

State Preserves Advisory Board

Dedicated to Preserving Iowa's Natural, Archaeological, Historical, Geological and Scenic Areas



To: The Honorable Chet Culver, Governor of Iowa, Patty Judge, Lt. Governor of Iowa,
and Members of the 82nd General Assembly

RECEIVED

From: The State Preserves Advisory Board

JAN 29 2007

Subject: Report of the State Preserves Advisory Board for the Biennium 2005-2006
HOUSE OF REPRESENTATIVES

Dear Governor Culver, Lt. Governor Judge, and Legislators:

The State Preserves Advisory Board is pleased to present its biennial report, prepared by personnel of the Division of Conservation and Recreation, Department of Natural Resources. This report summarizes the activities of the State Preserves Advisory Board for the 2005-2006 biennium.

We continue to implement the strategic plan outlined in the 1999-2000 report. Our principle activities have been to

- 1) fund inventories of natural and cultural features of current and proposed preserves;
- 2) evaluate and dedicate new preserves in Black Hawk, Greene, and Floyd Counties; and
- 3) tour preserves and proposed preserves, and advise their managers about specific concerns.

State Preserves help make a Iowa a great place to live because they identify and protect the best examples of our heritage—natural, geological, archaeological, historical and scenic. We are particularly proud of the scientific contributions made possible by the establishment of the State Preserve System. This year, two species new to science, a moth and a lichen, were discovered on State Preserves. Our preserves were used to study agricultural soils and compare them with their original prairie conditions. The state preserves system host numerous researchers, graduate students, and undergraduates, both from within the state and from across the United States. We appreciate the small amount of funding that we receive to conduct scientific investigations of potential preserve sites, as well as to assess the quality of existing preserves. Without this funding, the functioning of our board would slow drastically.

Our most difficult challenge is adequate protection and management. Most state preserves are small, isolated, and threatened by invasive plant species; lack of natural fire; and nutrient pollution, altered hydrology and/or sediment deposition. Several rare butterfly species once found on our preserves have disappeared. Two preserves are very close to a planned four-lane highway, and another will have a new housing development built adjacent to it with stormwater runoff entering the preserve. Global climate change is sure to affect the flora and fauna of state preserves in ways difficult to predict. Historical sites are falling apart in front of our eyes, but we have no means to restore and protect them.



THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

PHILOSOPHY 101: INTRODUCTION TO PHILOSOPHY

LECTURE 1: THE FOUNDATIONS OF PHILOSOPHY

1.1 THE NATURE OF PHILOSOPHY

Philosophy is the study of the fundamental nature of reality, knowledge, and values. It seeks to understand the world through critical thinking and logical analysis.

The history of philosophy is a long and rich tradition that has shaped the way we think about the world. From ancient Greece to the modern era, philosophers have explored a wide range of topics, from ethics and politics to metaphysics and epistemology.

In this course, we will explore the foundations of philosophy, starting with the ancient Greeks. We will look at the work of Plato and Aristotle, who laid the groundwork for much of Western thought. We will also examine the contributions of medieval and modern philosophers, such as Descartes, Kant, and Hegel.

By the end of the course, you should have a solid understanding of the basic concepts and methods of philosophy. You should be able to identify philosophical problems, analyze arguments, and defend your own views. This course is a great starting point for anyone interested in the history and philosophy of ideas.

Preserve managers need adequate resources and continuing professional development opportunities to carry out such demanding responsibilities. To address this we are organizing the first-ever Land Manager Professional Development Conference to be held next July in Sioux City. DNR Deputy Director Liz Christiansen and Secretary Lisa Nissen have spearheaded this effort and we appreciate their fine leadership.

A second critical challenge is neighbor and community relations. While most neighbors of state preserves are strong allies, there have been several recent cases of disrespect or lack of understanding for State Preserve properties. We have come to the conclusion that the Preserves lack a clear presence and identity in the minds of most Iowans. We resolved years ago to try to communicate more regularly with neighboring landowners, but have not had the resources. However, the Iowa Prairie Network has recently donated some secretarial time to help us with this task. We are also working to highlight the contributions of Preserve neighbors and volunteers in upcoming issues of *Iowa Outdoors*.

Staff members Daryl Howell and John Pearson handle their diverse responsibilities with admirable professionalism, enthusiasm and intellect. We appreciate their dedication to the state preserves system, as well as their guidance and assistance to our board. The staff does a commendable job, but they are asked to deal with all issues surrounding preservation of the natural, archaeological, geological and historical heritage to which we are entrusted. There are many more tasks than the staff have time to carry out, and many promising initiatives are tabled due to lack of staff time.

We also receive invaluable assistance from Robert McKay of the DNR Geological Survey Bureau, Lisa Nissen of the IDNR; board member and deputy director of the IDNR, Liz Christiansen, and Paul Christiansen lately of the Natural Resources Council.

During this biennium, Neil Bernstein, Tim Sproul, and Robin Fortney completed their second term. We are grateful for their many contributions to the board. In particular, we wish to acknowledge the strong leadership of Neil Bernstein as Chairperson for five years. Replacing them are Armando Rosales, Carl Kurtz and Deborah Lewis.

On behalf of the State Preserves Board, thank you for your past support. We will continue to seek out the best candidates for Preserve status and take good care of the ones in our keeping, while helping citizens to appreciate these resources for education and enjoyment. We look forward to your continued support of Iowa's preserves.

