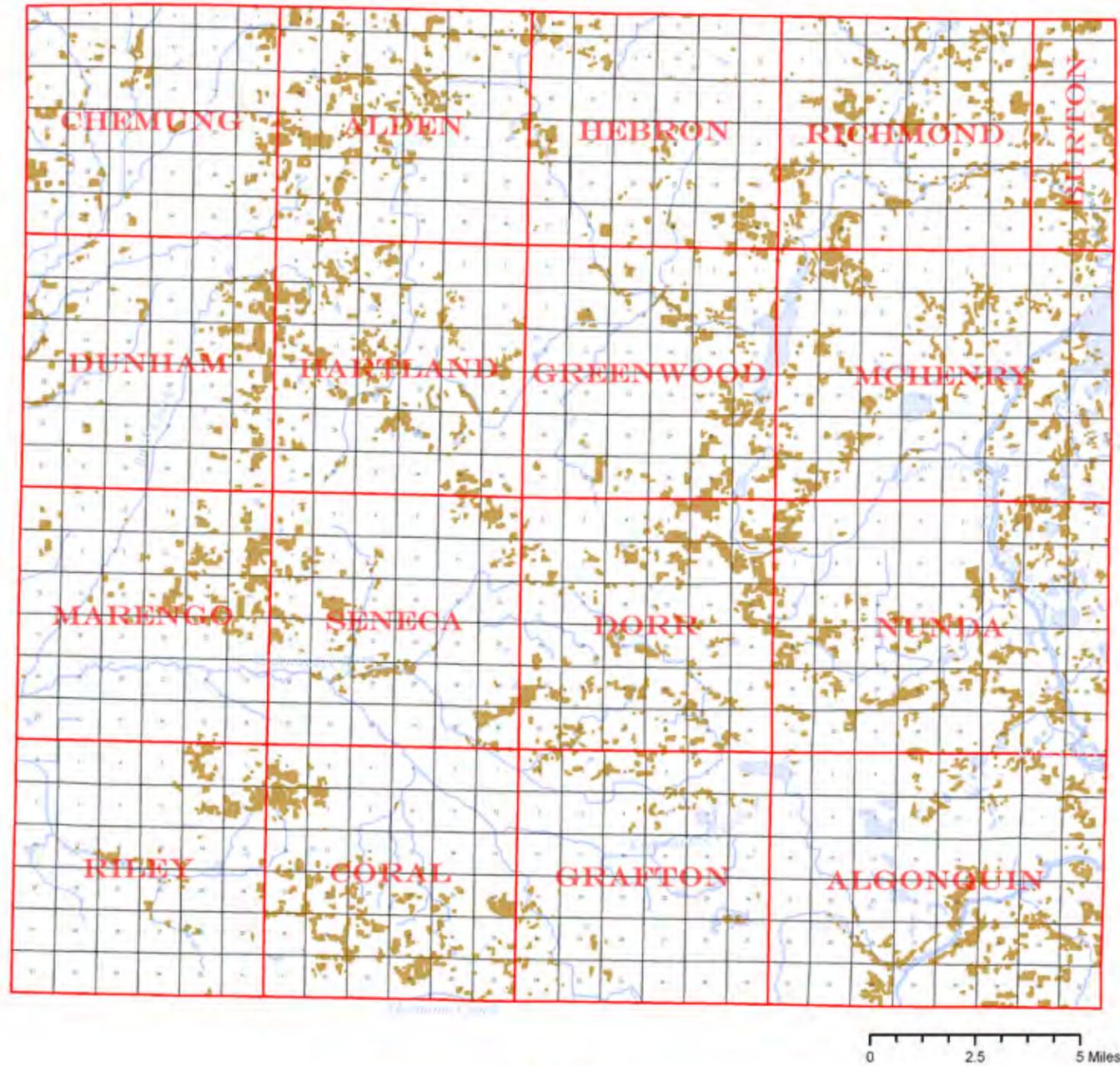
The Oaks of McHenry County, IL circa 1837 (143,000 acres)



The Oaks of McHenry County, IL circa 1872 (72,200 acres)

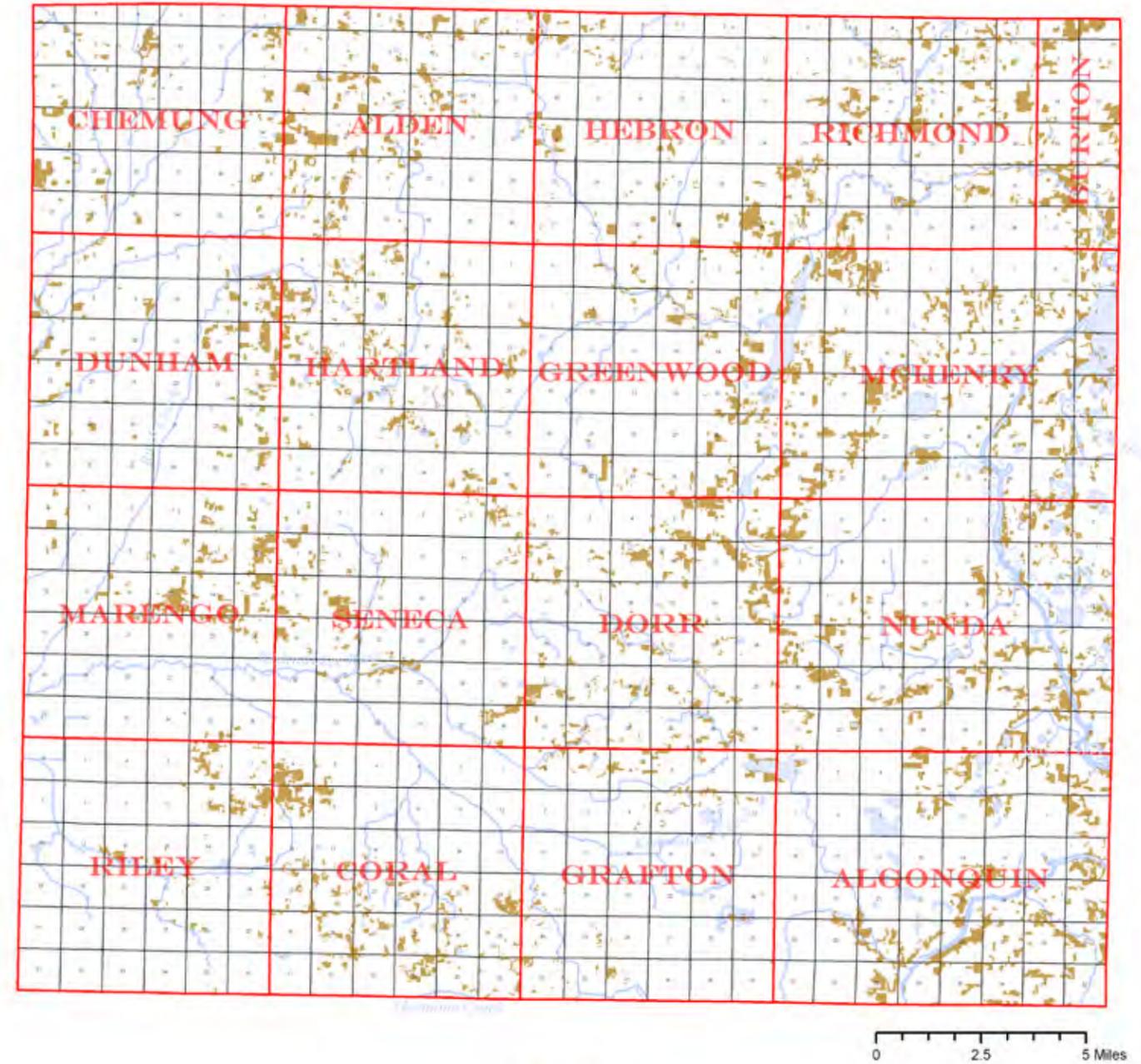


The Oaks of McHenry County, IL circa 1939 (26,600 acres)



 Oak Trees
 Streams
 Water Bodies
 Townships
 Sections

The Oaks of McHenry County, IL circa 2005 (18,000 acres)



 Oak Trees
 Streams
 Water Bodies
 Townships
 Sections



The Oaks of McHenry County

Threats to Remaining Oak Ecosystems

The remaining McHenry County oak ecosystems are under intense pressure from a number of sources. These include habitat fragmentation, development, direct cutting, invasive species, reproductive failure and lack of management. Singularly any of these factors pose a serious threat to an individual oak stand's long-term survival. In combination, such threats can produce a situation beyond the ecological ability of these natural communities to withstand.

Habitat fragmentation refers to the continued reduction in size of once vast ecosystems until they are incapable of maintaining the ecological functions necessary for their long-term biological viability. As habitat size shrinks, plants and animals that compose critical links in the oak ecosystem are lost and with them important functions and dynamics. When enough of these components are lost, an oak ecosystem may be incapable of maintaining itself.

Because of their beauty and character oak ecosystems have always been favored for home sites and farmsteads. Development of areas containing oaks often results in a major loss of ecological integrity as native ground layer plants are replaced by lawns and paved areas and as chemical fertilizers and pesticides are applied. Direct mortality to mature oaks is common in such developments due to the sensitive nature of their root systems. While a wooded subdivision may appear to retain some of the character of the original oak ecosystem by the retention of some level of tree density, actual ecosystem function can be damaged beyond the capacity of the system to maintain its ecological viability.

Direct cutting may occur in numerous ways. Sometimes the harvest of mature oaks is part of a timber stand plan that encourages the long-term survivability of the stand itself through forestry practices. More typically direct cutting is the result of commercial harvest for lumber,

infrastructure development or firewood. In other cases deliberate removal of mature oaks occurs to facilitate future development thus avoiding local concerns over the potential loss of mature trees at the time of plat approval.

Invasive species include exotic woody plants, such as European buckthorn (*Rhamnus cathartica*), that may overrun an oak ecosystem, herbaceous plants such as garlic mustard (*Alliaria petiolata*) that may displace native ground layer plants or animal pests such as the introduced gypsy moth. Regardless of the actual species, the effects of invasive species can be catastrophic. It includes a reduction in native understory diversity, reproductive failure of mature oaks due to intense shading and outright tree loss due to pest infestations.

Reproductive failure and lack of management are closely tied to threats from invasive species and loss of fire as an ecological force on the landscape. Oak acorns require open areas with a minimum of shade in order to germinate and create new age cohorts to replace older trees. As shading increases reproductive success declines. Very old trees characterize many McHenry County oak stands with an understory almost completely lacking in new oak recruits. As oaks grow slowly, this lack of reproduction is a serious concern.

Summary

1. The current loss of oaks builds on a long-term trend that began in 1840 and has continued to the present day.
2. Cumulative oak loss has been staggering with over 87% of the county's original oak ecosystems no longer in existence or intensely modified by development so as to render them ecologically unsustainable.
3. While most early oak ecosystem loss was due to direct clearing for agricultural purposes, today the threats are from residential development, invasive species and a lack of an integrated countrywide approach to protecting and maintaining these characteristic McHenry County ecosystems.
4. Mature oak stands of five acres or more should be viewed as an irreplaceable natural community type in any area of McHenry County and as such should be of extremely high priority to all units of government charged with planning and development.
5. Existing oak stands in public ownership should be aggressively managed to eliminate or reduce the effects of invasive species and to encourage natural reproduction of oaks.
6. Former oak areas should be considered for replanting projects whenever feasible.
7. Regulation of oak removal prior to application for annexation or development plat by the owner should be regulated to discourage removal of mature oak stands as a prelude to development.
8. Education of members of the public, private landowners and municipal decision makers should be pursued to provide information on oaks and oak survival.



The Oaks of McHenry County

Conclusion - What Remains

Average Stand Size

While the overall loss of oak tree cover since settlement is staggering in its scope, the reduction in the average size of remaining oak groves also carries profound ecological ramifications. Early nineteenth century oak stands covered tens of thousands of acres across contiguous areas. The Big Woods of McHenry County included multiple townships and contained over 30,000 acres. English Grove in Richmond and Burton Townships was 18,000 acres in size.

The 2005 GIS layer reveals a fragmented landscape of small isolated oak groves, often separated by large areas of agricultural or developed land.

The Oak study identified 2,888 remaining oak stands upon its conclusion. Of these only 157 were 25 acres in size or larger.

When viewed as a nested sample the numbers become even more telling.

Size of Stand	Number of Stands	Percent of Total
25 Acres	157	5.4%
50 Acres	48	1.7%
75 Acres	22	0.8%
100 Acres	8	0.3%

Results by Township

When cumulative oak loss is viewed within the context of individual townships the loss is still severe. Chemung Township has suffered the largest overall decline with a 92.4% loss of original tree cover. Riley Township has fared best with a 73.7% loss. Most townships average between 85 and 90% loss of original oak cover.

(Oak loss is continued on page 24 and includes oak loss data comparisons and the location of remaining stands per township.)

"How do you put a value on a set of trees that were here when young men were marching off to Gettysburg? There is an intrinsic value to things that are that old and that alive and have witnessed that kind of history. It is very difficult to put a price tag on."

- Ed Collins, Natural Resource Manager, McHenry County Conservation District

"Land is an asset. A valuable, valuable asset. I am one who believes that we can coexist with development and preservation of open space and these wonderful oak trees that have been here many years before I was. I look at McHenry County today as an opportunity for tomorrow."

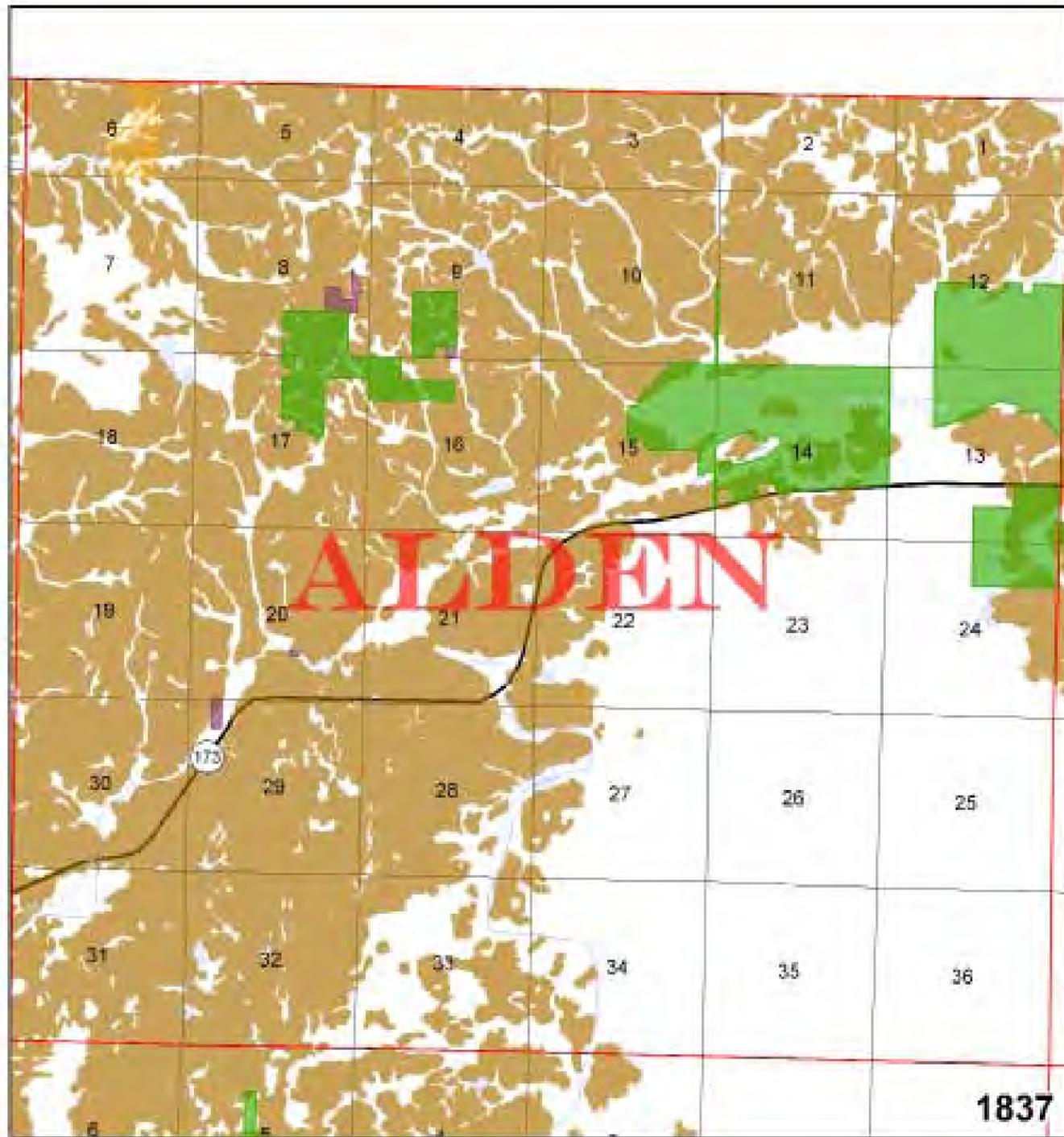
- Ken Koehler, McHenry County Board Chairman



The Oaks of McHenry County Future Actions

If oaks are to remain a characteristic visual and natural feature of the McHenry County landscape, then swift decisive action will be necessary at many levels. Such actions include:

- **Increased management efforts by public entities** owning remnant oak stands to remove exotic species and reintroduce prescribe fire as a management tool.
- **Expanded management of oak stands in private ownership** by individual landowners.
- **Protection of key remaining oak stands through purchase by public entities**, private easements, developer donations and conservation organizations.
- **Replanting of former oak groves** and expansion of existing stands where possible through vigorous reforestation efforts.
- **Adoption of protective ordinances** at the county and municipal level to protect remaining stands of oaks and to provide mitigation requirements for losses to development.
- **Encouragement of conservation design principals** for new development that avoids impacts to oak resources.
- **Integration of existing approaches to invasive species** such as gypsy moth and the development of procedures for new invaders as they appear within the county.



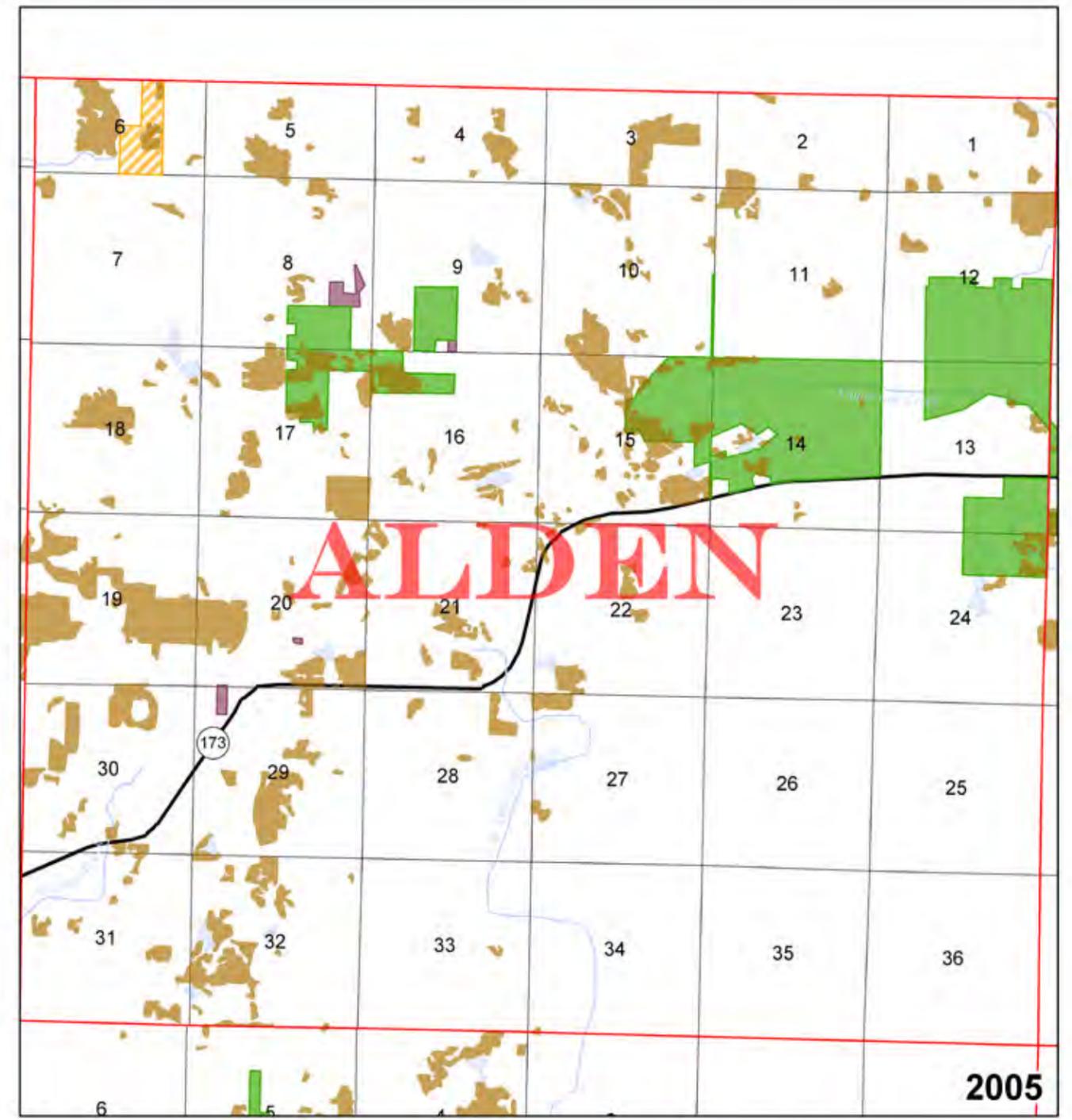
Township of: Alden

MCCD Trails, Streams, Water Bodies, Oak Trees, Townships, Sections, MCCD Sites, IDNR Sites, INPC Sites, TLC Sites, Towns

Alden

Year	Oak Trees (Approx. Count)
1837	1000
2005	100

0 0.3 0.6 1.2 Miles



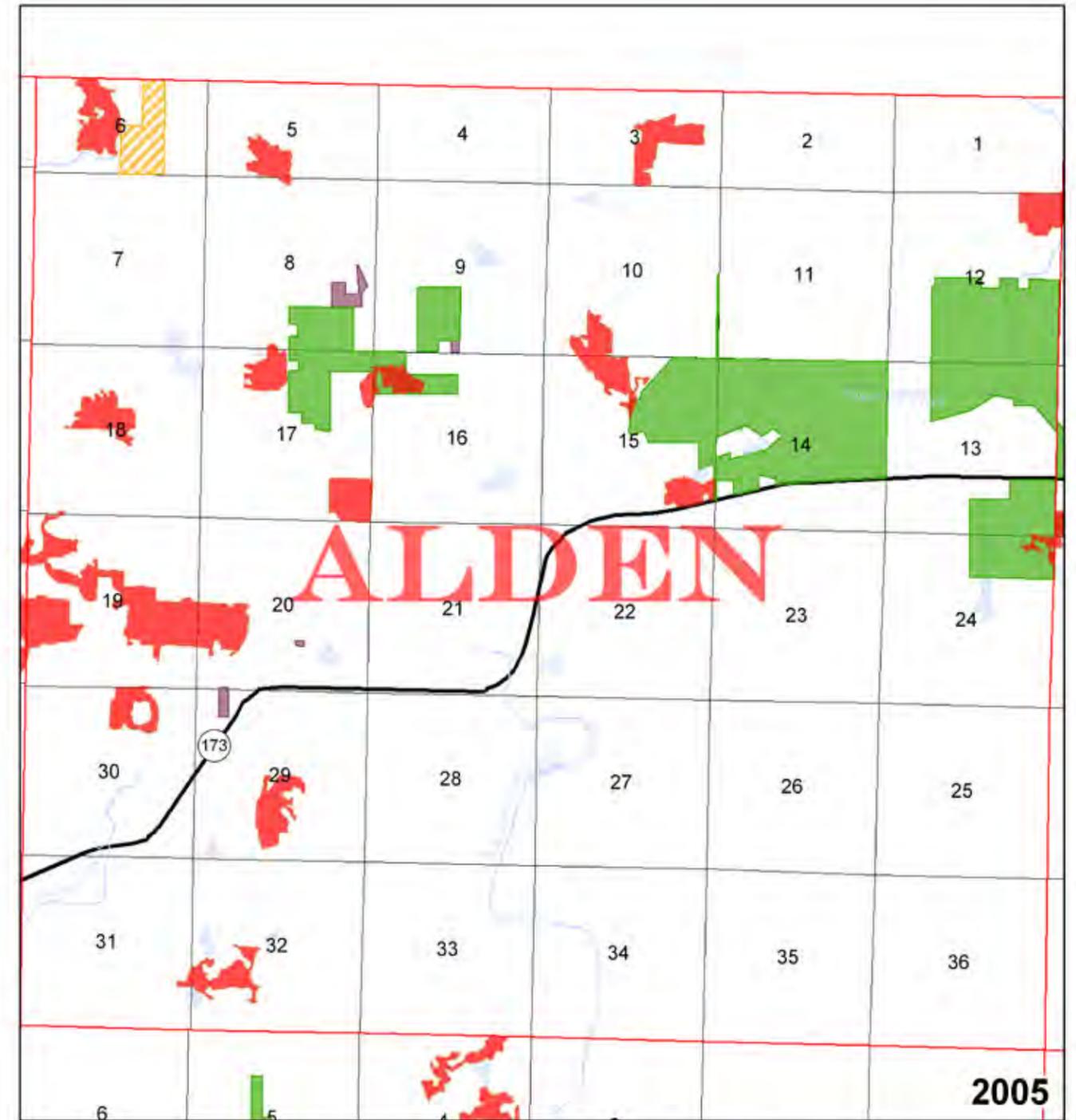
Township of: Alden

MCCD Trails, Streams, Water Bodies, Oak Trees, Townships, Sections, MCCD Sites, IDNR Sites, INPC Sites, TLC Sites, Towns