Sincerely,



Laura L. Jackson, Chairperson
State Preserves Advisory Board

Introduction

The State Preserves Advisory Board was created by the General Assembly in 1965. The Act (Chapter 465C, Code of Iowa) defines preserve as "an area of land or water formally dedicated under this chapter for maintenance as nearly possible in its natural condition though it need not be completely primeval in character at the time of dedication or an area which has unusual flora, fauna, geological, archaeological, scenic, or historical features of scientific or educational value". An area becomes a State Preserve when the landowner and the Preserves Advisory Board agree on the management of the area and the Governor signs the Dedication Statement.

Preserve designation provides an area with the highest form of protection the State of Iowa offers. Preserve status is considered the highest, best, and most important use of an area for the public benefit. The area shall be held in trust and not converted except to another public use upon a finding of the Preserves Advisory Board of imperative and unavoidable public necessity and with the approval of the Natural Resource Commission, the General Assembly by concurrent resolution, and the Governor.

The State Preserves System is an effort to protect and maintain examples of significant archaeological, historical, geological, biological and scenic areas for present and future generations. The five types of preserves are defined as follows:

1. *Archaeological* preserves contain significant deposits left by prehistoric or early historic peoples.
2. *Geological* preserves contain distinctive, representative or unique geological features or deposits.
3. *Historical* preserves contain structures or places that are of significance in studying the tenure of humans in Iowa since the advent of the first Euro-American explorers.
4. *Natural* preserves contain flora and fauna that are representative of natural communities, or contain endangered, threatened, or rare organisms.
5. *Scenic* preserves contain scenic features of scientific or educational value.

Areas nominated for preserve designation must be high quality examples of one or more of the five types of preserves listed. A thorough investigation of proposed preserves is conducted by DNR staff and/or appropriate experts to determine if the area is of preserve quality. A management plan is also completed to determine if the proposed uses and management are consistent with preserve dedication.

Currently there are 93 preserves, encompassing about 9,800 acres. Ownership and management responsibility for the preserves is presented in the list of State Preserves at the end of this report.

Personnel of the Iowa Department of Natural Resources work with the State Preserves Advisory Board to carry out the powers and duties of the Board. Director Vonk asked Deputy Director Liz Christiansen to be his designee to serve on the Preserves Advisory Board. John Pearson and Daryl Howell divide the duties of ecologist for the Board.

Chapter 465C requires that a report be submitted to the governor and legislature every two years accounting for the number and status of the preserves in the system and any other pertinent information. This report summarizes activities for the calendar years 2005 and 2006.

State Preserves Advisory Board Meeting Dates and Locations 2005-2006

January 27 2005	Wallace State Office Building, Des Moines, Polk County
April 1, 2005	Kennedy Memorial Park Webster County Conservation Board Tour of Woodman Hollow, Liska-Stanek Prairie, and geological sites in Fort Dodge on March 31
July 8, 2005	Lime Creek Nature Center, Mason City, Cerro Gordo County Tour of Claybanks Forest State Preserve
October 11, 2005	Meeting Cancelled
January 6, 2006	Wallace State Office Building, Des Moines, Polk County
April 14, 2006	Pioneer Ridge Nature Center, Ottumwa, Wapello County Tour of Garrison Rock
July 14, 2006	Wapsi River Environmental Education Center, Dixon, Scott County Tour of Cameron Woods
September 8, 2006	Wildlife Research Station, Boone, Boone County Tour of Perkins Prairie, a privately owned site.
December 15, 2006	Tour of Brushy Creek Preserve, Webster County

State Preserves Advisory Board Members as of December 31, 2006

Dr. Laura Jackson, Chair
1703 Washington Street
Cedar Falls, Iowa 50613

Scott Moats
24764 Highway 12
Westfield, Iowa 51062

Armando Rosales
1602 Lincoln Drive
Atlantic, Iowa 50022

Carl Kurtz
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Cynthia Peterson
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The University of Iowa
700 CLBS
Iowa City, Iowa 52242

Liz Christiansen
Department of Natural Resources
Wallace State Office Building
Des Moines, Iowa 50319

Deborah Lewis
Department of Ecology, Evolution and
Organismal Biology
253 Bessey
Iowa State University
Ames, Iowa 50011

Advisors to the Board as of December 31, 2004

Robert McKay
Iowa Department of Natural Resources
123 North Capitol Street
Iowa City, IA 52240

Shirley Schermer
Office of State Archaeologist
700 Clinton Street Building
University of Iowa
Iowa City, Iowa 52242

Merry Rankin
Iowa Department of Natural Resources
502 East Ninth Street
Des Moines, Iowa 50319

Board Members Whose Term Expired 2005-2006

Tim Sproul
Neil Bernstein
Robin Fortney

Program Purposes (Main Points)

- To preserve examples of each natural community native to Iowa in as undisturbed condition as possible, allowing scientific investigation, interpretation, and acceptable recreational uses.
- To preserve sites representative of each culture that existed in Iowa in a relative undisturbed condition, allowing carefully regulated excavation and basic interpretive activities compatible with a preservation philosophy and with the concerns of the native people.
- To preserve examples of past geological events and maintain these sites in a condition that will allow scientific study and interpretation to occur.
- To preserve sites which commemorate the tenure of humans in Iowa since the advent of the first Euro-American explorers and to maintain these sites in a condition, which will allow a sense of orientation to present and future inhabitants.
- To sponsor research on preserves or potential preserves for purposes of management, acquisition, and interpretation.
- To distribute to the general public, libraries, and colleges information related to preserves in popular or scientific format.
- To assist in surveying Iowa for remaining natural, geological, cultural, historic or scientific areas.

Powers and Duties

The powers and duties of the Advisory Board are listed under Chapter 465C of the Code of Iowa. They include the following:

1. To approve an area as a preserve.
2. To recommend dedication as preserves, of areas owned by the State under the jurisdiction of the Department of Natural Resources.
3. To recommend acquisition of areas for dedication as preserves subject to approval by the Natural Resource Commission.
4. To recommend dedication as preserves, areas owned by other public agencies, private groups, and individuals.

Activities and Accomplishments 2005-2006

Dedication of three new preserves during the biennium.

Hartman Bluff State Preserve is a 48 acre upland and bottomland forest within the 289 acre Hartman Reserve Nature Center located in Cedar Falls. The preserve is owned and managed by the Black Hawk County Conservation Board. There are two different geomorphic settings within the preserve. The upland area represents a maturely-dissected glacial plain. The lowland area represents a part of the ancient floodplain of the Cedar River, and is underlain by stream deposited sands and gravels.

Vegetation in the uplands includes mature red oak/maple, maple/basswood, oak/hickory and a restored open white oak forest. The lowland forest consists of mature bottomland hardwoods which include: bur oak, sugar maple, walnut, hackberry, basswood, and silver maple. Hartman Bluff provides the opportunity to preserve these forest communities in an urban setting and provide interpretive programs to the public.

Eureka Woods State Preserve is a 90 acre heavily wooded area along the North Fork of the Raccoon River between Jefferson and Scranton. The preserve is privately owned and managed. Topography in the proposed preserve is primarily river bottomland and steep upland slopes. Biologically, the area contains mature forest characterized by a mixture of white oak, red oak, basswood, and black maple on the steep upland slopes with silver maple, cottonwood, elm, and other bottomland tree species along the floodplain. Over 150 native plant species occur in the preserve, including the Narrow-leaved Spleenwort, a fern usually found in eastern Iowa along the Mississippi River. Cooper's Hawks and a colony of Great Blue Herons were found here by surveys during the evaluation process.

Fossil and Prairie Park State Preserve is a 292-acre portion of the larger Fossil and Prairie Park in Floyd County. The site is owned by Floyd County and managed by the Floyd County Conservation Board. Topography in the preserve consists of rolling hills and floodplain adjacent to the Winnebago River. The eastern part of the property contains historic limestone quarries and kilns once operated by the former Rockford Brick & Tile Company. The quarry contains geologically significant exposures of Devonian limestone bedrock rich in marine invertebrate fossils. Historic beehive kilns formerly used to manufacture brick and tile are adjacent to the quarry. Biologically, over 55 acres of native prairie are located on the hills west of the quarry. Several species of plants and animals listed as endangered, threatened, or special concern by the state occur in the preserve, including Creeping Juniper, Henslow's Sparrow, Wood Turtle, Regal Fritillary butterfly, and others.

Potential Preserves

Garrison Rock is a 302 acre area of forest and restored prairie just southeast of Ottumwa that is being investigated for possible preserve dedication. The property is owned and managed by the Wapello County Conservation Board. The Preserve Board members tour

the property in 2006. Surveys of the flora and fauna are being conducted and information on the culture resources is being compiled.

Perkins Prairie, a 30 acre privately owned prairie, has been proposed for preserve designation. The Preserves Board toured the property and met with the landowners in 2006. It is anticipated that flora and fauna surveys will be conducted next year to help determine the quality of the prairie and if the property should be included in the preserve system.

Professional Development

The board has initiated professional development sessions for preserve managers. The first session will be held in July 2007. Information presented will focus on continued improvement of management practices.

Preserve Management

Management activities on Iowa's State Preserves are ongoing and are carried out by the designated preserve managers. Major activities included the following:

- Prescribed burning, mowing, and chemical treatment of stumps on prairie preserves to control woody vegetation encroachment on numerous preserves.
- Use of mechanical and chemical control methods for reed canary grass at Steele Prairie.
- Prairie seed collection for establishment of prairie plantings on buffer areas for preserves and for other public lands.
- Oak regeneration at selected forest preserves.

Research and Inventory Studies 2005 and 2006

Floristic Inventory of Pecan Grove State Preserve, Thomas Cady

One hundred and thirty-six species of vascular plants were recorded at Pecan Grove and these represent 106 genera in 50 families (Appendix 2). Among these, 106 were of native origin with the remaining 30 being alien. An additional 13 species cited by Dean Roosa in the species list accompanying the 1989 draft Management Plan were not relocated, perhaps because of the disturbed and successional nature of the Preserve, reflecting recovery from grazing and the periodic dredging of the drainage channels. These species included: *Apocynum sibiricum*, *Achillea millefolium*, *Tragopogon dubius*, *Prunella vulgaris*, *Polygonum aviculare*, *Prunus americana*, *Solanum americanum*, *Sagittaria latifolia*, *Lemna minor*, *Polygonatum biflorum*, *Smilax herbacea*, *Echinochloa crusgalli*, *Hystrix patula*.

The vegetation at Pecan Grove can be divided into two areas separated by the dike, which is part of the easement and was formed by depositing spoils from the drainage channels.