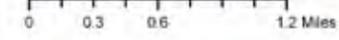
Oak Ownership Distribution

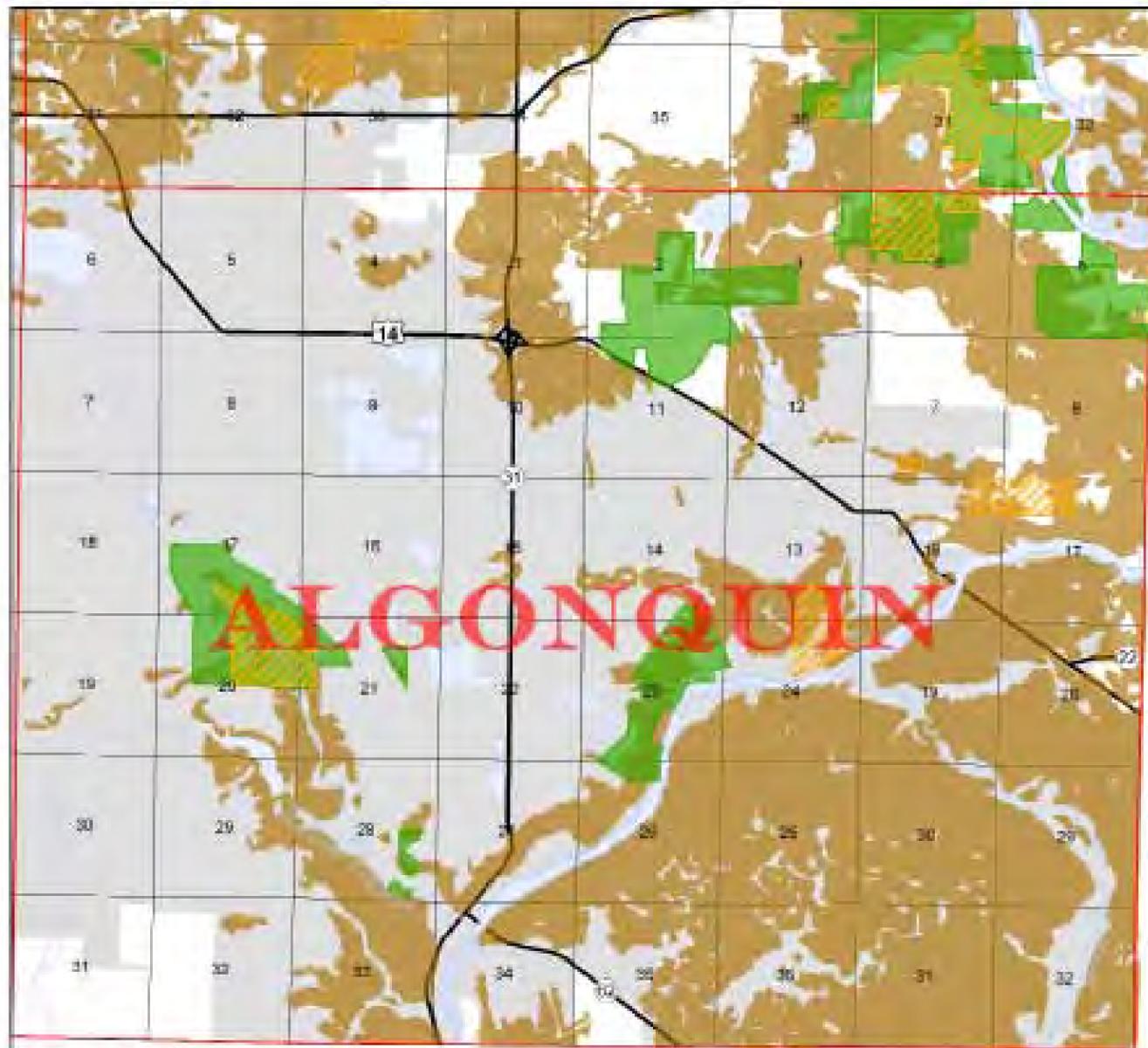
Ownership Type	Percentage (Approx.)
IDNR	10%
MCCD	5%
TLC	1%
INPC	1%
Private	83%

0 0.3 0.6 1.2 Miles



Township of: Alden			
 MCCD Trails  Streams  Water Bodies	 Oak Trees  Townships  Sections	 MCCD Sites  IDNR Sites  INPC Sites	 TLC Sites  Towns
		Stands of High Ecological Significance  Contiguous Oak Stands 25 Acres or Larger	



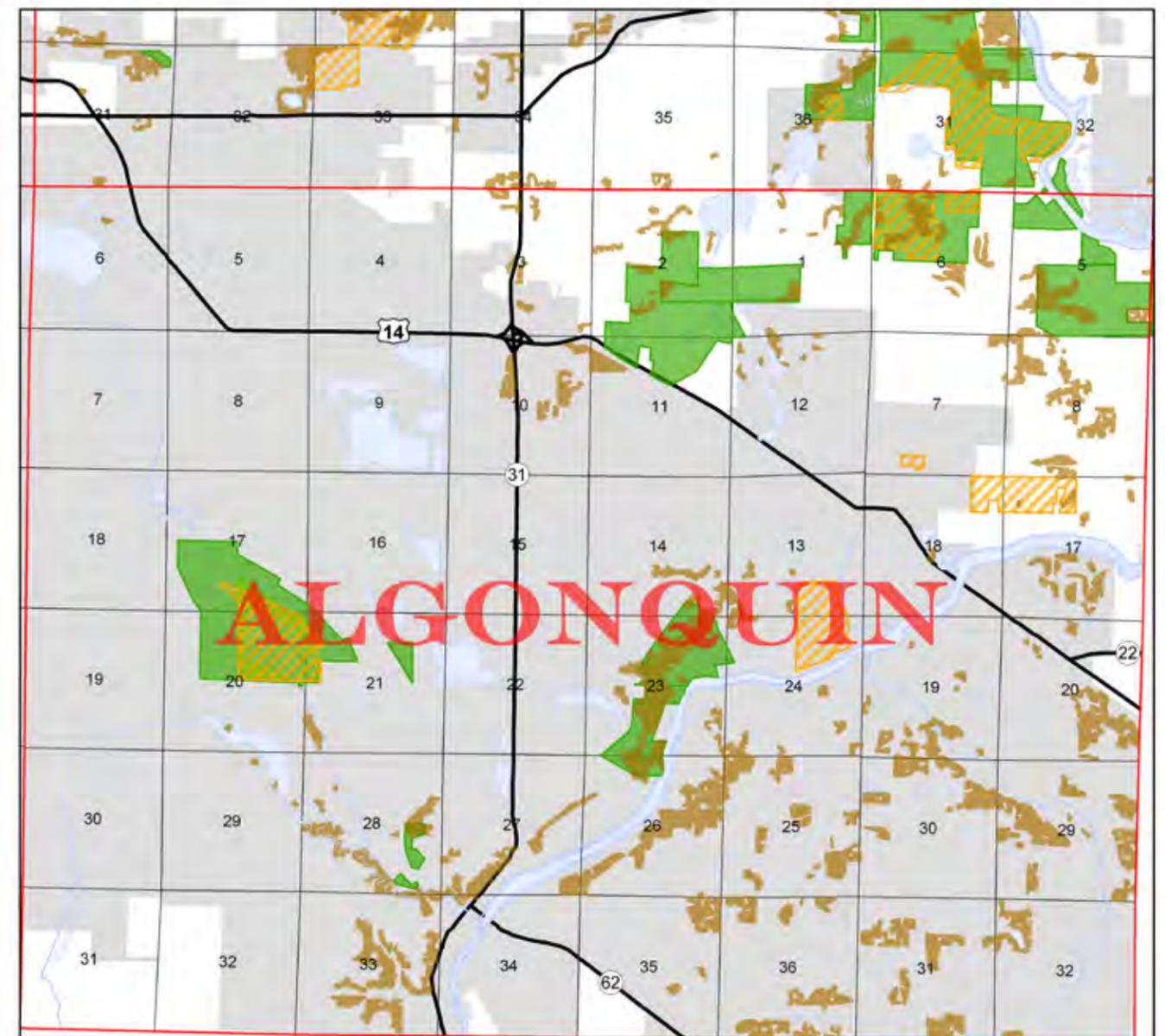


1837

Township of: Algonquin

MCCD Trails	Oak Trees	MCCD Sites	TLC Sites
Streams	Townships	IDNR Sites	Towns
Water Bodies	Sections	INPC Sites	

0 0.4 0.8 1.6 Miles

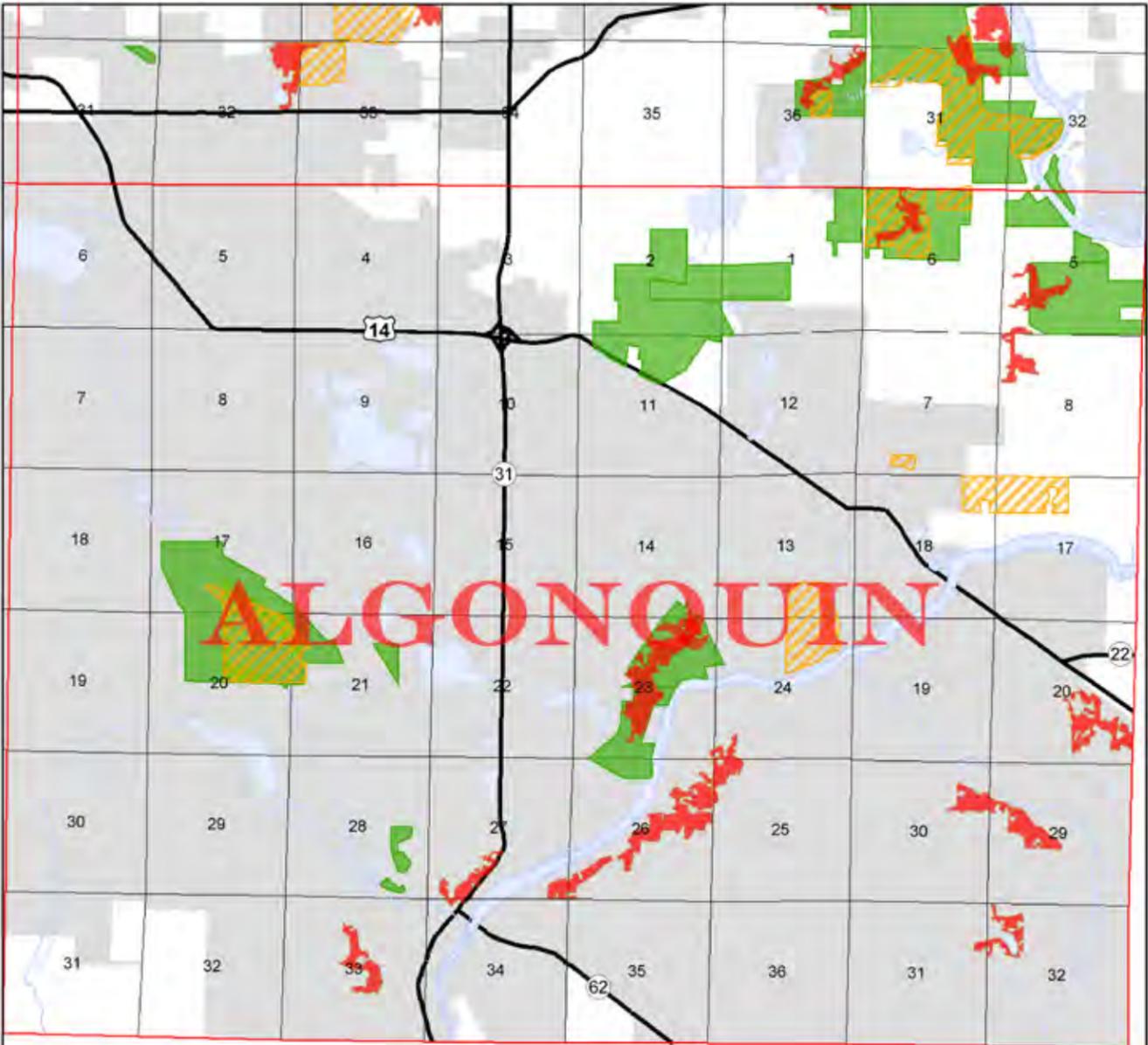


2005

Township of: Algonquin

MCCD Trails	Oak Trees	MCCD Sites	TLC Sites
Streams	Townships	IDNR Sites	Towns
Water Bodies	Sections	INPC Sites	

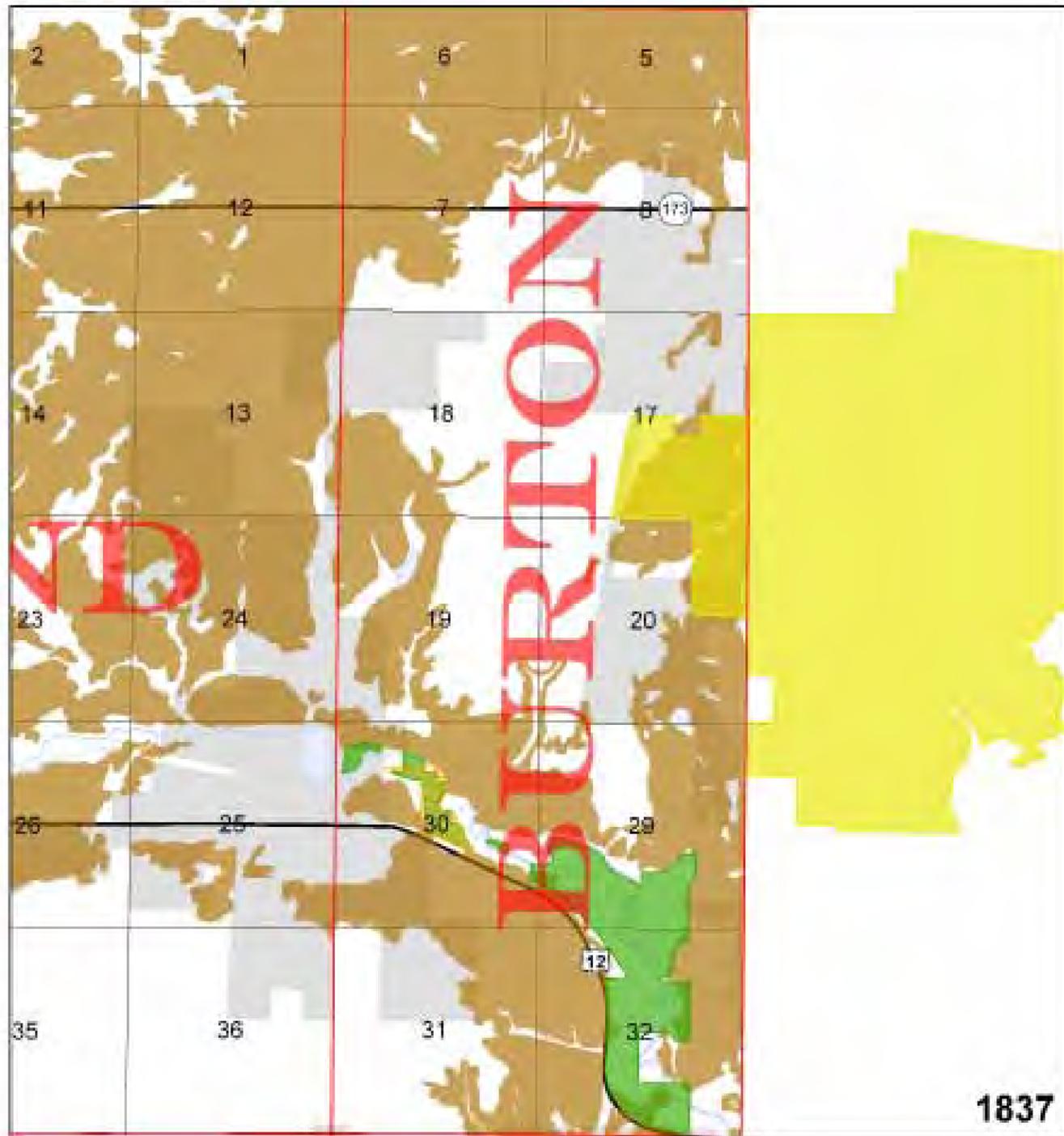
0 0.4 0.8 1.6 Miles



2005

<p>Township of: Algonquin</p> 			<p>Stands of High Ecological Significance</p>  <p>Contiguous Oak Stands 25 Acres or Larger</p>
<ul style="list-style-type: none">  MCCD Trails  Streams  Water Bodies 	<ul style="list-style-type: none">  Oak Trees  Townships  Sections 		