On the outside is the open, highly disturbed easement area; on the inside is the successional, forested area with the pecan trees.

Trees at the Preserve are representative of floodplain communities. The interior, forested portion of the Preserve contains large scattered specimens of pecan (*Carya illinoensis*), honey locust (*Gleditsia triacanthos*) and occasionally sycamore (*Platanus occidentalis*), birch (*Betula nigra*), or cottonwood (*Populus deltoides*).

Floristic Inventory of Cedar Bluffs State Preserve, Thomas Cady

The fieldwork resulted in identifying 368 species of vascular plants occurring at the site; another 12 species cited on previous species lists that were not detected during the current survey are also included on the list bringing the total to 380. Of this total, 19 native species that appear on the list appear to be directly related to the prairie reconstructions at the Preserve, growing only where the plantings were made. The remaining 349 species were either recorded from natural habitats or the abutting, abandoned agricultural areas. The number of alien species found in these areas is 39 or 11%, leaving 310 natives.

The bluffs and canyons are such prominent features of the preserve that historically botanists such as Bohumil Shimek and his contemporaries simply referred to the area as the "Bluffs". These bluffs are where many of the species with an affiliation to northeast Iowa are found. Probably the best example of this would be rough bedstraw (*Galium asprellum*), a species otherwise only recorded from northeastern Iowa counties. The area is also rich in the fern flora with the most notable being Goldie's wood (*Dryopteris goldiana*); although another fifteen fern species occur to some extent on these bluffs and canyons. The base and lower portions contain sandy soil and dislodged rock where sugar maple, basswood (*Tilia americana*), young buckeye trees, and yellow jewelweed are common along with the ferns. Species apart from the ferns on the lower bluffs may include sweet cicely (*Osmorhiza claytonii*), blue cohosh (*Caulophyllum thalictroides*) and bishop's cap (*Mitella diphylla*). Other bluff species are zigzag goldenrod (*Solidago flexicaulis*), columbine (*Aquilegia canadensis*), squirrel corn (*Dicentra canadensis*), and snow trillium (*Trillium nivale*). Spikenard (*Aralia racemosa*), rock cress (*Arabis hirsuta*) and the prickly gooseberry (*Ribes cynosbati*) are more commonly seen on or near exposed rock nearer the upper portions of the bluffs. The bluff summits mark the beginnings of the upland woods and contain interesting associations. One such area, the first fork off the eastern canyon contains downy arrowwood (*Viburnum rafinesquianum*), wild sarsaparilla (*Aralia nudicaulis*), the native bush honeysuckle (*Diervilla lonicera*), wood betony (*Pedicularis canadensis*), broad-leaved panic grass (*Dichanthelium latifolium*), and white lettuce (*Prenanthes alba*), to mention a few.

Aquatic Fauna Survey (Macroinvertebrates and Fish) of Six Preserves of the Paleozoic Plateau/Coulee Section Ecoregion, Mike Birmingham, Dennis Heimdal, Todd Hubbard, University Hygienic Laboratory

Historically, Iowa's aquatic macroinvertebrate fauna has been poorly documented. Dozens of new state records have been recorded in the last ten years, primarily as a result of increased sampling effort associated with several stream bioassessment projects. Many new records are from streams and springs of the Paleozoic Plateau/Coulee Section ecoregion and these taxa often have restricted or localized distributions. Aquatic macroinvertebrates and fish were sampled at Bixby, Brush Creek Canyon, Coldwater Creek/Spring, Malanaphy Spring, Mossy Glen, and White Pine Hollow state preserves within the Paleozoic Plateau/Coulee Section ecoregion. Three new state records and several potential state records are among the aquatic macroinvertebrates collected. Additional Iowa location records for several rare taxa were also established. Preserve streams generally rated well in comparison to other coldwater designated streams in the ecoregion. The aquatic inventory generated by this preserve study is by no means complete. Inadequate collections of caddisfly adults leave the specific identities of many taxa, including some potentially rare species, unresolved.

Assessment of Post-Settlement Alluvium in the Steele Prairie Preserve Cherokee County, Iowa, Mark J. Minger, Soil Scientist USDA NRCS

Post-settlement alluvium (PSA) is referred to as a soil layer deposited within a watershed whose origin is soil erosion from modern land use upstream. Research has shown that where siltation raises nutrient levels, there is an increase in the amount of Reed canary grass (*Phalaris arundinacea*). Reed canary grass invasion is known to be facilitated by disturbance, and to be maintained by hydrological changes that follow intensive land use, specifically an increase in the frequency and intensity of summer flooding events. Problems with Reed canary grass choking out the native grasses in northwest Iowa's Steele Prairie Preserve have been the topic of discussion of the State Preserves Advisory Board since 1993. This study assesses the existence of and distribution pattern of PSA within the major waterways of the Steele Prairie Preserve. Secondary objectives were to confirm the soil types as surveyed in the area and to record pertinent data such as vegetation, soil properties, surface nitrate levels, surface pH level, drainage patterns and hydrology through the study area. One hundred nineteen points through six major waterways (zones) and an upland, uneroded site were selected, sampled and analyzed during this study.

The research study consisted of transects within each major waterway beginning near the point(s) where runoff water enters the drainage system of Steele Prairie. The transects continued until all evidence of PSA deposits was gone from the soil profile or the waterway converged with another waterway. The transect sites possess variation in thickness of PSA, but minimal variation in other soil properties. The PSA thickness pattern declines through each major waterway as the distance from the upland source increases. This also correlates to the size of the watershed and vegetative cover of each zone.

Butterfly and Skipper Inventory Hayden Prairie State Preserve 2004-2005, Franklin L. Olsen

This report presents the findings of a yearlong inventory of butterflies and skippers at the Hayden Prairie State Preserve. With the survey commencing in July 2004, the principal researcher completed fourteen field surveys of the Preserve during normal flight times for adult lepidoptera. Those surveys recorded a total of 1239 butterflies and skippers representing 31 species. The principal researcher located two state threatened species, Silvery Blue (*Glaucopsyche lygdamus*) and Powesheik Skipperling (*Oarisma powesheik*).

Vascular Plant Species List of Hardin City Woodland State Preserve, Edwin Freese

Hardin City Woodland State Preserve protects an excellent example of native upland woods in central Iowa. Snow trilliums (*Trillium nivale*), puttyroot orchid (*Aplectrum hyemale*), and northern red oak (*Quercus borealis*) are found on the upland and on the steep north-facing are black oak (*Quercus nigrum*), basswood (*Tilia Americana*), and squirrel corn (*Dicentra Canadensis*). On the floodplain are Gray's sedge (*Carex grayii*), cottonwood (*Populus deltoids*), and boxelder (*Acer negundo*).

The flora inventory was conducted during the field season of 2004-2005. A total of 217 species were found during the survey. Twenty-eight were non-native species or 12.9% of the total flora. The two main objectives were to compile a complete vascular plant list and describe each plant community. The species list will aid future management decisions and research projects.

Botanical Survey of Turkey River Mounds State Preserve, William Watson

Turkey River Mounds is located in northeast Iowa on the rugged terrain of the Paleozoic Plateau landform. The preserve is 62 acres and is located in the southeast corner of Clayton County at the confluence of the Turkey and Mississippi Rivers. Time and erosional power of water have created a knife-shaped narrow ridge at places over 200 feet above the surrounding basal plain.

The observed and collected vascular flora was compiled into an annotated checklist, producing an estimated total of 395 taxa (345 native and 50 non-native). Of these taxa, six occur on the state list of endangered and threatened species: *Carex umbellata* (early oak sedge), *Dodecatheon amethystinum* (jeweled shooting star), *Eupatorium sessilifolium* var. *brittonianum* (upland boneset) *Pellaea atropurpurea* (purple cliff-brake), *Selaginella rupestris* (rock spike moss), and *Symphoricarpos albus* (snowberry). A total of five vegetation communities have been identified and described from within the boundary of the preserve. This includes extensive hardwood forest, prairie remnants and dolomite cliffs which harbor a wide array of plant life.

In addition to the botanical survey, a series of habitat management activities were implemented in 2004 to stabilize and enhance the rapidly shrinking prairie remnants.

These activities primarily included a controlled burn and removal of small trees invading the prairie habitat.

**Floristic and Plant Community Inventories on Dinesen Prairie State Preserve,
Thomas Rosburg**

A floristic survey of Dinesen Prairie State Preserve was completed in 2004. The inventory identified 115 vascular plant species, including 12 exotic species. The majority of the 20 acre preserve is mesic tallgrass prairie. About 3 acres of non-prairie habitat occur in about 1.5 acres of cool-season grass/tall forb lowland and 1.5 acres of shrubland. Mesic tallgrass prairie supported 88 native and 7 non-native species. One threatened species, *Platanthera praeclara*, was observed, as well as 5 other species that have Iowa coefficients of conservatism of 9 or 10. The non-native species that are the most intrusive (or potentially invasive) to the prairie are *Bromus inermis* and *Phalaris arundinacea*.

**Floristic and Plant Community Inventories on Sylvan Runkel State Preserve,
Thomas Rosburg**

A floristic inventory, plant community mapping, and vegetation monitoring study was completed on Sylvan Runkel State Preserve in the Loess Hills in Monona County during 2004 and 2005. The inventory identified 261 vascular plant species present on the preserve. Two species observed are currently listed as special concern species in Iowa (*Cirsium undulatum* and *Carex aggregata*). One species observed, *Carex mesochorea*, is not currently included in the state's official flora although it has been reported at several locations in Iowa in the last several years. Eleven plant species observed are currently assigned the maximum value (10) for the coefficient of conservatism. Prairie communities had higher "native quality" (fewer exotic species, higher conservatism) than did the forest, woodland and shrubland communities. Landscape heterogeneity is high with 21 different plant communities identified and delineated on the preserve. Prairie communities account for about one third of the preserve while successional woody communities and agricultural land account for 55% and 11% respectively. The monitoring study utilized 50 quantitative samples located along 11 transects at 4 study sites. Two patterns of interest were identified. One was woody encroachment in the ecotonal habitats between forest and grassland, and the other was a conversion of mid-grass prairie to tallgrass prairie in the ecotonal habitats along their common boundary.