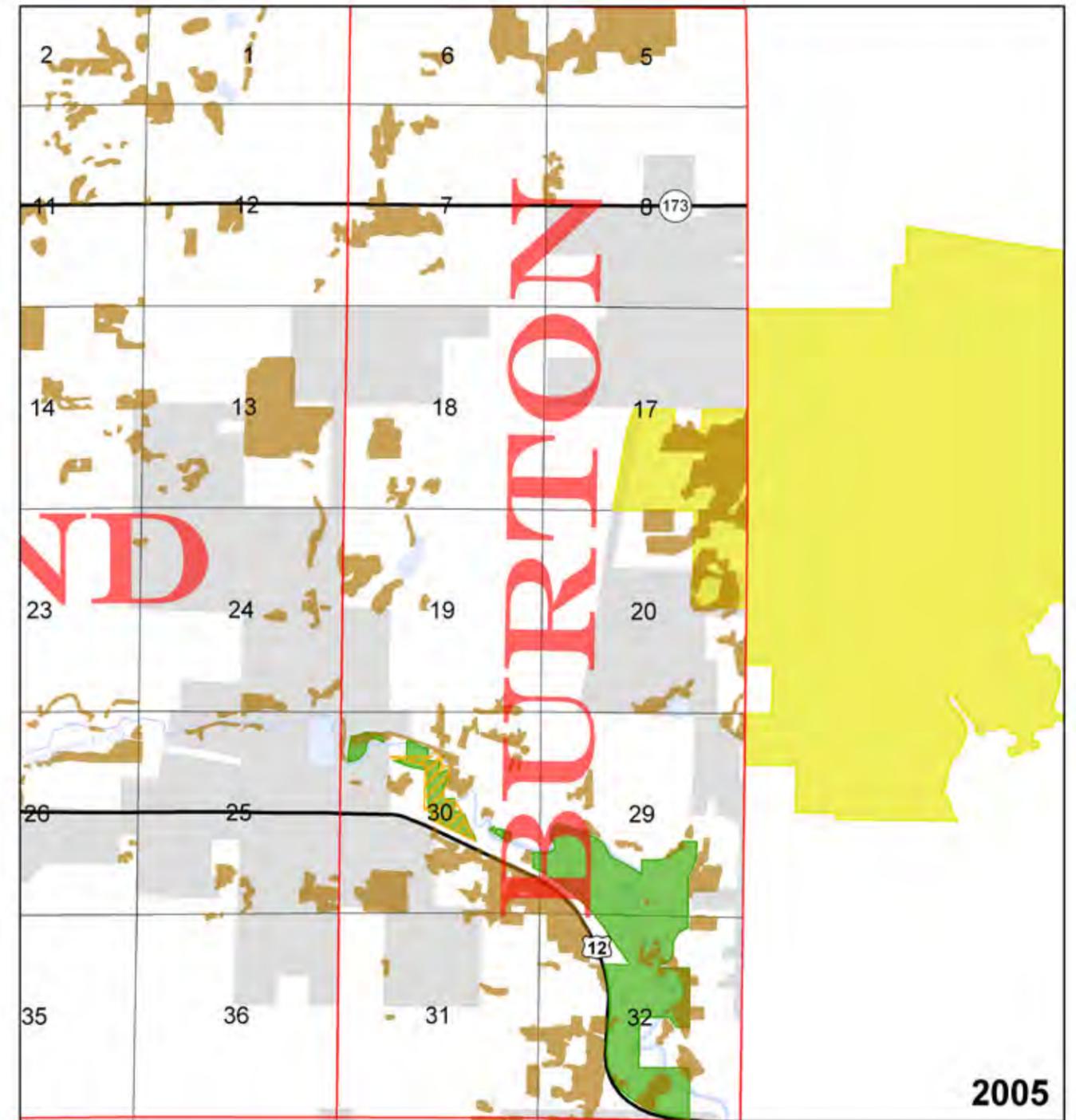




1837



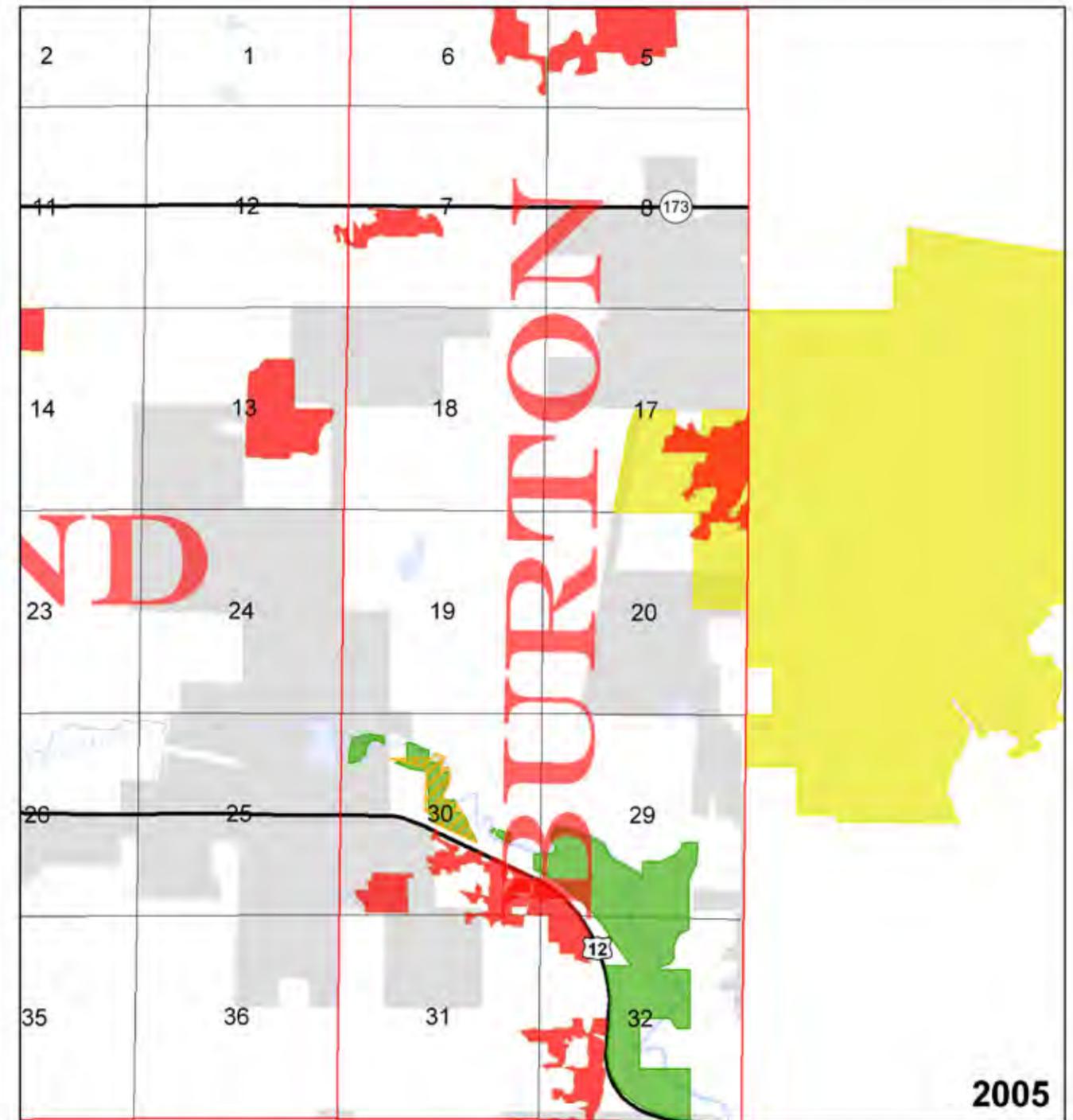
0 0.25 0.5 1 Miles



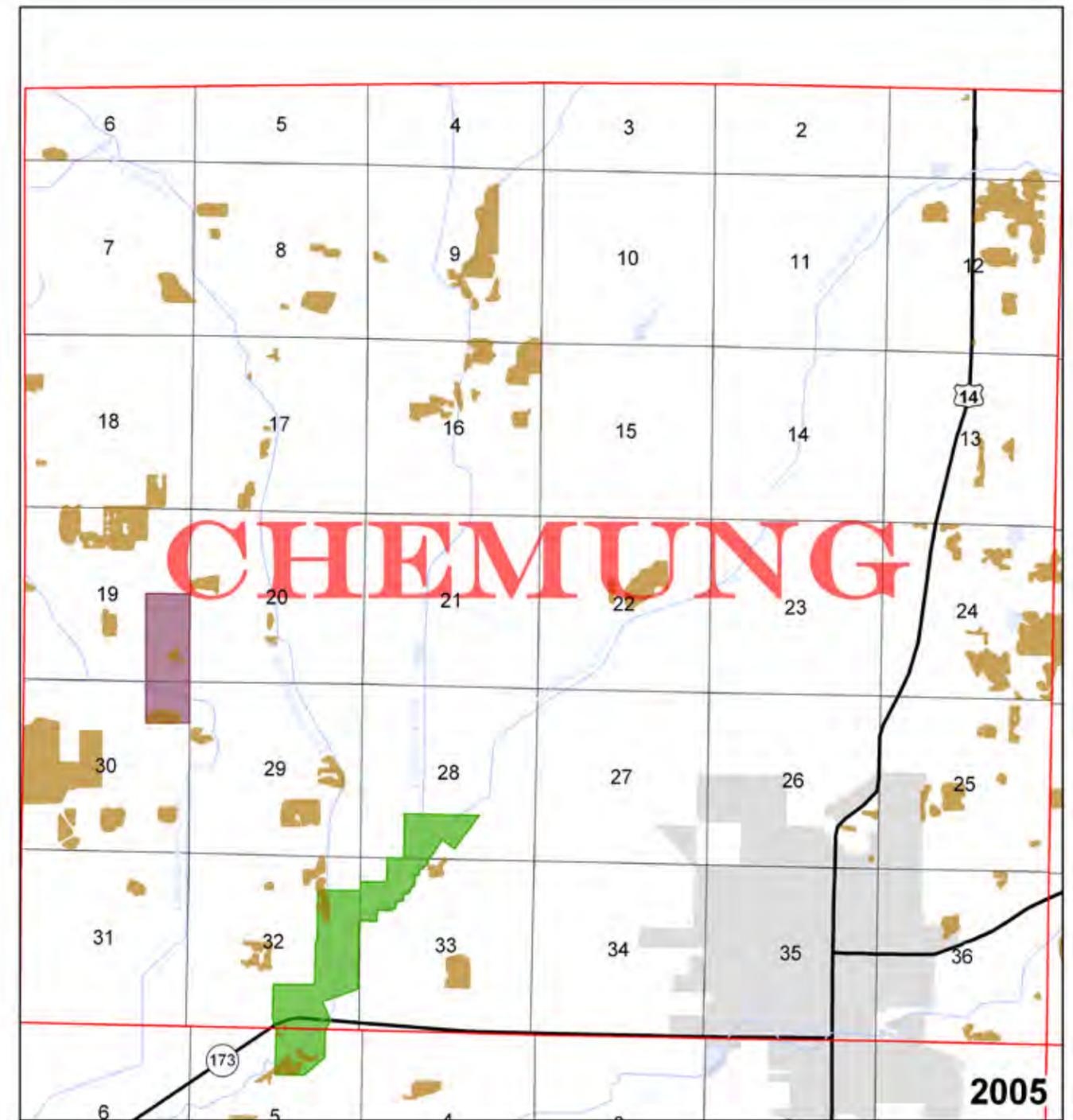
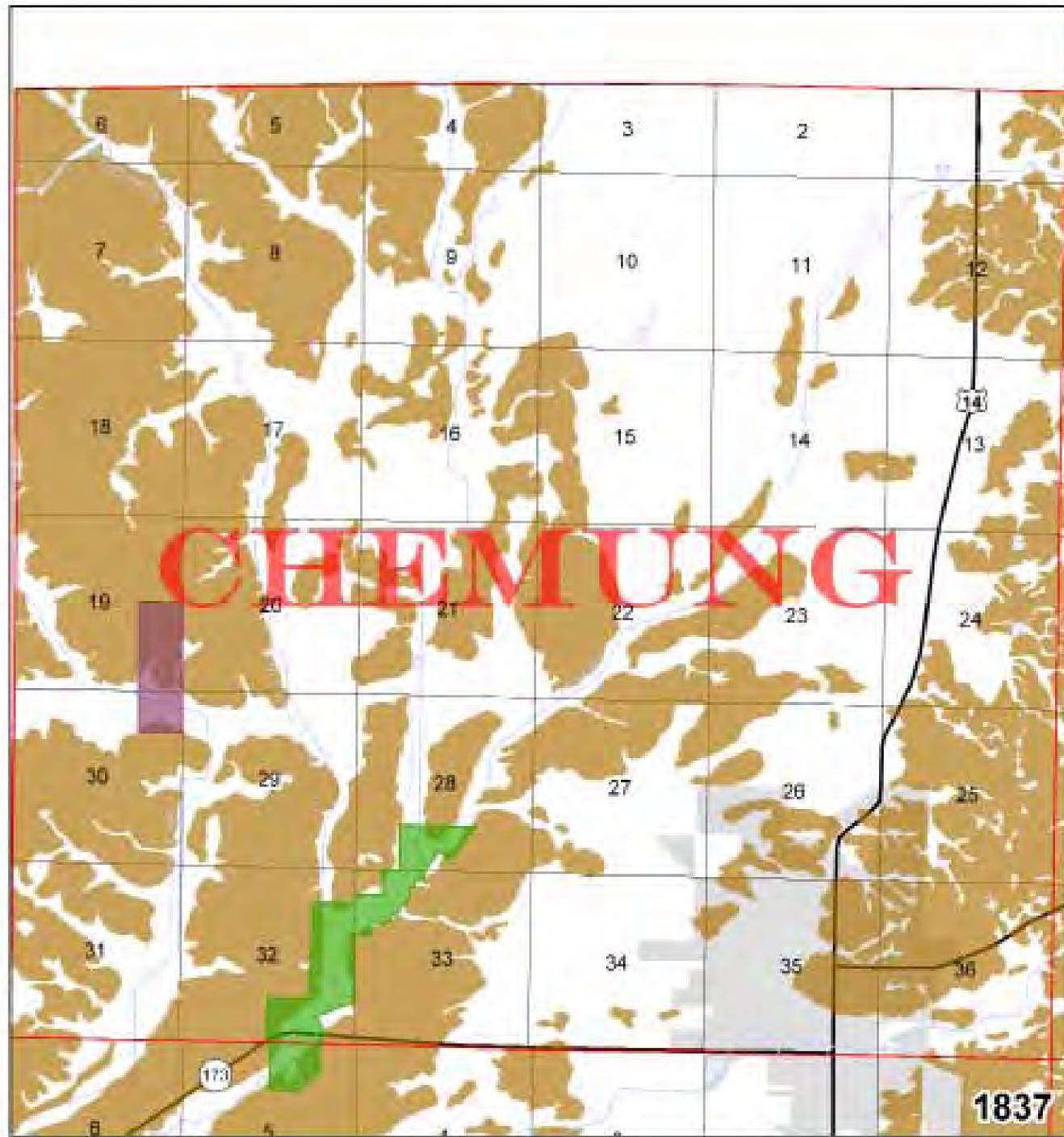
2005

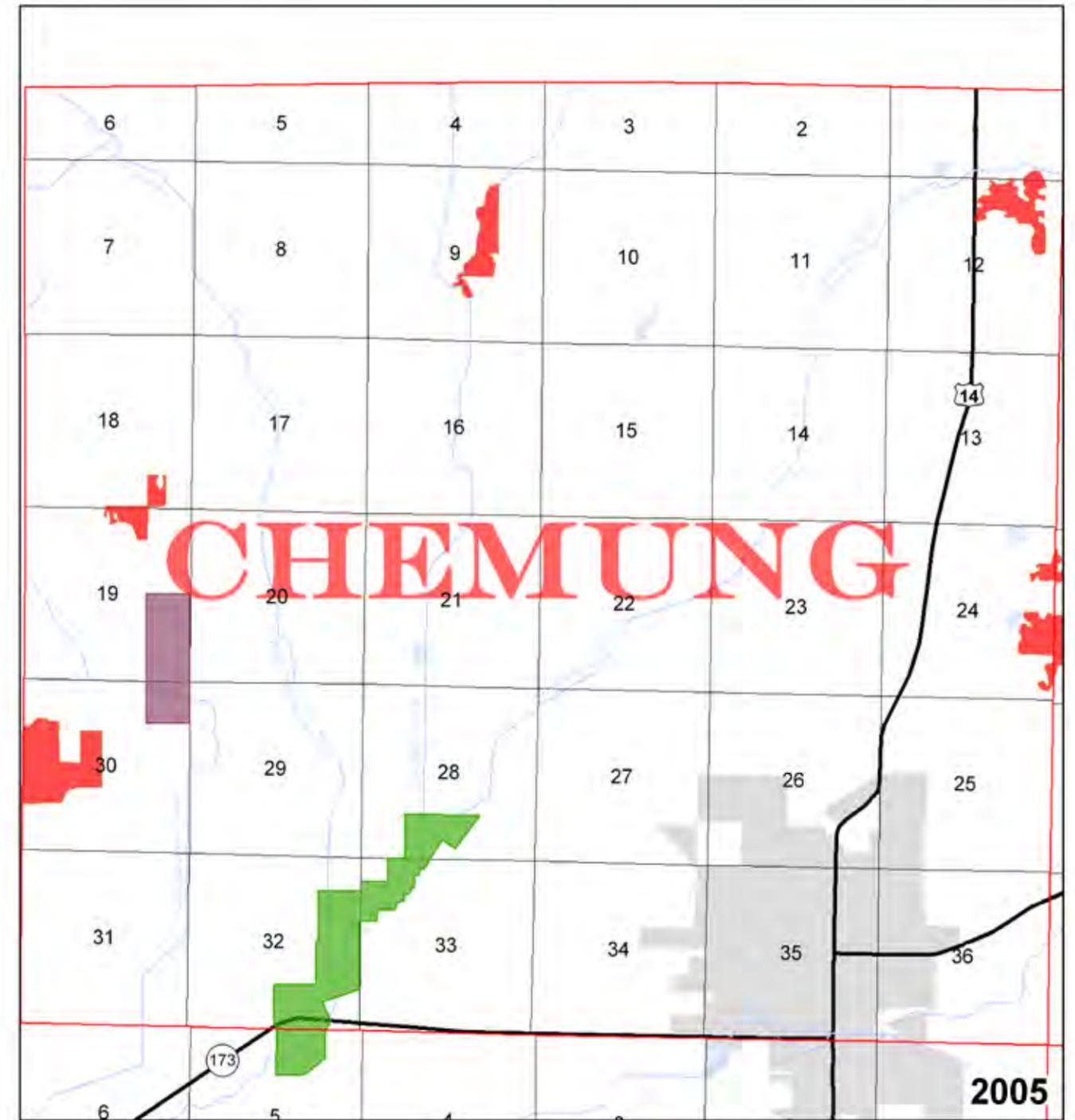


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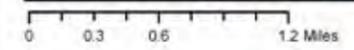


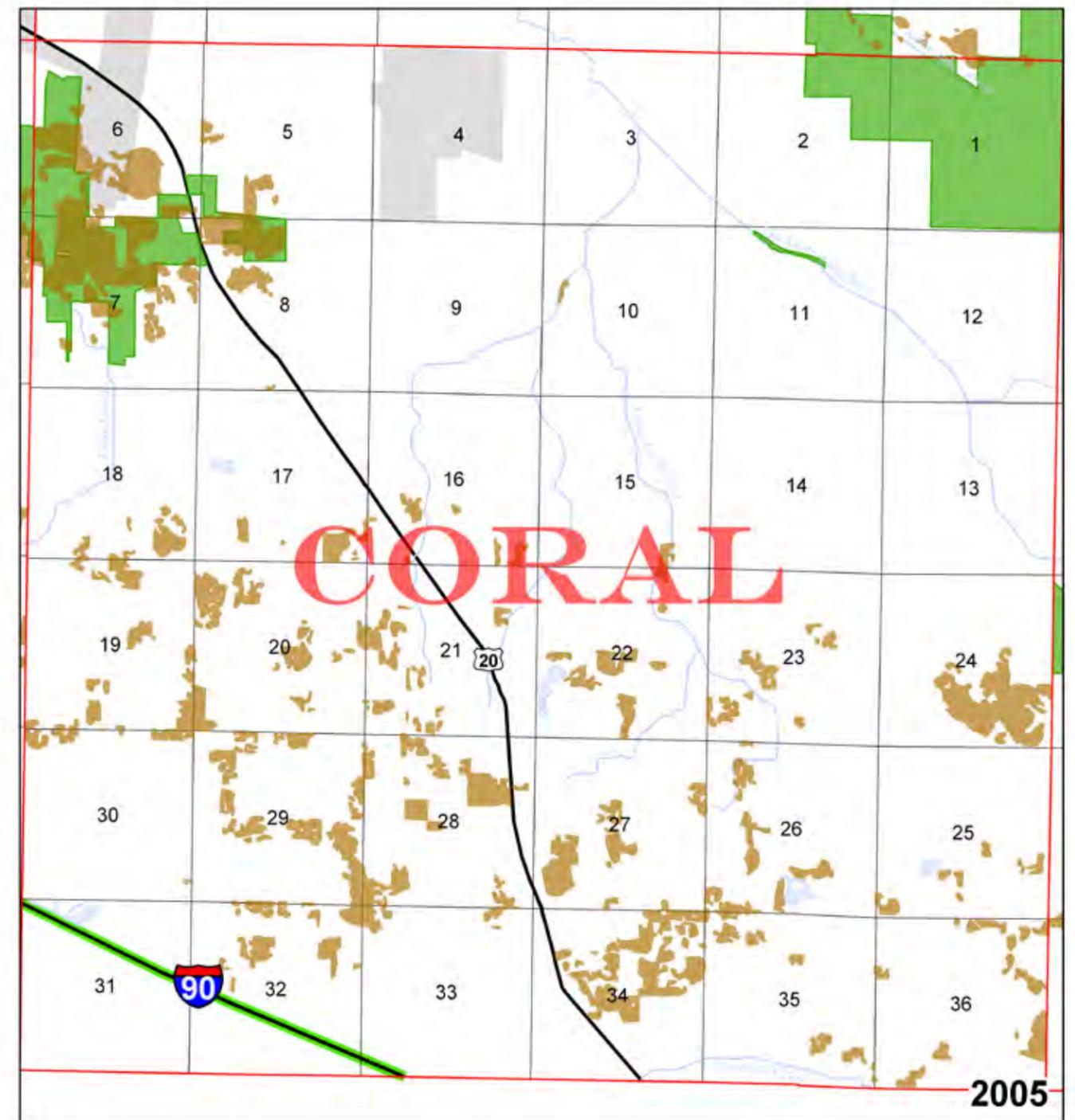
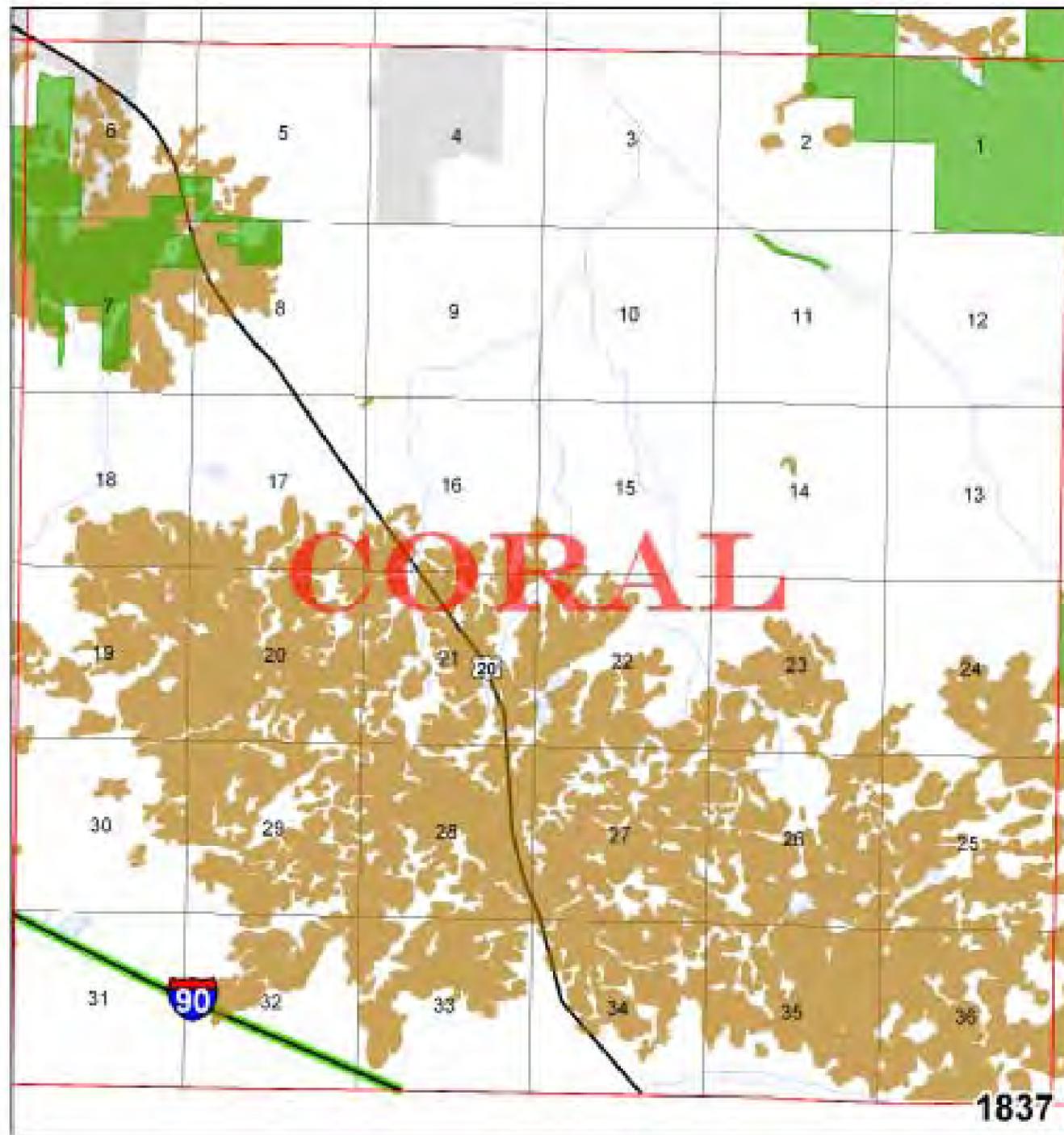
Township of: Burton						Stands of High Ecological Significance	
MCCD Trails	Oak Trees	MCCD Sites	TLC Sites	Townships	IDNR Sites	Towns	
Streams	Water Bodies	Sections	INPC Sites				
				Contiguous Oak Stands 25 Acres or Larger			

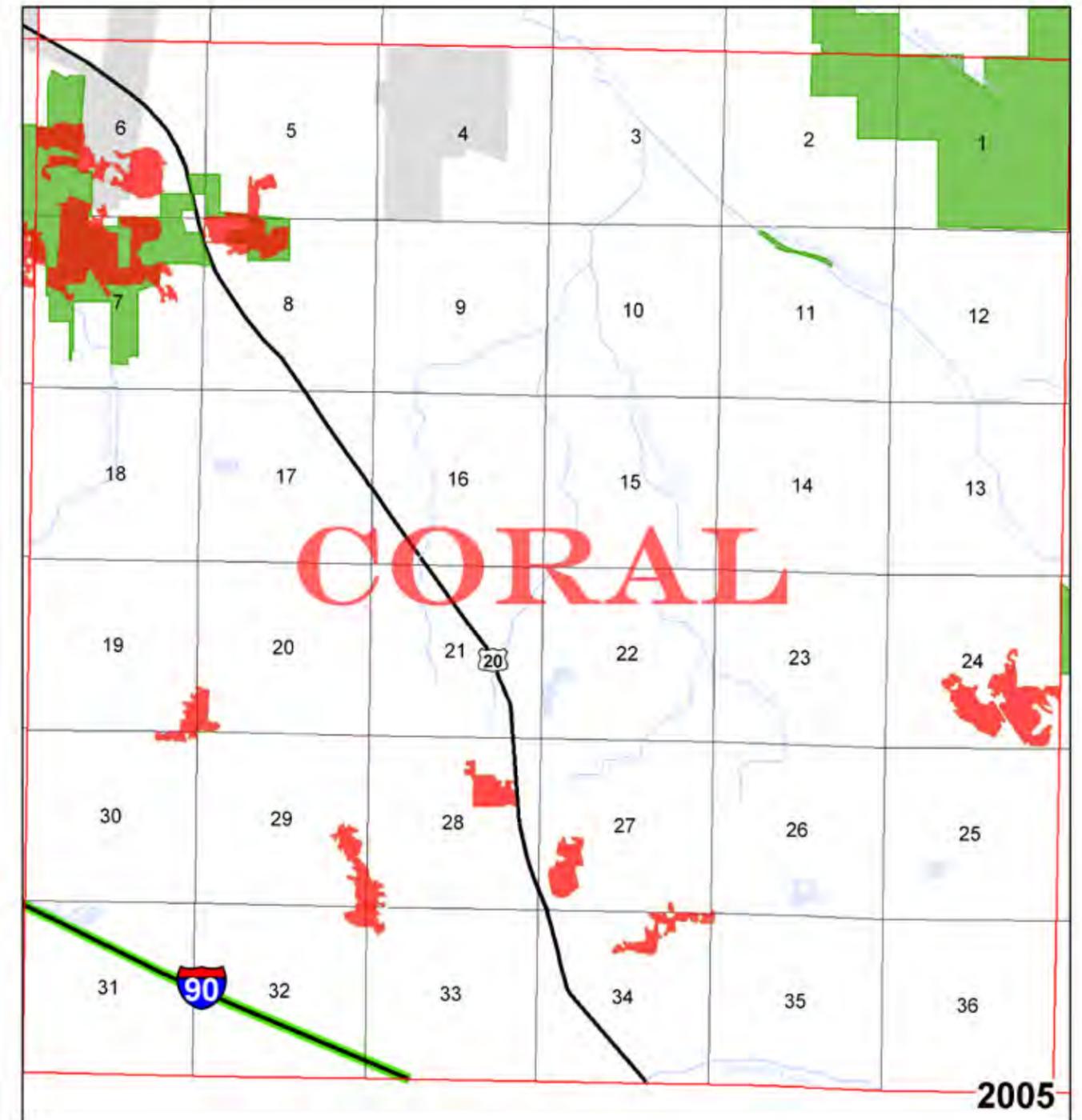




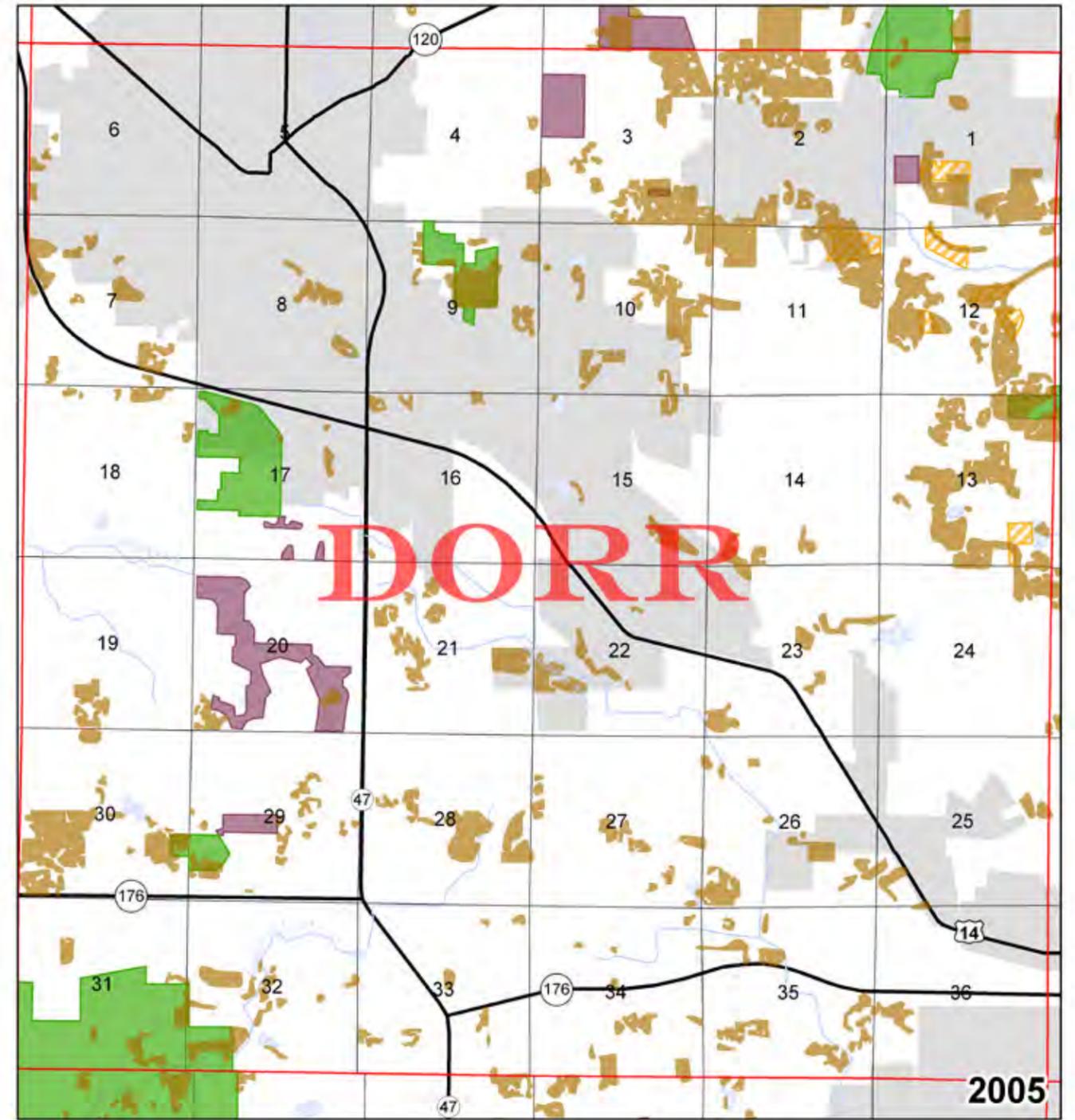
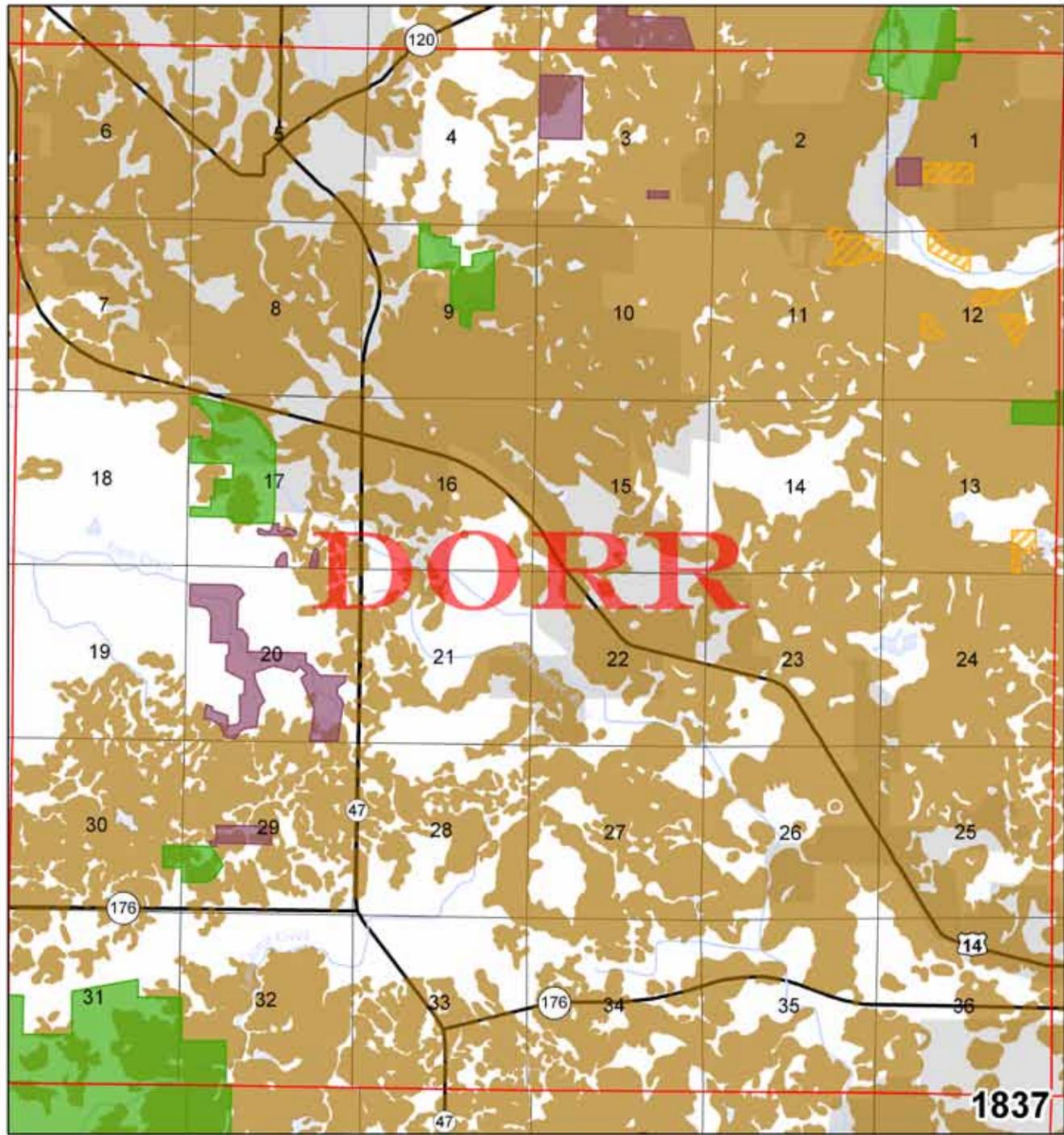
Township of: Chemung					Stands of High Ecological Significance Contiguous Oak Stands 25 Acres or Larger
MCCD Trails Streams Water Bodies	Oak Trees Townships Sections	MCCD Sites IDNR Sites INPC Sites TLC Sites Towns			

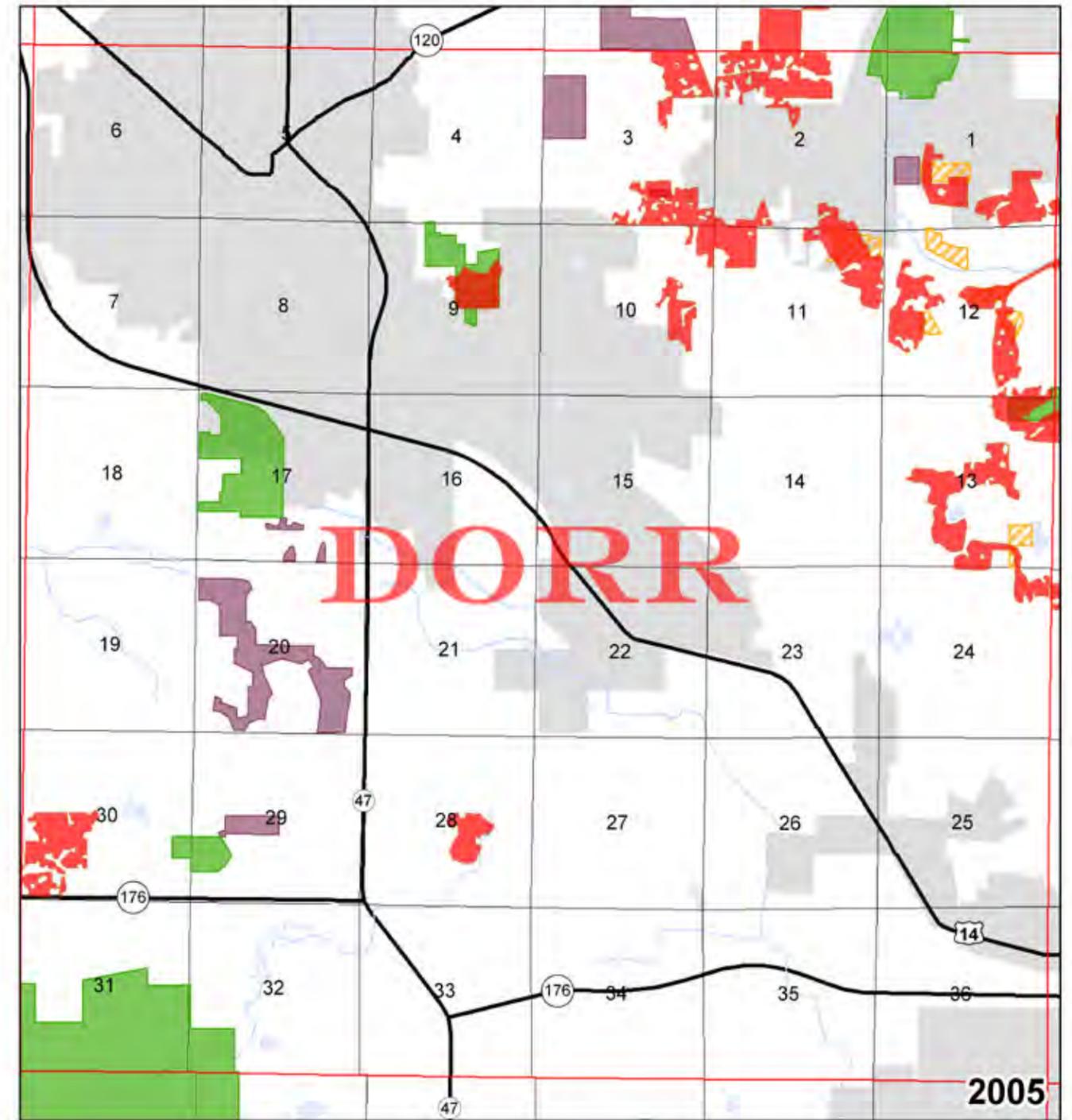




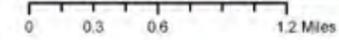


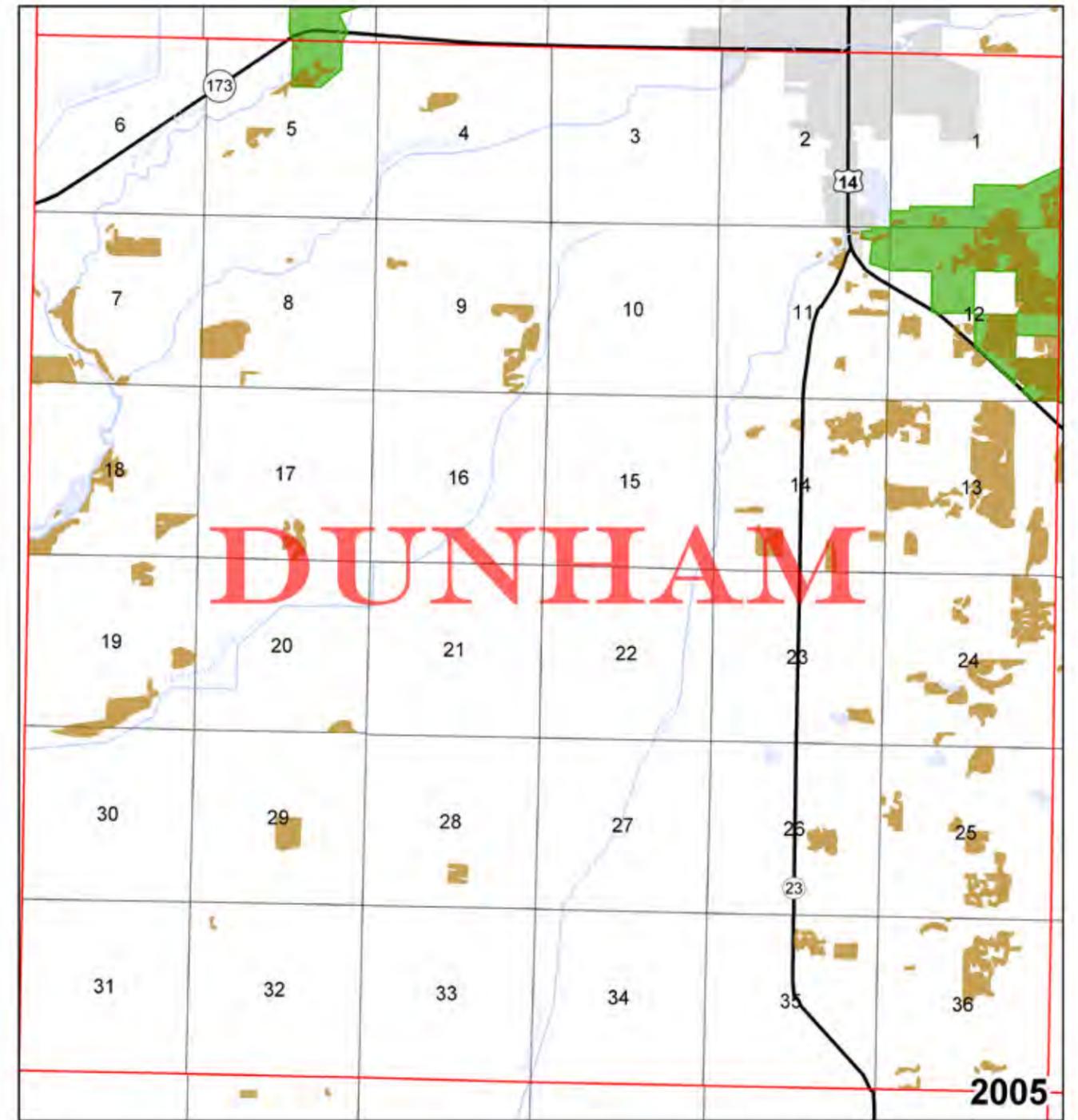
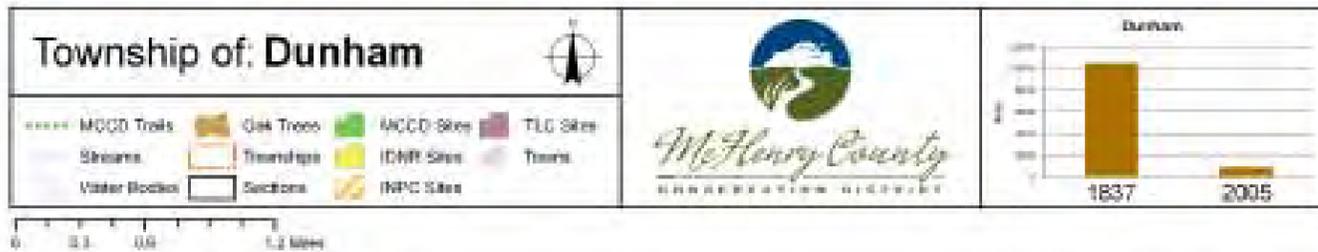
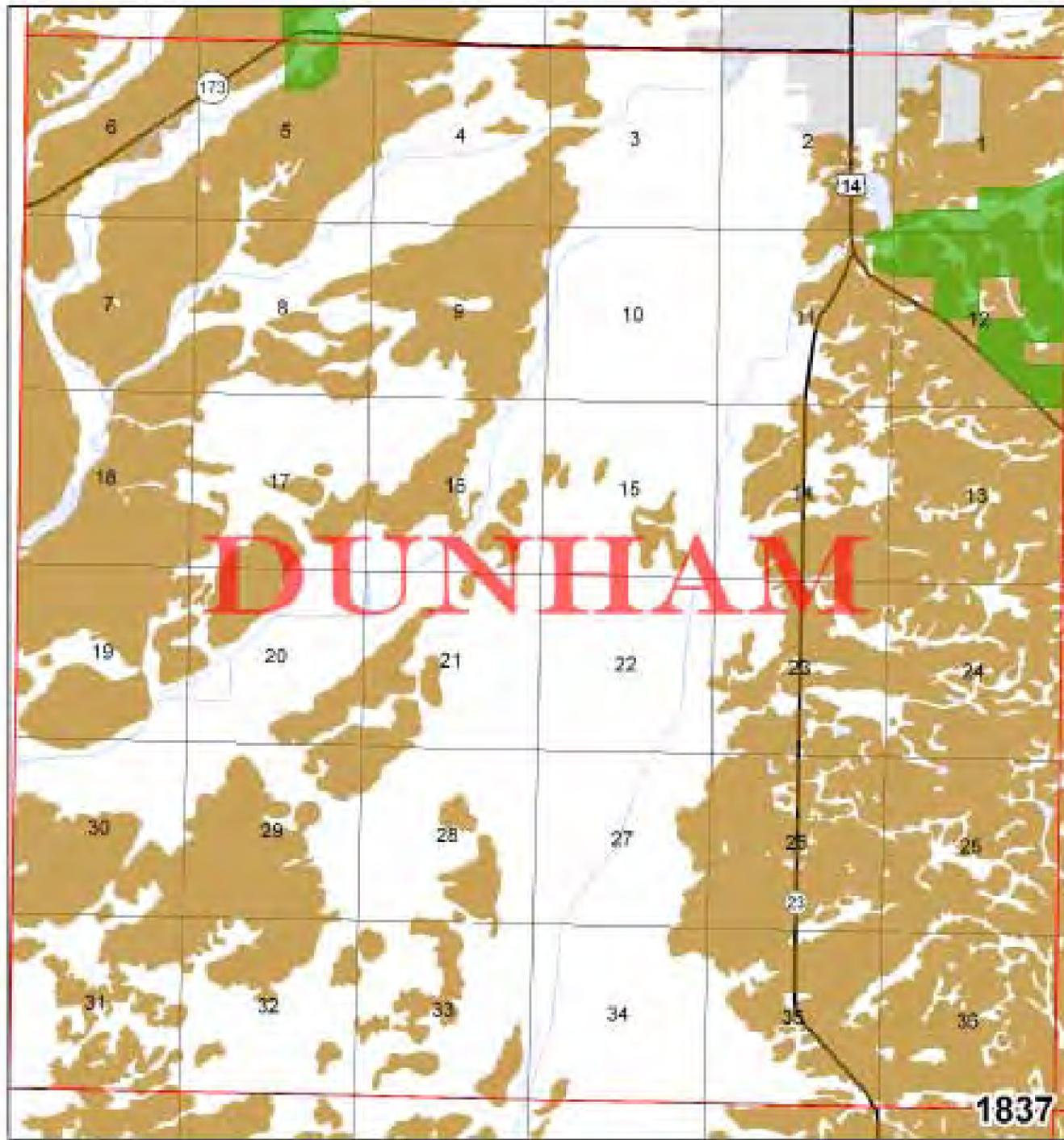
Township of: Coral				Stands of High Ecological Significance Contiguous Oak Stands 25 Acres or Larger
MCCD Trails Streams Water Bodies	Oak Trees Townships Sections			

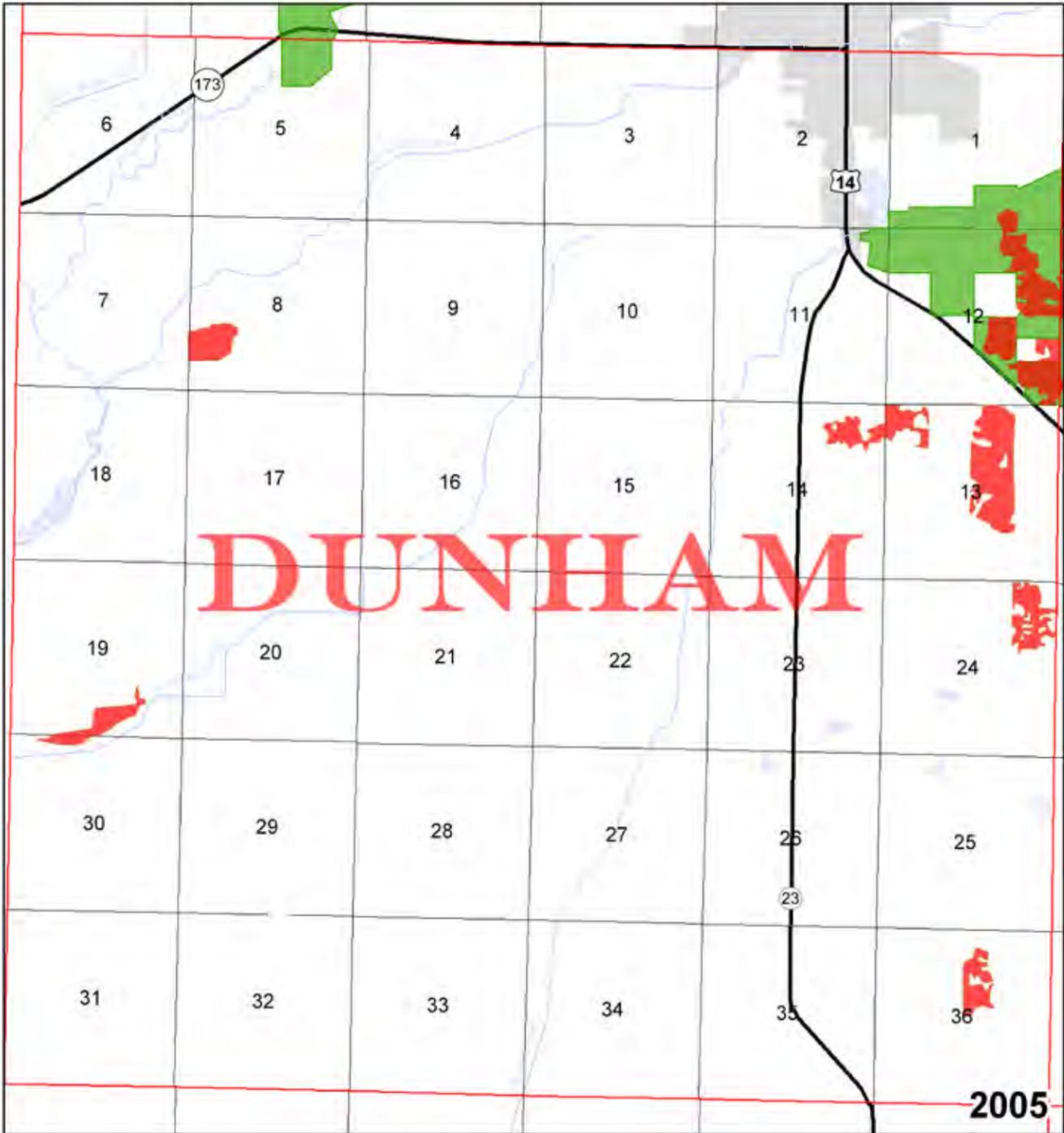




<p>Township of: Dorr</p>					<p>Stands of High Ecological Significance</p> <p>■</p> <p>Contiguous Oak Stands 25 Acres or Larger</p>
<p>..... MCCD Trails</p> <p>— Streams</p> <p>— Water Bodies</p>	<p> Oak Trees</p> <p> Townships</p> <p> Sections</p>	<p> MCCD Sites</p> <p> IDNR Sites</p> <p> INPC Sites</p>			

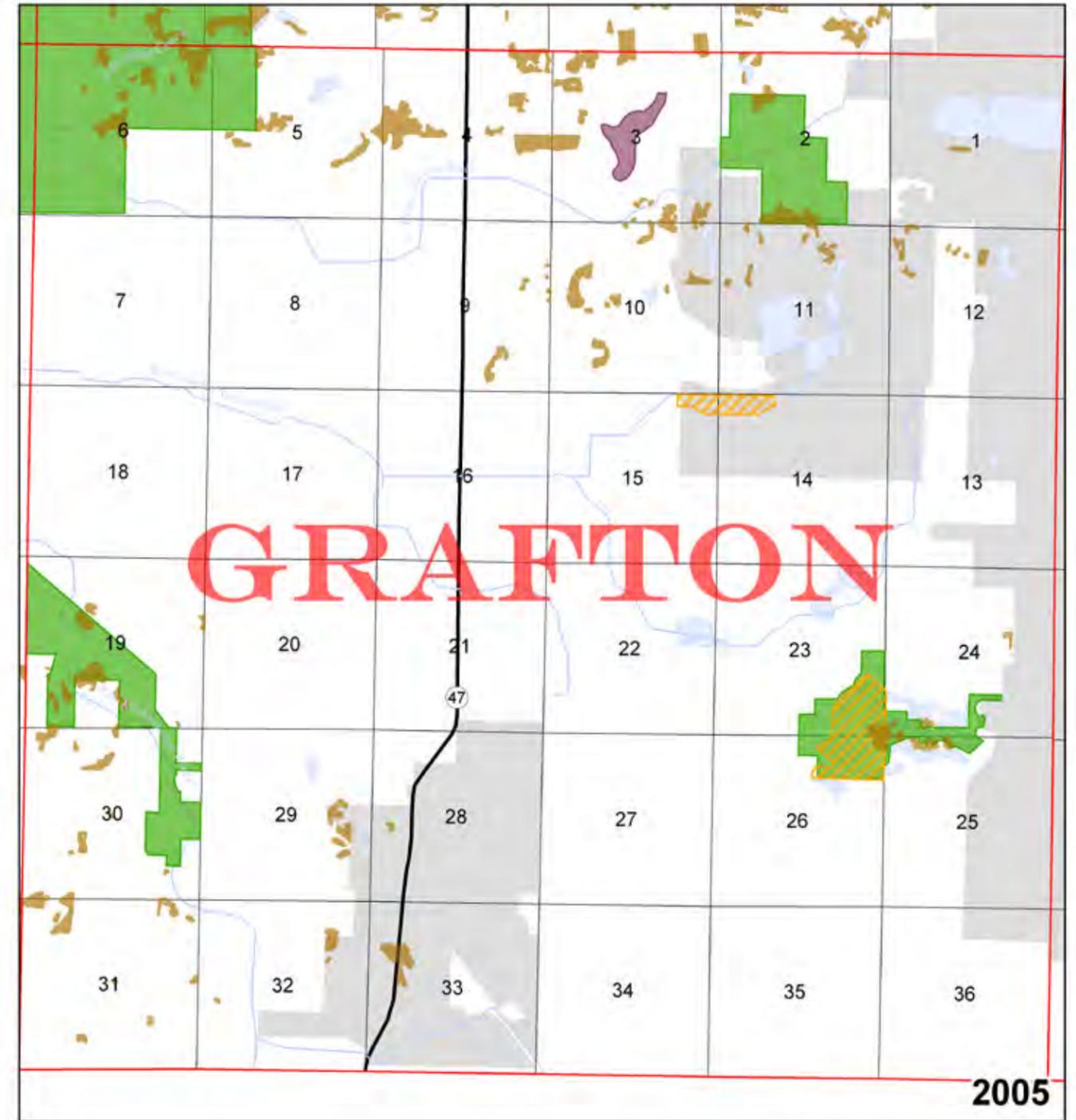
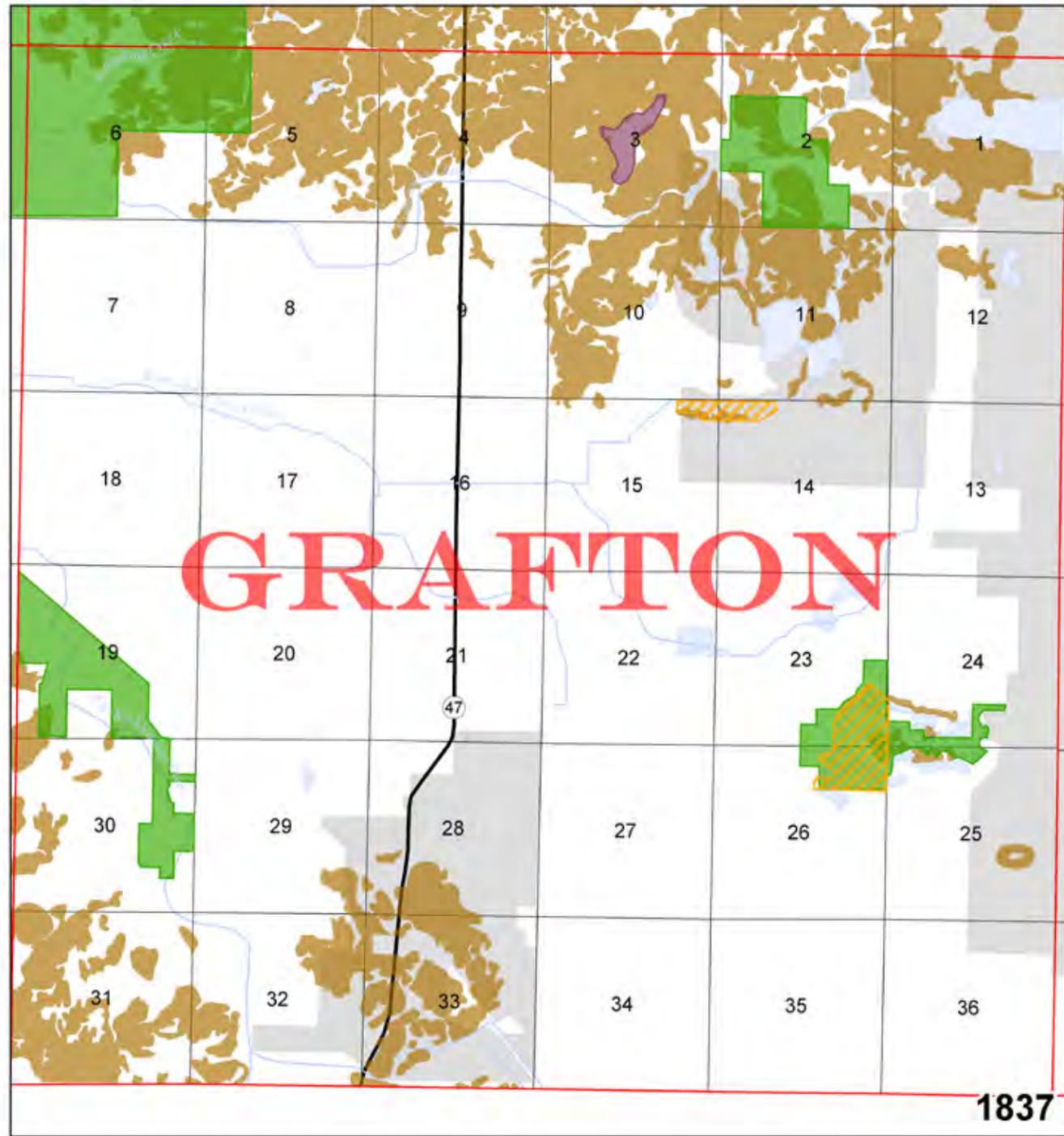