**A Comprehensive Inventory of the Butterflies at Kalsow Prairie and Steele Prairie
State Preserves and a Population Status Assessment of the Poweshiek Skipperling
at Freda Haffner Kettlehole and Cayler Prairie State Preserves, Gerald Selby**

The report summarizes results from comprehensive butterfly surveys conducted during each of four principal butterfly flight periods at Kalsow Prairie and Steele Prairie State Preserves, and the results from a population status assessment of the Poweshiek skipperling at Freda Haffner Kettlehole and Cayler Prairie State Preserves. Surveys at

Kalsow Prairie and Steele Prairie were completed for the third and fourth flights in 2005, and for the first and second flights in 2006. The Poweshiek skipperling population status assessment surveys were completed in 2005. Data from optional surveys conducted at the Bertram Reservation (Feeks Tract) and Glacial Hills (Cottonwood Creek) sites during the fourth flight in 2005 are also included.

The overall butterfly diversity documented during this study for Kalsow Prairie and Steele Prairie was similar (24 and 21 species respectively), but Kalsow Prairie appears to have lost more prairie specialist species. There are historic records for Poweshiek skipperlings and regal fritillaries at Kalsow Prairie, but neither was seen during this study. Primary target species seen included the eyed brown, wild indigo duskywing (ID unconfirmed), and a reported observation of the dion skipper by Olsen (pers. comm.). The only secondary target species seen was the bronze copper. Prairie specialist butterflies appear to be doing better at Steele Prairie. Primary target species seen during this study included the eyed brown, regal fritillary, mulberry wing, silvery blue, and wild indigo duskywing (ID unconfirmed), and secondary targets included the bronze copper and crossline skipper. Unfortunately, the Poweshiek skipperling appears to have disappeared from Steele Prairie, and populations of the other target species were not that large. Wetland habitats are threatened by reed canary grass, and this is a serious threat to the mulberry wing. Habitat degradation is also likely to threaten other prairie specialist butterflies, but certain management practices (e.g. excessive use of fire) are more likely to pose an immediate threat.

No Poweshiek skipperlings, Arogos skippers, or Dakota skippers were found during surveys at Freda Haffner Kettlehole and Cayler Prairie, and Olsen and Schlicht (pers. comm.) also failed to find them during surveys about one week later. Unfortunately, these results reinforce similar negative results obtained during comprehensive surveys conducted in 2004 (Selby 2004) and these formerly healthy populations may have been lost at those sites.

Productivity of Neotropical Migrant and Resident Birds at Woodland Mounds Preserve, Brian D. Peer

Forest fragmentation is one of the most serious threats to the viability of avian populations. I surveyed the breeding birds at Woodland Mounds Preserve in Warren County, Iowa and evaluated their reproductive success by monitoring nests and fledgling groups, and by comparing the ratios of Hatching Year (HY) to After Hatching Year (AHY) birds. A total of 54 potential breeding bird species were detected, with the three most commonly recorded species being the Red-eyed Vireo, Ovenbird, and Eastern Wood-Pewee. Brown-headed Cowbirds were the 10th most frequently observed species. Notable forest-interior rarities included the Worm-eating Warbler, Cerulean Warbler, Kentucky Warbler, and Louisiana Waterthrush. The overall reproductive success was 62% ($n = 47$), and the success did not differ between local birds (residents + short distant migrants; 82%) and Neotropical migrants (56%). Only 19% of suitable host nests were parasitized by cowbirds. A total of 56 birds were captured in mist nets, 65% of which were Neotropical migrants. HY birds comprised 27% of all birds captured. The ratio of

HY:AHY birds was lower than expected given the relatively high rate of nest success. This may have been due to the fact that birds were only netted once. If birds were netted a second time in late July more of the HY birds that fledged later in the breeding season may have been captured. Woodland Mounds Preserve appears to be a relatively productive forest fragment given its small size in at least some years. This survey should to be conducted multiple years to determine whether this relatively high productivity is consistent for this area.

Resurvey of Woody Vegetation in Permanent Plots in Northeast Iowa (White Pine Hollow and Bixby State Preserves), William R. Norris, William C. Watson and Donald R. Farrar

In this report, we present summaries of woody vegetation survey data collected (summers of 1994 and 2005) in the following 15 permanent plots (rectangular; 50m x 20m; .10 ha) in northeast Iowa: White Pine Hollow (plots 1-3, 5-12) and Bixby (plots 1-4). Electronic copies of these data have previously been sent to Dr. John Pearson via e-mail attachment. Twelve permanent plots in White Pine Hollow State Preserve were established by Dr. John Pleasants (Iowa State University) in the early 1990s and surveyed by Lynn Roovers and Stephen Shiffley (United States Forest Service) in the early 1990s. Norris and Watson resurveyed plots #1-3 and #5-12 in 2005 (extensive treefall in plot #4 precluded its resurvey). The four plots in Bixby State Preserve were established and surveyed by Drs. Donald Farrar and William Norris in 1994 and 1995; these were resurveyed by Norris and Watson in 2005.

Research and Interpretation: Ft. Atkinson State Preserve, Lynn Alex

The project addressed the need for additional research and development of interpretive materials related to the Ft. Atkinson State Preserve and related sites in Winneshiek County. Via a State Preserves Advisory Board-funded cultural resources field school, held July 31-August 6, 2005, members of the adult public assisted in nondestructive geophysical research, exhibition evaluation, test excavation, archival research, and preparation of curricular and public-friendly interpretive materials. The results are expected to better assist the Preserves Advisory Board with management of the Ft. Atkinson site and benefit public understanding of its significance and place in Iowa history. The project integrated concerns of the local community and descendant peoples and encouraged their involvement in site research, evaluation, interpretation, preservation, and curriculum development.