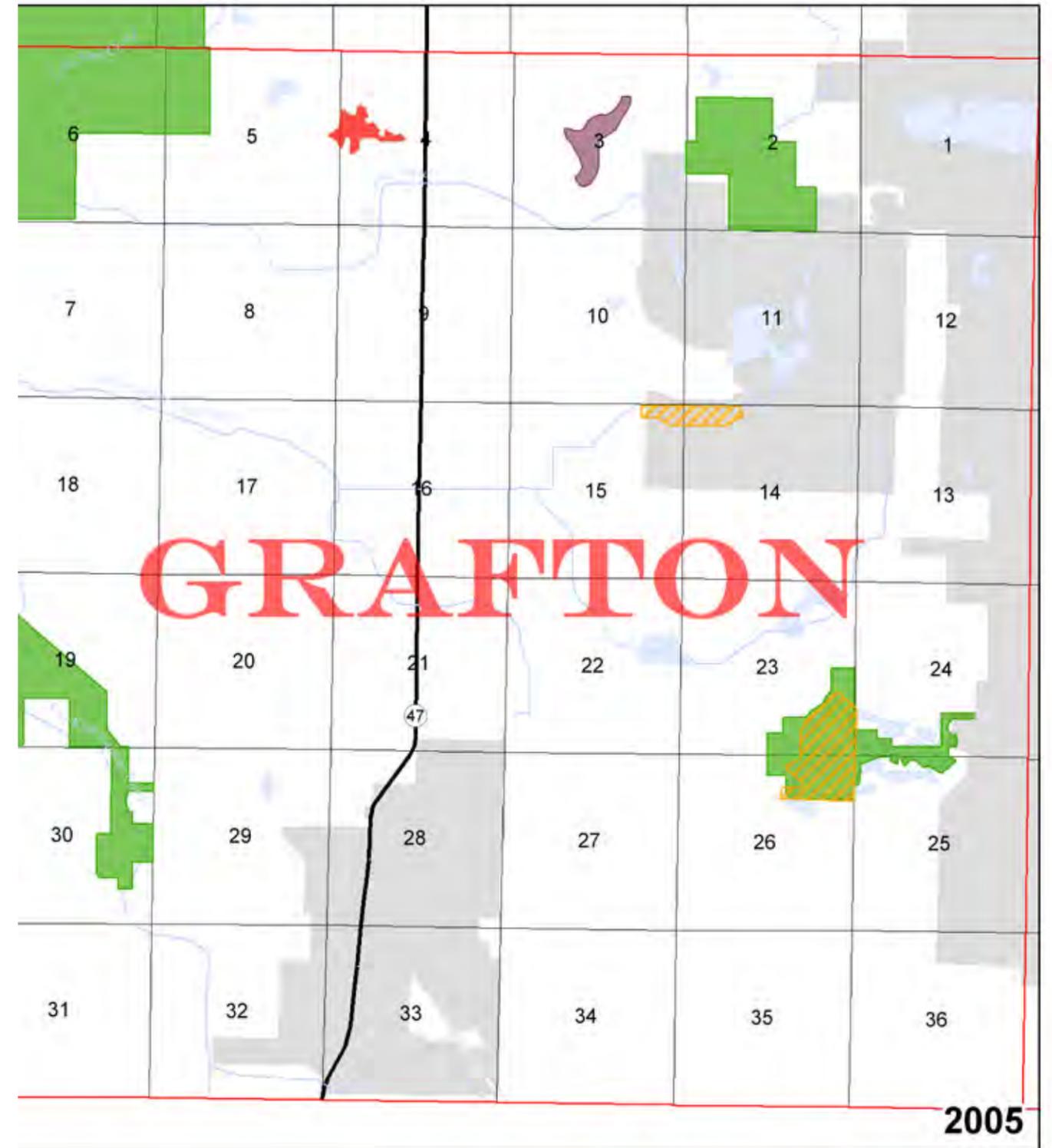




Township of: Dunham		N ↑	 <i>McHenry County</i> CONSERVATION DISTRICT	Stands of High Ecological Significance
<ul style="list-style-type: none"> MCCD Trails Streams Water Bodies 	<ul style="list-style-type: none"> Oak Trees Townships Sections 	<ul style="list-style-type: none"> MCCD Sites IDNR Sites INPC Sites 		<ul style="list-style-type: none"> TLC Sites Towns







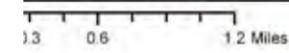
wnship of: **Grafton**

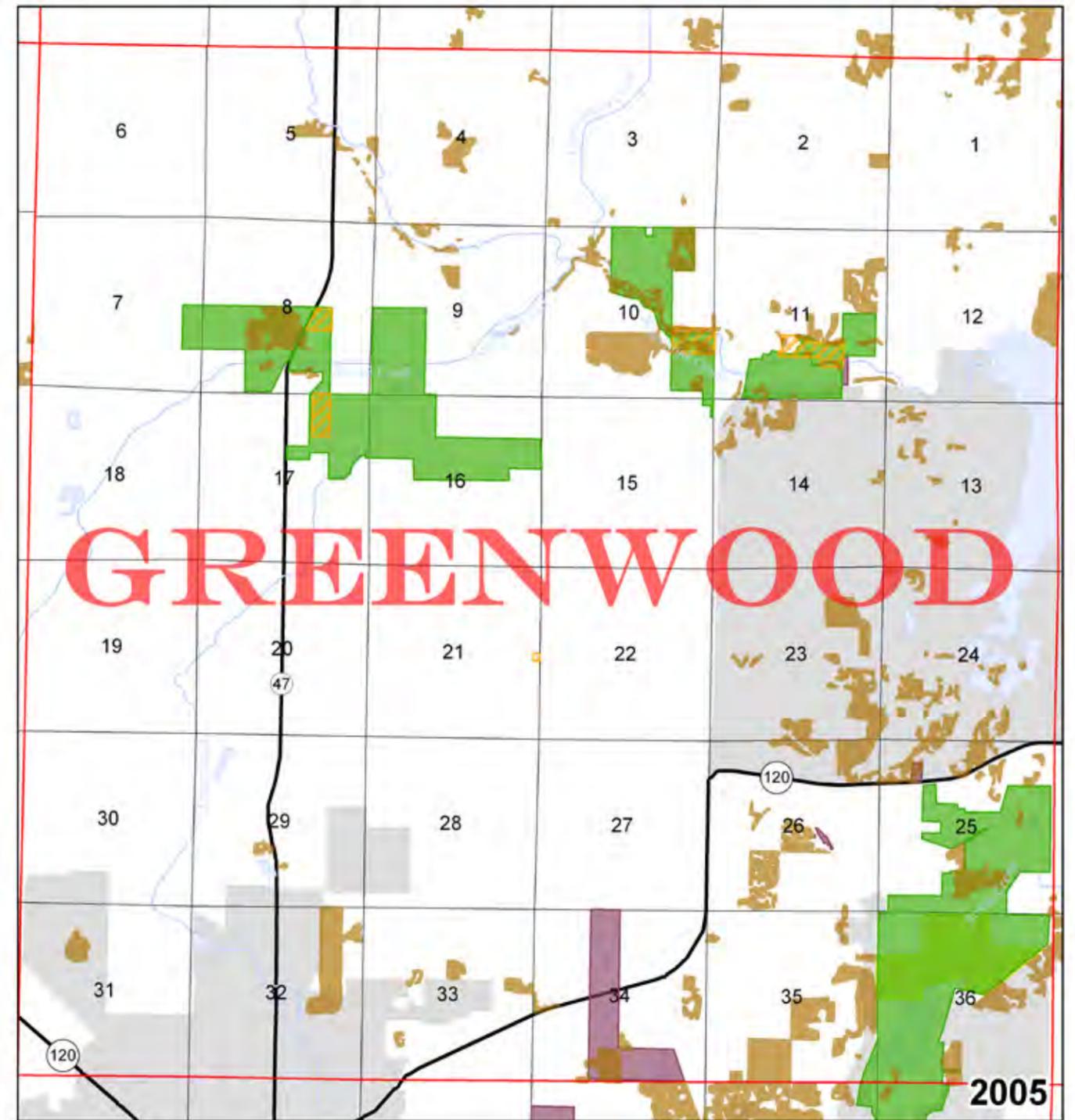
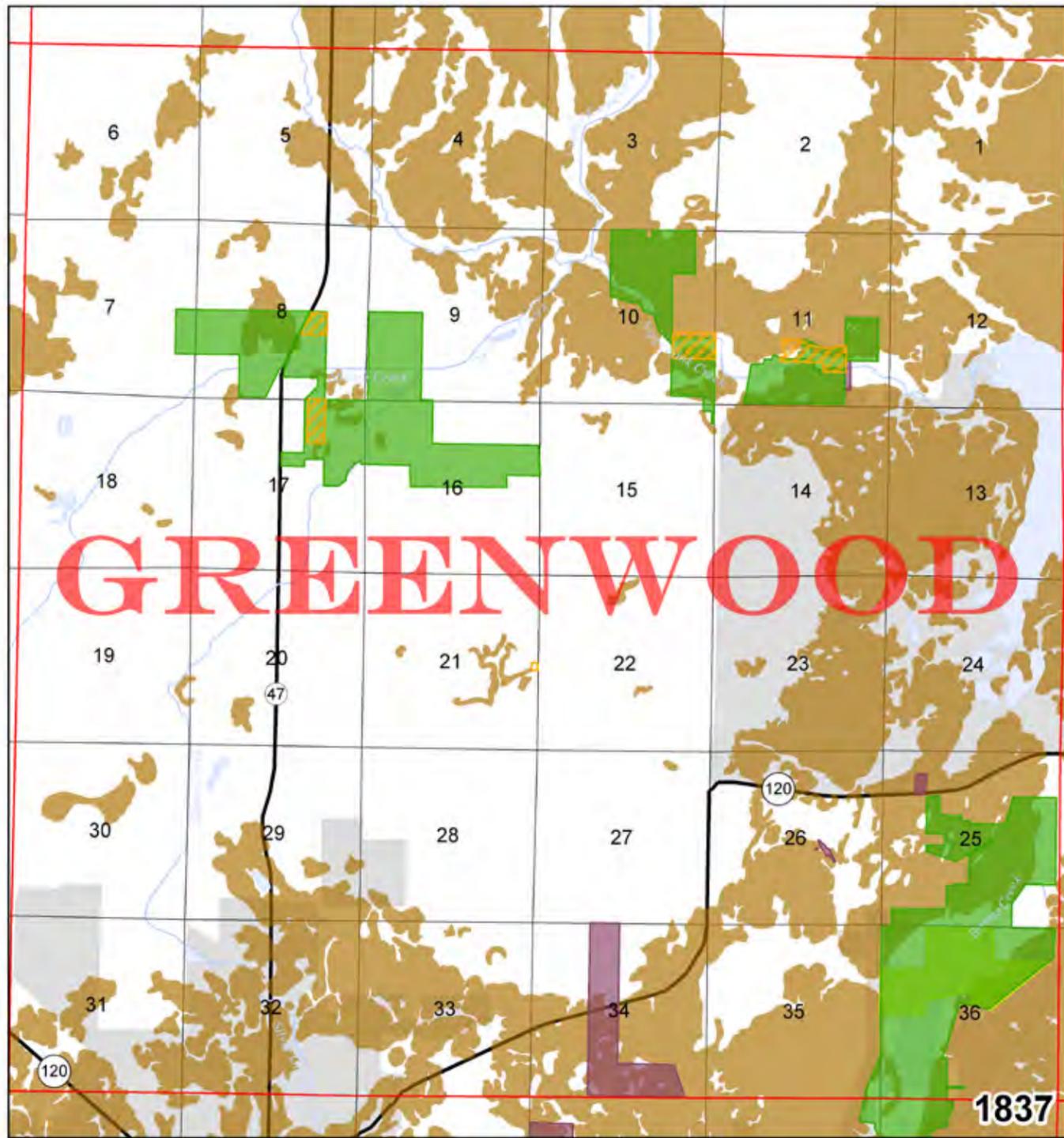


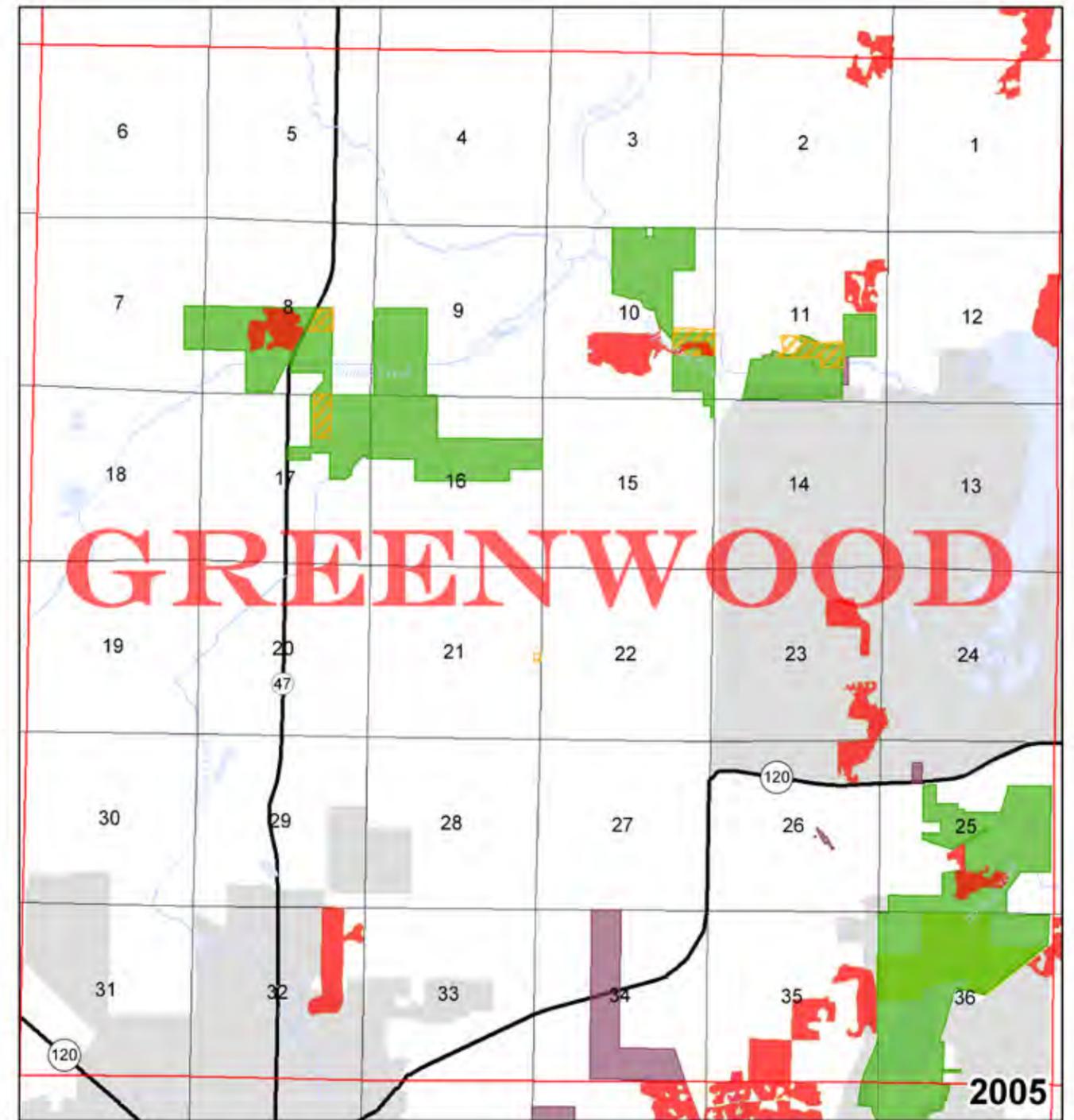
- MCCD Trails Oak Trees MCCD Sites TLC Sites
- Streams Townships IDNR Sites Towns
- Water Bodies Sections INPC Sites



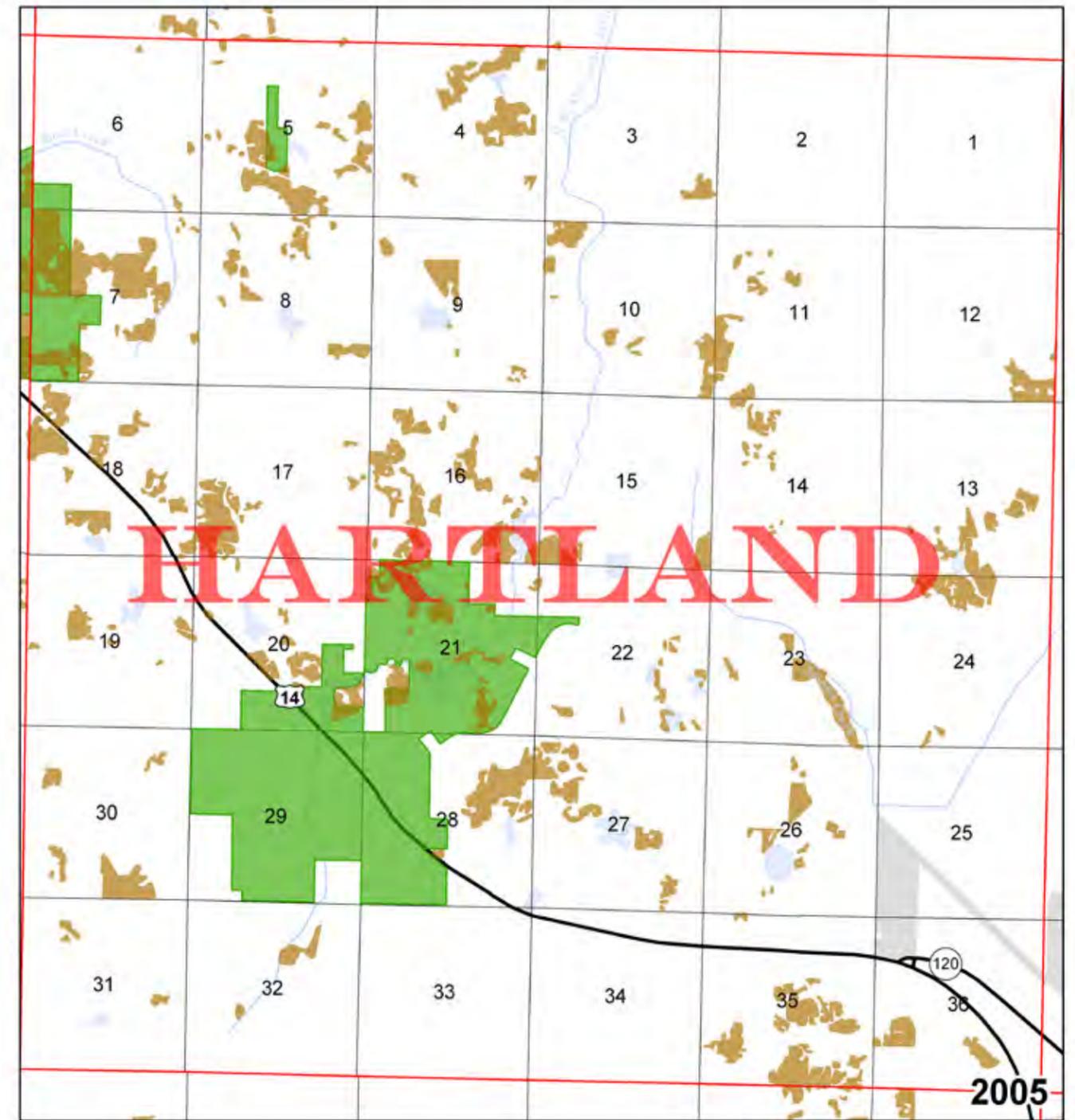
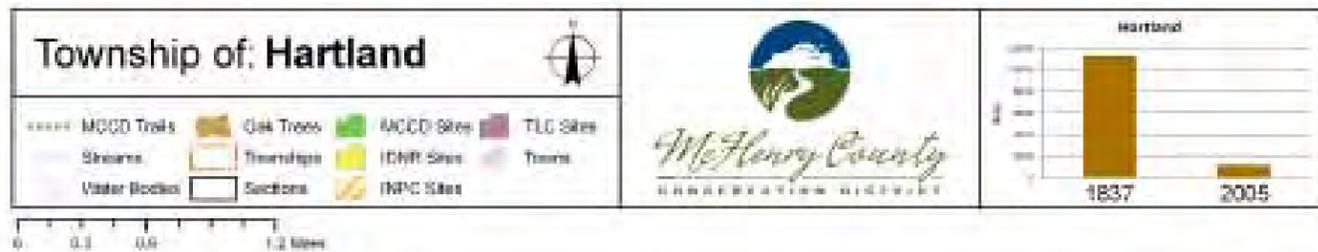
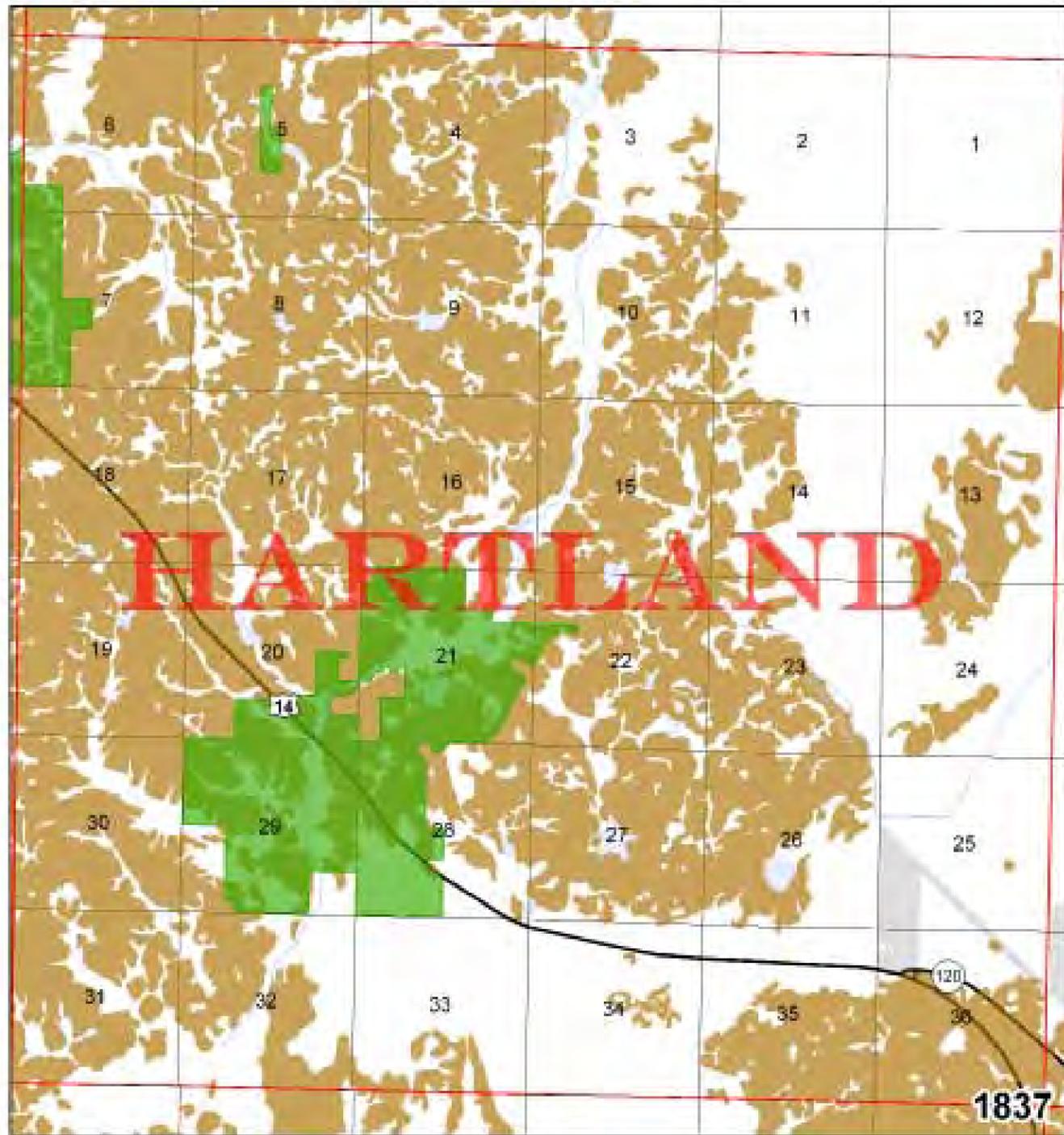
Stands of High Ecological Significance
 Contiguous Oak Stands
25 Acres or Larger

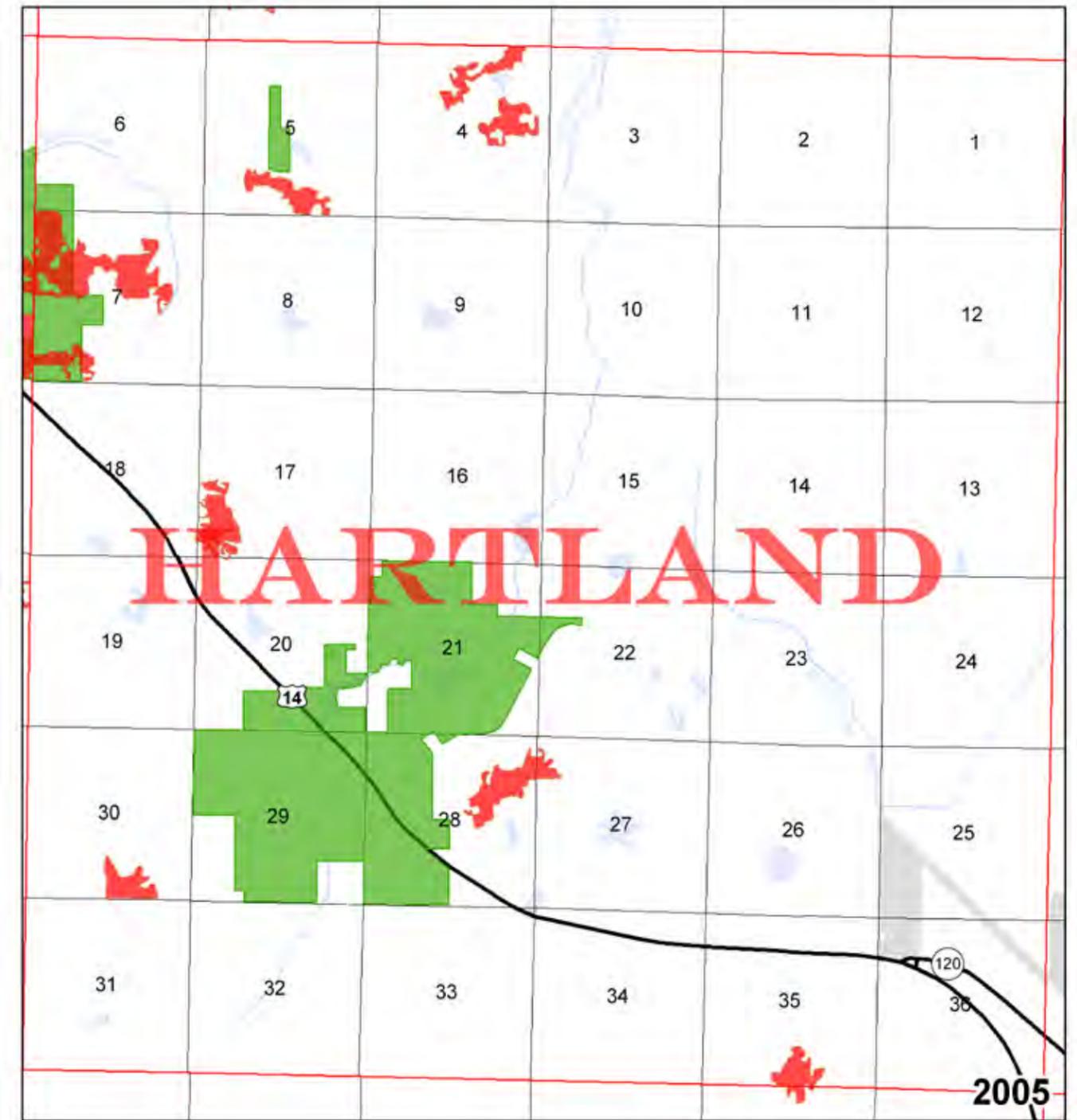




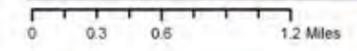


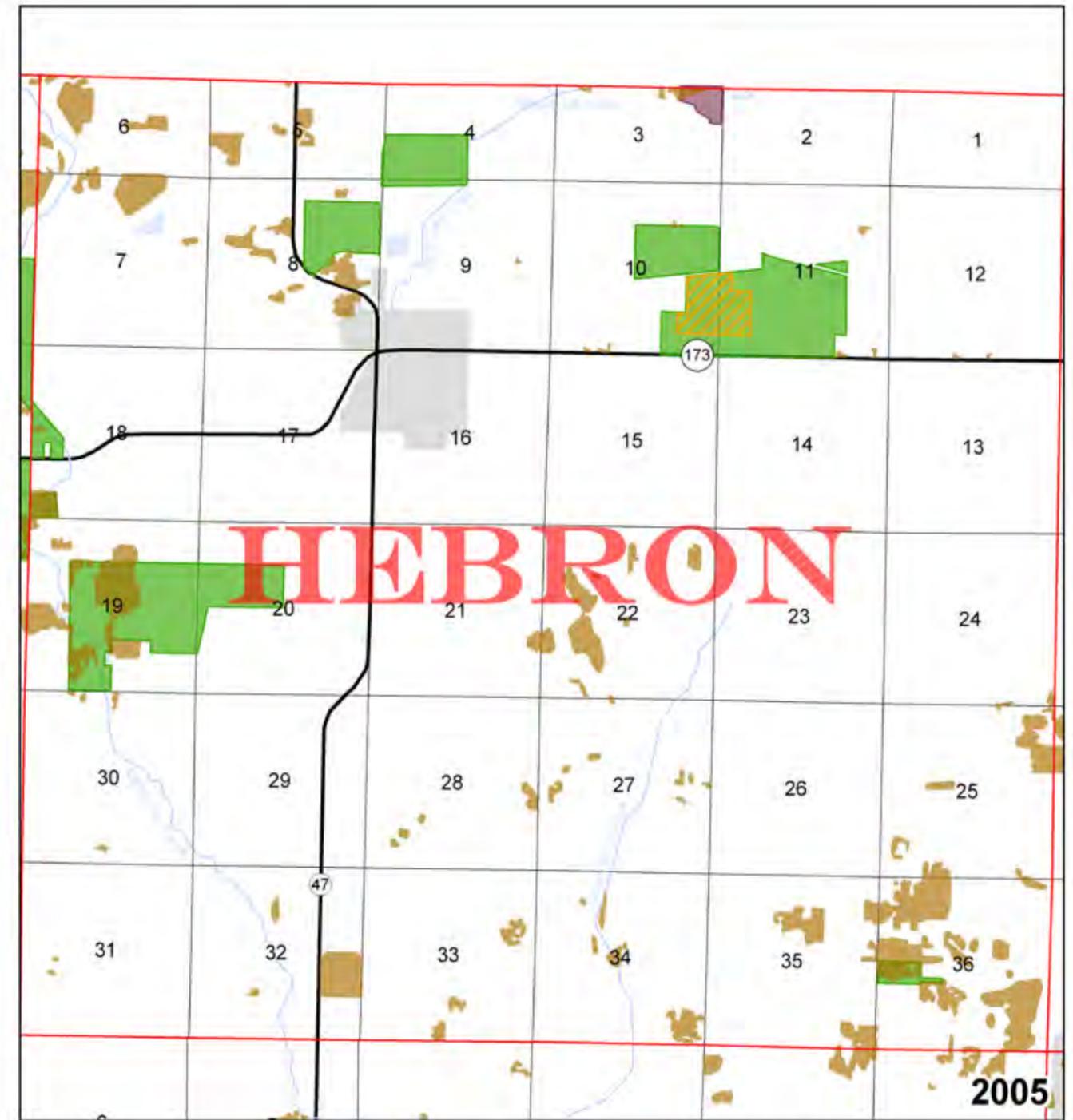
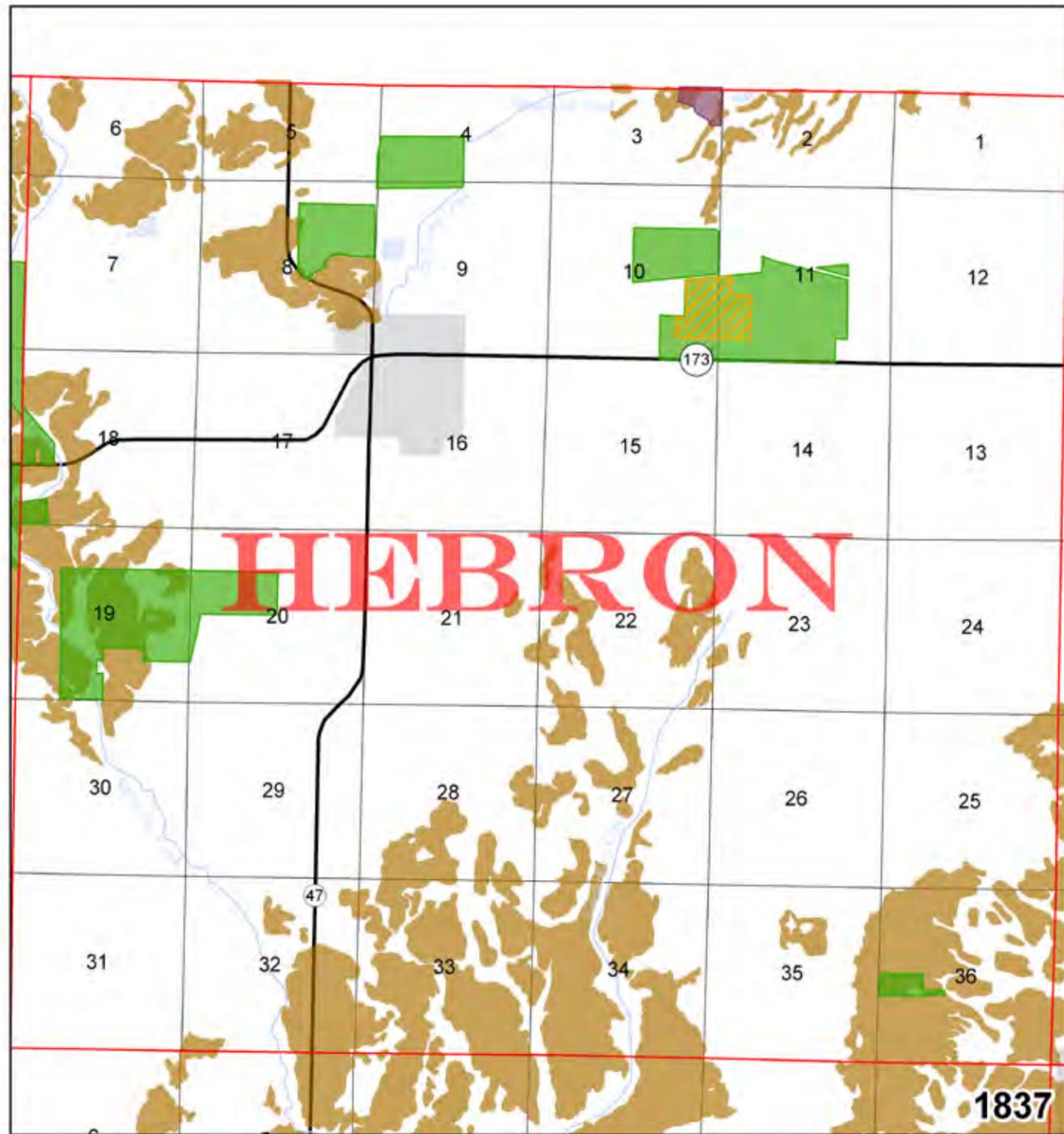
Township of: Greenwood 		 <p>McHenry County CONSERVATION DISTRICT</p>	<p>Stands of High Ecological Significance</p>  <p>Contiguous Oak Stands 25 Acres or Larger</p>
 MCCD Trails  Streams  Water Bodies	 Oak Trees  Townships  Sections		

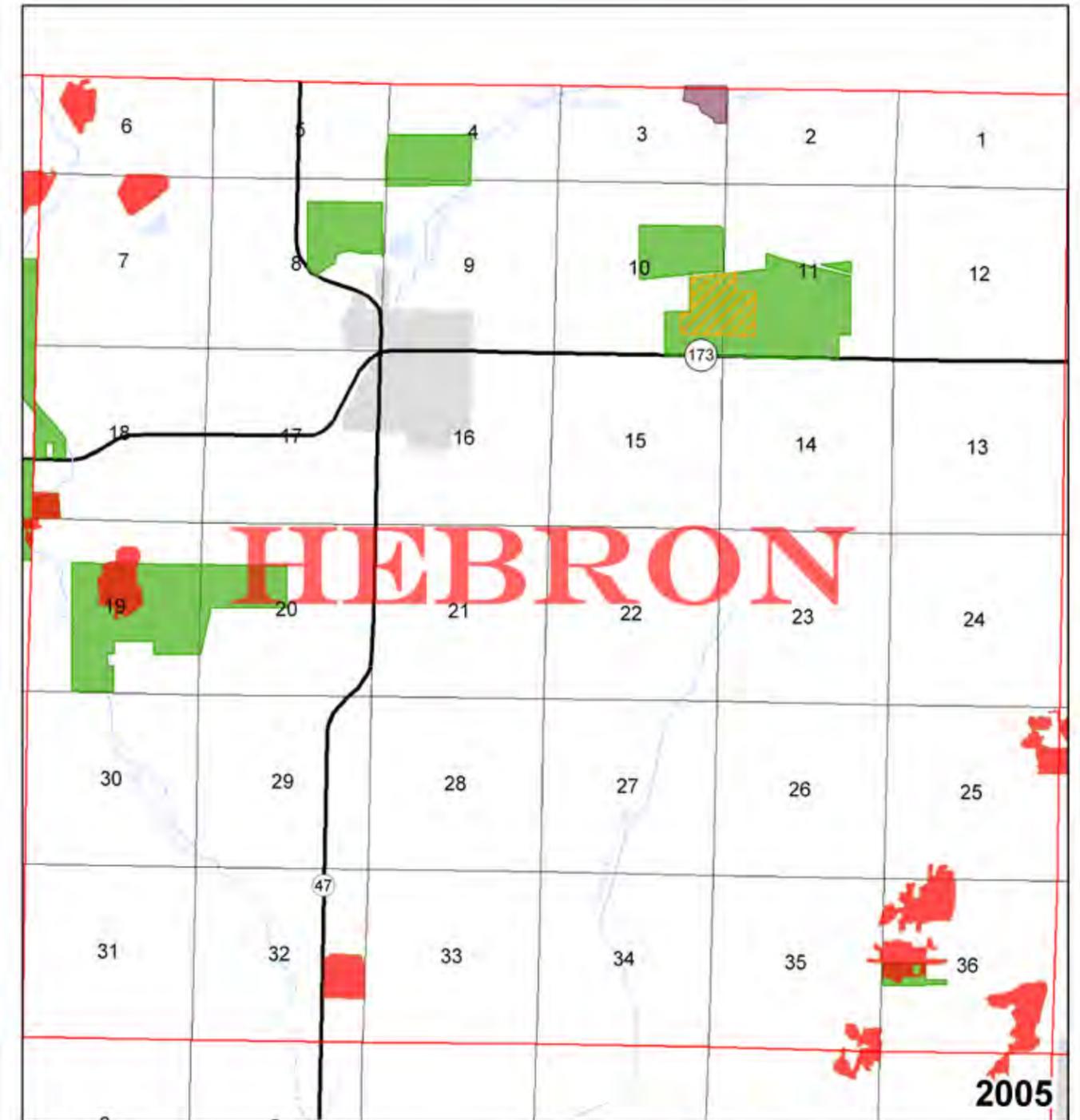




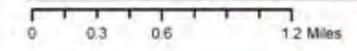
Township of: Hartland			
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		<p>Stands of High Ecological Significance</p> <p></p> <p>Contiguous Oak Stands 25 Acres or Larger</p>	

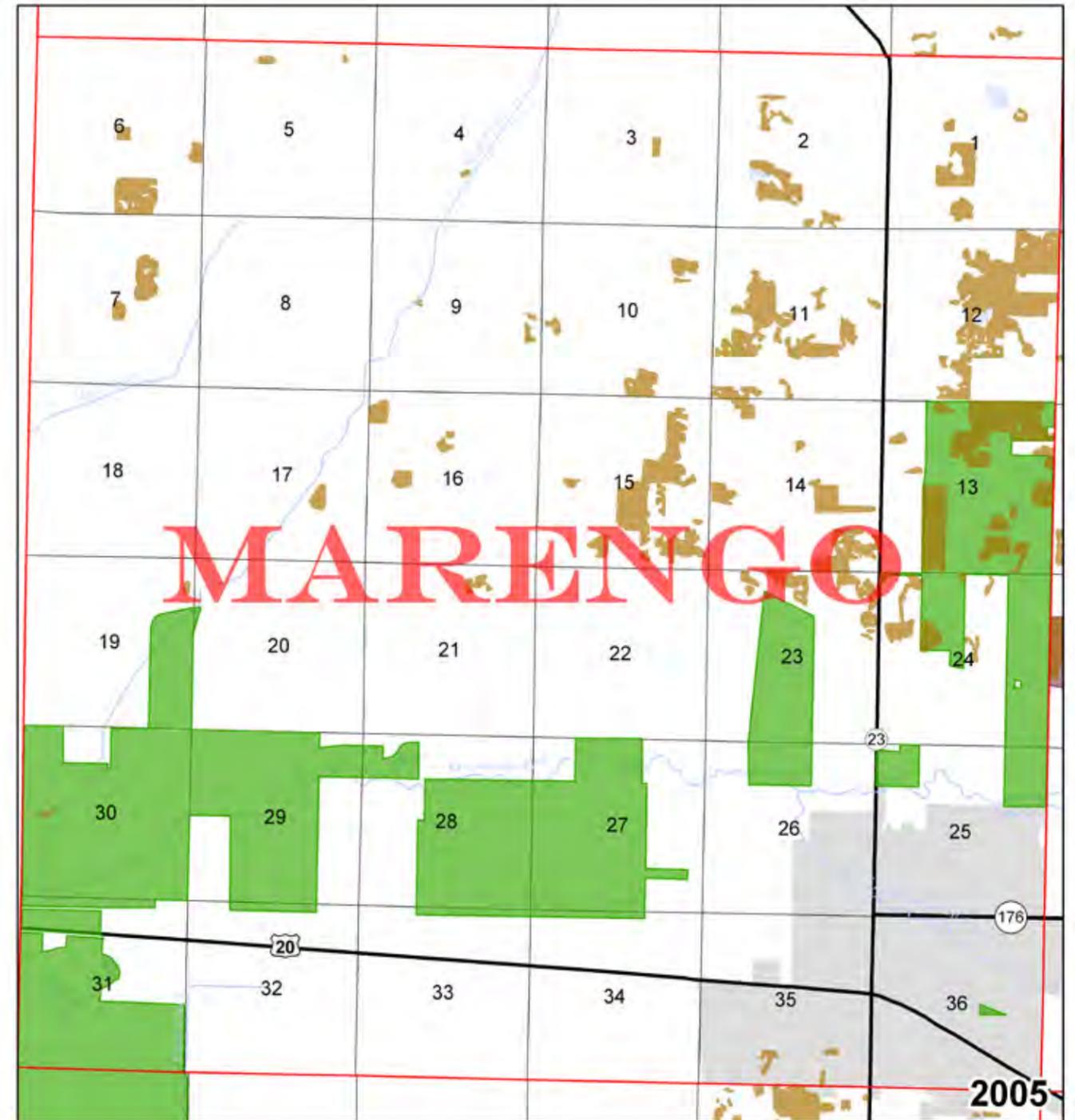
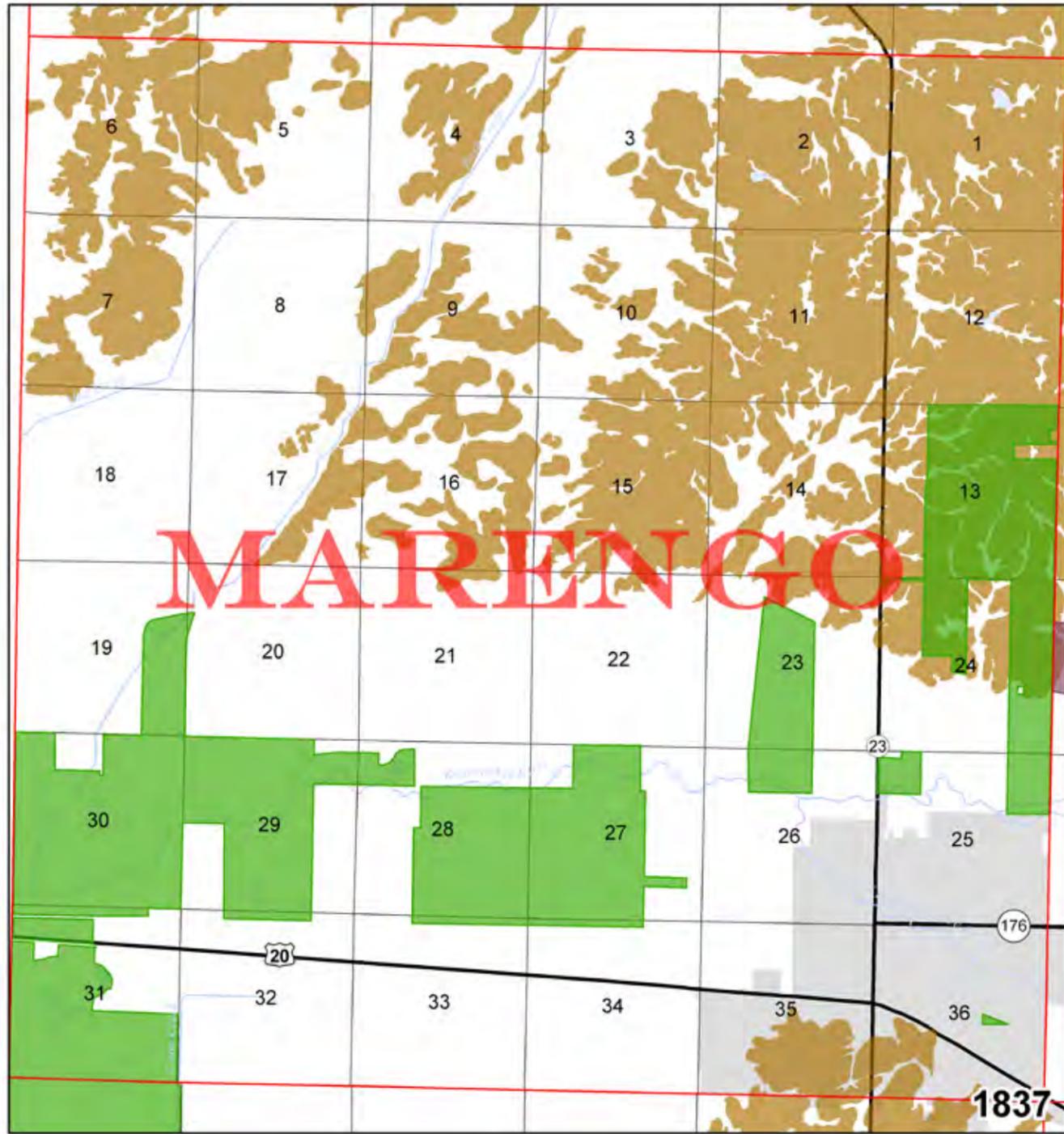