Bixby State Preserve: A History, Larry A. Stone

This project began with a 2005 communication from Bill Bixby, of Eden Prairie, Minnesota, to the State Preserves Advisory Board. Mr. Bixby offered the opportunity to inspect some old family records belonging to R. J. Bixby, for whom Bixby State Park (and later Bixby State Preserve) was named. Bill Bixby is R. J. Bixby's great-grandson.

The author interviewed Bill Bixby and another Bixby relative, Dorothea Glattly, of Horseshoe Bend, Arkansas, who is the granddaughter of R. J. Bixby. He inspected, inventoried, and copied the family records. The author also reviewed other records from the Clayton County Courthouse, newspapers in the Edgewood and Clayton County area, Department of Natural Resources files both in Des Moines and at Backbone State Park, photo and clipping files at the Des Moines Register, and records of the Iowa State Historical Society. In addition, the author interviewed a number Edgewood area residents, local historians, and others with memories of Bixby State Park/Preserve.

Botanical Survey of Roberts Creek State Preserve, William C. Watson

During the 2005 field season, a botanical survey of the preserve was conducted. The vascular flora of the area was compiled into an annotated checklist, producing a total of 225 taxa (195 native and 31 non-native). Of these taxa, four occur on the state of Iowa's endangered/threatened/special concern vascular plant list which also includes one federally listed species: *Aconitum noveboracense* (northern wild monkshood), *Hybanthus concolor* (green Violet), *Prunus nigra* (Canada plum) and *Rhamnus alnifolia* (alder buckthorn). A total of three vegetation communities have been identified and described within the boundary of the preserve. These include mesic hardwood forest, algific talus slope, and old field habitats.

IOWA STATE PRESERVES AS OF DECEMBER 2006

NAME OF PRESERVE	PRESERVE TYPE	ACRES	OWNER	MANAGER	COUNTY
A.F. Miller/North Woods	Natural	10	Bremer County	Bremer CCB	Bremer
Ames High Prairie/Pohl Preserve	Natural	22	Ames Unified School District	TNC	Story
Anderson Prairie	Natural, Geological	200	State of Iowa	DNR	Emmet
Behrens Ponds and Woodland	Natural	30	The Nature Conservancy	TNC	Linn
Berry Woods	Natural, Geological	42	The Nature Conservancy	TNC	Warren
Bird Hill	Geological	1	Cerro Gordo County	Cerro Gordo CCB	Cerro Gordo
Bixby	Natural, Geological	183	State of Iowa	DNR	Clayton
Bluffton Fir Stand	Natural, Geological	94	State of Iowa	DNR	Winneshiiek
Brush Creek Canyon	Natural, Geological	217	State of Iowa	DNR	Fayette
Brushy Creek	Geological, Natural	260	State of Iowa	DNR	Webster
Cameron Woods	Natural	36	State of Iowa	Scott CCB	Scott
Casey's Paha	Geological	175	State of Iowa	Black Hawk CCB	Tama
Catfish Creek	Geological, Archaeological	600	State of Iowa	DNR	Dubuque
Cayler Prairie	Natural	160	State of Iowa	DNR	Dickinson
Cedar Bluffs Natural Area	Natural, Geological, Scenic	223	Mahaska County	Mahaska CCB	Mahaska
Cedar Hills Sand Prairie	Natural	35	The Nature Conservancy	TNC	Black Hawk
Cheever Lake	Natural	366	State of Iowa	DNR	Emmet
Clay Prairie	Natural	3	University of Northern Iowa	UNI	Butler
Claybank Forest (Hackberry Grove)	Geological, Natural	56	Cerro Gordo County	Cerro Gordo CCB	Cerro Gordo
Coldwater Cave	Geological, Natural	60	State of Iowa	DNR	Winneshiiek
Crossman Prairie	Natural	10	The Nature Conservancy	TNC	Howard
Decorah Ice Cave	Geological, Natural	3	City of Decorah	City of Decorah	Winneshiiek
Derald Dinesen Prairie	Natural	20	U.S. Government	Shelby CCB	Shelby
Doolittle Prairie	Natural	25	State of Iowa	Story CCB	Story
Eureka Woods	Natural	90	Private	Private	Greene
Fallen Rock	Natural, Geological	122	State of Iowa	Hardin CCB	Hardin
Fish Farm Mounds	Archaeological	3	State of Iowa	DNR	Allamakee
Five Ridge Prairie	Natural, Geological	789	The Nature Conservancy	Plymouth CCB	Plymouth
Fleming Woods	Natural	38	Poweshiek County	Poweshiek CCB	Poweshiek
Fort Atkinson	Archaeological	5	State of Iowa	DNR	Winneshiiek
Fossil and Prairie Park	Natural, Geological	292	Floyd County	Floyd CCB	Floyd
Frank Chapman Pellett Memorial Wood	Natural	19	State of Iowa	Cass CCB	Cass
Freda Haffner	Natural, Geological	110	The Nature Conservancy	TNC	Dickinson
Gitchie Manitou	Natural	91	State of Iowa	DNR	Lyon
Hanging Bog	Natural	16	The Nature Conservancy	TNC	Linn
Hardin City Woodland	Natural	25	State of Iowa	Hardin CCB	Hardin