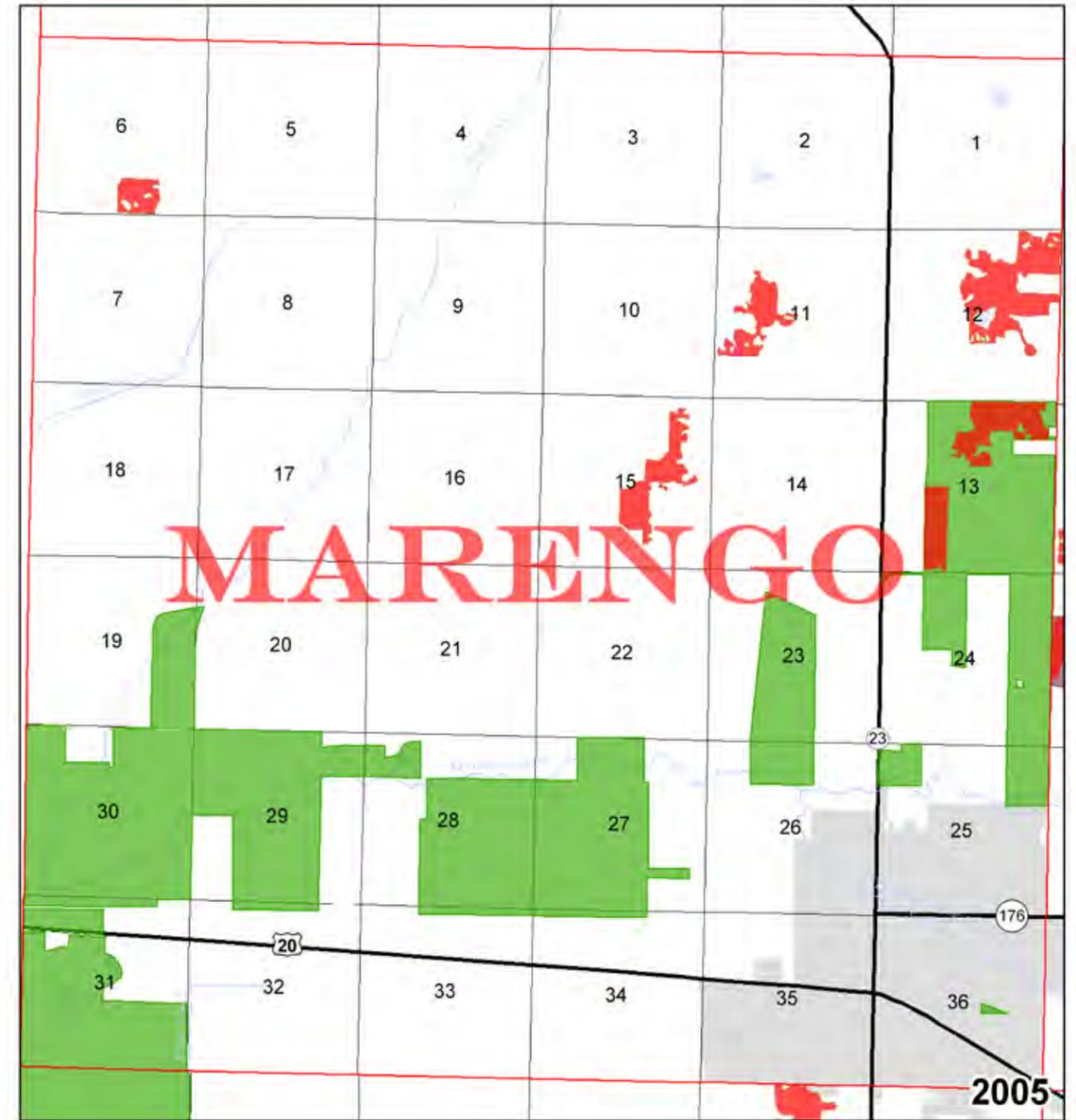




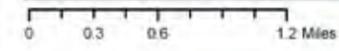
Township of: Hebron			
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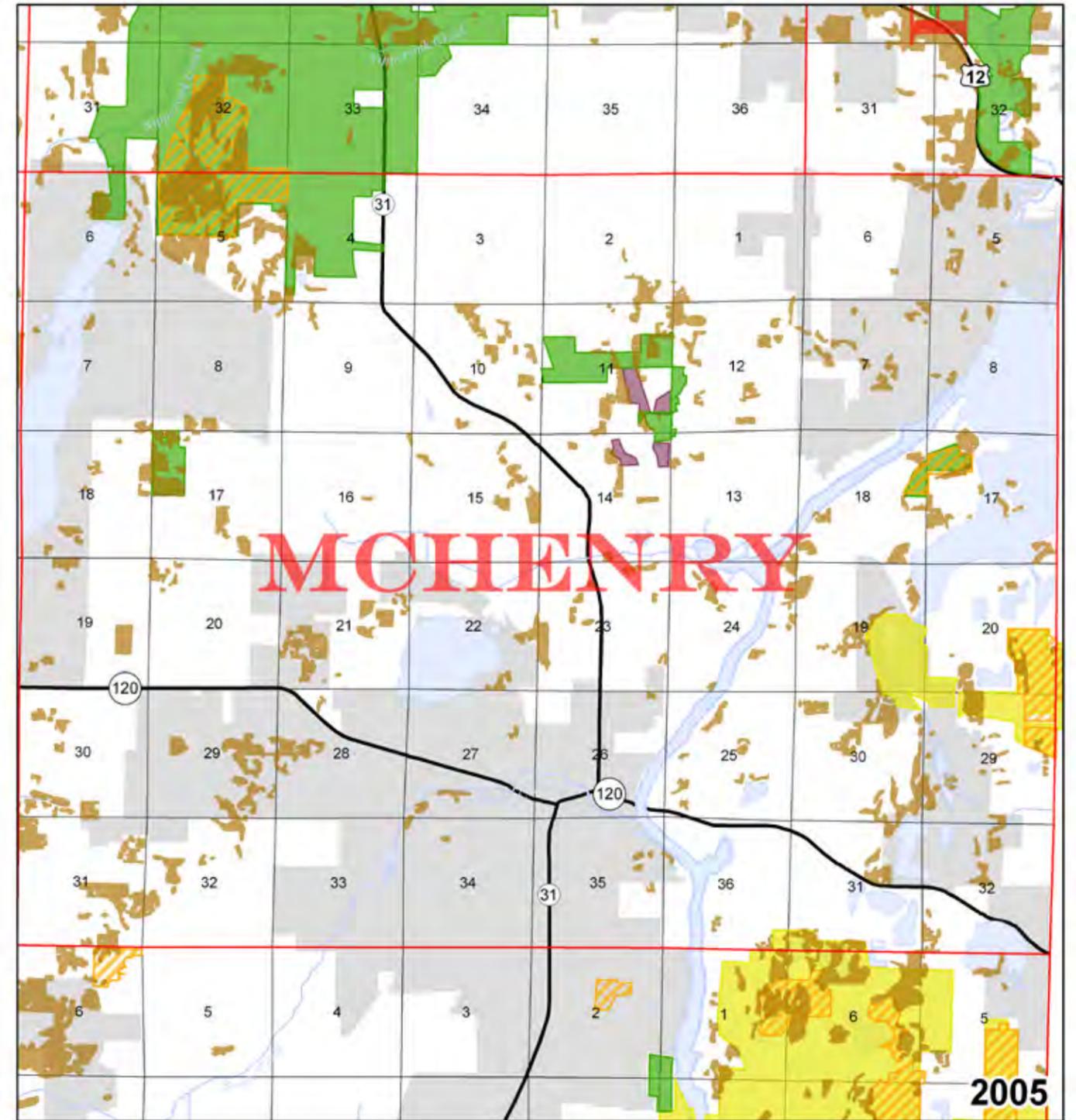
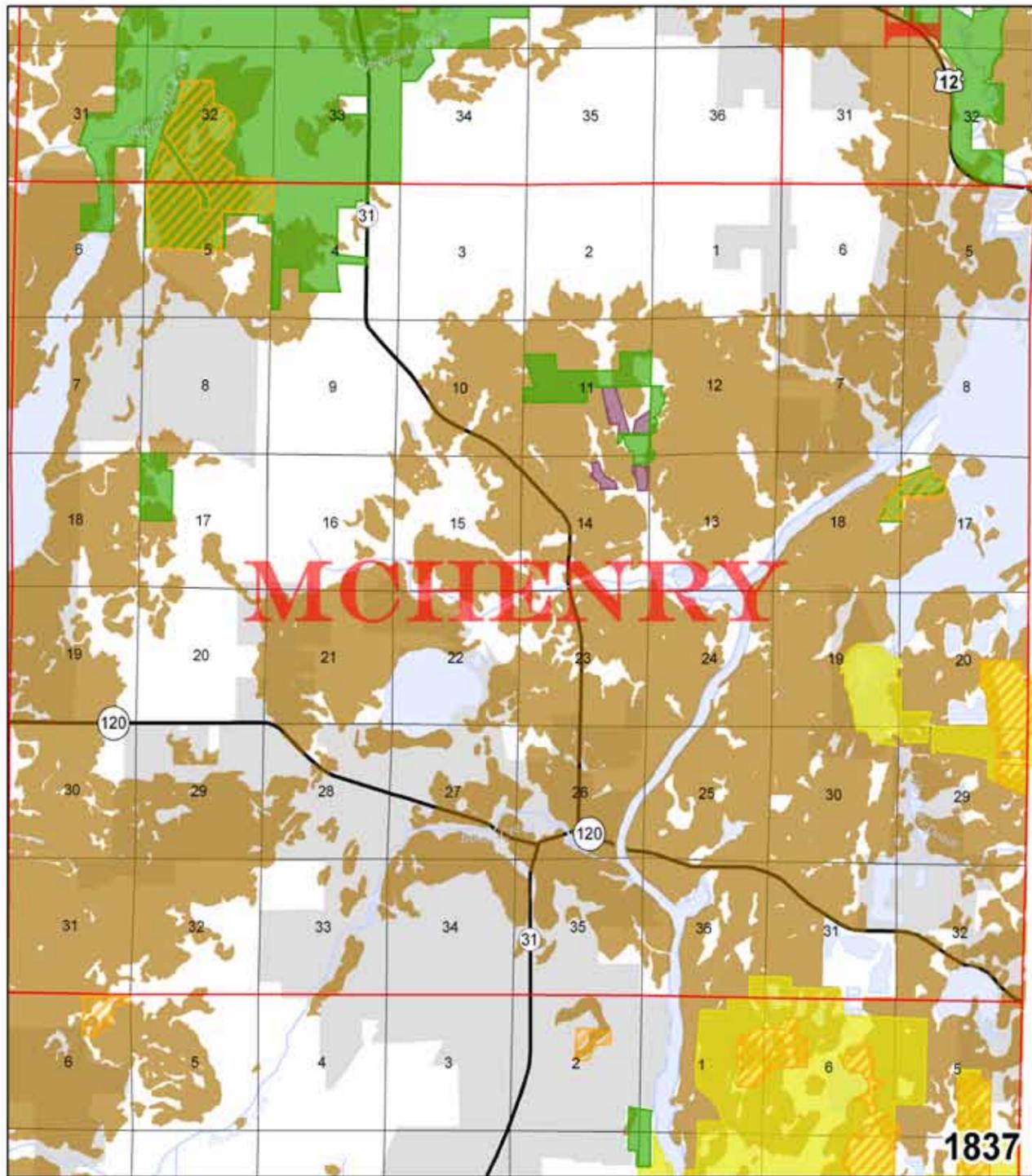


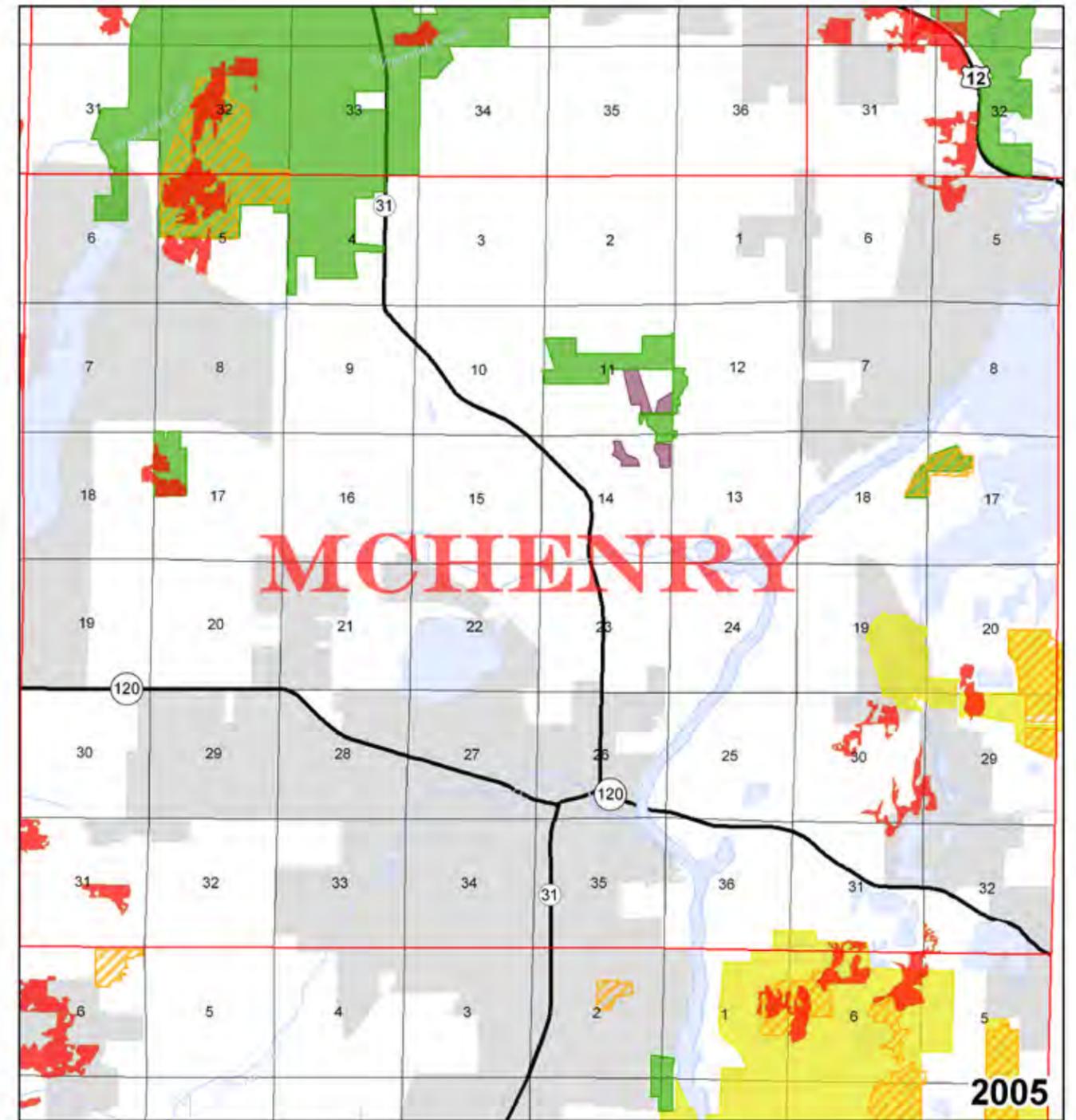




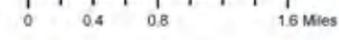
Township of: Marengo		 <i>McHenry County</i> CONSERVATION DISTRICT	Stands of High Ecological Significance  Contiguous Oak Stands 25 Acres or Larger
 MCCD Trails  Streams  Water Bodies	 Oak Trees  Townships  Sections		

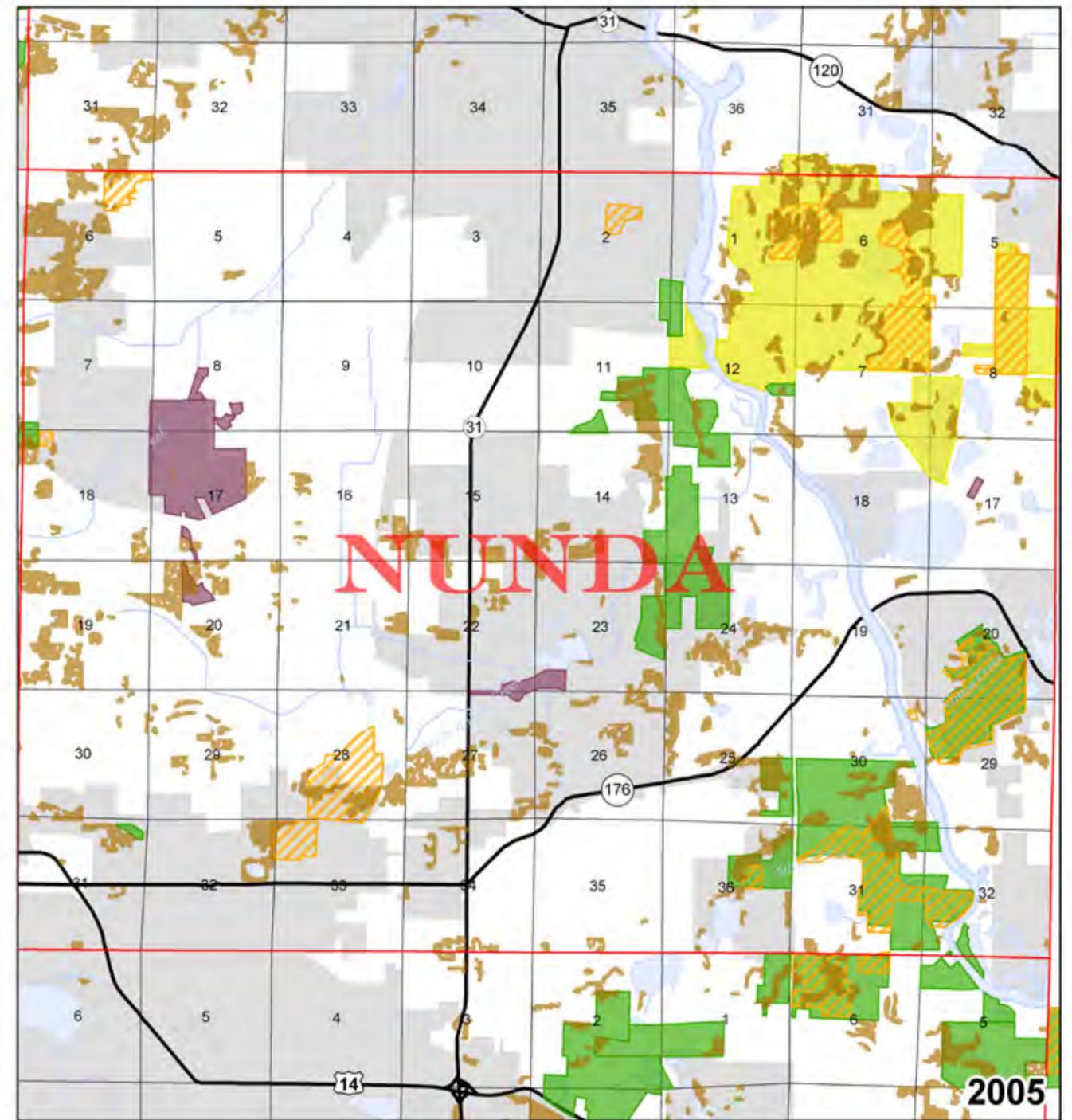
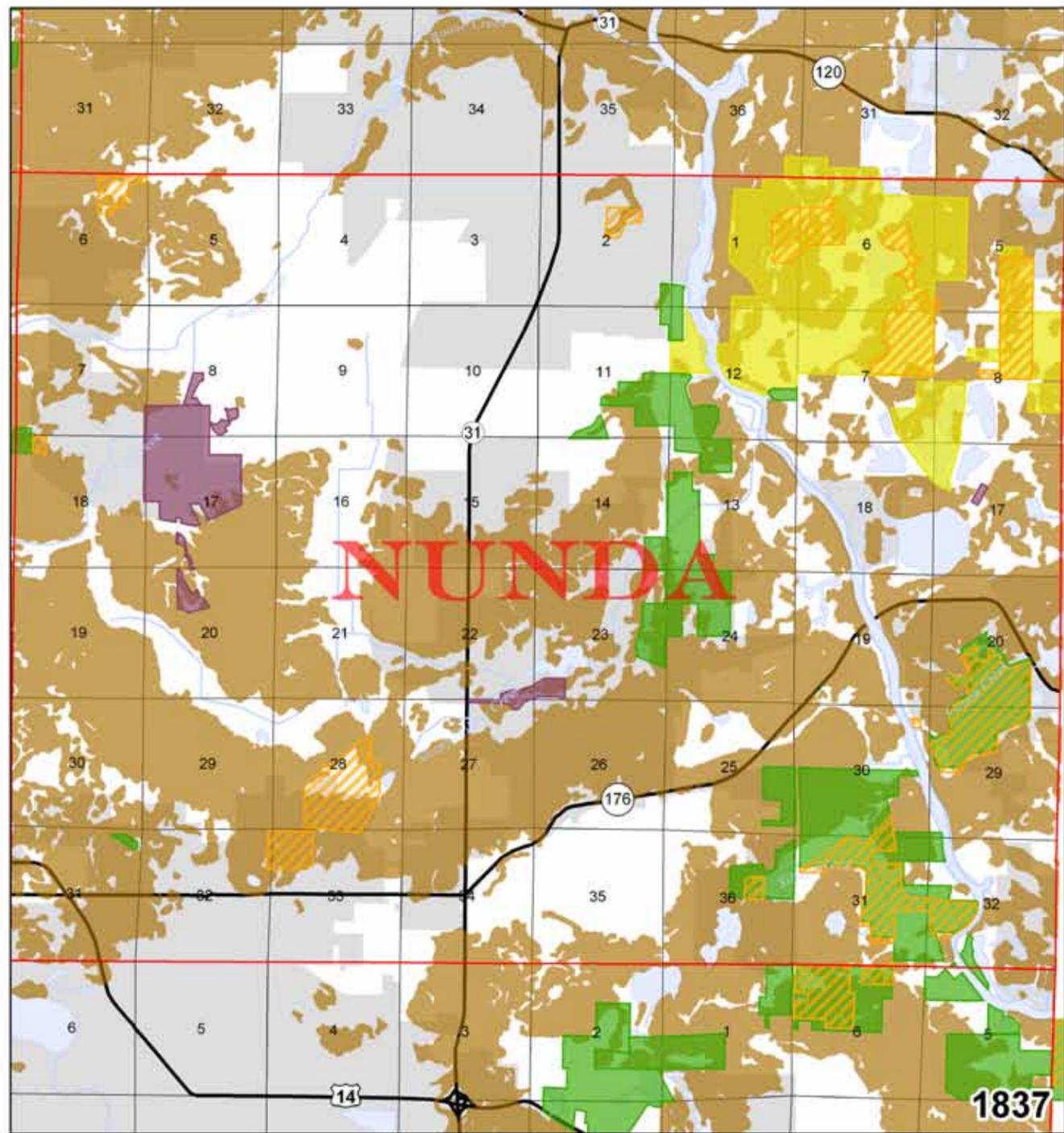


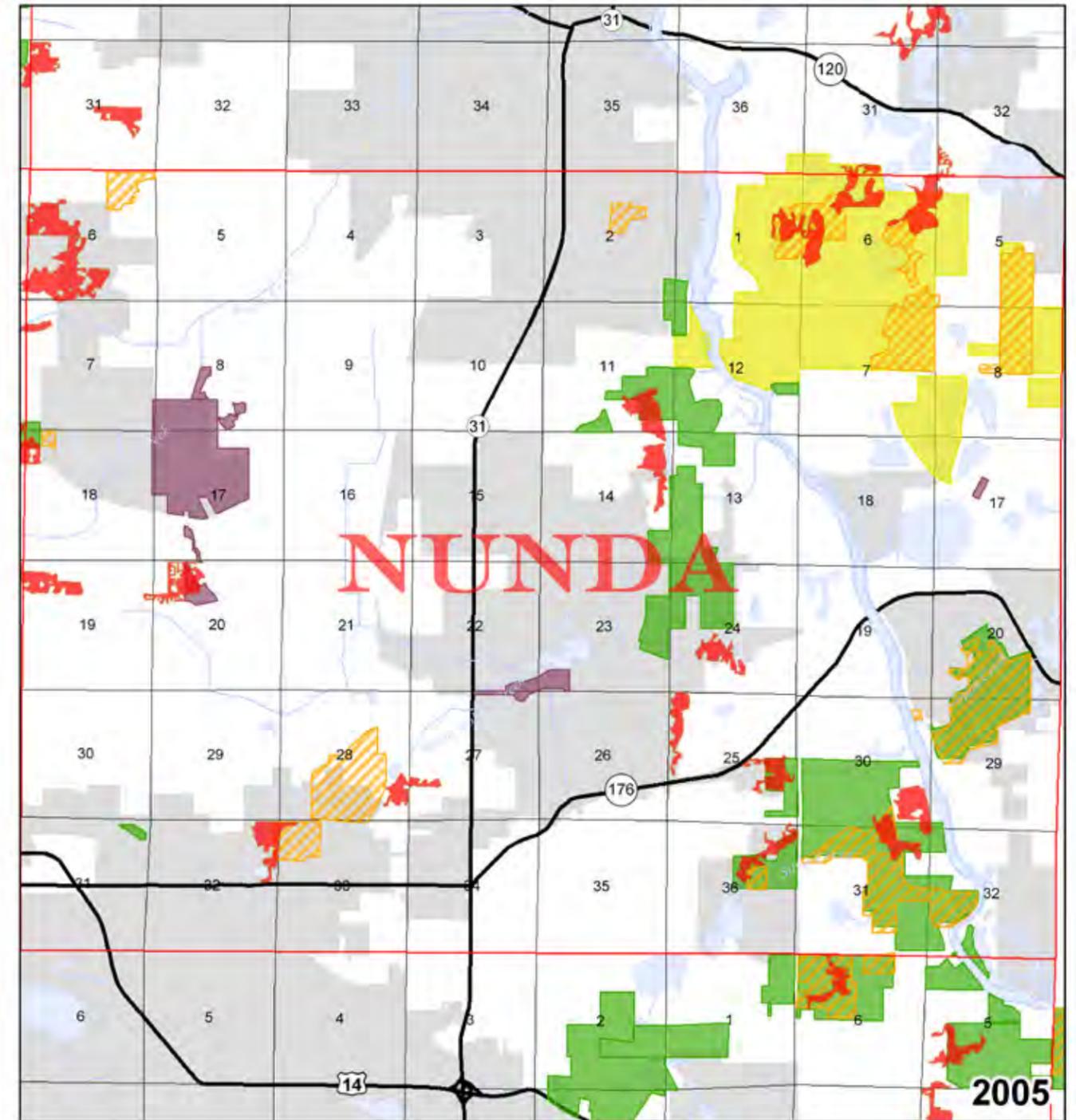




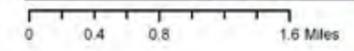
Township of: McHenry			
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		Stands of High Ecological Significance Contiguous Oak Stands 25 Acres or Larger	

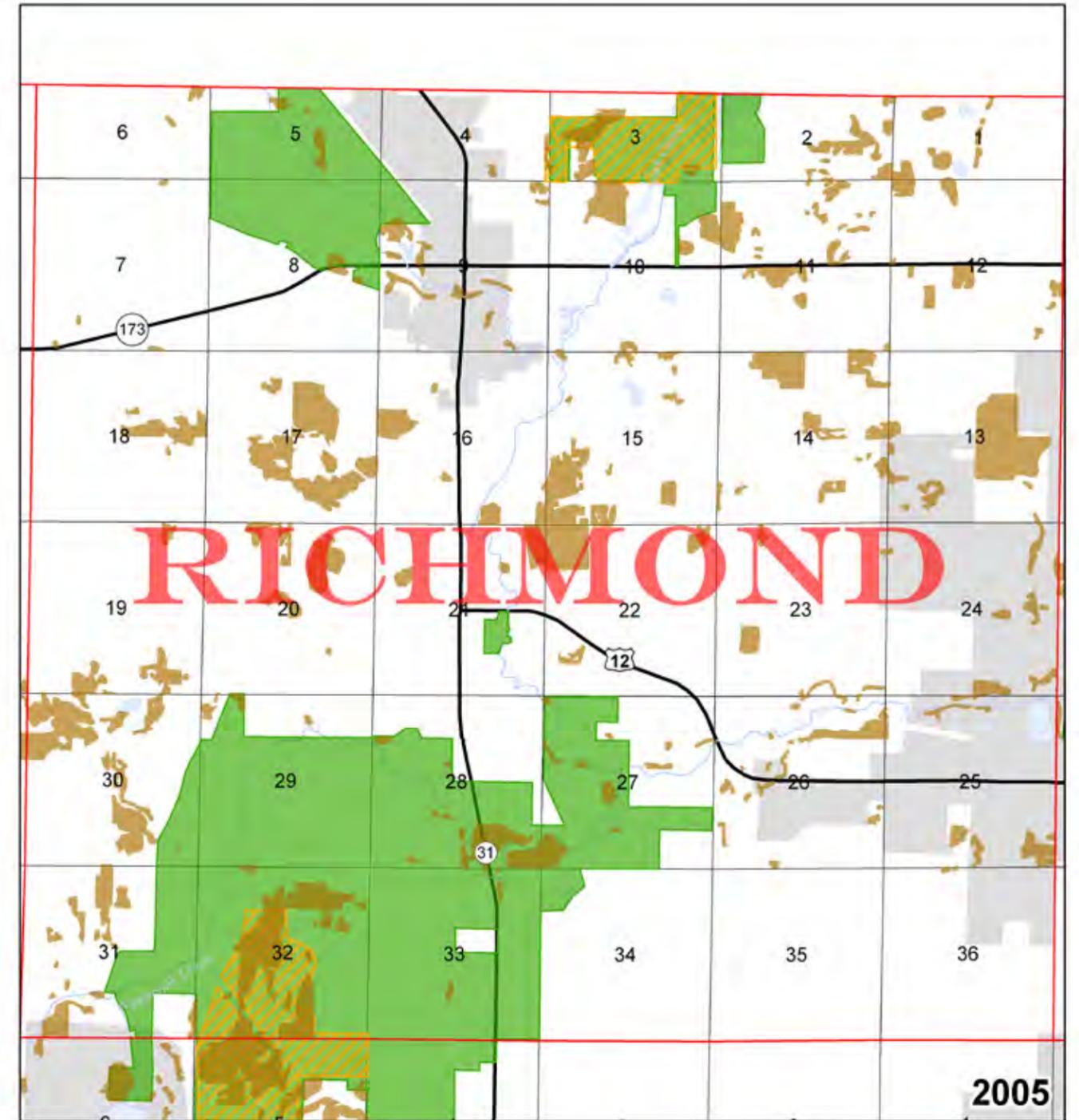
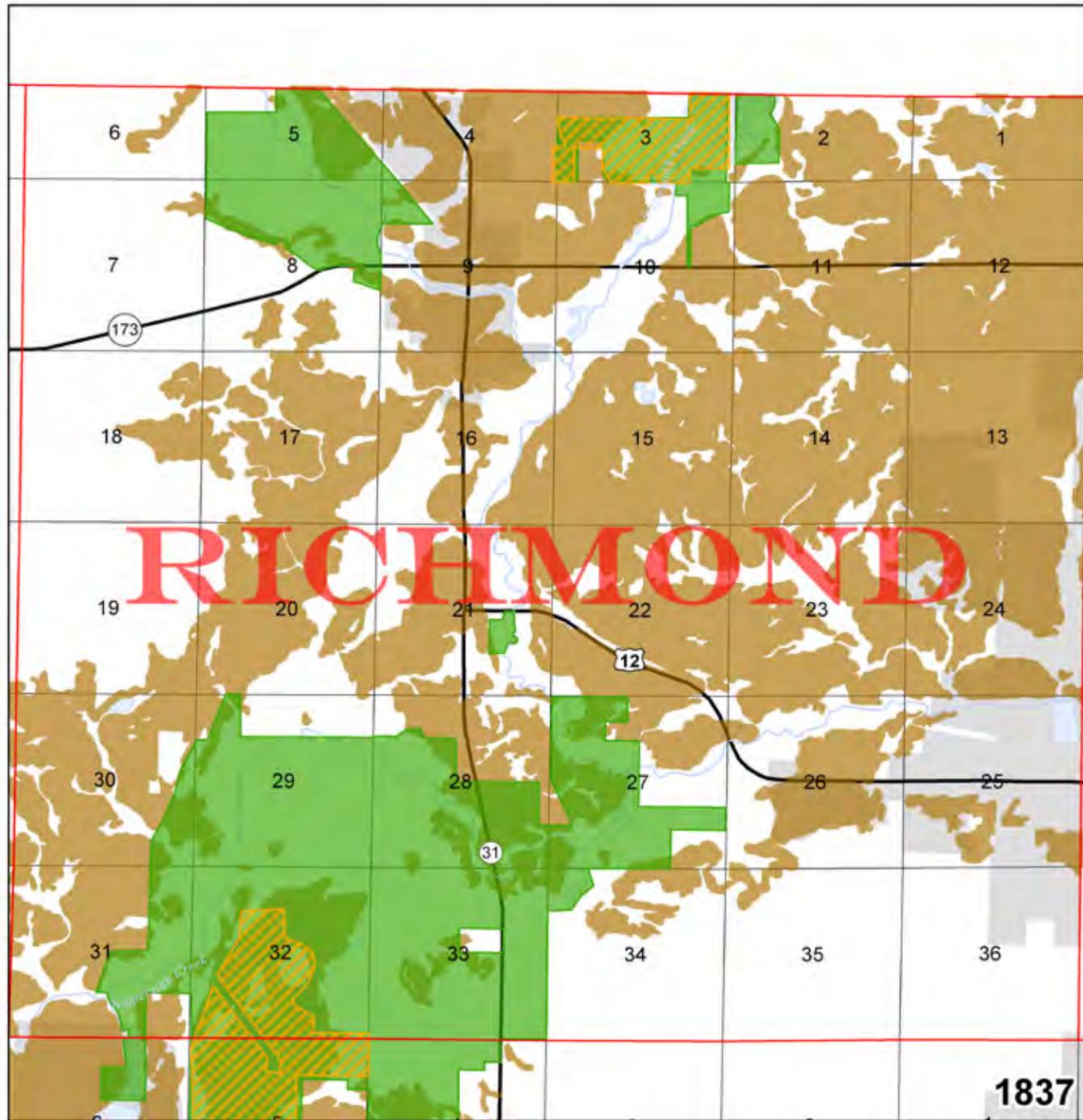