IOWA STATE PRESERVES AS OF DECEMBER 2006

NAME OF PRESERVE	PRESERVE TYPE	ACRES	OWNER	MANAGER	COUNTY
Hartley Fort	Archaeological	2	Private	Private	Allamakee
Hartman Bluff	Natural	48	Black Hawk County	Black Hawk CCB	Black Hawk
Hayden Prairie	Natural	239	State of Iowa	DNR	Howard
Hoffman Prairie	Natural	36	The Nature Conservancy	TNC	Cerro Gordo
Indian Bluffs Primitive Area	Archaeological, Natural	845	Private	Private	Jones
Indian Fish Trap	Archaeological	1	State of Iowa	Amana Society	Iowa
Kalsow Prairie	Natural	160	State of Iowa	DNR	Pocahontas
Kish-Ke-Kosh Prairie	Natural	17	State of Iowa	Jasper CCB	Jasper
Lamson Woods	Natural	20	City of Fairfield	City of Fairfield	Jefferson
Liska-Stanek Prairie	Natural	20	Webster County	Webster CCB	Webster
Little Maquoketa River Mounds	Archaeological	42	State of Iowa	Dubuque CCB	Dubuque
Malanaphy Springs	Geological, Natural	64	State of Iowa	DNR	Winneshiek
Malchow Mounds	Archaeological	6	State of Iowa	DNR	Des Moines
Manikowski Prairie	Natural, Geological	40	Clinton County	Clinton CCB	Clinton
Mann Wilderness Area	Natural	103	Hardin County	Hardin CCB	Hardin
Marietta Sand Prairie	Natural	20	Marshall County	Marshall CCB	Marshall
Mericle Woods	Natural	132	State of Iowa	DNR	Tama
Merrill A. Stainbrook	Geological	33	U.S. Government	Corps of Engineers	Johnson
Merritt Forest	Natural	20	State of Iowa	DNR	Clayton
Montauk	Historical, Natural	46	State of Iowa	DCA	Fayette
Mossy Glen	Natural, Geological	80	State of Iowa	DNR	Clayton
Mount Pisgah Cemetery	Historical	1	State of Iowa	Union CCB	Union
Mount Talbot	Natural	90	State of Iowa	DNR	Plymouth
Nestor Stiles Prairie	Natural	10	State of Iowa	Cherokee CCB	Cherokee
Ocheyedan Mound	Geological, Natural	24	Osceola CCB	Osceola CCB	Osceola
Old State Quarry	Geological	8	U.S. Government	Corps of Engineers	Johnson
Palisades-Dows	Natural, Geological	330	State of Iowa	Linn CCB	Linn
Pecan Grove	Natural	17	State of Iowa	DNR	Muscatine
Pilot Grove Historical	Historical, Natural	7	State of Iowa	Iowa CCB	Iowa
Pilot Knob State Park	Natural, Geological	369	State of Iowa	DNR	Hancock
Retz Memorial Woods	Natural, Geological	49	The Nature Conservancy	TNC	Clayton
Roberts Creek	Natural, Geological	13	State of Iowa	DNR	Cedar
Rock Creek Island (Cedar River Island)	Geological	60	State of Iowa	Cedar CCB	Cedar
Rock Island Area	Natural	17	Linn County	Linn CCB	Linn
Roggman Boreal Slopes	Natural	20	The Nature Conservancy	TNC	Clayton
Rolling Thunder Prairie	Natural	123	Warren County	Warren CCB	Warren

IOWA STATE PRESERVES AS OF DECEMBER 2006

NAME OF PRESERVE	PRESERVE TYPE	ACRES	OWNER	MANAGER	COUNTY
St. James Lutheran Church	Historical	1	State of Iowa	DNR	Winneshiek
Savage Memorial Woods	Natural	12	The Nature Conservancy	TNC	Henry
Searyl's Cave	Natural, Geological	43	State of Iowa	DNR	Jones
Sheeder Prairie	Natural	25	State of Iowa	DNR	Guthrie
Silver Lake Fen	Natural, Geological	10	State of Iowa	DNR	Dickinson
Silvers-Smith Woods	Natural	20	The Nature Conservancy	TNC	Dallas
Slinde Mounds	Archaeological, Natural	32	State of Iowa	DNR	Allamakee
Stair's Cave	Natural, Geological	189	State of Iowa	Des Moines CCB	Des Moines
Steele Prairie	Natural	200	State of Iowa	Cherokee CCB	Cherokee
Stinson Prairie	Natural	32	Kossuth County	Kossuth CCB	Kossuth
Strasser Woods	Natural	40	State of Iowa	DNR	Polk
Sylvan Runkel	Natural	330	State of Iowa	DNR	Monona
Toollesboro	Archaeological	3	State of Iowa	DCA	Louisa
Turin Loess Hills	Natural, Geological	200	State of Iowa	DNR	Monona
Turkey River Mounds	Archaeological, Natural	62	State of Iowa	DNR	Clayton
White Pine Hollow	Natural, Geological	712	State of Iowa	DNR	Dubuque
Williams Prairie	Natural	30	The Nature Conservancy	TNC	Johnson
Wittrock Indian Village	Archaeological	6	State of Iowa	DNR	O'Brien
Woodland Mounds	Natural, Archaeological	195	Warren County	Warren CCB	Warren
Woodman Hollow	Natural, Archaeological	63	State of Iowa	DNR	Webster
Woodthrush Woods	Natural	25	City of Fairfield	City of Fairfield	Jefferson
DNR = Department of Natural Resources					
DCA = Department of Cultural Affairs					
CCB = County Conservation Board					
TNC = The Nature Conservancy					

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