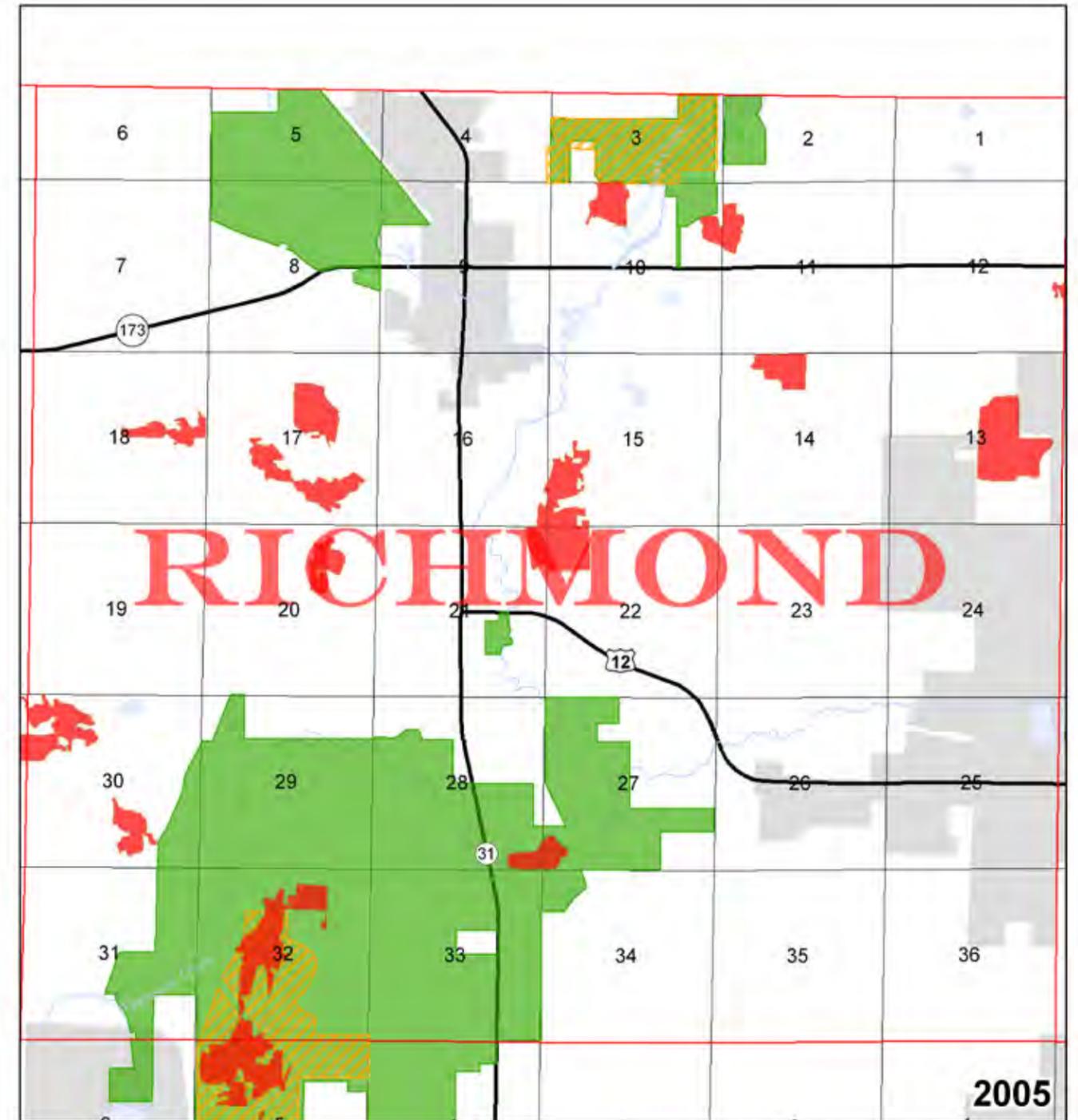




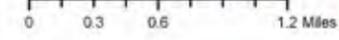
Township of: Nunda				Stands of High Ecological Significance
MCCD Trails Streams Water Bodies	Oak Trees Townships Sections	MCCD Sites IDNR Sites INPC Sites	TLC Sites Towns	Contiguous Oak Stands 25 Acres or Larger

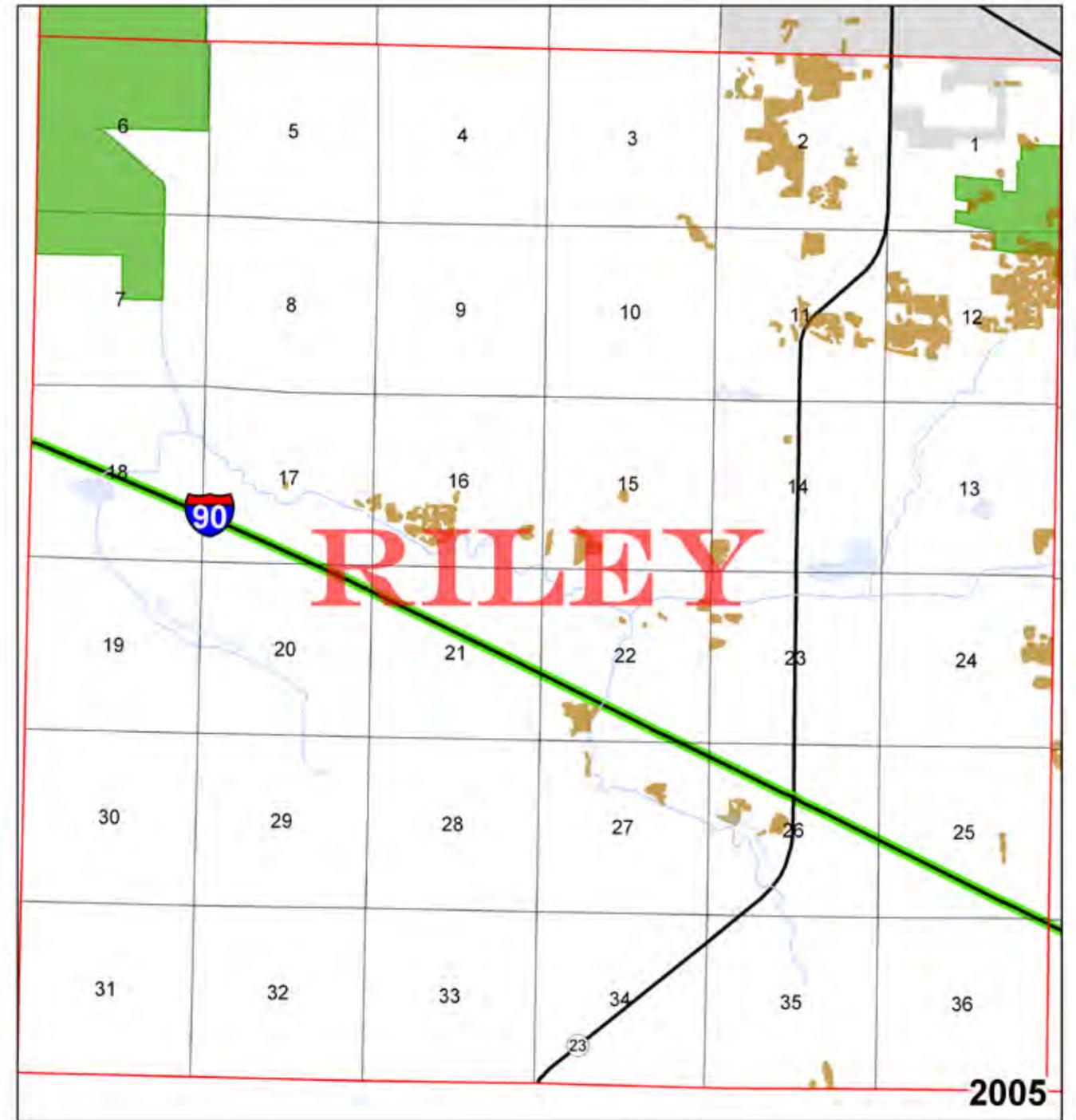


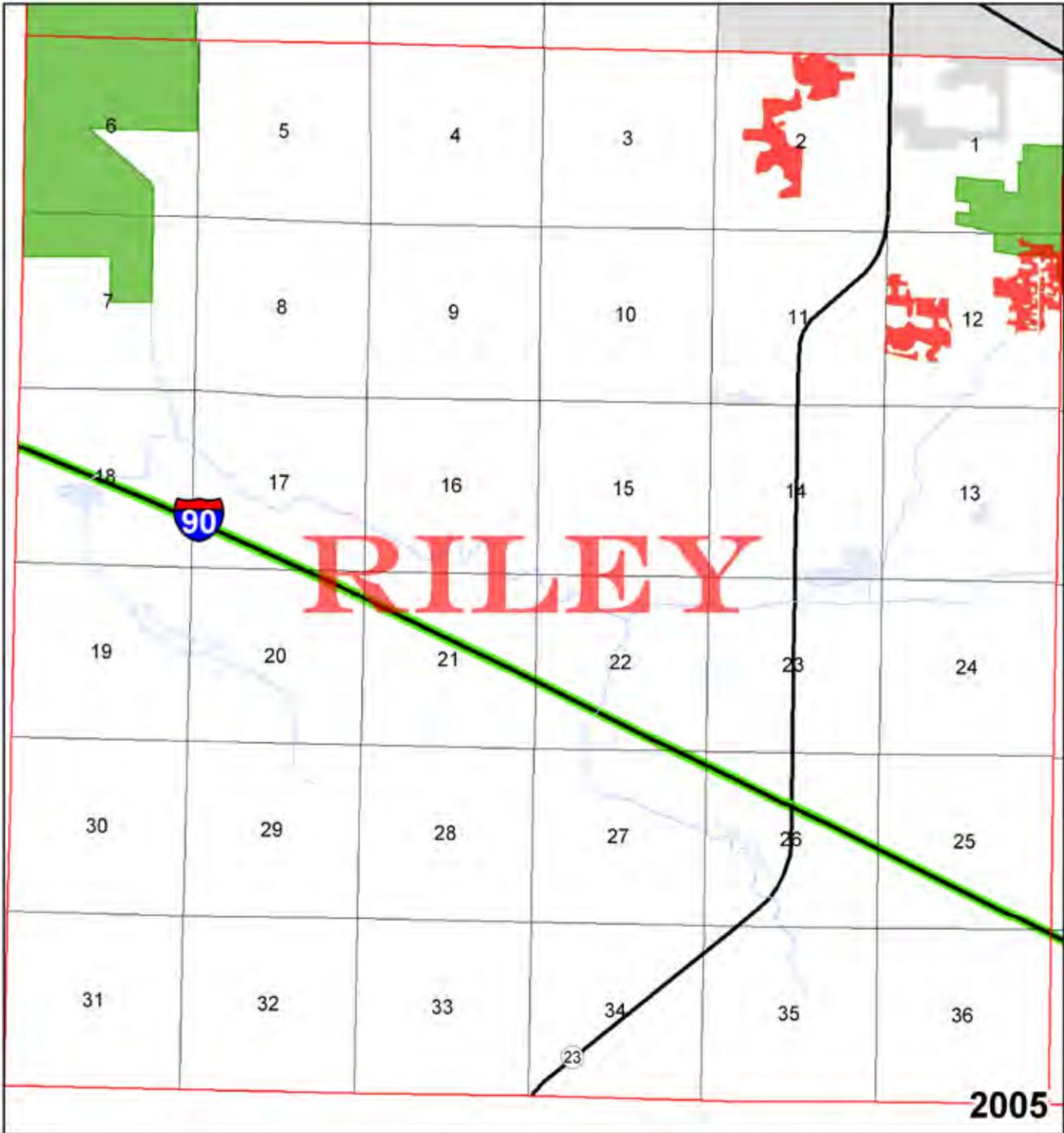




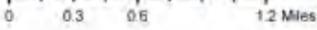
Township of: Richmond			
MCCD Trails Streams Water Bodies	Oak Trees Townships Sections	MCCD Sites IDNR Sites INPC Sites	TLC Sites Towns
		Stands of High Ecological Significance Contiguous Oak Stands 25 Acres or Larger	

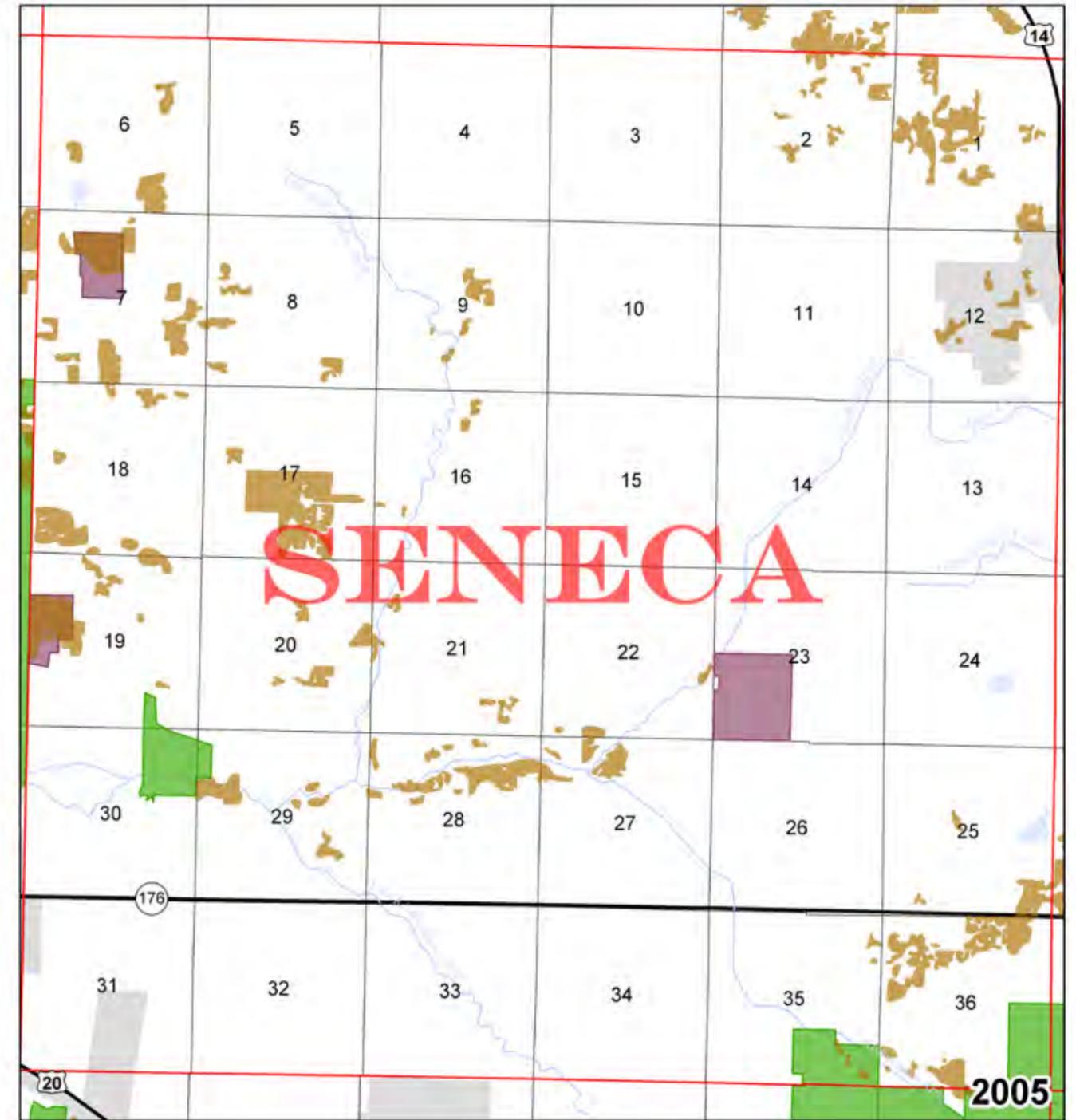
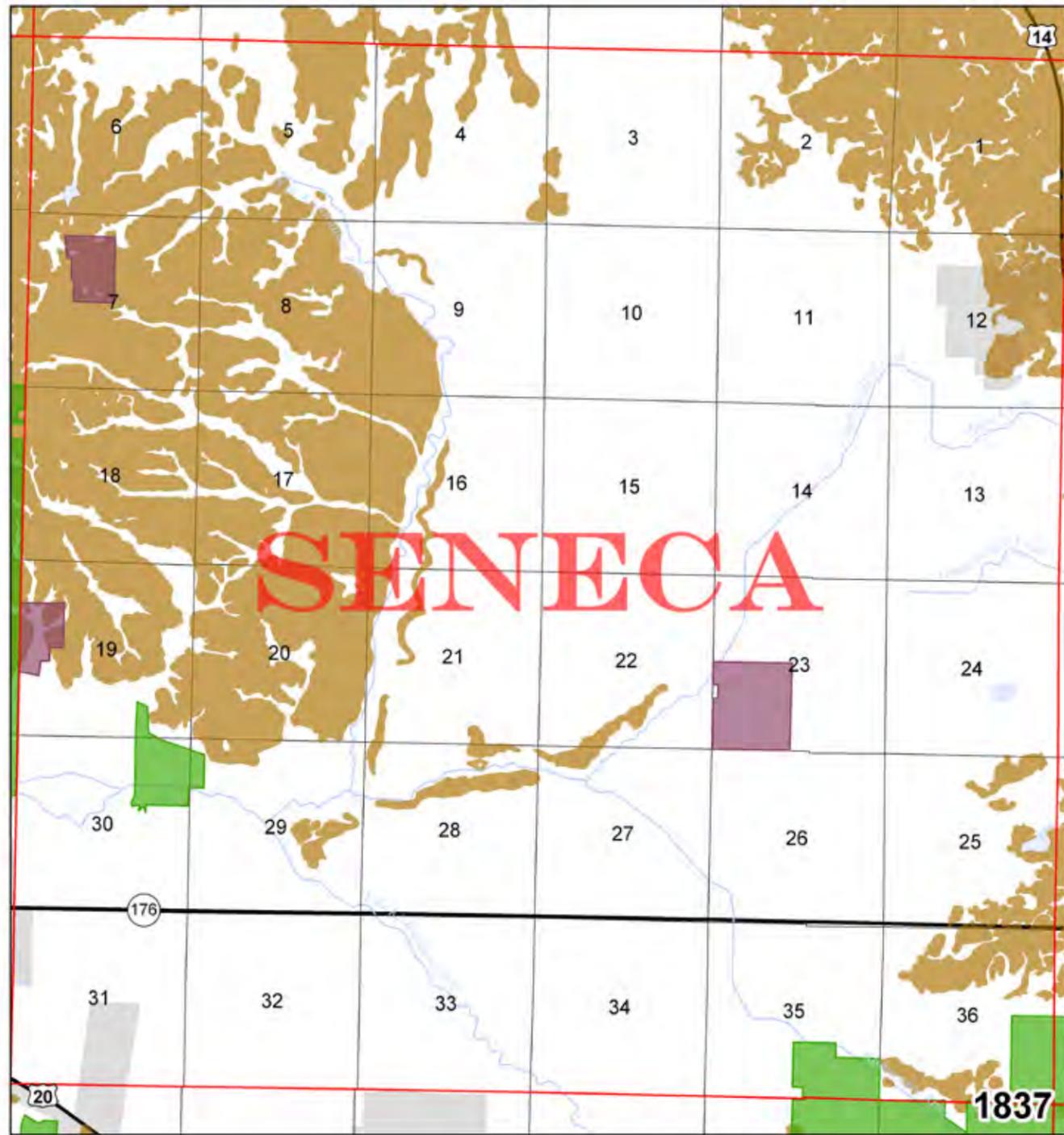


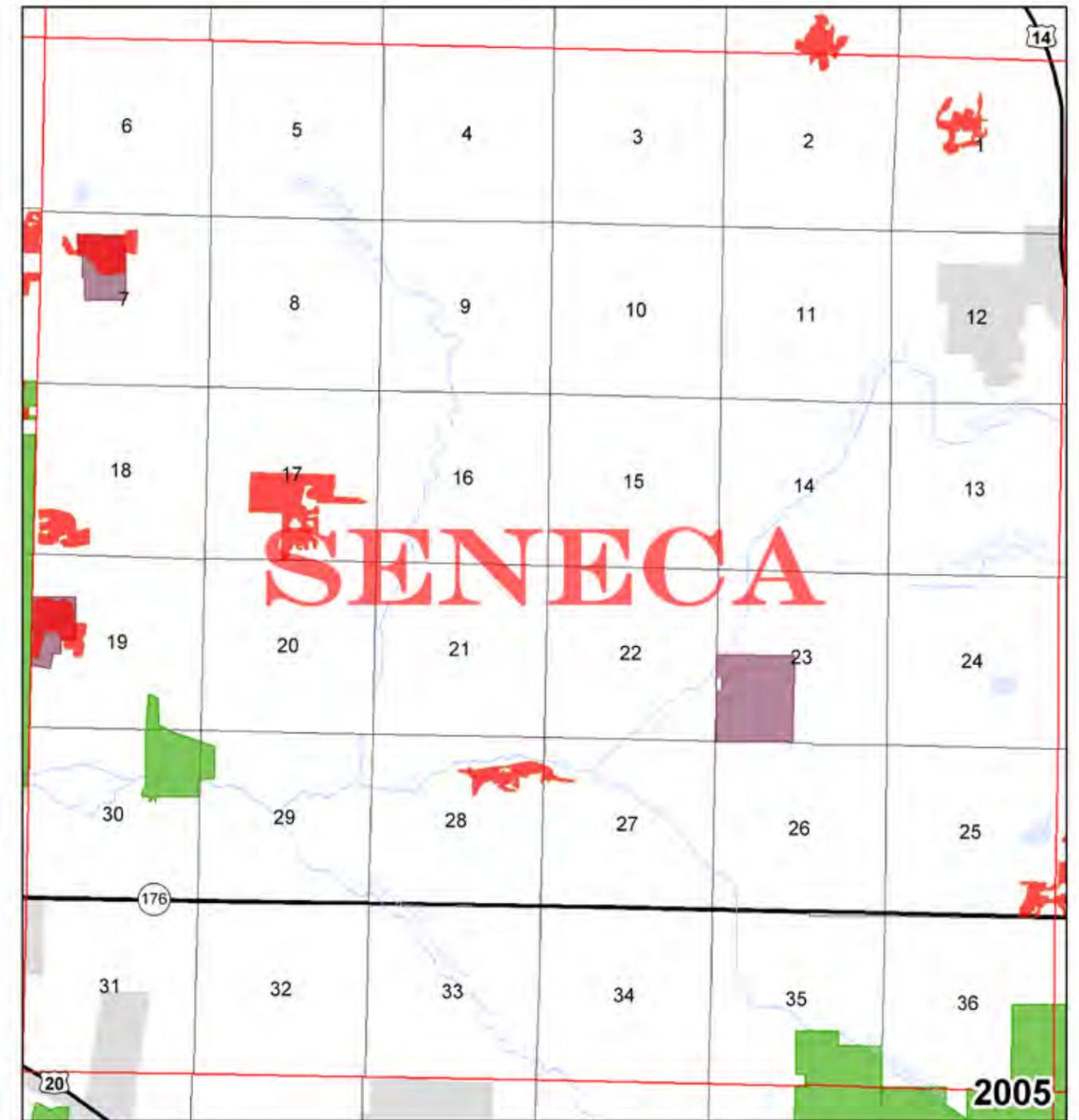




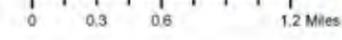
Township of: Riley 		 <i>McHenry County</i> CONSERVATION DISTRICT	Stands of High Ecological Significance  Contiguous Oak Stands 25 Acres or Larger
..... MCCD Trails --- Streams Water Bodies	 Oak Trees  Townships  Sections		 MCCD Sites  IDNR Sites  INPC Sites







Township of: Seneca		N ↑	 <i>McHenry County</i> CONSERVATION DISTRICT	Stands of High Ecological Significance  Contiguous Oak Stands 25 Acres or Larger
●●●● MCCD Trails — Streams ■ Water Bodies	 Oak Trees  Townships  Sections	 MCCD Sites  IDNR Sites  TLC Sites		 Towns  INPC Sites



The Oaks of McHenry County

Acknowledgments

McHenry County Community Foundation

McHenry County Board

The Land Conservancy of McHenry County

The Natural Resource Conservation Service

The McHenry County Soil and Water District

The Quercus Project

McHenry County Conservation District Board of Trustees

McHenry County Conservation District Natural Resource Mgmt.

Dan Deters, Documentary and Photography

Wendy Kummerer, Photography and Design

Arthur Lazar, Photography

Weg Thomas, Photography

Spring - 2009



"I think you have to be introspective in a way to appreciate the beauty of the Midwest. The ability to appreciate that subtlety you have to learn to look. But when you learn to really look...there is a beauty to it that is equal to all the mountains and oceans and coastlines."

- Ed Collins, Natural Resource Manager, McHenry County Conservation District